NOTICE OF SPECIAL MEETING

Pursuant to Section 54956 of the Government Code of the State of California, a Special Concurrent Meeting of the **Tracy City Council** and the **Tracy Transportation Advisory Commission** is hereby called for:

Date/Time: **Tuesday, February 21, 2023, 6:00 p.m.**
(or as soon thereafter as possible)

Location: **Tracy City Hall**
333 Civic Center Plaza, Tracy, CA.

Government Code Section 54954.3 states that every public meeting shall provide an opportunity for the public to address the Tracy City Council on any item, before or during consideration of the item, however no action shall be taken on any item not on the agenda.

This meeting will be open to the public for in-person and remote participation pursuant to Government Code Section 54953(e)

The City of Tracy remains under a local emergency for COVID-19 and is now conducting teleconference meetings pursuant to State Law. Teleconferenced locations may include various locations including Tracy City Hall. In accordance with the California Department of Public Health Guidelines, universal masking is recommended for all persons regardless of vaccination status and social distancing protocols will be in place for Tracy City Hall.

For Remote Public Comment:

During the Items from the Audience, public comment will be accepted via the options listed below. If you would like to comment remotely, please follow the protocols below:

- *Comments via:*
  - **Online by visiting** https://cityoftracyevents.webex.com and using the following **Event Number:** 2555 933 3346 and **Event Password**: TracyCC
  - ***If you would like to participate in the public comment anonymously***, you may submit your comment via phone or in WebEx by typing “Anonymous” when prompted to provide a First and Last Name and inserting Anonymous@example.com when prompted to provide an email address.
  - Join by phone by dialing +1-408-418-9388, enter 25559333346#8722922# Press *3 to raise the hand icon to speak on an item

- *Protocols for commenting via WebEx:*
  - *If you wish to comment under “Items from the Audience/Public Comment” portion of the agenda:*
    - *Listen for the Mayor to open “Items from the Audience/Public Comment”, then raise your hand to speak by clicking on the Hand icon on the Participants panel to the right of your screen.*
    - *If you no longer wish to comment, you may lower your hand by clicking on the Hand icon again.*
  - *Comments for the “Items from the Audience/Public Comment” will be accepted until the public comment period is closed.*

1. CALL TO ORDER

2. ROLL CALL

3. Items from the audience - *In accordance with* *__Council Meeting Protocols and Rules of Procedure__*, adopted by Resolution 2019-240, a five-minute maximum time limit per speaker will apply to all individuals speaking during "Items from the Audience/Public Comment". For non-agendized items, Council Members may briefly respond to statements made or questions posed by individuals during public comment; ask questions for clarification; direct the individual to the appropriate staff member; or request that the matter be placed on a future agenda or that staff provide additional information to Council.

4. DISCUSSION ITEMS

   4.A. <u>The Tracy City Council and the Tracy Transportation Advisory Commission, concurrently, conduct a workshop to review the City's Transportation Master Plan Update and provide feedback.</u>

5. COUNCIL ITEMS AND COMMENTS

6. ADJOURNMENT

Nancy D. Young
Mayor

<u>Posting Date: February 16, 2023</u>
The City of Tracy is in compliance with the Americans with Disabilities Act and will make all reasonable accommodations for the disabled to participate in employment, programs and facilities. Persons requiring assistance or auxiliary aids in order to participate, should contact the City Manager's Office at (209) 831-6000 at least 24 hours prior to the meeting.

February 21, 2023

Agenda Item 4.A

RECOMMENDATION

Staff recommends that the Tracy City Council and the Tracy Transportation Advisory Commission, concurrently, conduct a workshop to review the City's Transportation Master Plan Update and provide feedback.

EXECUTIVE SUMMARY

The proposed Master Plan will update the required City transportation infrastructure to serve new development consistent with the City's General Plan.

BACKGROUND AND LEGISLATIVE HISTORY

The City's existing Transportation Master Plan was approved in November 2012. This Plan was based on the City's 2011 General Plan. The City has incorporated many general plan amendments since the 2011 adoption and has seen a significant increase in residential and commercial/industrial development. The General Plan and its associated amendments (General Plan) identify existing and new areas of development within and around the existing city limits. It includes areas east of the City up to Chrisman Road and to the west up to the Altamont Pass south of I-205 and the Larch Clover area both north and south of I-205.

ANALYSIS

This Transportation Master Plan Update (TMP) serves as an update to the 2012 City of Tracy Transportation Master Plan. The transportation system is a key element in accommodating future development. The transportation system in the City includes three major freeways; several active rail lines; local and regional truck routes; arterial, collector, and residential streets; and bicycle, pedestrian, and transit facilities. The City is responsible for ensuring that the transportation system provides adequate and efficient access for all modes of travel as well as conforming to regional, county, state, and federal transportation system requirements and standards.

The TMP builds upon the goals and objectives as defined in the Circulation Element of the City's General Plan (February 2011) and the City's Sustainable Action Plan (SAP), approved February 2011. The SAP included feasible measures to further sustainability efforts and reduce GHG emissions. These measures include policies to increase transit usage and opportunities, improve traffic flow in the city, support the development of new bicycle and pedestrian facilities, and other land use policies. The TMP looks to a horizon year of 2042, to provide the maximum possible infrastructure planning and to be consistent with the planned San Joaquin Council of Governments (SJCOG) Travel Demand Model update. The TMP provides a complete review of the City's transportation system and serves as a comprehensive planning document that can be utilized to identify and implement required improvements to the existing roadway system. In addition, the TMP can serve as the baseline for incorporating expansion or accommodating future development consistent with the General Plan.

The TMP incorporates various strategies, principles, and design elements that balance existing and future transportation infrastructure needs with providing safe access for all user groups (motorists, pedestrians, bicyclists, and transit users). Extensive use of Complete Streets guidelines, Smart Growth principles and design elements, and Context-Sensitive Design throughout the TMP helps develops a transportation system aimed at addressing future transportation needs for the following networks:

- Transit (bus and rail)
- Cycling
- Walking
- Private vehicle movement
- Goods vehicle movement

The road network system is designed to provide a comprehensive system of hierarchal streets that result in well-connected origins and destinations throughout the City by reducing trip lengths, promoting non-motorized travel and reducing the per capita emission of greenhouse gasses. Every element of the TMP includes implementation of Smart Growth and Complete Streets principles. Additional, comprehensive information is included in the TMP that further identifies guidelines for use in the detail design and implementation of the TMP. The TMP also includes the establishment of a VMT threshold policy for the City to be consistent with SB 743. A VMT Banking Fee has been developed to assist developers in mitigation their VMT impacts. The TMP developed construction cost estimates for the planned roadway improvements required for the 2042 built year.

FISCAL IMPACT

There is no fiscal impact associated with the approval of the Citywide Transportation Master Plan Update. The cost of completion of the Master Plan update was funded from program management fees collected through the City's development impact fee program. The cost of construction of the physical infrastructure listed in the Master Plan will be borne by the development projects through the City's development impact fees or other funding mechanisms and therefore will not have an impact to the City's General Fund.

The existing development impact fees for the Transportation Master Plan shall remain in effect until the City completes its updated cost of service (nexus) study for the Master Plan Update. It is anticipated the Council will consider these studies in Spring 2023. Staff anticipates an increase in the fees due to an increase in development, population, and necessary infrastructure.

PUBLIC OUTREACH/ INTEREST

Public Outreach Meetings were held on March 30, 2022, and April 25, 2022.

COORDINATION

The City's Engineering Division coordinated with Kimley-Horn and Associates to complete this update.

CEQA DETERMINATION

The project is exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines section 15183 because although the project could have a significant effect on the environment, all potentially significant effects (a) have been previously analyzed adequately in the 2011 General Plan EIR pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that EIR, including mitigation measures that are imposed upon the project. Therefore, no further environmental review is necessary.

STRATEGIC PLAN

This agenda item supports the City of Tracy's Quality of Life Strategic Priority, which is to provide an outstanding quality of life by enhancing the City's amenities, business mix and services and cultivating connections to promote positive change and progress in our community.

ACTION REQUESTED OF THE CITY COUNCIL

Staff recommends that the Tracy City Council and the Tracy Transportation Advisory Commission, concurrently, conduct a workshop to review the City's Transportation Master Plan Update and provide feedback.

Prepared by: Veronica Child, Management Analyst II

Reviewed by: Koosun Kim, PE, Interim City Engineer
Jaylen French, Director of Development Services
Sara Cowell, Finance Director
Midori Lichtwardt, Assistant City Manager

Approved by: Michael Rogers, City Manager

ATTACHMENTS

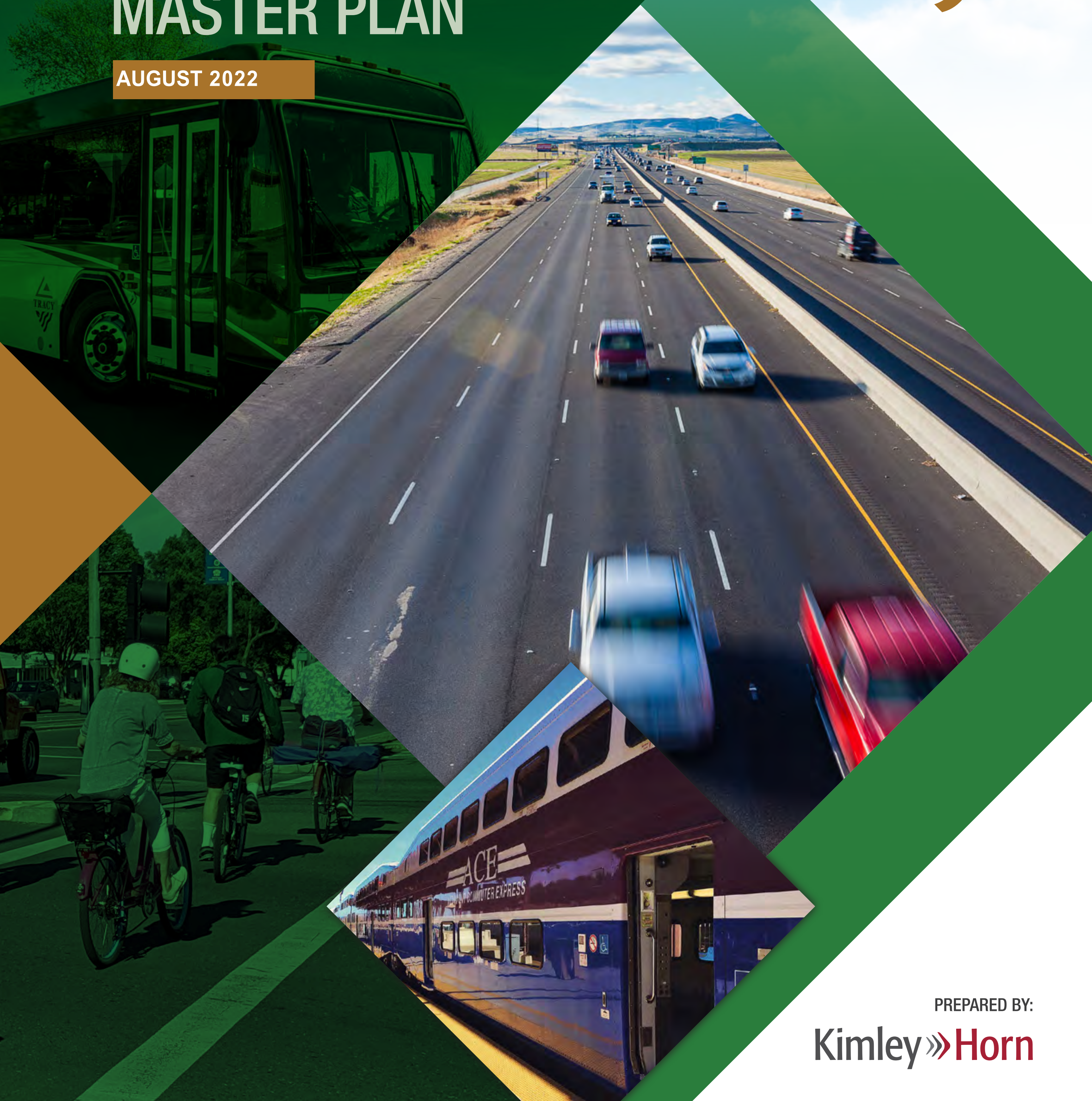
Attachment A – Citywide Transportation Master Plan Update
Attachment B – PowerPoint Presentation

Attachment A

CITYWIDE **ROADWAY & TRANSPORTATION** MASTER PLAN

AUGUST 2022

TRACY



PREPARED BY:

Kimley»Horn

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1 INTRODUCTION

1.1 Introduction

This document serves as an update to the 2012 City of Tracy Transportation Master Plan (TMP). Between the years of 2005 and 2019, the city's population rose from approximately 79,000 residents to over 94,000. During a similar time period, the number of jobs more than doubled from roughly 16,000 to over 34,000. The transportation system is a key element in maintaining historical growth and accommodating future development. The transportation system includes three major freeways; several active rail lines; local and regional truck routes; arterial, collector, and residential streets; and bicycle, pedestrian, and transit facilities. The City is responsible for ensuring that the transportation system is providing adequate and efficient access for all modes as well as conforming to regional, county, state, and federal transportation system requirements and standards.

1.2 Purpose of the TMP

The TMP builds upon the goals and objectives as defined in the Circulation Element of the City's General Plan (February 2011) and the Sustainable Action Plan (SAP) (February 2011). The SAP included feasible measures to achieve sustainability in multiple sectors and reduce GHG emissions. These measures include policies to increase transit usage and opportunities, improve traffic flow in the city, support the development of new bicycle and pedestrian facilities, and other land use policies. The General Plan is based upon a future Horizon Year of 2025 conditions. The TMP looks to a Horizon Year of 2042, to provide the maximum possible infrastructure planning and to be consistent with the planned San Joaquin Council of Governments (SJCOG) Travel Demand Model update to Year 2042. The TMP provides a complete review of the City's transportation system and serves as a comprehensive planning document that can be utilized to identify and implement required improvements to the existing roadway system. In addition, the TMP can serve as the baseline for incorporating expansion or accommodating future development consistent with the recent General Plan update.

The TMP incorporates various strategies, principles, and design elements that balance existing and future transportation infrastructure needs with providing safe access for all user groups (motorists, pedestrians, bicyclists, and transit users). Extensive use of Complete Streets guidelines, Smart growth principles and design elements, and Context-Sensitive Design throughout the TMP helps develop a transportation system aimed at addressing future transportation needs for the following networks:

- Transit (bus and rail)
- Cycling
- Walking
- Private vehicle movement
- Goods vehicle movement

The road network system is designed to provide a comprehensive grid system of hierarchal streets that result in a well-connected City by reducing trip lengths, promoting non-motorized travel and reducing the per capita emission of greenhouse gasses.

Every element of the TMP includes implementation of Smart Growth and Complete Streets principles. Additional, comprehensive information is included in the TMP that further identifies guidelines for use in the detail design and implementation of the TMP. This TMP shall be updated every five years to reflect changes in required improvements and related costs.

1.3 Development of the TMP

The development of the TMP was conducted with the following steps:

Step 1: Existing Conditions Base Network: Capturing development that occurred between the 2012 TMP and 2019-2020.

Step 2: Forecast Horizon Year Conditions: The 2042 3-County SJCOG Travel Demand Model was updated to reflect 2019 Base Year Conditions and 2042 Horizon Year conditions. Sustainable land use and transportation strategies were incorporated; Updated Horizon Year and build-out land uses for each future service area in the General Plan Update were obtained from the City; Updated Horizon Year and build-out plan-line roadway networks (classification and number of lanes), based on the model link volume forecasts, incorporating the effects of the sustainability strategies, were developed; and future intersection volumes were forecasted. Regional planning horizons typically extend 20 years into the future for land use and roadway planning. This update of the TMP will be consistent with the SJCOG Regional Transportation Plan. This consistency is extremely important for not only roadway planning but also for successful application for future grant funding.

Step 3: Tracy VMT Analysis: CEQA legislation (Senate Bill 743) requires the City of Tracy to use Vehicle Miles Traveled (VMT) as the measure of effectiveness to determine transportation impact on the environment. The Office of Planning and Research has issued guidance for implementation of the VMT requirement. This document calculates the VMT thresholds that will be used for determining project impacts and appropriate mitigation. Mitigation will consist primarily of travel demand management (TDM) measures and development of multimodal infrastructure to reduce single occupancy vehicle (SOV) travel in Tracy.

Step 4: Assess Horizon Year Roadway Network Conditions: The results from Step 2 were used to evaluate each aspect of the transportation system (roadway and intersection capacity, bridges/canals/culverts, bicycle and pedestrian facilities, train crossings, truck facilities, park and ride facilities, and Intelligent Transportation Systems (ITS)).

Step 5: Identify Horizon Year Roadway Improvements: The results from Step 2 and Step 4 were used to identify roads and intersections that will need improvements, and to identify gaps where bicycle and pedestrian facilities are inadequate. Railroad and bridges/canal/culvert crossings were examined to determine whether sufficient capacity was provided. Updated roadway cross sections for various types of roadways were prepared to provide adequate access for all modes of travel. Improvements were identified to address projected deficiencies in other areas (e.g. park and ride facilities, ITS equipment, truck routing system).

Step 6: Identify Capital Costs: Input on the proposed list of improvements was obtained from City staff and various stakeholders. Preliminary cost estimates for implementation were developed.

1.4 Objectives of the TMP

The following are objectives of the TMP:

1. Provide an Implementation Plan for the Circulation Element of the City of Tracy General Plan.
2. Serve as a comprehensive planning document or blueprint that identifies and requires improvements to the existing transportation system and expands upon the system to accommodate future development consistent with the General Plan. The system includes transit passenger movement, goods movement, pedestrian movement, bicycle movement and private vehicular movement.
3. Establish a framework of goals, policies, and implementation methodology that outlines improvement projects and programs, identifies financial resources and allocates funding, and sets project priorities to provide a safe and efficient transportation system that meets the community's needs.
4. Guide the development of transportation infrastructure and services as growth occurs under the General Plan.
5. Facilitate a transportation system that is a multi-modal network of roads, bicycle lanes and paths, transit services, and pedestrian facilities that will support the planned land uses in the City by providing mobility to residents and visitors alike.
6. Establish VMT as the primary measure of effectiveness for determining transportation impacts per SB 743.
7. Develop Travel Demand Management (TDM) measures that reduce private vehicle trips and build on the regional TDM programs developed by the SJCOG and would mitigate VMT impacts and develop a VMT Banking Fee Program.
8. Balance existing and future transportation infrastructure needs with safe access for all user groups (motorists, pedestrians, bicyclists, and transit users) by incorporating strategies, principles, and design elements such as Smart Growth design elements, Context-Sensitive Design, and Complete Street guidelines.
9. Facilitate the provision of an improved transportation system that enhances mobility, accommodates future growth, and maintains the quality of life in Tracy.
10. Establish policies and priorities to maintain and improve the transportation system.
11. Maintain consistency with the San Joaquin County Expressways Study.
12. Preserve four-lane maximum arterial widths where possible to promote a more walkable, bikeable environment, particularly in new areas of future development where sustainable practices can be applied in an equitable manner.
13. Decrease right-of-way and vehicular lane widths which implement Complete Street principles.
14. Maintain consistency with the roadway plans in entitled project areas (Ellis Specific Plan, Gateway Specific Plan, and some roadways in the Tracy Hills Specific Plan).
15. Provide maximum roadway capacity (roughly corresponding to a LOS D - E operation on a link-volume basis) to the greatest extent possible. It should be noted that intersections govern capacity in an urban network and, in most cases, will define the number of lanes required at the intersection as well as upstream and downstream segments.
16. Ensure the provision of bicycle and pedestrian facilities that connect people and places.
17. Develop a comprehensive bicycle and pedestrian system that ensures a multi-modal infrastructure network.

18. Develop a comprehensive circulation system that identifies bridge and culvert crossings to minimize traffic conflicts and preserve open space and preservation areas.
19. Develop a comprehensive Mobility Hub system (including Park and Ride) that supports multimodal travel, which includes transit, walking, bicycling, carpooling, or other non-single occupancy vehicle (SOV) travel within and for commuting to and from the City.
20. Provides a nexus for a Traffic Impact Fee Program that will fund the development of the planned transportation system through payment of impact fees by all future development.
21. Provide for a comprehensive transit system on all new collector, arterial and expressway roadways and providing opportunity for expanding transit services on existing roadways.
22. Provide cross-sections for new roadways – this section has been updated from the 2012 TMP.

1.5 Report Organization

The TMP is organized into the following chapters:

Chapter 1: Introduction – Description and purpose of a Transportation Master Plan.

Chapter 2: Existing Transportation System – Description of the existing transportation roadway system (roadway functional classification, intersection operations, pedestrian and bicycle facilities, park and ride facilities, truck facilities, bridges/canals/culverts, railroad facilities, and ITS).

Chapter 3: Overview of TMP Development Process – Description of Horizon Year and Buildout planning horizons including land use, roadway network, mode split, trip generation and distribution, and future roadway plan lines.

Chapter 4: Horizon Year TMP – Recommended improvements to support Horizon Year growth for the various transportation elements as indicated in Chapter 2.

Chapter 5: Horizon Year TMP Cost Estimates – Discussion of the cost estimates to provide the Horizon Year infrastructure recommendations.

2 EXISTING TRANSPORTATION SYSTEM

2.1 Introduction

The purpose of this chapter is to provide perspective as to the scale of the existing transportation systems in the City of Tracy and to identify any existing operating deficiencies. The findings from this chapter will be incorporated into the Horizon Year Transportation Master Plan to help determine the needs of the City for short and long-term future conditions.

The existing conditions determine the baseline conditions from which the Horizon Year transportation system is developed. The following elements of the transportation system in Tracy are evaluated in this chapter:

- Automobile Mobility
    - Street Segments
    - Intersections
    - Canal and Creek Crossings
    - Roadway Bridges
    - Railroad Crossings
    - Park and Ride
    - Parking
- Pedestrian Mobility
- Bicycle Mobility
- Heavy Vehicle Mobility
- Transit
- Intelligent Transportation Systems

The ultimate goal of the TMP is to develop a framework of goals, policies and implementation methodology that outlines improvement projects and programs, identifies financial resources and allocates funding, and sets project priorities to provide a safe and efficient transportation system that meets the community's needs. Tracy residents are served by an extensive, multi-modal transportation system that includes walking and cycling facilities (on-road cycling facilities, sidewalks and multiuse pathways), transit services (on-road bus services and park and ride lots), roads (freeways, arterials, collector and local roads) and parking facilities (on-street and off-street).

2.2 Study Area

2.2.1 Regional Context

The City of Tracy is home to roughly 94,000 people based on the 2019 American Community Survey 1-Year Estimates as identified by the U.S. Census. The current city boundary covers an area of some 26 square miles with approximately 70% already built out.

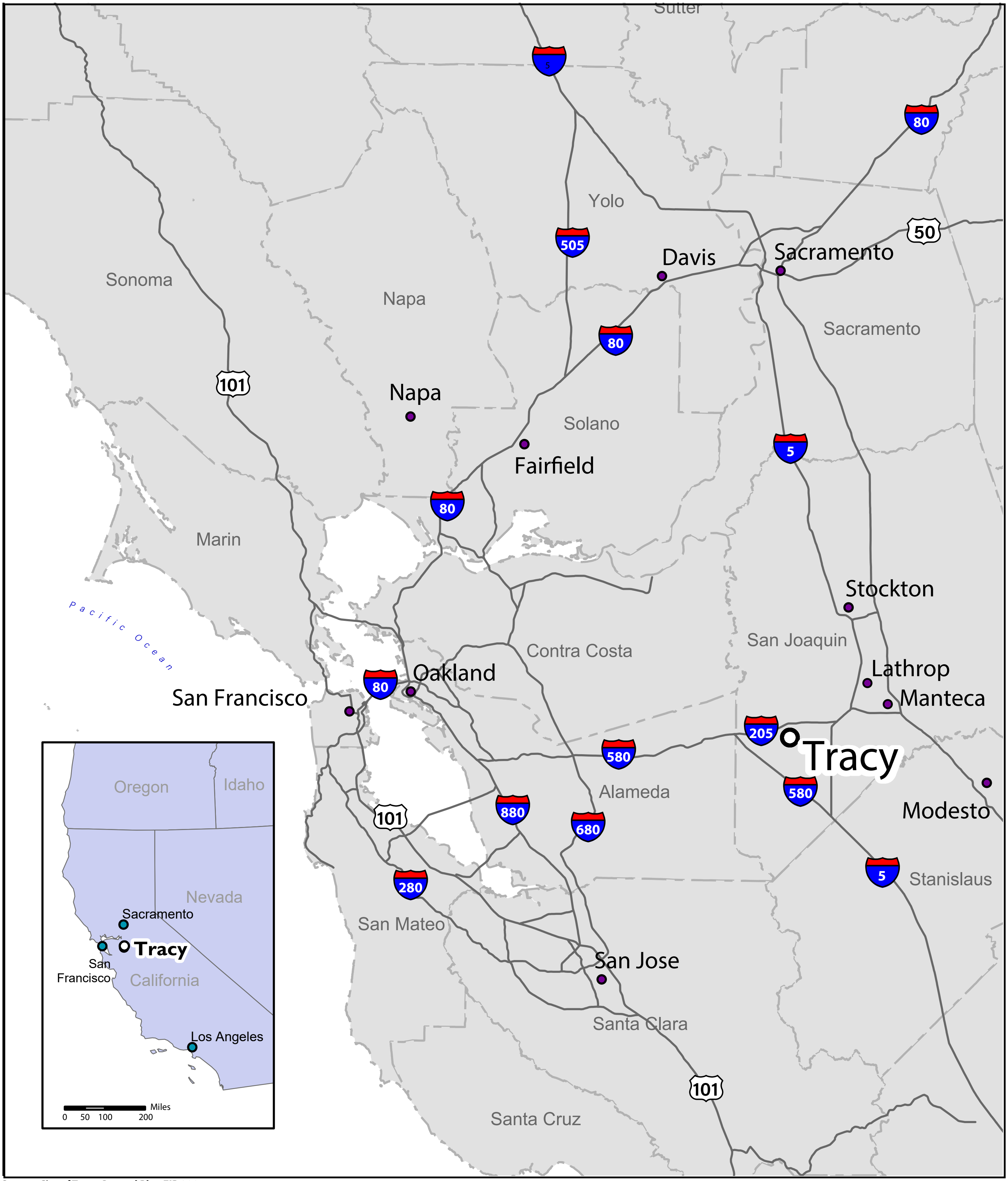
The City of Tracy is located approximately 50 miles east of San Francisco in the southwest portion of San Joaquin County (Figure 2.1). The City is situated in the center of a triangle that is formed by Interstate 5 (I-5), Interstate 205 (I-205), and Interstate 580 (I-580). This orientation provides multiple access points for regional travel and goods distribution to the west towards the San Francisco Bay Area along I-580, to the north along I-5, and to Southern California along I-5. Transportation infrastructure in and around Tracy is managed by multiple agencies according to the following division of responsibility:

- Interstate Freeways – Caltrans
- Regional Transportation Planning – San Joaquin County, San Joaquin Council of Governments, and City of Tracy
- Transit – San Joaquin Regional Rail Commission, San Joaquin Regional Transit District, and City of Tracy
- Local Streets – City of Tracy

Figure 2.2 presents the existing City limits and sphere of influence.

Tracy residents use automobiles more than any other mode of travel. The U.S. Census estimated that in 2019 approximately 91% of commuters traveled by automobiles (79% drove alone, 12% carpooled), nearly 4% traveled by transit, 1% traveled by walking, and just under 1% traveled by other modes of transportation (data on non-commute travel is not systematically collected and is thus not reported here). Roughly 4% of employees worked from home. Approximately 96% of households own at least one motor vehicle, with 78% owning two or more.

Goods movement is also a significant element of total travel demand in Tracy. The I-205 freeway carries heavy truck volumes over its entire length. Total truck traffic in 2019 east of Tracy Boulevard was over 40,000 truck trips per day, approximately 26 percent of all traffic. The I-580 freeway also carries heavy truck volumes over its entire length. Total truck traffic in 2019 on I-580 east of Highway 132/Chrisman Avenue was approximately 6,200 truck trips per day, 25 percent of all traffic.



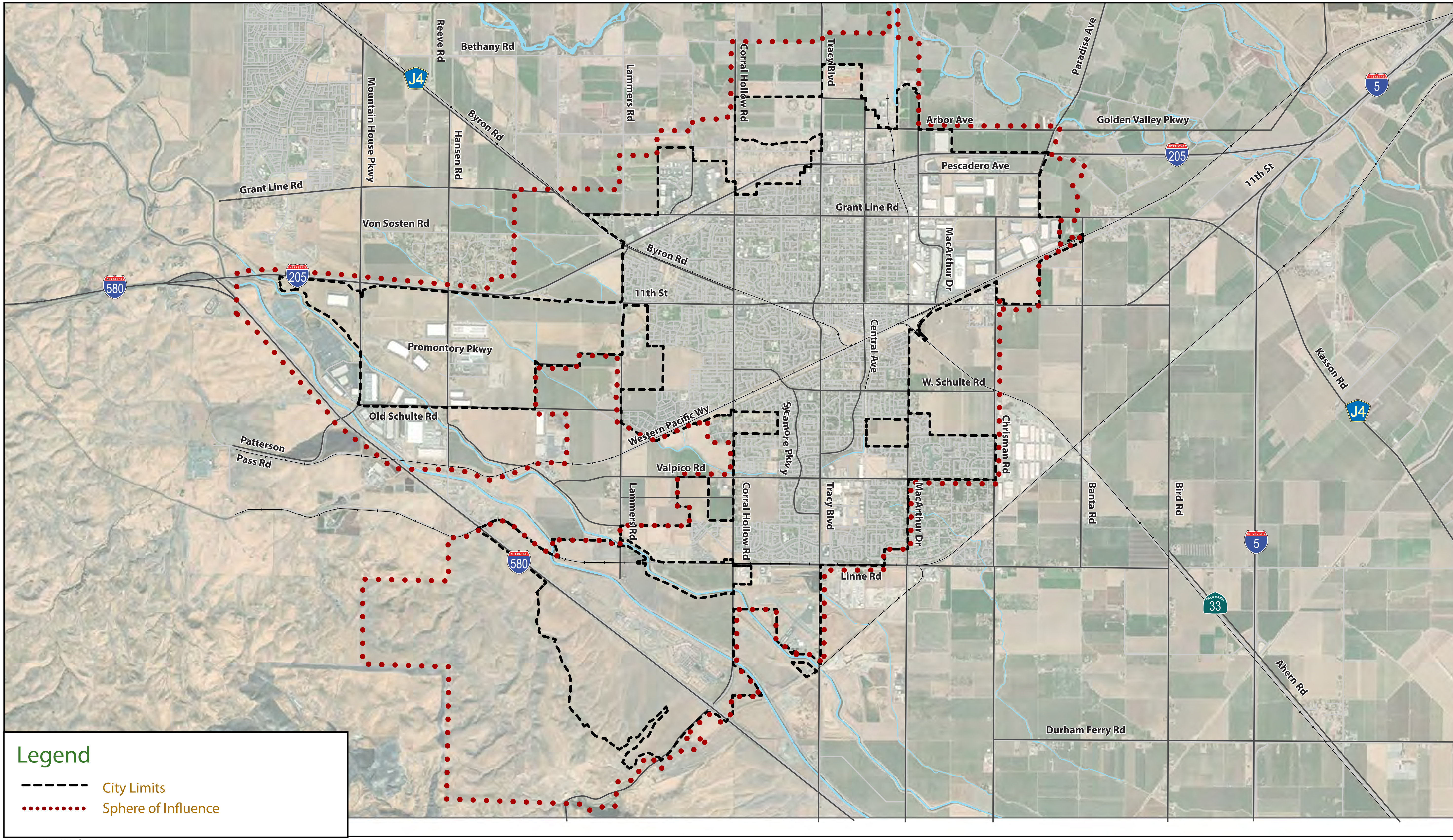
Source: City of Tracy General Plan EIR 2004

North

Kimley»Horn

Figure 2.1: Regional Location

City of Tracy Transportation Master Plan



Source: ESRI, Kimley-Horn

Kimley»Horn

North

0 0.5 1 2 Miles (Approximate)

Figure 2.2: Tracy City Limits and Sphere of Influence

Figure 2.3 shows the City's existing land uses.

San Joaquin County has numerous regional transportation improvements planned which have been outlined in the *2018 Regional Transportation Plan/Sustainable Communities Strategy (RTP)* (SJCOG, June 2018). These include but are not limited to:

- Mainline Highway
- Interchanges
- Regional Roadways
- Transit
- Active Transportation

A complete listing of the planned improvements identified in the RTP has been included in Appendix A. Below is a list of project descriptions included in the RTP:

- Mainline Highway
  - I-205 HOV from Alameda County Line to Eleventh Street: Widen from 6 to 8 lanes (outside)
  - I-205 HOV from Eleventh Street to MacArthur Drive: Widen from 6 to 8 lanes (inside)
  - I-205 HOV from MacArthur Drive to I-5: Widen from 6 to 8 lanes (inside)
- Interchanges
  - I-580 at Corral Hollow Road: Modify existing interchange (environmental only)
  - I-580 at Lammers Road: Construct new interchange (environmental only)
  - I-580 at International Parkway/Patterson Pass Road: Reconstruct interchange
  - I-205 at Mountain House Parkway/International Parkway: Modify existing interchange
  - I-205/Lammers Road/Eleventh Street: Construct new interchange and widen Eleventh Street to 6 lanes
  - I-205 at Grant Line Road: Modify existing interchange
  - I-205 at MacArthur Drive: Modify existing interchange (environmental only)
  - I-205 at Chrisman Road: Phase 1 to construct new interchange east-west ramps
- Regional Roadways
  - International Parkway from I-205 to I-580: Widen from 2 to 4 lanes and reconstruct aqueduct bridges
  - Tracy Boulevard from I-205 to Howard Road: Construct passing lanes and channelization
  - Tracy Boulevard from I-205 to Eleventh Street: Widen from 4 lane minor arterial to 4 lane major arterial
  - Grant Line Road from Naglee Road to Lammers Road: Widen from 5 to 6 lanes
  - Schulte Road from Faith Lane (San Marco Subdivision limits) to Lammers Road: Extend 4 lane roadway
  - Corral Hollow Road from Parkside Drive to Linne Road: Widen from 2 to 4 lanes
  - Corral Hollow Road from Linne Road to I-580: Widen 2 to 4 lanes including Right-of-Way (ROW) and construct two bridges
  - MacArthur Drive from Valpico Road to Schulte Road: Widen from 2 to 4 lanes
  - MacArthur Drive from Mt. Diablo Avenue to Eleventh Street: Extend 4 lane roadway
  - Eleventh Street from Tracy City Limits to I-5: Improve roadway and intersections

  - Grant Line Road from Tracy City Limits to Eleventh Street: Realign roadway and widen from 2 to 4 lanes with operational improvements
  - Golden Valley Parkway from Steward Road to Paradise Road: Construct new 4 lane roadway parallel to I-5
- Transit
  - Tracy Transit Station: Construct passenger rail platform and expand parking
- Active Transportation
  - Byron Road Trail from Lammers Road to west of Lankershire Road: Construct Class I bike path
  - Byron Road Trail from east of Lankershire Road to west of Belconte Drive: Construct Class I bike path
  - UPRR Trail from Corral Hollow Road to Central Avenue: Construct Class I bike path
  - UPRR Rail Trail from Central Avenue to Canal Trail: Construct Class I bike path
  - Canal Trail from Lammers Road to MacArthur Drive: Construct Class I bike path
  - Central Avenue from Tracy Blvd to Schulte Road: Install center turn lane, Class II bike lanes, and sidewalks
  - Lowell Avenue from Chester Drive to west of Tracy Blvd: Construct sidewalks
  - Tracy Boulevard from south of Valpico Road to north of Whispering Wind Drive: Construct sidewalks

The *Regional Congestion Management Plan 2018 Update* (SJCOG, April 2018) identifies the strategic plan for reducing congestion and its economic impacts. The strategies include:

- Developing new land use monitoring and information program
- Developing new multimodal performance measures
- Limiting Vehicle Miles Traveled (VMT) growth
- Coordinating between private and public agencies

The plan also includes recommended projects as part of a Capital Improvement Plan. These include:

- Constructing a new interchange between I-205 and Eleventh Street
- Modifying the existing I-205/Grant Line Road interchange

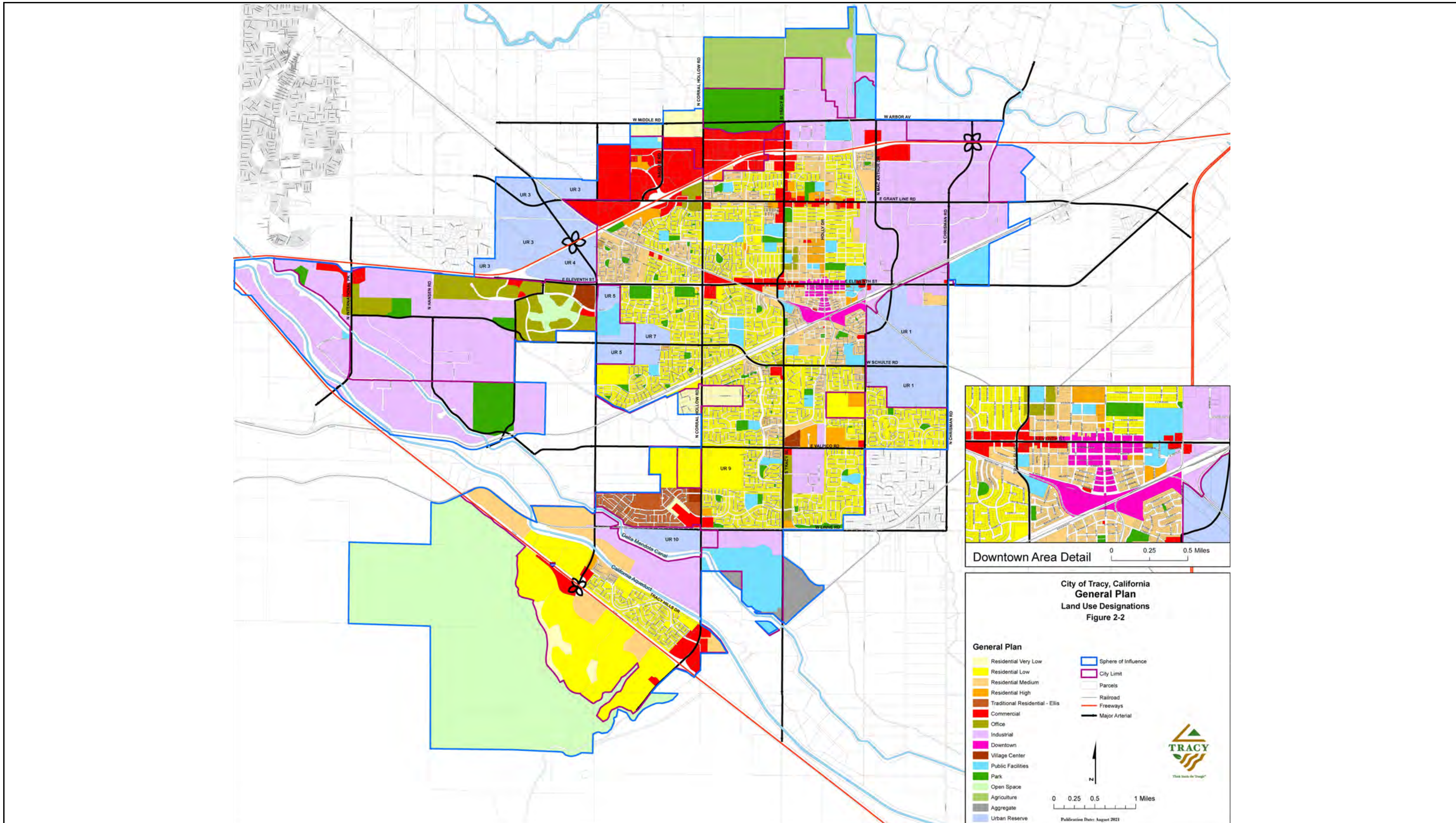


Figure 2.3 Existing Land Use
(General Plan Circulation Element Figure 2-2)

2.2.2 Sustainability Action Plan

The City of Tracy passed a Sustainability Action Plan (SAP) in 2011 with the goal of achieving sustainability in the sectors of GHG emissions, energy, transportation and land use, solid waste, water, agriculture and open space, biological resources, air quality, public health, and economic development.

Due to prevailing land use and transportation planning since the 1950s, the prevailing style of development has been very land and energy intensive. By building a large share of new housing in greenfield projects and expecting workers to commute to the jobs via automobile, the amount of vehicle miles traveled per capita has increased substantially. To reach improved levels of sustainability, Tracy has set goals for changing commute mode share and reductions in vehicle miles traveled.

These objectives, which the City aimed to achieve by 2020 include:

- Target #5a: 20 percent increase in the percentage of non-City employees who participate in travel demand management programs from 2006 baseline levels.
- Target #5b: 20 percent increase in the percentage of City employees who participate in travel demand management programs from 2006 baseline levels.
- Target #6a: 20 percent reduction in the community VMT per capita from current (2006) levels.
- Target #6b: 20 percent reduction in the municipal VMT from 2006 baseline levels.

To ensure objectives are reached, the following action plan measures have been established:

- T-1: Live-Work and Work-Live Uses
- T-2: Reduced Parking Requirements
- T-3: Support for Bicycling
- T-4: Support for Transit
- T-5: Smart Growth, Urban Design, and Planning
- T-6: Traffic Smoothing Through Congestion Management
- T-7: San Joaquin County Park and Ride Lot Master Plan Implementation
- T-8: Alternative Transportation Choices for Students
- T-9: Comprehensive Signal Coordination Program
- T-10: Ramp Metering on Interstate 205
- T-11: Increased Transit to Bay Area Cities and San Joaquin Valley Employment Centers
- T-12: Altamont Route Approval and Transit-Oriented Development Around Rail
- T-13: Reduce Commute Trips
- T-14: Parking Cash-Out Programs for Employees
- T-15: Reduced Commuting from Out of the Region
- T-16: Transit Passes for Residents and Employees of New Developments
- T-17: Increased Use of Low Carbon Fueled Vehicles
- T-18: Carbon Sequestration on Municipal Property
- T-19: Mixed-Use and Traditional Residential Development
- T-20: Employment-Generating and High-Density Infill Projects
- T-21: Compressed Natural Gas Buses for the City's Fleet

More detail on the specific measures may be found in the SAP.

2.3 Infrastructure and Modes of Transportation

The City of Tracy roadway network supports multiple modes of travel including vehicles, transit, biking, and walking. The following sections provide a description of the elements that form the roadway network.

2.3.1 Functional Classification

Roadways that comprise the Tracy transportation network are part of a hierarchal classification system. The system classifies roadway types based on the function they serve and the jurisdiction they fall under. The function of roadways range from regional facilities serving the mobility of high volumes of vehicles to local roadways providing access to land parcels for low volumes of vehicles.

Descriptions of the existing roadway classification system that serves the City of Tracy are provided in the following paragraphs.

Figure 2.4 presents the existing roadway functional classification in the City of Tracy. Table 2.1 summarizes the key characteristics (vehicular design capacity, typical curb-to-curb width, and number of lanes) for those various types of roadways.

Table 2.1: Existing Functional Classification Design Criteria

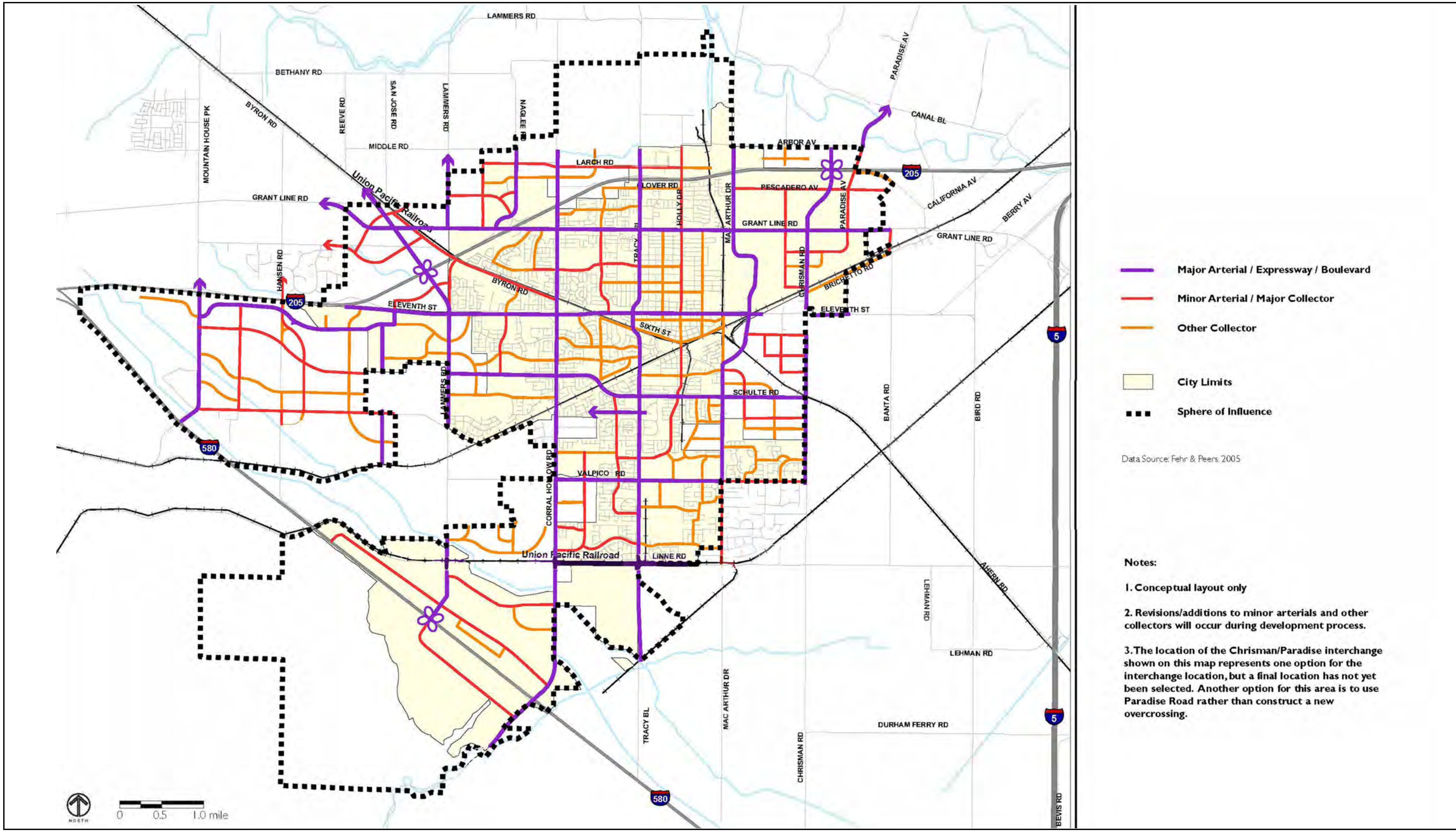
Roadway Type	Design Capacity (vehicles/day)	Typical Curb to Curb Width	Typical Number of Lanes
Major Arterial	> 10,000	76-120	4-8
Arterial	> 10,000	64-86	4-6
Arterial	5,000 – 12,000	48-62	2-4
Collector	2,000 – 7,000	30-54	2
Residential	500 – 3,000	24-36	2
Industrial	Not Provided Truck movements govern roadways	40-42	2

2.3.1.1 Freeways

Freeways are designed to carry very high volumes of traffic at very high travel speeds. Travel along freeways is generally unimpeded and provides interregional and interstate travel for passenger cars and commercial vehicles. Access is provided by grade separated interchanges that are generally spaced at a minimum of one mile.

2.3.1.2 Major Arterials

Major arterials provide connections to regional roadways, such as freeways, and are usually designed to accommodate through traffic with limited access to adjacent land uses. These facilities typically have multiple lanes (four, six, or eight) and carry higher speeds and volumes. Access points are typically spaced at a minimum of one-third mile between major intersections. Closer spacing of signalized intersections lowers the progression speeds of vehicles yet improves distribution to more road segments on the system, ultimately providing for a denser road network with well-established connections between origins and destinations. Right-in-right-out access points may be provided in-between the major intersections. Major arterials generally serve higher traffic volumes (up to 75,000 average daily trips for an 8-lane facility).



Source: ESRI, Kimley-Horn

Kimley»Horn

North

0 0.5 1 2 Miles (Approximate)

Figure 2.4 Existing Roadway Functional Classifications (General Plan Circulation Element Figure 5-1)

2.3.1.3 Arterials

Arterials provide regional connectivity and relatively unimpeded traffic flow for both passenger cars and commercial vehicles. These facilities have high vehicle capacities and support high travel speeds. Access to arterials is limited by intersection spacing and driveway locations. Arterials can be classified as either major or minor arterials.

Major arterials are designed to provide major routes within the City and to regional facilities. Major arterials have access points that are spread out approximately every mile. Traffic volumes along major arterials can be as high as 50,000 vehicles per day.

Minor arterials provide some direct access to shopping centers and large residential communities. Access to minor arterials is more frequent than major arterials (approximately every half mile). Traffic volumes along minor arterials range from 10,000 to 30,000 vehicles per day.

2.3.1.4 Collectors

Collectors are designed to provide connectivity between local roadways and the higher capacity arterial facilities. Collectors also provide direct access to business and residential properties (approximately every quarter mile). High vehicle capacities and moderate travel speeds are supported by collectors. Collectors can be classified as either major or minor. Major collectors support higher volumes and higher speeds than minor collectors but have more limited access. Collectors have traffic volumes that range from 2,000 to 10,000 vehicles per day.

2.3.1.5 Residential

Residential streets support low traffic volumes and slow travel speeds. They provide direct access to properties and connect to the roadway network. Design guidelines of these roadways are implemented to minimize travel speed, promote pedestrian safety, and prohibit cut through traffic. Access locations are generally very close together on residential streets (approximately 500 foot spacing).

2.3.1.6 Industrial

Industrial streets are designed to provide access to industrial and commercial land uses such as shopping centers, office parks, and industrial parks. These roadways are designed to allow access for truck traffic.

2.3.2 Traffic Control

Traffic control systems are used to direct drivers, pedestrians, and bicyclists while providing a safe and efficient operating environment. Traffic control systems are comprised of, but not limited to, roundabouts, signal controls, stop signs, pavement markings, and roadway signs. The implementation, design, and placement of these devices are governed by the California Manual of Uniform Traffic Control Devices (MUTCD) and the City of Tracy Standard Plans.

2.3.3 Existing Bicycle Circulation

The City of Tracy created a *Bikeways Master Plan* (BMP) in 2005 and last updated it with a Bikeways Master Plan Design Supplement in 2009. The 2022 TMP serves as the update to *Bikeways Master Plan* including extensive public outreach and engagement to determine bicycle priorities with the City. Staff will develop an implementation plan based on community input, funding, and priorities. The results of the public outreach survey are included in Appendix B.

2.3.3.1 Bicycle Facilities and Parking

The City of Tracy uses the Caltrans *Highway Design Manual* (6th Edition, California Department of Transportation, 2006). These design standards, outlined in Chapter 1000: Bikeway Planning and Design, classify bikeway facilities into four categories: Class I, Class II, Class III, and Class IV. The categories are described below:

Class I Bikeway (Bike Path) – A Class I Bikeway is a physically separated bike path that does not share the roadway with automobiles, buses, and motorcycles. They are separated by either open space or a physical barrier and are generally two-way facilities for bicyclists and pedestrians.

Class II Bikeway (Bike Lane) – A Class II Bikeway is a bike lane that shares a portion of the roadway with motorized vehicles. They are delineated by striping and are signed and marked for exclusive use by bicycle traffic. Class II Bikeways provide service for one-way bicycle traffic and are located outside of the through lane for motorized vehicles.

Class III Bikeway (Bike Route) – A Class III Bikeway is a route that shares the roadway with motorized vehicles. They are identified by signs and are not separated by striping. Class III Bikeways are utilized in locations that do not have Class I or Class II facilities or to connect Class II Bikeways to provide a continuous bikeway system

Class IV Bikeway (Separated Bikeway) – A Class IV Bikeway is a bikeway for the exclusive use of bicycles and includes a separation between the bikeway and vehicular thoroughfare. The separation may be, but not limited to, grade separation, flexible posts, inflexible physical barriers, planters, and/or on-street parking. The key distinction from a Class II facility is that it must have some physical element and not just open space.

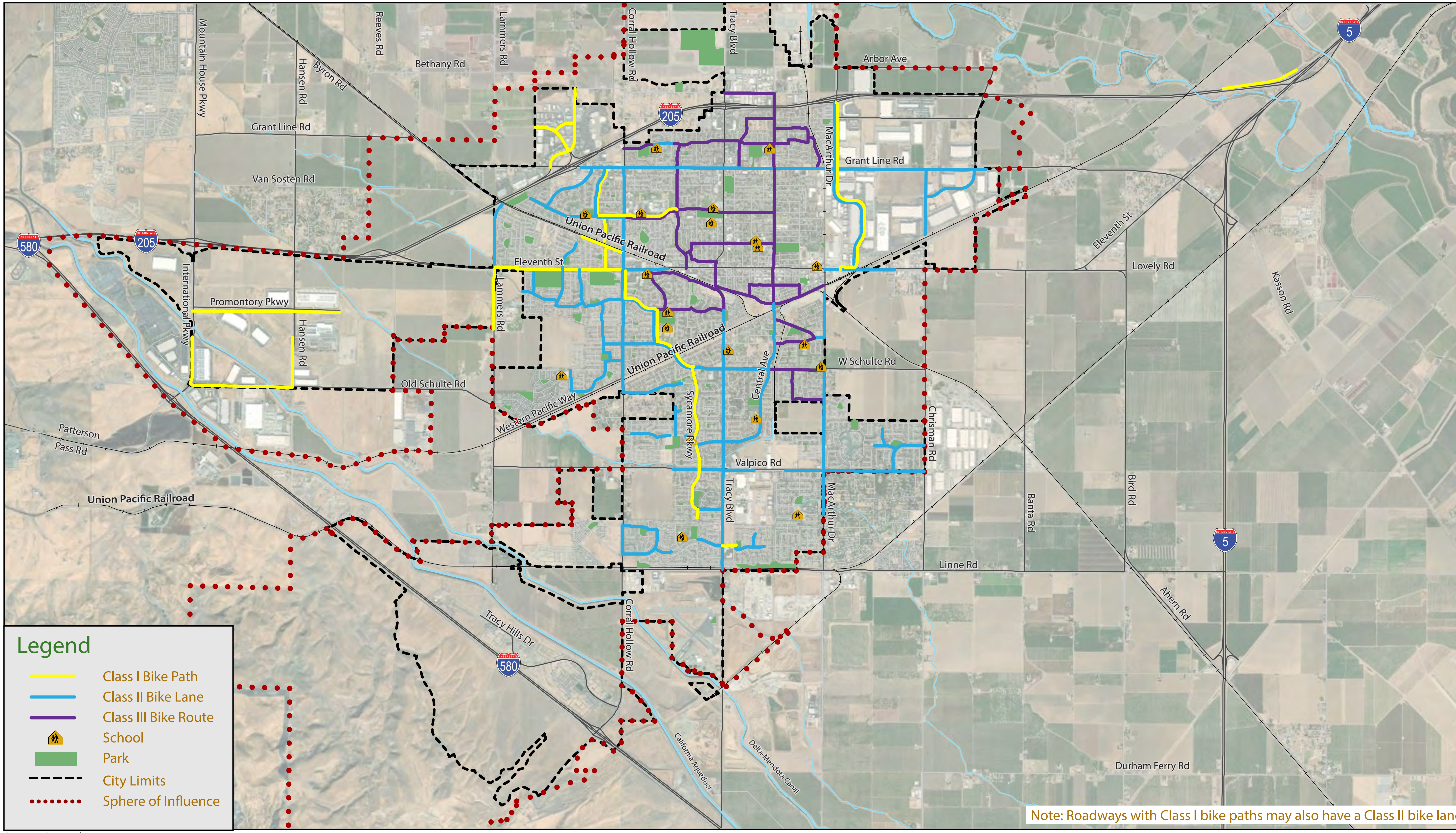
The City of Tracy has an extensive bicycle network. The current bicycle network is shown in Figure 2.5 Although the bikeway system is broad, there are critical gaps that limit its effectiveness to serve cyclists through connecting origins and destinations. These destinations include:

- One segment along Grant Line Road under the I-205 overpass
- Tracy Boulevard between West 6th Street and I-205
- Two segments on MacArthur Drive between Valpico Road and Grant Line Road
  - One segment between Mt. Diablo Avenue and Schulte Road
  - One segment between south Schulte Road and Valpico Road
- One segment along Valpico Road between MacArthur Drive and Tracy Boulevard

As identified in the City of Tracy's BMP, bicycle parking facilities are categorized as follows:

- Class I bicycle parking facilities consist of bicycle lockers or a secure area that may be accessed only by bicyclists
- Class II bicycle parking facilities are bicycle racks that provide support for the bicycle but do not have locking mechanisms

The City requires that bicycle parking must be provided at parking lots with 20 or more vehicle parking stalls (*City of Tracy Municipal Code, September 2009*). Ordinance 10.08.3510. Bicycle Parking, states that 2 permanent bicycle stalls shall be provided in parking lots with 20 to 40 vehicle stalls and 5% of the total vehicle stalls for parking lots with more than 40 vehicle stalls.



Source: ESRI, Kimley-Horn

Kimley»Horn

North

0 0.5 1 2 Miles (Approximate)

Figure 2.5: Existing Bikeway Network

City of Tracy Transportation Master Plan

Each bicycle parking stall shall be 5 ½ feet long and 2 ½ feet wide and include a permanent fixture for locking or securing the bicycle frame and wheels in an upright position. The parking stalls are required to be within 100 feet of the public entrance for each building or land use type.

The City updated its Bicycle Standard Plan in 2020. These plans are attached in Appendix B.

2.3.4 Existing Pedestrian Circulation

The City of Tracy is pedestrian friendly with widespread sidewalk coverage and pedestrian crossings with Americans with Disabilities Act (ADA) ramps along major roadways and in residential neighborhoods. The sidewalk coverage helps to promote walking and provides pedestrians access to destinations throughout the City.

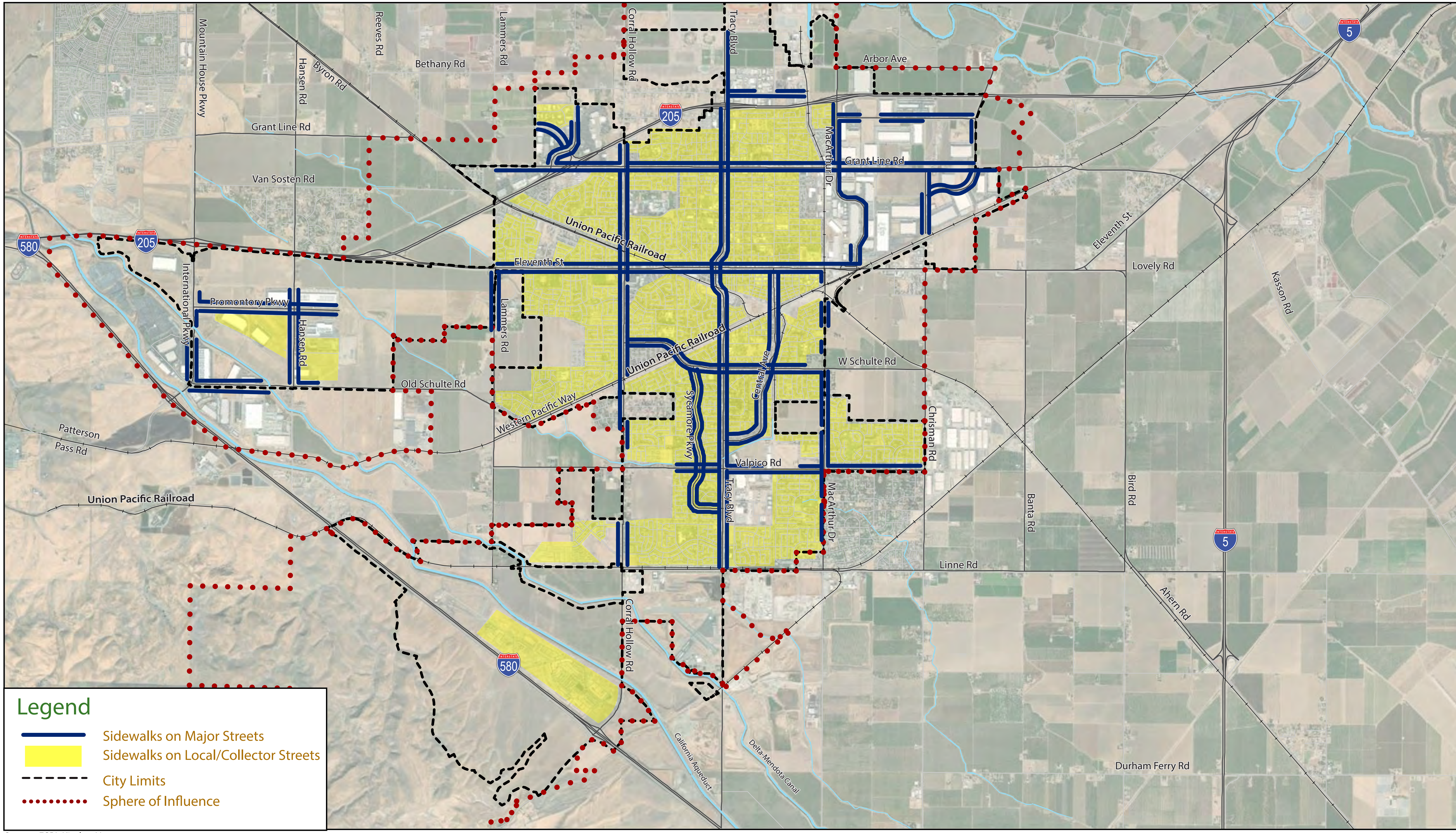
Figure 2.6 provides a map of the existing sidewalk locations and highlights them in blue. Although a detailed inventory of each residential neighborhood was not performed, a preliminary inventory was completed. The map highlights in yellow the neighborhoods that have approximately 90% or greater sidewalk coverage.

Similar to bikeway facilities, the City has critical gaps in sidewalk coverage. These gaps include a segment along Corral Hollow Road south of Schulte Road and along Tracy Boulevard south of Valpico Road. In addition to the critical gaps, ADA routes (an ADA Transition Plan) have not been established along the existing sidewalks to specific destinations in the City.

2.3.5 Existing Parking

The City's goals and actions it takes will acknowledge the ability of parking supply and parking pricing to influence how people choose to travel. Parking areas are a major consumer of land, and the treatment of parking within developments can either help or hinder the achievement of compact communities. Notwithstanding these concerns, adequate parking is an issue of vital importance to Tracy's businesses and institutions. Parking enables them to remain accessible to employees, customers, and visitors who travel by automobile, whether by need or choice. The interests of employers, stores, and service providers must be considered in the development of a balanced parking system.

Parking services provided directly by the City include on-street parking, several off-street parking lots, and enforcement of parking by-laws. These services have significant costs but also generate significant revenues. In addition, through its land use planning functions, the City influences the supply of parking in new developments and has some regulatory control over privately-run off-street parking lots for use by the public.



Source: ESRI, Kimley-Horn

Kimley»Horn

North

0 0.5 1 2 Miles (Approximate)

Figure 2.6: Existing Sidewalks

City of Tracy Transportation Master Plan

2.3.6 Park and Ride Facilities

A Park and Ride facility is generally an area used by parked vehicles, while the vehicle owner uses a public transport or carpooling service to commute. Vehicles are parked in the facility during the day and retrieved when the commuter returns. Currently there are four Park and Ride facilities within the City of Tracy as illustrated in Figure 2.7.

- Prime Outlet (MacArthur Drive/East Pescadero Avenue)
- Tracy Transit Station (southeast corner of 6th Street/Central Avenue)
- 6th Street and Central Avenue (northwest corner of the intersection)
- Altamont Commuter Express (ACE) Station (Tracy Boulevard/Linne Road)

2.3.6.1 Prime Outlet Park and Ride

This parking lot is located on the north side of East Pescadero Avenue behind Prime Outlet shopping center and in close proximity to the interchange of I-205 and MacArthur Drive. This lot has a parking capacity for 40 regular vehicles with no bicycle facilities provided. Access to the parking lot is shared with access for the shopping center. Currently, TRACER, the bus transit service operated and managed by the City of Tracy, operates Commuter Route E bus service between the shopping center and Tracy Transit Station.

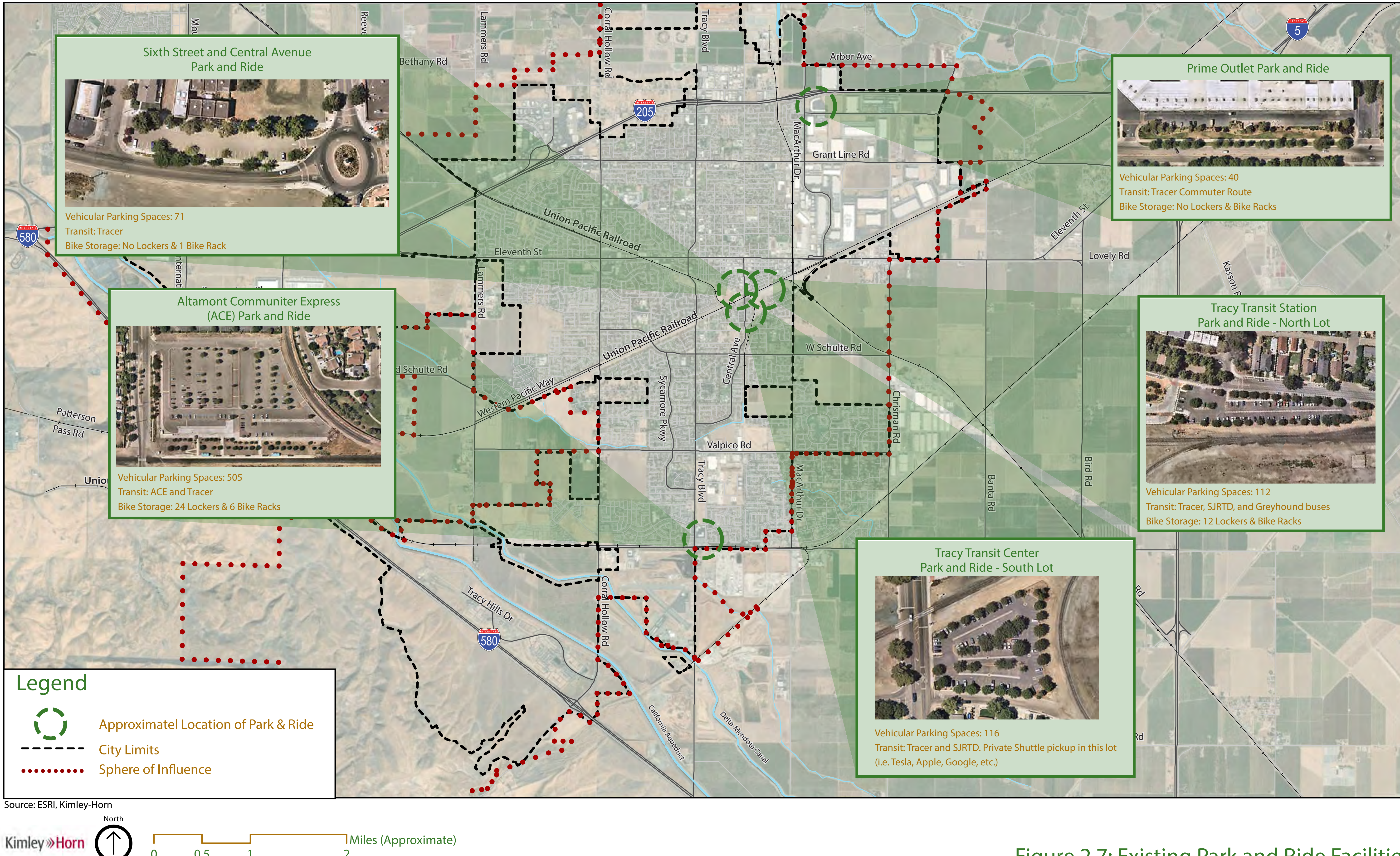
2.3.6.2 Tracy Transit Station Park and Ride

The Tracy Transit Station opened on February 1, 2010 and serves as a transit hub for the City of Tracy. It is located on the southeast corner of Central Avenue and Sixth Street. The approximately 6,000-square-foot station includes an indoor passenger waiting area; a ticket sales and information office; public restrooms; three community meeting rooms; 228 parking spaces (including infrastructure for up to three recharging spaces for electric vehicles); an outdoor plaza; designated bus, taxi and vanpool pickup and drop-off zones; 12 secure bike lockers, and additional bike racks. The Park and Ride facility consists of two lots: one with access from 6th Street east of Central Avenue and the other on the south side of the railroad tracks with access from Central Avenue north of 4th Street. Private shuttles also operate from the South Lot (i.e. Tesla, Google, Apple buses).

Currently, TRACER operates four local bus routes (A through D) and three commute-hour routes (E through G). San Joaquin Regional Transit District (SJRTD) operates two regional bus services to and from Stockton, Routes 90 and 97, as well as Commuter Route 150 with service between Stockton and Dublin/Pleasanton BART.

2.3.6.3 6th Street and Central Avenue Park and Ride

This parking lot is located diagonally across from the Tracy Transit Station along the north side of 6th Street, between Central Avenue and C Street. This lot has a parking capacity for 67 regular vehicles and four ADA vehicles and has no bicycle facilities. Access to this parking lot is provided via a driveway along both Central Avenue and C Street



Source: ESRI, Kimley-Horn

Kimley»Horn

Figure 2.7: Existing Park and Ride Facilities

City of Tracy Transportation Master Plan

2.3.6.4 Altamont Commuter Express (ACE) Park and Ride

The Tracy ACE station is located at Tracy Boulevard and Linne Road. This park and ride lot has a parking capacity for 493 regular vehicles and 12 ADA vehicles. The lot also contains six lockable bike racks and 24 bike lockers. Access to the parking lot is provided via a driveway along Tracy Boulevard. Currently, ACE provides daily services between Stockton and San Jose. On weekdays four trains depart from Stockton in the morning and four from San Jose return in the evening. Saturday service is limited to two trains in each direction.

This parking lot overflows and parking demand spills over into the adjacent areas. ACE is planning for longer trains but no expansion of the parking lot is planned.

2.3.7 Freight - Truck Service

The following section describes the existing truck routes in the City of Tracy as obtained from the City of Tracy Truck Route Map (per City ordinance 1068, adopted 11-16-04) and survey of field data.

2.3.7.1 Existing Truck Routes

The existing truck routes in the City of Tracy run primarily in a north-south and east-west direction. Access to truck routes originate from I-205 and disperse to the City via the interchanges at I-205/Eleventh Street, I-205/Grant Line Road, and I-205/MacArthur Drive. The existing truck route network connects truck traffic on I-205 to the industrial areas in the south and northeast via MacArthur Drive, and also the commercial areas in the north and central via Larch Road, Eleventh Street, and Grant Line Road. Truck access to I-580 is provided via a through truck route on Corral Hollow Road via the I-580 interchange to the south.

Section 3.08.290 of the City's Municipal Code establishes truck routes throughout the City with restrictions on vehicles with a gross vehicle weight of five tons or more, licensed commercially as a truck in its state of origin, and used for carrying goods for pickup and delivery. Vehicles meeting this requirement shall drive only on truck route-designated streets except when necessary for regress and ingress by direct route to and from restricted streets for the purpose of loading or unloading.

Currently there are three types of truck routes within the City of Tracy: Through Truck Routes, Local Truck Routes, and Surface Transportation Assistance Act (STAA) Truck Routes. These routes are indicated throughout the City with the appropriate signage specific to each route type per MUTCD requirements.

2.3.7.2 Through Truck Routes

Through truck routes are defined as a route that allows any vehicle entering the City of Tracy from any point outside the City and destined for any other point located outside the City to proceed entirely through without unloading or loading freight within the City of Tracy. A map showing the location of truck routes throughout the City can be found in Figure 2.8.

Existing through truck routes within the City of Tracy include:

- Arbor Avenue (MacArthur Drive to Holly Drive);
- Byron Road (west City limits to Lammers Road);
- Corral Hollow Road (Larch Road to Grant Line Road);
- Corral Hollow Road (Linne Road to I-580);
- Chrisman Road (North of Valpico Road portion of Chrisman Road within City limits);
- Eleventh Street (Lammers Road to the west City limits);

- Eleventh Street (MacArthur Drive to east City limits);
- Grant Line Road (West City limits to Corral Hollow Road);
- Grant Line Road (MacArthur Drive to East City limits);
- Holly Drive (Arbor Road to Larch Road);
- Lammers Road (Byron Road to Eleventh Street);
- Larch Road (Holly Drive to Corral Hollow Road);
- Linne Road (East City limits to West City limits);
- MacArthur Drive (Arbor Road to Eleventh Street);
- Tracy Boulevard (Larch Road to I-205);
- Tracy Boulevard (Linne Road to South City limits).

2.3.7.3 Local Truck Routes

Local truck routes are defined as a route that may not be used by any truck to move from any point outside of the City of Tracy continuously to any other point located outside the City of Tracy without unloading or loading with the City of Tracy. All local truck traffic trips must use the shortest local truck traffic route connecting to through truck traffic routes and the origin and destination within the City.

Existing local truck routes within the City of Tracy include:

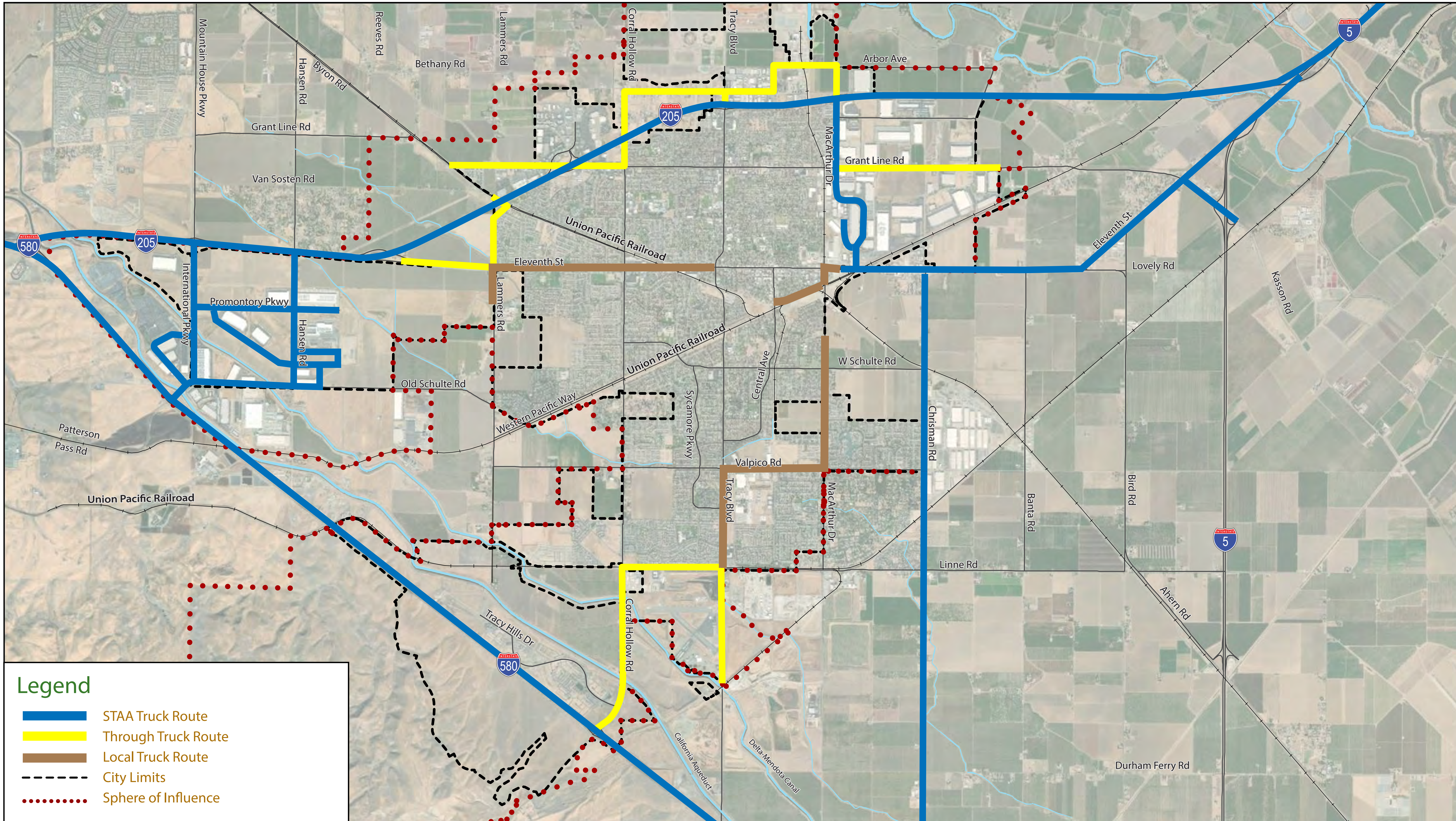
- Eleventh Street (Lammers Road to Tracy Boulevard);
- Eleventh Street (north leg MacArthur Drive to south leg MacArthur Drive);
- Lammers Road (Eleventh Street to 0.5 miles south of Eleventh Street) City portion;
- MacArthur Drive (Eleventh Street to Sixth Street);
- MacArthur Drive (Valpico Road to Mount Diablo Avenue);
- Sixth Street (MacArthur Drive to Central Avenue);
- Tracy Boulevard (Linne Road to Valpico Road);
- Valpico Road (Tracy Boulevard to MacArthur Drive).

2.3.7.4 Surface Transportation Assistance Act (STAA) Truck Routes

The Surface Transportation Assistance Act of 1982 authorized the establishment of a national network of highways designated for use by large trucks. On these highways, federal width and length limits apply. The STAA allows large trucks to operate on the interstate and certain primary routes, collectively called the National Network (NN). These trucks, referred to as STAA trucks, are longer than California legal trucks. As a result, STAA trucks have a larger turning radius than most local roads can accommodate. The law allows for "reasonable access" to and from the NN for terminals, deliveries, truck stops, repairs, and other reasons. The NN is recommended for through truck traffic (e.g. traffic that is passing through the area), and trucks are allowed to operate on truck-restricted roads if they have no other means of access to their destination.

2.3.7.5 Existing Truck Stop Facility

There is one designated truck stop within the City of Tracy located on North Tracy Boulevard a quarter mile to the north of the I-205/Tracy Boulevard interchange. Services offered at this truck stop include refueling, truck parking, truck permit services, load monitors, driver lounges, showers, and laundry.



Source: ESRI, City of Tracy EIR, Kimley-Horn

Kimley»Horn

North

0 0.5 1 2 Miles (Approximate)

Figure 2.8: Existing Truck Routes

2.3.8 Tracy Railroads

The City of Tracy has three major rail lines that run east to west through the City. Each of these lines consists of several spurs that are used to access industrial areas throughout the City. These lines are currently owned and operated by the Union Pacific Railroad Corporation, which also operates freight rail service in the region.

The main line runs along the southern border of Tracy along Linne Road. This line is used for both freight and commuter rail service operated by ACE. Approximately ten freight trains and eight commuter trains operate daily on this track. The remaining lines run through the center of Tracy. The line along Byron Road is used minimally and does not have regularly scheduled service which connects the City to the industrial centers of the North San Francisco Bay Area. The line to the northeast is used for local freight bound for Stockton. The rail line southwest of the City has tracks that stop at the County line. This line is no longer in service and is used for storage of train cars only.

2.3.8.1 Railroad Crossings

Due to the prevalence of the railroad lines, there are 26 at-grade railroad crossings and 1 grade-separated railroad crossing within the City of Tracy and the area immediately surrounding it. Each of the railroad crossing locations are shown in *Figure 2.9* and are described in detail below:

1. Lammers Road between Schulte and Valpico Roads: This at-grade crossing consists of two vehicle travel lanes with control gates and flashing warning lights.
2. Lammers Road south of Valpico Road: This at-grade crossing consists of two vehicle travel lanes with gravel roads and stop sign control. This crossing is on a private road.
3. Corral Hollow Road: This at-grade crossing is located approximately 40 feet north of the Corral Hollow Road/Byron Road intersection and consists of four travel lanes. Vehicle crossing is gate-controlled with flashing warning lights and is coordinated with the traffic signals at the adjacent intersection.
4. Corral Hollow Road south of Schulte Road: This crossing, located at the intersection of Corral Hollow and Western Pacific Way, consists of a single track with three vehicle travel lanes (two in the northbound direction and one in the southbound direction). Vehicle crossing is restricted by control gates and flashing warning lights.
5. Corral Hollow Road north of Linne Road: This crossing is located approximately 100 feet to the north of the Corral Hollow Road/Linne Road intersection. The crossing consists of a single track with two vehicle travel lanes. Vehicle crossing is controlled by gate controls and flashing warning lights. This nearby intersection is stop sign-controlled and does not require coordinated traffic signals.
6. Tracy Boulevard, south of Sixth Street: This crossing is located between the intersections of Tracy Boulevard/Sixth Street and Tracy Boulevard/Beechnut Avenue. The tracks are positioned midway between the two intersections, approximately 20 feet from both intersections. Both intersections are signalized and are coordinated with the crossing gates. This at-grade crossing consists of a single track and four vehicle travel lanes. Vehicle crossing is restricted with gate controls and flashing warning lights.
7. Tracy Boulevard, north of Fourth Street: This crossing is located approximately 20 feet to the north of the Tracy Boulevard/Fourth Street intersection. The crossing consists of a single track, with five

vehicle lanes (two in the northbound direction and three in the southbound direction). Vehicle crossing control is restricted by gate controls and flashing warning lights.

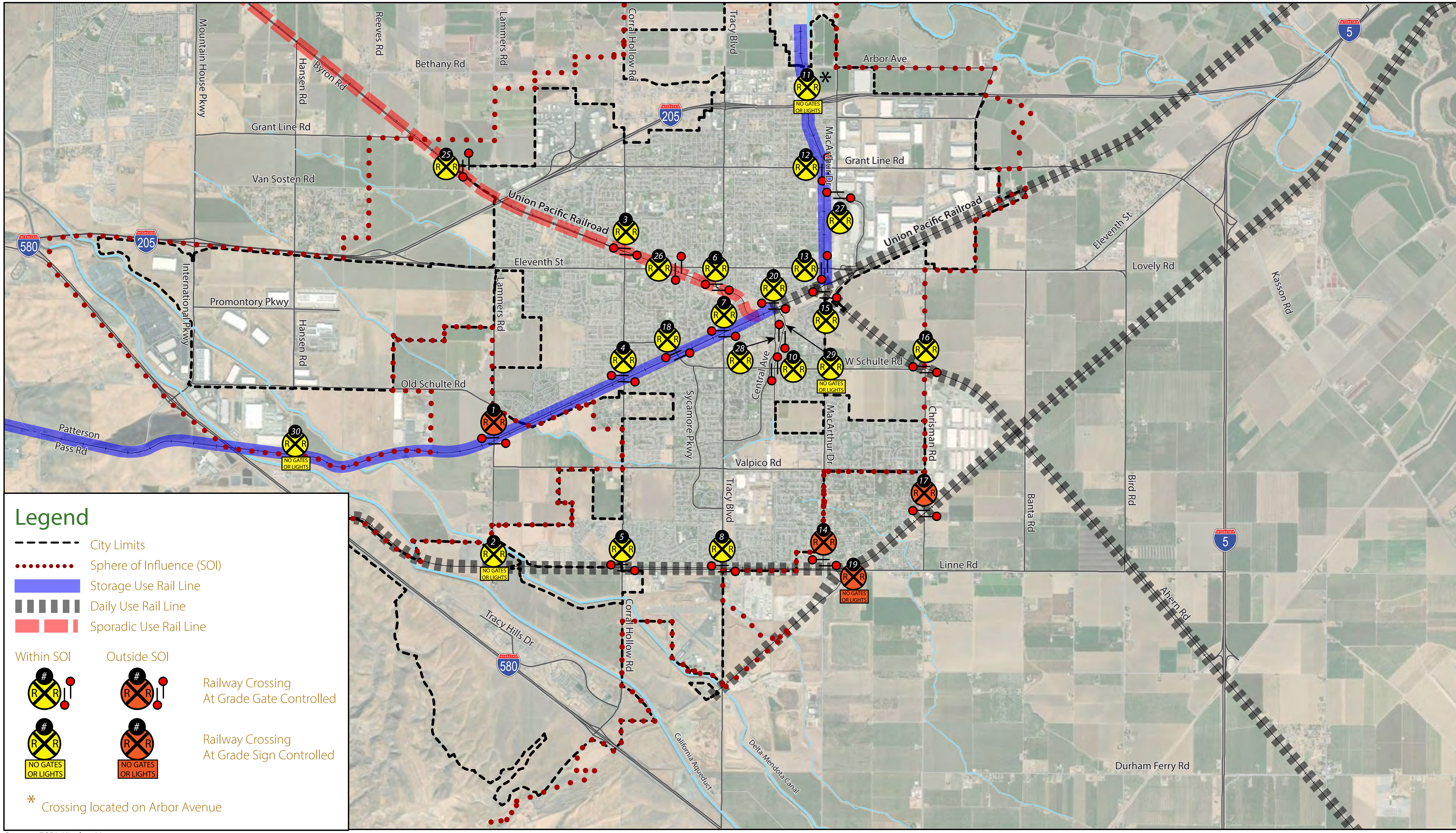
8. Tracy Boulevard, north of Linne Road: This crossing is located approximately 70 feet to the north of the Tracy Boulevard/Linne Road intersection. The at-grade crossing consists of a single track with two vehicle travel lanes. Vehicle crossing control is restricted by gate controls and flashing warning lights. This crossing is located adjacent to the Tracy ACE station and parking lot.
9. MacArthur Drive, grade-separated crossing (not shown on figure): This grade-separated crossing is located east of the MacArthur Drive/Eleventh Street intersection. The crossing consists of two tracks with a four-lane bridge overpass above.
10. Schulte Road, east of Central Avenue: This crossing is located approximately 250 feet from the intersection of Schulte Road/Central Avenue. The at-grade crossing consists of a single track with four vehicle travel lanes. Vehicle crossing control is restricted by gate controls and flashing warning lights.
11. Arbor Avenue, between South Holly Drive and MacArthur Drive: This at-grade crossing provides freight rail access to the Holly Sugar Corporation to the north. This single track is currently used for storage only as the track is obstructed by a fence at the Holly Sugar Corporation property line. This crossing does not have stop sign or gate crossing controls.
12. East Grant Line Road, west of MacArthur Drive: This crossing is located approximately 500 feet from the East Grant Line Road/MacArthur Drive intersection. The at-grade crossing consists of a single track with four vehicle travel lanes. Vehicle crossing is controlled by gate controls and flashing warning lights.
13. MacArthur Drive/Eleventh Street intersection: This crossing is located at the east leg of the intersection. The at-grade crossing consists of a single track with four vehicle travel lanes. The crossing is coordinated with the traffic signals at the adjacent intersection. Vehicle crossing is controlled by gate controls and flashing warning lights.
14. MacArthur Drive north of West Linne Road: This crossing is located approximately 70 feet north of the MacArthur Drive/West Linne Road intersection. The at-grade crossing consists of a single track with two vehicle travel lanes. Vehicle crossing is restricted by gate controls and flashing warning lights. This nearby intersection is stop sign-controlled and thus does not require coordinated signals.
15. MacArthur Drive, south of Eleventh Street: There are two at-grade crossings within 350 feet of one another. The northern crossing consists of two tracks with two vehicle travel lanes. Vehicle crossing is controlled by gate controls and flashing warning lights. The southern crossing consists of a single track with two vehicle travel lanes.
16. Chrisman Road, north of Schulte Road: This crossing is located approximately 60 feet from the intersection of Chrisman Road and Schulte Road. This at-grade crossing consists of a single track with two vehicle travel lanes. Vehicle crossing is controlled by gate controls and flashing warning lights.
17. Chrisman Avenue, north of Linne Road: This at-grade crossing consists of two tracks with two vehicle travel lanes. Vehicle crossing is controlled by gate controls and flashing warning lights.

18. Schulte Road between Corral Hollow Road and Sycamore Parkway: This at-grade crossing consists of a single track with four vehicle travel lanes. Vehicle crossing is controlled by gate controls and flashing warning lights.
19. West Linne Road, east of MacArthur Drive: This crossing is located approximately 700 feet east the West Linne Road/MacArthur Drive intersection. The at-grade crossing consists of a single track with two vehicle travel lanes. The track is currently being used for storage only as a fence obstructs the track at the industrial properties to the south. There is no crossing control and only a railroad crossing sign is provided.
20. Central Avenue, north of Fourth Street: This crossing is located approximately 200 feet north of the Central Avenue/Fourth Street intersection. The at-grade crossing consists of a single track with four vehicle lanes. Vehicle crossing is controlled by gate controls and flashing warning lights.

Crossings 21-24 are future grade-separated crossings described in more detail in Chapter 4.

21. Grant Line/Byron Road intersection: This crossing is located at the east leg of the Grant Line Road/Byron Road intersection. The at-grade crossing consists of a single track with three vehicle travel lanes (two in the westbound direction and one in the eastbound direction). The crossing is coordinated with Grant Line Road/Byron Road traffic signal. Vehicle crossing is gate controlled with flashing warning lights.
22. Eleventh Street between Corral Hollow Road and Tracy Boulevard: This crossing is located approximately 830 feet east of the Eleventh Street/ Alden Glen Drive Intersection. The at-grade crossing consists of a single track and four vehicles lanes. Vehicle crossing is gate-controlled with flashing warning lights.
23. MacArthur Drive south of Grant Line Road: This crossing is located approximately 600 feet south of the MacArthur Drive/Grant Line Road intersection. The at-grade crossing consists of a single track with four vehicle lanes. Vehicle crossing is gate-controlled with flashing warning lights.
24. Mt. Diablo Avenue east of Central Avenue: This crossing is located approximately 300 feet east of the Mt. Diablo Avenue/Central Avenue intersection. The at-grade crossing consists of a single track with two vehicle lanes. Vehicle crossing is gate-controlled with flashing warning lights.
25. 3rd Street between D Street and Dale Odell Drive: This crossing is located approximately 250 feet east of the 3rd Street/D Street intersection. This at-grade crossing consists of a single track with two vehicle travel lanes. There is no crossing control and only a railroad crossing sign is provided.
26. Hansen Road north of the California Aqueduct: This crossing is located approximately 550 feet north of California Aqueduct bridge. This at-grade crossing consists of a single track with two vehicle travel lanes. There is no crossing control and only a railroad crossing sign is provided.

UPRR/CUPC has very conservative requirements regarding new at-grade crossings. It is very likely that no future crossings will be at-grade.



Source: ESRI, Kimley-Horn

Kimley»Horn

North

0 0.5 1 2 Miles (Approximate)

Figure 2.9: Railroad Crossings

2.3.9 Bridges and Culvert Facilities

The City of Tracy has several creeks, canals, and a system of aqueducts that run throughout the City. Major waterways include the Delta Mendota Canal and California Aqueduct running parallel to each other to the southwest of Tracy. Several smaller channels run throughout the City providing irrigation and collecting runoff that drains into the California Aqueduct system.

Interstate 205 has 10 over/under crossings along its stretch through the City of Tracy. These locations include:

- I-205/Mountain House Parkway
- I-205/Hansen Road
- I-205/Eleventh Street
- I-205/Byron Road
- I-205/Grant Line Road
- I-205/Corral Hollow Road
- I-205/Tracy Boulevard
- I-205/South Holly Drive
- I-205/MacArthur Drive
- I-205/Paradise Avenue

Interstate 580 has two over/under crossings that provide access to the City of Tracy. There are two additional under crossings that are privately owned and maintained.

- I-580/International Parkway/Patterson Pass Road
- I-580/Corral Hollow Road

The City's bridge system consists of a network of 20 bridges and culverts that provide transportation access over these waterways. The City of Tracy bridge type and locations are shown in Figure 2.10 and are described in detail below:

1. South of I-205, north of I-580: This private bridge provides access across the California Aqueduct and is approximately 170 feet long and consists of two travel lanes. There is no posted speed limit.
2. International Parkway, north of Old Schulte Road: This bridge provides access across the Delta Mendota Canal and is approximately 200 feet long consisting of two travel lanes with concrete and steel barriers. The posted speed limit on this bridge is 45 MPH.
3. International Parkway, south of Old Schulte Road: This bridge provides access across the California Aqueduct connecting the Cordes Ranch development and the I-580 interchange. The bridge consists of four travel lanes with concrete and steel barriers. The posted speed limit on this bridge is 45 MPH.
4. Old Schulte Road, west of Hansen Road: This bridge provides access across the Delta Mendota Canal and is approximately 200 feet long consisting of two through travel lanes and a left turn lane with concrete and steel barriers. The posted speed limit on this bridge is 45 MPH.
5. Hansen Road, south of Old Schulte Road: This bridge provides access across the Delta Mendota Canal and is approximately 250 feet long consisting of two travel lanes with concrete and steel barriers. The posted speed limit on this bridge is 45 MPH.

6. Hansen Road, north of I-580: This bridge provides access across the California Aqueduct and is approximately 180 feet long, consisting of two travel lanes.
7. Von Sosten Road, east of Grunauer Road: This culvert provides access across a drainage canal and is approximately 60 feet long consisting of two travel lanes. The posted speed limit on this culvert is 35 MPH.
8. Lammers Road, at intersection with West Schulte Road: This culvert provides access across a drainage canal and is approximately 50 feet long consisting of two travel lanes. The posted speed limit on this culvert is 35 MPH.
9. Lammers Road, south of Valpico Road: This bridge provides access across the Delta Mendota Canal and is approximately 110 feet long consisting of two travel lanes with steel barriers along each side. The posted speed limit on this bridge is 45 MPH.
10. Lammers Road, north of I-580: This private bridge provides access across the California Aqueduct and is approximately 170 feet long and consists of two travel lanes. There is no posted speed limit.
11. Corral Hollow Road, north of Valpico Road: This culvert provides access across a drainage canal and is approximately 35 feet long consisting of two travel lanes. The posted speed limit on this culvert is 45 MPH.
12. Corral Hollow Road, south of Linne Road: This bridge provides access across the Delta Mendota Canal and is approximately 115 feet long consisting of two travel lanes with steel barriers along each side. The posted speed limit on this bridge is 45 MPH.
13. Corral Hollow Road, north of I-580: This bridge provides access across the California Aqueduct and is approximately 175 feet long consisting of two travel lanes with steel barriers along each side. The posted speed limit on this bridge is 45 MPH.
14. Tracy Boulevard, south of Linne Road: This small culvert provides access across a drainage ditch and is approximately 20 feet long consisting of two travel lanes. There is no posted speed limit across this culvert.

    MacArthur Drive, south of Etcheverry Drive: This culvert provides access across a drainage ditch and is approximately 30 feet long consisting of two travel lanes. There is a small metal barrier on the east side and concrete barrier on the west side of the culvert crossing.

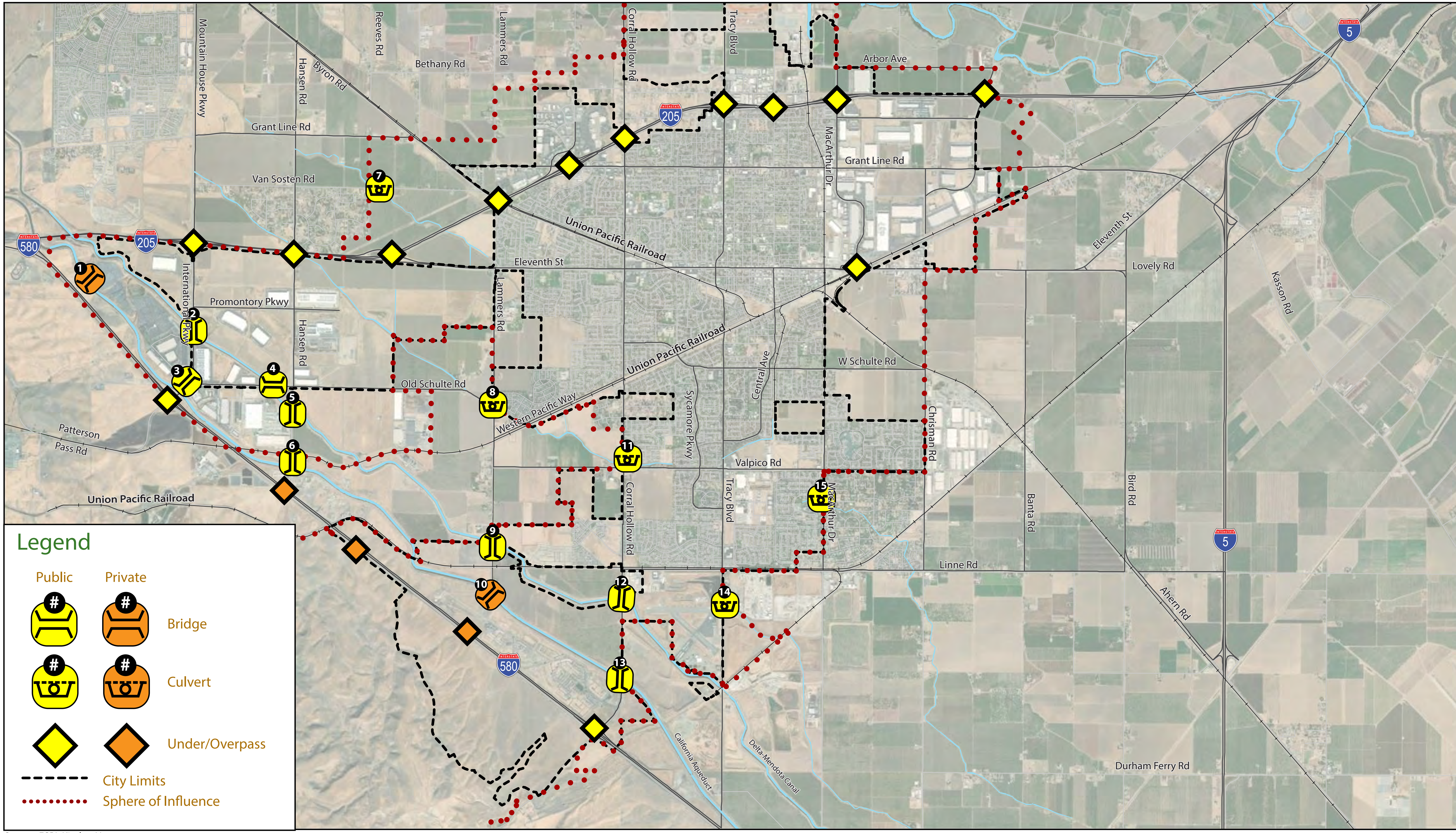
2.3.10 Intelligent Transportation Systems

Intelligent Transportation Systems (ITS) are transportation networks that include information and communication technologies that are designed to improve the safety and operation of the transportation infrastructure. There are numerous types of ITS systems that range from simple variable message signs to more advanced real-time vehicle parking guidance systems.

2.3.10.1 Existing System Inventory and Evaluation

An inventory of the City of Tracy's existing traffic signal equipment, communications equipment, and communications alignment was conducted. There are many signalized intersections within the City of Tracy that are operating via Model 170 traffic signal controllers located inside Type 332 cabinets at each local intersection. The traffic signal controllers are managed by Quicknet traffic management control and software system. The City of Tracy's existing traffic signal communication infrastructure (citywide) primarily consists of twisted pair copper wire signal interconnect cable and conduit that interconnect the existing traffic signals. At designated roadway segments, communications are provided over microwave and/or radio.

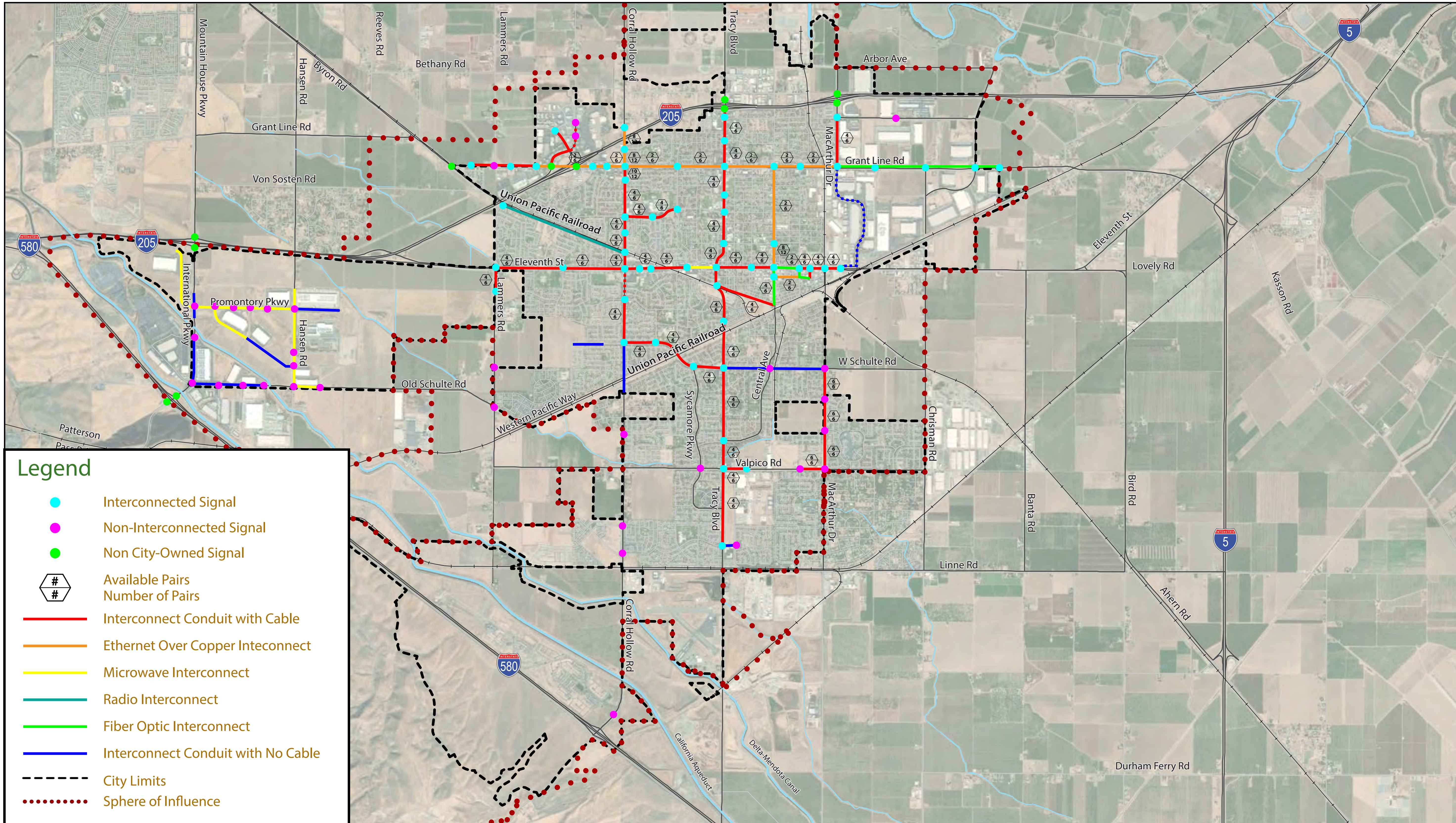
Figure 2.11 illustrates the City of Tracy's existing traffic signal locations and communication system infrastructure.



Source: ESRI, Kimley-Horn

Kimley»Horn

Figure 2.10: Existing Bridges and Culverts



Source: ESRI, Kimley-Horn

Kimley»Horn

North

0 0.5 1 2 Miles (Approximate)

Figure 2.11: Existing Traffic Signal Locations and ITS Infrastructure

2.3.11 Transit Facilities

Transit plays an important role for many commuters in Tracy. Tracy is also a connection point for regional transit trips to and from the Bay Area and connects transit services to the Central Valley. The public transit system includes both bus and rail components. The City is serviced by the following public transportation services:

- Local fixed-route and commuter bus services operated by the City (TRACER)
- County Hopper Service operated by SJRTD
- Commuter express bus service operated by SJRTD
- ACE rail service

Figure 2.12 shows the existing transit service within the City of Tracy

2.3.11.1 Local Fixed-Route Bus Service (TRACER)

Fixed-route services run on a set route and time with fixed stops. TRACER offers seven bus routes, four of them providing all-day service Monday-Saturday (Routes A, B, C, and D) and three of them providing limited, commute-hour service Monday-Friday (Routes E, F, and G)

- Route A provides service between the Tracy Transit Station, Valley West Mall, and Tracy Corners. The route runs along East Street, Grant Line Road, Tracy Boulevard, and Corral Hollow Road. It operates from 6:45 AM to 7:50 PM on weekdays and from 9:15 AM to 7:05 PM on Saturdays. Headways range between 30 to 45 minutes.
- Route B provides service between Tracy Transit Station, Valley West Mall, and Kaiser Permanente medical offices. The route runs along West Lowell Avenue, Corral Hollow Road, and Grant Line Road. It operates from 7:00 AM to 7:35 PM on weekdays and from 9:10 AM to 7:00 PM on Saturdays. Headways range between 30 to 50 minutes.
- Route C provides service between Tracy Transit Station to the west and south Tracy residential areas, running along 11th Street, Corral Hollow Road, Schulte Road, Valpico Road, and Central Avenue. It operates from 6:50 AM to 7:58 PM on weekdays and from 9:02 AM to 6:55 PM on Saturdays. Headways range between 60 to 70 minutes.
- Route D provides service between Tracy Transit Station, Tracy Sports Complex, the ACE Station, and residential areas in the west, southwest, and south areas of the City. The route runs along Lowell Avenue, 11th Street, Corral Hollow Road, Sycamore Parkway, and Central Avenue. It operates from 6:20 AM to 7:27 PM on weekdays and from 9:00 AM to 6:27 PM on Saturdays. Headways range between 50 to 195 minutes.
- Route E provides service between Tracy Transit Station, Kaiser Permanente medical offices, and the Shops at Northgate Village. The route runs along Lowell Avenue, Kavanagh Avenue, MacArthur Drive, and East Street. It provides two morning runs departing at 6:40 and 7:35 AM and three afternoon runs at 1:25, 2:55, and 3:55 PM.
- Route F provides service between Tracy Transit Station, Downtown Civic Center, the ACE Station, and southeastern residential areas of Tracy. The route runs along Central Avenue, Tracy Boulevard, MacArthur Drive, and Schulte Road. It provides one morning run departing at 6:40 AM and three afternoon runs departing at 1:40, 3:15, and 4:15 PM.

- Route G provides service between Tracy Transit Station, the ACE Station, and residential areas in the western, southwestern, and southern parts of the City. The route runs along Lowell Avenue, 11th Street, Schulte Road, Sycamore Parkway, Tracy Boulevard, and Central Avenue. It provides two morning runs departing at 5:00 AM and 6:00 AM.

2.3.11.2 County Hopper Service

San Joaquin RTD operates two County Hopper routes that serve Tracy. County Hopper is a deviated fixed route service that provides flexible regularly-scheduled service that deviates off route to provide curbside service to ADA-certified customers within three quarters of a mile off route.

County Hopper 90 is a fixed route line that runs between the City and Stockton via Lathrop. Weekday services are provided, but no weekend service.

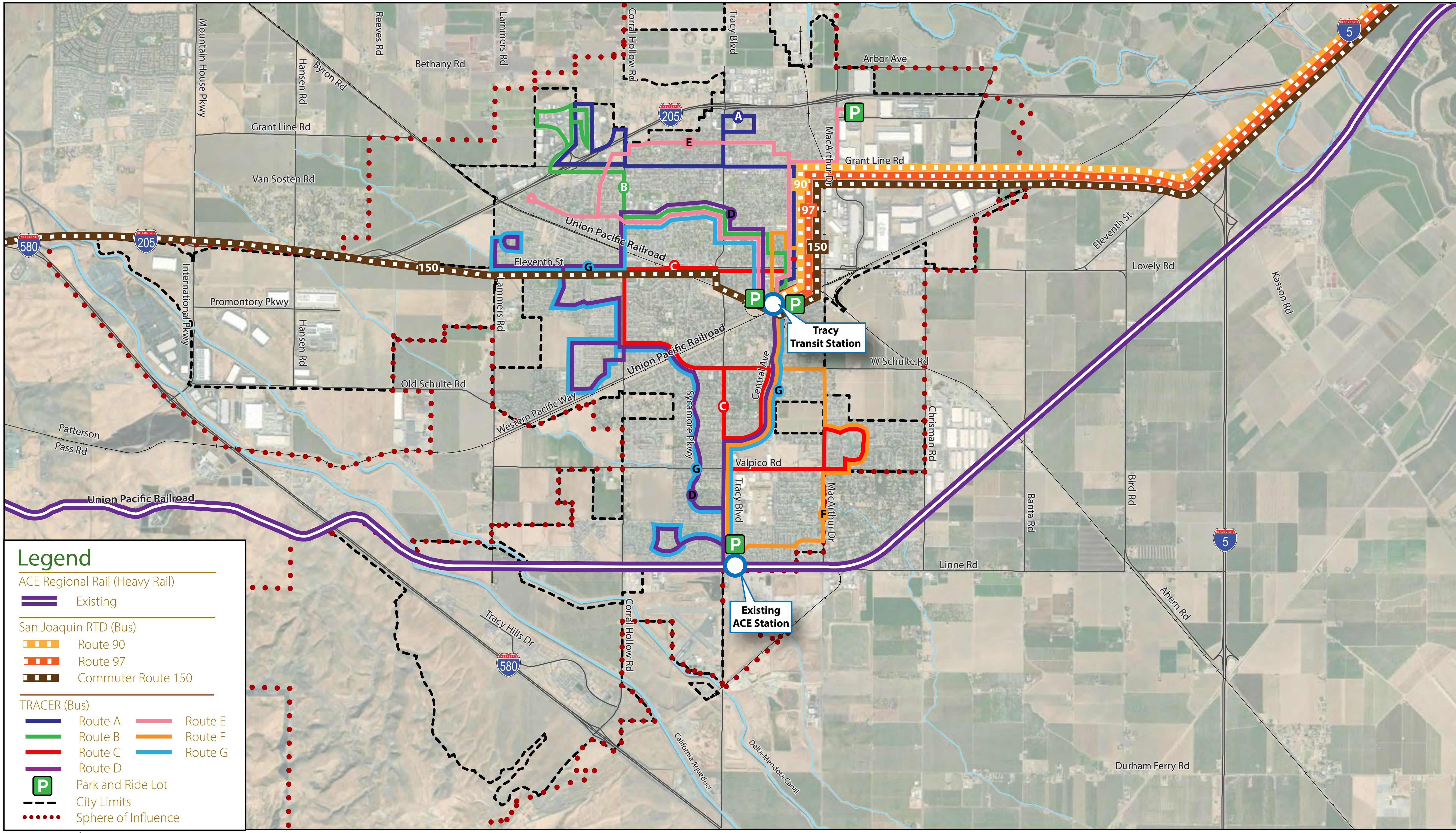
County Route 97 is a fixed route line that runs between the City and Manteca via Lathrop. Weekday services are provided, but no weekend service.

2.3.11.3 RTD Commuter Bus Service

San Joaquin RTD operates one commuter bus route, Route 150, that serves Tracy, connecting Stockton and the Dublin/Pleasanton BART station via Tracy and Lathrop. On weekdays it typically operates three AM commute-hour trips in each direction. During the PM period it typically operates one westbound trip (towards BART) and three eastbound trips (to Stockton). Weekend service comprises five trips in each direction.

2.3.11.4 Altamont Commuter Express

ACE is a passenger rail service connecting Stockton to San Jose with stops in Lathrop, Tracy, Livermore, Pleasanton, Fremont, and Santa Clara. ACE operates on weekdays, excluding holidays. The ACE station in Tracy is located along Tracy Boulevard near Linne Road. On weekdays ACE operates four westbound trains (toward San Jose) and four eastbound trains (toward Stockton). ACE operates two weekend trains in each direction.



Source: ESRI, Kimley-Horn

Kimley»Horn

North

0 0.5 1 2 Miles (Approximate)

Figure 2.12: Existing Transit

2.4 Existing Intersection Operations

Weekday AM and PM commute peak-hour traffic operations at key intersections were analyzed to determine the existing conditions of the roadway network. The results of the analysis identify operating deficiencies in the transportation system and will be used to develop long-range planning strategies.

2.4.1 Analysis Methodology

The methodologies used to perform the operational analyses and provide quantitative levels of service (LOS) were based on the Highway Capacity Manual, Sixth Edition (HCM) for unsignalized and signalized intersections. The evaluation of signalized and unsignalized intersection operations was performed using the Synchro 10.0 analysis software. These methodologies are consistent with City General Plan standards for traffic analysis.

2.4.2 Highway Capacity Manual

Traffic flow operations based on the HCM methodology at intersections were evaluated using a LOS concept. The LOS concept uses a grading scale of “LOS A” through “LOS F” with “LOS A” representing free flowing conditions and “LOS F” representing forced flow conditions. Factors used in determining intersection LOS vary depending on the control device at the intersection. For all-way stop intersections, average delay per vehicle is used to define the LOS of the intersection operation. The average delay is determined based on the roadway capacity (number of travel lanes) provided on each intersection approach and the traffic demand. For side-street stop-controlled intersections, the operating efficiency of vehicle movements is analyzed. Vehicles on minor street approaches must yield to the through movements of the major streets. The LOS for stopped or yielding vehicles is based on the distribution of gaps in the traffic stream along the major street and driver judgment on the minor street approach in selecting gaps. The LOS reported includes both the overall or average value at the intersection for all movements and the worst approach of the minor street stopped vehicles. The HCM calculates the LOS of the minor street approaches and the overall intersection LOS based on this data. It should be noted that both the overall intersection LOS and the minor approach LOS are provided in this TMP. Since traffic on the minor street approaches has the lowest right-of-way priority at the intersection, it is therefore the most critical in terms of delay. The threshold for each LOS grade is provided in Table 2.2 (HCM Level of Service Criteria for Unsignalized Intersections).

Table 2.2: HCM Level of Service Criteria for Unsignalized Intersections

Level of Service	Delay (sec/veh)	Description
A	0-10	Intersections operating at LOS A contain no congestion. The intersection operates with very little delay, from 0 to 10 seconds per vehicle.
B	>10-15	Intersections operating at LOS B contain very little congestion. The intersection operates with minimal delay, from 10 to 15 seconds per vehicle.
C	>15-25	Intersections operating at LOS C contain little congestion. The intersection operates with some delay, from 15 to 25 seconds per vehicle.
D	>25-35	Intersections operating at LOS D contain some congestion. The intersection operates with longer delays, from 25 to 35 seconds per vehicle.
E	>35-50	Intersections operating at LOS E border on being congested. The intersection operates with delays from 35 to 50 seconds per vehicle.
F	>50	Intersections operating at LOS F contain congestion. The intersection operates with delays over 50 seconds.

For signalized intersections, average control delay per vehicle is utilized to define intersection LOS. Delay is dependent on a number of factors including the signal cycle length, the roadway capacity (number of travel lanes) provided on each intersection approach and the traffic demand. The threshold for each LOS grade is provided in Table 2.3.

Table 2.3: HCM Level of Service Criteria for Signalized Intersections

Level of Service	Delay (sec/veh)	Description
A	≤10	Intersections operating at LOS A contain no congestion. The intersection operates with very little delay, from 0 to 10 seconds per vehicle.
B	>10-20	Intersections operating at LOS B contain very little congestion. The intersection operates with minimal delay, from 10 to 20 seconds per vehicle.
C	>20-35	Intersections operating at LOS C contain little congestion. The intersection operates with some delay, from 20 to 35 seconds per vehicle.
D	>35-55	Intersections operating at LOS D contain some congestion. The intersection operates with longer delays, from 35 to 55 seconds per vehicle.
E	>55-80	Intersections operating at LOS E border on being congested. The intersection operates with delays from 55 to 80 seconds per vehicle.
F	>80	Intersections operating at LOS F contain congestion. The intersection operates with delays over 80 seconds.

2.4.3 Level of Service Standards

The City of Tracy has established LOS D, where feasible, as the minimum acceptable LOS for roadway and overall intersection operations. However, there are certain exceptions where these standards do not apply.

- Within a quarter mile of any freeway, LOS E may be allowed on roadways and at intersections to discourage interregional traffic from using City streets.
- In the Downtown and Bowtie area of Tracy, LOS E may be allowed.
- At intersections where construction of improvements is not feasible, the LOS may fall below the City's LOS D standard.
- During construction of intersection improvements or funded but not yet constructed, the LOS may temporarily fall below the City's LOS D standard.

With the implementation of SB-743 in July 2020, which focuses on vehicles miles traveled as the statewide impact metric for environmental quality, Caltrans no longer defines a specific LOS threshold for vehicle delay at Caltrans facilities. Therefore, Caltrans facilities evaluated as a part of this TMP were identified to have LOS thresholds consistent with established City of Tracy thresholds.

2.4.4 Existing Levels of Service

The Synchro software program was utilized to conduct weekday existing AM and PM peak hour LOS calculations at each study intersection. The LOS results are listed in Table 2.4 below and are shown graphically in Figure 2.13 (future intersections are shown in the figure but not in the table). The following intersections currently operate below acceptable threshold LOS during the existing weekday AM and PM peak hours:

- International Parkway & I-205 Westbound Ramps
- International Pkwy & Old Schulte Road
- International Pkwy & Patterson Pass Rd & I-580 Westbound Ramps
- International Pkwy & Patterson Pass Rd & I-580 Eastbound Ramps
- Grant Line Road & Lammers Road
- Lammers Road & Old Schulte Road
- Grant Line Road & I-205 EB Ramps
- Corral Hollow Road & Valpico Road
- Corral Hollow Road & Linne Road
- Corral Hollow Road & I-580 EB Ramps
- Tracy Boulevard & Larch Road
- Tracy Blvd & I-205 WB Ramps
- Tracy Blvd & I-205 EB Ramps
- Tracy Boulevard & Grant Line Road
- Tracy Boulevard & Mount Diablo Avenue
- Tracy Boulevard & Central Avenue
- Tracy Boulevard & Whispering Wind Drive
- Tracy Boulevard & Linne Road
- Central Avenue & Eleventh Street

- MacArthur Drive & I-205 EB Ramps
- MacArthur Drive & 6th Street
- MacArthur Drive & Mount Diablo Avenue
- Chrisman Road & Schulte Road

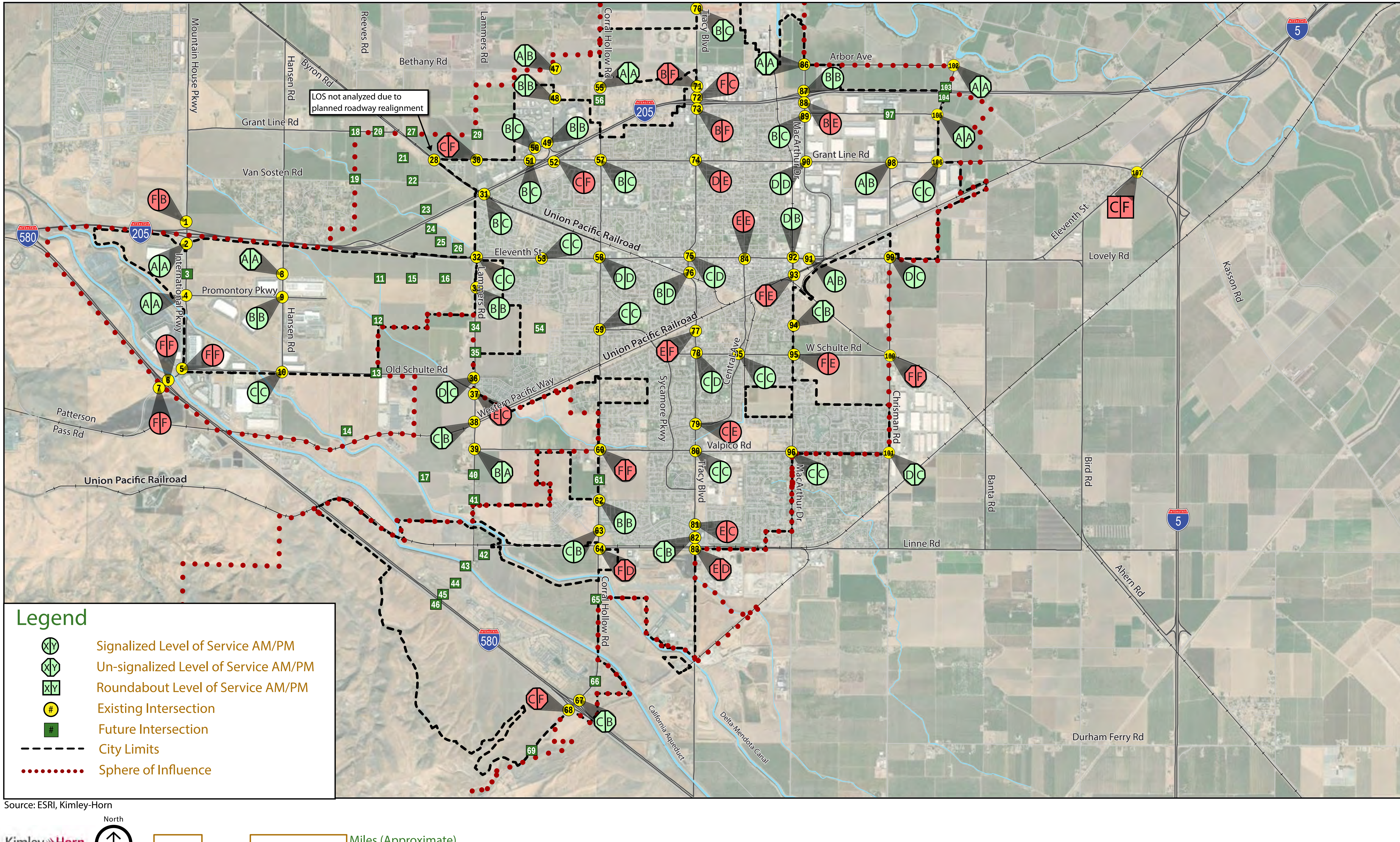
Table 2.4: Existing Intersection Level of Service

ID	Intersection	Control Type	Delay AM	Delay PM	LOS AM	LOS PM
1	International Parkway & I-205 Westbound Ramps	Signal	135.4	10.4	F	B
2	International Parkway & I-205 Eastbound Ramps	Signal	5.7	7.4	A	A
4	International Pkwy & Promontory Parkway	Signal	6.9	4.3	A	A
5	International Pkwy & Old Schulte Road	Signal	131.4	92.0	F	F
6	International Pkwy & I-580 Westbound Ramps	Signal	294.3	135.1	F	F
7	International Pkwy & I-580 Eastbound Ramps	Signal	102.5	143.6	F	F
8	Hansen Road & Capital Parks Dr	AWSC	8.1	7.9	A	A
9	Hansen Road & Promontory Parkway	Signal	14.4	15.5	B	B
10	Hansen Road & Old Schulte Road	Signal	32.8	22.1	C	C
30	Grant Line Road & Lammers Road (worst approach, SB)	SSSC	24.8	113.8	C	F
31	Lammers Road & Byron Road	Signal	11.7	23.4	B	C
32	Lammers Road & Eleventh Street	Signal	29.1	20.3	C	C
33	Lammers Road & Capital Parks Drive	Signal	14.4	19.2	B	B
36	Lammers Road & Redbridge Rd (worst approach, WB)	SSSC	26.6	17.8	D	C
37	Lammers Road & Old Schulte Road	AWSC	41.3	17	E	C
38	Lammers Road & Western Pacific Wy (worst approach, WB)	SSSC	16.5	10.9	C	B
39	Lammers Road & Valpico Road (worst approach, WB)	SSSC	11	9.6	B	A
47	Naglee Road & Middle Road (worst approach, EB)	SSSC	8.4	11.1	A	B
48	Naglee Road & Auto Plaza Drive (worst approach, WB)	SSSC	11.8	13.8	B	B
49	Naglee Road & I-205 Westbound Ramps	Signal	11.5	17.6	B	B
50	Park & Ride & Naglee Road	Signal	11.8	21.6	B	C
51	Naglee Road & Grant Line Road & I-205 Westbound Ramps	Signal	14.6	24.2	B	C
52	Grant Line Road & I-205 EB Ramps	Signal	20.5	94.5	C	F
53	Crossroads Drive & Eleventh Road	Signal	27.2	20.4	C	C
55	Corral Hollow Road & Larch Road (worst approach, WB)	SSSC	9.5	9.9	A	A
57	Corral Hollow Road & Grant Line Road	Signal	19.3	24.7	B	C
58	Corral Hollow Road & Eleventh Street	Signal	42.2	52.9	D	D
59	Corral Hollow Road & Schulte Road	Signal	24.1	25.2	C	C
60	Corral Hollow Road & Valpico Road	AWSC	74.2	81.2	F	F
62	Corral Hollow Road & Peony Drive	Signal	12.5	11.8	B	B
63	Corral Hollow Road & Middlefield Drive	Signal	24.4	13.9	C	B
64	Corral Hollow Road & Linne Road (worst approach, WB)	SSSC	615.7	26.7	F	D
67	Corral Hollow Road & I-580 WB Ramps (worst approach, WB)	SSSC	19.1	13.2	C	B
68	Corral Hollow Road & I-580 EB Ramps (worst approach, EB)	SSSC	18.0	131.3	C	F
70	Tracy Boulevard & Sugar Road (worst approach, WB)	SSSC	10.7	17.4	B	C
71	Tracy Boulevard & Larch Road	AWSC	12.2	70.1	B	F
72	Tracy Blvd & I-205 WB Ramps	Signal	96.5	25.3	F	C
73	Tracy Blvd & I-205 EB Ramps	Signal	12.9	107.4	B	F
74	Tracy Boulevard & Grant Line Road	Signal	42.8	57.1	D	E
75	Tracy Boulevard & Eleventh Street	Signal	31.7	33.8	C	D
76	Tracy Boulevard & 6th Street	Signal	10.9	37.8	B	D
77	Tracy Boulevard & Mt Diablo Ave (worst approach, EB)	SSSC	41.2	289.2	E	F
78	Tracy Boulevard & Schulte Road	Signal	27.6	36.8	C	D
79	Tracy Boulevard & Central Avenue	Signal	25.1	55.3	C	E
80	Tracy Boulevard & Valpico Road	Signal	26.2	24.0	C	C
81	Tracy Boulevard & Whispering Wind Drive	Signal	71.1	27.7	E	C

ID	Intersection	Control Type	Delay		LOS	
			AM	PM	AM	PM
82	Tracy Boulevard & ACE Station (worst approach, WB)	SSSC	15.5	11.7	C	B
83	Tracy Boulevard & Linne Road	AWSC	41.1	27.6	E	D
84	Central Avenue & Eleventh Street	Signal	67.7	58	E	E
85	Central Avenue & Schulte Road	Signal	23.3	26.3	C	C
86	MacArthur Drive & Arbor Avenue	AWSC	7.4	8.2	A	A
87	MacArthur Drive & I-205 WB Ramps	Signal	18.1	18.9	B	B
88	MacArthur Drive & I-205 EB Ramps	Signal	14.1	68.9	B	E
89	MacArthur Drive & Pescadero Avenue	Signal	18.5	30.6	B	C
90	MacArthur Drive & Grant Line Road	Signal	36.5	45.7	D	D
91	MacArthur Drive & Eleventh Street	Signal	9.1	15.3	A	B
92	MacArthur Drive & Eleventh Street (South)	Signal	47.7	16.2	D	B
93	MacArthur Drive & 6th Street (worst approach, EB)	SSSC	123	43.1	F	E
94	MacArthur Drive & Mount Diablo Avenue (worst approach, EB)	SSSC	19.2	13.1	C	B
95	MacArthur Drive & Schulte Road	Signal	223.8	69.2	F	E
96	MacArthur Drive & Valpico Road	Signal	29.7	24.9	C	C
98	Chrisman Road & Grant Line Road	Signal	9.2	10.8	A	B
99	Chrisman Road & Eleventh Street	Signal	40.5	32.1	D	C
100	Chrisman Road & Schulte Road (worst approach, EB)	SSSC	OVR	OVR	OVR	OVR
101	Chrisman Road & Valpico Road	AWSC	26.5	17.4	D	C
102	Paradise Road & Arbor Avenue (worst approach, EB)	SSSC	8.6	8.8	A	A
105	Paradise Road & Pescadero Avenue	AWSC	8.0	7.9	A	A
106	Paradise Road & Grant Line Road	Signal	29.8	33	C	C

Compared to the 2012 TMP, many intersections currently operate at adverse LOS (E or worse). Substantial cut-through occurs on the City streets because of congestion on the freeway system (I-205 & I-580) and the occurrence of incidents.

Tracy shall not bear the responsibility for improving cut-through traffic. In fact, this TMP recommends measures to potentially eliminate cut-through traffic.



Source: ESRI, Kimley-Horn

Kimley»Horn

Figure 2.13: Existing Level of Service

City of Tracy Transportation Master Plan

2.5 Existing Freeway Operations

For better understanding about the changes in traffic travel pattern and level of congestion within the City limits, INRIX data was obtained for two major corridors I-205 and I-580. Average typical weekday speed data was extracted for month of September and October, excluding holidays for two years; 2014 and 2019. Traffic operating conditions is summarized in Table 2.5 and detailed INRIX speed profiles are included in Appendix C.

As shown in Table 2.5 , traffic operating conditions is worse in 2019 compared to 2014. Duration of congestion increased approximately 4.5 hours in the eastbound on I-205, 2.5 hours in the westbound on I-205 and 2.75 hours in the westbound on I-580.

With continual development in the region and within the I-205 and I-580 corridors in San Joaquin Valley, traffic operating conditions are expected to worsen with higher traffic demands in the future. Peak spreading is expected as traffic conditions continue deteriorating and more employers are encouraged to provide flexible work schedules.

Table 2.5: Freeway Operating Conditions Comparison

Traffic Conditions	Year 2014	Year 2019
I-205 Between I-5 Interchange and I-580 Interchange		
Eastbound		
Bottleneck Location	None	Mac Arthur Dr On-Ramp
Duration of Congestion	None	2:30 PM - 7:00 PM (4.5 Hours)
End of Queue	None	Grant Line Rd Interchange
Westbound		
Bottleneck Location	Downstream Congestion on WB I-580	Downstream Congestion on WB I-580
Duration of Congestion	4:30 AM - 7:15 AM (2.75 Hours)	4:00 AM - 9:15 AM (5.25 Hours)
End of Queue	11th Street	Grant Line Rd Interchange
I-580 Between Patterson Pass Rd and SR 132 Interchange		
Eastbound		
Bottleneck Location	None	None
Duration of Congestion	None	None
End of Queue	None	None
Westbound		
Bottleneck Location	None	Corral Hollow Rd On-Ramp
Duration of Congestion	None	5:15 AM - 8:00 AM (2.75 Hours)
End of Queue	None	SR 132 Interchange

Source: INRIX Speed Data

Table 2.6: I-580 AM Data

	2014 AM Speeds (MPH)												2019 AM Speeds (MPH)											
Segment	5:00	5:15	5:30	5:45	6:00	6:15	6:30	6:45	7:00	7:15	7:30	7:45	5:00	5:15	5:30	5:45	6:00	6:15	6:30	6:45	7:00	7:15	7:30	7:45
I-580 Eastbound																								
Segment 1																								
Patterson Pass Rd Segment 1																								
Segment 2																								
Segment 3																								
Segment 4																								
Segment 5																								
Segment 6																								
Segment 7																								
Segment 8																								
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Corral Hollow Rd Segment 1																								
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SR 132 Segment 1																								
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Segment 8																								
Segment 9																								
Segment 10																								
Mountain House Pkwy Segment 1																								

Traffic Speed (MPH)

10 25 40 55 70

Table 2.7: I-580 PM Data

Segment		2014 Speeds (PM)												2019 Speeds (PM)											
		16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	18:00	18:15	18:30	18:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	18:00	18:15	18:30	18:45
I-580 Eastbound																									
	Segment 1																								
Patterson Pass Rd	Segment 1																								
	Segment 2																								
	Segment 3																								
	Segment 4																								
	Segment 5																								
	Segment 6																								
	Segment 7																								
	Segment 8																								
	Segment 9																								
	Segment 10																								
Corral Hollow Rd	Segment 1																								
	Segment 2																								
	Segment 3																								
	Segment 4																								
	Segment 5																								
	Segment 6																								
SR 132	Segment 1																								
I-580 Westbound																									
SR 132	Segment 1																								
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	Segment 3																								
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Corral Hollow Rd	Segment 1																								
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	Segment 4																								
	Segment 5																								
	Segment 6																								
	Segment 7																								
	Segment 8																								
	Segment 9																								
	Segment 10																								
Mountain House Pkwy	Segment 1																								

Traffic Speed (MPH)

10 25 40 55 70

Table 2.8: I-205 AM Data

	2014 Speeds (AM)											2019 AM Speeds (AM)										
Segment	4:00	4:30	5:00	5:30	6:00	6:30	7:00	7:30	8:00	8:30	9:00	4:00	4:30	5:00	5:30	6:00	6:30	7:00	7:30	8:00	8:30	9:00
I-205 Eastbound																						
I-580 Segment 1																						
Segment 2																						
Segment 3																						
Segment 4																						
Segment 5																						
Segment 6																						
Mountain House Pkwy Segment 1																						
Segment 2																						
Segment 3																						
Segment 4																						
11th St Segment 1																						
Segment 2																						
Segment 3																						
Segment 4																						
Segment 5																						
Grant Line Rd Segment 1																						
Segment 2																						
Segment 3																						
Tracy Blvd Segment 1																						
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Mac Arthur Dr Segment 1																						
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Segment 3																						
Segment 4																						
Segment 5																						
Segment 6																						
Segment 7																						
Segment 8																						
I-5 Segment 1																						
I-205 Westbound																						
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Segment 7																						
Segment 8																						
Mac Arthur Dr Segment 1																						
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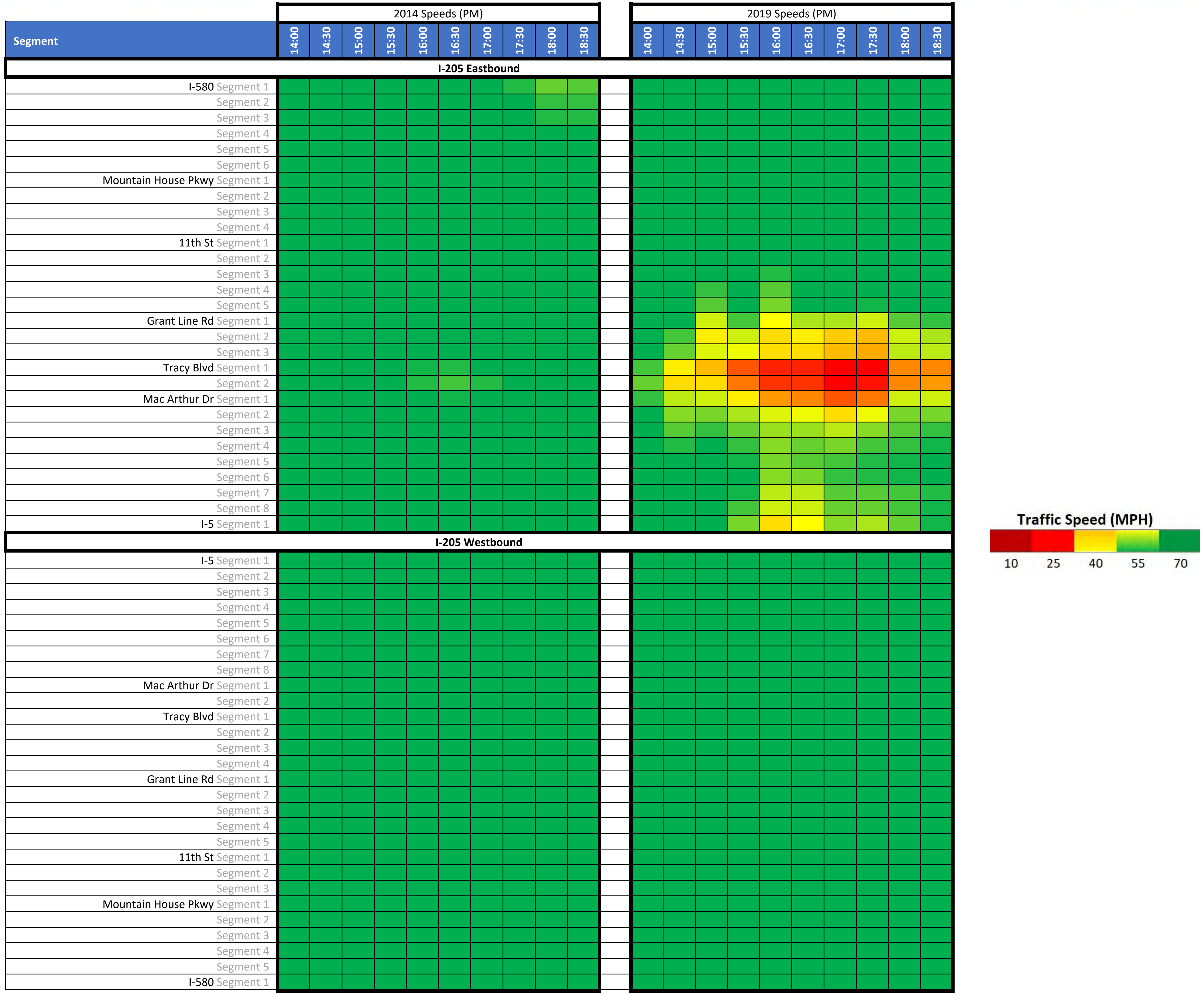
Segment 5																						
11th St Segment 1																						
Segment 2																						
Segment 3																						
Mountain House Pkwy Segment 1																						
Segment 2																						
Segment 3																						
Segment 4																						
Segment 5																						
I-580 Segment 1																						

Traffic Speed (MPH)

10 25 40 55 70

Table 2.9: I-205 PM Data



2.6 Vehicle Miles Traveled

2.6.1 Background

In 2013, SB 743 was signed into law by California Governor Jerry Brown with a goal of reducing Greenhouse Gas (GHG) emissions, promoting the development of infill land use projects and multimodal transportation networks, and to promote a diversity of land uses within developments. One significant outcome resulting from this statue is the removal of automobile delay and congestion, commonly known as level of service (LOS), as a basis for determining significant transportation impacts under the California Environmental Quality Act (CEQA).

The Governor's Office of Planning and Research (OPR) has documented recommended analysis guidelines for SB 743 in its *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018) which provides for Vehicle Miles Traveled (VMT) as the principal measure to replace LOS for determining significant transportation impacts. VMT is a measure of total vehicular travel that accounts for the number of vehicle trips and the length of those trips. OPR selected VMT, in part, because jurisdictions are already familiar with this metric. VMT is already used in CEQA to study other potential impacts such as GHG, air quality, and energy impacts and is used in planning for regional Sustainable Communities Strategies (SCS).

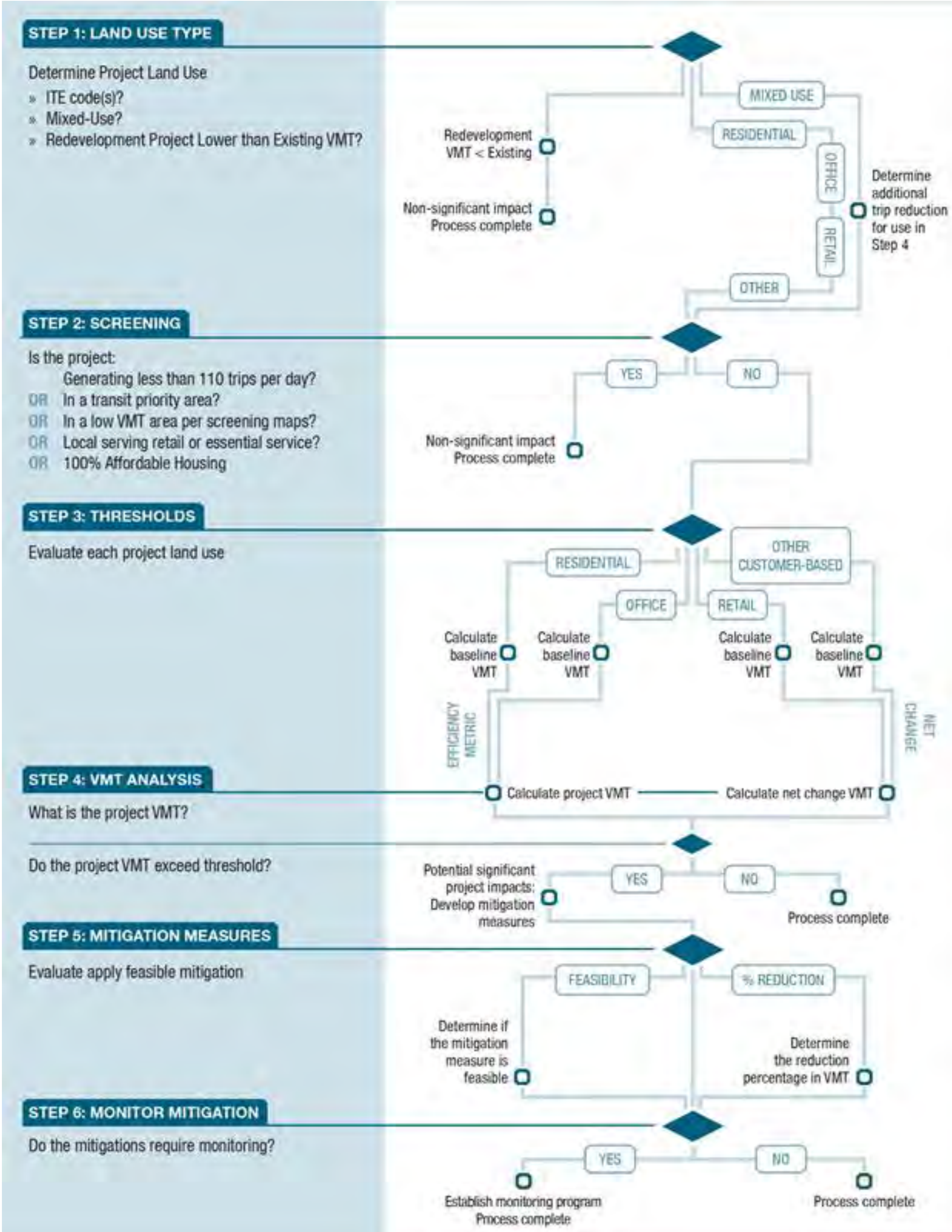
VMT also allows for an analysis of a project's impact throughout the jurisdiction rather than only in the vicinity of the proposed project allowing for a better understanding of the full extent of a project's transportation-related impact. It should be noted that SB 743 does not disallow the City of Tracy to use LOS for other planning purposes outside the scope of CEQA.

2.6.2 Land Use Projects

An approach to identify transportation impacts under CEQA for land-use that closely align with guidance provided within the OPR *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018). While the OPR guidance related to SB 743 has been a helpful introduction to using VMT to evaluate projects, it does not provide a complete solution. There are a multitude of complex practical issues that are not addressed by the OPR guidance. OPR Guidance does not specifically address land uses beyond residential, office and retail, and it provides latitude on some elements of implementation. In response to this, a specific series of analysis steps for SB 743 project evaluation have been developed to clarify requirements and reduce potential confusion.

Figure 2.14 provides a graphical representation of this analysis process.

Figure 2.14: Process for CEQA VMT Analysis for Land Use Projects



Step 1: Determine ITE Land Use Type

If it is determined that this policy applies to a land use project, the second step will be to evaluate the project for the following considerations:

- ***Land use type.*** For the purposes of analysis, the Institute of Transportation Engineers (ITE) land use codes serve as the basis of land use definitions. Although it is recognized that VMT evaluation tools and methodologies are typically not fully sensitive to some of the distinctions between some ITE categories, the use of ITE land use codes is useful for maintaining consistency across analyses, determining trip generation for other planning level tools, and maintaining a common understanding of trip making characteristics amongst transportation professionals. The ITE land use code is also used as an input into the VMT Analysis Tool described in Step 4 of this Section
- ***Mixed Use.*** If there are multiple distinct land uses within the project (residential, office, retail, etc.), they will be required to be analyzed separately unless they are determined to be insignificant to the total VMT. Mixed use projects are permitted to account for internal capture which depending on the methodology may require a distinct approach not covered in this documentation. This analysis would be the responsibility of the applicant and will need to be prepared by a qualified transportation professional and approved by the City of Tracy.
- ***Redevelopment projects.*** As described under the Non-Significant Screening Criteria section, redevelopment projects which have lower VMT than the existing on-site use can be determined to have a non-significant impact.

Once the land use type(s) are determined, the next step is to screen the project to determine if further CEQA transportation analysis is necessary.

Step 2: Screen for Non-Significant Transportation Impact

The purpose of this step is to determine if a presumption of a non-significant transportation impact can be made on the facts of the project. The guidance in this section is primarily intended to avoid unnecessary analysis and findings that would be inconsistent with the intent of SB 743. A detailed CEQA transportation analysis will not be required for land use elements of a project that meet the screening criteria shown in Table 2.10. If a project has multiple distinct uses (residential, office, retail, etc.), only those elements of the project that are not screened out would require further evaluation to determine transportation significance for CEQA purposes.

Table 2.10: Screening Criteria

Screening Criteria	OPR Guidance
Small Projects[1] This applies to projects with low trip generation per existing CEQA exemptions. Note that this includes any land use type (residential, office, open space, neighborhood parks, etc.)	**Presumed to cause a less-than-significant impact:** ▪ Project generation is less than 110 trips per day per the ITE Manual or other acceptable source determined by the City of Tracy **Unless:** ▪ It is inconsistent with the Sustainable Communities Strategy as determined by the City of Tracy
Projects Near High Quality Transit[2] High quality transit provides a viable option for many to replace automobile trips with transit trips resulting in an overall reduction in VMT.	**Presumed to cause a less-than-significant impact:** ▪ Within a ½ mile of an existing major transit stop; and ▪ Maintains a service interval frequency of 15 minutes or less during the morning and afternoon peak commute periods). **Unless:** ▪ Has a Floor Area Ratio (FAR) of less than 0.75; or ▪ Includes more parking, excluding on-street parking, for use by residents, customers, or employees of the project than required by the City of Tracy zoning code; or ▪ It is inconsistent with the Sustainable Communities Strategy as determined by the City of Tracy; or ▪ Replaces affordable residential units with a smaller number of moderate- or high-income residential units
Local-Serving Retail[3] The introduction of new Local-serving retail has been determined to reduce VMT by shortening trips that will occur out of necessity (groceries, other essentials, etc.).	**Presumed to cause a less-than-significant impact:** ▪ No single store on-site exceeds 50,000 square feet; and ▪ Project is local-serving as determined by the City of Tracy **Unless:** ▪ The nature of the service is regionally focused as determined by the City of Tracy
Affordable Housing[4] Lower-income residents make fewer trips on average, resulting in lower VMT overall.	**Presumed to cause a less-than-significant impact:** ▪ A high percentage of affordable housing is provided as determined by the City of Tracy **Unless:** ▪ The percentage of affordable housing is determined by the City of Tracy to not be high in relation to the residential element of a project

[1] *2018 OPR Guidance*, page 12
[2] *2018 OPR Guidance*, page 13
[3] *2018 OPR Guidance*, page 16
[4] *2018 OPR Guidance*, page 14. As described, "Evidence supports a presumption of less than significant impact for a 100 percent affordable residential development (or the residential component of a mixed-use development) in infill locations. Lead agencies may develop their own presumption of less than significant impact for residential projects (or residential portions of mixed-use projects) containing a particular amount of affordable housing, based on local circumstances and evidence."

Screening Criteria	OPR Guidance
Local Essential Service[5] As with Local-Serving Retail, the introduction of new Local Essential Services shortens non-discretionary trips by putting those goods and services closer to residents, resulting in an overall reduction in VMT.	**Presumed to cause a less-than-significant impact:** ▪ **Building is less than 50,000 square feet: and** ▪ **Land Use is :** • Day care center; or • Public K-12 School; or • Police or Fire facility; or • Medical/Dental office building; or • Government offices (in-person services such as post office, library, and utilities) **Unless:** ▪ The nature of the service is regionally focused as determined by the City of Tracy
Map-Based Screening This method eliminates the need for complex analyses, by allowing existing VMT data to serve as a basis for the screening smaller developments. Note that screening is limited to residential and office projects utilizing the maps.	**Presumed to cause a less-than-significant impact:** ▪ Area of development is under threshold as shown on screening map as allowed by the City of Tracy **Unless:** ▪ Represent significant growth as to substantially change regional travel patterns as determined by the City of Tracy
Redevelopment Projects[6] Projects with lower VMT than existing on-site uses, can under limited circumstances, be presumed to have a non-significant impact. In the event this screening does not apply, projects should be analyzed as though there is no existing uses on site (project analysis cannot take credit for existing VMT).	**Presumed to cause a less-than-significant impact:** ▪ Project replaces an existing VMT-generating land use and does not result in a net overall increase in VMT **Unless:** ▪ The project replaces an existing VMT-generating land use and results in a net overall increase in VMT

The VMT screening maps for residential and office land use projects mentioned in Table 2.10 are shown below in Figure 2.15 and Figure 2.16, respectively.

[5] Based on assumption that, like local-serving retail, the addition of necessary local in-person services will reduce VMT given that trips to these locations will be made irrespective of distance given their non-discretionary nature.
[6] *2018 OPR Guidance*, Page 18

Figure 2.15: Screening Map for Residential Land Use Projects

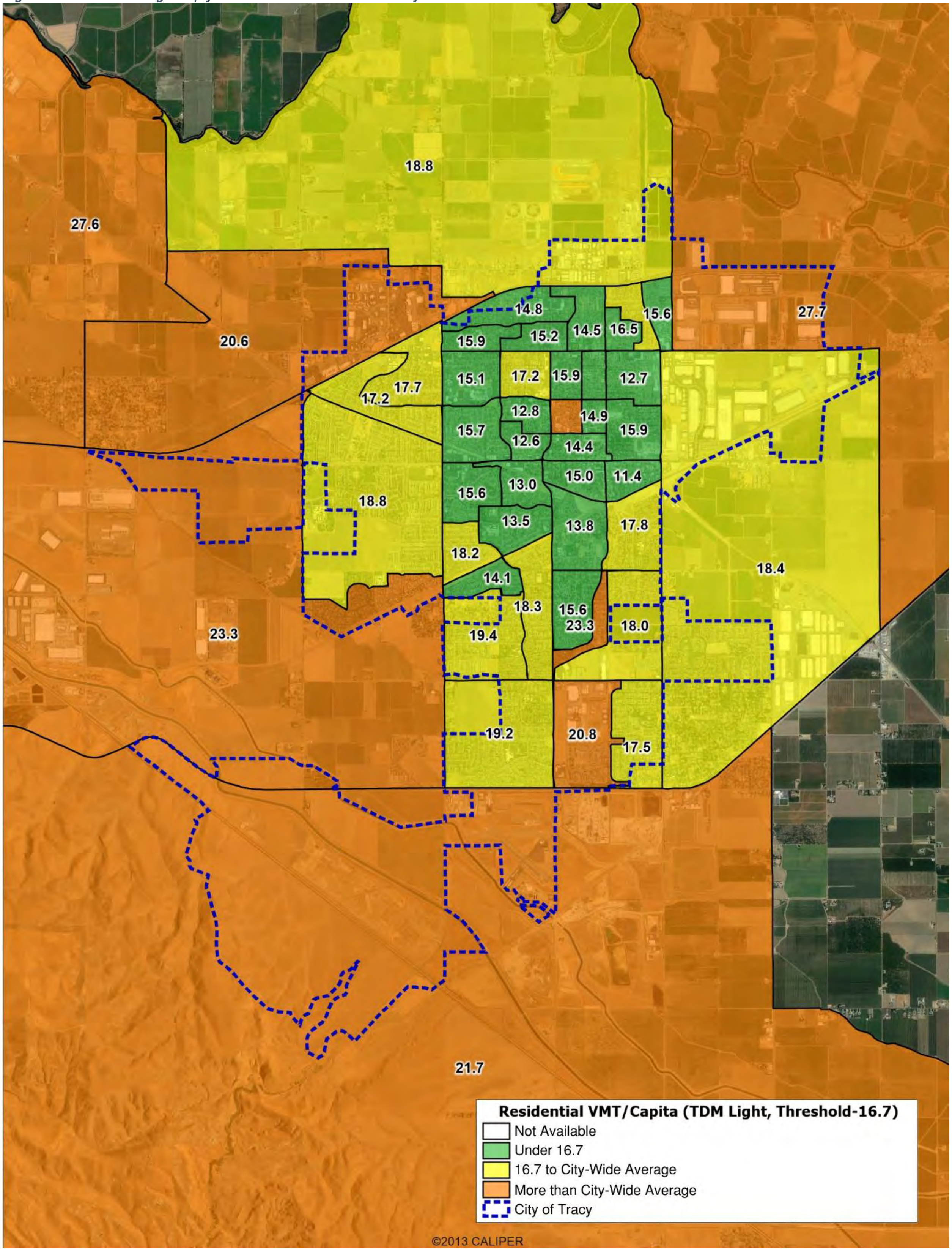
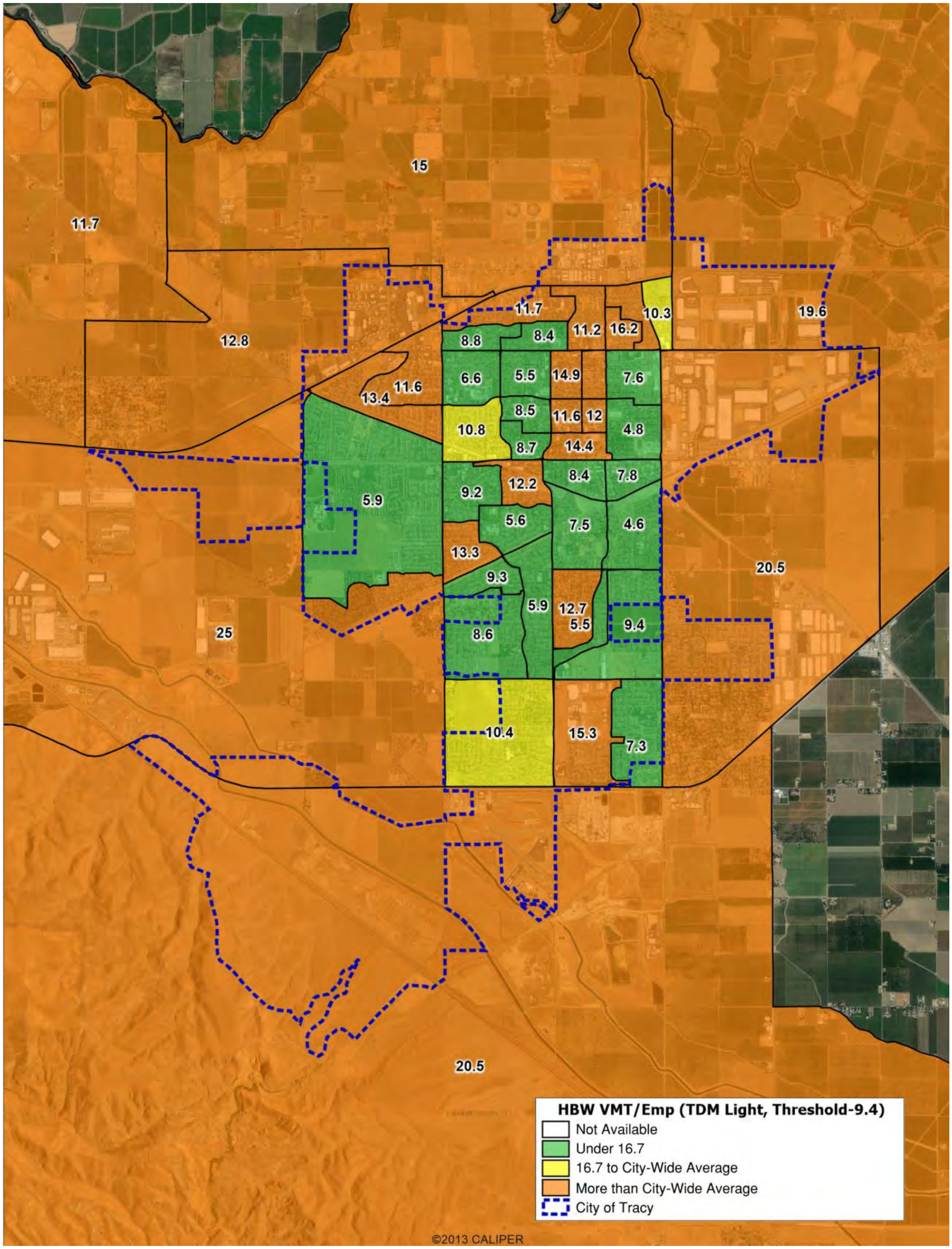


Figure 2.16: Screening Map for Office Land Use Projects



Step 3: Determine Significance Threshold and Methodology

The purpose of this step is to determine the threshold of significance for application to a land use project if it is not screened out in Step 3, or if further analysis is necessary to determine VMT impacts. Significance thresholds are based on land use type, broadly categorized as efficiency and net change metrics. Efficiency metrics include VMT/Capita and Work VMT/employee[7]. As described in Figure 2.17, "Net Change" refers to the net change in regional VMT. "Net Change" is used for elements that include a significant customer base, such as commercial uses, although it can extend to a variety of uses that have similar characteristics.

Figure 2.17: Significance Threshold and Methodology

Example Details	Threshold Basis	
	Efficiency	Net Change
Example Land Use	Residential, Professional Office, Industrial	Retail, Medical Office, Sports Venue
Example VMT Thresholds	Per capita, per employee	Region VMT change
Customer Component	No	Yes
Allowable Methods	Non-Significant Screening Criteria, The City of Tracy VMT Analysis Tool	Non-Significant Screening Criteria, Travel Demand Model

For projects with a significant customer base (retail, medical offices, sports venue, etc.) it is typically appropriate to separate employee trip characteristics from the customer base unless the customer base is minimal in nature. Under these circumstances, it is most appropriate to evaluate the total of the delta in regional VMT resultant from the customer base plus the delta of VMT resultant from employees based on the following formula:

(number of employees) x (estimated VMT/employee – threshold VMT/employee)

The threshold of significance will accordingly correspond to the "Net Change" threshold as described in Figure 2.17. Under these circumstances, it is most appropriate to evaluate this total Net Change as the basis for evaluating the outcome of mitigations in terms of determining transportation significance although each element of the project should be tallied separately for the purposes of clarity.

[7] Work VMT specifically applies to commute trips as represented by the attractions in the Travel Demand Model. Refer to Section 2.6.6 for additional information

2.6.3 VMT Thresholds of Significance

OPR suggests a 15 percent VMT reduction relative to existing local or regional average VMT levels. The thresholds of significance recommended by OPR, as they relate to the City of Tracy, are summarized in Figure 2.18.

Figure 2.18: OPR Suggested VMT Thresholds of Significance

Land Use	OPR Guidance[8]
Residential	15% below existing city-wide average VMT per capita
Office	15% below existing county-wide average VMT per employee
Retail	Net increase in regional VMT

Based on these criteria the VMT thresholds of significance shown in Figure 2.19 have been established.

Figure 2.19: VMT Thresholds of Significance

Land Use	VMT Threshold	Basis
Residential	16.7 VMT/capita[9]	15% below existing city-wide average VMT per capita.
Office	9.4 Work VMT/Employee[10]	15% below existing county-wide average Work VMT per employee
Retail	Net regional change	Using the county geographical area as the basis
Other Employment	Work VMT/Employee[11]	15% below existing county-wide average Work VMT per employee for similar land uses
Other Customer	Net regional change	Using the county or another geography deemed appropriate by the City of Tracy as the basis

Note that the inclusion of "Other Employment" and "Other Customer" refers to all other service and goods providers that are not included in the office/retail categories. As shown they follow a similar approach to the office/retail categories with the principal difference being that the average/basis for of the threshold would the aggregation of the specific "other" land use across the county (i.e. an industrial project would use industrial uses, etc.).

Based on improvements to methods and data as well as other modeling modifications there will be periodic updates to the numerical threshold values shown, however the relative approach for calculating them should remain the same. The values in the current VMT Analysis Tool, discussed below, will supersede the information provided in the table above. Additional thresholds for various employment types are also provide in the VMT Analysis Tool.

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[8] *2018 OPR Guidance*, Pages 15-16
[9] Residential VMT specifically applies to all Home-Based trips residential trips as represented in the Travel Demand Model.
[10] Work VMT specifically applies to commute trips as represented in the Travel Demand Model. Refer to Section 2.6.6 for additional information
[11] Work VMT specifically applies to commute trips as represented in the Travel Demand Model. Refer to Section 2.6.6 for additional information

2.6.4 VMT Analysis Tool

The City of Tracy has developed a VMT Analysis Tool for use in SB 743 land use project analysis. The purpose of the tool is to calculate VMT for a land use project. As with any VMT Analysis Tool, there are distinct limitations in terms of its application including limits on the type and size of development that can be applied to. Note that it is anticipated that the tool will continue to evolve in response to data or methodological changes and as such it is important that the most current version of the tool be utilized. Broadly, the VMT Analysis Tool provides the following information:

- Institute of Transportation Engineers (ITE) Trip Generation
- VMT Threshold Analysis
- Greenhouse Gas (GHG) Estimation
- Transportation Demand Management (TDM) Evaluation

The VMT Analysis methodology is summarized in **Section 2.6.6.**

Step 4: Develop Scope Agreement and Complete VMT Analysis

Prior to undertaking VMT analysis, a scope compliant with the City of Tracy's requirements must be prepared by the project applicant and submitted to the City for approval. Given the potential complexities of some uses, particularly those not identified as residential, retail, or office, an agreement regarding the threshold and methodology is important to avoid analysis that is not compliant with the City of Tracy's requirements.

Step 5: Identify Mitigation Measures

During this step, the analysis agreed to under Step 5 should be complete and approved by the City of Tracy. Relevant documentation providing enough detail that assumptions are clearly understandable, and methods that can be replicated should be provided along with the results of the VMT analysis for the proposed project.

If a significant transportation impact is identified, feasible mitigation measures to avoid or reduce the impact must be identified. CEQA requires that mitigation measures are included in the project's environmental assessment. OPR provides a list of potential measures to reduce VMT but gives the lead agency (the City of Tracy in this case) full discretion in the selection of mitigation measures.

The type and size of the project will determine the most appropriate mitigation strategies for VMT impacts. For large projects such as general plans or specific plans, VMT mitigations should concentrate on the project's density and land use mix, site design, regional policies, and availability of transit, bicycle, and pedestrian facilities. For smaller projects such as an individual development project, VMT mitigations will typically require the preparation of a transportation demand management (TDM) program. A TDM program is a combination of strategies to reduce VMT. The program is created by an applicant for their land use project based on a list of strategies agreed to with the City of Tracy.

The City of Tracy has developed a list of potential TDM strategies appropriate for their jurisdiction and what magnitude of VMT reduction could be achieved. The selection process was guided by the California Air Pollution Control Officers Association (CAPCOA) recommendations found in the 2010 publication

Quantifying Greenhouse Gas Mitigation Measures. The area context of the City of Tracy also influenced the type of TDM strategies that were selected. CAPCOA has found strategies with the largest VMT reduction in rural areas include vanpools, telecommute or alternative work schedules, and master planned communities with design and land-use diversity to encourage intra-community travel. Based on empirical evidence, CAPCOA found the cross-category maximum for all transportation-related mitigation measures is 15% for suburban settings.

Section 2.6.7 summarizes available TDM strategies along with the maximum VMT reduction, applicable land use application, and complementary strategies. The City of Tracy's VMT Analysis Tool includes the TDMs summarized in **Section 2.6.7**.

STEP 6: MITIGATION MONITORING

As required by CEQA, the City of Tracy will require ongoing mitigation monitoring and reporting. The specifics of this will be developed on a project basis.

2.6.5 Transportation Projects

Depending on the specific nature of a transportation project; it can alter trip patterns, trip lengths, and even trip generation. Research has determined that capacity-enhancing projects can and often do increase VMT. This phenomenon is commonly referred to as "induced demand". The result of these increases in VMT can often both be measured in congestion increases and negative impacts to air quality including GHG emissions. While methods are generally less developed for the analysis of induced demand compared to other areas of transportation analysis, there is still the need to quantify and understand its impact to the transportation system considering the requirements of SB 743.

Similarly, to land use projects, the approach to transportation project analysis closely align with the 2018 OPR Guidance. In terms of analysis, the analyst should first determine whether the transportation project has been prescreened and determined to have a non-significant impact as described in the following section.

SCREEN FOR NON-SIGNIFICANT TRANSPORTATION IMPACT

At the discretion of the City of Tracy, the following improvements maybe presumed to result in a non-significant impact[12]:

1. Rehabilitation, maintenance, replacement, safety, and repair projects designed to improve the condition of existing transportation assets (e.g., highways; roadways; bridges; culverts;

2. Transportation Management System field elements such as cameras, message signs, detection, or signals; tunnels; transit systems; and assets that serve bicycle and pedestrian facilities) and that do not add additional motor vehicle capacity

3. Roadside safety devices or hardware installation such as median barriers and guardrails

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[12] *2018 OPR Guidance*, Page 20

4. Roadway shoulder enhancements to provide "breakdown space," dedicated space for use only by transit vehicles, to provide bicycle access, or to otherwise improve safety, but which will not be used as automobile vehicle travel lanes
5. Addition of an auxiliary lane of less than one mile in length designed to improve roadway safety
6. Installation, removal, or reconfiguration of traffic lanes that are not for through traffic, such as left, right, and U-turn pockets, two-way left turn lanes, or emergency breakdown lanes that are not utilized as through lanes
7. Addition of roadway capacity on local or collector streets, based on the City's functional classification, provided the project also substantially improves conditions for pedestrians, cyclists, and, if applicable, transit
8. Conversion of existing general-purpose lanes (including ramps) to managed lanes or transit lanes, or changing lane management in a manner that would not substantially increase vehicle travel
9. Addition of a new lane that is permanently restricted to use only by transit vehicles
10. Reduction in number of through lanes
11. Grade separation to separate vehicles from rail, transit, pedestrians or bicycles, or to replace a lane in order to separate preferential vehicles (e.g., HOV, HOT, or trucks) from general vehicles
12. Installation, removal, or reconfiguration of traffic control devices, including Transit Signal Priority (TSP) features
13. Installation of traffic metering systems, detection systems, cameras, changeable message signs and other electronics designed to optimize vehicle, bicycle, or pedestrian flow
14. Timing of signals to optimize vehicle, bicycle, or pedestrian flow
15. Installation of roundabouts or traffic circles
16. Installation or reconfiguration of traffic calming devices
17. Adoption of or increase in tolls
18. Addition of tolled lanes, where tolls are sufficient to mitigate VMT increase
19. Initiation of new transit service
20. Conversion of streets from one-way to two-way operation with no net increase in number of traffic lanes
21. Removal or relocation of off-street or on-street parking spaces
22. Adoption or modification of on-street parking or loading restrictions (including meters, time limits, accessible spaces, and preferential/reserved parking permit programs)
23. Addition of traffic wayfinding signage
24. Rehabilitation and maintenance projects that do not add motor vehicle capacity

25. Addition of new or enhanced bike or pedestrian facilities on existing streets/highways or within existing public rights-of-way
26. Addition of Class I bike paths, trails, multi-use paths, or other off-road facilities that serve non-motorized travel
27. Installation of publicly available alternative fuel/charging infrastructure
28. Addition of passing lanes, truck climbing lanes, or truck brake-check lanes in rural areas that do not increase overall vehicle capacity along the corridor

Significance Threshold and Methodology

For projects that increase roadway capacity and are not identified under the Non-Significant Screening Criteria in the prior section, the significance criterion should be change in regional VMT. A finding of a significant impact would be determined if a transportation project results in a net increase in regional VMT. As a practical matter, any roadway with more than a quarter mile in new roadway travel lane (through lanes) should be evaluated for induced demand. A competent transportation professional will be required to provide a basis for this evaluation that considers available data, roadway context, and tools. Depending on the location and nature of the roadway this may be best accomplished using a the SJCOG Travel Demand Model. CEQA requires mitigation monitoring. If a project is required to implement VMT mitigation measures, the City of Tracy is required to monitor whether the project is implementing the mitigation measures. Mitigation monitoring will be determined and implemented on a case-by-case basis by the City of Tracy staff.

2.6.6 VMT Analysis Methodology

This section continues to set forth the criteria for analyzing transportation impacts. Currently, the City is studying their own thresholds, but none have been adopted.

In 2013, SB 743 was signed into law by California Governor Jerry Brown with a goal of reducing Greenhouse Gas (GHG) emissions, promoting the development of infill land use projects and multimodal transportation networks, and to promote a diversity of land uses within developments. One significant outcome resulting from this statue is the removal of automobile delay and congestion, commonly known as level of service (LOS), as a basis for determining significant transportation impacts under the California Environmental Quality Act (CEQA).

The Governor's Office of Planning and Research (OPR) has documented recommended analysis guidelines for SB 743 in its Technical Advisory on Evaluating Transportation Impacts in CEQA (2018) which provides for Vehicle Miles Traveled (VMT) as the principal measure to replace LOS for determining significant transportation impacts. VMT is a measure of total vehicular travel that accounts for the number of vehicle trips and the length of those trips. OPR selected VMT, in part, because jurisdictions are already familiar with this metric. VMT is already used in CEQA to study other potential impacts such as GHG, air quality, and energy impacts and is used in planning for regional Sustainable Communities Strategies (SCS).

VMT also allows for an analysis of a project's impact throughout the jurisdiction rather than only in the vicinity of the proposed project allowing for a better understanding of the full extent of a project's transportation-related impact. It should be noted that SB 743 does not disallow the City of Tracy to use LOS for other planning purposes outside the scope of CEQA.

Understanding how the local roadway network functions from an engineering standpoint is still critical to local land use agencies to monitor traffic flow, identify safety issues, establish fees and manage congestion. However, for the purposes of evaluating environmental impacts under CEQA, the new regulations have removed congestion from the range of required subjects analyzed within CEQA documents.

Generally, projects should be evaluated using the City of Tracy VMT Calculator.

The City of Tracy VMT Calculator was developed using a combination of two datasets, Streetlight Data and a modified version of the Tri-County Travel Demand Model (Model). Streetlight Data was used to develop average trip distances at the Census Block Group level while the travel demand model was used to develop the number of residential and work trips at the Traffic Analysis Zone (TAZ) level.

The Tri-County Travel Demand Model encompasses San Joaquin County, Stanislaus County, and Merced County. The Model was modified within the City of Tracy Sphere of Influence (Tracy SOI) to provide additional roadway network and land use detail. Land use assumptions were modified based on information provided by City of Tracy staff, while the roadway network was modified to include additional roadways at the arterial and connector level. In addition, the number of lanes and capacity classification was reviewed for roadways within the Tracy SOI to better reflect 2015 conditions. As the Model did not provide detail in the western portion of the Tracy SOI, particularly in the future development areas, the larger TAZs were split into several smaller TAZs to provide a more accurate loading of vehicles to the roadway network. The land use assumptions in the Model were then modified based on the information provided by the City for 2015 conditions for the more detailed TAZ structure.

Once the land use and roadway network assumptions were modified in the Model, it was run, and the output files were used to calculate VMT at the TAZ level. After a review of the VMT at the TAZ level, it was determined that the TAZs were correctly reflecting the number of trips generated by the land use and trip purposes. However, it was also determined that the trips were being distributed in a manner inconsistent with expectations and real-world observations. It was then determined that an additional data source would be needed to better determine average trip lengths within the Tracy SOI.

Streetlight Data was used to determine the average trip length of vehicles at the Census Block level within the Tracy SOI. Streetlight Data is a Big Data aggregator that collects anonymized cell phone data and is able to track the cell phones as they move during a trip. This data was used to track trips either starting or ending within the Tracy SOI on typical weekdays during March 2017. For residential trips, all only trips that either originated or ended at the assumed home location were used, while only trips that began or ended at the assumed work location were used. These trips were aggregated to provide the average trip length for each Census Block Group in the Tracy SOI.

The two datasets, Streetlight Data and Model trips by trip purpose, were combined to determine residential and employment based VMT per Capita and VMT per Employee metrics, respectively. The TAZs were first assigned to a Census Block Group based on their respective locations to match the two datasets. To determine the average VMT per Capita for each Census Block Group within the Tracy SOI, the home-based production trips from the Model (home-based work, home-based shopping, and home-based other) were multiplied by the average trip length for residential trips to determine total residential VMT. This was then divided by the total population from the Model for all TAZs within each Census Block Group to determine VMT per Capita for each Census Block Group. Similarly, the total home-based work attraction trips from the Model were multiplied by the average trip length for work trips to determine total employment VMT. This was then divided by the total employment from the Model for all TAZs within each Census Block Group to determine VMT per Capita for each Census Block Group. Thresholds for VMT per Capita and VMT per Employment were determined by dividing the total VMT within the Tracy SOI for both trip types and dividing them by the total population and total employment, respectively within the Tracy SOI.

For projects that would cause a VMT impact, VMT reduction strategies such as introducing TDM or additional multimodal infrastructure can be used to potentially mitigate the VMT impact which is estimated from research literature and case studies.

2.6.7 VMT Mitigation and Travel Demand Measures

Table 2.11 provides a list of the recommended TDM Measures for the City of Tracy.

No maximum VMT reductions exist for suburban areas. The CAPCOA reductions are empirical but gathered in urbanized communities with substantial multimodal and transit opportunities. It is assumed that in suburban areas VMT reduction area be subsequently very low. Existing transit ridership and walk and bike trips is a low proportion of travel in Tracy and thus low percentage reductions are applicable.

Table 2.11 VMT Mitigation and Travel Demand Measures for the City of Tracy

City of Tracy					
TDM Measure #	**Transportation Demand Management Measure**	**Description**	**TDM Type**	**Max VMT Reduction**	**VMT Reduction Type**
Parking Strategies					
1	Reduce Parking Supply	Changes on-site parking supply to provide less than the amount required by municipal code. Permitted reductions could utilize mechanisms such as TOC, Density Bonus, Bike Parking ordinance, or locating in a Specific Plan Area.	Infrastructure	3%	All
2	Unbundle Parking	Unbundles parking costs from property costs, requiring those who wish to purchase parking spaces to do so at an additional cost.	Incentive	2%	Residential
3	Parking Cash-Out	Provide employees a choice of forgoing current parking for a cash payment to be determined by the employer. The higher the cash payment, the higher the reduction.	Incentive	2%	Commute
Transit Strategies					
4	Transit Stops/ Transit Hub	Coordinate with local transit agency to provide bus stop near the site. Real time transportation information displays support on-the-go decision and to support sustainable trips . Only get a reduction on a non-HQT line, cannot get both.	Infrastructure	2%	All
5	Implement Neighborhood Shuttle	Implement project-operated or project-sponsored neighborhood shuttle serving residents, employees, and visitors of the project site	Incentive	5%	All
6	Transit Subsidies	Involves the subsidization of transit fare for residents and employees of the project site. This strategy assumes transit service is already present in the project area.	Incentive	5%	All
Communication & Information Strategies					
7	Travel Behavior Change Program	Involves the development of a travel behavior change program that targets individuals' attitudes, goals, and travel behaviors, educating participants on the impacts of their travel choices and the opportunities to alter their habits. Provide a web site that allows employees to research other modes of transportation for commuting. Employee-focused travel behavior change program that targets individuals' attitudes, goals, and travel behaviors, educating participants on the impacts of their travel choices and the opportunities to alter their habits.	Incentive	4%	All
8	Promotions & Marketing	Involves the use of marketing and promotional tools to educate and inform travelers about site-specific transportation options and the effects of their travel choices with passive educational and promotional materials. Marketing and public information campaign to promote awareness of TDM program with an on-site coordinator to monitor program.	Incentive		All
Commuting Strategies					
9	Employer Sponsored Vanpool or Shuttle	Implementation of employer-sponsored employee vanpool or shuttle providing new opportunities for access to connect employees to the project site.	Incentive/ Infrastructure	5%	Commute
10	Emergency Ride Home (ERH) Program	Provides an occasional subsidized ride to commuters who use alternative modes. Guaranteed ride home for people if they need to go home in the middle of the day due to an emergency or stay late and need a ride at a time when transit service is not available. DIBS	Incentive	4%	Commute
11	On-site Childcare	Provides on-site childcare to remove the need to drive a child to daycare at a separate location.	Infrastructure	2%	All
12	Telecommuting Alternative work Schedule	Four-Ten work schedule results in 20% weekly VMT reduction, 10% trip reduction equals 15% VMT reduction	Incentive	20%	Commute
Commuting Strategies					
13	Ride-Share Program	Increases vehicle occupancy by providing ride-share matching services, designating preferred parking for ride-share participants, designing adequate	Incentive	5%	Commute

City of Tracy					
TDM Measure #	Transportation Demand Management Measure	Description	TDM Type	Max VMT Reduction	VMT Reduction Type
		passenger loading/unloading and waiting areas for ride-share vehicles, and providing a website or message board to connect riders and coordinate rides			
14	Employee/ Employer Car Share	Implement car sharing to allow people to have on-demand access to a vehicle, as-needed. This may include providing membership to an existing program located within 1/4 mile, contracting with a third-party vendor to extend membership-based service to an area, or implementing a project-specific fleet that supports the residents and employees on -site.	Incentive	1%	All
		Provide an on-site car vehicle for employees to use for short trips. This allows for employees to run errands or travel for lunch.	Incentive	1%	Commute
15	Designated Parking Spaces for Car Share Vehicles	Reserved car share spaces closer to the building entrance.	Infrastructure	1%	
Bicycle Infrastructure Strategies					
16	Bike Share	Implement bike share to allow people to have on-demand access to a bicycle, as-needed.	Incentive/ Infrastructure	1%	All
17	Implement/ Improve On-street Bicycle Facility	Implements or provides funding for improvements to corridors and crossings for bike networks identified within a one-half mile buffer area of the project boundary, to support safe and comfortable bicycle travel.	Infrastructure	1%	All
18	Include Bike Per City of Tracy in excess of City Code	Implements long-term bicycles and to support safe and comfortable bicycle travel by providing facilities at destinations	Infrastructure	1%	All
19	Include Secure Bike Per City of Tracy and Showers in excess of City Code	Implements additional end-of-trip bicycle facilities to support safe and comfortable bicycle travel.	Infrastructure	1%	All
19	Bicycle Repair Station / Services	On-site bicycle repair tools and space to use them supports on-going use of bicycles for transportation.	Infrastructure		
Neighborhood Enhancement Strategies					
20	Traffic Calming Improvements	Implements traffic calming measures throughout and around the perimeter of the project site that encourage people to walk, bike, or take transit within the development and to the development from other locations.	Infrastructure	2%	All
21	Pedestrian Network Improvements	Implements pedestrian network improvements throughout and around the project site that encourages people to walk.	Infrastructure	2%	All
Miscellaneous Strategies					
22	Virtual Care Strategies for Hospitals	Resources to allow patients to access healthcare services or communicate with healthcare staff through online or off-site programs.	Infrastructure	5%	Hospital Visitors
23	On-site Affordable Housing	Provides on-site affordable housing close to TOD or workplace/business	Land Use	% units be exempt	All
24	Job Creation Land use (e.g. Office)	Jobs for local skillsets. (local residents work local).	Land Use	5%-10%	All

2.6.8 Feasible Mitigation Discussion

This section discusses how CEQA and the State of California treat cases in which a project has a significant and unavoidable transportation impact and therefore is required to provide feasible mitigation. Based on research conducted by CAPCOA, the maximum reduction that VMT can be feasibly mitigated using exclusively site-specific solutions for a suburban context such as the City of Tracy, is 15-percent. Site-specific solutions most often rely on Transportation Demand Measures (TDMs), as discussed in the previous section, although project land use modifications can also be utilized to mitigate impacts. Therefore, projects that exceed the VMT significant impact threshold by more than 15-percent must rely on non-site-specific approaches if full mitigation is to be achieved. CEQA guidelines require that a project provide feasible mitigation to reduce a project's VMT impact even if it cannot fully mitigate that impact.

Based on this, if a project exceeds the City's VMT threshold by more than 15-percent, it will require a combination of site-specific measures and non-site-specific measures, specifically the VMT mitigation bank as discussed in the next section, in order to achieve mitigation. This could mean using only site-specific mitigation measures to reach the 15-percent threshold, using only the VMT mitigation bank to reach the 15-percent threshold, or using both to reach the 15-percent threshold, such as using TDM measures to reduce VMT by 6-percent and then using the VMT mitigation bank to reduce VMT by the remaining 9-percent.

Importantly, VMT mitigation is required only to be achieved up to a maximum of 15-percent (the City's established definition of maximum feasible mitigation). If this does not fully mitigate the project's impacts, a finding of overriding considerations will be required. However, the project may go beyond the 15-percent using the VMT mitigation banking fees, as described in the next section, if that is determined by the applicant to be feasible.

2.6.9 VMT Mitigation Banking Fees

This section discusses a programmatic approach to respond to the need for feasible VMT mitigation programs. In suburban areas such as the City of Tracy, VMT analysis can result in a finding of a transportation impact, particularly in undeveloped areas, due to a lack of land used density and diversity. In addition, with less transportation options compared to more urbanized areas, mitigating impacts in suburban areas can prove to be more difficult than under LOS. For many jurisdictions, SB 743 is resulting in a reversal in the results of transportation significant findings as compared to how things were under an LOS-based analysis.

As a practical matter, SB 743 for many jurisdictions is also a more restrictive approach to identifying transportation impacts both because of the basis for setting an impact threshold and limited mitigation opportunities. In terms of the threshold of significance, the Governor's Office of Planning and Research's (OPR) recommends that projects consisting of residential or general employment category land uses need to be located in an area where they are 15-percent less than the average VMT[13] for similar uses. Effectively, this means that new projects must be located in an area where they are more efficient than 65-percent of similar uses from a VMT standpoint. Given that most development in Tracy and elsewhere is still not planned as infill, this is resulting in an increasing need for feasible mitigation solutions.

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[13] *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018)

To date, VMT mitigation has relied heavily on TDMs. These measures generally represent two basic approaches: infrastructure and policy. The California Air Pollution Control Officers Association (CAPCOA) guide for *Quantifying Greenhouse Gas Mitigation Measures*, last updated in 2010, is one of the primary bases for estimating mitigation effects in California. Although this resource is invaluable, the data on which it is based is relatively old, limited in terms of sample size, and based on experiences in highly urbanized areas. As such, many of the mitigation options provided have questionable efficacy in suburban and rural contexts. TDMs are also challenging from the standpoint of mitigation monitoring and are often unpopular with project applicants because they may need to be managed and paid for in perpetuity. These limitations have led jurisdictions, including the City of Tracy, to increasingly consider programmatic approaches to VMT mitigation. Programmatic approaches that rely on collectively funding larger projects allow a project to obtain an amount of mitigation commensurate with their impact, include only a single payment without the complexity of ongoing management, and do not require on-going mitigation monitoring. Programmatic approaches can also provide a public benefit in terms of funding transportation improvements that would not otherwise be constructed, resulting in improvements to congestion, GHG emissions, increased transportation choices, and additional opportunities for active transportation.

This section focuses on one programmatic approach to funding VMT mitigation, VMT Mitigation Banking. Under a VMT Mitigation Banking framework, multiple VMT reducing projects are grouped together and their associated VMT reductions are monetized in the form of credits. These credits are then purchased for the purposes of mitigating VMT in excess of determined impact thresholds. The underlying projects may be either regionally or locally beneficial to the area in which the project is located.

2.6.9.1 **VMT Banking Projects**

The table below provides the information regarding VMT banking projects that development projects can contribute funds to mitigate their VMT impacts. The primary focus of these projects is to construct or improve active transportation facilities that will replace vehicular trips thereby reducing VMT.

Bicycle/trail improvements have been identified in Figure 2.20. Refer to Section 4 for more discussions on future bicycle and pedestrian facilities.

Table 2.12 provides the VMT banking projects utilized for this report. The City of Tracy has approximately $67,244,700 in VMT Banking Fees that projects can contribute funds to. VMT banking project cost estimates are included in Appendix D

Table 2.12 VMT Banking Projects

VMT BANKING PROJECTS					
Letter	**Type**	**Name of Project**	**Description**	**Length/Number of Improvements**	**Cost Estimate ($)**
A	Bike/Ped	Legacy Fields Connector	Provide an enhanced Class I, II, and III facilities to access Legacy Fields	2.51 mi	$1,062,000
B	Bike/Ped	Rail Trail	Provide a Class I trail within rail R/W (refer to figure)	2.16 mi	$9,181,000
C	Bike/Ped	Rail Trail	Provide a Class I trail within rail R/W (refer to figure)	3.64 mi	$9,650,000
D	Bike/Ped	WSID Channel Trail	Add Class I trail along WSID Channel	5.10 mi	$33,150,000
E	Bike/Ped	Rail Trail	Add Class I trail along rail R/W (refer to figure)	1.16 mi	$3,070,000
F	Bike/Ped	Existing Trails Enhancement	Enhancements to the existing trail facilities (refer to figure)	3.65 mi	$3,810,000
G	Bike/Ped	ACE Station Connector Trail	Provide a Class I trail to existing roadways that connect the existing Sycamore Parkway facility to the Ace Train Station	0.59 mi	$2,250,000
H	Bike/Ped	Safe Routes to School	Improve Class III facilities along school frontages	4.08 mi	$51,700
M	Transit	Mobility Hub	Future Mobility Hub	2.00 mi	$19,000,000
				Total	**$67,244,700**

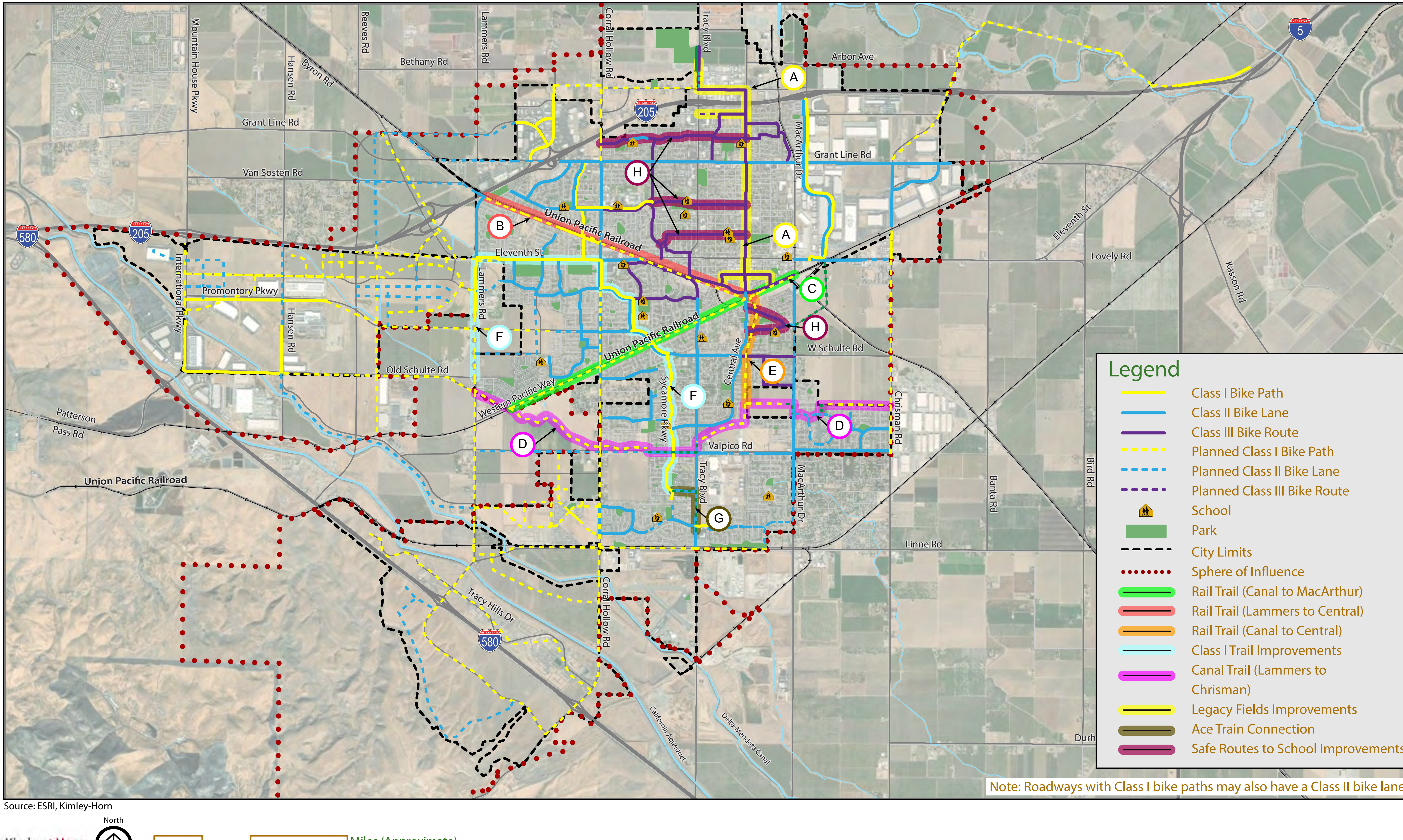


Figure 2.20: VMT Banking - Bicycle Projects

2.6.9.2 Maximum VMT Banking Fee Calculation and Nexus

The four steps followed to monetize the identified VMT Mitigation Banking projects include the following:

1. Identify mitigation projects;
2. Determine the cost of construction the mitigation projects;
3. Determine the total VMT that can be mitigated by the projects; and
4. Calculate the maximum mitigation fee per VMT by dividing total cost of the mitigation projects by the total VMT mitigated by the projects to determine the fee per unit of VMT.

The approach outlined above results in a calculation of the maximum fee per Vehicle Miles Traveled (VMT) mitigated based on the list of projects identified above. Consistent with the City of Tracy's directions, the full cost of funding these improvements is used to calculate the maximum VMT Mitigation Banking fee per VMT the City could apply to all new residential and non-residential development in the City between 2022 and 2042 that result in VMT impacts.

As part of this analysis, a nexus evaluation was undertaken to support the basis of the VMT Mitigation Bank's development. Consistent with California's Mitigation Fee Act, to develop a fee program a local agency must identify the purpose of the fee (Section 66001(a)(1)). The City of Tracy's policy is that new development shall contribute to the VMT Banking Fee if needed for mitigation of their VMT impacts. In addition, the cost of constructing the improvements to help mitigate VMT citywide will be implemented through the VMT banking fee program administered by the City of Tracy. The fee advances a legitimate public interest by enabling the City to fund improvements to transportation infrastructure required to accommodate a new development's VMT impacts.

As noted above, the projects that are included in the City of Tracy's VMT Mitigation Banking Fee Program will fund the construction of facilities that support active transportation (cycling and walking) to mitigate VMT impacts from new development. These facilities include both bike trails and bike lanes.

The pedestrian and bicycle projects included in this analysis focused on constructing biking and walking trails to provide alternative mobility routes to driving throughout the City of Tracy. These projects' benefit could not be sufficiently analyzed using the travel demand model; accordingly, the projects were analyzed using off-model techniques. Pedestrian and bicycle improvements were evaluated based on *NCHRP 552 Guidelines for Analysis of Investments in Bicycle Facilities.* This approach relies on spatial analysis techniques to determine the likely number of new active transportation users resulting from the introduction of a new pedestrian/bicycle improvement. Table 2.13 shows the comparison between the existing ridership and Future induced riders based on the construction of the projects.

Table 2.13 Future Project Induced Daily Bicycle Demand

Demand	Existing (2022)	Future Induced Riders (2032)	Total 2035
Adult Bicyclists	4,621	4,117	8,738
Child Bicyclists	1,216	1,180	2,396
Total Facility Users	**5,837**	**5,297**	**11,134**

As shown in Table 2.13 ,the projects could add almost 5,300 bicycle trips per day throughout the City by 2032 which will provide an alternative to congested vehicular travel as well as significant health and recreational value. While not related to VMT mitigation, it should be also be noted that construction of the pedestrian and bicycle improvements will result in additional safety benefits by reducing the potential for vehicle-bicycle and vehicle-pedestrian conflicts.

The mobility hub project included in this analysis focused on increasing ridership for a future ACE train station in the City for commuters to the Bay Area that currently drive. Similar to the bicycle and pedestrian projects, the mobility hub's benefit could not be sufficiently analyzed using the travel demand model, so the projects were analyzed using off-model techniques.

2.6.9.3 Total VMT Reduction

The total VMT reduction per project for the bicycle and pedestrian projects was calculated by multiplying the average bicycle trip length taken by new riders induced by the construction of a project by the total number of new riders and the project's lifecycle. For the purposes of this analysis, the average trip length used was four miles, based on industry standard assumptions. In addition, the project lifecycle was assumed to be ten years to cover the analysis period between 2022 and 2032. The number of new bicycle riders for each project was multiplied by the average trip length to obtain the total daily VMT reduction for each project. Each project's VMT reduction was added together to determine the total VMT reduction for all bicycle and pedestrian projects, which for the projects listed in Table 2.12 total 21,189.

The benefits of the mobility hub project were determined using Longitudinal Housing and Employment (LEHD) data provided by the US Census Bureau locating work locations for residents of the City of Tracy and determining an average commute distance for future ridership. This distance was multiplied by the estimated daily ridership at the future station in the City[14] to determine the overall VMT reduction. The average trip distance was determined to be 39.8 miles and the estimated ridership was 1,067 daily riders. Accounting for a two-way trip, the mobility hub project results in a total daily VMT reduction of 85,024. When this is added to the total daily VMT reduction for the bicycle and pedestrian projects, the overall daily VMT reduction for all projects is 106,214.

2.6.9.4 Maximum Banking Fee Estimation

To determine the maximum overall fee, the total project cost of $67,244,700 was divided by the total VMT reduction of 106,214 daily VMT. This calculation resulted in a maximum cost per VMT reduction of $633.11. Note that this fee does not include any non-fee funding sources (grants, etc.). The addition of any funding sources for these projects could significantly reduce the cost of per VMT reduction cost.

[14] *Valley Link Draft EIR*. San Joaquin Valley Regional Rail Authority. December 2020.

3 HORIZON YEAR FORECAST

3.1 Introduction

This chapter presents the traffic forecasting methodology that was used to develop the roadway network requirements for the Tracy Transportation Master Plan (TMP). This is the first step in the process of defining the physical and operational improvements that will be needed to serve development under the Tracy General Plan. The resulting plan-line roadway network is based on roadway-level volume forecasts and a roadway volume-based assessment of the network's performance in Horizon Year in terms of volume-to-capacity ratios.

3.2 Overview of Transportation Master Plan Development Process

The TMP will guide the development of transportation infrastructure and services as growth occurs under the General Plan. While the General Plan Update and EIR forecasts traffic conditions to the year 2040, the TMP looks out another two years, to Horizon Year, in order to provide the maximum possible infrastructure planning. The Horizon Year was chosen because it is practically possible to estimate Tracy land use growth patterns to that year, and because the San Joaquin Council of Governments has updated its travel demand model to the year 2042. Note that neither the Year 2040 nor the Horizon Year forecasts represent full build-out of all the development capacity in the General Plan areas, but rather, the residential and non-residential growth that is expected under the growth management ordinance (for residential uses) and based on market trends (for non-residential uses). The TMP development steps for developing the Horizon Year travel demand model volumes are listed below; this chapter documents the results of step 3.

1. Prepare the SJCOG Travel Demand Model to project conditions to Horizon Year
2. Obtain Horizon Year and build-out land uses for each future service in the General Plan Update from the City
3. Develop Horizon Year and build-out plan-line roadway networks (classification and number of lanes), based on the model link volume forecasts, incorporating the effects of the sustainability strategies
4. Develop Horizon Year detailed intersection forecasts at the 65 TMP Tier 1 intersections.

3.3 Traffic Forecasting Methodology

This section gives an overview of the Tracy Travel Demand Model, including the current validation year in use (2015) and the preparation of the Horizon Year and Build-Out models. Section 3.4 describes the land uses and trip generation assumed within the Tracy Sphere of Influence (SOI), for the Horizon Year and Build-Out scenarios. As discussed later in this chapter, the Build-Out scenario reflects a time horizon that is well beyond Horizon Year Conditions and contains speculative assumptions regarding land uses and development.

3.3.1 Tracy Travel Demand Model Validation Years

The SJCOG Travel Demand Model was modified to be used for the City of Tracy by Kimley-Horn for all three scenarios (Base Year 2015, Horizon Year 2042, and Build Out). These modifications include land use and roadway network updates. It underwent a full validation to 2015 conditions, as described in the Technical Memorandum, Revised Draft Technical Memorandum for VMIP2 TCM 2015 Update (June 18, 2018) which is included in Appendix E

Table 3.1 shows the 2015 employment and housing totals for the Base Year version of the model, within the Tracy SOI boundary. The 2015 land uses were developed by splitting using the data within the SJCOG model and distributing the land use from the larger SJCOG Traffic Analysis Zones (TAZs) into the smaller Tracy TAZs using land use assumptions from the previous City of Tracy TAZs. In addition, land use was compared to all approved, constructed and occupied projects from 2010 to 2015 to confirm land uses are up to date based on information provided by City staff.

Table 3.1: Land uses in the Tracy Travel Demand Model

Scenario	Single Family	Multi Family	Total Employment
2015 Model	21,014	3,926	22,032
Percent	84.3%	15.7%	100%

3.3.2 Horizon Year 2042 Scenario Development

The Horizon Year model was developed using SJCOG's 2042 land use totals for the larger TAZs within the Tracy SOI and distributing the land use into the smaller City of Tracy TAZs based on land use distributions from the previous City of Tracy Horizon Year. Refinements were made to these land use assumptions based on input from City staff for future developments in the City's service areas. In addition, roadway network edits were created based on the previous City of Tracy travel demand model and any updates provided by applicant within the Plan Areas discussed later in this section. The intersection level of service analysis determined the necessity of infrastructure improvements. The land use growth within the Tracy SOI for this scenario is discussed in Section 3.4. The land uses outside the Tracy SOI were retained at the SJCOG 2042 levels.

3.3.3 Build-Out – Long Range Forecast

The Build-Out model was developed as described for Horizon Year, but using the full build-out potential for all 18 future services areas within the Tracy SOI. The land use growth within the Tracy SOI at build-out is discussed in Section 3.4. The land uses outside the Tracy SOI, which includes the counties of San Joaquin, Stanislaus, and Merced, were left at 2042 levels without other information. The land uses for the Horizon Year and Build Out for the areas outside of the Tracy SOI are shown in Table 3.2 .

As indicated earlier, the Build-Out scenario reflects a time horizon that is well beyond Year Horizon Year Conditions and contains speculative assumptions regarding land uses and development. Thus, the recommendations in the TMP are based upon the Horizon Year scenario.

This land use assumptions that led to the development of the model results described in the above sections do not include plans that have not yet been finalized. Among these is the Tracy Downtown Transit-Oriented Development Project. This is a long-range planning and design study evaluating how the proposed Valley Link commuter rail system will impact development opportunities in and around the Downtown area.

Table 3.2: Land uses outside Tracy SOI: Horizon Year and 2050

Scenario	Single-Family Units	Multi-Family Units	Total Employment
2042 Model	486,301	173,617	634,166
Build Out Model	486,301	173,617	634,166
Percent	73.7%	26.3%	100%

Note: No land uses were changed outside of the Tracy SOI for Build Out Conditions

3.4 TMP Land Use and Trip Generation

3.4.1 Land Use Assumptions – Horizon Year and Build-Out

The Horizon Year development assumptions were derived from information provided by City staff, with the Growth Management Ordinance controlling total residential growth, and recent development trends guiding the estimation of non-residential growth. City staff allocated the growth to the various future services shown in Figure 3.1 based on a combination of considerations, including how advanced each area is in the entitlement process, existing or expected conditions of approval, and anticipated environmental or jurisdictional constraints.

Build-out development assumptions were also provided by City staff, and were developed based on consultations with each of the landowners. Table 3.3 shows the Existing (2015), Horizon Year and Build-Out citywide land use totals.

The Horizon Year housing and employment totals represent growth of about 81-percent and 339-percent, respectively, over 2015 conditions. Relative to the 2015 land uses, the housing grows by more than 20,000 units, and employment grows by almost 75,000 jobs.

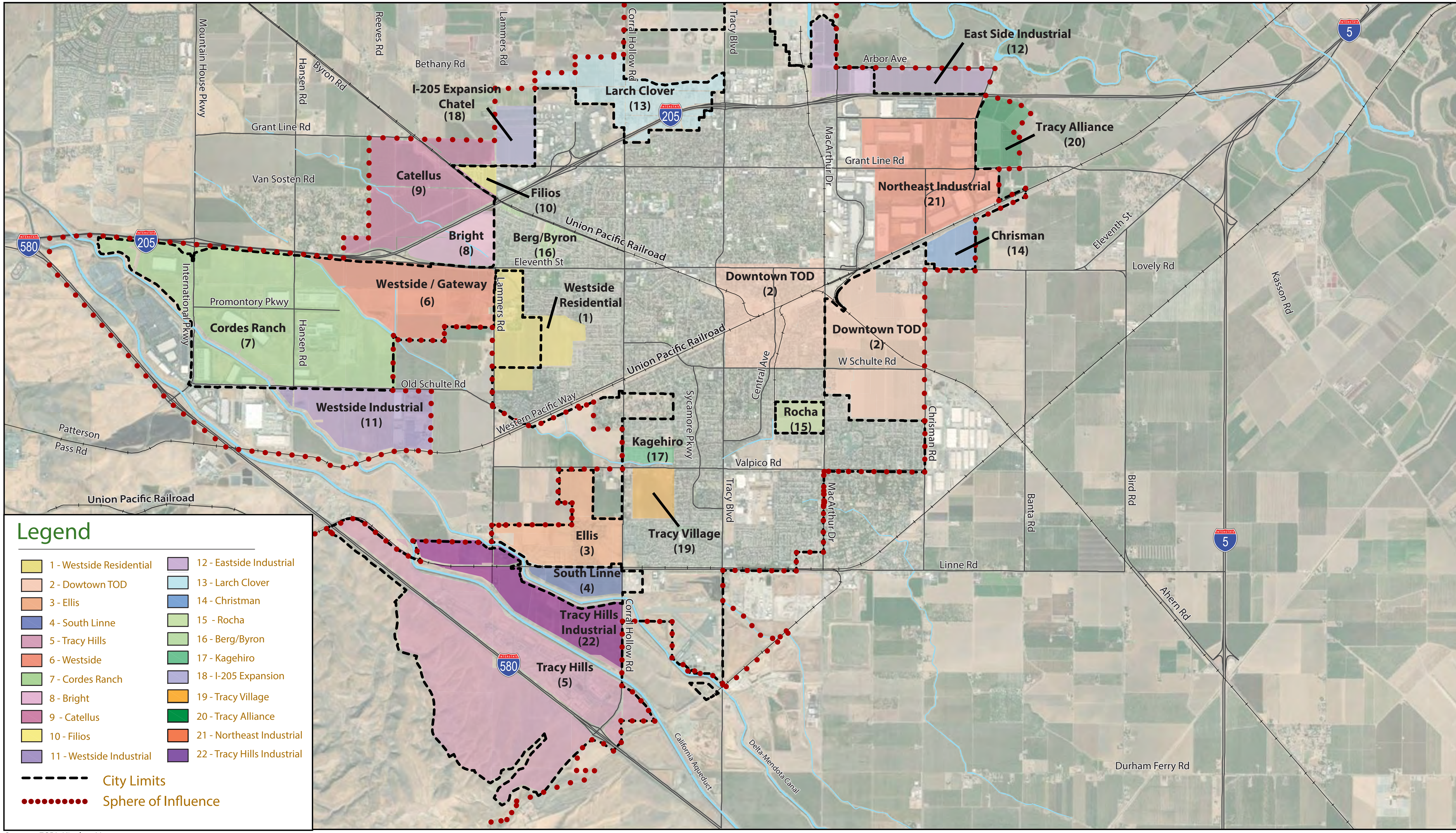
Build-Out housing and employment totals represent growth of 107-percent and 491-percent, respectively, over 2015 conditions. While the Build-Out case includes modest housing growth over Horizon Year conditions, at about 6,700 units, the employment growth is much greater, at an additional 33,400 jobs, approximately.

Table 3.3: Transportation Master Plan Land Use Assumptions Within Tracy SOI

Scenario	Single Family (DU)	Multi Family (DU)	Total Housing (DU)	Total Employment (EMP)	Jobs/ Housing Ratio
2015 Model	21,014	3,926	24,940	22,032	0.88
2042 Model	34,842	10,175	45,017	96,826	2.15
2015 – 2042 Growth	13,828	6,249	20,077	74,794	-
Build Out Model	38,847	12,859	51,706	130,271	2.52
2042 – Build Out Growth	4,005	2,684	6,689	33,445	-
2015 – Build Out Growth	17,833	8,933	26,766	108,240	-

Notes

1. DU- Dwelling Units, EMP- Employees



Source: ESRI, Kimley-Horn

Kimley»Horn

North

0 0.5 1 2 Miles (Approximate)

Figure 3.1: Future Service Areas

3.4.2 Trip Generation Characteristics

Table 3.4 shows the floor area ratios and employee densities that were used to convert raw acreages of non-residential development to employees, which is the variable the Tracy Travel Demand Model uses.

Table 3.5 shows the raw vehicle trip generation rates used in the Tracy Travel Demand Model. These rates are based on the California Household Travel Survey (CHTS) for San Joaquin County, and are thus not locally validated rates for the City of Tracy. The vehicle trip generation rates are based on a combination of variables that include household vehicle ownership, household size, household income, and trip purposes such as Home-based Work (HW), Home-based Shopping (HS), and Home-based Other (HO). Therefore, the rates provided in Table 3.5 for the model are a weighted average of these combinations in the City of Tracy for the Base Year rather than a direct rate. They are compared to the trip generation rates included in the *Trip Generation Manual, 10th Edition* published by the Institute of Transportation Engineers (ITE). Note that while the ITE trip generation rates vary between single-family and multi-family residential units, the rates are equal within the Tracy Travel Demand Model as the model uses socioeconomic distributions to generate trips rather than using a flat rate for each dwelling unit. Therefore, individual developments may have differing trip generation rates between single-family and multi-family developments even if the overall trip generation rate is the same because of the difference in socioeconomic distributions between the two developments.

Travel demand models are developed to generate trips based on a variety of factors and do not rely on ITE trip generation rates to generate trips. The City of Tracy model was validated based on traffic counts collected in the region using FHWA standard validation methodologies. This validation exercise was reported to the City in a memorandum that can be found in Appendix E

Table 3.4: FARs and Employment Densities

Category	Retail	Office	Other
Employees/KSF[1]	2	3	1
Floor Area Ratio (FAR)	0.3	0.45	0.5

[1] KSF = 1,000 square feet

Table 3.5: Tracy Model Approximate Daily Vehicle Trip Generation Rates

Land Use Type	Units	Model Trip Rate	ITE Trip Rate
Single Family	Dwelling Units	8.41	9.44
Multi Family	Dwelling Units	8.41	5.44
Education	Employees	0.44	21.00
Food	Employees	29.35	21.26
Government	Employees	6.43	7.45
Industrial	Employees	3.08	5.05
Medical	Employees	3.13	8.70
Office	Employees	4.08	3.28
Other	Employees	0.93	-
Retail	Employees	21.97	16.11
Agriculture	Employees	0.93	-
Elementary School	Students	1.10	1.89
Middle/High School	Students	1.10	2.03
College	Students	0.35	1.56

The above rates are approximate because the actual rates depend on household vehicle ownership, household size, household income, and trip purpose.
ITE Trip Rates are from the *Trip Generation Manual, 10th Edition* published by the Institute of Transportation Engineers (ITE). Single Family (ITE LU Code: 210), Multi Family (ITE LU Code: 221), Education (ITE LU Code: 520), Food (ITE LU Code: 932), Government (ITE LU Code: 730), Industrial (ITE LU Code: 150), Medical (ITE LU Code: 720), Office (ITE LU Code: 710), Other (ITE LU Code: N/A), Retail (ITE LU Code: 820), Agriculture (ITE LU Code: N/A), Elementary School (ITE LU Code: 520), Middle/High School (ITE LU Code: 530), College (ITE LU Code: 550)

3.4.3 Trip Generation by Future Services

Table 3.6 shows the AM and PM peak-hour trip generation for each future service area, at Horizon Year and Build-Out. The Horizon Year trip generation for the 18 future service areas represents growth of about 111-percent compared to existing citywide trip generation. Build-out trip generation for the future services represents growth of 214 percent compared to existing citywide trip generation.

In Horizon Year, the future services with the highest trip generation growth are Tracy Hills, Cordes Ranch, and Gateway, all with between 2,500 and 6,000 PM peak-hour trips.

Table 3.6: Tracy Model Estimated Peak Hour Vehicle Trip Generation for Service Areas

Service Area	Horizon Year		Build Out	
	AM Trips	PM Trips	AM Trips	PM Trips
Service Area 1 Westside Residential	860	690	930	740
Service Area 2 Downtown TOD	460	510	1,390	1,540
Service Area 3 Ellis	200	220	200	230
Service Area 4 South Linne	0	0	330	300
Service Area 5 Tracy Hills	2,460	2,680	3,490	3,650
Service Area 6 Gateway	2,670	2,890	2,910	3,080
Service Area 7 Cordes Ranch	5,730	5,630	9,020	9,330
Service Area 8 Bright Triangle	0	0	660	620
Service Area 9 Catellus	0	0	2,740	2,780
Service Area 10 Filios	430	530	480	560
Service Area 11 I-205 Expansion	190	190	1,710	1,860
Service Area 12 West Side Industrial	790	740	900	840
Service Area 13 East Side Industrial	1,060	980	1,220	1,130
Service Area 14 Larch Clover	170	170	2,660	3,070
Service Area 15 Chrisman	0	0	650	670
Service Area 16 Rocha	0	0	200	210
Service Area 17 Berg/Byron	490	380	720	590
Service Area 18 Kagehiro	230	220	240	230
Service Area 19 Tracy Village	450	360	480	390
Service Area 20 Tracy Alliance	390	350	450	420
Service Area 21 Northeast Industrial	520	470	610	560
Service Area 22 Tracy Hills Industrial	920	1,000	1,300	1,360
Service Area Totals	18,020	18,010	33,290	34,160

3.4.4 Trip Distribution

Table 3.7 shows the trip distribution for the City of Tracy for both the existing year (2015) and the Horizon Year scenario. While the number of trips that are captured within the City falls from 29-percent to 27-percent, the trips captured in San Joaquin County increases from 12-percent to 16-percent. There is still a large trip interaction with the Bay Area because while there are an increased number of trips, there is still the forecasted expectation of many trips leaving the City. However, trips between Tracy and the Bay Area drop from 43-percent in 2015 to 36-percent in the Horizon Year.

Table 3.7: Citywide Trip Distribution

Scenario	Bay Area	Stockton	Tracy	San Joaquin County	Stanislaus County	Merced County	Total
2015	43%	8%	29%	12%	7%	1%	100%
2042	36%	9%	27%	16%	11%	1%	100%

3.5 Horizon Year Forecasts, Network Sizing, and Performance

3.5.1 Horizon Year 2042 with Cut-Through Traffic and Without Peak Spreading Scenario Development

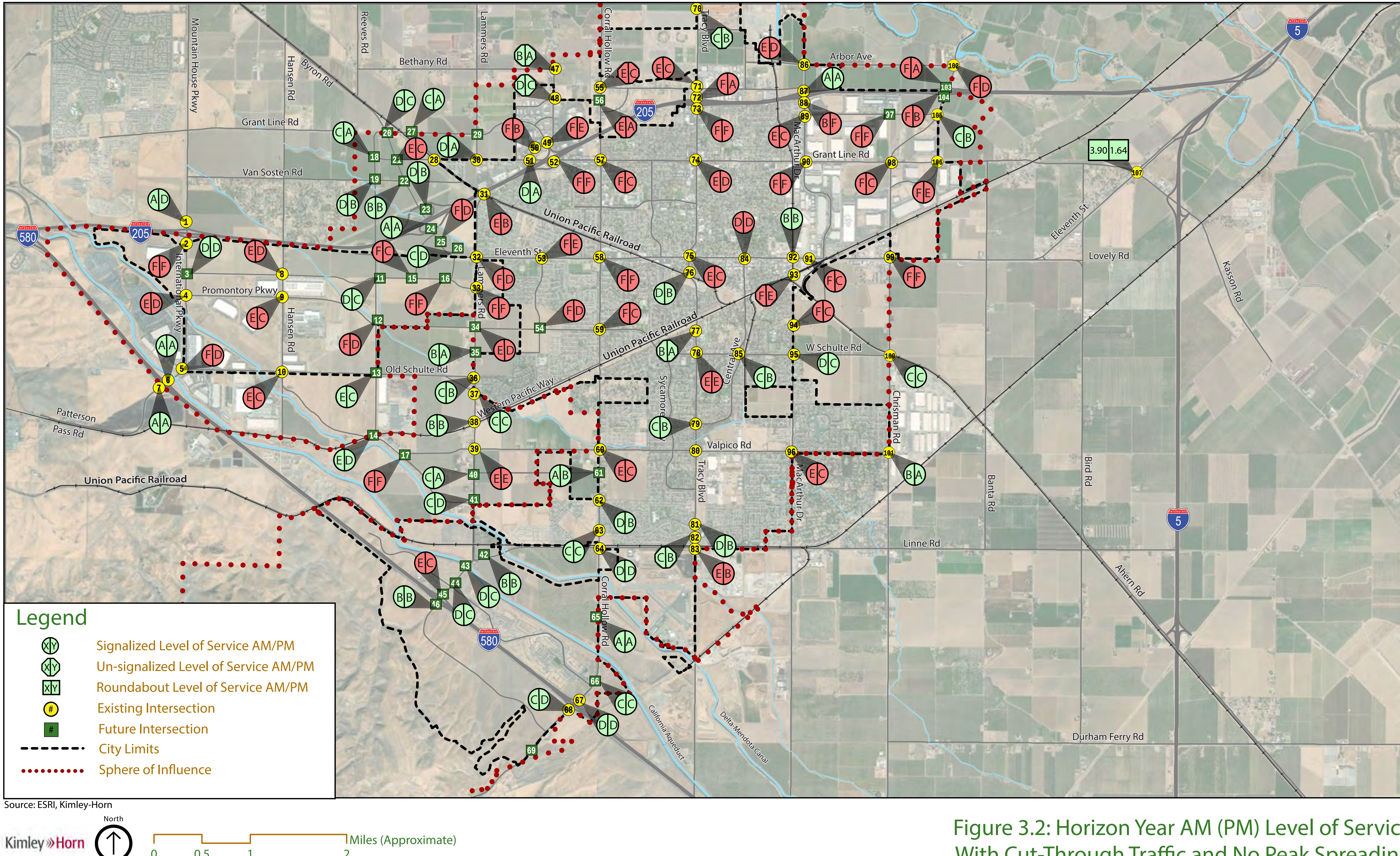
The City of Tracy currently experiences substantial cut-through traffic in the peak periods due to congestion on the I-580 and I-205 corridor. If incidents occur on the freeways, all trips are diverted onto the local city street system. As growth occurs in the Tri-County area, the regional travel demand model indicates increased cut-through traffic on the local streets. The cut-through traffic uses the on and off ramps to gain access to the local street systems on parallel routes. The cut-through traffic creates a grid-locked roadway system with no capacity for any future traffic growth.

As indicated in existing conditions, congestion on the I-580 and I-205 corridor has resulted in peak spreading for the AM and PM peak periods. This means that residents that live in Tracy and work in the Bay Area may leave earlier in the morning to work and come home earlier in the afternoon. The SJCOG travel demand model also indicates peak spreading characteristics for home-based work trips.

Forecast volumes from the model were post-processed to reflect growth from 2015 to 2042 to obtain intersection traffic volumes for Horizon Year future traffic volumes. Post-processing of the model data to provide peak hour intersection volumes was conducted in accordance with industry standards which included review of existing traffic volumes for consistency on major corridors within the City.

The results of the cut-through traffic and non-spreading of home-based work trips onto the freeways results in severe and substantial delay at intersections as indicated in Figure 3.2 with LOS worksheets for this scenario in Appendix F.

Subsequently, cut-through traffic was removed from the model and peak spreading applied consistent with current travel patterns to determine realistic traffic operations in the City of Tracy.



Source: ESRI, Kimley-Horn

Kimley»Horn

Figure 3.2: Horizon Year AM (PM) Level of Service With Cut-Through Traffic and No Peak Spreading

3.5.2 Horizon Year 2042 Without Cut-Through Traffic and With Peak Spreading Scenario Development

Figure 3.3 shows the recommended Horizon Year roadway network. This network was developed in consultation with City staff and based on iterative Travel Demand Model runs. Some of the guiding principles that underlie this network are:

- Consistency with the San Joaquin County Expressways Study
- Preservation of 4-lane maximum arterial widths where possible, to promote a more walkable, bikeable environment, particularly in new areas of future development where sustainable practices can be applied in an equitable manner
- Consistency with the roadway plans in entitled project areas (Ellis Specific Plan and Gateway)
- Provision of maximum v/c ratios of 0.8 – 0.9 (roughly corresponding to a LOS D - E operation on a link-volume basis) to the maximum extent possible
- Provision of key roadway connections and freeway interchanges that are needed to serve substantial traffic volumes by Horizon Year, even if full use of those roadway connections and interchanges is not projected until beyond Horizon Year

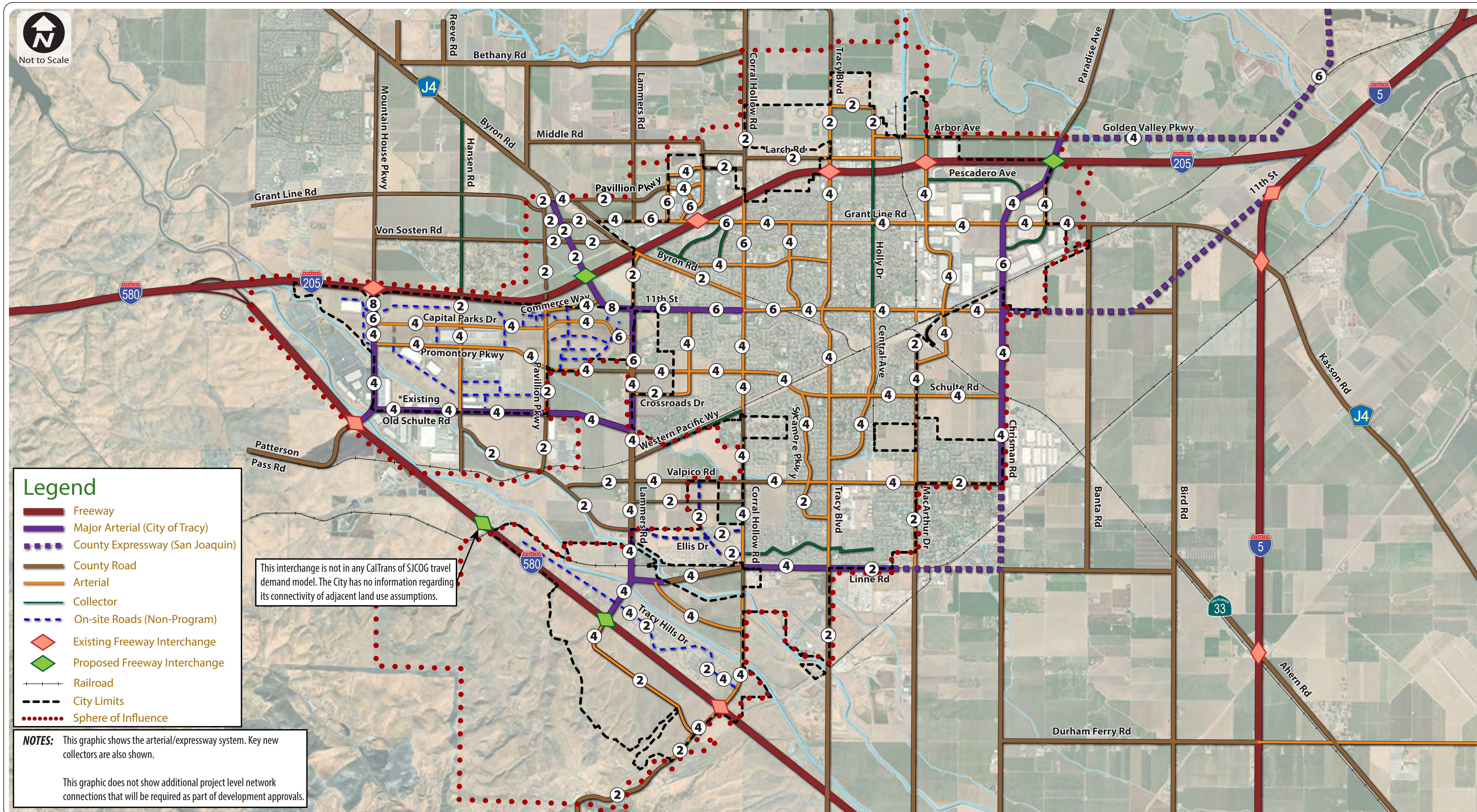
It is very important to note that the link-based v/c ratios provide a general guide to how the major roadway segments would function in Horizon Year. A more accurate assessment of roadway capacity will be available when intersection turn movement forecasts are developed and service level calculations are performed, following this link-level forecasting step.

Figure 3.4 and Figure 3.5 present roadway segment forecasts for the AM and PM peak hours, respectively. For segments where existing peak hour counts are available, growth on the link was recorded between the existing (2015) model and the future (Horizon Year) model. This growth was added to the existing counts to represent a Horizon Year estimate of volume on each link. This method of forecasting is called the difference method. These forecasted volumes were then compared to the capacity of the links based on the Tracy General Plan roadway capacities.

Total daily VMT by jurisdiction for the City of Tracy, the Tracy SOI, and San Joaquin County are summarized for the three scenarios in Table 3.8 below.

Table 3.8: Total Daily VMT by Jurisdiction and by Scenario

Scenario	City of Tracy	Tracy SOI	San Joaquin County
Existing (2015)	1,938,040	2,393,139	20,173,257
Horizon Year	4,317,381	7,671,988	33,234,673
Build Out	4,816,873	10,889,270	36,676,774



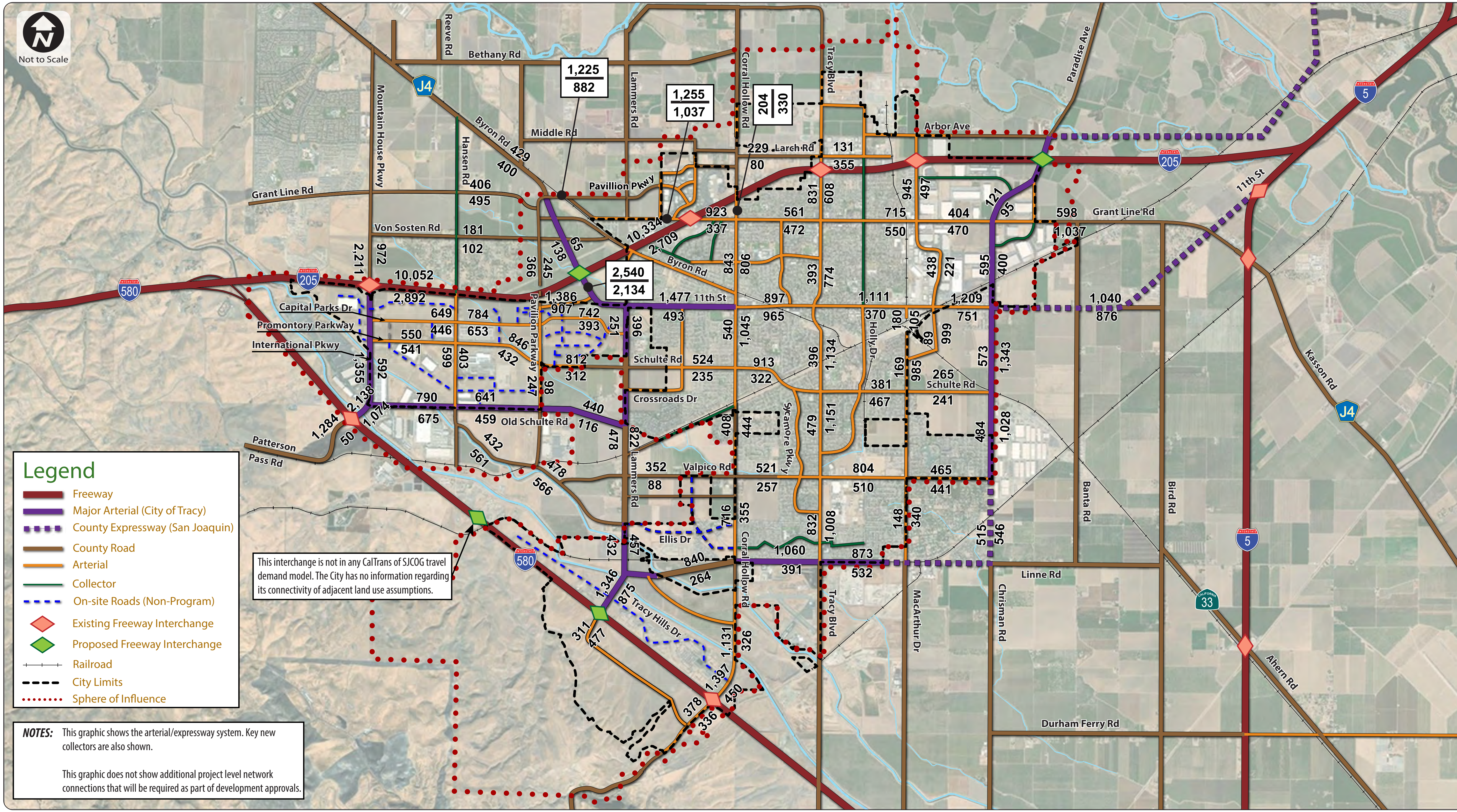
Source: ESRI, Kimley-Horn

Kimley»Horn

North

0 0.5 1 2 Miles (Approximate)

Figure 3.3: Horizon Year Number of Lanes

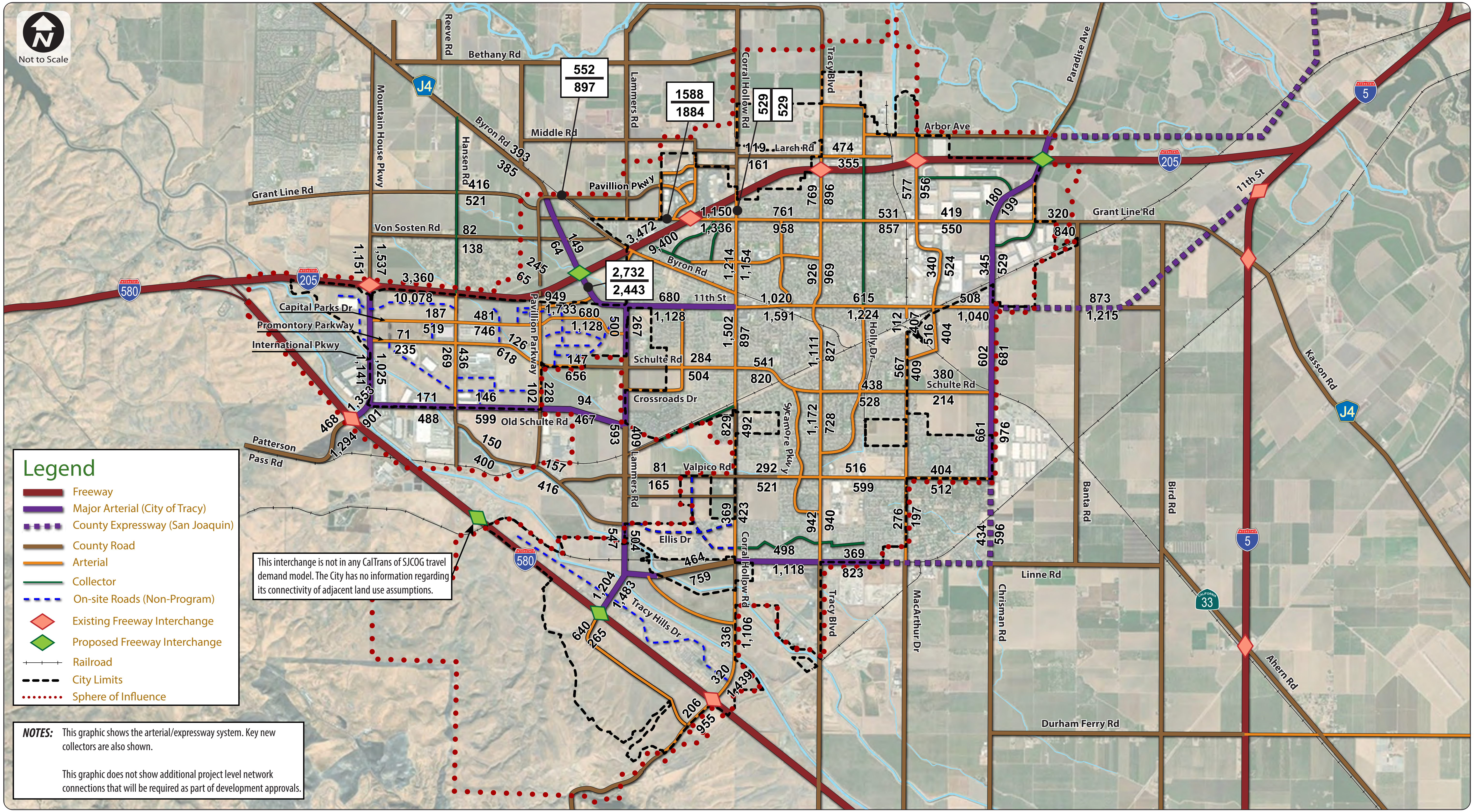


Source: ESRI, Kimley-Horn

North

Figure 3.4: Horizon Year AM Peak Hour Volumes

City of Tracy Transportation Master Plan



Source: ESRI, Kimley-Horn

Kimley»Horn

North

0 0.5 1 2 Miles (Approximate)

Figure 3.5: Horizon Year PM Peak Hour Volumes

3.6 Build-Out Plan Lanes

Figure 3.6 shows the Build-Out plan lanes. Relative to the Horizon Year network, this network upgrades certain roadways from collector to arterial classification and widens roadways where feasible (primarily in the western and northern development areas). This network does not provide sufficient capacity to serve the build-out land use plan; many additional connecting roadways and roadway widenings would be needed to serve the traffic generated by the additional residential development, and significantly higher employment levels, in the Build-Out case. Given the long-range horizon for the Build-Out case, and the corresponding unknowns as to how certain future services will ultimately develop, a complete and adequate Build-Out network cannot be designed. However, Figure 3.6 provides the recommended core facilities on which to plan for growth beyond Horizon Year levels. Further study will be necessary to plan for the Build-Out condition.

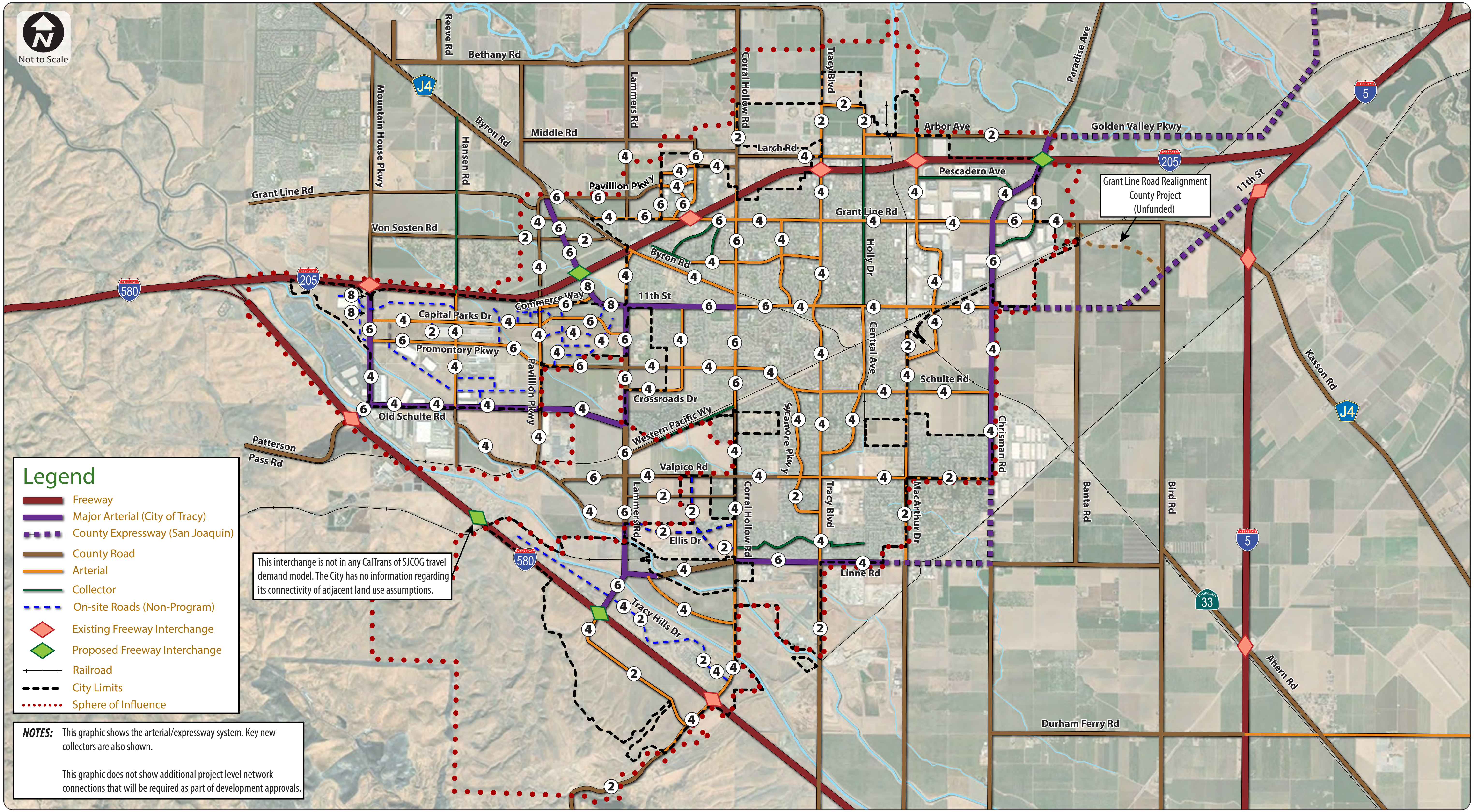


Figure 3.6: Buildout Number of Lanes

4 HORIZON YEAR TRANSPORTATION MASTER PLAN

4.1 Introduction

This chapter of the TMP presents recommendations to support the Horizon Year network as it relates to the railroad crossings, intersections, bicycle and pedestrian facilities, bridges and culverts, the roadway classification system, park and ride facilities, ITS facilities, and truck routing system. Recommended actions to support the Circulation Element of the General Plan are included along with transportation strategies, principles, and design elements to work towards meeting sustainability and greenhouse gas emission reduction goals. Elements of smart growth design elements are included in the TMP.

4.2 Goals, Objectives, Policies, and Actions

4.2.1 Introduction

The City of Tracy General Plan provides the foundation for the goals, objectives, policies and actions for the Transportation Master Plan (TMP). The TMP brings overlap with policies and goals regarding a "complete streets" policy, context-sensitive design, mode split targets, vehicle miles traveled (VMT) and per capita reduction goals. The TMP provides further clarification on specific policies and actions to meet the goals and objectives of the City's General Plan. Each of the four Circulation Element goals from the General Plan are listed below along with their respective objectives. Recommended actions for future transportation planning, design and implementation, supplements each objective and are provided to meet the goals, objectives, and policies.

4.2.2 Recommended Actions for Circulation Element Goal 1

Goal CIR-1: A roadway system that provides access and mobility for all of Tracy's residents and businesses while maintaining the quality of life in the community.

Objective CIR-1.1: Implement a hierarchical street system in which each street serves a specific, primary function and is sensitive to the context of the land uses served.

Actions: Implement a complete streets policy for new and retrofitted roads that ensures that adequate right-of-way is provided to enable safe access for all users (motorists, pedestrians, bicyclists, transit vehicles and users). Include flexibility in the policy to balance the function and users for various roadway classifications. Include amenities such as street lighting, landscaping, and transit stops that contribute to the complete street concept. Incorporate context sensitive design features to improve mobility for all users. Refer to the cross sections presented in **Section 4.7** for details on travel lane widths, median widths, shoulders, bicycle and pedestrian facilities, and landscaping and public utility easements.

Objective CIR-1.2: Provide a high level of street connectivity.

Actions: Utilize access management techniques to provide appropriate spacing of access points on major arterials, arterials, and collectors. Utilize context sensitive design principles from *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach* (Institute of Transportation Engineers, 2010) such as:

- Building network capacity and redundancy through a dense, connected network rather than through an emphasis on high levels of vehicle capacity on individual arterial facilities
- Minimizing direct property access onto major and minor arterials through design of a connected network of closely spaced arterial and collector thoroughfares and local street connections.
- Providing closer spacing of roadways and shorter blocks for areas with higher pedestrian and bicycle activity.
- Provide a well-connected road system that encourages walking and cycling and maintains a quality of life for all Tracy residents.

Objective CIR-1.3: Adopt and enforce LOS standards that provide a high level of mobility and accessibility, for all modes, for residents and workers.

Actions: The City shall strive for LOS D on all streets and intersections. The following locations are exempt from the City's LOS D standard:

- Any intersections or roadways within ¼ mile of any freeway where LOS E is allowed to discourage inter-regional traffic from using City streets.
- Any intersections or roadways located in the Downtown and Bowtie area where LOS E shall be allowed.
- At intersections where construction of physical improvements would be infeasible prohibitively expensive, significantly cause a deficiency to adjacent properties or the environment, or have a significant adverse effect on the character of the community, including pedestrian mobility, crossing times, and comfort/convenience, the LOS may fall below the City's LOS standard.
- During construction of intersection improvements, the LOS may temporarily fall below the City's LOS standard.
- Caltrans facilities where Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on all State Highway facilities (i.e., freeway segments, signalized intersections, on- or off-ramps, etc.), however, Caltrans recognizes that it may not always be feasible. For Caltrans intersections, City of Tracy impact criteria applies. For freeway segments, LOS D or better is considered acceptable.
- County of San Joaquin facilities where LOS D is the minimum acceptable LOS for roadway and intersection operations.
- Develop multi-modal LOS analysis procedures and standards to evaluate other facilities (bicycle, pedestrian, and transit) in addition to roads.

Objective CIR-1.4: Protect residential areas from commercial truck traffic.

Actions: Erect signs providing notice of adopted truck routes (see **Section 4.11** for map of existing and future truck routes) and enforce the use of designated truck routes except for the purpose of pick-up or delivery of materials or merchandise. Provide the heavy vehicle roadway system to encourage commercial growth.

Objective CIR-1.5: Protect residential areas from through traffic and high travel speeds by facilitating free flow of traffic on major streets.

Actions: Utilize sustainable transportation system operation elements (see the sustainability matrix **Tables 4.1** and **4.2** at the end of this section) to improve system efficiency. For example, implementation of ITS technologies such as corridor signal timing plans and traffic signal interconnect enhance the flow of traffic.

Objective CIR-1.6: Maximize traffic safety for automobile, transit, bicycle users, and pedestrians.

Actions: Implement traffic calming on residential or collector streets as appropriate in accordance with the city's traffic calming program. Construct roadways to discourage speeding.

Objective CIR-1.7: Minimize traffic-related impacts such as noise and emissions on adjacent land uses.

Actions: Utilize rubberized asphalt in roadway projects to reduce roadway noise. Implement ITS technologies, such as signal coordination, to manage traffic progression and to lower speeds. Consider implementation of roundabouts, instead of traffic signals or stop-control, to reduce delays and emissions.

Objective CIR-1.8: Minimize transportation-related energy use and impacts on the environment.

Actions: As indicated in **Table 4.2**, utilize sustainable materials such as recycled materials, permeable surfaces, non-toxic, and bio-degradable materials for roadway projects. Utilize LED (light emitting diodes) or solar panels for traffic signals and street lights to lower operating and maintenance costs and to decrease energy consumption.

Objective CIR-1.9: Utilize vehicle miles traveled as the measure of effectiveness to determine transportation deficiencies and improve VMT by implementing TDM measures.

Actions: Adopt VMT thresholds for residential, retail, office, industrial, and other uses consistent with SB743 OPR guidance. Adopt TDM measures for implementation for development projects to reduce VMT impacts.

4.2.3 Recommended Actions for Circulation Element Goal 2

Goal CIR-2: Adequate interregional access.

Objective CIR-2.1: Support regional planning and implementation efforts to improve interregional highways and interregional travel efficiency.

Actions: Coordinate between adjacent municipalities and jurisdictions along arterials, crossing borders and at interchanges with freeways.

Objective CIR-2.2: Discourage interregional travel from diverting from freeways onto Tracy streets.

Actions: In conjunction with actions under Objective Cir-1.5, utilize ITS technologies to manage the flow of traffic onto city streets.

4.2.4 Recommended Actions for Circulation Element Goal 3

Goal CIR-3: Safe and convenient bicycle and pedestrian travel as alternative modes of transportation in and around the city.

Objective CIR-3.1: Achieve a comprehensive system of citywide bikeways and pedestrian facilities.

Actions: Consistent with the cross section standards in Section 4.8, Class I bike trails are provided on arterials and Class II bike lanes are provided on collectors. Class III bike routes shall be considered on roadways where sufficient width for a dedicated lane is not provided. Implement a comprehensive Safe Routes to School Program. Seek funding opportunities at all levels to implement pedestrian improvements and projects.

Provide pedestrian enhancements at intersections, where feasible. Enhancements include high visibility crosswalks, pedestrian countdown timers, and adequate crossing times, median refuge islands for wide streets, smaller curb radii, and shorter cycle lengths.

Consider preparation of a streetscape plan to define & coordinate design elements (street furniture, lighting, landscaping, width of pedestrian path, and buffer zones) when planning a walkable thoroughfare.

Create a pedestrian and bicycle safety action plan to identify steps to reducing the number of pedestrian and bicycle crashes. The plan will present existing deficiencies, identify appropriate improvements to address these deficiencies, and include implementation strategies. This plan should include public education programs to educate pedestrians, bicyclists, and motorists.

4.2.5 Recommended Actions for Circulation Element Goal 4

Goal CIR-4: A balanced transportation system that encourages the use of public transit and high occupancy vehicles.

Objective CIR-4.1: Promote public transit as an alternative to the automobile.

Actions: Utilize sustainable transportation system operation elements (see **Tables 4.1** and **4.2** at the end of this section) to encourage and improve transit usage. For example, implementation of measures such as transit signal priority, queue jump lanes, dedicated bus lanes, and improved shelter facilities will provide faster service, increased rider satisfaction and ridership.

Require new employment centers to participate in trip reducing strategies such as Transportation Demand Management program and to provide incentives for their participation.

Provide transit service/connections to major pedestrian generators such as major employment and retail centers and transit-oriented developments.

Consider changes to the Zoning Ordinance to allow a reduced parking supply that is less than code requirements thus encouraging use of alternative modes of transportation.

Objective CIR-4.2: Work to achieve connectivity between all modes of transportation.

Actions: Seek reconstruction opportunities on thoroughfares to provide and improve multi-modal access and circulation.

Measure T-5 of the City's *Sustainable Action Plan* – February 1, 2011 (SAP) lists several smart growth, urban design and planning measures including amendments to the zoning ordinance to require adequate pedestrian access, closure of sidewalk gaps, establishment of walkability standards, and amendment or creation of subdivision design standards to address spacing and connectivity. These goals must be implemented in the development of all specific plans in the city and where roads and intersections are reconstructed.

4.2.6 Sustainability Policies, Standards, and Performance Measures

In addition to the transportation and land use measures discussed in the SAP, a sustainability benefits matrix table was developed that lists various methods in which the TMP can achieve a more sustainable transportation system. The methods run the vertical range from specific physical roadway design elements, to planning document elements, to city policy shifts. The methods are categorized into four areas: transportation system operations (motorized and non-motorized transport), land use integration, performance measures, and transportation infrastructure.

Transportation System Operations – This area includes system operations and maintenance elements that will guide how the physical infrastructure – the roadway network and off-street paths/trails – are utilized. Intelligent Transportation System (ITS) technologies including Transit Signal Priority, Corridor Signal Timing, Traveler Information Systems, Ramp Metering Systems, Pedestrian and Bicycle Signalized Intersection Enhancements, and others will be effective ways for the city to maximize efficiency of the physical system.

Land Use Integration - Research is clear that land use design, density, mix, and related elements are directly linked to traveler mode choice and the efficiency of the surrounding transportation system. In Tracy, the land use design elements that are most likely to influence mode choice and improve efficiency are High Density Mixed Use Development, Development Within ¼-Mile of Transit (Amtrak station and primary bus routes), and Connectivity Between Land Uses. Even in specific plan areas located on the edge of the developed city, these principles can be employed to move the city toward a less vehicle-dependent and more sustainable transportation system.

Performance Measures - As the city conducts periodic reviews of both its own performance – TMP updates, General Plan updates, signal performance reviews, CMP compliance, etc. – and of development project impacts, it has more options than before in methods of assessing performance. Where once there was only peak hour vehicle Level of Service (LOS), now there are multi-modal assessment methods, system-wide as opposed to "spot" assessment methods, and methods that acknowledge the transportation -- energy use -- land use -- quality of life connection. The city should consider incorporating evaluation methodologies that are more in line with the city's ultimate desired system, possibly one that does not elevate vehicle service over service and performance of other modes, or that considers the system-wide or larger-area performance along with, or instead of, individual intersection performance.

Transportation Infrastructure - The ultimate size of the roadway system, including allocation of space to autos, buses, bicyclists, pedestrians and heavy vehicles, is defined in the TMP. This sizing and allocation, more than any subsequent implementation steps, will drive the success of the Plan in reducing auto dependence, vehicle-miles traveled, and greenhouse gas impacts. Matrix elements such as Constrain

Roadway (Auto) Capacity, Infrastructure/Smart Streets, Bus Lanes, Complete Bike Routes, and Citywide Pedestrian Connectivity directly lead to the width and allocation of space in the TMP roadway element.

4.3 Complete Streets

4.3.1 Introduction

This chapter defines the concept of Complete Streets, introduces the design criteria for select Complete Streets in Tracy, and outlines the tools in each modal toolbox that can be used to achieve more equitable use of City streets for all users.

4.3.1.1 Definition

Streets are a vital part of livable, attractive communities. All people should have safe, comfortable, and convenient access whether walking, driving, bicycling, moving actively with assistive devices, or taking public transportation. Traditional roadwayfunctional classification prioritizes moving vehicles at higher speeds over the comfort for any other users of the street or the natural context of the street location.

A Complete Streets approach integrates people and places in the planning, design, construction, operation, and maintenance of our transportation networks. This benefits public safety, all modes of travel, local land use, economic growth, cultural design,and the natural environment.

The City of Tracy supports guidelines and design principles from the National Association of City Transportation Officials(NACTO) Urban Street Design Guide as a best practice for future improvements along public right-of-way. These guidelines serve as a blueprint for the future of Tracy's public environment. Caltrans also requires the City to adopt Complete Streets policies and principles. Complete Street policies and principles are also required for future grant funding applications

4.3.2 Tools

4.3.2.1 Complete Streets Tool Examples

Examples of Complete Streets Elements by mode of transportation are included in Figure 4.1.

Figure 4.1: Examples of Complete Street Elements

Pedestrian

- Trail Crossings
- Wide Sidewalks
- Curb Extensions or Bulb-outs
- Pedestrian Refuge Islands or Crossing Islands
- High Visibility Crosswalks
- Pedestrian Facility Gap Closure
- Audible Pedestrian Signals
- Pedestrian-activated Traffic Control Devices and Yield Lines
- Automatic Active Transportation Counters

Transit

- Transit Priority Signals
- Transit Queue Jump Lanes
- Transit Stop Improvements
- Improve Access to Transit Stops (First Mile/Last Mile)
- Park and Ride Lots
- Mobility hubs

Bicycle

- Bicycle Parking
- Green Colored Pavement for Bikeways
- Bicycle Boxes
- Bicycle Signals
- Bicycle Detection
- Class II Bike Lanes and Buffered Bike Lanes
- Class I Bike Paths and Class IV Separated Bikeways
- Class III Bike Routes

Streetscape Features

- Benches and Shaded Areas for Pedestrians
- Green Streets
- Landscaped Areas
- Intersection Streetlighting
- Benches and Shaded Areas

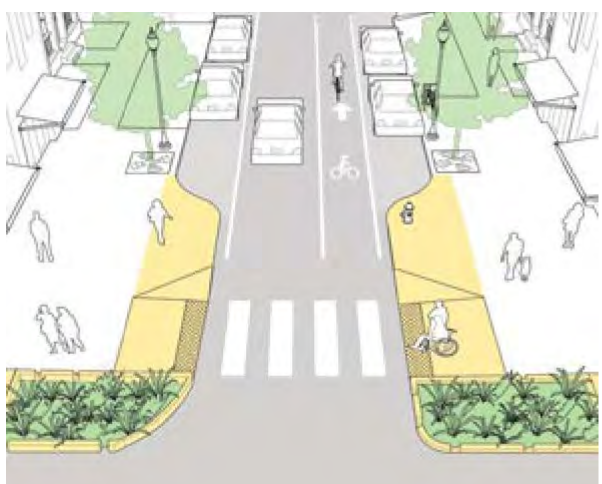
Road Scape Reallocation Features

- Lane Narrowing
- Lane Reduction (Road Diet)
- Curb Radius Reduction and Eliminating Free Right Turns
- Parking Modifications

4.3.2.2 Pedestrian Tools

This section provides details on the pedestrian-focused Complete Streets tools that can be implemented to create roadway that are safer and more pedestrian friendly.

Trail Crossings provide a continuation of the City's trails across roadways and increase pedestrian and bicyclist safety when crossing a roadway. This increased safety results in increased pedestrian and bicycle activity.



Sources: Urban Street Design Guide. National Association of City Transportation Officials (NACTO). October 2013.

Wider Sidewalks can increase pedestrian safety, provide additional accessibility, enhance public health, and maximize social capital. Increasing sidewalk widths allows for additional features along the sidewalk, resulting in increased pedestrian activity by making walking more attractive.

Franklin Street & Larkin Street –
Source: Kimley-Horn

Casa Verde Way & Helvic Ave/Portola Ave - Source: Google

Example of Audible Pedestrian Push Button –
Source: Kimley-Horn

N. Tracy Blvd Flashing Beacon – Source: Google

Curb Extensions or Bulb-outs are an extension of the sidewalk into the roadway which provides queuing space, increases pedestrian visibility, and shortens crossing distances. It can also provide added benefit of lowering vehicle speeds as drivers perceive the narrowing of the roadway. These can be used when on-street parking is present and should be used judiciously.

Pedestrian Refuge Islands or Crossing Islands are areas within the median for pedestrian refuge from exposure to traffic while crossing the roadway. Crossing islands allow pedestrians to cross fewer lanes and directions of traffic at a time and shortens crossing distances, allowing for two-stage crosses.

High Visibility Crosswalks are markings along roadways that consist of diagonal or longitudinal lines parallel to traffic flow. Additional treatment, such as brick pavers, can also be used to increase visibility. These can be paired with all of the preceding tools to further increase the visibility of pedestrians.

Audible Pedestrian Signals provide audible and/or vibrotactile information coinciding with visual pedestrian signals to let visually impaired pedestrians know when the WALK interval begins for each direction of crossing.

Pedestrian-activated Traffic Control Devices enable pedestrians to cross at uncontrolled crosswalks, at intersections or between intersections (mid-block), to provide pedestrians a safer way to cross a roadway. Generally, these are an LED rapid-flash system such as Rectangular Rapid-Flashing Beacons (RRFBs) that are combined with high-visibility crosswalks. Installation of these devices increases driver awareness of potential pedestrian conflicts at locations with high pedestrian demand. These can also be combined with pedestrian refuge islands along wider roadways.

Pedestrian Facility Gap Closure involves constructing pedestrian facilities in between two or more existing separate pedestrian facilities. This increases safety for pedestrians and makes walking more attractive.

4.3.2.3 Bicyclist Tools

This section provides details on the bicycle-focused Complete Streets tools that can be implemented to create roadways that are safer and more bicyclist friendly.

Example of Bicycle Parking – Source: Kimley-Horn

Bicycle Parking provides a secure, safe, and convenient space to store a bicycle when accessing a wide variety of destinations. Providing bicycle parking in a well-lit, plain view area that supports the whole bike and not just a wheel encourages cycling as an alternate mode of transportation. Bicycle parking should be out of the way of pedestrians and motor vehicles for the safety of all users.

North Fremont Street & Casa Verde Way – Source: Kimley-Horn

Green Colored Pavement for Bikeways can be used on Class II and Class IV bikeways to increase the visibility of the bicycle facility. This increases bicyclist comfort and motorist yielding behavior, leading to increased safety on the roadway. The green colored pavement identifies and mitigates potential conflict areas such as right turn pockets, driveways, intersections, and the beginning of a bike lane.

San Luis Obispo, CA – Source: Kimley-Horn

Bicycle Boxes are a striped area at an intersection approach that designates an area for bicyclists ahead of automobile traffic. This increases the visibility of bicyclists, reduces conflicts between bicyclists and turning vehicles, and can facilitate left turn positions during a red signal indication.

Example of Bicycle Signals – Source: Kimley-Horn

Bicycle Signals are used at intersections to separate bicycle movements from conflicting vehicles such as cars, buses, and trolleys. These signals can increase safety and reduce bicyclist and vehicle conflicts.

Class II Bike Lanes and Buffered Bike Lanes provide an exclusive lane for bicycle access within the roadway to separate bicyclists from travel lanes and/or parking lanes. Buffered bike lanes provide additional space to Class II bike lines (a minimum of 18 inches) to further separate cyclists from automobiles.

Example of Buffered Bike Lanes – Source: Kimley-Horn

Class I Bike Paths and Class IV Separated Bikeways are bidirectional paths immediately adjacent and parallel to a roadway. While Class I bike paths are more suited for rural areas, Class IV separated bikeways can be found even in urban areas. Class IV separated bikeways do not replace sidewalks and commonly separate cyclists from both pedestrians and vehicles. The primary benefit is the reduction in cyclist conflicts with both vehicles and pedestrians. Class IV separated bikeways can be

Example of a Class I Facility – Source: Google

Example of Sharrows – Source: Kimley-Horn

separated by flexible posts, inflexible physical barriers, curbs, and other methods.

Class III Bike Routes occur along a road that designates preferred usage for bicyclists using a combination of signing, striping, or volume management. Class III bike routes are primarily denoted by shared-lane markings, or "Sharrows," that are used to delineate the preferred path of bicycle travel in a lane shared with automobiles. Class III bike routes do not provide any physical separation but can help provide cyclists with the City's desired route and help close any bicycle facility gaps.

4.3.2.4 Transit Tools

This section provides details on the transit-focused Complete Streets tools, the tools shown in this Complete Streets chapter show items that the City can do to support transit access. transit, pedestrians, and bicyclists are depended on each other, access to firstmile/last mile improvements (pedestrian and bicycle improvements) make transit more attractive, the City works toward securing better first mile/last mile improvements as TRACER expands and improves it services.

Fremont Street & Camino Aquaijto – Source: Kimley-Horn

TRACER Bus – Source: City of Tracy

Transit Priority Signals are signals that have had their timing or phasing modified to prioritize the through movement of transit vehicles approaching an intersection. Transit priority is recommending for traffic signals at which transit vehicles can experience delays. This leads to improved transit travel reliability and on-time performance, increasing the attractiveness of using transit instead of driving.

Transit Queue Jump Lanes combine short, dedicated transit facilities with either a leading bus interval or active signal priority to allow buses to easily enter traffic flow in a priority position. Queue jumps can reduce delay considerably, resulting in run-time savings and increases reliability. These are primarily provided by reducing parking ahead of an intersection to provide a bus-only zone for buses to "jump" the vehicles queued at an intersection. **Improve Access to Transit Stops** include elements that improve access to transit operations. This may include closing sidewalk gaps, adding bike lanes, or providing bike parking.

San Francisco, CA – Source: SFMTA

City of Tracy Transit Station – Source: Google

Improve Access to Transit Stops include elements that improve access to transit operations. This may include closing sidewalk gaps, adding bike lanes, or providing bike parking.

Transit-only Lanes are primarily provided for Bus Rapid Transit (BRT) or Light Rail Transit (LRT) systems but can be provided for typical buses as well. Transit-only lanes are designated by signing and striping for the preferential or exclusive use of transit vehicles. These lanes are typically not physically separated from other traffic but can still accommodate high transit vehicle volumes and improve both reliability and travel times on congested roadways. These improvements can be done when feasible and potentially in combination with a road reallocation project.

Park and Ride Lots are a parking facility that allow users to take transit even if their home is not within walking distance of a transit facility. Park and ride lots should be able to accommodate all modes of travel and can be enhanced with electric vehicle charging stations.

4.3.2.5 Streetscape Features

This section provides details on the streetscape-focused Complete Streets tools that can be implemented to create spaces that are safer and more friendly to all users. It should be noted that due to staffing constraints and funding, any green infrastructure elements which would be maintained by the Public Works Department and needs prior review and approval by the Public Works Department prior to implementation. In addition, any green infrastructure implemented should be reviewed by Utilities Department staff forcompliance of local and state stormwater regulations.

Refer to the City of Tracy Standard Plans (Parks & Streetscape) for design guidance.

Source: Kimley-Horn

Benches and Shaded Areas for Pedestrians can provide pedestrians with areas to rest and reduce the effect of heat to increase pedestrian comfort. Structures can also be made to be visually pleasing or artistic to increase the attractiveness of walking while also providing

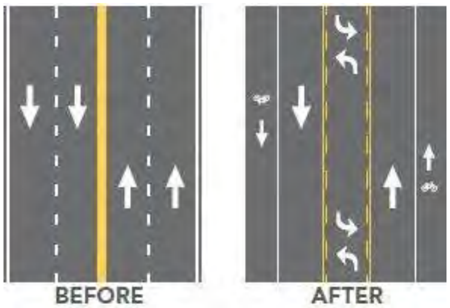
Green Streets are areas along sidewalks or medians that are planted with vegetation and designed to capture, treat, slow, and infiltrate storm water runoff. They can also act as a traffic calming measures when installed in bulb-outs and improve the aesthetics of an area.

Landscaped Areas provide sustainability and livability benefits along roadways. Landscaped areas can encourage bicycling, walking, and transit use by providing shade and improving the quality of the public space by reducing traveler stress.

Intersection Streetlighting along bicycle and pedestrian facilities can increase visibility, security, safety, and awareness for all users. Streetlighting provides well-lit facilities to increase the visibility of pedestrians and cyclists during the night and during bad weather.

4.3.2.6 Road Space Reallocation Features

This section provides details on the road space reallocation-focused Complete Streets tools that can be implemented to create roadways that are safer and more friendly to non-motorized users.



Example of Lane Reduction (Road Diet) – Source: FHWA Safety, Department of

Lane Narrowing involves reducing lane widths down from 12 feet to 11 feet or 11 feet to 10 feet to accommodate other needs such as parking, transit, bicycle, and/or pedestrian facilities. Narrowing travel lanes can reduce vehicle speeds, which increases safety along with providing space for non-automobile facilities.

Lane Reduction (Road Diet) typically involves converting a four-lane undivided roadway segment into a two-lane roadway with a raised median or two-way left turn lane and bicycle lanes. This can reduce speeds and vehicle conflicts with pedestrians and cyclists to increase safety along the roadway. This can also help activate the roadway and make it more attractive to walk along the roadway.


North Fremont Street – Source: Kimley-Horn

Curb Radius Reduction and Eliminating Free Right Turns create more compact intersections which reduce vehicle turning speeds and pedestrian crossing distances leading to increased safety. Eliminating free right turns is especially beneficial to pedestrians by removing a conflict point with vehicles, at times traveling at high speeds.

Parking Modifications can provide additional road space for pedestrian facilities, parklets, bicycle facilities or transit space. Reduce parking near intersections increases the visibility of pedestrians at crosswalks, leading to increased safety.

4.3.3 Type of Streets

There are diverse needs for the public right-of way, these needs have been classified into the following categories to meet the local needs and context of Tracy streets.

4.3.3.1 Residential District

Residential streets are low-volume and low speed roadways that contain underutilized on-street parking. Residential streets are often underutilized as spaces for play and leisure and have higher interactions of pedestrians, cyclists, and vehicles. These streets should provide safe and inviting places to walk with direct access to local stores and schools. Design for local streets can combine stormwater management features, curb extensions, vertical speed control elements, and bicycle facilities that encourage safe speeds and meter through traffic.

Recommendations for roadways in the Residential District include:

- Accommodate narrower lanes
- Shared roadways with bicyclists
- Curb extensions
- Speed reduction techniques
- Reduce cut-through traffic
- Pedestrian improvements

Source: Urban Street Design Guide. National Association of City Transportation Officials (NACTO). October 2013

4.3.3.2 Downtown District

Roadways in the Downtown District are a nexus of neighborhood and city life, with higher pedestrian volumes, frequent parking turnover, transit routes, bicyclists, and other curbside demands such as deliveries, drop offs and pick-ups, all interacting simultaneously. Commonly, these roadways have medium traffic volumes and high pedestrian activity, but the street has significant potential for regeneration as a retail district.

Commercial Districts include, but are not limited to, the following roadways:

- Eleventh Street
- Corral Hollow Road
- N. Tracy Boulevard
- Grant Line Road

Seattle - Source: Seattle Bike Blog

To improve these roadways and increase the safety for all users, several improvements are recommended. These recommendations include:

- Consideration of lane reductions for roadways that have fewer than 25,000 vehicles per day
- Buffered bike lanes
- Bike boxes to assist bicyclists making right or left turns
- Parklets
- Dedicated loading zones to limit double parking and the obstruction of bike lanes

4.3.3.3 Mobility Corridor

Mobility Corridors include roadways that convey a significant number of person trips but can be retrofitted using Complete Street improvements. Many of these streets suffer from heavy turn volumes and intersection congestion. They can also feature significant bicycle and pedestrian activity at crossings, leading to opportunities for bicyclist and pedestrian improvements. Improvements which could be considered for these corridors, in future planning exercises with consideration community priorities:

Source: Urban Street Design Guide. National Association of City Transportation Officials (NACTO). October 2013.

- Transit only lanes
- Buffered bike lanes or Class IV separated bikeways
- Pedestrian crossing islands
- Bicycle signals
- Transit boarding islands
- Narrowing lanes to reduce speeds

While not all of the tools listed above, will be feasible within the City. Streets that fall into the Mobility Corridor category include Grant Line Road and East Street.

For more information, see Section 4.9 Mobility Hubs.

4.3.3.4 Pedestrian Oriented Space

Roadways in Pedestrian Oriented Spaces are generally low-volume residential streets. Many of these roadways operate as de facto shared spaces, in which children play, people walk, and bicyclists ride. Roadways in Pedestrian Oriented Spaces tend to have very lowspeeds and can operate as one-way or two-way streets.

City of Tracy Transit Station – Source Google

Depending on the street's volume and role in the traffic network, these streets have the potential to be redesigned and enhanced as shared streets. Shared streets can meet the desires of adjacentresidents or students and function foremost as a public space for recreation, socializing, and leisure. Enhancements that can be madeto better define these roadways as shared spaces include:

- Installing bollards, benches, planters, and bicycle parking
- Resurfacing pathways with textured or pervious pavements
- Signage at entrances of the travel ways/trails to indicateshared roadways

4.3.4 Transportation Equity

The City of Tracy strives to ensure affordable, safe, and equitable transportation within Tracy regardless of:

- Age
- Ancestry
- Color
- Gender
- Expression
- Gender Identity
- Genetic Information
- Marital Status
- Medical Conditions
- Mental Disability
- Military or Veteran Status
- National Origin
- Physical Disability
- Sex (includes pregnancy, childbirth, breastfeeding and/ormedical conditions)
- Sexual Orientation

4.3.5 Transit

Transit within the city is provided and managed by TRACER and San Joaquin Regional Transit District (SJRTD). While the City collaborates and coordinates with SJRTD, decisions regarding SJRTD transit are ultimately made by SJRTD.

4.3.6 Mobility Hubs

The City of Tracy plans to manage their transportation system in ways that make it more efficient while also offering feasible alternatives to driving alone. Mobility hubs establish locations where different modes of travel, such as walking, biking, transit, and other shared mobility options can come together at the hub to help people make connections quickly and get to where they need to go.

Mobility hub features include various improvements such as waiting areas with landscaping and lighting, complimentary Wi-Fi and real-time travel information; sidewalks, pedestrian lighting and trees for shade, bike facilities, dedicated bus lanes and supporting signal improvements; service facilities for shared cars, as well as electric bikes and automobiles; smart parking technology; and more. Each feature can be tailored to the unique needs of the Tracy community and visitors.

The mobility choices that Tracy residents and visitors have are constantly evolving as their needs and preferences change.

Mobility hubs are places where people can make seamless connections between public transit and other travel options. The mobility hubs will make it easier for residents, visitors, and employees to use transit to travel from home to work and a wide variety of destination in-between. A mobility hub area includes services and destinations that are accessible within a 5-minutewalk, bike ride, or drive to or from high-frequency transit.

4.3.7 Car Share

Car sharing allows people to rent shared vehicles for short periods of time, typically by the hour or minute. While users in traditional station-based car sharing systems, such as Zipcar, are expected to return the car to the same location, other systems such as one-to-many systems allow users to return the vehicle to any location within the service area, facilitating one-way trips that better support first-last mile trips to public transportation. Further providing flexibility, peer-to-peer systems have been developed more recently to offer a way for individuals to "rent" their car to other individuals.

Local examples of Car share programs include DIBS. DIBS is a service provided for San Joaquin, Stanislaus, and Merced Counties that offers transportation options, incentives, tips, and emergency rides home. In addition, DIBS provides carpool and vanpool information.

DIBS Logo – Source DIBS

4.3.8 Pedestrians

A community that is designed to support walking is livable and attractive. Tracy has a climate that is conducive to walking all-year long and this chapter presents existing and future opportunities to walk throughout Tracy year-round.

This chapter discusses types of facilities and treatments to be used by the City to improve the pedestrian transportation network. This chapter also discusses the existing conditions of pedestrian infrastructure and potential future projects.

According to the California Vehicle Code (CVC), the driver of a vehicle shall yield the right-of-way to a pedestrian crossing the roadway within any marked crosswalk or within any unmarked crosswalk at an intersection. Every pedestrian upon a roadway at any point other than within a marked crosswalk or within an unmarked crosswalk at an intersection shall yield the right-of-way to all vehicles upon the roadway so near as to constitute an immediate hazard.

4.3.8.1 Pedestrian Toolbox: Pedestrian Facilities

Sidewalks, a Class I bike path, and other pathways are the cornerstone of the pedestrian network, the following section discusses design considerations for pedestrian facilities.

4.3.8.1.1 Sidewalks

Sidewalks are available in most of the City's neighborhoods, with gaps in some of the residential neighborhoods that can be major barriers to pedestrian mobility. When sidewalks are installed, the sidewalks should be as wide as possible, keeping in mind the use. The preferred sidewalk width is six feet or wider if needed for higher pedestrian volumes. A width of six feet can easily accommodate two people passing each other.

Sidewalk along Lincoln Blvd – Source: Google

The minimum recommended sidewalk width is six feet, which can comfortably accommodate two people walking side by side, but pedestrians would need to adjust to pass each other. The absolute minimum allowable sidewalk width is four feet excludingthe curb, per ADA guidelines. However, if a four-foot sidewalk width is implemented, passing areas of five feet or wider are needed every 200 feet.

Another consideration for sidewalks is their interaction with driveways. Careful consideration should be given to the installationof sidewalks so that they do not detrimentally impact pedestrian access and safety, including visibility of pedestrians from driveways and width of driveways, which impacts pedestrian safety.

Pre-existing utility poles, fire hydrants and sub-surface vaults may be prohibitively expensive to move and may remain in place. However, they should be relocated as funding and opportunities allow.

4.3.8.1.2 Class I Bike Path/Multiuse Path

A Class I bicycle path is a paved path that is physically separated from motorized traffic. These paved paths, sometimes referred to as multiuse paths. Bicycle paths are best suited along corridors with few interruptions from cross–traffic. Class I facilities often serve as recreation opportunities and commute corridors.

Class I Facility Along 11th Street – Source: Google

4.3.8.2 Pedestrian Toolbox: Pedestrian Crossings

Pedestrian facilities are the primary portion of the pedestrian route, however at some point in a pedestrian route, most pedestrians needto cross the roadway. Crossings are the point in a journey where a pedestrian is most exposed to motor vehicle and bicycle traffic.

The following section lists pedestrian crossing treatments, which could be used in the City:

4.3.8.2.1 Curb Ramps

The City is working towards upgrading curb ramps to be in compliance with ADA guidelines. All curb ramps should be designed with ADA standard, CAMUTCD, Caltrans Highway Design Manual, and City Standard Plans in mind.

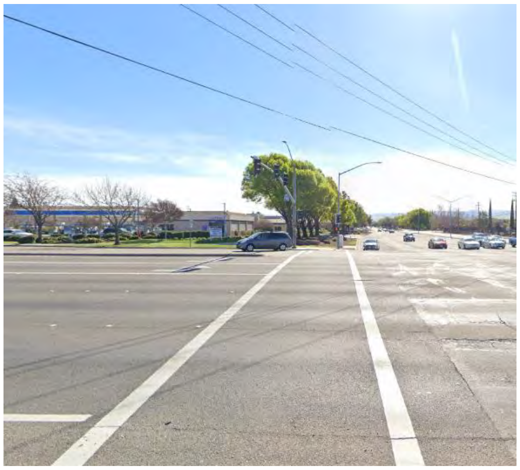
Where curb ramps are located, including intersection corners and midblock crossings, should be kept clear of obstructions, including on-street parking. Drivers and pedestrians should have clear views of each other.

Street amenities should not be clustered adjacent to corners or near the curb ramps. Curb ramps should include ramps and detectable warning surfaces per accessibility standards. Pre-existing utility poles and sub-surface vaults may be too expensiveto move and can remain in place, until such time that funding can be procured. However, they should be relocated whenever feasible or economical.

4.3.8.2.2 Bulb Outs

Bulb-outs are used to shorten crossing distance and to place waiting pedestrian in a location where they are more visible to drivers. They extend the curb to narrow the roadway and increase space for street furniture, benches, and landscaping. This also results in the tightening of curb radii, which encourages slower turning speeds. When placed at bus stops, bulb-outs can improve travel times by reducing the amount of time a bus takes to merge with traffic after boarding.

4.3.8.2.3 Crosswalks



Crosswalk at the Corral Hollow Rd & 11th Street Intersection – Source: Google

Pedestrian crossings can exist at marked or unmarked crosswalks, when crosswalks are marked the City of Tracy typically uses a standard or ladder crosswalk. Crosswalks with textured pavement or decorative motifs are permitted, ifthey are designed in accordance with the California Manual of Uniform Traffic Control Devices (CAMUTCD).

The Federal Highway Administration's Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations recommends the use of high visibility crosswalk for areas of high pedestrians use and at all established midblock pedestrian crossings.

4.3.8.2.4 Removal of Free Right Turn Slip Lanes

To improve pedestrian safety, it is recommended to remove free right turn slip lanes or "pork chops". Vehicles typically only have to yield at these locations and do not always notice pedestrians. A tighter turn will slow vehicles down andthe cone of vision for the driver will include observation of pedestrians on the sidewalk. This is also Caltrans best practice at their facilities.

In addition to the various markings that crosswalks may contain, crosswalks can be "controlled" or "uncontrolled". When a crosswalk is "controlled" it means that a traffic controldevice such as a signal, stop sign or yield sign is in place in advance of the crosswalk. An example of this case is the intersection of Eleventh Street and Corral Hollow Road, which is signal controlled and has marked crosswalks as shown in the example above. An uncontrolled crosswalk does not have a traffic control device in advance of a crossing and requires the driver to see and yield to the pedestrian. Although the pedestrian may have the right-of-way, drivers do not always yield to pedestrians.

The City has developed a series of characteristics which are evaluated to determine if a crosswalk is warranted and what type of improvements could be needed to implement a crosswalk. These considerations include characteristics such as:

- Proximity to Nearest Crosswalks
- Reported Pedestrian Collision History
- Proximity to a Pedestrian Activity Center, such as aschool or park
- Pedestrian, Bicycle, and Vehicle Volumes
- Visibility/Sight Distance
- Lighting
- Requests by Community
- Vehicle Speed
- Location, midblock or intersection
- Potential Implementation timeline
- Roadway Geometry (number of lanes, medians, width)
- Existing Facilities (existing curb ramps and sidewalks)

The City has the authority to remove a crosswalk if there are safety concerns. Crosswalks and crosswalk locations are of great interest to the community, and safety of pedestrians is the highest priority.

4.3.8.2.5 Pedestrian Signals

Pedestrian signals exist at most signalized intersections in the City. The City is in the process of updating pedestrian signals to countdown pedestrian signals. The City is also installing audible pedestrian signals at intersections to improve accessibility for visually disabled pedestrians.

4.3.8.2.6 Pedestrian Hybrid Beacon

A pedestrian hybrid beacon, commonly referred to as High-Intensity Activated Crosswalk (HAWK) Beacon, is a traffic controldevice similar which can be used to stop traffic so pedestrians can cross.

A pedestrian hybrid beacon must be activated by a pedestrian. When activated a vehicle signal head flashes yellow to warn vehicles they are required to stop. The signal head then turns to solid yellow, indicating drives should slow and stop, if able. The vehicle signal head then turns red, indicating vehicles must stop and when the vehicle signal head begins to flash red, the vehicles must yield to pedestrians but may proceed when the crosswalk is clear. In addition to a vehicle signal head, a standardpedestrian signal is installed and indicated to pedestrian when they may cross.

Pedestrian hybrid beacons are uncommon traffic control devices, currently there none of these traffic control devices in theCity of Tracy. Per the CAMUTCD, Pedestrian hybrid beacons require a warrant to install. This warrant is often difficult to meet as it requires high pedestrian volumes and high vehicle volumes in which a typical traffic signal could also be considered appropriate.

Pedestrian Hybrid Beacon in San Luis Obispo, CA – Source: SLO Chambers

4.3.8.2.7 Rectangular Rapid Flashing Beacons (RRFB)

Rectangular Rapid Flashing Beacons, more commonly referred to as RRFBs, can enhance safety at pedestrian crossing by increasing driver awareness of potential pedestrian conflicts. RRFBs utilize an amber-colored irregular flash pattern undera pedestrian crossing warning sign to draw drivers' attention. The flash pattern can be activated by pedestrians before utilizing the crossing.

10th Street RRFB – Source: Google

RRFBs are used for uncontrolled or midblock crossings. The City often installs RRFBs, in combination with curb extensions/bulb-outs and a marked ladder crosswalk.

In summary, there are several improvements that can increase pedestrian safety and improve mobility.

Figure 4.2 below categorizes the pedestrian improvements that can be installed by whether the improvement is a basic improvement, anenhanced improvement, or a specialty improvement and what issue the improvement addresses.

Figure 4.2: Crosswalk Treatments

LEVEL 1: BASIC IMPROVEMENTS

- High-Visibity Crosswalk Striping and Signage
- Advanced Yield Lines and Yield Signage
- In-Street Pedestrian Crossing Signs
- On-Street Parking Restriction on Crosswalk Approach

LEVEL 2: ENHANCED IMPROVEMENTS

- Curb Extensions (Bulb-Outs)
- Tighten Curb Radius
- Raised Median
- Pedestrian Refuge Island
- Street Lighting
- Rectangular Rapid Flashing Beacon (RRFB)

Level 3: SPECIALTY IMPROVEMENTS

- High Intensity Activated Crosswalk (HAWK)
- Pedestrian Traffic Signal

Crosswalk Treatments

		Safety Issue Addressed						
		Conflicts of Crossing Locations	High Vehicle Speeds	Nearby School orSenior Center	High Pedestrian Volumes	Long Pedestrian Crossing Distance	Motorist Yield Compliance	Inadequate Conspicuity / Limited Sight Distance
L 1: BASIC	High-Visibility Crosswalk Striping and Signage	X	X	X	X		X	X
L 1: BASIC	Advanced Yield Lines and Yield Signage	X		X	X		X	X
L 1: BASIC	In-Street Pedestrian Crossing Signs	X	X	X	X		X	X
L 1: BASIC	On-Street Parking Restriction on crosswalk approach	X					X	X
L 2: ENHANCED	Curb Extensions (Bulb-Outs)	✠	✠	✠	✠	✠		✠
L 2: ENHANCED	Tighten Curb Radius	✠	✠	✠	✠	✠		
L 2: ENHANCED	Raised Median Pedestrian Refuge Island	✠	✠	✠	✠	✠	✠	
L 2: ENHANCED	Street Lighting	✠		✠				✠
L 2: ENHANCED	Rectangular Rapid Flashing Beacon (RRFB)	✠		✠	✠	✠	✠	✠
L 3: SPECIALITY	High Intensity Activated Crosswalk (HAWK)	✠	✠	✠	✠	✠	✠	✠
L 3: SPECIALITY	Pedestrian Traffic Signal	✠	✠	✠	✠	✠	✠	✠

4.3.8.2.8 Separated Grade Crossings

Moffet Blvd & Stevens Creek Grade Separated Crossing – Source: Google

A grade-separated crossing provides continuity for bicyclists and pedestrians to cross rivers, streets, and railroads. This type of crossing can either be a bridge or an underpass.

4.3.8.3 Wayfinding
The City is implementing a Citywide Wayfinding sign program which includes wayfinding signs for pedestrians (and bicycles) and located at strategic locations to direct travelers to popular destinations. This will be done in multiple phases.

4.3.8.4 Pedestrian Facilities
The following is a description of the different pedestrian facility options for pedestrians in Tracy, currently.

4.3.8.4.1 Sidewalks
Sidewalks exist throughout most of the City however there are some neighborhoods with gaps in sidewalk. No comprehensive inventory of sidewalks exists. Sidewalks are typically composed of concrete and have a vertical or rolled curb. Vertical curbs aresuperior to rolled curb as they create a more defined barrier between the pedestrian right–of–way and vehicle right–of–way.

Cars can easily mount sidewalks with rolled curbs. When parked, side mirrors and doors can encroach on and even block thepedestrian path of travel. Most sidewalks in Tracy have a vertical curb, but some rolled curb can be found in residential neighborhoods. All new sidewalks should have vertical curb to preserve the pedestrian right–of–way.

Sidewalk maintenance is key to providing safe pedestrian facilities throughout the city, especially for seniors who are more susceptible to tripping.

Residents may also call the Code Compliance Officer to report sidewalk maintenance issues including overgrown brush encroaching on the walkway. The Code Compliance officer coordinates and oversees repairs made by private property owners.

4.3.8.4.2 Class I Bicycle Path
Several Class I Facilities exist in the City, the most prominent one is the Sycamore Trail. This trail connects neighborhoods, parks, schools and the ACE train station. Refer to Section 4.6 Bicycle and Pedestrian Circulation for more details on Class I bike paths.

4.3.8.4.3 Trail Along Rails
The City plans to construct trails along the rail lines, which will be an ideal travel route from neighborhoods to the downtown and the Tracy Transit Station. Additional information related to trail and bicycle circulation is provided in the City of Tracy Citywide Parks, Recreation, and Trails Master Plan.

4.3.8.5 Crossings
There are several features to pedestrian crossings, including but not limited to curb ramps, crosswalks markings, pedestrian signals, RRFBs, and signage. The City does not have updated inventory of crossings. However, as part of the ADA transition plan process the City has identified a list of the curb ramps and if they comply with ADA guidelines.

4.3.8.6 Pedestrian Places & Plazas
A key feature of successful pedestrian environments is a place or plaza where people can gather, sit, observe, and play. Every Saturday during the Summer, Central Avenue is closed to vehicular traffic for the Downtown Farmers Market.

4.3.9 Bicycles

The popularity of bicycling has revived due to many factors including its cost effectiveness, health benefits, and sustainability impacts. This active mode of transportation transcends economic classes and is a viable option for any within the community toutilize for commuting and recreational purposes. A well-connected network of bicycle facilities (Class I – IV) allows for all user- types (from the interested but concerned to the strong and fearless) to enjoy the benefits of active transportation.

This chapter discusses types of facilities and treatments to be used by the City to improve the bicycle transportation network. This chapter also discusses the existing conditions of the bicycle infrastructure and potential future projects.

The City supports bicycle programs and projects. The City strives to increase the number of bicycle trips.

Additional information related to trail and bicycle circulation is provided in the City of Tracy Citywide Parks, Recreation, and Trails Master Plan.

Did You Know?

Bicyclists hold a unique position in when it comes to the rules of the road. A bicyclist can be both a driver of a vehicle and pedestrian depending on the circumstances. Itis important to know when and where the rules apply.

When riding on the streets the California Vehicle Code (CVC) requires that bicyclistsact and are treated as a vehicle. As soon as a bicyclist dismounts, they instantly become a pedestrian and are treated as such.

CVC 21200

4.3.9.1 Bicycle Toolbox

Treatments found in the bicycle toolbox come from a variety of sources including the following:

- California Manual on Uniform Traffic ControlDevices (CAMUTCD)
- California Department of Transportation (Caltrans)
- Federal Highway Administration (FHWA)
- American Association of State Highway Transportation Officials (AASHTO)
- National Association of City Transportation Officials (NACTO)
- Institute of Transportation Engineers (ITE)
- Best practices from Cities, Counties, and other States.

4.3.9.2 Bicycle Facilities

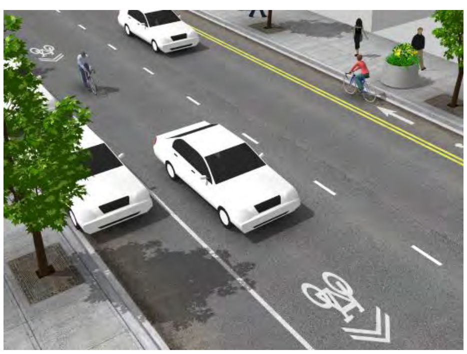
Figure 4.3 provides a diagram of typical bicycle facilities:

Figure 4.3: Typical Bicycle Facilities

Class I Path Along Sycamore Pkwy – Source: Google

Class II Bike Lane Along Corral Hollow Rd – Source: Google

Class II Bicycle Lane with a Travel Lane Buffer



Class III: Shared Roadways/Sharrows – Source: NACTO

Class IV: Protected Bicycle Lanes/Cycle Track adjacent to the roadway – Source: Seattle Bike Blog

Class IV: Protected Bicycle Lanes, Pennsylvania Ave, Washington DC – Source Adobe Stock

4.3.9.3 Class I Facilities: Bike Path/Multi-Use Path

A class I bicycle path is paved path that is physically separated from motorized traffic. Bicycle paths are best suited along corridors with few interruptions from cross–traffic. Class I facilities often serve as recreation opportunities and bicycle commute corridors.

An example of a Class I facility in the City is the along Sycamore Parkway. Many Class I facilities serve a dual purpose of a multi-use trail and are shared by bicyclists and pedestrians.

According to the Caltrans Highway Design Manual (HDM), the minimum paved width of travel way for a two-way bike path shall be 8 feet, 10-foot preferred, with a 2-foot-wide shoulder composed of the same pavement material as the bike path. Theminimum horizontal clearance is 2 feet from the paved edge of the bike path and the vertical clearance is 10 feet. To ensure proper drainage, the shoulder shall slope away from the traveled way at 2 to 5 percent to reduce ponding and minimize debrisfrom blowing onto the bike path. Since Class I facilities serve both bicyclists and pedestrians, they must meet accessibility requirements, unless it is adjacent to an adequate pedestrian facility.

The minimum recommended width for a shared use path is ten (10) feet. Wider paths are also recommended in corridors with high pedestrian use.

4.3.9.4 Class II Bicycle Lane

A Class II bicycle lane is an on-street facility marked by a striped line on the pavement, symbols, and lettering. The preferred width of bicycle lanes along collector and arterial streets is six feet, however, a minimum width of five feet is acceptable if the site is constrained.

Class II facilities also include buffered bicycle lanes, or bicycle lanes with a "buffer" of at least one to two feet in painted striping. It is not recommended that bicycle lanes be wider than eight (8 feet) unless a physical barrier is implemented to detervehicles from using the space by driving or parking in a bicycle lane.

According to the California Manual on Uniform Traffic Control Devices (CAMUTCD), longitudinal pavement marking shall be used to define bicycle lanes. A through bicycle lane shall not be positioned to the right of a right turn only lane or to the left ofa left turn lane. A Class II facility is recommended on roads with moderate speeds (less than 30 miles per hour), and less than 10,000 vehicles per day. They are not recommended on circular roadways of a roundabout.

4.3.9.5 Class III Bikeway Facility: Bicycle Boulevards & Shared Roadway/Sharrows

A Class III facility is established by placing bike route signs along roadways and/or the placement of "Sharrows". Sharrows are used to indicate to bicyclist's proper placement on the street (outside of the "door–zone" where there may be on–street parking) and remind drivers to watch for and share the road with bicyclists.

Source:bikingbis.com

Source: Sacramento Area Bicycle Advocates

Bicycle boulevards are a series of connected Class III facilities that prioritize bicycle transportation and provide alternative routes for bicyclists away from high speeds and traffic. When possible, bicyclists are given right–of way at most intersections along the route to increase convenience and ease of travel. Bicycle boulevards and Sharrows are particularly useful on narrow streets where there may not be room for a class II bicycle lane.

Bicycle boulevards provide an alternative route on streets with low traffic volumes and travel speeds, which is typically more comfortable for less experienced bicyclists. Bicycle boulevards provide important connections between residential areas and popular destinations. Bicycle boulevards are recommended for streets that have speed limits of 25 miles per hour or less, whena bicycle lane is not a feasible alternative. Class III facilities are recommended for streets with less than 4,000 vehicles per day.

4.3.9.6 Class IV Facilities: Protected Bicycle Lanes/Cycle Tracks

Class IV Facilities are bicycle lanes with some form of physical separation from the roadway and vehicles. This separation can be achieved by either vertically raising the bicycle lanes from the roadway or horizontally by items such as: delineators, railings, or planters. An example of a Class IV facility is the North Fremont median bicycle lanes.

Class IV facilities are often referred to as protected bicycle lanes or “Cycle tracks” and have several design variations.

They can vary by:

- Elevation - some Class IV facilities can be raised above the main roadway.
- Barrier Type - barriers can include items such as delineators, railings, planter, and curbs (see examples below)
- Location - facilities may be placed on the right side of the road (typical) or left side of the road, or in a median.
- Direction - facilities may have a single lane in one direction (in the direction of flow or opposite the direction of flow, i.e. contraflow) or two lanes in both directions, (Contraflow lanes for bikes include bike lanes with a travel direction opposite tothat of vehicles as indicted in the photo below.) Parking - facilities may be placed on either side of the parking lane.

San Francisco - Source: SFMTA

Protected Bicycle Lane in Median on North Fremont Street - Source: Kimley-Horn

Other design considerations for Class IV facilities include:

- Maintenance
- Narrow bike lanes for sweeping machines, and
- Stormwater

Class IV facilities are preferred, whenever feasible, and are recommended on roads with higher speeds, volumes and/or multiple conflict points. While Class IV facilities provide additional protection for bicyclists compared to Class II and Class IIIfacilities, Class II and Class III facilities are recommended where Class IV facilities are infeasible.

4.3.9.7 Bicycle Treatments

The following bikeway design treatments are intended to enhance the safety and usability of bikeways. They will be used in accordance with the CAMUTCD and other relevant existing laws and regulations. Treatments that are not currently in the Manual on Uniform Traffic Control Devices, such as colored lane markings and bicycle route wayfinding signs, are considered "experimental" and will require Federal Highway Administration Experimental Project Approval before implementing.

4.3.9.7.1 Crossbikes

"Crossbikes", or crosswalks for bikes which can be located at intersections, trail crossings, or mid-block crossings. The striping of a cross bike is similar to a typical crosswalk, with the use of green rectangular boxes in place of white to denote use by bicycles. " Crossbikes" help with the separation of with pedestrians and bicyclists at busy intersections.

"Crossbike" on North Fremont Street - Source: Kimley-Horn

4.3.9.7.2 Protected Intersections

A protected intersection, sometimes referred to as a Dutch Intersection, is an intersection designed to accommodate bicyclists circulating counterclockwise around the intersection instead of entering travel lanes to make left turns. This intersection is characterized by Crossbikes, corner islands, and separated bicycle facilities. It can include bicycle signals and bicycle detection.The North Fremont Pedestrian and Bike Project includes many of these features.

Protected Intersection in Berkeley, CA - Source: Kimley-Horn

Protected Intersection in Berkeley, CA - Source: Kimley-Horn

Protected intersections can be beneficial to pedestrians and bicyclists, tighter turn radii reduce vehicle turning speed, bettervisibility of pedestrians and bicycles, reduced conflict points between bicycles and vehicles.

This design can have a large footprint to accommodate all the design features and maintain roadway capacity and may not be appropriate everywhere. Other challenges in the design of Protected Intersection, include truck turning requirements for freight movement, bicyclist deflection at corner islands, bicycle pedestrian interaction, and considerations for pedestrians with disabilities.

If bicycle phasing is incorporated, additional challenges include intersection capacity reduction from added bicycle phases and unique signalization schemes, such as the leading bicycle interval. The MUTCD, and the CAMUTCD, is lagging on the bicycle signal standards and bicycle signal phasing standards. However, NACTO has provided best practice guidance on signalized and bike facilities in the interim.

4.3.9.8 Wayfinding Signs

Bicycle mileage markers and wayfinding signs indicate the distance and direction to popular destinations. These are similar to milage markers used on roadways for cars. They provide a resource for cyclists to estimate travel time to destinations, they also benefit athletic riders who use the markers for training.

Wayfinding Sign in Monterey, CA – Source: Google

4.3.9.9 Bicycle Detection

Bicycle Detection at signalized intersections along bicycle routes increase convenience and encourage correct placement of bicyclists at the intersection. Bicycle detection technologies sense bicycles in a travellane and trigger the green phase at a signalized intersection. Currently, the City uses modified "E" loops (inductive) and video detection.

"E" Loops are installed below the pavement and are modified to be moresensitive to bicyclists. Inductive loop sensors are the least expensive to install typically but are not easy to maintain or repair and may not detectbicycles that are made mostly of carbon fiber.

Bicycle Detection Loop in Long Beach, CA – Source: City of Long Beach

4.3.9.10 Bicycle Boxes

The bicycle box provides bicyclists a protected space in front of queued motor vehicles at traffic signals, giving them a headstart and extra visibility when the light turns green. This treatment is particularly helpful for bicyclists trying to turn left at a busy intersection.

Bicycle boxes are not recommended for every location, bicycle boxes should be complemented by not permitting right turn on red. There can also be confusion with multiple lanes and left turning bicyclists. Additionally, vehicles may not observe the striping and idle in the bicycle box.

Bicycle Box in National City, CA - Source: San Diego Bicycle Coalition

4.3.9.11 Bicycle Parking

Bicycle parking is an important investment when seeking to increase bicycle ridership. Parking is critical to providing reassurance for bicyclists when they leave their bikes to work or shop and providing a designated space also prevents the nuisance of bicyclists locking their bikes to various poles and benches. Bicycle parking should be in a well-lit, plain view area that supports the whole bike, not just a wheel, and out of the way of pedestrians and motor vehicles for the safety of all users.

Bicycle parking design is also important, things that should be considered when installing bicycle parking:

- Location
  (proximity to destinations, visibility)
- Ability to secure bicycle
  (theft prevention,weather protection)
- Durability
- Sheltering
- Lighting
- Supply
- Aesthetics

4.3.9.12 Private Bicycle Rentals and Bicycle Sharing

Private developments are encouraged to provide private bicycle rentals and bicycle sharing for their constituents. For example,hotels, visitor centers, hospitals, and other large employers may provide bicycle rentals to their employees as an incidental partof their business operations.

4.3.10 Safe Routes to School

Safe Routes to School is an international effort to encourage students (K-12) to walk or bicycle to school. The City has participated in Safe Routes to School efforts in collaboration with several localCharter and Private Schools.

Safe Routes to School programs have several community benefits:

- Increase in walking and bicycling to school
- Lower transportation costs
- Reduced student absences and tardiness
- Reduce traffic congestion
- Healthier students
- Improved academic performance
- Cleaner air, fewer asthma attacks

4.3.10.1 Schools

There are nineteen K–12 schools in Tracy (see below). Many Schools serve multiple neighborhoods, many students live further than the recommended walking or bicycling distances for students respective age groups. Distance and topography are two of the greatest barriers to walking to these schools in Tracy.

- Kimball High School
- Tracy High School
- West High School
- Monte Vista Middle School
- Williams Middle School
- Art Freiler School
- George Kelly School
- North School
- Gladys Poet-Christian School
- Louis Bohn Elementary
- Central Elementary
- Wanda Hirsch Elementary
- Melville Jacobson Elementary
- McKinley Elementary
- South/West Park Elementary
- Louis Villalovoz elementary
- George & Evelyn Stein Continuation High School
- Duncan-Russel Community Day School
- Tracy Independent Study Charter School

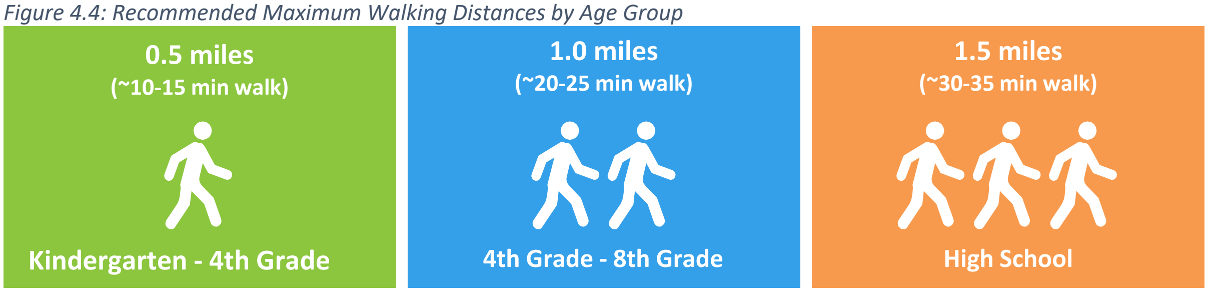
4.3.11 Barriers to Walking and Biking

4.3.11.1 Walk and Bike Shed

A walk or bike shed is the approximate range a student should travel for school, these distances vary by age group. Whethera student is accompanied by an adult or older sibling is a parental prerogative, however it is typically recommended by safe routes to school programs that kids, age 10 or younger, be accompanied by an adult or older sibling to cross the street.

Figure 4.4 illustrates recommended walk shed for student age groups, it should be noted these are average distances, and these distances do not take into account the existing infrastructure, individual student capabilities or topographywhich could make this distance too far for a student.

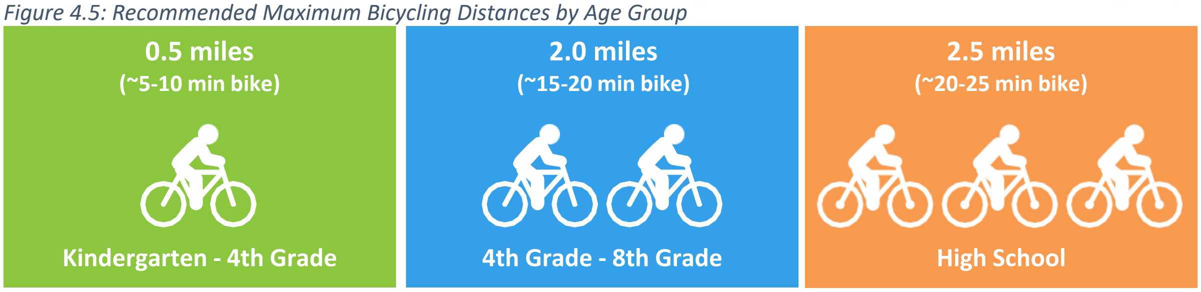
Figure 4.4: Recommended Maximum Walking Distances by Age Group



Note: Estimated time based on a walking speed of 3.5 – 4.5 feet per second

Figure 4.5 illustrates recommended bike shed for student age groups. It should be noted that these are average distances, and these distances do not take into account the existing infrastructure, individual student capabilities or topography which could make this distance too far for a student.

Figure 4.5: Recommended Maximum Bicycling Distances by Age Group



Note: Estimated time on a bicycling speed of 11.5 feet per second, based on research from FHWA's Evaluation of Safety, Design and Operation of Shared-Use Path.

4.3.11.2 Traffic & Driver Behavior

Following distance, perceived "Traffic related danger" has been cited as the second highest barrier to parents allowing their children to walk or bicycle to school, according to the US Centers for Disease Control (CDC). Perceived "Traffic related danger" can be high volumes or congestion, driver behavior, such as speeding, failing to yield to pedestrians and bicyclists, running stopsigns, double parking, or many other poor behaviors.

Although traffic and perceived "traffic related danger" is often cited as a reason for not allowing students to walk to school 20-25 percent of morning rush hour traffic is attributable to parents driving their children to school.[4,5]

4.3.11.3 Weather

The Central Valley weather in Tracy result in cold mornings and evenings in the winter, and hot days in the summer. The Tule Fog brings colder weather, with moderate climate ideal for active transportation to school.

4.3.11.4 Infrastructure

Gaps in pedestrian and bicycle infrastructure do exist, and there are opportunities to improve existing infrastructure. Barriers toimproving infrastructure are funding, the City relies heavily on grant funding and Neighborhood and Community Improvement Program (NCIP) funds for active transportation projects and Safe Routes to School Related projects often require school involvement and support.

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1. *https://www.saferoutespartnership.org/blog/too-far-*walk
2. Nelson, Norah M et al. "Active commuting to school: how far is too far?" The international journal of behavioral nutrition and physical activity vol. 5 1. 8 Jan.2008, doi:10.1186/1479-5868-5-1
3. *https://www.saferoutespartnership.org/sites/default/files/031918-srs-biketrain-toolkit-final.pdf.*
4. *National Highway Transportation Administration cited in Safe Routes to School: Pledging Safe Communities for our Children. 2003.*
5. *Department for Environment, Transport and the Regions, England: Greater Vancouver Regional District: Morning Peak Trip by Purpose.*

4.3.12 Transportation Demand Management

Transportation Demand Management (TDM) is a method of managing the demand on the transportation network by motorvehicles (SOV). The City is implementing a TDM program, this could help the City by:

- Reducing dependence on fossil fuels and energy consumption,
- Reducing Greenhouse Gas Emissions,
- Reducing traffic congestion,
- Reducing car maintenance, parking cost, and need for car ownership,
- Reducing the need to expand roads and for expensive vehicle-centered regional infrastructure,
- Reducing health care costs (in the long term),
- Attracting individuals that value a multi-modal environment,
- Enhancing overall access, convenience, and connectivity,
- Improving quality of life in communities with transportation options, and
- Improving health through active transportation

In order to address the methods of managing demand, these programs can be categorized into the following four (4) categories provided in Figure 4.6.

Figure 4.6: Methods of Managing Demand

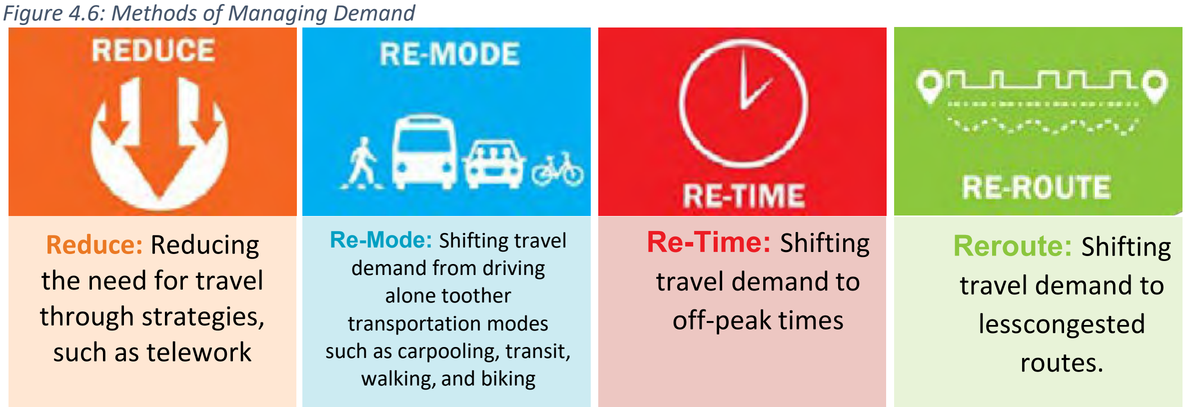
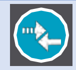
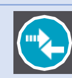
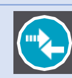
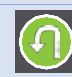
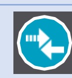
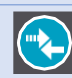
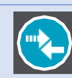
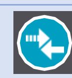
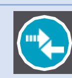
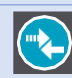
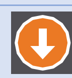
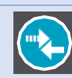
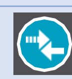
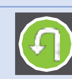
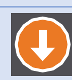
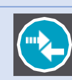
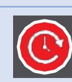


Figure 4.1 provides a list of the 42 potential TDM measures.

Table 4.1 Potential TDM Measures

	REDUCE	REMODE	RETIME	REROUTE
Emergency Ride Home (ERH)		✓		
Financial Carpool Incentives		✓		
Flexible/Alternative Work Schedule	✓	✓	✓	
Formal Telework Policy	✓			
Free Event Transit Passes		✓		
Information Kiosk/Display	✓	✓		✓
Mobile App	✓	✓	✓	✓
New Employee/Student Transportation Kits	✓	✓	✓	✓
Off-peak Incentives			✓	
Parking Cash-Out		✓		
Reduction of Parking Supply		✓		
Park Once and Explore Car-Free Campaign	✓	✓		
Passenger Pick-up/Drop-off Areas		✓		
Permit Parking		✓		
Pre-Arrival Transportation Information		✓		
Preferential Carpool/Vanpool Parking		✓		
Program Branding and Messaging	✓	✓	✓	✓
Promotional Events/Fairs/Challenges	✓	✓	✓	✓
Public Bike Racks		✓		
Ridematching, Trip Planning, Trip Reporting		✓		
Secure Bike Parking		✓		
Shared Walk/Bike Amenities		✓		

	REDUCE	REMODE	RETIME	REROUTE
Share Event Traffic Management with Key TransportationRouting Platforms				
Shift Start/End Coordination with Nearby Employers toEncourage Carpooling				
Shop Local Campaigns/ Partnerships				
Showers, Lockers, and Changing Facilities				
Shuttle Service				
Special Event Parking and TDM Plans				
Special Event Transit Service				
Student Transit Pass Subsidy				
TNC/ Taxi Discounts				
Transit Subsidies and Allowances				
Transportation Coordinator/ Champion				
Transportation/ Commute Surveys				
Use of Local Suppliers for Events				
Vanpool Program				
Vanpool Start-up Subsidy				
Wayfinding				
Website				

4.3.13 Vision Zero

Vision Zero is an international road safety movement rooted in the philosophy that no loss of life due to road crashes is acceptable or inevitable. A core principle of Vision Zero is that people should not be killed or severely injured due to mobility. Crashes are not accidents; that is, they are entirely preventable if the transportation system is designed to minimize the consequences of human errors and mistakes. Vision Zero sets the goal of reducing traffic-related fatalities and severe injuries to zero - the only acceptable number.

While zero crashes may sound unrealistic, the objective is to set this as a goal rather than an expectation. The expectation of zero crashes may be unattainable, but the goal to prevent fatal and severe crashes can always be strived for. A number of different initiatives already exist which aim to promote the objectives of Vision Zero. Vision Zero provides a goal to unify these different initiatives (infrastructure design, safety education, behavior enforcement, evaluation). This is a commitment and cooperation between all city departments and the community.

Vision Zero is...

- No loss of life is acceptable
- Reduce fatalities and severe injuries to zero
- Acknowledgement that fatalities and serious injuriesare preventable
- Prioritize human health and safety over all other interests
- Acknowledgment that human error is inevitable
- Everyone's responsibility, all road users and City departments
- Systemic safety improvements
- Reducing vehicle speed is a priority in mitigating crash severity.

Vision Zero is not...

- Something "new"
- Going to "look" the same everywhere
- Only for engineers
- Eliminating road fatalities entirely

This chapter presents the Vision Zero Plan for the City of Tracy with a goal of zero fatalities or severe injuries from traffic related crashes in the City by the year 2050.

Between 2015 and 2020, 17 people were killed in traffic crashes in Tracy and 56 were severely injured. On average, approximately more than 40,000 people lose their lives on U.S. roads each year. Of these, about 18% are people walking andriding bicycles, our most vulnerable road users. Source: SWITRS

4.3.13.1 Vision Zero in the United States

Vision Zero is gaining momentum across the United States. As of February 2019, more than 40 U.S. cities or counties have adopted Vision Zero goals, with the state of California as a main champion. Large cities (New York, San Francisco, Los Angeles) were early-on adopters, followed by middle-sized cities (Fort Lauderdale, Long Beach) and now joined by small-sized cities (Santa Monica, San Luis Obispo).

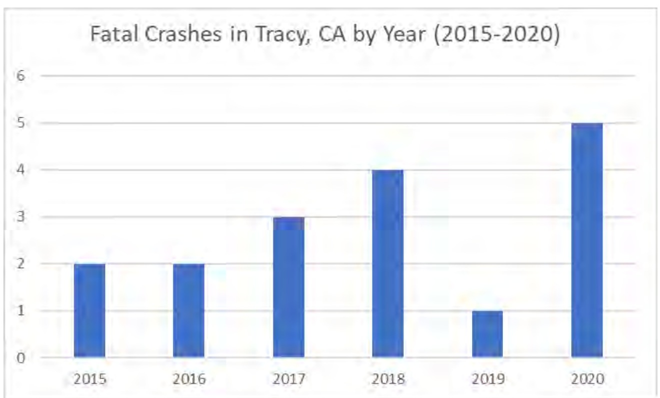
Figure 4.7 provides a map of the Vision Zero communities in the United States.

Figure 4.7: Vision Zero Map

4.3.13.2 Why is Vision Zero Needed?

Human error is unavoidable, but the loss of life due to motor vehicle crashes can be preventable. According to the National Highway Traffic Safety Administration (NHTSA), 94-percent of serious crashes are due to dangerous choices or human error. Figure 4.8 provides the number of fatalities per year in Tracy.

Figure 4.8: Number of Fatalities per Year in Tracy, (2015-2020)



4.3.13.3 Tracy+Vision Zero Emphasis Areas

4.3.13.3.1 Safe Streets for Everyone

By incorporating Complete Streets design elements as discussed in Chapter 6, roadways can become safer and oriented moretowards pedestrians and bicyclists. Features such as Crossbikes and bicycle boxes create refuges for bicyclists to safely crossthe intersection and be clearly visible to drivers from all directions. Pedestrian related treatments include curb ramps, wider sidewalks, bulb-outs, and high-visibility crosswalks.

4.3.13.3.2 Mitigate Speeding

Speed plays a critical role in the likelihood of injury during a traffic collision, refer to Figure 4.9. Therefore, any speed reducing measures can be very effective in decreasing pedestrian and bicyclist fatalities.

It is important to highlight the national movement "20 is Plenty", which is movement to reduce speed limits in residential andhigh use pedestrian/bike areas. As a California City, our speed limits have strictly defined by law. There is little to no flexibilityin setting lower speed limits on City Streets. Additionally, other States utilize automated speed-enforcement cameras, which are not currently allowed for all jurisdictions in California, in part to our strict laws regarding the setting and enforcement of speed limits.

When utilizing speed feedback signs, targeted enforcement, lane narrowing, and smaller curb radii, drivers tend to go at slower speeds which greatly reduces the effect of the collision impact.

Figure 4.9: Likelihood of fatal and severe injury relative to speed

4.3.13.3.3 Education

Street safety education and public outreach are important to help people safely navigate roadways by walking, biking, or driving. By implementing programs and creating resources to provide street safety education, it creates a shared sense ofexpectations for all users of the roadway and makes information easily accessible to all member of the community.

4.3.13.4 How Vision Zero Works

Vision Zero strategies: enforcement, engineering, education, encouragement, evaluation and using a data-driven approach. Data is crucial for Vision Zero. Data provides valuable information to best allocate limited resources, identify priorities and gain insight otherwiseunavailable. Data can also inform coordinated actions across city departments to influence public commitment to Vision Zero.

For example, the collection and analysis of crash data by the City of Los Angeles revealed that 65% of all deaths and severe injuries involving people walking occur on just 6% of their streets. It's important to break down data because it provides a muchmore specific picture. Each City's Vision Zero efforts will be shaped by their specific crash data. As such, efforts to implement Vision Zero vary from city to city.

4.3.13.4.1 Consider all Levels of Prevention

Vision Zero works to instill a new way of thinking about road crashes, challenging traditional thinking to lessen crash severity. Traditionally, road safety efforts were restricted to the bottom levels of prevention. Vision Zero efforts consider all levels of prevention, particularly those at the top:

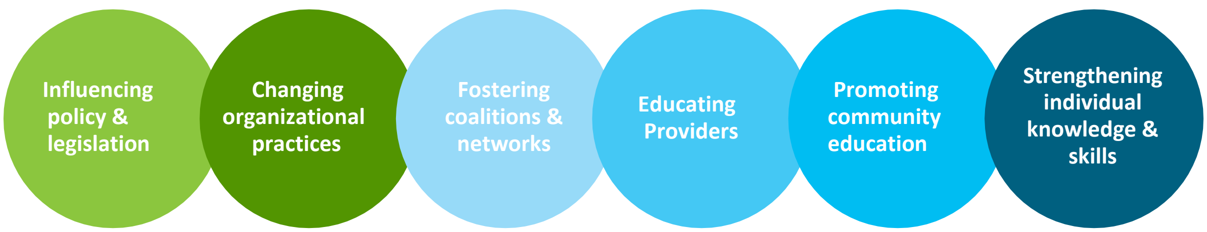
- Incorporate safety measures and strategies in policies, plans and practices.
- Adopt organizational practices that facilitate coordination to improve safety.
- Bring together all city departments and the community to increase safety efforts.
- Commit all levels of the city to keep learning, refining our skills, and expanding our toolbox with the best available strategies, polices, and actions.

4.3.13.4.2 Focus on Crash Severity

Vision Zero is not about eliminating all road crashes, that would not be feasible. The issue at hand is crash severity: how canwe lessen the severity of road crashes?

The Vision Zero approach is composed of several elements, each of which affect crash severity. These include ethics, responsibility, safe systems approach, human tolerance to speed, human error, and scientific facts/data.

Figure 4.10: The Spectrum of Prevention



Content: The Prevention Institute/Source: Vision Zero Network

4.3.13.4.3 Ethics

Ethics are at the core of Vision Zero's philosophy and goal. The only acceptable goal is to reduce fatalities and severe injuries to zero.

4.3.13.4.4 Responsibility

Who is responsible for safety on our streets? We all are! Road users who live, work, or visit Tracy are responsible for following the rules of the transportation system. All city departments are responsible for the safe operation and use of thetransportation system. This is why Vision Zero follows a "safe systems approach."

4.3.13.4.5 *Safe Systems Approach*

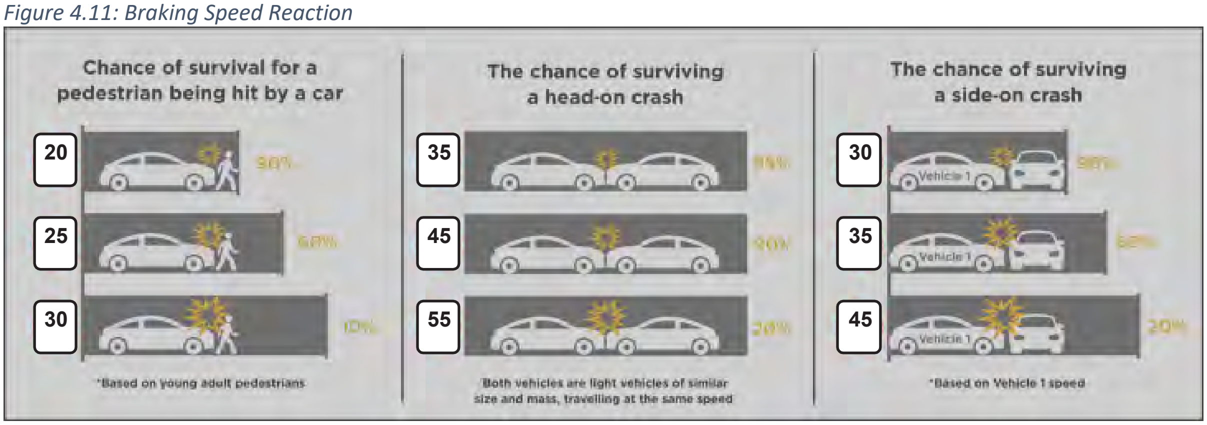
A crash that results in severe injury means that personal behavior or components in the road transportation system were not performing well together. It is the responsibility of the community and all city departments to integrate all the components of the system.

4.3.13.4.6 *Human Limits: Error and Speed*

As humans we make mistakes, but theseshould not lead to loss of life on the road. Therefore, human limitations are an important basis upon which to design and use the road transportation system.

The human body can only withstand certainamounts of force in a car crash. Even the impact force of a car traveling at 20-mph is enough to be fatal (there's a 10% risk of fatality for pedestrians struck). If we doublethe car's speed to 40-mph, the risk of fatality skyrockets to 80-percent. Increasesin speed lead to decreases in our field of vision so it becomes more difficult to spot a person crossing the street.

Figure 4.11: Braking Speed Reaction



Source: National Road Safety Strategy AU

Table 4.2 Potential TDM Measures

Contributing Collision Factor	Typical Causes	Principal Strategy	Supporting Strategies
User Inexperience	New/beginning driver; driver/user in novel traffic situation; user traveling by a means in which they areinexperienced; children using the streets as pedestrians or bicyclists.	Education	**Enforcement, Engineering, Planning**
Street Design and Operations	Lack of access control, unclear as to who has the right of way; limited visibility; faded striping/signage; lack of ped or bike facilities.	Engineering	**Enforcement, Education, Planning**
Inadvertent Distraction	Driving when tired; driver lulled by roadway conditions; sudden surprise from unanticipated distractions; medical causes.	Education	**Enforcement, Engineering, Planning**
Intentional Disregard of Safety, High-Risk Behavior	**Speeding; unsafe turning speeds; driver under the influence; texting; phone use by driver, pedestrians,and bicyclists.**	**Enforcement**	**Engineering, Education**

4.3.13.4.7 Design Streets for Everyone

The following design strategies are recommended to design streets for everyone:

- Evaluate high severity, high incidence location and collision factors. Collaborate to addresssafety issues through enforcement and/or safety measures.
- Review projects and plans for safety and access. Look for opportunities to enhance safety.
- Incorporate “Complete Streets” principles in projects.
- Use existing tools but also draw upon worldwide best practices in roadway improvementand enforcement strategies.
- Use street resurfacing as an opportunity to implement low-cost changes and increase roadsafety through striping.
- Implement safety projects under the Neighborhood and Community Improvement Program (NCIP).
- Implement Safe Routes to School (SRTS) safety projects, programs, and participate in SRTS Countywide Task Force.
- Adopt crosswalk guidelines to upgrade and/or eliminate crosswalks based on safety.

The following design strategies are recommended for new development

- Integrate land use and circulation elements in Specific Plans to support walkable, bikeable, transit-oriented neighborhoods (high-density, mixed-use, active transportation).
- Include Vision Zero goal in near term and long-term planning documents.
- Examine development projects to determine impact on safety and access for pedestrians and bicyclists.
- Look for opportunities to incorporate safety and access improvements for pedestrian and bicyclists in development projects.
- Update plans and bicycle guidelines for bike and pedestrian circulation as new technology and standards become available.

4.4 Railroad Facilities

4.4.1 Introduction

This section documents infrastructure related to Railroad Crossing facility planning. The existing Railroad Crossings are presented in Chapter 2. The City of Tracy Railroad Crossings was integrated into the TMP to develop a comprehensive circulation system that minimizes conflict and delay points between railroad traffic and automobile, transit, pedestrian, and bicycle traffic within the City. Graphics are provided to illustrate existing and future Railroad Crossing facilities. Planning for at-grade and grade separated facilities is based on review of forecast local and regional trains, vehicular, bicycle and pedestrian traffic, and coordination between City of Tracy, the California Public Utilities Commission (CPUC), and Union Pacific Railroad (UPRR). Discussion is provided regarding existing and future railroad crossings, facility design, and resource documents.

4.4.2 Planning Railroad Crossing Facilities

Planning for Railroad Crossings where roadways currently or will cross the railroad has been coordinated between City staff, traffic engineers and representatives from the CPUC, and UPRR. Consideration was given to the frequency of use for each railroad, the type of trains using each line, and the current and forecast vehicular traffic crossing each railroad and taking cognizance of pedestrian and bicycle travel needs. Balancing the needs between railroad traffic and automobile traffic is important to determine where at-grade crossings are adequate, and where grade separations are required. The railroad industry provided the impetus for creating the community of Tracy and therefore, multiple rail lines are embedded in the community, often traversing diagonally across the roadway network. Typically, at-grade crossings can accommodate 4-lane roadways, however 6-lane roadways may require grade separation between the railroad and the automobile roadway. Additionally, the CPUC requires no new at-grade railroad crossings unless a crossing is relocated from another location and merited. Discussion and review of new and relocated crossings requires discussion with the CPUC to confirm expectations and establish a transportation network serving operational and safety needs for both rail and non-rail traffic. The TMP establishes a platform from which design and continued discussions with CPUC and UPRR can occur. It should be noted that several locations have been earmarked as possible grade separated facilities. In calculating future traffic impact fees, the facilities are regarded as being grade separated.

4.4.3 Future Railroad Crossing Facilities

Figure 4.12 shows the City of Tracy Railroad Crossing Facility Plan, which includes the existing and future facilities identifying widening of existing crossings, future at-grade crossings, and future grade separated crossings. The following improvements to the railroad crossings are recommended to address Horizon Year forecasted demand:

Maintain At-Grade Crossings

- **#1: Lammers Road north of Valpico Road.** Lammers Road future widening will increase roadway from 2 lanes to consist of 4 lanes to accommodate Horizon Year traffic volumes. The 4-lane roadway/railroad crossing may remain at-grade. Future roadway improvements should accommodate pedestrian and bicycle crossings per standard designs.
- **#5: Corral Hollow Road north of Linne Road.** Coral Hollow Road future widening will increase roadway from 2 lanes to consist of 4 lanes to accommodate Horizon Year traffic volumes. The 4-lane roadway/railroad crossing will remain at-grade. Future roadway improvements should accommodate pedestrian and bicycle crossings per standard designs.
- **#8: Tracy Boulevard north of Linne Road.** Tracy Boulevard widening will increase roadway from 2 lanes to consist of 4 lanes to accommodate Horizon Year traffic volumes. The 4-lane roadway/railroad crossing will remain at-grade. Future roadway improvements should accommodate pedestrian and bicycle crossings per standard designs.
- **#16: Chrisman Road at Schulte Road.** Chrisman Road widening will increase roadway from 2 lanes to consist of 4 lanes to accommodate Horizon Year traffic volumes. The 4-lane roadway/railroad crossing will remain at-grade. Future roadway improvements should accommodate pedestrian and bicycle crossings per standard designs.

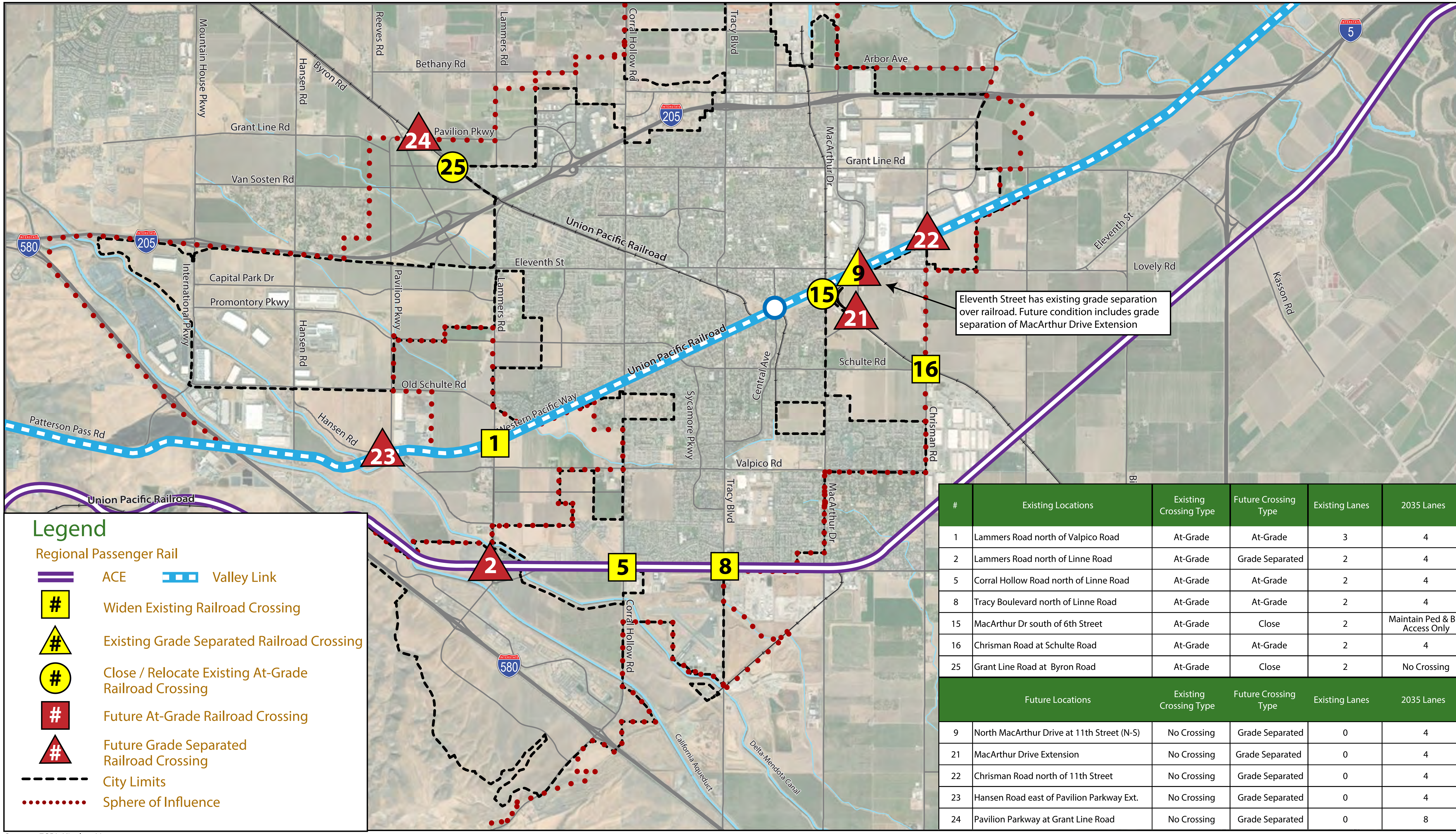
Provide Grade-Separated Crossings

- **#2: Lammers Road north of Linne Road.** Lammers Road widening will increase roadway from 2 lanes to consist of 4 lanes to accommodate Horizon Year traffic volumes. The 4-lane roadway/railroad crossing will change from at-grade to a grade separated crossing. Currently private Lammers Road will become a public roadway. Future roadway improvements should accommodate pedestrian and bicycle crossings per standard designs.
- **#21: MacArthur Drive Extension.** The realignment and extension of MacArthur Drive from its current alignment north of Eleventh Street (where it currently dog-legs) will entail a new grade-separated crossing over the tracks before it rejoins the existing alignment of MacArthur Drive at Mt. Diablo Avenue. Future roadway improvements should accommodate pedestrian and bicycle crossings per standard designs.
- **#22: Chrisman Road north of 11th Street.** Chrisman Road construction will consist of 4 lanes to accommodate Horizon Year traffic volumes. The 4-lane roadway/railroad crossing will be grade separated. Future roadway improvements should accommodate pedestrian and bicycle crossings per standard designs.
- **#23: Hansen Road east of Pavillion Parkway.** The future Hanson Road improvements will provide 4-lane roadways intersecting over railroad in grade separated crossing. Future roadway/intersection improvements should accommodate pedestrian and bicycle crossings per standard designs.
- **#24: Pavillion Parkway at Byron Road:** Pavillion Parkway roadway improvements will include an 8-lane roadway intersecting over the railroad with a grade-separated crossing. Future

roadway/intersection improvements should accommodate pedestrian and bicycle crossings per standard designs.

Close Existing At-Grade Crossings

- **#15: MacArthur Drive south of 6th Street.** This vehicular roadway crossing will be eliminated once the 11th Street/MacArthur railroad crossing is re-constructed and MacArthur Drive realigned. The City plans to retain the pedestrian and bicycle crossing at crossing #15.
- **#25: Grant Line Road at Byron Road.** This crossing is planned to be closed. Vehicular access across tracks will be provided by future realignment of Pavillion Parkway



#	Existing Locations	Existing Crossing Type	Future Crossing Type	Existing Lanes	2035 Lanes
1	Lammers Road north of Valpico Road	At-Grade	At-Grade	3	4
2	Lammers Road north of Linne Road	At-Grade	Grade Separated	2	4
5	Corral Hollow Road north of Linne Road	At-Grade	At-Grade	2	4
8	Tracy Boulevard north of Linne Road	At-Grade	At-Grade	2	4
15	MacArthur Dr south of 6th Street	At-Grade	Close	2	Maintain Ped & Bike Access Only
16	Chrisman Road at Schulte Road	At-Grade	At-Grade	2	4
25	Grant Line Road at Byron Road	At-Grade	Close	2	No Crossing
	Future Locations	**Existing Crossing Type**	**Future Crossing Type**	**Existing Lanes**	**2035 Lanes**
9	North MacArthur Drive at 11th Street (N-S)	No Crossing	Grade Separated	0	4
21	MacArthur Drive Extension	No Crossing	Grade Separated	0	4
22	Chrisman Road north of 11th Street	No Crossing	Grade Separated	0	4
23	Hansen Road east of Pavilion Parkway Ext.	No Crossing	Grade Separated	0	4
24	Pavilion Parkway at Grant Line Road	No Crossing	Grade Separated	0	8

Source: ESRI, Kimley-Horn

Kimley»Horn

North

0 0.5 1 2 Miles (Approximate)

Figure 4.12: Railroad Crossings - Improvements and Future Locations

4.4.4 Railroad Crossing Facility Design Planning

To obtain grant funding from State and Federal sources, railroad crossing facilities are required to adhere to applicable design standards such as those required by CPUC or Federal Railroad Administration (FRA). At-grade railroad crossings should accommodate all users, including traffic from automobiles, buses, pedestrians, and bicyclists. Design standards and guidance for automobile, pedestrian, and bicyclist traffic crossing railroads at-grade is provided through the following documents:

- *Rails-with-Trails: Best Practices and Lessons Learned* (Federal Railroad Administration, Federal Highway Administration, March 2020),
- *Railroad-Highway Grade Crossing Handbook, Revised Second Edition* (Federal Highway Administration, August 2007),
- Caltrans *Highway Design Manual*, Chapter 1000 Bikeway Planning and Design (July 2020), and
- *California Manual on Uniform Traffic Control Devices,* Part 9 Traffic Controls for Bicycle Facilities (2014 Rev. 5, March 2020).

Consideration of the safety of pedestrians at at-grade crossings is important during project planning and design to ensure adequate right-of-way for the approach and crossing. The CPUC pedestrian-rail compendium provides discussion on design principles, design elements, and examples for review. Examples of design elements include swing gates, detectable warnings, signage, crossing surfacing, channelization, pavements markings, and in-roadway lights.

Consideration of the safety of bicyclists at at-grade crossings is important during project planning and design to ensure adequate right-of-way for the approach and crossing. As identified in the Caltrans *Highway Design Manual* (HDM), the bikeway crossing should be at least as wide as the approaches of the bikeway, and the crossing should be straight and at right angles to the rails. If a skew is unavoidable, the shoulder/Class II bike lane should be widened. Safety for cyclists can be accommodate through provision of adequate right-of-way, warning signage, pavement delineations, pavement material design and markings of obstacles such as cattle guards. An example of hazard prevention is incorporation of timber planks at crossings to avoid asphalt cement concrete (ACC) deformation/ridge buildup.

4.4.5 Smart Growth Design Elements

The following Smart Growth design elements are relevant to railroad crossing planning:

- Provide safe and efficient crossings for all modes across railroads to enhance connectivity between land uses and amenities.

4.5 Level of Service

4.5.1 Introduction

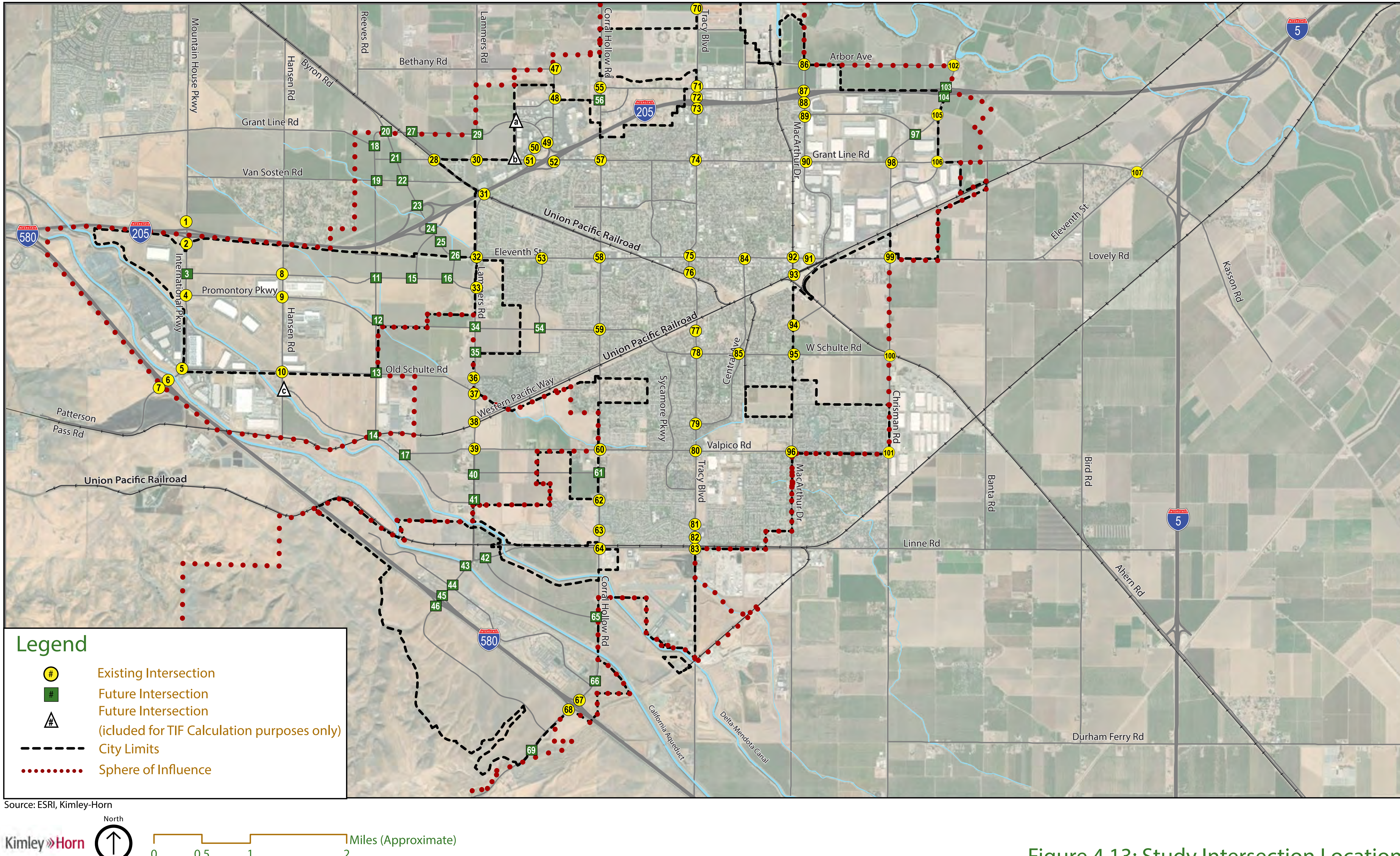
The roadway network forms the backbone for the City of Tracy transportation system. Tracy's future Horizon Year vision demands extensive improvements to the existing transportation system. Several entities and agencies provide transportation facilities and services to accommodate travel to and from, and within the City. Tracy's transportation network is envisioned as a multi-modal network of roads, bicycle lanes and paths, transit services, and pedestrian facilities that will support the planned land uses in the City by providing mobility to residents and visitors alike.

Based on the City's visioning as discussed in Chapter 3, the Horizon Year housing and employment represent growth of about 72-percent and 323-percent respectively, over 2015 conditions. As such, the City's roadway system must be continually maintained and improved to keep pace with development. This presents a unique and fortunate situation for the City of Tracy because it provides an opportunity to develop the transportation system to modern standards and implement transportation improvements as growth occurs. This TMP incorporates several Smart Growth principles to facilitate sustainable provision of transportation infrastructure to accommodate future growth.

This section provides insight on transportation within the City to establish policies and priorities to maintain and improve the transportation system. By implementing an improved transportation network the City can proactively enhance the system, accommodate future growth, and maintain the quality of life in Tracy. City policies established in this document are intended to be comprehensive, but also dynamic, and will be revised as needed to adapt to the changing needs of the region. City officials and staff will use these policies to guide ongoing development, use of City resources and implementation of projects and programs. This section defines a vision and sets overall policy.

4.5.2 Horizon Year Intersection Traffic Volumes

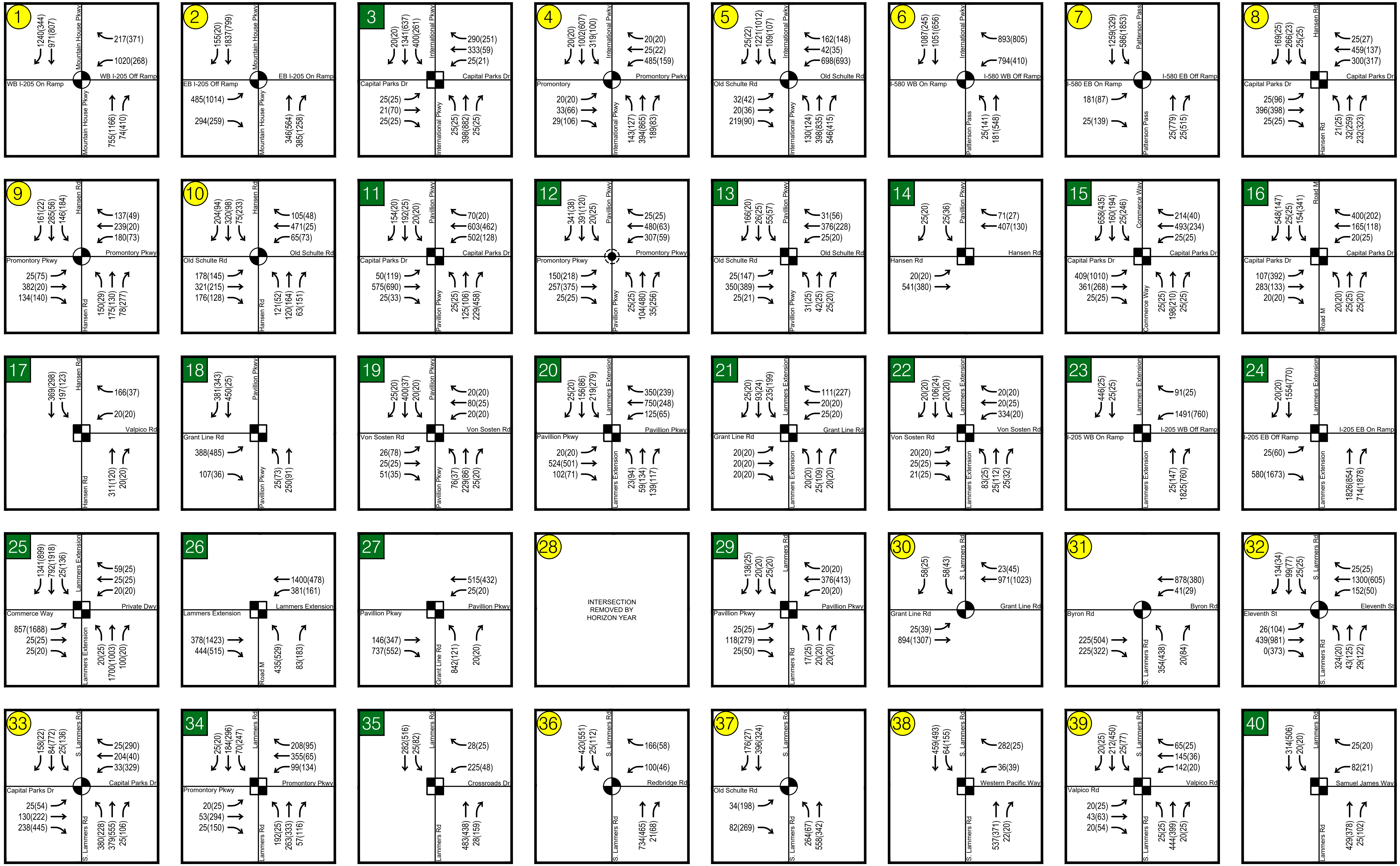
Figure 4.13 shows the location of the study intersections. Based on the Horizon Year traffic modeling and forecast volumes discussed in Chapter 3, forecast volumes from the model were post-processed to obtain intersection traffic volumes for Horizon Year future traffic volumes. Post-processing of the model data to provide peak hour intersection volumes was conducted in accordance with industry standards which included review of existing traffic volumes for consistency on major corridors within the City. Figure 4.14 shows the forecasted AM and PM peak hour intersection traffic volumes for the major study intersections in the City.



Source: ESRI, Kimley-Horn

Kimley»Horn

Figure 4.13: Study Intersection Locations



LEGEND

Existing Intersection

Future Intersection

Existing Signal Control

Future Signal Control

Stop Control

Existing Roundabout Control

Future Roundabout Control

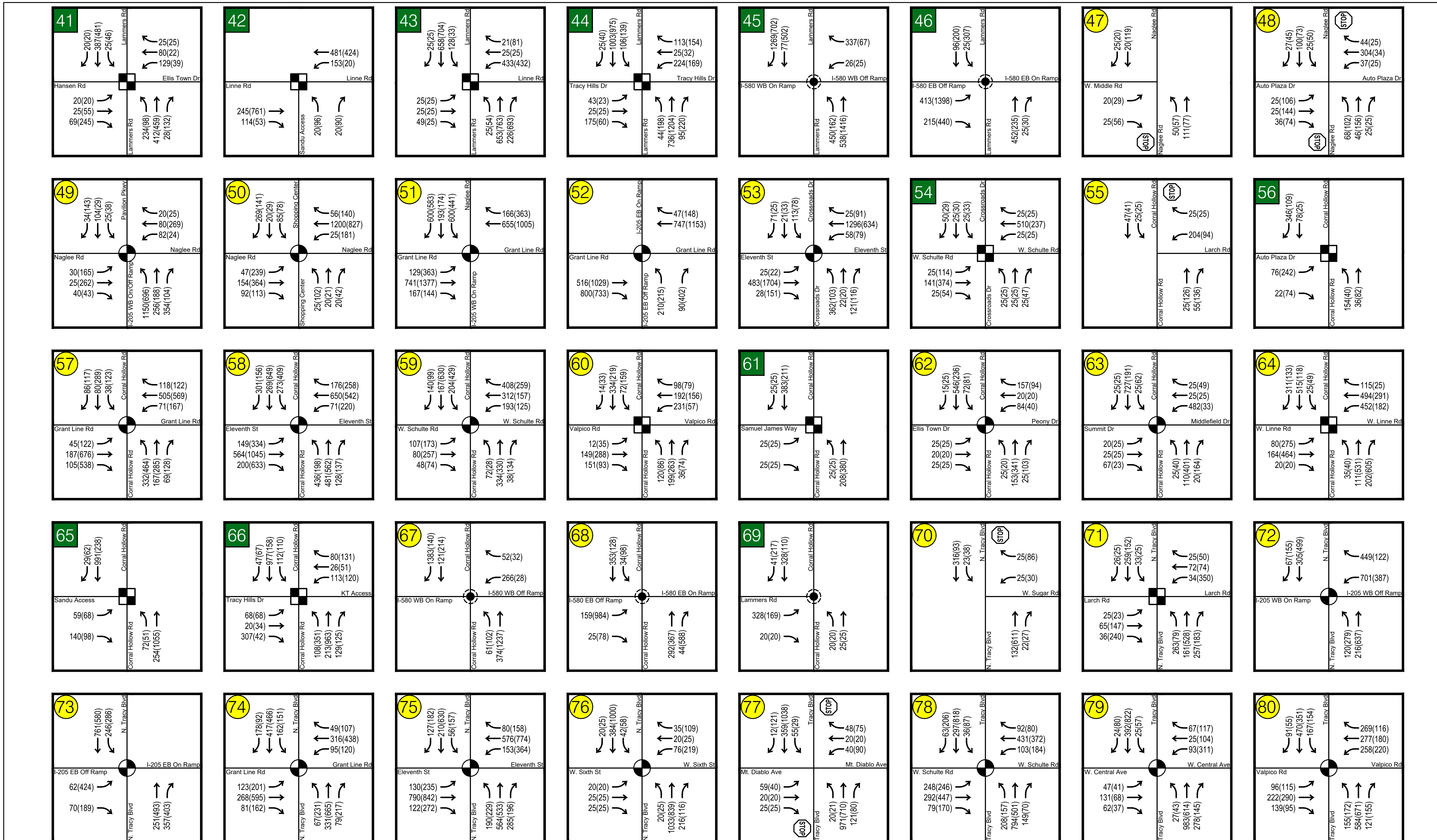
(XX)YY AM(PM) Peak Hour Volumes

Kimley»Horn

January 2022

Figure 4.14
Horizion Year (1 of 3)
Peak Hour Volumes

City of Tracy Transportation Master Plan



LEGEND

Existing Intersection

Future Intersection

Existing Signal Control

Future Signal Control

Stop Control

Existing Roundabout Control

Future Roundabout Control

(XX)YY AM(PM) Peak Hour Volumes

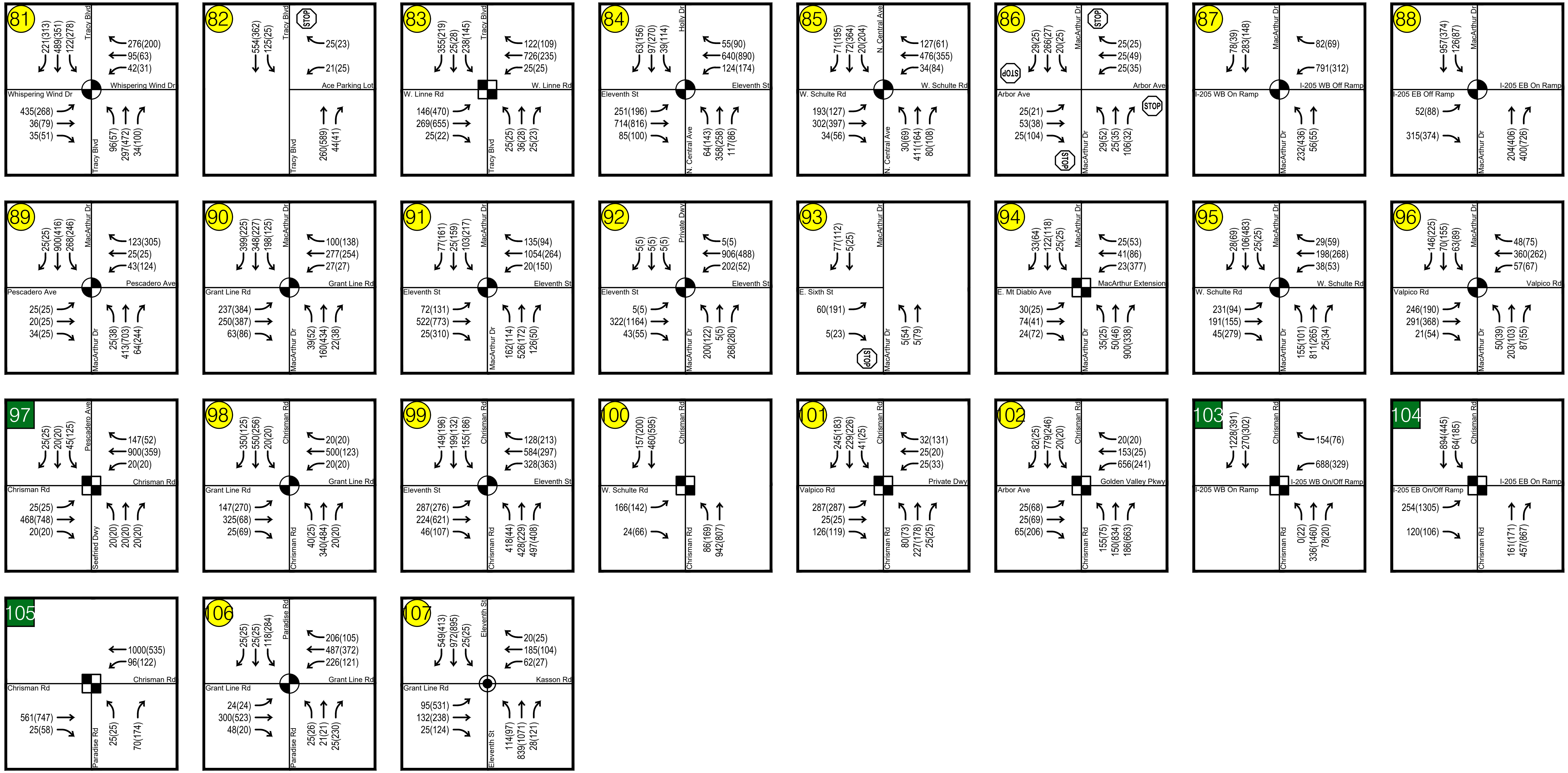
NORTH

Kimley»Horn

January 2022

Figure 4.14b
Horizion Year (2 of 3)
Peak Hour Volumes

City of Tracy Transportation Master Plan



LEGEND

- ## Existing Intersection
- ## Future Intersection
- Existing Signal Control
- Future Signal Control
- STOP Stop Control
- Existing Roundabout Control
- Future Roundabout Control
- (XX)YY AM(PM) Peak Hour Volumes

Kimley»Horn

January 2022

NORTH

Figure 4.14c
Horizion Year (3 of 3)
Peak Hour Volumes

City of Tracy Transportation Master Plan

4.5.3 Horizon Year Intersection Configuration and Operation

This section presents and assessment of the forecasted Horizon Year traffic conditions and the recommended transportation system improvements to support this growth.

4.5.3.1 Traffic Operation Evaluation Methodologies and Level of Service Standards

Chapter 2 provides an overview of traffic operation evaluation methodologies and level of service standards for study intersections. Intersection control for existing conditions includes signalized and stop-controlled intersections. The following provides discussion for analysis of intersections controlled through implementation of roundabouts which is planned at seven study intersections.

4.5.3.2 Level of Service Criteria for Roundabouts

The standardized analysis methodology identified by Federal Highway Association (FHWA) is the Volume to Capacity (V/C) analysis methodology. Typical roundabout traffic analysis does not assign a LOS performance grade; instead, the V/C ratio is identified to determine acceptable or deficient operation. The V/C ratio of a roundabout provides a direct assessment of the demand at the roundabout entry to the capacity at the entry. According to NCHRP Report 672 a V/C ratio of 0.85 or less corresponds to acceptable roundabout operation and a V/C ratio greater than 0.90 corresponds to deficient roundabout operation. When the V/C ratio of a roundabout is in the range of 0.85 to 0.90 acceptable operations may be achieved however additional microsimulation is required to determine operating conditions on a case-by-case basis. Roundabout analysis was prepared utilizing the Sidra 9.0 software package which includes roundabout analysis parameters such as vehicular traffic volumes, lane geometry, and approximate dimensions of roundabouts.

4.5.4 Lane Configuration/Level of Service

Figure 4.15 shows the lane configuration by approach and intersection control for future intersections. The lane configuration figures identify where improvements are recommended to accommodate future Horizon Year traffic demand. It should be noted that the improvements shown are identified to maintain level of service threshold per the City of Tracy and Caltrans level of service standards as appropriate. Level of service calculations were conducted using the Synchro software program to determine the weekday Future AM and PM peak-hour operations at the study intersections.

Figure 4.16 presents the Horizon Year AM and PM peak-hour intersection LOS, and Table 4.3 summarizes the delay and LOS results. LOS worksheets have been provided in Appendix G.

Table 4.3: Horizon Year Intersection Level of Service

ID	Intersection	Control Type	Delay[1,2] AM	Delay[1,2] PM	LOS AM	LOS PM
1	International Parkway & I-205 Westbound Ramps	Signal	16.4	11.3	B	B
2	International Parkway & I-205 Eastbound Ramps	Signal	13.6	16.9	B	B
3	International Parkway & Capital Parks Drive	Signal	24.6	33.2	C	C
4	International Pkwy & Promontory Parkway	Signal	26.0	27.5	C	C
5	International Pkwy & Old Schulte Road	Signal	198.1	112.2	F	F
6	International Pkwy & I-580 Westbound Ramps	Signal	13.0	9.5	B	A
7	International & I-580 Eastbound Ramps	Signal	9.7	12.6	A	B
8	Hansen Road & Capital Parks Dr	Signal	25.8	21.4	C	C
9	Hansen Road & Promontory Parkway	Signal	20.8	20.9	C	C
10	Hansen Road & Old Schulte Road	Signal	32.5	28.2	C	C
11	Pavillion Parkway & Capital Parks Dr	Signal	17.4	22.9	B	C
12	Pavillion Parkway & Promontory Parkway	RAB	0.812	0.654	-	-
13	Pavillion Parkway & Old Schulte Road	Signal	13.4	14.5	B	B
14	Pavillion Parkway & Hansen Road	Signal	6.5	6.4	A	A
15	Commerce Way & Capital Parks Drive	Signal	18.6	24.1	B	C
16	Road M & Capital Parks Drive	Signal	28.0	18.3	C	B
17	Hansen Road & Valpico Road	Signal	9.7	3.3	A	A
18	Pavillion Parkway & Grant Line Road	Signal	11.2	14.1	B	B
19	Pavillion Parkway & Von Sosten Road	Signal	13.0	13.3	B	B
20	Lammers Extension & Pavillion Pkwy	Signal	20.8	21.7	C	C
21	Lammers Extension & Grant Line Road	Signal	10.5	11.7	B	B
22	Lammers Extension & Van Sosten Road	Signal	15.7	12.2	B	B
23	Lammers Extension & I-205 WB Ramps	Signal	10.8	10.0	B	A
24	Lammers Extension & I-205 EB Ramps	Signal	4.7	5.1	A	A
25	Lammers Extension & Commerce Road	Signal	35.6	34.9	D	C
26	Eleventh Street & Road M	Signal	8.8	10.5	A	B
27	Grant Line & Pavillion Pkwy	Signal	16.6	7.3	B	A
29	Lammers Road & Pavillion Pkwy	Signal	13.2	11.8	B	B
30	Grant Line Road & Lammers Road	Signal	4.6	4.2	A	A
31	Lammers Road & Byron Road	Signal	15.3	15.3	B	B
32	Lammers Road & Eleventh Street	Signal	17.9	14.6	B	B
33	Lammers Road & Capital Parks Drive	Signal	29.1	42.8	C	D
34	Lammers Road & Schulte Road	Signal	15.8	19.5	B	B
35	Lammers Road & Crossroads Drive	Signal	5.3	3.4	A	A
36	Lammers Road & Redbridge Rd	Signal	18.2	21.4	B	C
37	Lammers Road & Old Schulte Road	Signal	8.3	32.6	A	C
38	Lammers Road & Western Pacific Wy	Signal	8.9	3.3	A	A
39	Lammers Road & Valpico Road	Signal	12.6	11.9	B	B
40	Lammers Road & Samuel James Way	Signal	5.7	4.4	A	A
41	Lammers Road & Hansen Rd & Ellis Town Drive	Signal	14.6	14.5	B	B
42	North Tracy Hills Drive & Linne Dr	Signal	26.2	6.4	C	A
43	Lammers Road & Linne Road	Signal	24.8	23.1	C	C
44	Lammers Road & Tracy Hills Dr	Signal	30.4	18.4	C	B
45	Lammers Road & I-580 WB Ramps	RAB	0.844	0.673	-	-
46	Lammers Road & I-580 EB Ramps	RAB	0.294	0.825	-	-
47	Naglee Road & Middle Road (worst approach, EB)	SSSC	3.2(9.4)	3.6(10.0)	A(A)	A(B)
48	Naglee Road & Auto Plaza Drive	SSSC	15.4(25.2)	15.5(33.0)	C(D)	C(D)
49	Naglee Road & I-205 Westbound Ramps	Signal	15.8	20.3	B	C
50	Park & Ride & Naglee Road	Signal	21.6	33.9	C	C
51	Grant Line Road & I-205 Westbound Ramps	Signal	17.5	48.5	B	D
52	Grant Line Road & I-205 EB Ramps	Signal	10.6	5.1	B	A
53	Crossroads Drive & Eleventh Road	Signal	29.5	22.9	C	C
54	Crossroads Drive & Schulte Road	Signal	11.2	12.4	B	B

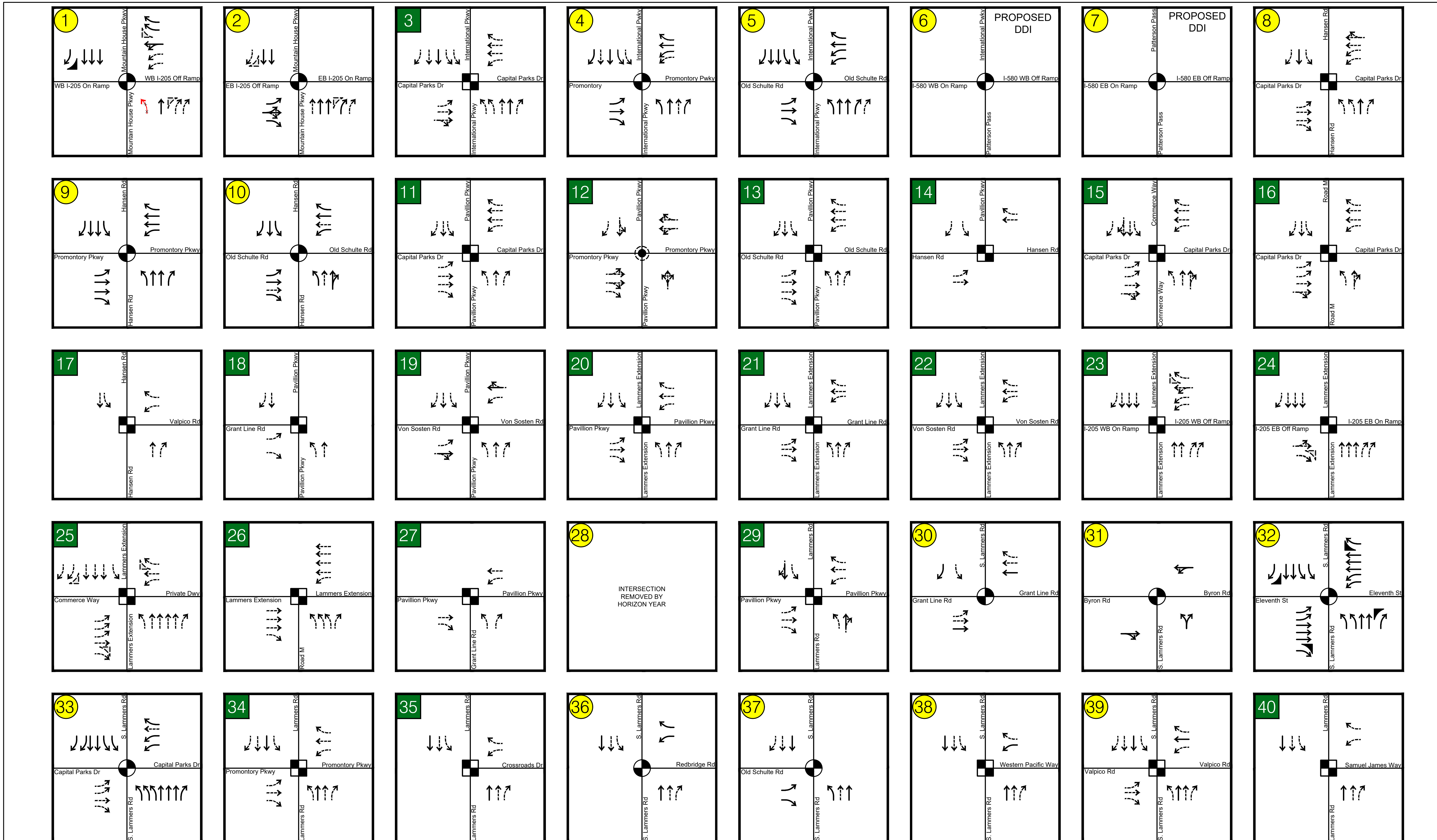
ID	Intersection	Control Type	Delay[1,2] AM	PM	LOS AM	PM
55	Corral Hollow Road & Larch Road	SSSC	7.0(10.9)	3.4(11.0)	A(B)	A(B)
56	Corral Hollow Road & Auto Plaza Drive	SSSC	3.6(12.3)	6.6(11.0)	A(B)	A(B)
57	Corral Hollow Road & Grant Line Road	Signal	19.7	24.5	B	C
58	Corral Hollow Road & Eleventh Street	Signal	25.6	27.1	C	C
59	Corral Hollow Road & Schulte Road	Signal	21.6	23.7	C	C
60	Corral Hollow Road & Valpico Road	Signal	17.4	16.7	B	B
61	Corral Hollow Road & Samuel James Way	Signal	5.4	4.7	A	A
62	Corral Hollow Road & Peony Drive	Signal	15.4	29.2	B	C
63	Corral Hollow Road & Middlefield Drive	Signal	20.1	40.6	C	D
64	Corral Hollow Road & Linne Road	Signal	19.6	69.0	B	E
65	Corral Hollow Road & North Tracy Hills Drive	Signal	8.4	5.3	A	A
66	Corral Hollow Road & Tracy Hills Drive	Signal	21.6	37.9	C	D
67	Corral Hollow Road & I-580 WB Ramps	RAB	0.773	0.541	-	-
68	Corral Hollow Road & I-580 EB Ramps	RAB	0.156	0.497	-	-
69	Corral Hollow Road & Lammers Road	RAB	0.264	0.175	-	-
70	Tracy Boulevard & Sugar Road (worst approach, WB)	SSSC	1.3(11.1)	2.5(16.5)	A(B)	A(C)
71	Tracy Boulevard & Larch Road	Signal	20.4	34.6	C	C
72	Tracy Blvd & I-205 WB Ramps	Signal	17.1	23.4	B	C
73	Tracy Blvd & I-205 EB Ramps	Signal	19.7	32.8	B	C
74	Tracy Boulevard & Grant Line Road	Signal	20.2	31.7	C	C
75	Tracy Boulevard & Eleventh Street	Signal	21.8	26.7	C	C
76	Tracy Boulevard & 6th Street	Signal	10.8	16.2	B	B
77	Tracy Boulevard & Mount Diablo Avenue	SSSC	3.1(23.0)	4.9(40.4)	A(C)	A(E)
78	Tracy Boulevard & Schulte Road	Signal	34.6	30.8	C	C
79	Tracy Boulevard & Central Avenue	Signal	21.1	29.7	C	C
80	Tracy Boulevard & Valpico Road	Signal	25.1	24.7	C	C
81	Tracy Boulevard & Whispering Wind Drive	Signal	45.7	30.9	D	C
82	Tracy Boulevard & ACE Station (worst approach, WB)	SSSC	1.6(13.6)	0.9(14.6)	A(B)	A(B)
83	Tracy Boulevard & Linne Road	Signal	8.7	6.7	A	A
84	Central Avenue & Eleventh Street	Signal	28.5	32.9	C	C
85	Central Avenue & Schulte Road	Signal	26.0	26.2	C	C
86	MacArthur Drive & Arbor Avenue	Signal	9.7	8.3	A	A
87	MacArthur Drive & I-205 WB Ramps	Signal	54.7	14.7	D	B
88	MacArthur Drive & I-205 EB Ramps	Signal	13.2	45.9	B	D
89	MacArthur Drive & Pescadero Avenue	Signal	19.5	29.3	B	C
90	MacArthur Drive & Grant Line Road	Signal	29.0	28.4	C	C
91	MacArthur Drive & Eleventh Street	Signal	30.7	29.5	C	C
92	MacArthur Drive & Eleventh Street (South)	Signal	22.2	19.8	C	B
93	MacArthur Drive & 6th Street (worst approach, EB)	SSSC	4.0(9.1)	6.2(12.2)	A(A)	A(B)
94	MacArthur Drive & Mount Diablo Avenue	Signal	78.1	21.1	E	C
95	MacArthur Drive & Schulte Road	Signal	27.6	26.2	C	C
96	MacArthur Drive & Valpico Road	Signal	32.8	23.6	C	C
97	Chrisman Road & Pescadero Avenue	Signal	21.8	39.7	C	D
98	Chrisman Road & Grant Line Road	Signal	18.2	19.8	B	B
99	Chrisman Road & Eleventh Street	Signal	52.8	55.2	D	E
100	Chrisman Road & Schulte Road	Signal	6.5	7.6	A	A
101	Chrisman Road & Valpico Road	Signal	6.5	6.1	A	A
102	Paradise Road & Arbor Avenue	Signal	20.7	19.1	C	B
103	Paradise Road & I-205 WB Ramps	Signal	11.8	7.4	B	A
104	Paradise Road & I-205 EB Ramps	Signal	20.3	29.0	C	C
105	Paradise Road & Pescadero Avenue	Signal	22.8	29.3	C	C
106	Paradise Road & Grant Line Road	Signal	46.3	31.2	D	C
107	Grant Line Road & Eleventh Street	RAB	0.844	1.734	-	-
Notes:						

ID	Intersection	Control Type	Delay[1,2] AM	PM	LOS AM	PM
1.For roundabouts, v/c is reported instead of delay 2.Delay is indicated in seconds/vehicle Analysis is performed using HCM 6th methodologies AWSC = All Way stop control SSSC = side street stop controlled RAB = roundabout						

4.5.5 Cut-Through Traffic

Cut-through traffic diverts from I-205 onto the City of Tracy arterials to find a quicker commute to/from the Altamont Pass/Bay Area. The following measures can be implemented to discourage cut-through traffic:

1. Coordinate signal timing along corridors to slow the travel speed to below the freeway speed.
2. Implement turn restrictions or block off freeway crossings during periods when cut-through operations occur.
3. Set signal timing cycles at individual intersections to increase delay for cut-through traffic.
4. Communicate the changes to the local residents, because they also may be impacted by the changes.
5. Coordinate with mapping applications (i.e. Google Maps, WAZE, etc) to not show the arterials as alternatives.



LEGEND

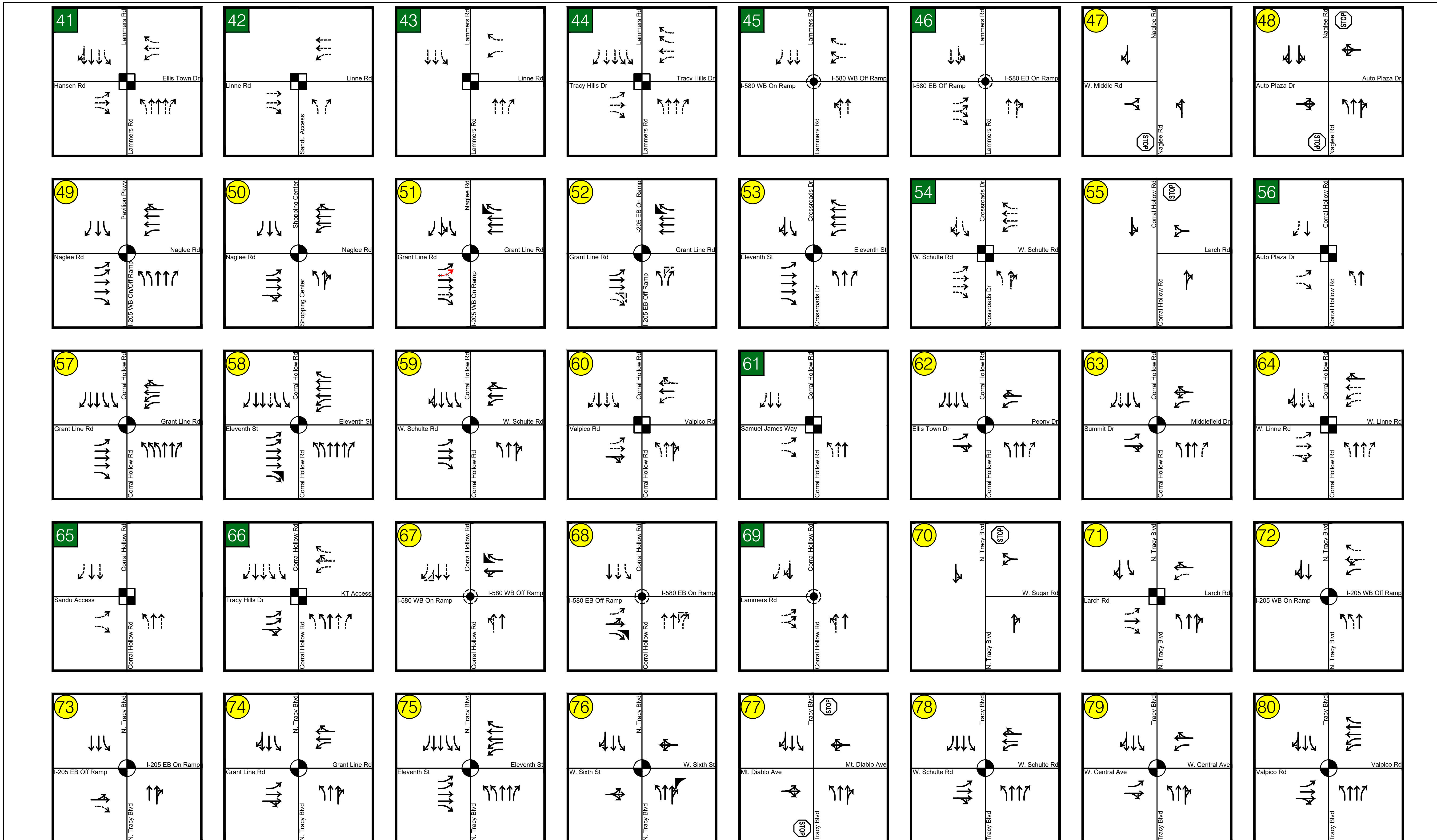
- ## Existing Intersection
- ## Future Intersection
- Existing Signal Control
- Future Signal Control
- Stop Control
- Existing Lanes
- Future Lanes
- Remove Lanes
- Existing "Free" Right
- Future "Free" Right
- Existing Roundabout Control
- Future Roundabout Control

Kimley»Horn

September 2021

NORTH

Figure 4.15
Horizon Year (1 of 3)
Geometry and Traffic Control
City of Tracy Transportation Master Plan



LEGEND

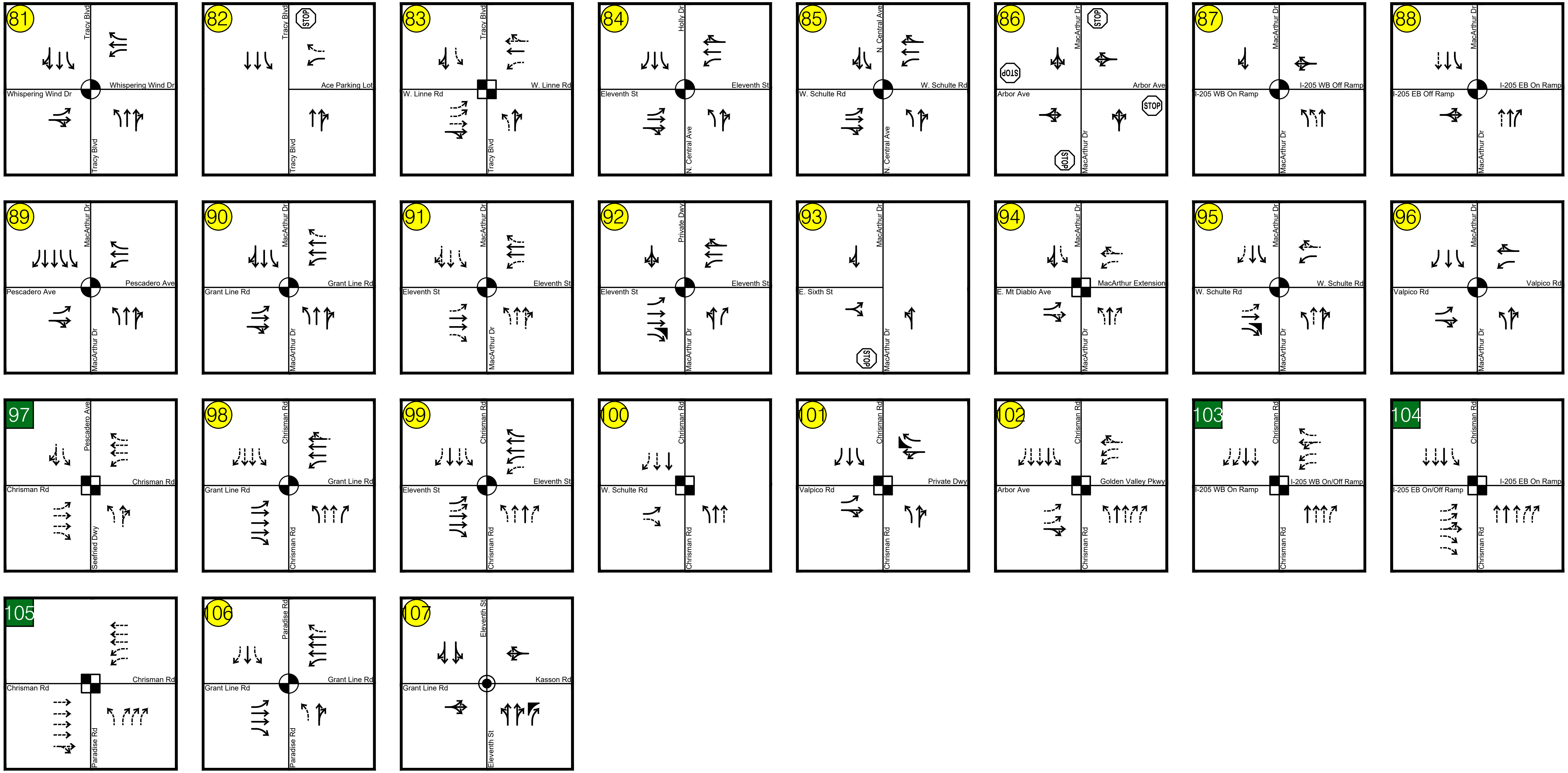
- ## Existing Intersection
- ## Future Intersection
- Existing Signal Control
- Future Signal Control
- Stop Control
- Existing Lanes
- Future Lanes
- Remove Lanes
- Existing "Free" Right
- Future "Free" Right
- Existing Roundabout Control
- Future Roundabout Control

Kimley»Horn

September 2021

NORTH

Figure 4.15b
Horizon Year (2 of 3)
Geometry and Traffic Control
City of Tracy Transportation Master Plan



LEGEND

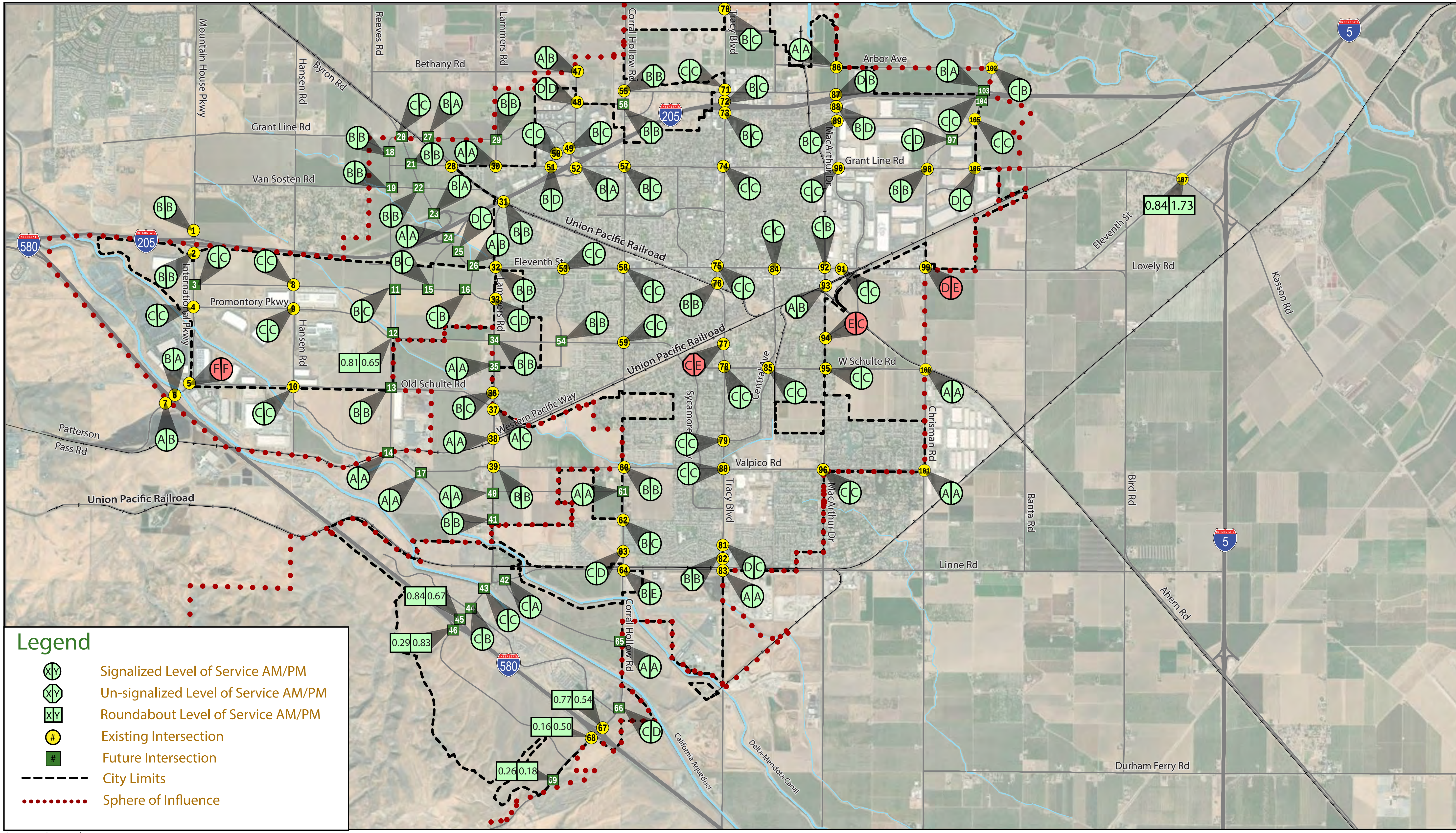
##	Existing Intersection
##	Future Intersection
	Existing Signal Control
	Future Signal Control
STOP	Stop Control
	Existing Lanes
	Future Lanes
	Remove Lanes
	Existing "Free" Right
	Future "Free" Right
	Existing Roundabout Control
	Future Roundabout Control

Kimley»Horn

September 2021

NORTH

Figure 4.15c
Horizion Year (3 of 3)
Geometry and Traffic Control
City of Tracy Transportation Master Plan



Source: ESRI, Kimley-Horn

Kimley»Horn

North

0 0.5 1 2 Miles (Approximate)

Figure 4.16: Horizon Year AM (PM) Level of Service

City of Tracy Transportation Master Plan

4.6 Bicycle and Pedestrian Circulation

4.6.1 Introduction

Bicycle travel is anticipated to increase significantly in the future. Recreational cycling and more avid cyclist activities are growing. Funding sources for providing and improving bicycle facilities are available from State and Federal resources. The provision of bicycle and pedestrian facilities that connect people and places is therefore the primary goal of this section in the TMP.

The existing bicycle infrastructure is described in **Chapter 2**, Existing Conditions. The City of Tracy Bicycle and Pedestrian Plan was integrated with the TMP to develop a comprehensive Bicycle and Pedestrian system that ensures a multimodal infrastructure development network. Graphics are provided to illustrate existing and future bicycle trails and sidewalks. Additionally, discussion is provided relative to current innovations for bicycle facilities such as bicycle detection, colored bike lanes, bicycle racks and bicycle lockers and other design elements to enhance the bicycle environment and raise prominence of bicyclists within the transportation system. It should be noted that bicycle facilities will be provided on every proposed arterial and collector road network segment in the TMP. It will also be expected that every new commercial and office development provides bicycle facilities on-site per new zoning standards.

4.6.2 Federal Highway Administration Four E's

The Federal Highway Administration has identified four design components to make bicycling and walking more viable and attractive. The "4-E" program emerged since the 1960's when communities' emphasis in bicycle use needed expanded perspective beyond only the provision of bicycle facilities. The 4-E's are defined below:

- Engineering: Design bicycle facilities to the "best available practices" and beyond.
- Education: Tailor education programs to adult and student bicyclists and to motorists to inform on safe cycling and driving.
- Enforcement: Establish routine enforcement measures to enforce rules design for the safety of the rider.
- Encouragement: Offer encouragement activities and events that are fun, safe, and easy to entice would-be cyclists and reward children to ride effectively and safely.

4.6.3 Bicycle Facilities and Users

As identified in **Chapter 2**, bike facilities are defined into four categories:

- Class I Bikeway
- Class II Bikeway
- Class III Bikeway
- Class IV Bikeway

To obtain grant funding from State and Federal resources, bicycle facilities are required to adhere to design standards. The Caltrans standards applicable to bicycle facilities include the following:

- Caltrans *Highway Design Manual*, Chapter 1000 Bikeway Planning and Design (July 2020);
- *Caltrans Design Information Bulletin Number 89-01,* Class IV Bikeway Guidance: Separated Bikeways / Cycle Tracks (May 2018); and

- *California Manual on Uniform Traffic Control Devices,* Part 9 Traffic Controls for Bicycle Facilities (2014 Rev. 5, March 2020).

Bicycle facilities should encompass a system of interconnected routes, paths and on-street bicycle lanes that provide for safe and efficient bicycle travel. As discussed in the FHWA Bikeway Selection Guide (February 2019), there are three types of bicycle users, based on a combination of comfort level, experience, age, and trip purpose:

- Highly Confident Bicyclist: This group is the smallest in number. They prefer direct routes and do not particularly mind traveling in mixed traffic, even on roadways with higher vehicle speeds. While they may prefer bikeways to be separated from vehicle traffic, they may avoid bikeways that they perceive as being too slow or too crowded with other bike users.
- Somewhat Confident Bicyclist: This group is believed to be the next smallest after Highly Confident Bicyclists. They are comfortable on many types of bicycle facilities but have a lower tolerance for high volume or high-speed roadways than. Because of this, they generally prefer low-volume streets or those with physical separation from automobile traffic, but will tolerate higher-stress segments for short distances to avoid out-of-direction travel.
- Interested but Concerned Bicyclists: This is the largest group of bicycle users identified by research, likely making up a majority of the population. This group of users who avoid bicycling unless they have access to very low-volume streets or fully separated bikeways. To ensure that bicyclists of this group can view bicycling as a viable form of transportation, it is important that bikeways be designed to meet the needs of this group, which will also accommodate the needs of Highly Confident and Somewhat Confident Bicyclists.

4.6.4 Designing Future Roadway Related Infrastructure to Complement Bicycle Infrastructure

The infrastructure to support bicycle use within the City of Tracy is composed of roadways, intersections, grade separations over/under railroad crossings, freeway crossings, river crossings, and dedicated bicycle trails. Overcoming barriers such as freeways, rivers, channels, railroads and other obstacles is critical to provide continuous facilities to support bicycle usage. Thus every structure that will be constructed in Tracy in the future will include pedestrian and bicycle facilities in order to improve connectivity for these modes of travel. If the approaching roadway segments do not include pedestrian and bicycle facilities, these should still be provided on the structure, to provide for safe and efficient crossings where no other crossing options exist.

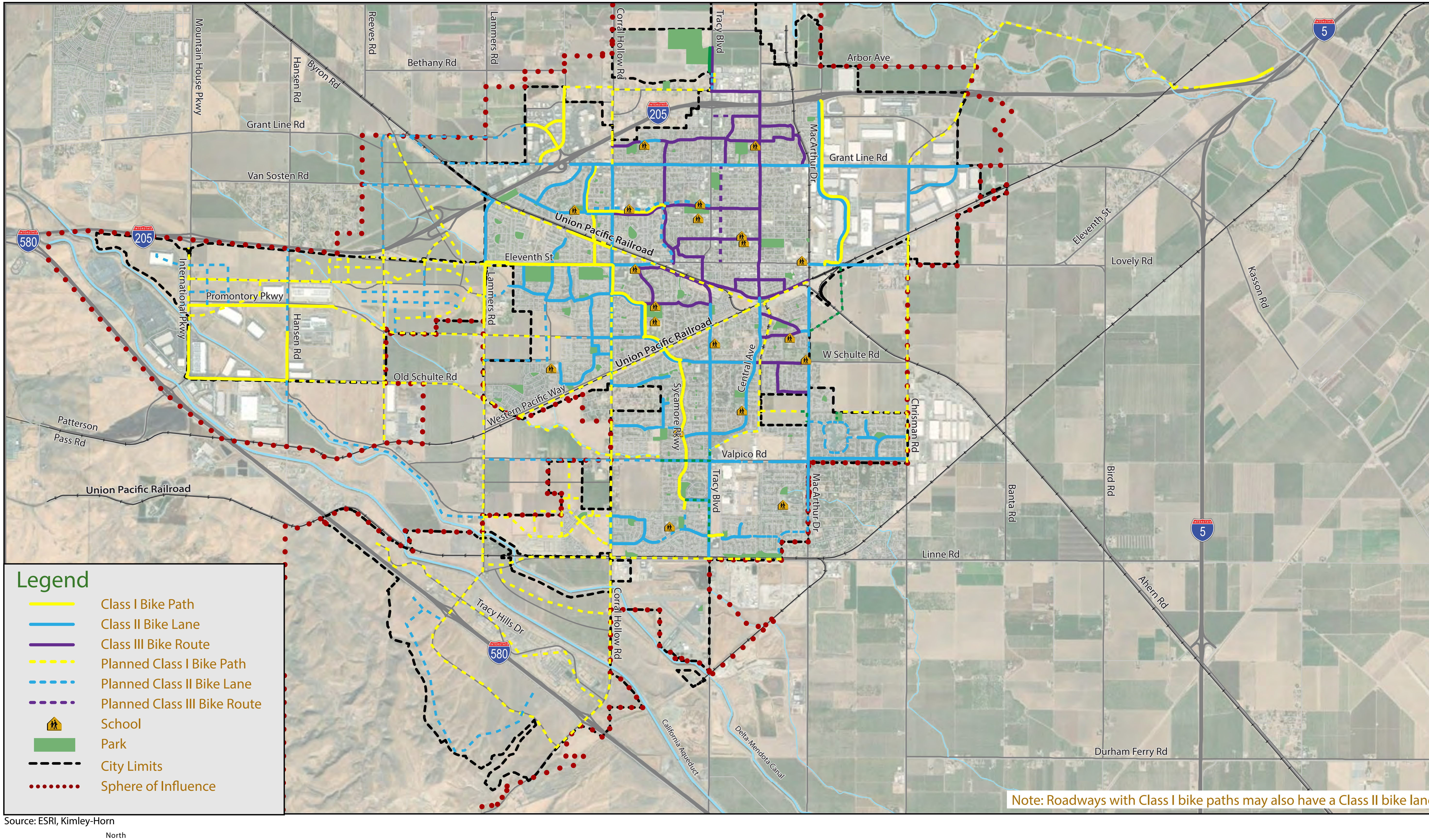
Figure 4.17 shows the Existing and Future Bikeway Network, which includes future bikeways within the City of Tracy/Sphere of Influence, identifying Class I, Class II, Class III, and Class IV facilities. This Plan is being expanded upon in the TMP to further provide overall connectivity and the selection of appropriate streets for the provision of bicycle lanes. Potential bicycle routes were evaluated based on the following criteria:

- Street Classification – higher functional classification route was given higher preference.
- Destinations – special consideration was given to routes that provide a direct connection to major destinations, for e.g. park and ride lots, schools and shopping centers.
- Transit – consideration was given to transit routes to enhance transit use by bicyclists.

The further development of bicycle lanes and facilities in specific future development areas will complement the bicycle system included in the TMP. Inclusion of bicycle and pedestrian facilities will enhance the multimodal nature of development within the City. The new roadway network in the TMP indicates primarily major roadway facilities. These facilities include Class I and II facilities. However, roadway cross sections for all roadways, including collectors and residential streets, do indicate the expansion of bicycle facilities into Specific Plan areas as Class II and III facilities.

Implementation of bicycle lanes can address many community objectives, including accessibility, connectivity between destinations, transit access, mobility and increased system capacity. The following observations relative to Figure 4.17 are provided:

- Crossings of I-205 are limited to Lammers Road Extension (future), Byron Road (future), Grant Line Road (future), Corral Hollow Road (future), Tracy Boulevard (future), Central Avenue, and Chrisman Road (future).
- Crossings of I-580 include two future crossings at Lammers Road and Corral Hollow Road.
- A significant number of Class I facilities exist are planned throughout the City, particularly in areas of new development.
- All existing Class III facilities are east of Corral Hollow Road and very few new Class III facilities are planned.
- All Arterials include Class I or II bicycle facilities
- All Collectors include Class II bicycle facilities



Source: ESRI, Kimley-Horn

Kimley»Horn

Figure 4.17: Existing and Planned Bike Network

City of Tracy Transportation Master Plan

4.6.4.1 Bicycle Transportation Plan

Cities often attempt to increase bicycle usage and formalize plans to improve cycling citywide through preparation of a Bicycle Transportation Plan (BTP). Cities are not required to prepare a BTP; however, if one is prepared, the *State of California Streets and Highways Code Division 1, Chapter 8, Article 3*, Section 891.2 requires inclusion of the following items:

- Current and forecast bicycle commuters.
- A map and description of key existing and proposed land uses.
- A map and description of existing and proposed bikeways.
- A map and description of existing and proposed end-of-trip bicycle parking facilities.
- A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes.
- A map and description of existing and proposed facilities for changing and storing clothes and equipment.
- A description of bicycle safety and education programs conducted in the area, law enforcement activities related to bicycle operation, and resulting effects on accidents involving bicyclists.
- A description of how the bicycle transportation plan has been coordinated and is consistent with key regional transportation, air quality, or energy plans.
- A description of the projects proposed in the plan and a listing of their priorities for implementation.
- A description of past and future financial allotments for bicycle facilities and projects to improve safety and convenience for bicycle commuters.

4.6.4.2 Bikeways Connection to Land Use & Transit

Provision of strong bikeways linkages and connections within land use development projects not only increases the bicycle network, but leads to many secondary benefits. A maximized multi-modal system with bicycle facilities integrated with transit facilities encourages higher transit and bicycle use. Connections to key nodes of activity should be prioritized, such as bikeways links to schools, parks, and community centers that cater to non-driving users. By coordinating community design to enhance access to bikeways, the following benefits are achieved:

- Improved quality of life for residents.
- Reduction in automobile dependency and automobile trips.
- Reduction of traffic congestion.
- Improved air quality.
- Increased connections to transit.
- Increase in safe travel by multiple user groups.

Integration of bicycle facilities within new land use development areas is not limited to right-of-way dedication or construction of facilities. Bicycle supportive programs can be incorporated into development projects, such as “Bike to Work Day” and Travel Demand Management (TDM) programs.

4.6.4.3 Bicycle Lane Treatment at Intersections

Uniform design is encouraged for bicycle lanes at intersections to provide consistency in expectations for both motorists and bicyclists. Design aspects related to bicycle lanes include facility design, signs and pavement markings.

Bicycle lane design treatments at conventional stop-controlled and signalized intersections is generally standardized, and is governed by the Caltrans *Highway Design Manual* Chapter 1000 and *MUTCD* Part 9.

Treatment at roundabouts includes careful balancing of motorist and bicyclists travel. Provision of dedicated bike lanes through roundabouts is discouraged as identified in *Roundabouts: An Informational Guide, Second Edition* (TRB/FHWA, 2010). At single-lane roundabouts, bicyclists have the option of either mixing with traffic or using the roundabout like a pedestrian, thus exiting the roadway via a ramp prior to entering the roundabout, utilizing the pedestrian crosswalk and then entering the bike lane on the downstream side of the roundabout via an onramp. Providing bicyclists two choices helps accommodate both experienced and less-experienced users within roundabouts. At two-lane roundabouts, a bicycle path separate and distinct from the circulatory roadway is preferable, such as a shared bicycle-pedestrian path of sufficient width and appropriately marked to accommodate both types of users. Experienced bicyclists may prefer provision of an alternative route along another street or path that avoids the roundabout instead of crossing the multi-lane roundabout as a pedestrian. Provision of safe routes through roundabouts for bicyclists should be incorporated into roundabout planning and design regardless of provision of alternate routes.

4.6.4.4 Bicycle Path Pavement Materials

Determination of Class I Path construction material includes multiple criteria, such as upfront and maintenance costs, heat retention, and type of user anticipated. Bicycle trails are typically constructed with new or recycled Asphalt Cement concrete (ACC); however, Portland Cement Concrete (PCC) may be utilized to reduce heat retention. PCC may cost more initially, but has lower maintenance costs, while Decomposed Granite (DG) with stabilizer has lower initial costs with high maintenance costs. Preparation of a lifecycle cost analysis and other key metrics can help rank material type.

4.6.5 Smart Growth Design Elements

The following Smart Growth design elements are relevant to bicycle master planning.

- Width of on-street bike lanes is recommended at 5 feet with a desired width of 6 feet. However, wider bike lanes also encourage vehicular speeding when cyclists are not present. The TMP recommends 5 feet bicycle lanes where the lane is adjacent to a curb and 4 feet where the travel lane is adjacent to on-street parking. Off-street bicycle paths can be 8 feet for bicycle only facilities and 10 feet for shared (multi-use) facilities accommodating both cyclists and pedestrians.
- Driveway access management varies by roadway type with frequent driveways on lower speed roadways and residential streets, and infrequent driveways on motorist thoroughfares.
- Limit bicycle use on sidewalks to avoid conflicts with streetscape and pedestrians.
- Provide bicycle detection traffic control devices consistent with the California *MUTCD* for Class II facilities.
- Provide shared roadway bicycle marking consistent with the California *MUTCD* for Class III facilities.

- Incorporating bicycle facilities for new and retrofitted roads to meet complete streets design principles which ensure adequate right-of-way is provided to enable safe access for all users (motorists, pedestrians, bicyclists, transit vehicles and users).
- Expand the City's trails network of Class I off-street paths.
- Provide Class IV bicycle facilities to improve safety of bicyclists

4.6.5.1 Innovative Design Elements

The following innovative bicycle facility design elements are being tested nationwide to enhance bicycle operations, support increased bicycling, and accommodate increased user groups.

- While provision of bike lockers and storage is identified throughout the BMP, private sector vendors have worked with many jurisdictions to provide enhanced bike parking. Bike parking at centralized facilities typically serve to elevate the storage of bicycles through membership, providing security, showers, changing facilities, valet parking, retail sales, and/or maintenance services. Provision of bike station facilities are expected to expand over time to accommodate many other modes such as car sharing, electric vehicle rentals, neighborhood electric vehicle rentals, and other non-polluting modes of transport.

- Incorporation of Bike Boxes at signalized intersections with green roadway striping is used to move cyclists in front of automobiles where high volume bicycle traffic occurs. The Bike Box is intended to cluster bicyclists at the stop line in front of automobiles while waiting for a red traffic signal to change to green. When the traffic signal changes to a green light, the bicyclists proceed forward along the edge of the roadway using a Class II on-street bike lane. Clustering the bicyclists helps raise prominence of bicyclists and provides more opportunity for motorists to turn right at the signal without conflicting with a long queue of bicyclists proceeding straight.

- As identified in the Caltrans *HDM*, shared roadway marking stencils are an accepted treatment for Class III facilities. The Tracy BMP discusses the shared roadway concept and identifies the following benefits; increased motorist awareness of bicyclists in the lane, illustrate the direction of travel for bicyclists, discourage cycling on sidewalks, and improved positioning by bicyclists away from collisions with opening of doors from parked cars (termed "dooring"). The shared lane marking is commonly referred to as a "sharrow" and is typically centered 11 feet from the curb where on-street parking is provided. The City of Long Beach utilizes sharrows and supplements the stenciling with Modified W11-1 and Modified W16-1 signs to define the meaning of the stencils on the roadway to motorists and bicyclists.

- Often coordinated with sharrows are coloring of Class II bikeways on roadways to help raise motorists awareness of bicyclists. Bike lane coloring is typically green, however, the increased amount of paint required suggests application at specific locations only.

- While the Tracy BMP discusses bike corrals to park bicycles for temporary events, some cities have instituted conversion of on-street parallel parking spaces to dedicated permanent bike corrals. Where one automobile could park before, within the same space a bike corral can accommodate parking for 8-12 bicycles. Bike racks are installed within the roadway and protected from automobile traffic using bollards and removable curbs. By placing the bike parking within a protected roadway zone, the bicycles are removed from the sidewalk, maintaining space for pedestrian traffic and commercial space. Within some cities, commercial businesses have begun requesting conversion of on-street parking in front of their business to bike corrals to gain higher turnover and capture more retail foot traffic by cyclists. Since bicycles have lower sightlines, inclusion of bike corrals in no-parking zones may be possible without compromising parking for automobiles.

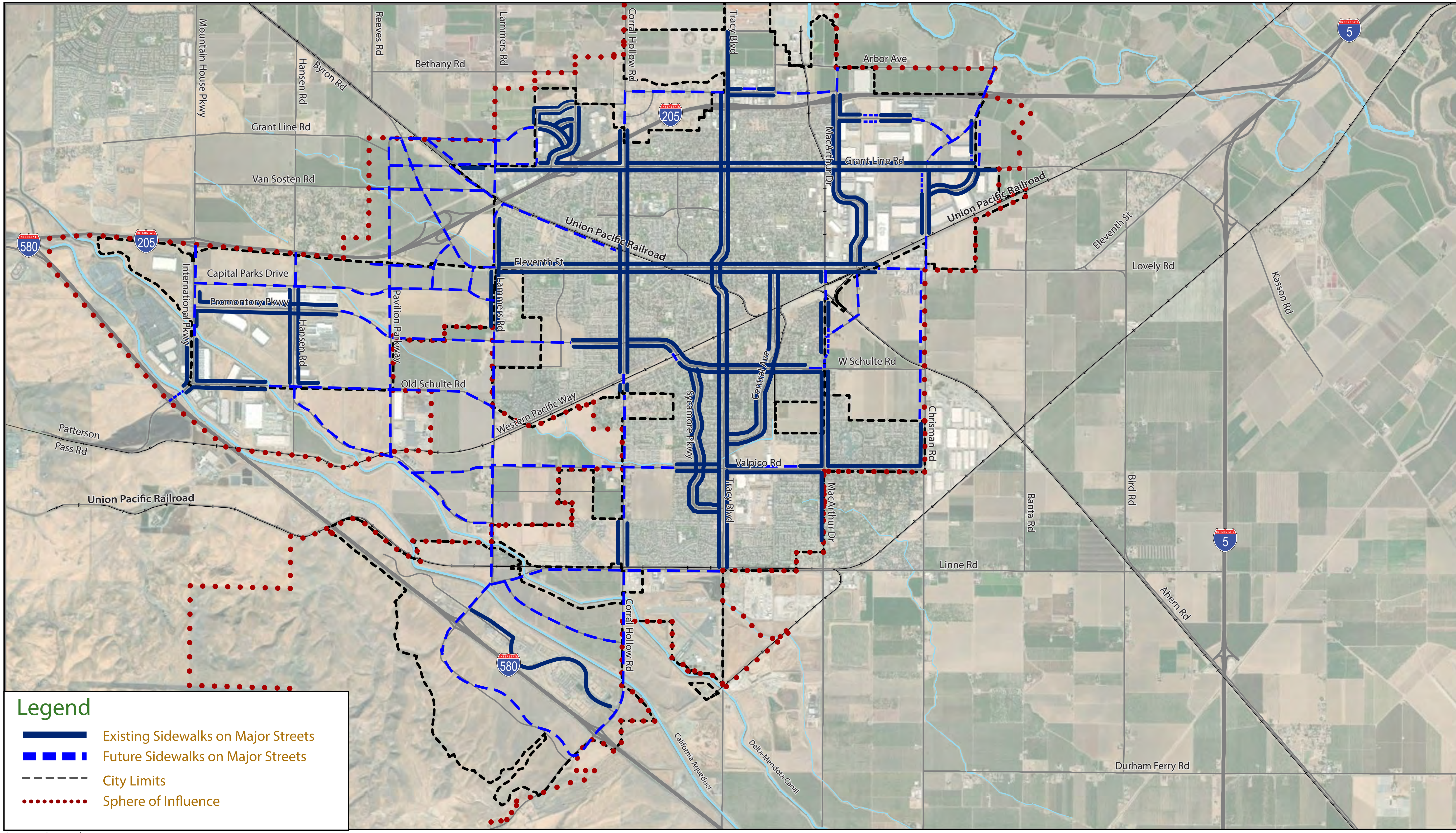
- Similar to bike corrals is the “bike oasis” concept which provides for bike parking on curb extensions or dedicated spaces supplemented with shelter providing cover and information panels and maps.
- Bicycle boulevards as discussed in the Tracy BMP, can be used to promote bicycle circulation where traffic volumes are low and physical constraints limit separate facilities. Application of bicycle boulevards can provide a through route for bicyclists where automobile through traffic may not be desired. In some cases, application of bicycle boulevards has been coordinated with bicycle only traffic signal crossings of high vehicular traffic roadways. Bicycle boulevards can more easily accommodate turns and diversions to maintain ease in riding despite a potentially more circuitous route. Coordination of bicycle boulevards with stormwater runoff management practices may provide increased funding opportunities.

4.6.6 Sidewalks

Figure 4.18 shows the existing and future sidewalks within the City of Tracy/Sphere of Influence, identifying sidewalks on both sides of major streets. The following observations relative to Figure 4.18 are provided:

- Crossings of I-205 are limited to Pavillion Parkway (future), Lammers Road Extension (future), Byron Road (future), Grant Line Road, and Chrisman Road (future).
- Crossings of I-580 include two future crossings at Lammers Road and Corral Hollow Road.
- All Arterials include pedestrian facilities
- All Collectors include pedestrian facilities
- All Residential streets include pedestrian facilities

All pedestrian facilities must meet the American with Disabilities Act requirements, including minimum grades, ramps and detectable surfaces at intersections and where walkways lead pedestrians onto traveled ways.



Source: ESRI, Kimley-Horn

Kimley»Horn

North

0 0.5 1 2 Miles (Approximate)

Figure 4.18: Existing and Future Sidewalks

4.7 Bridge and Culvert Facilities

4.7.1 Introduction

This section documents infrastructure related to Bridges and Culverts facility planning for the Tracy Transportation Master Plan (TMP). The existing Bridges and Culverts crossings are indicted in Chapter 2, Existing Conditions. The City of Tracy Bridges and Culverts Facilities was integrated into the TMP to develop a comprehensive circulation system that identifies crossings to minimize traffic conflicts and preserve open space and preservation areas. Graphics are provided to illustrate existing and future Bridge and Culvert facilities. Planning for Bridge and Culvert facilities is based on the planned circulation system at buildout conditions, long-range traffic forecasts, the need for separation of various transportation modes (cars/railroads), location of canals, rivers, and creeks, and open space/preservation areas. Discussion is provided regarding existing and future Bridge and Culvert crossings, facility design, and resource documents.

4.7.2 Planning Bridge and Culvert Facilities

For the purposes of this report, an over or underpass is described as a freeway-related crossing of another roadway or railroad, bridges are defined as crossings over water bodies, and culverts are enclosed conduits for water to pass under roadways. Consideration was given to the current and forecast vehicular traffic crossing, the need for freeway crossings to serve local traffic, and accounting for canals, sloughs, and aqueducts. The TMP establishes a platform from which design and continued discussions with the Department of Fish and Game (DFG) can occur.

4.7.3 Future Bridge and Culvert Facilities

Figure 4.19 shows the City of Tracy Bridge and Culvert Facility Plan, which includes the existing and future Bridges and Culverts facilities. Table 4.4 summarizes the over/underpass facilities including existing locations where widening is required.

As shown in Table 4.4, 15 over/underpasses are planned at buildout of the City transportation plan, with widening expected at three locations. Table 4.5 summarizes the bridge facilities including existing locations where widening is required. Eleven bridge crossings are planned at buildout of the City transportation plan, with widening expected at six existing bridges (crossing Delta Mendota Canal and California Aqueducts).

Table 4.6 summarizes the culvert facilities including existing locations where widening is required. As shown in

Table 4.6, eight culverts are planned at buildout of the City transportation plan, with widening expected at two existing culverts (crossing Upper Main Canal).

4.7.4 Bridge and Culvert Facilities Design Planning

To obtain grant funding from State and Federal resources, Bridges and Culverts facilities are required to adhere to applicable design standards such as required by the relevant Authorities. Bridges, over/underpasses, and culvert crossings should accommodate all users, including traffic from automobiles, buses, pedestrians, and bicyclists. Design standards and guidance for bridges and culverts is provided in the Caltrans Highway Design Manual.

4.7.5 Smart Growth Design Elements

The following Smart Growth design elements are relevant to Bridge and Culvert facilities planning:

- Provide safe and efficient crossings for all modes across bridges to enhance connectivity between land uses and amenities.
- Since bridges, culverts, and over/underpasses often are spanning major obstacles within the community, when planning right-of-way, planning and design of facilities, consider opportunities to incorporate trails and bikeways within crossings.

Table 4.4: Over/Underpass Facilities Summary

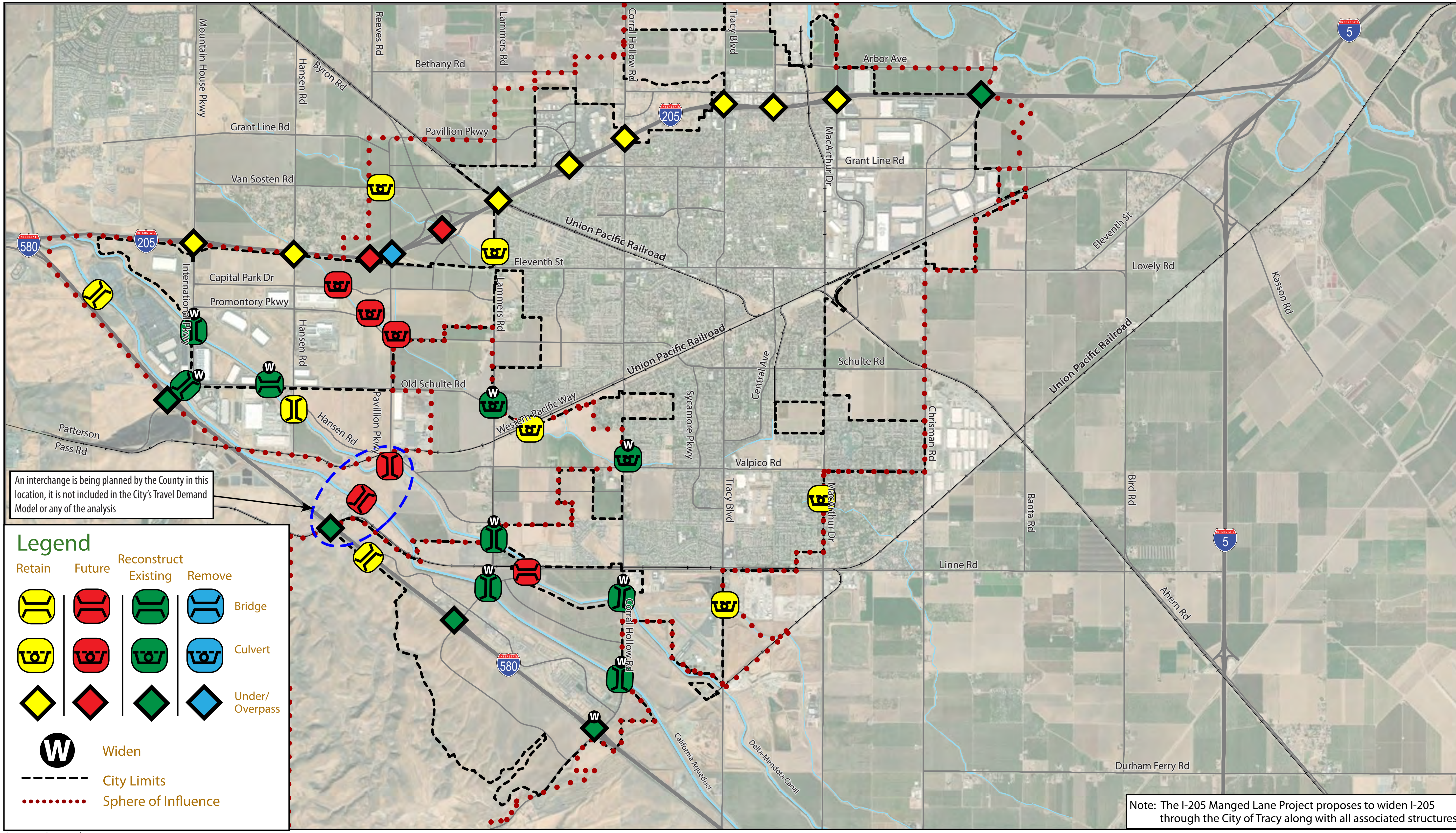
#	Location	Status	Plan
1	I-205/Mountain House Parkway	Existing	Retain
2	I-205/Hansen Road	Existing	Retain
3	I-205/Pavillion Parkway	Future	Construct
4	I-205/11th Street	Existing	Remove
5	I-205/Lammers Extension	Future	Construct
6	I-205/Lammers Road	Existing	Retain
7	I-205/Grant Line Road	Existing	Retain
8	I-205/Corral Hollow Road	Existing	Retain
9	I-205/Tracy Boulevard	Existing	Retain
10	I-205/Holly Drive	Existing	Retain
11	I-205/MacArthur Drive	Existing	Retain
12	I-205/Paradise Road	Existing	Replace
13	I-580/International Parkway	Existing	Replace
14	I-580/Lammers Road	Future	Construct
15	I-580/Corral Hollow Road	Existing	Replace
16	I-580/Pavillion Parkway	Future	Construct

Table 4.5: Bridge Facilities Summary

#	Location	Status	Plan
1	Delta Mendota Canal/International Parkway	Existing	Replace
2	California Aqueduct/International Parkway	Existing	Retain
3	Delta Mendota Canal/Old Schulte Road	Existing	Replace
4	Delta Mendota Canal/Hansen Road	Existing	Retain
5	California Aqueduct/Hansen Road	Existing	Retain
6	Delta Mendota Canal/Lammers Road	Existing	Replace
7	California Aqueduct/Lammers Road	Existing	Replace
8	Delta Mendota Canal/Linne Road	Future	Construct
9	Delta Mendota Canal/Corral Hollow Road	Existing	Replace
10	California Aqueduct/Corral Hollow Road	Existing	Replace
11	Tom Paine Slough/Paradise Road	Existing	Retain
12	Delta Mendota Canal/Pavillion Parkway	Future	Construct
13	California Aqueduct/Pavillion Parkway	Future	Construct

Table 4.6: Culvert Facilities Summary

#	Location	Status	Plan
1	Lower Main Canal/Lammers Road	Existing	Retain
2	Upper Main Canal/Capital Parks Drive	Proposed	Construct
3	Upper Main Canal/Pavillion Parkway	Proposed	Construct
4	Upper Main Canal/Promontory Parkway	Proposed	Construct
5	Upper Main Canal/Lammers Road	Existing	Reconstruct
6	Upper Main Canal/Corral Hollow Road	Existing	Reconstruct
7	Later East Aqueduct/Tracy Boulevard	Existing	Retain
8	Upper Main Canal/MacArthur Drive	Existing	Retain
9	Upper Main Canal/Western Pacific Way	Existing	Retain



Source: ESRI, Kimley-Horn

Kimley»Horn

North

0 0.5 1 2 Miles (Approximate)

Figure 4.19: Existing and Future Bridges and Culverts

4.8 Roadway Classification and Cross Sections

4.8.1 Introduction

The roadway system serves to provide consistent information and guidance to road users in a manner that improves vehicular and pedestrian operations and safety, yet maintain quality of life for Tracy road users. The roadway classification includes strategies making existing streets work better, and applying technology to improve traffic flow. The Transportation Master Plan brings overlap with policies and goals regarding a "complete streets" policy, context-sensitive design, mode split targets, vehicle miles traveled (VMT) and per capita reduction goals.

Tracy's street network is the primary transportation system and serves a variety of modes and vehicular types, including automobile, truck, transit, bicycles, and pedestrians. Many new development areas are included in the General Plan. Existing areas are built out and roadways are constrained to their maximum right-of-way requirements thus reducing the ability to implement smart growth and context-sensitive designs.

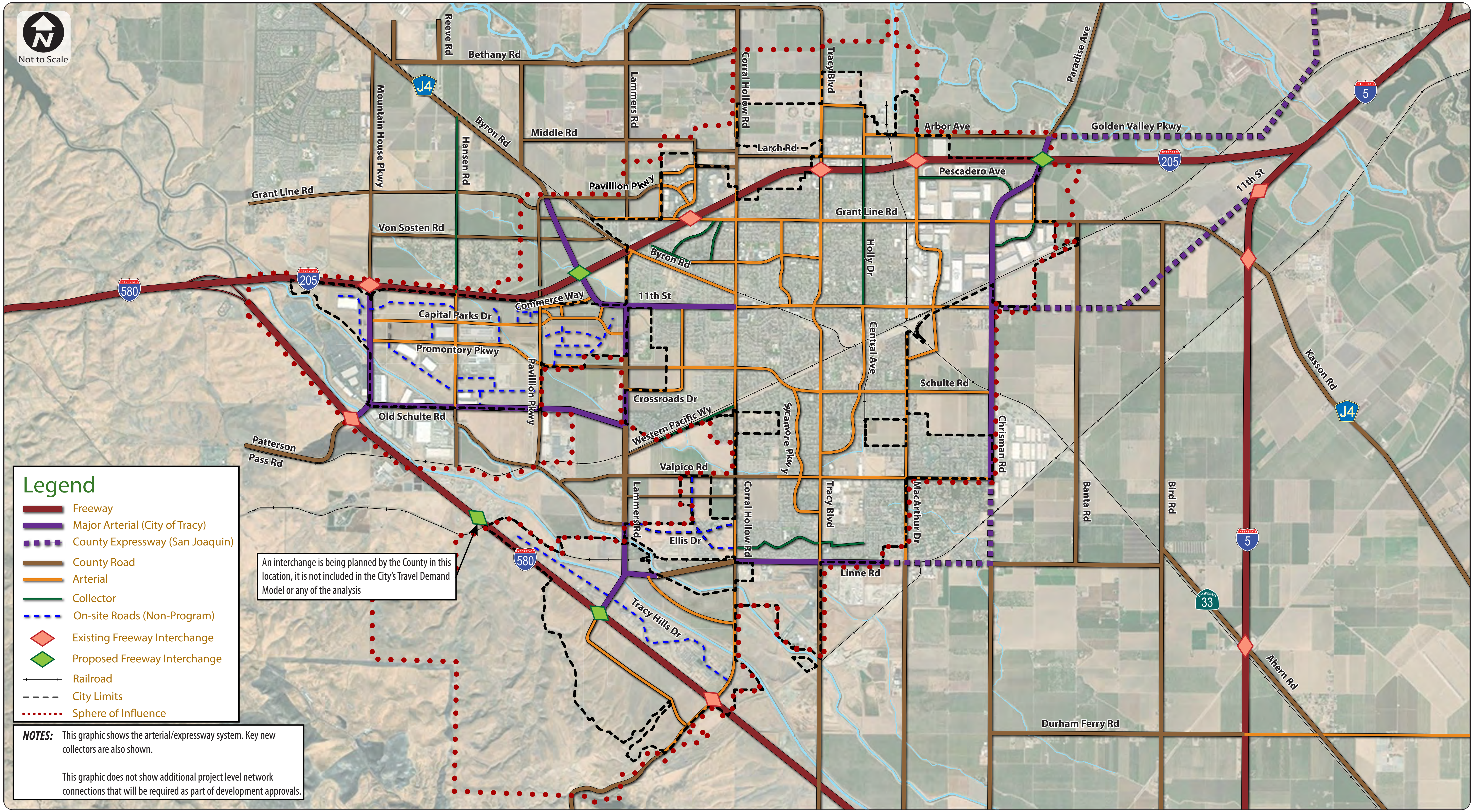
This section documents the road hierarchy, its functionality, operations and typical cross sections for various types of roadways for the Tracy Transportation Master Plan (TMP).

These standards are designed to accommodate the existing and future needs of the circulation network. Smart Growth principles have been incorporated into to road hierarchy. Graphics are provided to illustrate lane widths, sidewalks, Public Utility Easements, bicycle facilities, medians, landscaping, and right-of-way requirements. A discussion of the various types of roadway classifications and their standard cross sections is provided below.

The design standards and roadway cross sections are guidelines for inclusion in specific plans and tentative map applications. As such, the City may deviate from these guidelines on a case by case basis to accommodate site specific requirements.

4.8.2 Roadway Classification

The roadways in the Tracy TMP are defined using a hierarchical classification system. The classification system defines a roadway according to function, capacity, and size. The categories range from major arterials (highest capacity), minor arterials, collectors, residential streets, and alleys (lowest capacity). Industrial streets are categorized separately. Figure 4.20 illustrates the roadway classification for the existing and future roadways in Tracy. Figure 4.21 illustrates the recommended CMP network map in Tracy. A representative cross section for each classification type is illustrated below (Figure 4.22 through Figure 4.26) and detailed cross sections are contained in Figure 4.27.

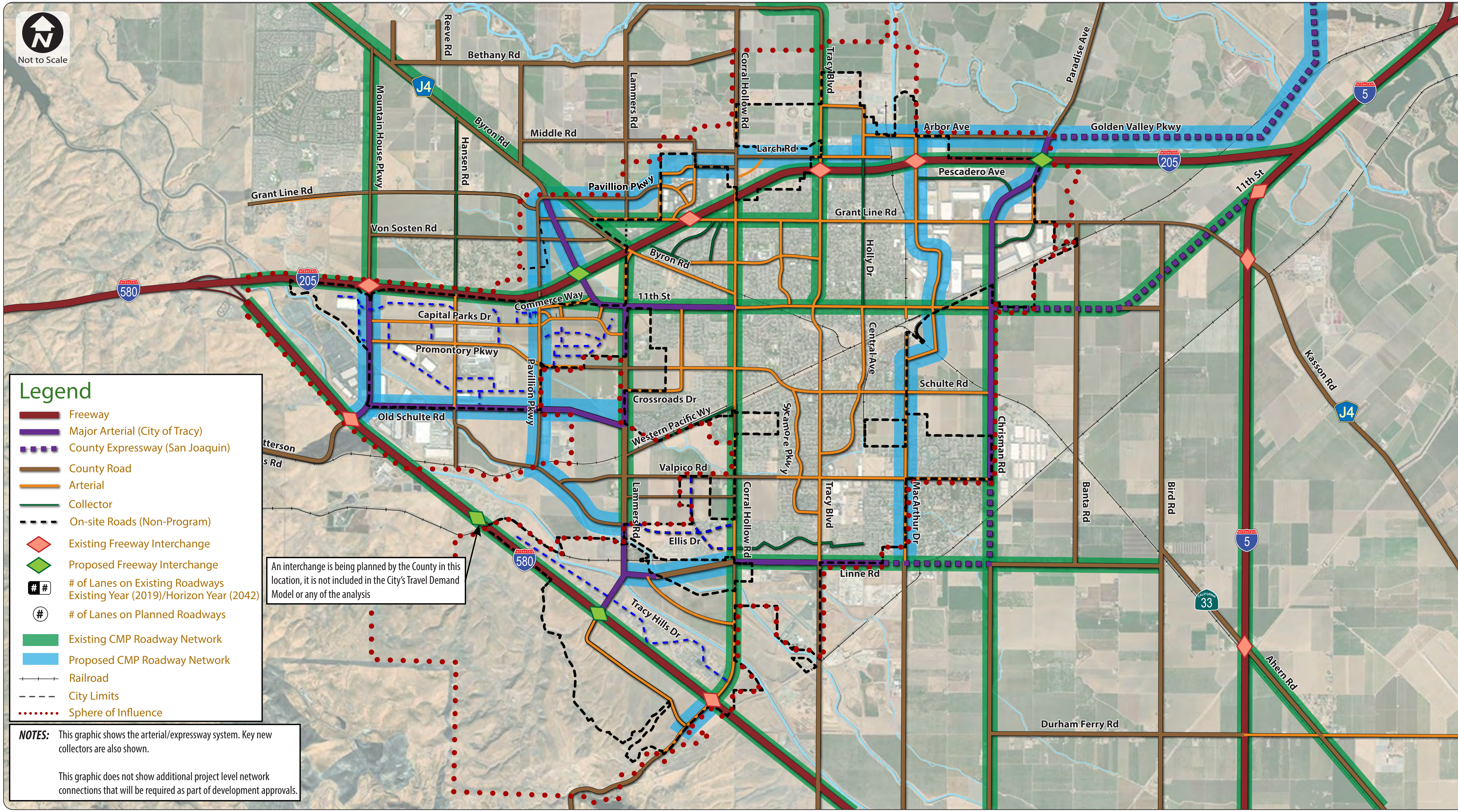


Source: ESRI, Kimley-Horn

Kimley»Horn

North

Figure 4.20: Future Roadway Classification



Source: ESRI, Kimley-Horn

Kimley»Horn

North

Figure 4.21: Recommended CMP Network

City of Tracy Transportation Master Plan

4.8.2.1 Major Arterial

As discussed in Chapter 2, major arterials provide connections to regional roadways such as freeways and are usually designed to accommodate through traffic with limited access to adjacent land uses. Travel speeds vary between 45 miles per hour and 55 miles per hour. Class 1 bikeways are provided on all major arterials.

Figure 4.22: Typical 6-Lane Major Arterial

4.8.2.2 Arterials

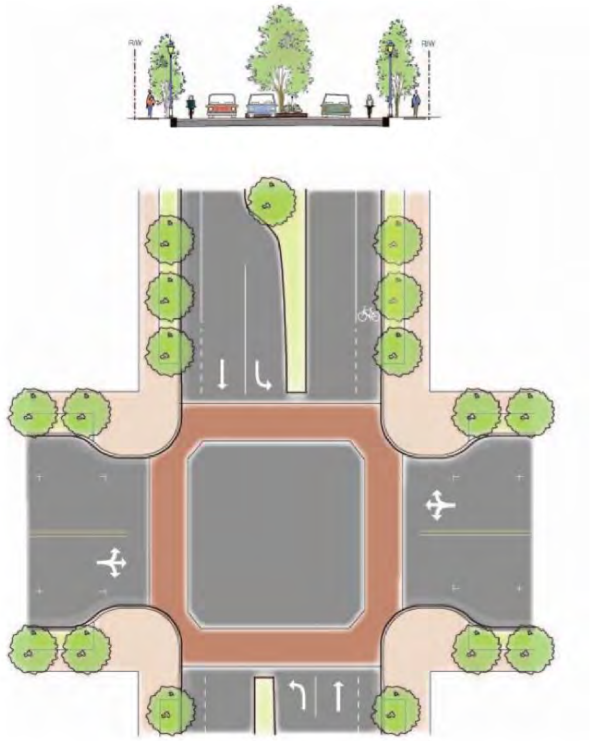
Arterials are designed to carry traffic between neighborhoods, central business districts, and major destinations. Arterials provide connections from collectors to major arterials and freeway interchanges. Access to adjacent land uses on arterials is limited. Arterials can be divided or undivided and include two to six travel lanes. For 6-lane arterials, shoulders are not provided, thus intermittent pullouts (8 feet wide and 75 feet long with appropriate tapers) should be located every 1,000 feet to accommodate vehicle breakdowns and police vehicles. Vehicular speeds are typically lower than major arterials as more access points per mile are provided. Arterials generally serve high traffic volumes (up to 50,000 average daily trips for major arterials). Travel speeds vary between 35 miles per hour and 45 miles per hour. Similar to major arterials, Class I bikeways are provided on minor arterials.

Figure 4.23: Typical 6-Lane Arterial

4.8.2.3 Collectors

Collectors are smaller sized and undivided roadways (two lanes) that link residential roads with arterial roads. Collectors have travel speeds that vary between 25 miles per hour and 35 miles per hour. Class II bike lanes are provided on collectors. High travel speeds are discouraged on collector roads since they provide access to abutting land uses and to neighborhood streets. Collectors shall not include driveways to residential properties.

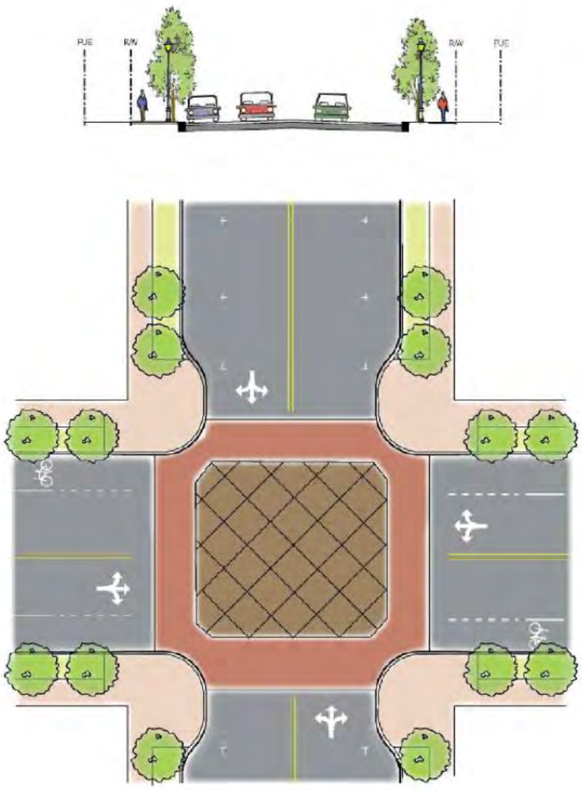
Figure 4.24: Typical 2-Lane Major Collector



4.8.2.4 Residential Streets and Alleys

These roadways serve residential neighborhoods and emphasize multi-modal (pedestrians, bicyclists, and motorists) use. These roadways may provide one-way or two-way travel and may include parking on one side, both sides, or no parking. Travel speeds on residential streets should be 30 miles per hour or less.

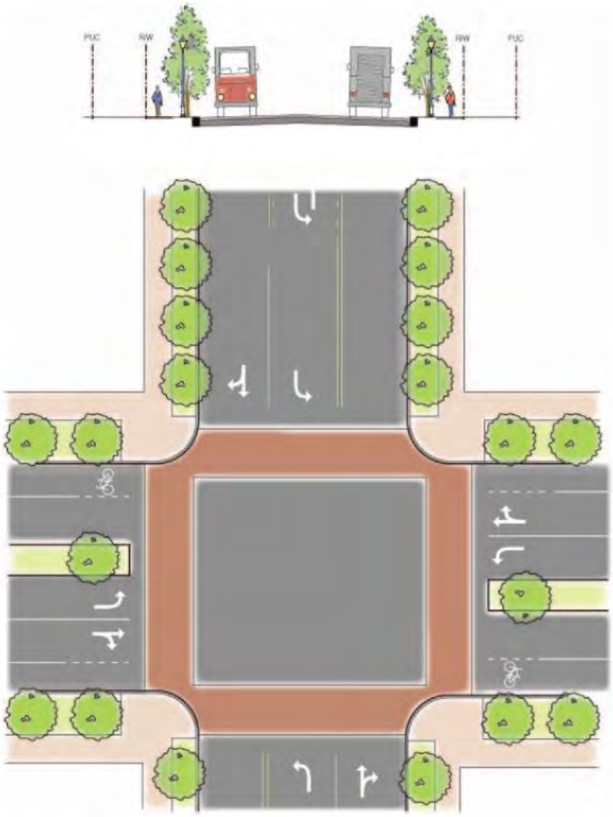
Figure 4.25: Typical 2-Lane Residential Street



4.8.2.5 Industrial Streets

These roadways provide access to industrial and commercial uses and therefore require wider travel lanes to accommodate trucks and larger vehicles. Shoulders or two-way left turn lanes are provided. Standard 5-foot sidewalks are provided; however, bicycle facilities are typically not included.

Figure 4.26: Typical Industrial Street with Two-Way Left-Turn Lane



4.8.3 Cross Sections

Table 4.7 summarizes the key recommended cross section characteristics for the illustrations that were presented above. These cross sections apply to all on-site roads as well that may not be public roads. The cross sections are guidelines for all future development and may be changed on a case-by-case basis based on City review due to site specific conditions. *Note that these cross sections differ from the 2012 TMP.*

Table 4.7: Recommended Cross Section Characteristics

Street Type	Right-of-Way	Lanes	Bike Facility	Sidewalk
Major Arterial	120’ to 164’	4 to 8	Yes (Class I Bike Path)	Yes
Arterial	96’ to 130’	2 to 6	Yes (Class I Bike Path)	Yes
Collector	61’ to 85’	2	Yes (Class II Bike Lane)	Yes
Residential/Alley	22’ – 57’	1-2	No	Yes (2 lanes only)
Industrial	71’ to 73’	2	No	Yes

4.8.3.1 Specific Plans

Cross sections were developed separately for the Ellis Specific Plan and the Tracy Hills Specific Plan as part of the development process and were approved prior to initiation of the Tracy Transportation Master Plan (TMP). Therefore, these cross sections are different from those recommended in this TMP. Refer to Appendix H for the Ellis Specific Plan and Tracy Hills Specific Plan cross sections. Cross sections will be reviewed on a case by case basis for any tentative map and are subject to change as determined by the City Engineer. Additional right-of-way for right-turn and left-turn pockets, public utility easements, bus stops, and other right-of-way elements that may be required as determined by the City Engineer during the mapping approval process.

4.8.3.2 Bus Stops, Utility Cabinets, and Pipelines

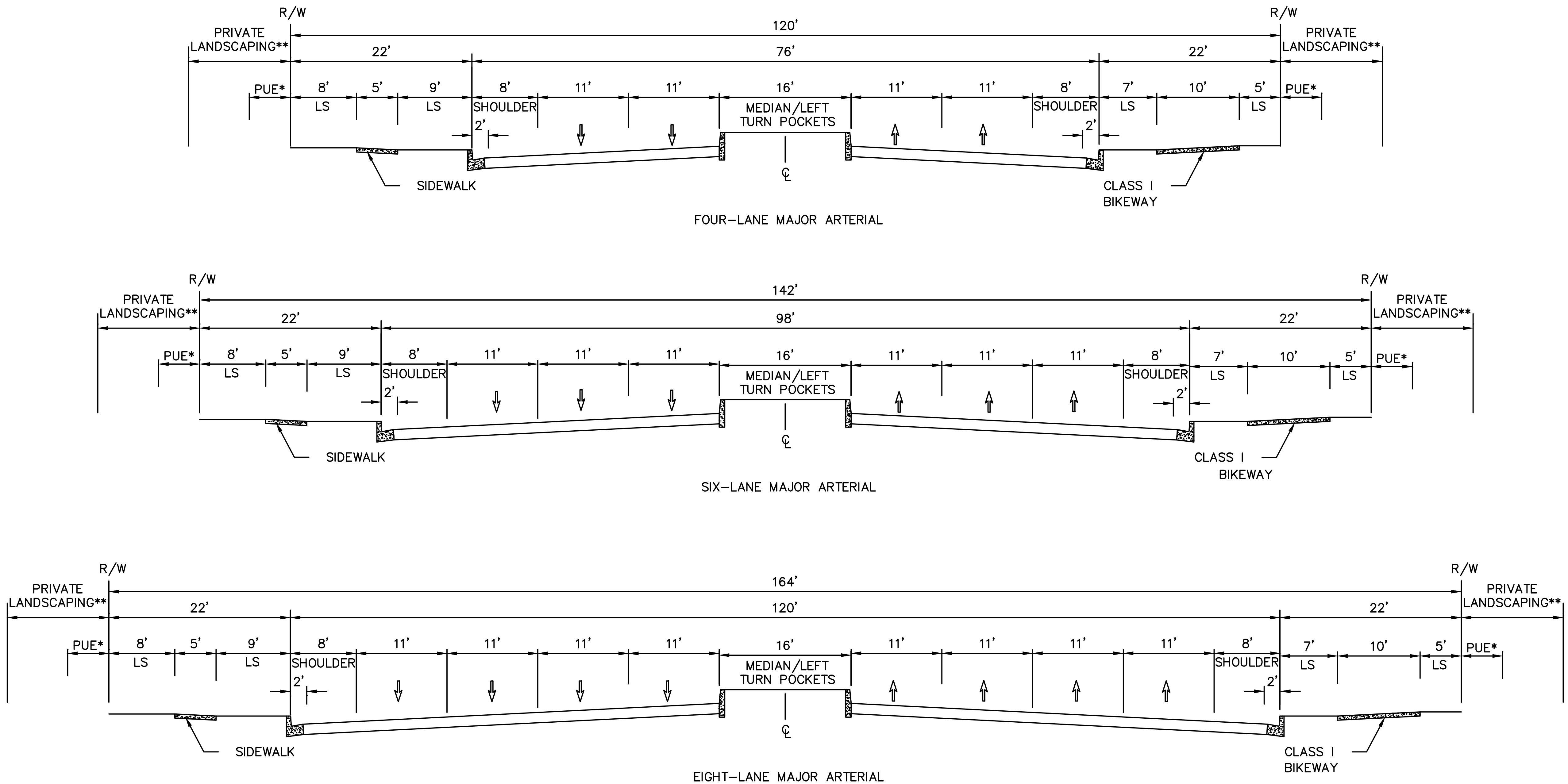
Sufficient right-of-way may not be provided in these recommended cross sections to accommodate a bus stop or pull-out where the bus moves completely out of the traveled way. For those locations, additional ROW must be provided to meet City of Tracy standards for a bus stop or turnout.

In locations where utility cabinets or other obstructions (e.g. poles, signs, etc.) may be placed within the right-of-way designated for sidewalks and Class I bikeways, the sidewalks and bikeway are to meander around the obstructions. Additional ROW may also be required to implement these meandering paths per the utility company standards.

Portions of the former Old Valley Pipeline (OVP) and Tidewater Associated Oil Company (TAOC) pipelines existed in Tracy. These historic pipelines were constructed in the early 1900s and carried crude oil from the southern San Joaquin Valley to the Bay Area. Operations for the OVP ceased in the 1940s, and in the 1970s for the TAOC pipelines. Figures 1 through 3 in Appendix I illustrate the location of the ROW of these pipelines.

4.8.3.3 Light Rail and Streetcars

Additional right-of-way is required should light-rail or streetcar systems be planned. Approximately 25 to 30 feet is needed to accommodate two rail tracks in the median. An additional 10 feet, beyond the 25 to 30 feet, is required for stations to account for platforms, waiting areas, ticket machines, and other station amenities.



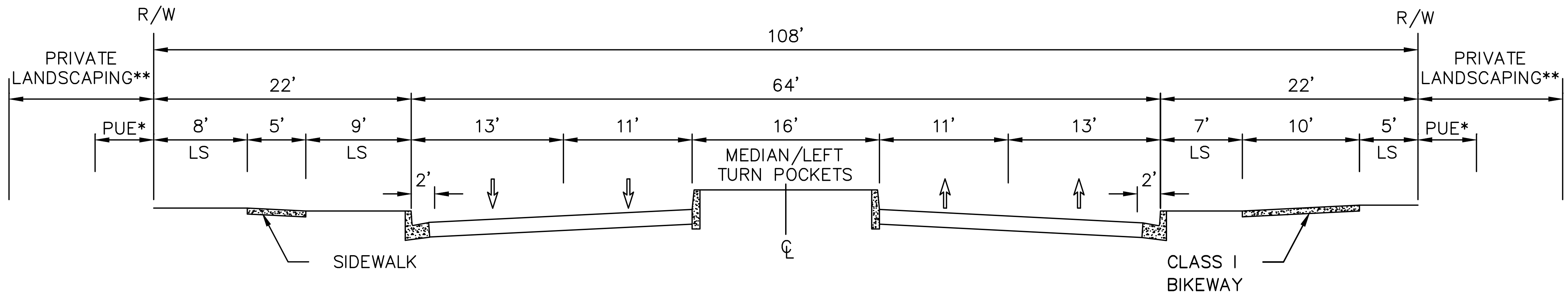
NOTES:
1. CLASS I BIKEWAY MAY MEANDER PER CITY OF TRACY STREETSCAPE DESIGN GUIDELINES.
2. CLASS I BIKEWAY SHALL HAVE 2-FOOT UNPAVED SHOULDERS ON BOTH SIDES.
3. WIDENING IS ALLOWED AT INTERSECTIONS TO ACCOMMODATE ADDITIONAL TURN LANES AND DESIGN VEHICLE TURNING TEMPLATES.
4. LANDSCAPE STRIP ADJACENT TO CURB INCLUDES 6" CURB WIDTH.
5. SEE STANDARD PLANS (PARKS AND STREETSCAPE) FOR LANDSCAPE STRIP PLANTINGS.

*PROVISION OF THE PUE IS NOT A STANDARD BUT THE CITY MAY CONSIDER REQUIRING IT BASED ON OTHER STANDARDS AND THE PROVISION OF UTILITIES.

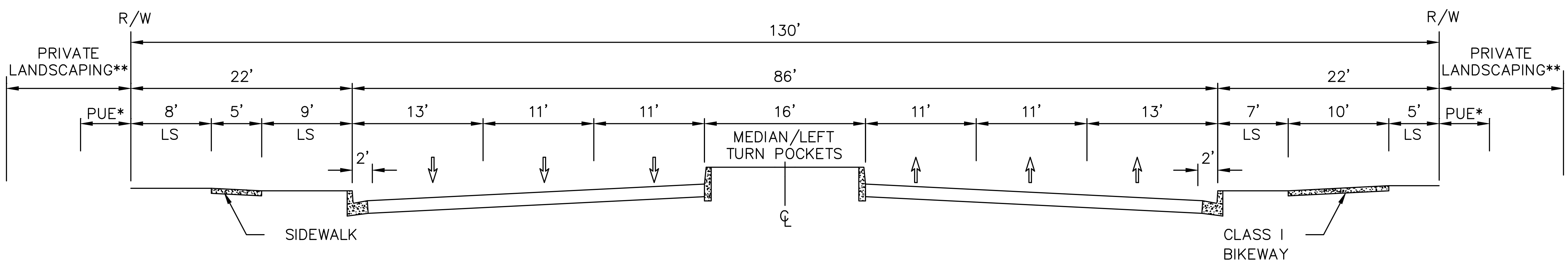
**SEE ALL APPLICABLE PRIVATE LANDSCAPING STANDARDS

Figure 4.27

Major Arterial Roadway Cross Sections



FOUR-LANE ARTERIAL WITH MEDIAN



SIX-LANE ARTERIAL
WITH INTERMITTENT 8 FOOT PULLOUTS

NOTES:
1. CLASS I BIKEWAY MAY MEANDER PER CITY OF TRACY STREETSCAPE DESIGN GUIDELINES.
2. CLASS I BIKEWAY SHALL HAVE 2-FOOT UNPAVED SHOULDERS ON BOTH SIDES.
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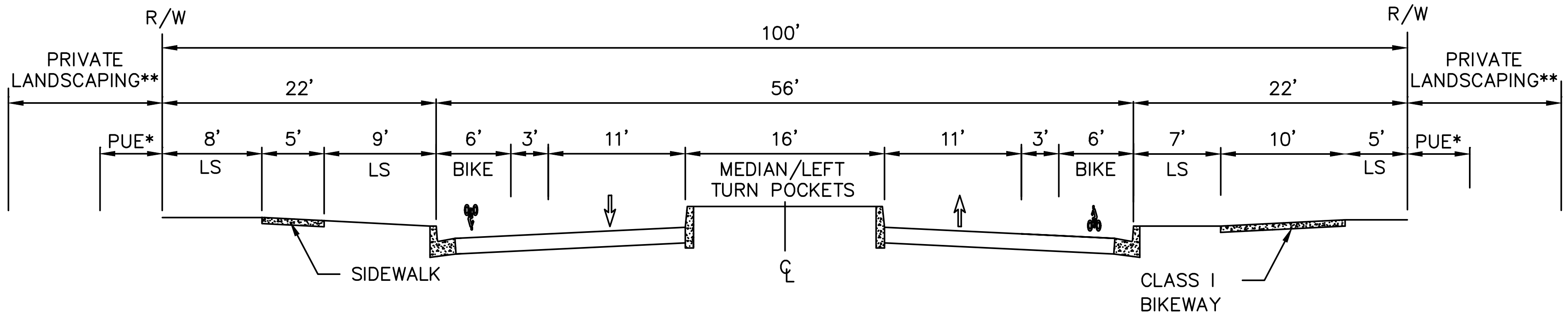
**SEE ALL APPLICABLE PRIVATE LANDSCAPING STANDARDS

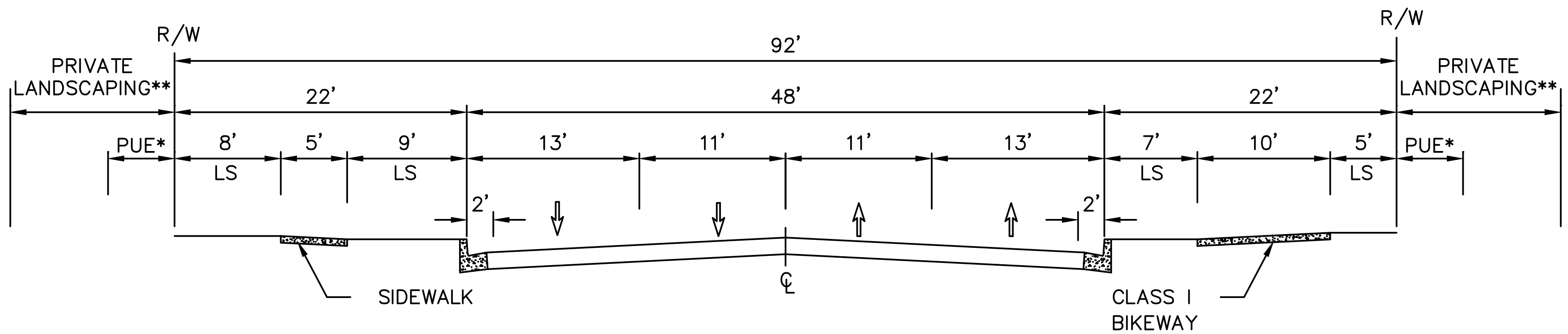
Kimley»Horn

Figure 4.27b

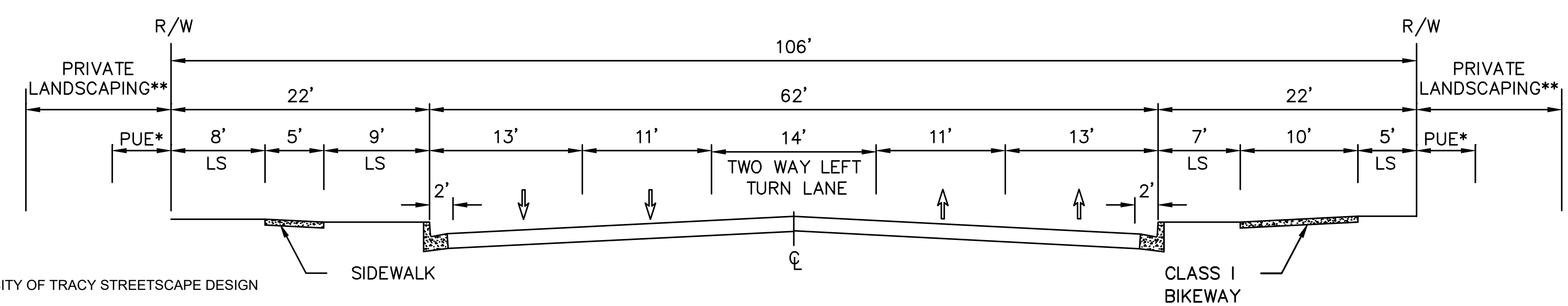
Arterial Roadway Cross Sections



TWO–LANE DIVIDED ARTERIAL



FOUR–LANE UNDIVIDED ARTERIAL

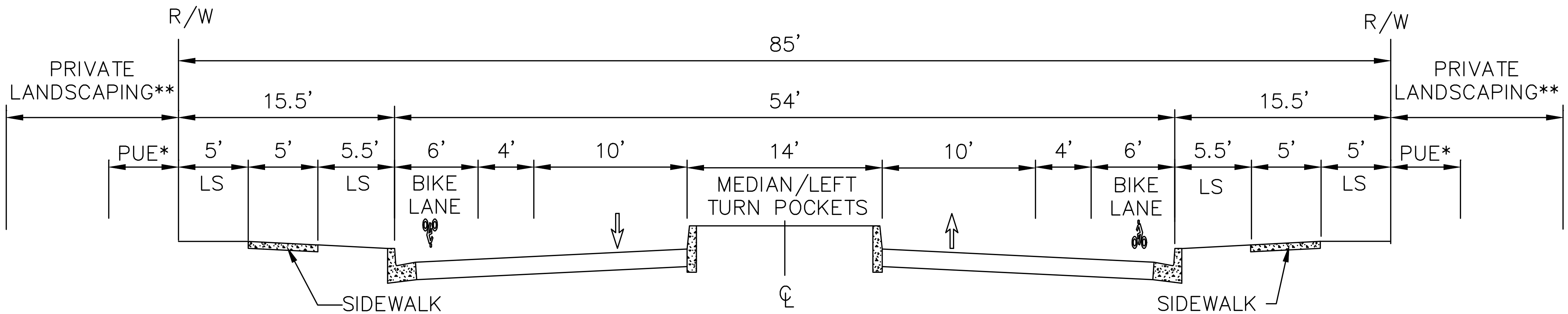


FOUR–LANE DIVIDED ARTERIAL WITH TWLTL

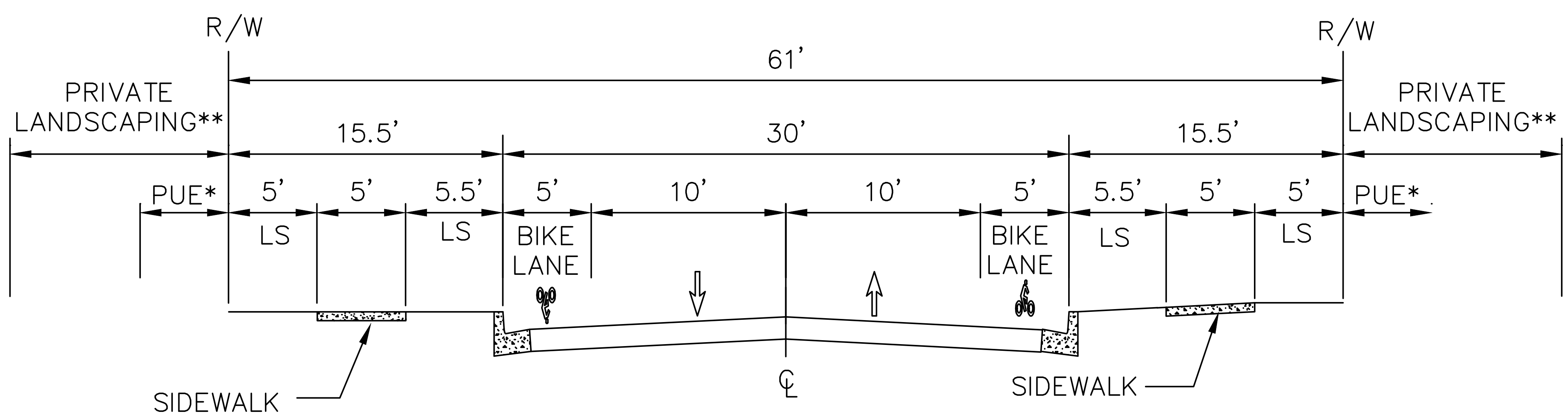
NOTES:
1. CLASS I BIKEWAY MAY MEANDER PER CITY OF TRACY STREETSCAPE DESIGN GUIDELINES.
2. CLASS I BIKEWAY SHALL HAVE 2-FOOT UNPAVED SHOULDERS ON BOTH SIDES.
3. WIDENING IS ALLOWED AT INTERSECTIONS TO ACCOMMODATE ADDITIONAL TURN LANES AND DESIGN VEHICLE TURNING TEMPLATES.
4. LANDSCAPE STRIP ADJACENT TO CURB INCLUDES 6" CURB WIDTH.
5. SEE STANDARD PLANS (PARKS AND STREETSCAPE) FOR LANDSCAPE STRIP PLANTINGS.

*PROVISION OF THE PUE IS NOT A STANDARD BUT THE CITY MAY CONSIDER REQUIRING IT BASED ON OTHER STANDARDS AND THE PROVISION OF UTILITIES.

**SEE ALL APPLICABLE PRIVATE LANDSCAPING STANDARDS



TWO–LANE MAJOR COLLECTOR
2,000 TO 5,000 VEHICLES PER DAY



TWO–LANE COLLECTOR
< 2,000 VEHICLES PER DAY

NOTES:
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Figure 4.27d

Collector Roadway Cross Sections

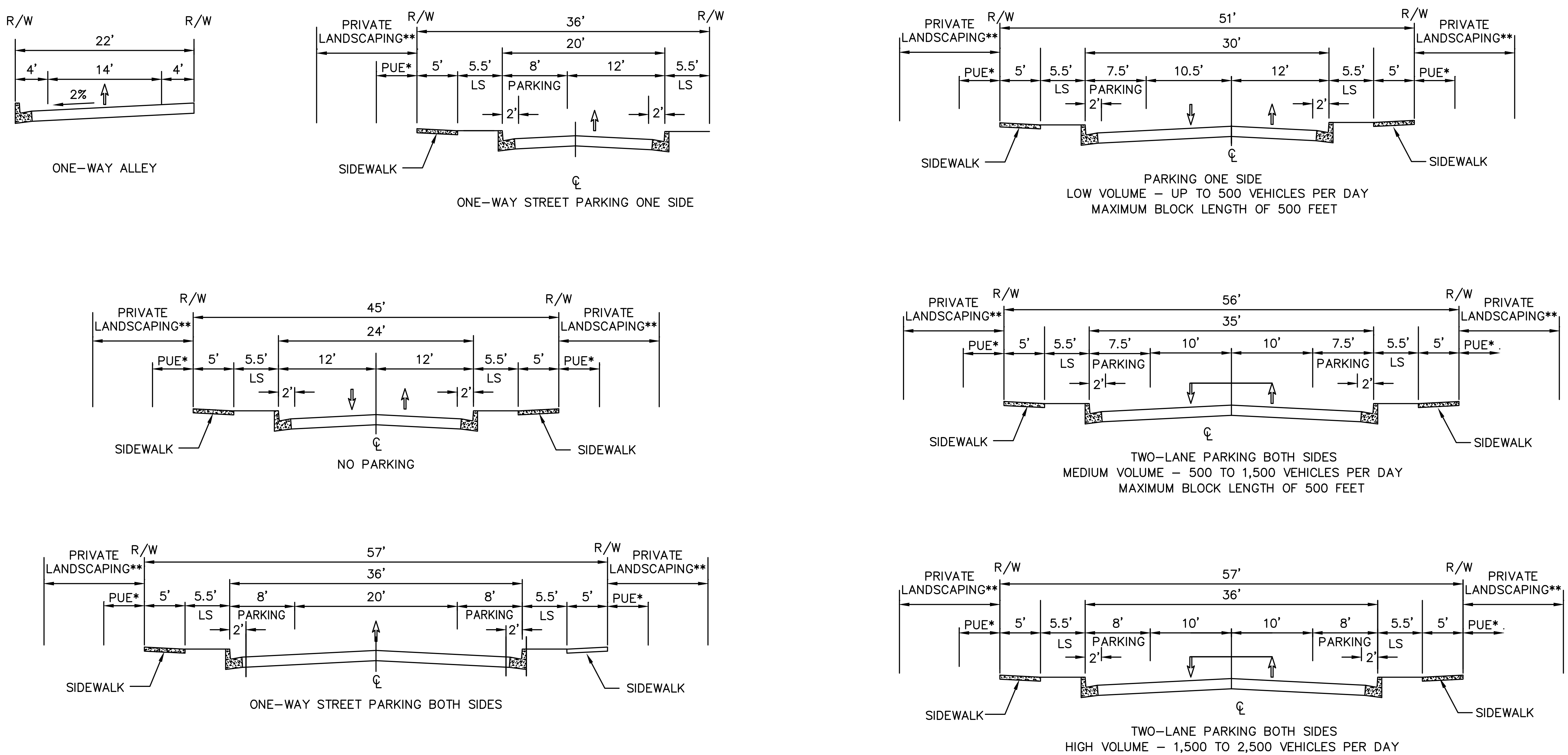

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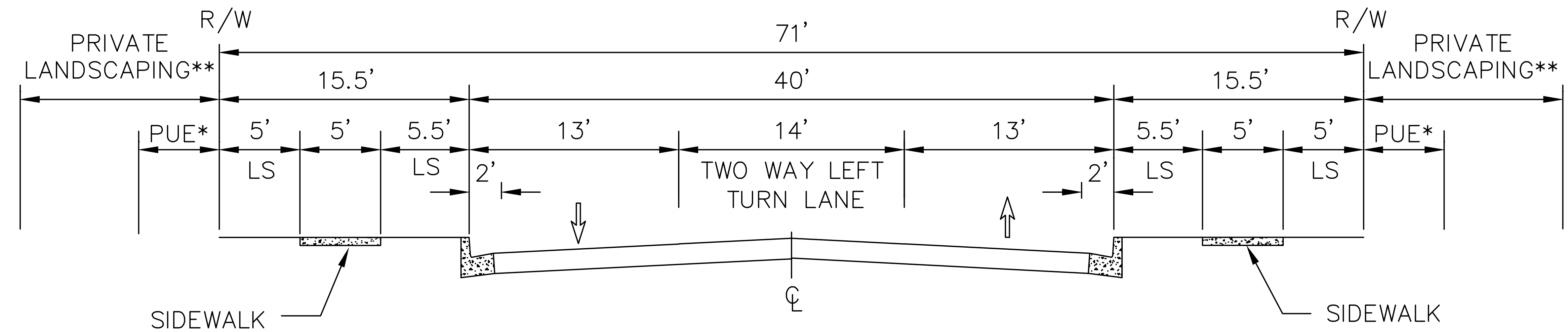
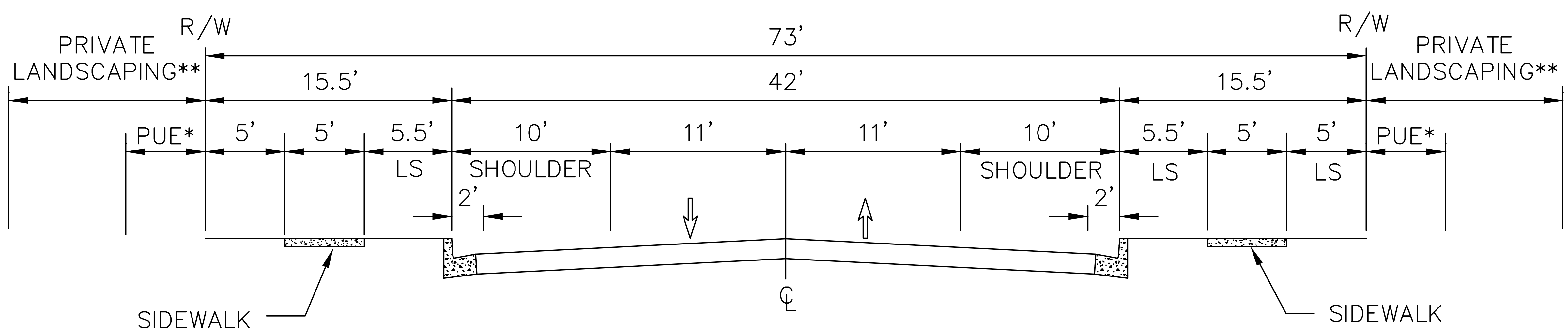
Figure 4.27e

Residental Street Cross Sections



INDUSTRIAL STREET
WITH WITH TWLTL



INDUSTRIAL STREETS

NOTES:
1. CLASS I BIKEWAY MAY MEANDER PER CITY OF TRACY STREETSCAPE DESIGN GUIDELINES.
2. CLASS I BIKEWAY SHALL HAVE 2-FOOT UNPAVED SHOULDERS ON BOTH SIDES.
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**SEE ALL APPLICABLE PRIVATE LANDSCAPING STANDARDS

Figure 4.27f

Industrial Roadway Cross Sections

4.8.4 Traffic Calming

The use of traffic calming devices is intended to reduce vehicle speeds, alter driver behavior, and improve safety for all users. One of the policy statements from the City of Tracy's *Traffic Calming Program* (September 2009) is that "the primary focus of the traffic calming program is residential neighborhoods. Therefore, installation of traffic calming devices will only be considered on local two-lane residential streets with a posted speed limit of 25 mph. These devices shall not be used on arterial or non-residential streets." Thus, the collector or residential street cross sections are likely candidates for traffic calming measures.

The City's traffic calming toolbox includes three tiers: Tier 1 consists of targeted speed enforcement speed monitoring radar trailers, neighborhood speed watch, speed limit signs, restricted turn movements; Tier 2 consists of speed feedback signs, speed lumps, all-way stop signs; and Tier 3 includes neighborhood identification island, median islands, neckdowns or curb extensions, chokers, chicanes, traffic circles, or raised islands.

Future specific plans shall incorporate planning level traffic calming measures. The exact traffic calming measures will be determined at the design phase of the project in conjunction with the procedures outlined in the city's traffic calming program. All residential streets must include traffic calming measures, as appropriate. Collector streets may include traffic calming measures on a case by case basis, which will also be included in the design phase of the project.

4.8.5 Traffic Circles (Mini-Roundabouts) and Roundabouts

The TMP includes traffic circles and roundabouts as an alternative form of traffic control to standard intersection layouts. In addition, traffic circles (mini-roundabouts) are typically provided on residential street and commercial properties as a way to calm traffic and reduce speeds. Roundabouts are typically located on larger streets and can be used to accommodate heavy merge and weaving maneuvers. Roundabouts provide superior benefits to reducing delay, noise sustainability, and greenhouse gas emissions compared to all-way stop and signalized intersections.

Table 4.8 presents key fundamental and operational elements for various types of traffic circles and roundabouts. This information is obtained from *Roundabouts: An Informational Guide Second Edition* (Federal Highway Administration, 2010). The design of the traffic circle and roundabout will vary upon the actual site location and layout; however the values provided Table 4.8 can be utilized as a planning tool to size an appropriate facility. Conceptual sketches of the various types of traffic circles and roundabouts, also obtained from *Roundabouts: An Informational Guide*, are included in Appendix J.

Table 4.8: Comparison of Traffic Circle and Roundabout Design and Operational Elements

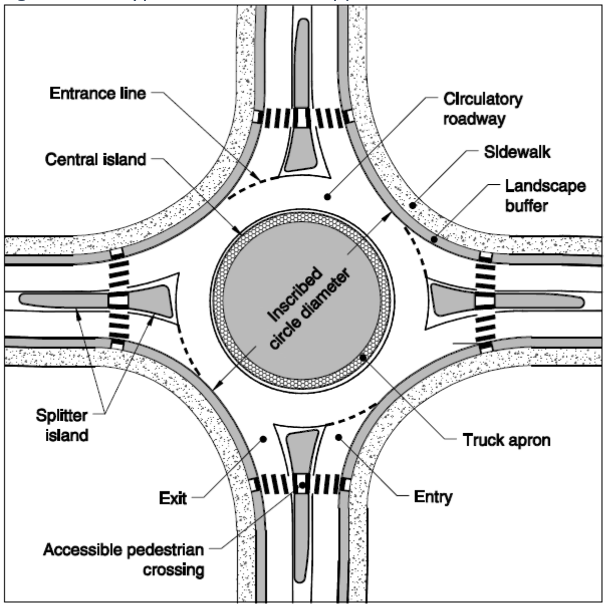
	Mini-Roundabout	Urban Compact	Urban Single Lane	Urban Double Lane	Rural Single Lane	Rural Double Lane
Recommended maximum entry design speed (mph)	15	15	20	25	25	30
Maximum # of Entering lanes per approach	1	1	1	2	1	2
Typical inscribed circle diameter (feet)[1]	45 - 80	80 - 100	100 - 130	150 - 180	115 - 130	180 - 200
Splitter island treatment	Raised if possible, crosswalk cut if raised	Raised, with crosswalk cut	Raised, with crosswalk cut	Raised, with crosswalk cut	Raised and extended, with crosswalk cut	Raised and extended, with crosswalk cut
Typical daily volumes on 4-leg roundabout (veh/day)	10,000	15,000	20,000	Refer to Ch. 4	20,000	Refer to Ch. 4

Notes

1. Assumes 90-degree entries with no more than four legs

Figure 4.28 shows the basic geometric elements of a roundabout.

Figure 4.28: Typical Roundabout Approach



Source: NCHRP Report 672 Exhibit 6-2

4.8.6 Access Management

According to U.S. Department of Transportation Federal Highway Administration, access management is the proactive management of vehicular access points to properties on various types of roadways. The spacing of signals impacts traffic flow operations and travel speeds. The figure below from *NCHRP 420, Impacts of Access Management Techniques Transportation Research Board* indicates the reduction in travel speeds with the increase of signals per mile. Access spacing can affect the efficient movement of goods and traffic: spacing of roadways, spacing of signals and driveways, type of median openings, turn lanes, and right-of-way management. Existing or future roadway networks in specific plans need to consider the impacts of these design variables on reducing congestion, preserving capacity on key roadways, and allowing safe and efficient access to local properties.

4.8.7 Context-Sensitive Design and Smart Growth Principles

The recommended cross sections incorporate Context Sensitive and Smart Growth design principles to improve mobility for all users (bicyclists, pedestrians, transit vehicles, and motorists) and to achieve several other purposes including reduced maintenance costs, reduced environmental impacts, slower vehicle speeds, and improved pedestrian safety. These cross sections include narrower street widths (10 and 11 feet versus 12 feet) which reduces the amount of right-of-way (ROW) required and reduces the cost of construction. Narrower roads also help to reduce vehicle speeds and reduce the crossing distances for pedestrians at intersections. Furthermore, HCM 2010 indicates that narrow lane has no reduction in saturation flow rate and thus the level of service has no effect. Narrower lanes reduce the capacity of certain roads and care was taken as to minimize the reduction of capacity below acceptable standards. The reduction in ROW provides more space for other uses such as additional landscaping for beautification and for water treatment, wider sidewalks to promote walkability, and room for utility corridors.

4.9 Mobility Hubs

4.9.1 Introduction

Tracy plans to manage their transportation system in ways that make it more efficient while also offering feasible alternatives to driving alone. Mobility hubs establish locations where different modes of travel, such as walking, biking, transit, and other shared mobility options can come together to help people make connections quickly and get to where they need to go.

Mobility hub features include various improvements such as waiting areas with landscaping and lighting, complimentary Wi-Fi and real-time travel information; sidewalks, pedestrian lighting and trees for shade, bike facilities, dedicated bus lanes and supporting signal improvements; service facilities for shared cars, scooters, as well as electric bikes and automobiles; smart parking technology; and more. Each feature can be tailored to the unique needs of an individual community.

The mobility choices that Tracy residents have are constantly evolving as the City continues to develop and provide more opportunity for people to live, work and play locally. Transportation choices are also evolving with improvements and extensions to the ACE train routes, and new regional investments in transportation technology. Mobility hubs make these new transportation choices more accessible to people regardless of whether or not they own a car, or prefer to walk or bike.

Mobility hubs also make it easier for people to use public transit, providing a convenient transfer from any other transportation mode, regardless of the purpose of the trip. The mobility hubs are convenient for commuters that make the same trip every day, but are also useful for those making specialized trips that they are not as familiar with. The mobility hub will be directly connected to other key City locations and amenities through the transit, active transportation, and roadway systems. A mobility hub area is typically a destination in its own right, including services and destinations that are accessible within a 5-minute walk, bike ride, or drive to or from high-frequency transit.

This document identifies the following types of services and amenities that may be found with in proposed mobility hub facilities. The hubs will cater to a wide range of transportation modes including: transit, walking, biking, driving, and others.

4.9.1.1 Transit

Mobility hubs are designed to prioritize transit vehicle access through traffic signals, dedicated lanes, and other means. The hubs themselves are meant to be comfortable places to wait for buses or carpools. These are features located in the Tracy Transit Station area to help riders plan their trips and make other connections or transfers while offering them a safe and comfortable area to wait for their ride.

- Enhanced Transit Waiting Areas
- Passenger Loading Zones
- Real-Time Travel Information
- Dedicated Transit Lanes
- Transit Signal Improvements

4.9.1.2 Walking

Amenities and homes within a 5-minute walk of a mobility hub are most accessible on foot. Pedestrian facilities are provided to make walking in the mobility hub area safer, more convenient, and more comfortable. Pedestrian oriented facilities include:

- Walkways
- Street Crossings
- Shade
- Restrooms
- Wayfinding

4.9.1.3 Biking

Amenities and homes within a 5-minute bicycle ride of a mobility hub will attract the most bicycle trips. Within this range, a network of bicycle lanes and trails will be provided to facilitate those trips. Bicycle facilities near and within each hub may include on-street bikeways and secure options for parking.

- Bikeways
- Secure Bike Parking
- Additional Bicycle Amenities
- Wayfinding

4.9.1.4 Driving

The hubs will include park and ride and curb-side pick-up and drop off locations for those accessing them by car or app-based shared ride services (transportation network companies), or regional van and carpool programs. Facilities and services to facilitate access to and from the mobility hubs will include:

- On-Demand Rideshare
- Managed and Flexible Curbs
- Shuttles
- Shared mobility devices
- Scootershare and Electric Bikeshare

4.9.1.5 Park and Rides

Parking facilities will provide access for transit connections for mobility hub users as well as access to nearby amenities and services. This document considers Park and Ride facilities to be a subset of mobility hubs, namely ones that are more focused on mode transfers between automobiles and another mode, rather than between two non-auto modes.

- Electric Vehicle Charging
- Smart Parking

4.9.2 Transit Access

4.9.2.1 Enhanced Transit Waiting Areas

Definition

Waiting areas must provide a safe and comfortable place for passengers to wait for their transit or shared mobility ride. Important enhancements include seating, lighting, shade and rain cover, landscaping, trash receptacles, complimentary Wi-Fi, real-time transit arrival alerts, and daily schedule information. A high-quality mobility hub will one that is legible and navigable to new users and that provides efficiency, comfort and security for regular users.

Implementation Considerations

- Consider how people use transit stops in order to select which features get priority. For example, stops with higher ridership or longer wait times should provide more seating; stops that will likely be used by out-of-town travelers should have clear wayfinding information.
- Determine which enhancements will provide the most benefits to the most users. Improving aesthetics with landscaping or public art may be desirable. However, these should not be installed at the expense of functional enhancements such as real-time arrival information, fare payment machines, and interactive trip planning kiosks which may give transit users a better experience overall.
- Consider other amenities that will make a waiting area more comfortable, convenient, and safe. These include adequate seating or lean bars, pedestrian-scale lighting, shade structures, water fountains, restrooms, trash and recycle bins, vending machines for coffee or snacks, complimentary Wi-Fi, and USB charging ports.
- Balance designing amenities for irregular or first-time users, who might need an information kiosk, with amenities every-day riders, for whom comfort and safety are typically a larger priority.
- Connect bulb-outs and other physical improvements between a transit stop and the adjacent mobility network, preserve valuable space for pedestrian walkways, and add space for waiting transit customers.
- Provide shade at any ticket machine kiosks so people can more easily read the screens
- Consider incorporating placemaking elements into transit stop design to integrate transit service into the surrounding community. Provide a place where upcoming neighborhood events may be advertised and where local business may be highlighted.

- Local development regulations and the Americans with Disabilities Act (ADA) may guide the design of certain enhancements in a transit waiting area, including interactive kiosks, sidewalks, and seating.
- Maintaining transit waiting areas can require a significant amount of time and money. Implementing low-maintenance design can help ameliorate some of these costs and allow more amenities to be provided for a similar cost.
- The Transit Street Design Guide from the National Association of City Transportation Officials (NACTO), as well as the Tracer Design Guidelines provides additional transit waiting area design guidance.

4.9.2.2 Passenger Loading Zones

Definition

Passenger loading zones are areas where users of the mobility hub may be picked up or dropped off close to their destination. Such zones are typically delineated by a painted curb and clear signage. Depending on the use profile of the hub, separate zones may be used for personal vehicles, shuttles, taxis, or rideshare/TNC services.

Implementation Considerations

- Carefully consider where to site loading zones in the mobility hub area, balancing a short pedestrian path of travel without interfering with other people accessing the hub via transit, by food, or on a bicycle.
- Ensure that loading zone signs communicate which vehicles are allowed in each zone and place all signs where they will be clearly visible.
- Signage delineating loading zones and wayfinding to them must be installed for both arriving drivers and passengers seeking to be picked up. Lack of clarity, either on the driver side or the rider side, can result in longer idling time and lower curb space efficiency.
- If local jurisdictions do not allow idling, consider installing signs to inform drivers and devoting resources to enforcing those rules.
- Consider ADA requirements when designing loading zones.
- Carefully estimate how many vehicles will use passenger loading zones at various times of day, how long drivers will stop, and how this activity will impact traffic. This will guide the determination of how much space should be allocated for loading zones and where in the mobility hub area they should be located.
- Loading zones designated for taxis and shuttles have existed for decades. But the growing popularity of on-demand ridesharing services is requiring local jurisdictions to develop new policies that accommodate these services without slowing the flow of traffic and safe passenger loading and unloading. These policies should consider the needs of a diverse group of users. For example, “kiss & ride” vehicles may only need the space for a minute or two while taxis may occupy the space for several hours.
- Work with on-demand rideshare services to develop in-app prompts, so drivers and riders know where to find dedicated passenger loading zones.
- Trip planning applications soon will integrate transit options with rideshare and shuttle services. Track this progress and consider any implications for designing passenger loading zones.

4.9.2.3 Real-Time Travel Information

Definition

Real-time travel information allows potential transit riders and other mobility service users to know how long they can expect to wait for a vehicle to arrive and plan accordingly. While transit typically follows a set schedule, events frequently occur that disrupt this; real-time information allows riders to plan the best route to their destination given the circumstances.

Implementation Considerations

- Rather than developing new real-time arrival systems, existing standards or apps already used by other transit agencies and riders should be used, reducing cost and not relying on users to download a new app.
- Real-time travel information is typically provided on variable message signs that indicate transit arrival times for a given stop.
- At high-volume stops, more information may be displayed on color LED screens, providing live updates on transit arrival times, as well as availability of nearby shared vehicles and average wait time to hail a rideshare vehicle.
- Displays should be updated in real-time to account for traffic congestion, weather impacts, and other delays, rather than simply showing scheduled transit arrival times.
- All signs should employ standards of universal design, meaning that information should be conveyed both visually and audially so that hearing- and seeing-impaired users benefit as well.
- Beacon technology can be deployed to guide users to mobility services and other amenities. This tool acts by transmitting information via Bluetooth connection to a user’s smartphone and can provide a wide range of services, such as directing users to wheelchair accessible facilities or assisting uses with cognitive disabilities.
- On-site displays and announcements should be provided in both English and Spanish. Any third-party apps should work in both English and Spanish as well. Consider Title VI regulations with language choices.
- When designing displays, consider any aspects of the Tracy sign code and Americans with Disability Act (ADA) that dictate requirements for font and color.
- Federal and state grants may be used to fund the installation of real-time travel information technology.

4.9.2.4 Dedicated Transit Lanes

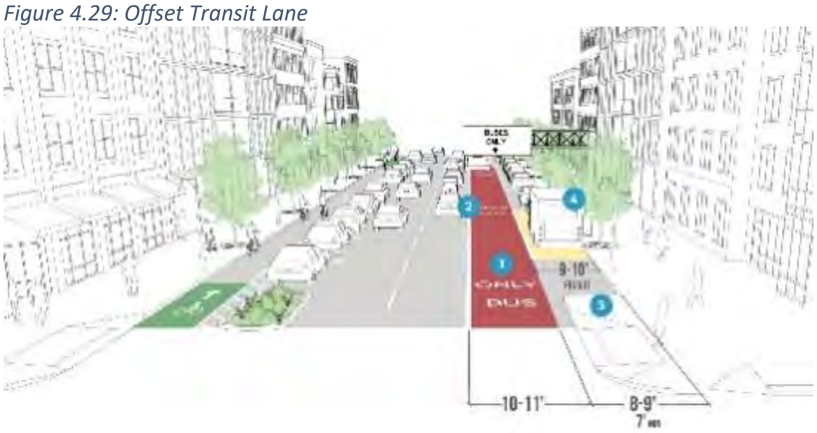
Definition

Dedicated transit lanes allow transit vehicle to operate more efficiently and reliably by allowing them to avoid delay caused by automobile congestion. These lanes, which may be physically separated from traffic with curbs or painted a different color to discourage driver incursion, should be prioritized in locations where either a high-frequency transit line or multiple individual lines suffer from traffic congestion. By placing greater emphasis on space-efficient modes of travel, such as transit, some people who currently drive alone may see the benefit of switching modes, thus increasing overall throughput.

4.9.2.4.1 Offset Transit Lane

This lane runs adjacent to another curbside use, typically on-street parking. Depending on parking demand, this type of lane may be more subject to more delay due to drivers maneuvering into a parallel parking spot or temporarily double parking.

Figure 4.29: Offset Transit Lane



Source: NACTO

4.9.2.4.2 Peak-Only Bus Lane

These lanes operate during peak travel periods and operate as a mixed-flow lane or parking during non-peak times. This can increase the right-of-way throughput when it is most constrained and help transit stay on schedule.

Figure 4.30: Peak-Only Bus Lane

Source: NACTO

4.9.2.4.3 Curbside Transit Lane

These lanes may be deployed on corridors where there is no existing on-street parking or it is not well utilized.

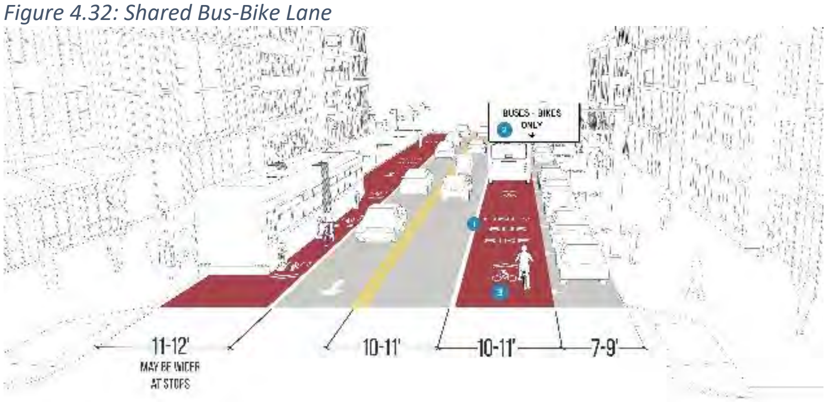
Figure 4.31: Curbside Transit Lane

Source: NACTO

4.9.2.4.4 Shared Bus-Bike Lane

These lanes allow both transit vehicles and bicycle users to share a lane, allowing more roadways space to be dedicated to automobiles while providing some accommodation for alternate modes. This treatment can work because buses and bicycles have roughly the same average speed. Note that these are not bike facilities comfortable for all ages and abilities and should not be used in a very high-volume bus corridor.

Figure 4.32: Shared Bus-Bike Lane



Source: NACTO

Implementation Considerations

- Consider local policy regarding transit-only lanes
- Determine the type of transit lane desired and whether drivers will be able to enter the transit lanes to access local businesses.
- If a peak hour-only transit lane is implemented, consider what hours and directions should be reserved for transit vehicles or when mixed traffic will be permitted.
- Determine the level of separation and protection from traffic needed for transit riders while waiting at the transit station.

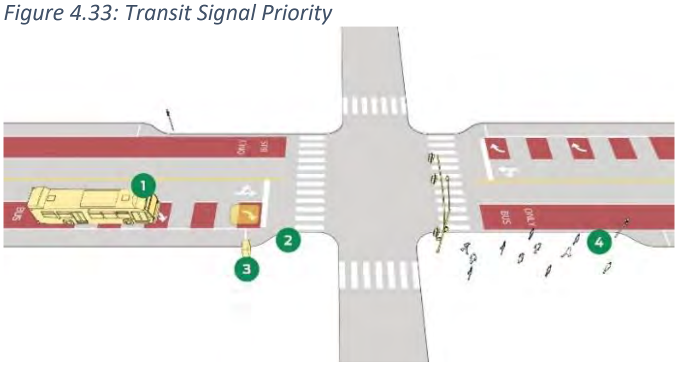
- Signage should clearly communicate where private vehicles are prohibited and what fines will be levied.
- Enforcement of transit-only lanes should be carefully rolled out to prevent widespread public opposition. Early enforcement can be limited to warnings rather than fines.
- Conduct transit operational analysis and traffic study to determine benefits, costs, and needs associated with implementing dedicated transit lanes.
- The National Association of City Transpiration Officials (NACTO) Transit Street Design Guide provides additional guidance on dedicated transit lanes.

4.9.2.5 Traffic Signal Improvements

4.9.2.5.1 Transit Signal Priority

Transit Signal Priority (TSP) can improve reliability and average travel speeds of transit vehicles. This is done by providing technology at traffic signals to extend the green light time if a bus is approaching or shortening the red light time if a bus is waiting, reducing the time that buses spend not moving.

Figure 4.33: Transit Signal Priority



Source: NACTO

4.9.2.5.2 Queue Jumpers

Queue Jumpers are short stretches of transit lanes that may be combined with TSP to allow buses to bypass the queue on the curbside and then receive a green light before the private vehicles.

4.9.2.5.3 Transit-Only Signals

These are an important part of a queue jumper, allowing the operator of a bus to know when the bus may proceed while the standard traffic light remains red.

4.9.2.5.4 Overhead Signs

Overhead signs may be used in addition to, or instead of, painted lanes to delineate dedicated transit lanes. While enforcement is an important part of a transit lane system, it is preferable that drivers understand where not to travel and do not encroach on the transit lanes in the first place.

4.9.3 Pedestrian Access

4.9.3.1 Walkways

Definition

- Pedestrian access to public transit and other mobility services should be provided via walkways that are wide, smooth, direct, shaded during the day, and well-lit at night. Landscaping elements can also serve to improve the aesthetic appeal of a walkway and to buffer pedestrians from the noise generated by passing automobiles.

Implementation Considerations

- The National Association of City Transportation Officials (NACTO) recommends an absolute minimum sidewalk width of five feet and desirable sidewalk width of six feet to accommodate two people walking side by side. To accommodate seating, lighting, and other transit amenities, sidewalks should be at least eight feet wide.
- The Americans with Disabilities Act (ADA) and City of Tracy development codes can influence the design of pedestrian paths.
- Maintenance responsibilities, operating costs for lights and other expenses, and liability considerations should be addressed as part of the design.
- People will frequently walk along paths not technically designated as sidewalks. These pathways, called “desire lines,” may be seen by noticing a path of worn ground where people walk. If such pathways, typically diagonal lines acting as a shortcut, exist near the hub, take the opportunity to formalize them by paving them.
- Design shortcuts paths with special paving, lighting, furnishings (such as seating), and shade so that they are inviting to people of all ages and abilities.
- Design shortcut paths to accommodate people who ride bikes and other wheeled devices that need a sufficiently wide and smooth pathway.
- Ensure that pathways are maintained and well lit.
- Use wayfinding at mobility hub entrances to guide travel between transit stops and other mobility services. Coordinate the design and placement of new signs with existing sign features.
- The NACTO Urban Street Design Guide provides additional walkway design guidance, including descriptions of all sidewalk zones.

4.9.3.2 Street Crossings

Because automobiles present a danger to people moving about on foot, it is important to provide places where pedestrians know that they can cross from one side of the road to the other in safety. This is done by controlling vehicle movement via signals, limiting vehicle speed through the use of vertical and horizontal roadway design elements, and reducing pedestrian exposure in the roadway by shortening crossing distances. Because all transit riders are pedestrians for part of their journey, improving crossings can make riding transit easier and more comfortable.

Implementation Considerations

- Decisions about where and how to implement a pedestrian crossing are based on several factors, including the local context, the presence of nearby transit facilities, the amount and speed of auto traffic, the history of vehicle collisions in the area, and anticipated demand for crossings.
- Where pedestrian must cross busy streets with fast-moving traffic, signals are typically warranted. If a street is designed for slower traffic, passive infrastructure such as signage and pedestrian bulb-outs may be sufficient to provide a safe crossing.
- Freeways frequently act as a barrier to pedestrian travel. Providing safe pedestrian crossings through freeway interchanges may requiring reducing the number of free right turns allowed for motorists.
- Crossing at signalized intersections may be improved by prohibiting driver from turning right on red or by providing a leading pedestrian interval, allowing them to enter the intersection ahead of drivers.

- Where possible, provide crossings upstream from bus stops (i.e. behind the stop rather than in front of it). This allow the transit vehicle to pull out from the stop immediately after passengers have disembarked, and permits greater visibility between drivers and people crossing the street.
- According to NACTO, crossings should be provided at all legs of every street intersection. If a block is unusually long (typical blocks in Downtown Tracy are 350'), a mid-block crossing may be provided.
- Crossings should be provided with consideration to the location of nearby transit stops. Most transit trips are two-way and it should not be prohibitively difficult to travel between stops for the same line in opposite directions.
- The Americans with Disabilities Act (ADA) requires the construction of curb ramps at all street corners and pedestrians crossings to ensure that users of all ages and abilities may use the facility.
- The NACTO Urban Street Design Guide provides additional crossing design guidance.

Sample Crossing Improvements

4.9.3.2.1 Signal Timing

Signals are timed to allow a 'walk' phase long enough in duration for a pedestrian to traverse the length of the crosswalk. However, many signals assume a crossing speed typical of an able-bodied adult. In areas where there it a likelihood that some significant number of users will move more slowly, whether because they are elderly, very young, or employ mobility devices, a slower crossing speed should be used. This will increase the signal cycle time but preclude the possibility of a user still being in the crosswalk when a signal phase ends.

4.9.3.2.2 Bulb-Outs

Bulb-outs, also called curb extensions, are treatments installed at intersections to shorten the distance between curbs, allowing pedestrians to spend less time in the roadway and to be more visible when waiting to cross. They also serve to reduce the radius of a curb, encouraging drivers to navigate a turn more slowly.

4.9.3.2.3 Mid-Block Crossings

Mid-Block crossings are designated crosswalks installed somewhere other than the intersection of two streets. Depending on the number of lanes, speed limit, and traffic volume, a signal may be needed in addition to signage and striping. While mid-block crossings are not always needed, they should be strongly considered where a shared use path intersects a street or adjacent or a busy land use.

4.9.3.2.4 Refuge Island

A pedestrian refuge island is a protected area halfway across a crossing that provides a place for pedestrians to wait if they are not able to traverse an intersection in the time allotted.

4.9.3.2.5 PHB

A pedestrian hybrid beacon (PHB) is a traffic signal that is activated by a pedestrian or bicycle user trying to cross a roadway. Upon actuating, the beacon flashes yellow, warning motorists that they should slow or proceed with caution, before turning red, at which point they must stop and allow pedestrians to cross. This signal is warranted on higher-volume streets with multilane configurations.

4.9.3.2.6 RRFB

A rectangular rapid flashing beacon (RRFB) is a traffic signal that is activated by a button at a crosswalk. When activated, the beacon flashes yellow for a period of time that would allow a pedestrian to traverse the crossing, reminding drivers of their legal duty to yield to pedestrians using a crosswalk.

4.9.3.2.7 Raised Crosswalk

Raised crosswalks are treatments that place the crosswalk itself on a higher level than the rest of the roadway, leading to drivers slowing down on their approach and increasing the likelihood of yielding to pedestrians. They have the added benefit of being level with the sidewalk, making traversing the crosswalk easier for wheelchair users, people pushing strollers or carts, or any mobility-impaired individuals.

4.9.3.2.8 Pedestrian Detection

Pedestrian phases at many intersections only occur if a pedestrian presses a button or actuator near the signal. These are occasionally placed in awkward positions or may not be accessible by users of all abilities. Pedestrian detection systems can determine the presence of a pedestrian, typically through the use of thermal imaging, and ensure that a walk phase is provided.

4.9.3.3 Shade

Definition

Shade and protection from the elements is an key characteristic of providing a comfortable waiting areas for transit riders. Especially in the context of the San Joaquin Valley, where summer temperatures regularly climb about 100 degrees Fahrenheit, the difference between standing in full sunlight and under a shade structure is substantial. This holds particularly true for older adults and children. Without assurance of shade, many potential riders will opt for the comfort of their personal automobile.

Implementation Considerations

- Shade structures should be provided near the boarding area for transit vehicles, to prevent riders from having to run from shade to board the vehicle
- It is better to provide too much shade than too little. Plan for high ridership because it will be difficult to provide more after the mobility hub is constructed
- Provide seating under shade structures. If riders are traveling during off-peak times, significant time may elapse between vehicle departures.
- Shade structures may be a good place to provide real-time arrival signs or other wayfinding
- Include lighting in structures so people waiting at night will not be in a darkened area.
- Enclosure is only necessary at shade structures where high amounts of wind are expected. Otherwise they can decrease sightlines and affect passenger comfort.
- Trash cans should be provided and a maintenance plan should be put into place to ensure frequent trash collection.

4.9.3.4 Restrooms

Definition

Restrooms not only serve as places where people can relieve themselves, but where other personal business can take place, such as fixing clothing, applying makeup, or changing a child's diaper. Especially when transit is infrequent during off-peak periods, restrooms are an important part of making the wait more comfortable.

Implementation Considerations

- Consideration should be made for how entry is granted to restrooms, whether they are open to all use or only to transit card holders
- Maintenance and cleaning is of paramount importance to providing usable restrooms.
- Because of their private nature, restrooms can invite other undesirable behavior, such as illicit drug use. Consideration should be given to how to reduce this type of use. This can take form of timed lighting, or other strategies.

4.9.3.5 Pedestrian Wayfinding

Definition

Wayfinding is the term for all signage and guidance that allow users to find their destination. This is particularly useful in transportation hubs of all sorts, such as airports, train station, or bus depots, where people have to make time-sensitive decisions about which way to go and may not be familiar with the environment.

Implementation Consideration

- Wayfinding may often be treated as an afterthought but is an important part of guiding new users to their destinations. Without proper wayfinding, a first-time transit rider may bounce off, not being able to tell where to go, and never return. Designing navigation aids that may be used by a novice is key.
- A wayfinding policy need a comprehensive strategy. One built for moving people internally within a transit station will look very different from one helping people navigate between landmarks in a small downtown.
- Though high-quality wayfinding may be dynamic and involve a touch screen display, static wayfinding may be perfectly effective and is less costly to implement.
- At the very least, users should be presented with legible maps in the relevant languages that tell them where they will find needed transit services.
- Special care should be given to ensuring that wayfinding is ADA accessible users with visual, physical, or hearing impairments.

4.9.4 Bicycle Access

4.9.4.1 Bikeways

Definition

Bikeways can encourage cycling to, from, and within a mobility hub, offering bike riders easier access to transit and other nearby destination (e.g. work, shopping, recreation). They provide a safe and comfortable riding experience for people of all ages and abilities, and alert drives to the presence of bike riders on or near the roadway. Bikeways make cycling a priority on certain routes, and an important part of the local and regional travel network.

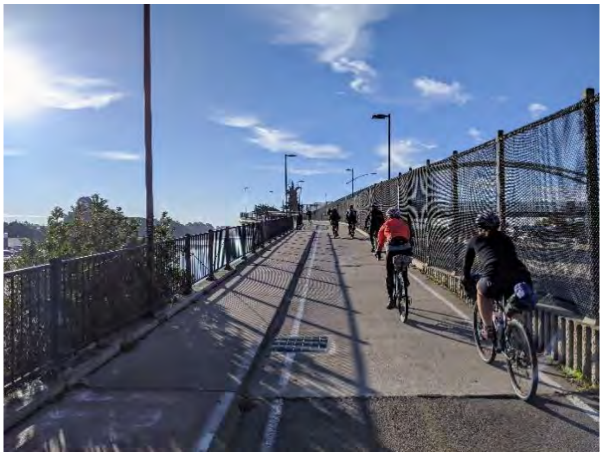
- The Bicycle Improvements recommended in this document prioritize connection to and from the proposed Mobility Hubs. Development of this nearby bikeways will be important to encouraging people who live within a short distance of the hubs to access them by bicycle rather than driving alone.
- Bikeways may take a range of forms, depending on the type of street that they are places along. Bikeways on busy streets with fast-moving traffic should provide physical separation between

riders and automobiles. Bikeways on slow, neighborhood streets may consist of signage and pavement markings.

- Bikeways running to the right of automobile travel lanes must be carefully integrated with transit stops so that they do not interfere with bus operations or with passengers waiting to board.
- Conflict between drivers and bicycle users frequently occurs at intersections. This conflict can be reduced by a number of treatments:
    - Bike sensor can trigger a light for bicyclists without their having to dismount of push a pedestrian crossing button
    - Dedicated signals for bicycle riders allow riders to enter the intersection before drivers
    - Bike boxes or two-way left turn boxes permit easier left turns
    - Prohibiting drivers from turning right on red allows bicyclists to wait to the right of through-traffic
- The National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide provides additional guidance on bikeways.

Sample Bikeway Facilities and Amenities

4.9.4.1.1 Class 1 Bike Path



Bike paths are physically separated from automobile traffic, either within the roadway divided by bollards or above the grade of the roadway and separated by a curb. They may also be constructed in a separate right-of-way, occasionally following the path of a former rail line. Bike paths are shared with pedestrians and other non-motorized travel and typically have speed limits of 15 miles per hour, ensuring that users of all types do not come into conflict.

4.9.4.1.2 Class 2 Bike Lane

Bike lanes are delineated area on the pavement that indicate where bicycle riders should travel. A thin line of paint shows the portion of the street reserved for bicycle users and sometimes an additional buffer is delineated to provide additional space between riders and drivers. They are typically placed to the right of the rightmost auto lane, though this frequently puts them adjacent to on-street parking, which can present a hazard to bicycle users.

4.9.4.1.3 Class 3 Bike Route

Bike routes are signed bikeways typically installed on streets with lower auto traffic volumes or on streets without the right-of-way width to accommodate both bike lanes and auto uses. Instead of drivers and bike users using separate areas, they share the same section of roadway. This is indicated by signage and pavement markings such as so-called “sharrows.” Due to the differential in bicycle speed (between 8-15 MPH) and typical neighborhood speed limits (25 MPH), additional treatments should be implemented to slow auto speeds.

4.9.4.1.4 Class 4 Cycle Track

Cycle tracks provide separated travel lanes for bicycles and other slow rideable vehicles in the road right-of-way. Separation from vehicle traffic may be achieved via bollards, concrete, or parked cars.

4.9.4.1.5 Median Refuge

A median refuge provides a safe space for bicycle riders to wait when crossing an intersecting street. Depending on the configuration, the refuge can preclude through-auto traffic and reduce volumes on the bikeway street.

4.9.4.1.6 Bike Signals

Bike signals assist riders in moving though busy intersections, typically through reducing conflicts between through-moving bicyclists and right-turning automobiles.

4.9.4.1.7 Bike Boxes

Bike boxes are green-painted areas installed at an intersection between the auto stop bar and the pedestrian crosswalk. Allowing bikers to move to the front of the auto queue, making them more visible as they enter the intersection first.

4.9.4.1.8 Bike Channels

Bike channels are a small gutter or shelf installed adjacent to a staircase, allowing riders to take their bicycles up and down staircases by rolling them rather than carrying them. This reduces impact on elevators and escalators and makes combining bicycle and transit more convenient.

4.9.4.1.9 Bike and Pedestrian Counters

Bike and pedestrian counters display the number of bikers or pedestrians traveling through an area counted via infrared or induction technology. This information may be used by planners or advocates to better understand trends and patterns of use.

4.9.4.2 Bicycle Parking

Definition

While much attention is paid to the provision of bikeways on streets, sometimes bike parking can be overlooked. For people to choose to ride their personal bicycles for transportation, they must feel certain that their bike will still be where they left it upon their return. This is especially true for people riding a bike to transit, who must either choose to bring their bike onboard the transit vehicle or leave the bicycle at the station all day. For the latter to be a viable option, bike parking must be provided at the station that is secure from theft, protected from the elements, and easy to access on both arrival and departure.

- When choosing where to located bike parking or secure bike lockers, consider demand, surface space availability, and operational costs
- If a transit rider is going to access the mobility hub via bike, they likely plan on parking it for a significant amount of time. Thus, consideration should be given to make bike parking as theft-proof as possible.
- Bike parking should be located near to where riders would board a transit vehicle to encourage riding instead of driving alone.
- Consider setback and access requirements during the design of bike parking facilities.
- Secure bike parking is typically priced rather than free. This can be done on a daily basis or on a longer term. Ensure that options are available for low-income customers.
- Higher quality bike parking requires increasing cost of operation, staffing, and maintenance. Outdoor bike parking must be installed and maintained, but a bike station must employ an attendant.
- Consider whether or not there is a need or desire within a mobility hub to incorporate charging facilities for electric bikes. These would likely have to be indoors, requiring a full bike station.
- Real-time information on available bike parking should be integrated into a universal transportation account, with which users can find, access, and pay for a variety of mobility services.
- If secure bike lockers are provided, allow users to check real-time information about bike parking availability ahead of time as well as make and pay for a reservation.

Bike Parking Improvements

4.9.4.2.1 Bike racks

Bike racks are metal fixtures secured to the ground that allow bicycle users to lock their bike up for a short amount of time. They should be placed close to building entrances with easy access from the street or bikeway and should be highly visible rather than tucked away around a corner in order to discourage theft. Refer to the City of Tracy Standard Plans (Parks & Streetscape) for design guidance.

4.9.4.2.2 Bike corrals

Bike corrals are structures typically installed on the street in an area formerly designated for on-street auto parking that permit multiple bikes to be parked at once. They can be a prefabricated single structure or simply a series of bike racks bolted into the street surface. Bike corrals are frequently found outside of retail in spaces where sidewalk-based bicycle parking would have inhibited pedestrian movement. A parking space that might have housed a single car can, if replaced by a bike corral, easily hold six or more bicycles.

4.9.4.2.3 Bike lockers

Bike lockers are enclosed structures that allow a rider to securely park their bike for a longer period of time. They are typically installed near transit stations or in busy commercial areas. While they may be preferable for users planning to park their bikes and ride transit, they are more expensive than conventional racks and tack up more space (though still considerably less than an automobile parking spot). Modern bike lockers can be unlocked and paid for using a key card.

Additional Bicycle Amenities

4.9.4.2.4 Bike Repair Stand

A bicycle pump and a set of basic tools secured by a chain can be a useful amenity for a bike user experiencing a mechanical issue.

4.9.4.2.5 Electric Bicycle Charging Station

An increasing share of personal bicycle have an electric assist motor, which can assist non-sport riders or power a cargo bicycle. Electrical outlets installed near secure bike parking can allow users to charge their bikes while parked.

4.9.4.2.6 Bicycle Supply Vending Machine

A vending machine at a busy transit station can be stocked with basic bicycle repair materials, such as tubes, a patch kit, chain lube, or bar tape.

4.9.4.3 Bicycle Wayfinding

Definition

Wayfinding is the term for all signage and guidance that allow users to find their destination. Because few cities have bicycle facilities on all of their streets, wayfinding is especially important for informing bicycle users which routes are specifically designated for bicycle travel. This allows riders to travel primarily on low-stress facilities without accidentally finding themselves on multilane arterials lacking dedicated bicycle facilities.

Implementation Consideration

- Wayfinding in bicycle routing can take several forms. At its simplest, wayfinding can consist of providing intuitive connections between bikeways on intersecting streets. This can include pavement markings and vertical separation design that facilitates movement in the desired direction. If a bike user wants to turn left, it should be clear and straightforward how to do so.
- Wayfinding can also consist of signage informing riders of the direction and distance of notable land uses, such as a transit center, downtown, business park, recreational area.
- In addition to written wayfinding, more minimal design choices may be implemented, such as using a different color for street signs on bike boulevards, letting riders know that they can expect less auto traffic on those streets.
- Depending on the area, signage should be provided in multiple languages to facilitate use by a wider range of riders.
- While maps are not scalable for widespread distribution, they can play a key role when placed at mobility hubs, especially in close proximity to any potential bike share facility. Users can look up their destination and determine roughly how long it will take.
- As always wayfinding policy needs a comprehensive strategy, and should be integrated with bikeway network design. Key points of origin and destination should be determined (especially those that are more likely to be used by those unfamiliar with the transportation network), and wayfinding deployed to facilitate those trips.
- Special care should be given to ensuring that wayfinding is ADA accessible users with visual, physical, or hearing impairments.

4.9.5 Motorized Access

4.9.5.1 On-Demand Rideshare

Definition

Formally known as Transportation Network Companies (TNCs), app-based ride-hail companies such as Lyft and Uber allow users to summon a car to their location easily and reliably, with prices varying based on current demand and availability of drivers.

Implementation Considerations

- Because TNCs allow travelers to reach a transit stop without driving and parking a vehicle, they can allow higher levels of ridership with devoting more land to parking.
- Curbspace should be reserved specifically for TNC use, given that it has a high turnover rate. This area should be clearly signed for drivers entering the area.
- Wayfinding to TNC pick-up/drop-off areas should be provided so that TNC riders know where to meet their vehicle.
- Different on-demand rideshare services exist to cater to different rider needs:
    - UberX and Lyft provide point to point travel while other services such as Lyft Line and UberPool can allow a user to split the cost with out riders.
    - ADA-accessible rideshare services are available in some metro areas, allowing people with mobility devices to use the service

- Employers may subsidize or sponsor rides for their employees to preapproved locations.
- Some park and ride lot operators have implemented a TNC subsidy for parking permit holders to allow more users to access the site without the large capital expense of expanding parking supply.

4.9.5.2 Managed and Flexible Curbs

Definition

While parking stalls are reserved primarily for full-day park and riders, curb space near the transit stops should be reserved for high turnover uses, such as TNCs, kiss-and-ride, and neighborhood shuttles. These are areas in which vehicles are expected not to dwell for more than 5 minutes at a time. Depending on demand, curb space may be allocated for different purposes over the course of the day.

Implementation Considerations

- Signage should clearly indicate the configuration of each portion of curb for both drivers and pedestrians.
- Designating curb space for passenger loading and unloading and make the curb more efficient and reduce double-parking and idling in red curb zones.
- Curb space should be allocated to accommodate anticipated demand and should be prioritized based on the spatial efficiency of the transportation mode, i.e. the number of passengers per vehicle. Under this rubric, transit vehicles are afforded preferential zones over TNCs and kiss-and-ride.
- Flexible curb space should be monitored intermittently to determine efficacy.

4.9.5.3 Shuttles

Definition

Neighborhood shuttles, also referred to as “microtransit,” offer peak-period travel between residential areas and transit nodes for small groups of people. These services can be flexible and can operate in places where density is too low to support fixed route transit or where it is too costly to operate.

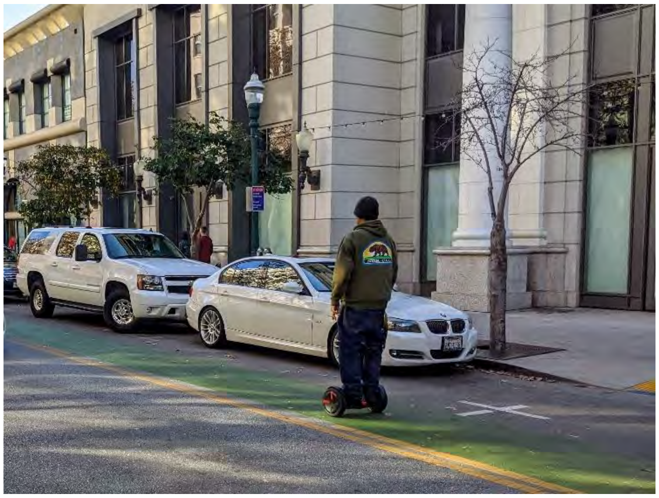
Implementation Considerations

- Microtransit schedules should be coordinated with fixed route transit, so as to ensure a little transfer time as possible.
- Consider the amount of demand that microtransit shuttles will receive when allocating curb space at the mobility hub.
- Microtransit vehicles, given their relatively short routes may be suitable for being powered by alternative fuels, such as lithium ion batteries or hydrogen.
- Real-time information for microtransit should be available on mobile transit apps.

4.9.5.4 Shared Mobility Devices

Definition

Shared mobility device is a general term for small, wheeled electric vehicles used for personal mobility. Though they vary significantly in form (examples include electric scooters, electric skateboards, so-called “hoverboards,” and other gyroscopically-stabilized vehicles), they share certain common factors. All devices are able to move a single person between 8-15 MPH with a range of several miles. The vehicles take up little more space than the rider and are stored inside at the destination rather than locked up outside.



Implementation Considerations

- Shared mobility devices can provide users an easy way to reach a transit stop that might otherwise be inconvenient to access by foot.
- For transit stop users that a distance of 2-4 miles, using a rideable may be no slower than traveling by car, with reduced parking costs, traffic, and emissions.
- Depending on the speed, shared mobility devices may be best accommodated on a wide sidewalk or in a bike lane. Because pedestrians using a sidewalk should not be expected to share the path with wheeled devices traveling over 6 MPH, rideable users should be expected and encouraged to use bike lanes.
- Transit waiting areas may be equipped with charging outlets to allow users to recharge electric devices, including shared mobility devices.
- Many shared mobility devices are regulated California legislation (AB 604, 2015)

4.9.5.5 Shared Mobility Devices: Scooters and Bicycles

Definition

Cities across the nation have seen bikeshare and shared mobility device systems deployed to their streets, some public, some private, and some a public-private partnership. The systems allow users to rent a vehicle for a short amount of time, typically using a smartphone app, paying a per-minute rental fee. At the end of the trip, the vehicle is either returned to a dock or secured out of the pedestrian right-of-way.

Implementation Considerations

- As with electric shared mobility devices and privately-owned bicycles, users of bikeshare and other shared mobility devices will travel on bikeway to approach the transit stop. Circulation for automobiles and transit should be designed in such a way as not to conflict with bikeshare and other shared mobility device travel.
- Any docked systems should have a dock installed near planned bike parking. Additional space should be reserved and clearly marked for the parking of non-docked system vehicles.

4.9.6 Automobile Parking

While a primary purpose of Mobility Hub is to increase the proportion of people accessing transit by non-automotive means, a substantial portion of people will still prefer or need to access them by private automobile. As such, surface parking will likely be provided at all Mobility Hubs. In some cases, shown in the figure below, Mobility Hubs will maintain are located in areas where it is not currently feasible to provide multimodal facilities, and they will retain a largely automotive function. While they are referred to in the figure showing recommendations below as "Park and Rides," pending future development they may be converted into more fully fledged Mobility Hubs with the provision of more amenities.

4.9.6.1 Smart Parking

Definition

Park and Ride lots are parking lots typically adjoining a transit stop where riders can drive to the lot, park their car, and board the transit vehicle to their eventual destination. Some lots may be composed of structured or underground parking, but most park and ride lots are entirely surface parking. Lots can be free to park in, or may require a fee or permit to use. Smart parking brings together traditional parking strategies with new technologies to bring about better use of existing infrastructure.

Implementation Considerations

- Significant consideration should be given to how one obtains permission to park.
    - Per day spaces require a user to pay every time they want to use a spot, but no spots are reserved for a particular person.
    - Permit spots allow a user who has obtained a permit to park in a designated spot.
- The composition of a lot may be divided between permit spots and per-day or per-hour spots.
- Consideration should be given to eligibility requirements for permits and whether they should be limited in any way.
    - Eligibility may be based on disability status
    - Permits can be only granted to users who live at least a certain distance away
    - Policies can be implemented to ensure that users from the local municipality are able to use the facility.
- Day-of payment should be made possible by a variety of means, such as cash, credit card, or smart phone.
- Consider technology that monitors capacity and can display the number of available to spaces on a website to smartphone app.
- The design of park and ride lots should not in any way inhibit the quality of the transit routes they are serving (by, for example, placing the stops far from the fronting road).
- Comfortable ADA-compliant paths should be implemented for people to travel from their car to the transit stop.
- A balance should be struck between the cost of parking and utilization goals. If cost of a permit or daily fee is too low, the lot will be full and revenue will be lost. If the cost is too high, the lot will not be optimally utilized.
- The parking fee should be monitored to determine whether it need to be raised or lowered. Fee should be displayed with electronic or adjustable signage to minimize the challenge of adjustment.
- If the lot requires a daily fee, the method of paying for it should be made clear to all users to minimize accidental illegal parking.
- Priority parking can be designated at the part of the lot closest to the transit stop for low-emissions vehicles (e.g. motorized scooters, battery electric or hybrid electric vehicles).

4.9.6.2 Electric Vehicle Charging

Definition

Electric Vehicle Charging Stations (EVCS) allow battery-electric or gas-electric hybrid vehicles to be charged while parked. This can synthesize well with park and ride lots where users store cars for a relatively long period, enough time to receive a full charge.

Implementation Considerations

- The California Green Building Code specifies a number of electric vehicle charging stations based on the total number of parking space, approximately 5 percent. As electric vehicle adoption and demand for charging infrastructure increases, this rate may increase.
- Provide wayfinding to charging stations so that EV users know where they should park their vehicles to be able to plug in.
- Bollard or other barriers should be considered to protect charging stations from accidental collisions with vehicles.
- Consider how charging stations will be implemented and maintained. In many instances the service is free to the user, but if demand increases it may be something that could be monetized.
- Various smartphone applications allow drivers to locate EVCSs. Ensure that the charging stations are visible in those applications so that potential riders are not dissuaded from using the hub.

4.9.7 Mobility Hub Recommendations

This section documents infrastructure related to Mobility Hub planning for the Tracy Transportation Master Plan (TMP). For the purposes of this document, Park and Rides are to be considered Mobility Hubs, albeit with a focus on transferring between automobiles and other modes, rather than a transfer between two non-auto modes.

The existing Park and Ride infrastructure is indicated in **Chapter 2**, Existing Conditions. Previous planning for the Park and Ride facilities is based on the San Joaquin Council of Governments prepared *Park-and-Ride Lot Master Plan (DKS Associates, October 31, 2007),* which is now incorporated into Mobility Hub planning. Discussion is provided relative to advanced planning for Mobility Hubs such as connectivity to land use and transit, and design components.

4.9.7.1 Planning Mobility Hubs

The *Park-and-Ride Lot Master Plan* (DKS Associates, October 31, 2007) determined locations for new Park and Ride facilities based on observed demand, location and source of funding for new facilities during new housing and commercial development projects, utilization of vacant land opportunity sites, availability of Caltrans right-of-way and location of future interchange improvement projects. Traffic modeling forecasts provide a key insight to the potential number of Park and Ride users. Based on citywide traffic modeling, approximately 73-percent of trips will leave the City in Horizon Year for destinations in Stockton (9%), San Joaquin County (16%, excludes Stockton), the Bay Area (36%), Stanislaus County (11%), and Merced County (1%).

Consideration of opportunity and applicability of Mobility Hubs is recommended during large land use planning efforts such as the General Plan Update, Specific Plan preparation, and community planning efforts. Additionally, consideration of Mobility Hubs facilities should be coordinated with bicycle route planning, transit planning, and roadway circulation system planning to provide convenient, efficient, and safe linkages and interoperability between transportation modes. By providing multiple transportation services at one intermodal center, residents and employees within the City can have increased opportunities to use transit and alternative transportation, minimizing single-occupancy vehicles and reducing the financial, environmental, and infrastructure burden placed on the City of Tracy. Early consideration of the Mobility Hubs as a potential solution to first mile/last mile challenges to transit usage can help identify solutions for a higher utilized and more efficient transportation system.

4.9.7.2 Future Mobility Hubs

Figure 4.34 shows the City of Tracy Mobility Hub and Park and Ride Plan, which recommends the conversion of the following existing Park and Rides into full Mobility hubs:

- Tracy Transit Station
- ACE Station

The following new Mobility Hubs are recommended:

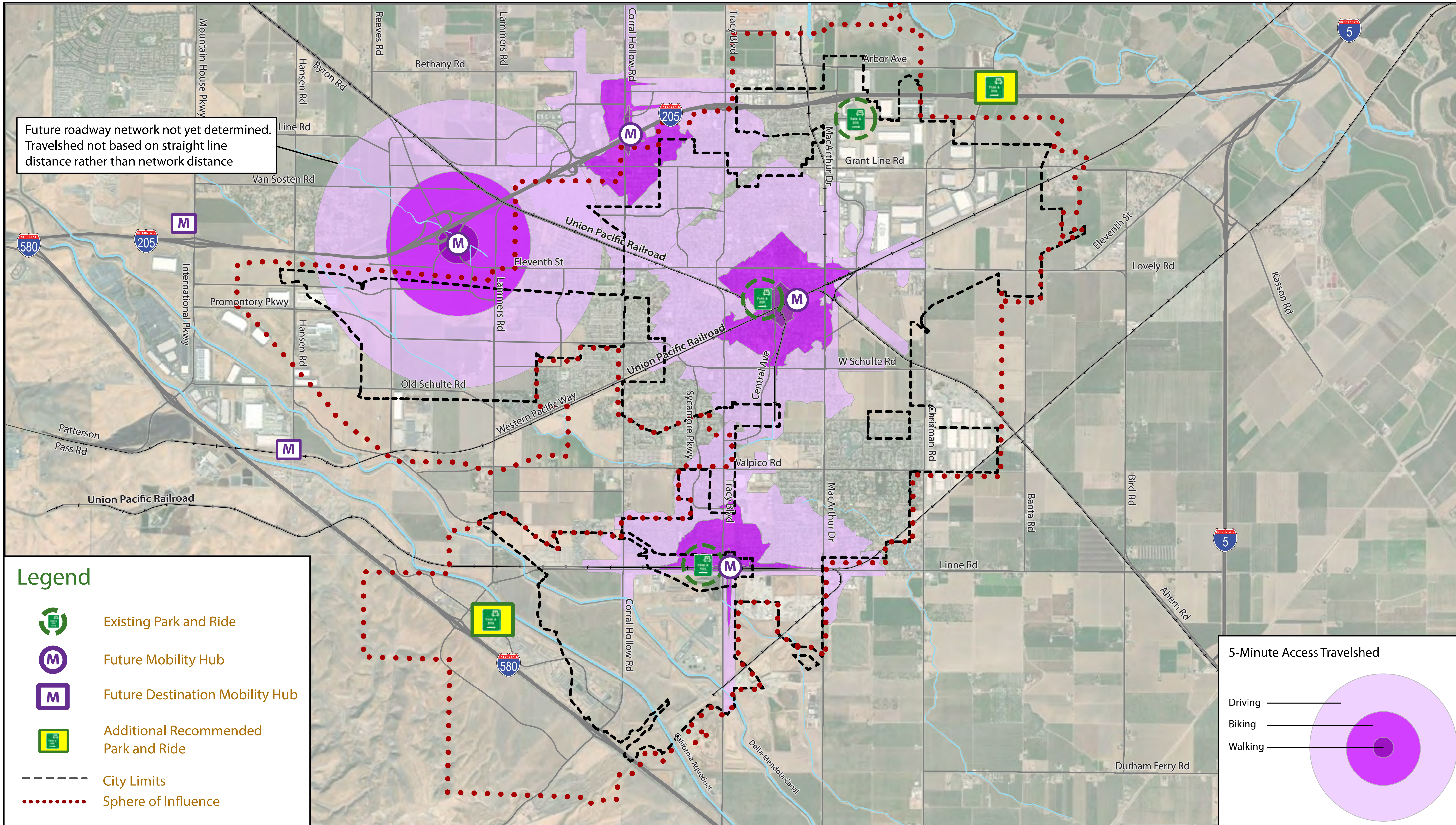
- In vicinity of I-205/Corral Hollow Road
- In vicinity of I-205/Lammers Road Extension interchange
- In vicinity of I-205/Mountain House Parkway interchange (Destination Mobility Hub)
- Planned Valley Link Station at Hansen Road (Destination Mobility Hub)

Park and Ride lots (Mobility Hubs that are accessed primarily by automobiles) are recommended at the following locations:

- In vicinity of I-580/Lammers Road interchange
- In vicinity of future I-205/Chrisman Road interchange

Lastly, the existing Park and Ride lot at MacArthur Drive and Pescadero Ave would be maintained.

While some of the Mobility Hubs recommended for future construction are outside the City of Tracy jurisdiction, they would be heavily utilized by residents of the City. The *Park-and-Ride Lot Master Plan (DKS Associates, October 31, 2007)* did not recommend the new Park and Ride/Mobility Hub location along I-580, however, based on discussions with City staff this location is recommended for inclusion in the TMP.



Source: ESRI, Kimley-Horn

North

0 0.5 1 2 Miles (Approximate)

Kimley»Horn

Figure 4.34: Future Park & Rides and Mobility Hubs

4.9.7.3 Smart Growth Design Elements

The following Smart Growth design elements are relevant to Mobility Hub planning:

- o Continue to consider opportunities to share parking facilities for Mobility Hubs use where parking operations provide complimentary peak demands. Examples of opportunities to utilize parking facilities for dual purpose includes theater or shopping center uses that have peak parking demands during the evening or weekend when a Mobility Hub facility would otherwise be in low demand.
- Provide high level of connectivity, beyond typical design expectations for land use to connect to alternative transportation systems such as transit, bicycle, and park and ride facilities. With enhanced efforts to strengthen connectivity, a higher quality of life is provided through provision of multiple transportation options.

4.10 Intelligent Transportation System

4.10.1 Introduction

This section documents the infrastructure related to the Intelligent Transportation System (ITS) planning for the Tracy Transportation Master Plan (TMP). This section was integrated into the TMP to develop a comprehensive overview of the development and deployment of the City of Tracy's proposed ITS infrastructure and includes the City of Tracy's ITS vision, existing system inventory and evaluation, ITS strategies, assessment of intelligent transportation systems, and recommendations for City of Tracy's ITS infrastructure.

4.10.2 City of Tracy Intelligent Transportation Vision

The City of Tracy Intelligent Transportation System (ITS) vision is to bring the benefits of an enhanced multi-modal transportation system that collect and disseminate traffic information from various modes of transportation in order to provide operational effectiveness along the signalized intersections and project corridors and thereby increasing mobility and reducing travel times to the motorists.

The City of Tracy's vision is to have a citywide state-of the-art reliable ITS infrastructure that uses the latest technology to assist the City in managing traffic at intersections and roadway segments; enhance staff efficiency through remote monitoring; provide troubleshooting capabilities, and system adjustments; compliment the City's existing traffic signal surveillance, control and monitoring program; and provide traveling information to the public.

It is also envisioned that the City of Tracy will participate in regional transportation management and share travel information with adjacent local agencies including Caltrans, and San Joaquin County in order to enhance mobility throughout the region.

4.10.3 City of Tracy Intelligent Transportation (ITS) Strategies

ITS provides numerous strategies that can be incorporated to the City of Tracy future ITS infrastructure. The City of Tracy shall adopt some of the ITS strategies based on their current and future needs. It should be noted that as technology continues to change rapidly, the City should evaluate these ITS strategies on an annual basis.

ITS strategies are included in the following categories:

- Communication network
- Advanced Transportation Management Systems (ATMS)
- Advanced Traveler Information Systems (ATIS)
- System integration

4.10.3.1 Communication Network

The communication network provides communication support from ITS field elements including traffic signal systems, Closed Circuit Television (CCTV) systems, and Dynamic Message Signs (DMS) to a centralized system such as the City's Traffic Management Center (TMC).

The communication network shall be a robust system that provides real-time data and video communications between the ITS field elements and the centralized system. Different communication methods are available including fiber optic cable, twisted pair copper wire signal interconnect cable (SIC), wireless communications, and leased communication lines.

The City of Tracy's traffic signal systems are primarily communicating to the City's TMC via twisted pair copper wire signal interconnect cable. This communication method has been the most common system deployed by many agencies in the past. It provides low-speed, low-data transmission over short distances. This system is subject to electromagnetic and radio frequency interference and it has bandwidth limitations.

Part of the City's future ITS infrastructure is to provide a solid communication network that will provide real-time information to City staff and other stakeholders with minimum disruptions to the system. Currently, the most reliable communication network is a network that's primarily built using fiber optic cable. It can accommodate very large amounts of data and/or video at very high speeds.

Therefore, the City of Tracy's ITS infrastructure communication network shall be built using a fiber optic communication system.

4.10.3.2 Advanced Transportation Management Systems (ATMS)

Advanced Transportation Management Systems (ATMSs) can be as basic as the upgrade or deployment of a new traffic control system or an integrated system where data and/or video can be shared among agencies. Some of the key ATMS strategies for the City of Tracy are described below.

Traffic Signal System

The traffic signal system consists of the traffic signal controllers and controller software, as well as traffic signal central software. The central software allows for remote command and control of all traffic signal controllers on the network from a centralized location. The City of Tracy currently operates a QuicNet traffic control system and type 170 controllers at the signalized intersections.

Several advanced traffic signal controllers and central system software options area available commercial-of-the-shelf (COTS) on the market today. These systems provide advanced functionality at existing signalized intersections, in addition to enhanced capabilities allowing for integration of other ITS devices on the traffic signal network.

Advanced traffic signal system functionality includes Adaptive Traffic Signals. Adaptive traffic signals optimize traffic signal operations on groups of signals along a corridor, or within a geographic area, based on real-time traffic conditions. This differs from traditional traffic signal optimization approaches such as Time-of-Day (TOD), or Traffic Responsive, in that Adaptive Traffic Signal Systems use vehicle detectors and advanced algorithms to measure traffic conditions (multiple times per second) at a series of intersections and make near-instantaneous adjustments to the traffic signal timing at each signal to maximize vehicle throughput and minimize delay, across modes. Adaptive Traffic Signal Systems are especially beneficial along corridors that experience unpredictable traffic patterns, or ones in which traditional signal timing methods like TOD or traffic responsive have been unsuccessful. Adaptive systems have been shown to improve travel times along a corridor by up to 20% in some cases.

Some agencies are testing or deploying new generation of a traffic control system, known as adaptive signal control systems. The systems coordinate control of traffic signals across a signal network, adjusting the lengths of signal phases based on prevailing traffic conditions.

As the City continues to implement their future ITS infrastructure, the City should look for opportunities to implement new and more advanced COTS traffic control system and signal controllers where both systems can co-exist as new signalized intersections are deployed. As funds are available, the existing signalized intersections can be upgraded to interface with the new traffic control system.

Vehicle Detection System

Vehicle detection system provides vehicle data from the city's roadway network including vehicle volume, speeds, and occupancy. Most vehicle detection systems consist of loop detectors and video detection system. Recent deployments on arterials and freeways include wireless vehicle detection systems.

Closed Circuit Television (CCTV) Surveillance System

Closed circuit television (CCTV) surveillance cameras provide video images to City staff so they can monitor traffic conditions at intersections and roadway segments, troubleshoot, and fine-tune intersection operations in real-time. The surveillance images can be shared with other stakeholders including other City departments (e.g., police department, fire department, community centers, etc.), other agencies, and the public via the City's website.

Traffic Management Center

The traffic management center (TMC) integrates traffic operations, maintenance, and communication in a centralized command and communication center. The TMC provides the infrastructure for communications and surveillance necessary to manage in real-time the transportation system throughout the City.

The TMC serves as the major communication hub of the ATMS/ATIS system that collects and manages all the data and surveillance from the field elements. The TMC has the ability to share selected information with other internal departments, local agencies, and the public.

The TMC has the ability to control signalized intersections, CCTV surveillance cameras, DMS, and other field devices via a communication network. Critical functions of the TMC will include:

- Monitoring traffic signal operations
- Monitoring traffic conditions via CCTV cameras
- Monitoring and programming data for the DMS

- Provide incident management and disseminate information to the media and public
- Provide incident verification and response
- Collect and process traffic data generated by detection systems

The ATMS will provide the City of Tracy with the following benefits:

- Reduced fuel consumption
- Improved air quality
- Reduced delays
- Improved transit operations
- Improved incident response and management
- Improved transportation system capacity
- Improved regional transportation integration and information sharing

4.10.3.3 Advanced Traveler Information Systems (ATIS)

Advanced Traveler Information Systems (ATIS) disseminate transportation related information to the traveling public. ATIS automates the integration of incident data, traffic and roadway conditions, and multimodal bus, rail, and airport conditions. It can also provide video feeds to the media or commercial entities, who can distribute it via broadcast television and radio, internet, satellite radio, fleet subscription services, in-dash navigation systems, and others to the traveling public. Public agencies use 511 telephone/internet (phone and web source for up-to-the-minute transportation information), other internet resources/websites, dynamic message signs (DMS), and other means to reach the traveling public.

ATIS can be integrated in the City's ATMS as a means of improving safety and relieving congestion on City streets. It can provide travelers real-time access to information on which to base their decisions of mode, route, and travel time. It provides travelers information to avoid congested routes and change modes or time of travel if necessary. Key ATIS strategies for the City of Tracy are described below.

Dynamic Message Signs (DMS)

Dynamic message signs (DMS) provide real-time traffic information to the traveling public including travel time to nearest destination or major routes, roadway conditions, roadway incidents, roadway construction, traffic management for special events, and provides alternate route selection to facilitate motorist decisions and minimize traffic impacts on freeways and local roads. This TMP includes the use of DMS signs on trailers on an "as needed" basis. Future updates may reassess the use of standard DMS signs.

Highway Advisory Radio

Highway Advisory Radio (HAR) is another mode of communications between the TMC and the motorists. The HAR systems are typical installed with roadside signs alerting motorists to tune to an appropriate radio station, typically an AM station. The HAR broadcast information related to weather conditions, roadway conditions, incident conditions, and traffic congestion.

Webpage

Another form of disseminating traveling/traffic information to the public is over the internet. Travel data (occupancy and speeds) and selected video feeds can be provided to the public via the City's internet web page or other private transportation/media web pages. The public is able to download traffic conditions via their computer or cellular phones.

4.10.3.4 System Integration

System integration is an important key component that allows the integration of all the field elements in order to facilitate data transmission and data sharing with other city's departments and other public agencies.

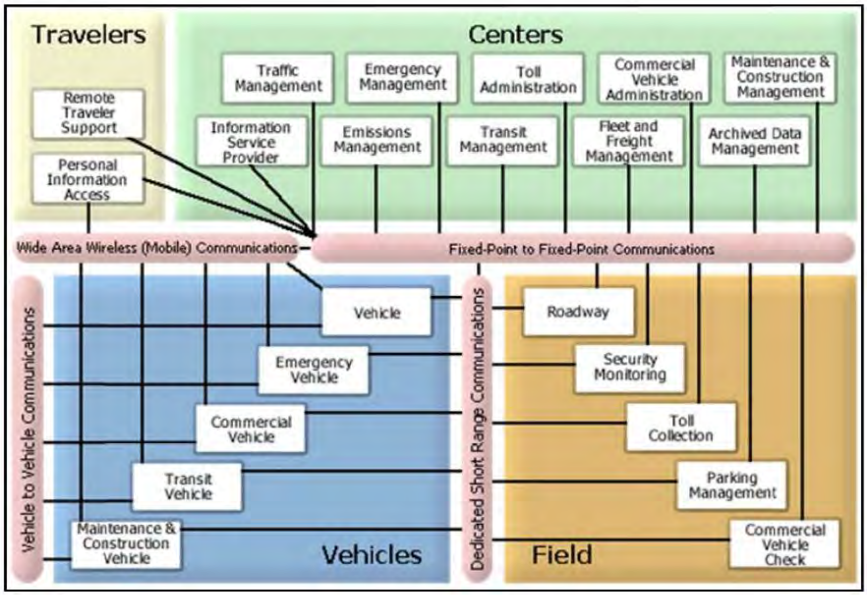
4.10.4 Assessment of Intelligent Transportation System

The City of Tracy assessment of ITS needs and opportunities shall be based on Na*tional and Regional ITS Architecture* and shall be based primarily on current and future ITS needs. The assessment of ITS needs and opportunities process includes the following key elements:

- Review of High-Level Architectural Diagram
- Select Applicable/Priority System, Sub-System, and Communication
- Understanding of Regional Architecture

The National ITS Architecture provides a common structure for the design of ITS. It defines the functions that must be performed by components or subsystems, where these functions reside (e.g., field, traffic management center, or in-vehicle), the interfaces and information flows between subsystems, and the communications requirements for the information flows in order to address the underlying user service requirements. Since the National ITS Architecture is also the foundation for much of the ongoing ITS standards work, consideration of the interface and information exchange requirements established by the Architecture today will likely facilitate or ease the transition to incorporating standards-compliant interfaces in the future.

Figure 4.35: ITS Architecture



The City of Tracy shall evaluate the high-level architecture and based on the City's and region's future needs, the City of Tracy shall select other applicable/priority system, sub-systems and communication requirements. The selection of some of the applicable/priority systems and sub-systems shall be based on the region's goals and objective to improve mobility and provide an enhanced transportation management system in the region.

Potential strategies that will improve transportation system efficiencies and mobility in the region shall be identified as an initial step of the ITS strategic deployment planning process. In the strategy identification process, some of the key program areas shall be initially identified including arterial management, transit management, and traveler information as identified in **Figure 4.36**.

In addition to these focus areas, the strategy identification process can also be extended to cover strategies in other ITS areas, including: Emergency Management, Commercial Vehicle Operations, Maintenance and Construction Operations and Advanced Safety Systems. The summary listing of potential strategies for recommendation as part of this strategic planning process are indicated in **Figure 4.37.** It contains eight ITS functional areas as provided by the National ITS Architecture.

The City of Tracy ITS Infrastructure planning, design, deployment, maintenance, and operations shall follow latest guidelines provided in the National Intelligent Transportation System (ITS) Architecture using the System Engineering Process approach as indicated in the System Engineering "V" diagram.

The City of Tracy ITS Infrastructure system shall be based on COTS hardware and software components and it shall be a scalable and expandable system.

Figure 4.36: Key Program Areas of ITS Strategies

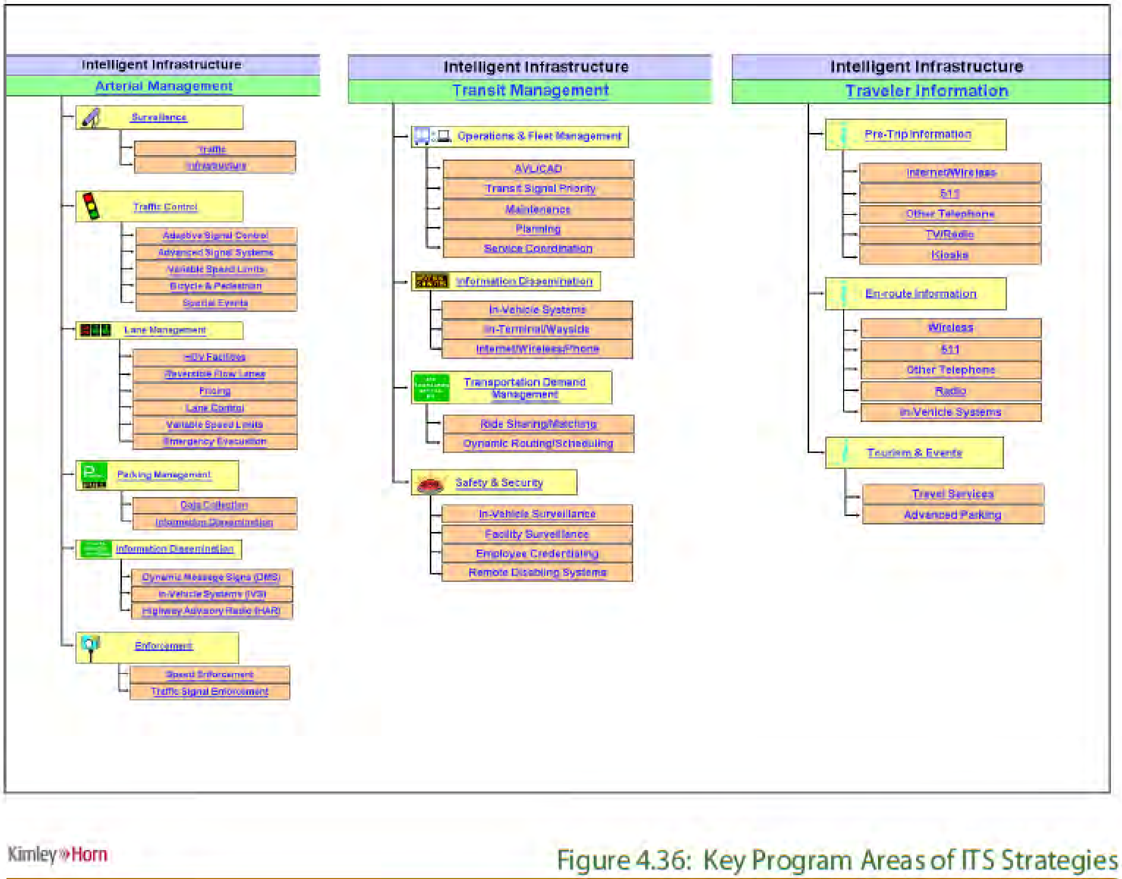


Figure 4.36: Key Program Areas of ITS Strategies

City of Tracy Transportation Master Plan

Figure 4.37: Areas of ITS Strategies

ARCHIVE DATA MANAGEMENT
- Archive Data Management System

TRAFFIC MANAGEMENT
- Network Surveillance
- Traffic Probe Surveillance
- Surface Street Control
- Freeway Control
- HOV Lane Management
- Traffic Information Dissemination
- Regional Traffic Management
- Traffic Incident Management System
- Traffic Decision Support and Demand Management
- Electronic Toll Collection
- Emissions Monitoring and Management
- Roadside Lighting System Control
- Standard Railroad Grade Crossing
- Advanced Railroad Grade Crossing
- Railroad Operations Coordination
- Parking Facility Management
- Regional Parking Management
- Reversible Lane Management
- Speed Monitoring
- Drawbridge Management
- Roadway Closure Management

PUBLIC TRANSPORTATION
- Transit Vehicle Tracking
- Transit Fixed-Route Operations
- Demand Response Transit Operations
- Transit Fare Collection Management
- Transit Security
- Transit Fleet Management
- Multi-modal Coordination
- Transit Traveler Information
- Transit Signal Priority
- Transit Passenger Counting

COMMERCIAL VEHICLE OPERATIONS
- Fleet Administration
- Freight Administration
- Electronic Clearance
- CV Administrative Processes
- International Border Electronic Clearance
- Weigh-In-Motion
- Roadside CVO Safety
- On-Board CVO and Freight Safety and Security
- CVO Fleet Maintenance
- HAZMAT Management
- Roadside HAZMAT Security Detection and Mitigation
- CV Driver Security Authentication
- Freight Assignment Tracking

EMERGENCY MANAGEMENT
- Emergency Call-Taking and Dispatch
- Emergency Routing
- MAYDAY and Alarms Support
- Roadway Service Patrols
- Transportation Infrastructure Protection
- Wide-Area Alert
- Early Warning System
- Disaster Response and Recovery
- Evacuation and Reentry Management
- Disaster Traveler Information

TRAVELER INFORMATION
- Broadcast Traveler Information
- Interactive Traveler Information
- Autonomous Route Guidance
- Dynamic Route Guidance
- ISP Based Trip Planning and Route Guidance
- Transportation Operations Data Sharing
- Yellow Pages and Reservation
- Dynamic Ridesharing
- In Vehicle Signing
- VII Traveler Information

ADVANCED SAFETY SYSTEMS
- Vehicle Safety Monitoring
- Driver Safety Monitoring
- Longitudinal Safety Warning
- Lateral Safety Warning
- Intersection Safety Warning
- Pre-Crash Restraint Deployment
- Driver Visibility Improvement
- Advanced Vehicle Longitudinal Control
- Advanced Vehicle Lateral Control
- Intersection Collision Avoidance
- Automated Vehicle Operations
- Cooperative Vehicle Safety Systems

MAINTENANCE AND CONSTRUCTION OPERATIONS
- Maintenance & Construction Vehicle and Equipment Tracking
- Maintenance & Construction Vehicle Maintenance
- Road Weather Data Collection
- Weather Information Processing and Distribution
- Roadway Automated Treatment
- Winter Maintenance
- Roadway Maintenance and Construction
- Work Zone Management
- Work Zone Safety Monitoring
- Maintenance & Construction Activity Coordination
- Environmental Probe Surveillance
- Infrastructure Monitoring

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Figure 4.37: Areas of ITS Strategies
City of Tracy Transportation Master Plan

4.10.5 Recommendation of Intelligent Transportation System Infrastructure

The recommended Intelligent Transportation System (ITS) infrastructure is based on the assessment of ITS opportunities that best suit City of Tracy's needs including, but not limited to the following conditions:

- Existing and future traffic signal systems
- Existing and future communication infrastructure
- Existing and future roadway networks
- Future land uses
- Future closed circuit television (CCTV) system locations
- Future dynamic message sign (DMS) system locations
- Future communications to public facilities that will help the system operator(s) to facilitate and manage the influx/outflow of traffic data and video feeds from a centralized location via the City's Traffic Management Center (TMC)

This section will discuss the following topics related to the recommended Intelligent Transportation System (ITS) Infrastructure planning including:

- Communication architecture
- Communication network
- Communication hubs
- Closed Circuit Television (CCTV) Systems
- Dynamic Message Sign (DMS) Systems
- Traffic Management Center (TMC)
- Other ITS components
- Development of City's ITS Master Plan

In addition, the following topics shall also be considered during the Intelligent Transportation System (ITS) infrastructure planning stages:

- Inter-agency coordination/integration
- Other agency coordination/integration
- Signal Coordination
- Current Technology
- Future Technology
- Operations and Maintenance

4.10.5.1 Communication Architecture

The proposed City of Tracy's system communication architecture plan shall be used as a high level tool in order to map the citywide communication network. This includes internal and external links between the City's TMC, TMC control room, existing/future field elements, and connectivity to workstations and/or control rooms within the Development Services/Other departments, Police Department, and Park Facilities. The proposed system communication architecture plan shall be used as a working document and shall be expanded as other elements, technologies, and connectivity to other departments/facilities and/or other agencies are introduced to the network.

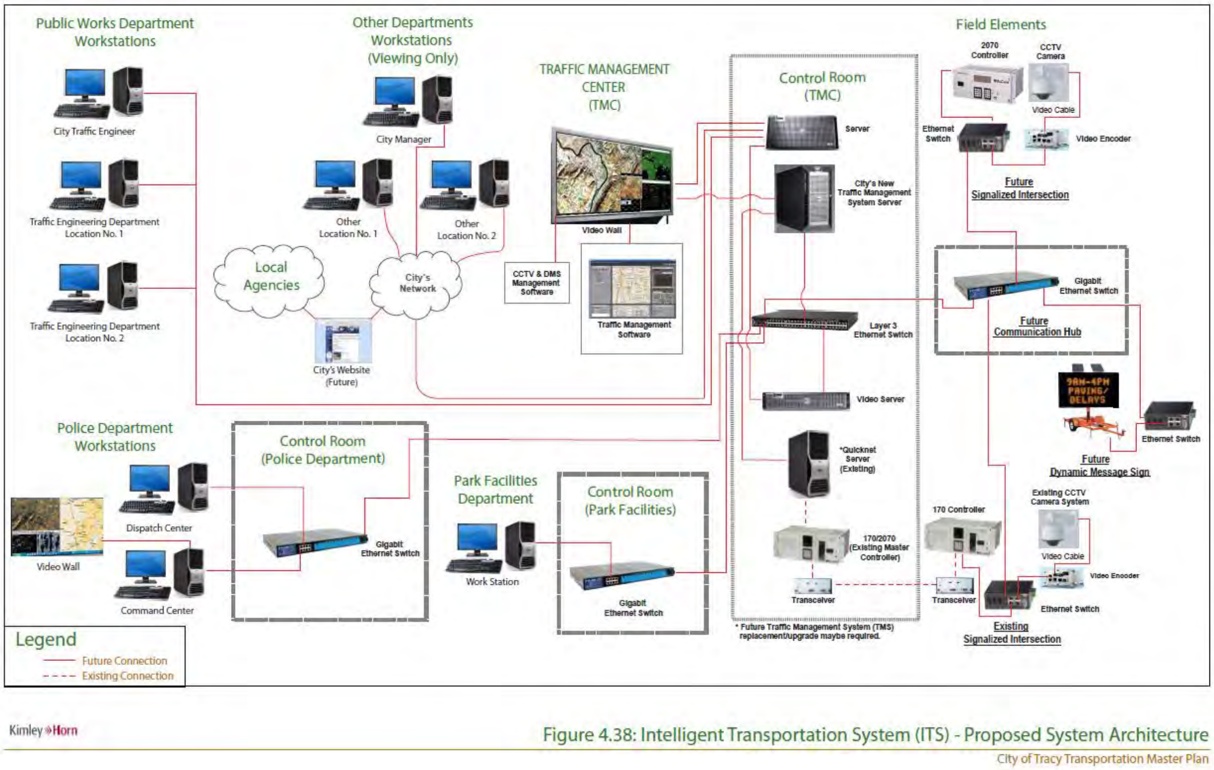


Figure 4.38: Intelligent Transportation System (ITS) - Proposed System Architecture

4.10.5.2 Communication Network

The recommended City of Tracy's communication network consists of providing fiber optic cable/conduit along designated existing and future corridors in order to facilitate communications from the City's TMC to the field elements (i.e. traffic signal controllers, CCTV camera systems, DMS, and communication hubs) and other departments/facilities/agencies. Where ever possible, it is recommended that the fiber optic communication alignments shall be routed to provide "closed loops" in order to provide dual path redundant communications. The benefit of having dual path redundant communications is to maintain communication to the field elements in the event that a communication line is severed or disconnected along the closed loop. The communication equipment will recognize the break in primary link and will redirect communications to the secondary link; therefore, it minimizes disruption to the system, maintains communications, and allows time for repairs and maintenance.

4.10.5.3 Communication Hubs

Communication hubs shall be placed at strategic locations throughout the City of Tracy, typically at major signalized intersections. The communication hubs act as a data aggregation point. The communication hubs provide communication linkage between the field elements to the City's TMC. In addition, communications from the field hubs shall be bidirectional (two-way); therefore, they can be linked to other field communications hubs as well as the TMC, which facilitates and supports the proposed dual path redundant communication topology. The placement of the communication hubs shall be determined by analyzing the roadway network and defining "groups" of ITS elements (i.e. signalized intersections, CCTV, DMS and other ITS components) that will be linked together as well as to the proposed communication hub. *For example: A communication hub will be provided for field elements located in the southeast quadrant of the City*. Field communication hubs consist of Type 332 cabinet assemblies and typically house Ethernet switches and fiber distribution units. Also, the City's TMC is considered as the primary communication hub in the network.

4.10.5.4 Closed Circuit Television Systems

Closed Circuit Television (CCTV) cameras shall be placed at strategic locations in the field, typically at freeway interchanges, at signalized intersections that intersect major roadways/crossing arterials, and at major trip generating land uses. In addition, the type of future development or developments with major traffic generators may require additional CCTV camera at minor and major project intersections. These locations shall be evaluated on a case by case basis.

4.10.5.5 Dynamic Message Sign Systems

Dynamic message sign (DMS) systems on mobile trailers shall be placed at strategic locations, typically along major corridors entering the City of Tracy and/or at locations within the City directing motoring travelers to major events and/or land uses. Future heavy traveled corridors may require additional DMS to enhance the capacity along the roadways segments. These locations shall be evaluated on a case by case basis.

To determine the placement of the trailer-based DMS, a sign visibility study and site analysis shall be prepared showing potential line-of-sight impacts to the public and right-of-way due to the installation of the DMS and cabinets. The analysis shall include showing the proposed location of each DMS and controller/service cabinets, sidewalks, right-of-way, curb, gutter, roadway, travel lanes, driveways, adjacent buildings boundary and other above ground obstructions that may have an impact to the visibility of the sign.

4.10.5.6 Traffic Management Center

The City of Tracy's Traffic Management Center (TMC) shall be the primary hub of the transportation management system communications, where information from the transportation communication network is collected and combined with other operational, video, and control data to manage the transportation network and produce traveler information. It is the focal point for communicating transportation-related information to the City's website, the media, the motoring public, and a place where agencies can coordinate their responses to traffic situations and conditions. The TMC links various ITS elements within the City such as traffic signals, CCTV systems, DMS systems, field communication hubs, and other ITS elements enabling decision makers to identify and react to an incident in a timely manner based on real time data.

The City of Tracy's proposed Traffic Management Center (TMC) shall consist of state-of-the-art technology and shall be designed as a scalable and expandable system for integration of future ITS components, future signalized intersections, and inter-agency coordination. Planning for a new TMC shall include determining the TMC room location, the TMC environment-controlled equipment control room, and an evaluation of the latest TMC equipment and technology. It shall include the preparation of conceptual plans illustrating the potential video wall/location, TMC operator workstations and furniture, equipment rack, and TMC equipment control hardware and software.

City's existing TMC equipment/technology/traffic management system shall be evaluated and a transition plan shall be developed in order to migrate from the current traffic management system to the selected centralized traffic management system that can be integrated with minimum disruption to the existing signalized intersections and can be maintained concurrently with the City's signalized intersections.

4.10.5.7 Other ITS Elements

As the part of the planning for the City's ITS system infrastructure, other ITS elements should be considered and the City's ITS system infrastructure shall have the capacity to operate and manage these systems, including, but not limited to:

- Transit Signal Priority (TSP) Systems
- Emergency Vehicle Pre-Emption Systems
- Construction Work Zone ITS Management Systems
- Parking Management ITS Systems
- Transit Traveler information Systems
- Incident Response Systems
- Incident Detection Systems
- Additional System Detection

These aforementioned systems shall be evaluated, prioritized, and deployed based on the City's needs and funding resources.

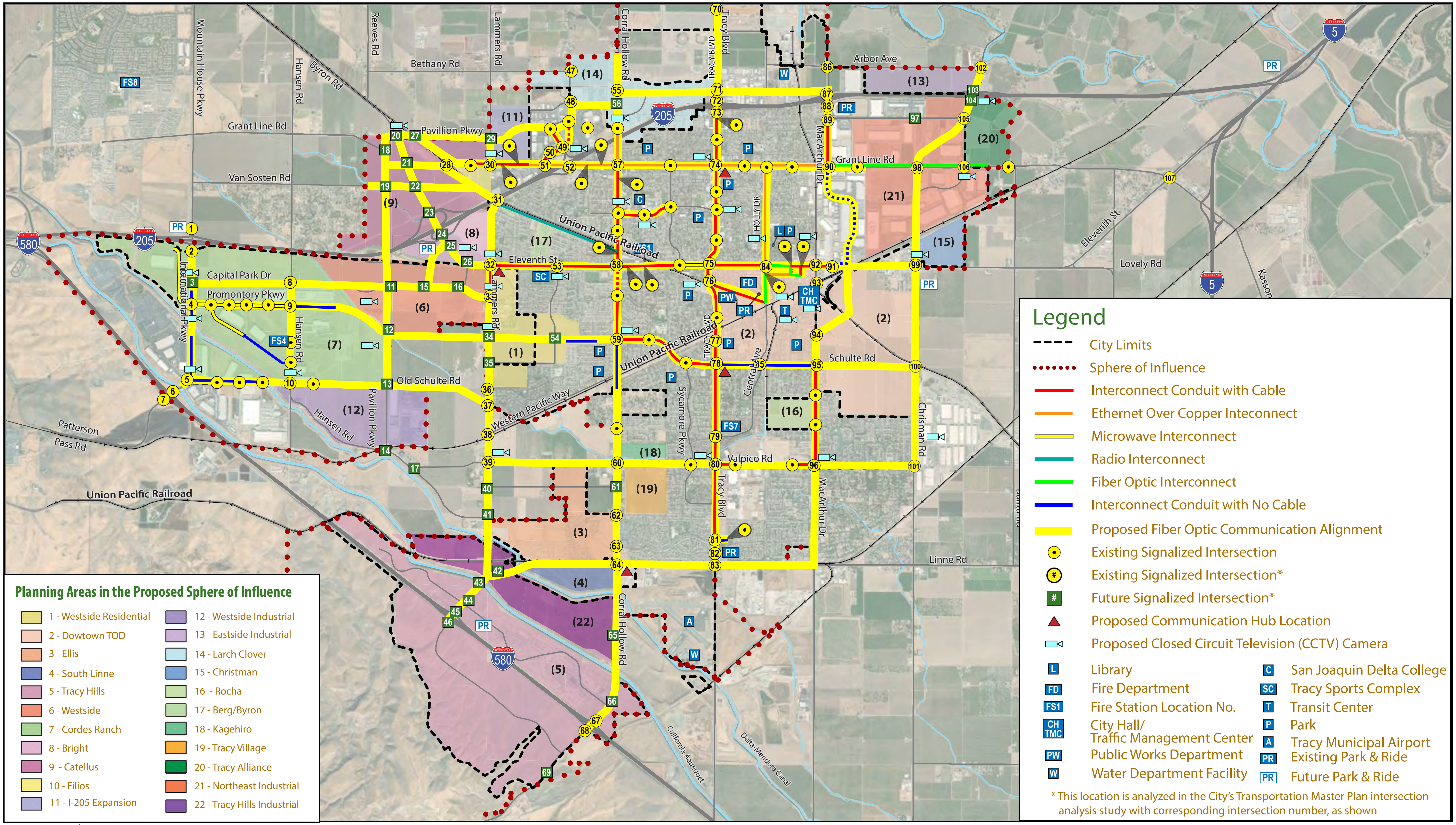
4.10.5.8 Development of City's ITS Master Plan – Roadmap for Deployment of ITS Infrastructure

Based on analyzing and applying the principles from the aforementioned topics, the City of Tracy's proposed future ITS infrastructure plan has been developed.

Figure 4.39 shows the proposed Horizon Year Intelligent Transportation System Infrastructure Plan. It provides an overview of the City's recommended ITS infrastructure under Horizon Year build-out conditions and shall be considered as a high-level planning tool in order to develop the City's ITS Master Plan, which shall be utilized to provide the City with a roadmap for the deployment of proposed ITS infrastructure.

The City of Tracy's ITS Master Plan should be prepared as a separate document, which consists of analyzing and applying in more detail the principles from the aforementioned topics to determine the following:

- Communication network architecture
- Communication network infrastructure
- Communication hubs
- Closed Circuit Television (CCTV) Systems
- Dynamic Message Sign (DMS) Systems
- Other ITS components



Source: ESRI, Kimley-Horn

North

0 0.5 1 2 Miles (Approximate)

Kimley»Horn

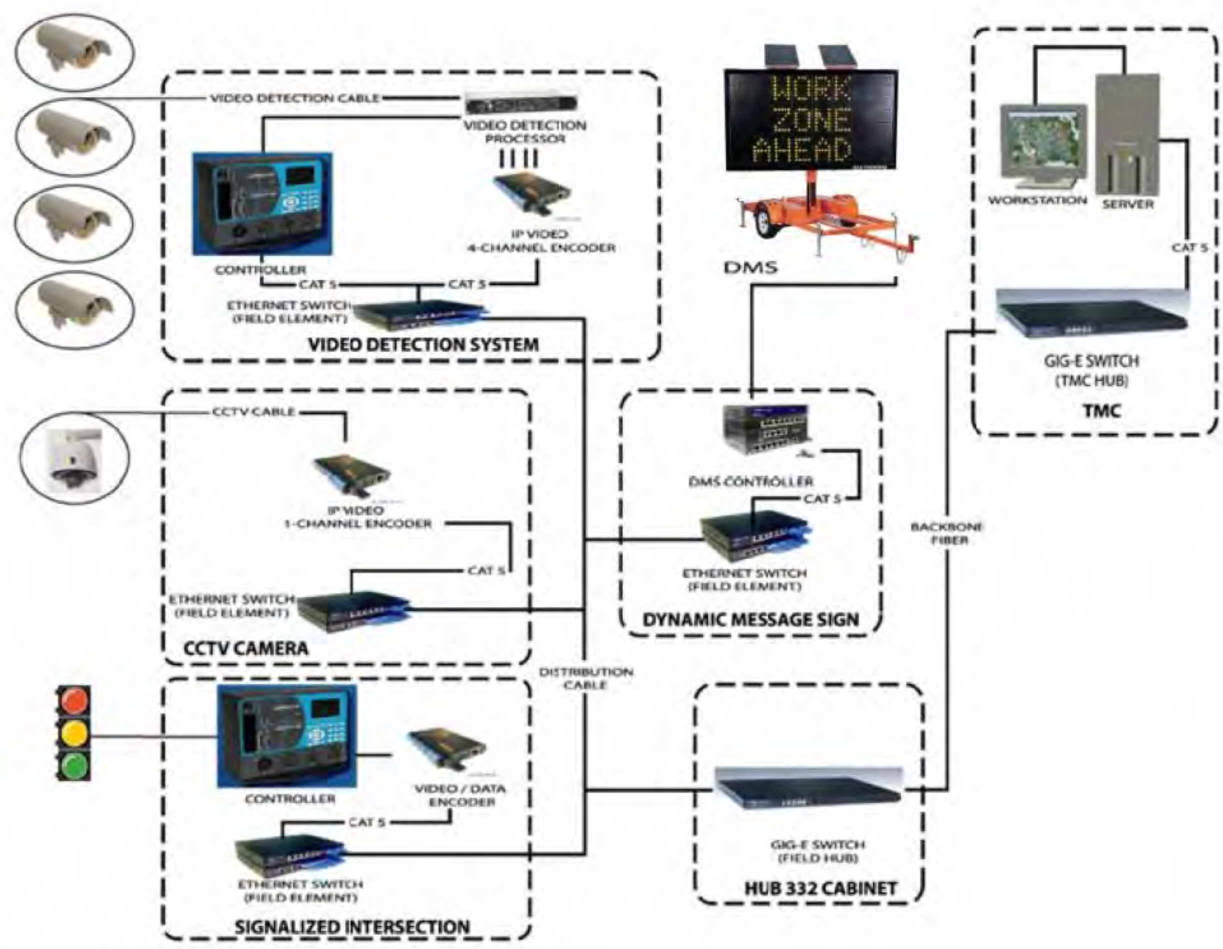
Figure 4.39: Horizon Year Intelligent Transportation System Infrastructure

In addition, the ITS Master Plan shall include the following sections.

4.10.5.9 Master Plan Development

This section should provide the system level communications design for the City of Tracy. It should provide detailed communication requirements for the field devices, hub locations, and TMC. It should include the City's recommended ITS architecture. This section will identify the recommended technology at each intersection, hub and TMC based on recommendations developed. This section shall provide the deployment strategies, deployment priorities, deployment schedule, implementation phasing plan, and integrating new systems and technologies.

Figure 4.40: ITS Devices



4.10.5.10 Operations and Maintenance

This section provides the needs for the operations and maintenance of the ITS elements including funds that should be allocated annually for operations and maintenance.

4.10.5.11 Funding

This section summarizes the currently available funding sources from federal, state, and regional programs that the City of Tracy could be eligible for receiving.

4.10.5.11.1 Federal Funding

Congestion Mitigation and Air Quality Improvement Program (CMAQ)

The CMAQ program funds transportation projects that reduce congestion and improve air quality. Funding is provided by FHWA to regions that are in non-attainment with national air quality standards. CMAQ funding is an annual fund source for eligible projects in the region's transportation improvement program (TIP). ICM projects are eligible to receive money. Typical strategies that are eligible for funding include:

- Transit improvements
- ITS projects
- Multimodal traveler information
- Real time traffic control systems
- HOV lanes
- Transportation system management and operations

Surface Transportation Block Grant Program

The STBG is an approved funding program through at least 2022. Infrastructure-based ITS capital improvements, including the installation of vehicle-to-infrastructure communication equipment, are eligible for the grant. In addition, operational improvements (including capital and operations costs) for traffic operations facilities, environmental measures, and some parking strategies are eligible. The project must be identified in a Statewide Transportation Improvement Program (FSTIP) and be aligned by long range Metropolitan Transportation Plans.

Eligible Project Types:

- Operational improvements for highways
- Transit capital projects
- Ramp improvement projects
- Bicycle and pedestrian improvements
- Highway and transit safety improvements
- ITS

Rebuilding American Infrastructure With Sustainability and Equity (RAISE) Grants

The RAISE program has replaced the Transportation Investment Generating Economic Recover (TIGER) grant program and grants are awarded on a competitive basis for projects with significant regional or local impacts. These grants are designed to benefit surface transportation systems while providing further support to rural communities. A greater share of RAISE grants will be awarded to projects located in rural areas.

Eligible Project Types:

- Capital infrastructure repair
- Safety improvements
- Connect communities to jobs
- State of good repair for ITS and other infrastructure

Highway Safety Improvement Program (HSIP)

The Highway Safety Improvement Program (HSIP)[15] under Fixing America's Surface Transportation (FAST) Act is a federal fund source in which the states are given a specific amount to use at the state's direction. HSIP funding is for projects that improve safety conditions. Types of eligible projects:

- Safety improvements
- New or upgraded traffic signals
- Pedestrian warning flashing beacons
- Queue warning systems

4.10.5.11.2 Statewide Funding Programs

State Transportation Improvement Program (STIP)

The STIP receives state and federal funds that are allocated throughout the state. STIP funds new construction projects that add capacity to the transportation network. Transportation projects on and off the state highway system are typically funded from a variety of sources, including the Interregional Transportation Improvement Program (ITSP), the Regional Transportation Improvement Program (RTIP), and others. Projects are evaluated based on how well the project aligns with furthering regional objectives, particularly for Sustainable Communities Strategies.

Air Quality Vehicle Registration Fee Program AB 2766

Local governments receive a share of motor vehicle registration fees to fund projects that reduce air pollution caused by motor vehicles. The California Air Resources Board (CARB) establishes the criteria and guidelines to fund projects that reduce emissions. Types of eligible projects:

- Public transportation improvements
- Implementing traffic management and signal coordination
- ITS solutions directly tied to reducing emissions

Senate Bill 1 – Road Repair and Accountability Act of 2017

Senate Bill (SB) 1 is the Road Repair and Accountability Act of 2017 that funds transportation improvements for state and local programs. SB1 funds improvements in Active Transportation Program—funding for bicycle and pedestrian facility projects; Bridge and Culvert Repairs—funding repairs and maintenance on the state's bridge and culvert infrastructure; Congested Corridors Program—funding for projects designed to achieve a balanced set of transportation, environmental, and community access improvements within highly congested travel corridors throughout the state.[16]

Eligible Project Types:

- Multimodal corridors
- Addition of high-occupancy vehicle lanes and managed lanes.
- New or existing transit infrastructure improvements
- Transit hubs to increase linked trips or multimodal transportation modes

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[15] http://dot.ca.gov/hq/LocalPrograms/HSIP/2016/HSIP-Guidelines.pdf

[16] California Transportation Commission. *2018 Solutions for Congested Corridors Program Guidelines,* P.1.

- Transit hubs or stations and nearby roadways providing accessibility for first mile and last mile connectivity to public transit systems
- Operational improvements such as: interchange and ramp modifications, auxiliary lanes for merging or weaving between adjacent interchanges, passing lanes, curve corrections and alignment improvements, truck climbing lanes, signals and/or intersection improvements, two-way left-turn lanes, channelization, turnouts, railroad at-grade crossing improvements or separations, and shoulder widening.
- Safety improvements

State Highway Operation and Protection Program (SHOPP)

The State Highway Operation and Protection Program (SHOPP) funds repair and preservation, safety improvements, and some highway operational improvements on the State Highway System, including associated bicycle and pedestrian infrastructure as well as supporting infrastructure, such as culverts, ITS, rest areas, and maintenance stations. SHOPP funds are limited to capital improvements that do not add capacity. State and federal gas taxes are the source of revenue for the SHOPP. Programming is allocated for four-year intervals and prepared every other year. Types of eligible projects:

- Safety improvements, such as median barriers, widen shoulders, acceleration/deceleration lanes, signal modifications, additional lighting
- Operational improvements, such as auxiliary lanes
- ITS and Transportation Management Systems
- Bridge preservation, such as bridge rehabilitation, seismic restoration
- Roadway preservation, such as drainage system restoration, pavement rehabilitation

4.10.5.11.3 Regional Funding Programs

Measure K

Measure K is a half-cent sales tax measure for San Joaquin County to fund transportation improvements. The Measure K Ordinance and Expenditure Plan identifies the transportation improvements to be funded in whole or in part with the sales tax through 2041. The measure funds projects with an emphasis on a balanced transportation network and reducing VMT and improving air quality. Types of eligible projects are:

- Local street repair
- Local roadway safety
- Congestion relief projects
- Transit and Bicycle improvements

Regional Transportation Impact Fee (RTIF)

The RTIF is a County-wide fee funded by new development to mitigate the impacts of new development on the transportation network. The eligible projects are decided by SJCOG in association with the member agencies.

4.11 Truck Routes

4.11.1 Introduction

This section documents the truck routes for designation on the circulation system for the Tracy Transportation Master Plan (TMP). The existing truck routes are indicted in **Chapter 2**, Existing Conditions. The City of Tracy Truck Routes Map was integrated into the TMP to identify roadways for enhanced pavement structure, accommodate design, and consider sound and noise impacts relative to land use development. Graphics are provided to illustrate existing and future truck routes. Planning for truck routes is based on the planned circulation system at buildout conditions, long-range traffic forecasts, the need to designate roadways for enhanced design elements, and consideration of land use development and sensitive land uses. Discussion is provided regarding existing and future truck routes, design elements, and resource documents.

4.11.2 Planning Truck Routes

As indicated in **Chapter 2**, three distinct truck routes are identified

- STAA Route
- Through Truck Route
- Local Truck Route

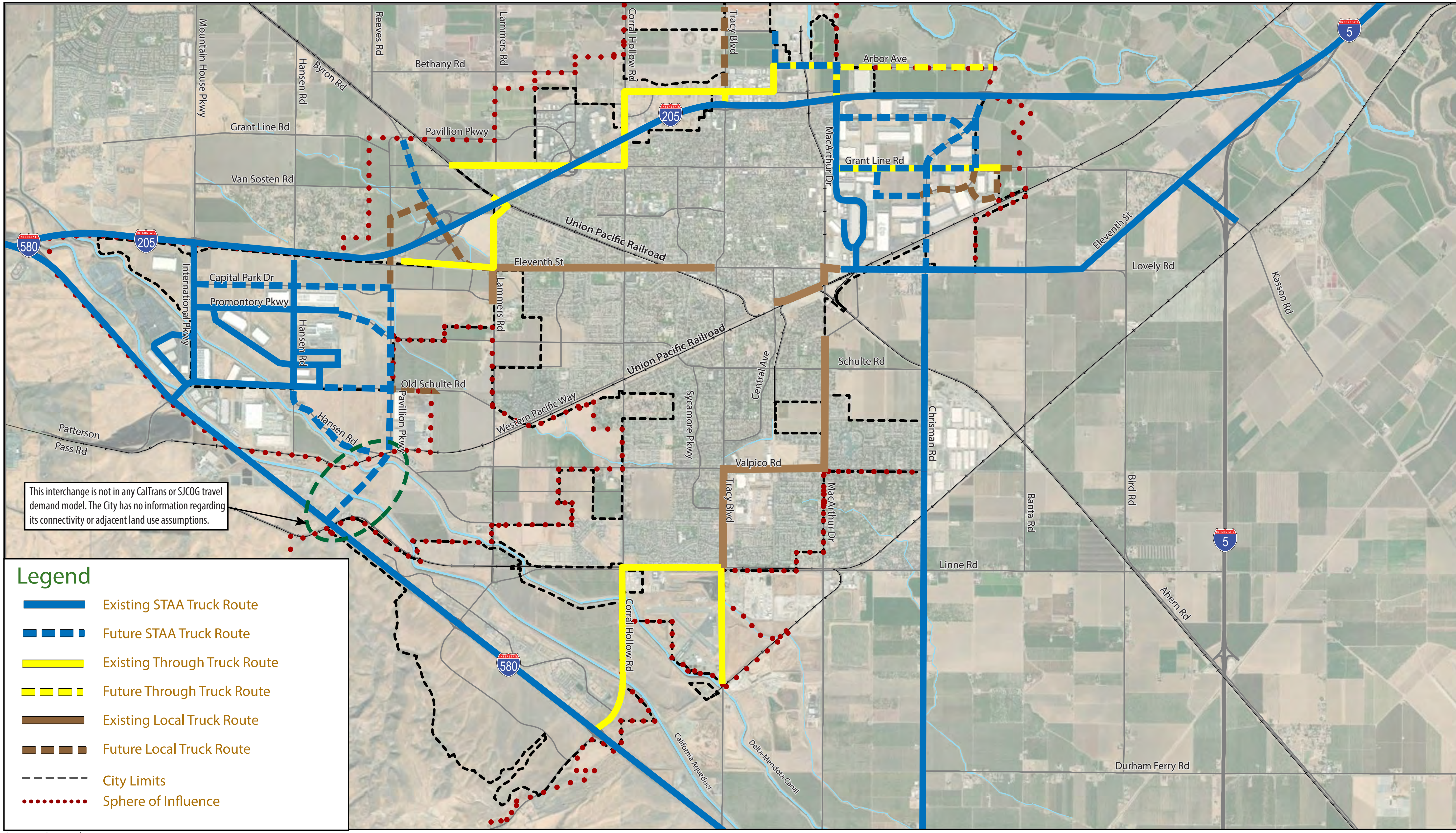
Identification of truck routes within the City of Tracy is based on the following criteria:

- Accounting for high volume routes utilized extensively by large vehicles currently or in the future;
- Routes with limited or no restrictions precluding use by trucks and combination vehicles;
- Routes with adequate geometrics for safe operation;
- Size of roadway lane widths;
- Routes already part of Interstate System (or National Network);
- Consideration of roadways with potentially unusual design characteristics or clearance limitations;
- Parallel roadway opportunities and access to freeway system.

Some local agency designated truck routes provide truck weight restrictions between routes, differentiate for example between 3- or 7-ton trucks.

4.11.3 Future Truck Routes

Figure 4.41 shows the City of Tracy Truck Routes, which includes existing and future routes. As shown in Figure 4.41 truck route planning in the western portion of the City is planned to accommodate future development of heavy industrial, logistics, distribution center, and warehousing land uses. Truck routes are minimized through the existing developed areas to reduce impacts upon sensitive land uses and reduce trucking activity mixed with other modes of transportation.



Source: ESRI, Kimley-Horn

North

0 0.5 1 2 Miles (Approximate)

Kimley»Horn

Figure 4.41: Future Truck Routes

4.11.4 Truck Routes Design Planning

Design standards and guidance for roadway designs to accommodate trucks is provided through the following documents:

- *Code of Federal Regulations* Title 23 Part 658 (Federal Highway Administration)
- *A Policy on Geometric Design of Highway and Streets, 7th Edition* (American Association of State Highway and Transportation Officials, 2018)
- *Highway Design Manual* (Caltrans, September 2010)

The Federal Highway Administration (FHWA) regulations identified above provides standards for STAA trucks, which includes the minimum truck sizes that all states must allow on the National Network.

4.11.5 Smart Growth Design Elements

The following Smart Growth design elements are relevant to truck route facilities planning:

- Maximum lane widths are 11 feet for all new roadway cross sections.
- Minimize truck route designation in areas where high levels of pedestrian, bicycle, and transit usage are desired since truck routes require increased curb returns at intersections increasing crossing distances for pedestrians and bicyclists.
- Where heavy trucking activity is proposed, consider provision of parallel Class I bicycle routes over the designation in the road hierarchy and consider the accommodation of pedestrians and bicyclists concurrent with truck turn analysis during design review.

4.12 Air Quality and Smart Growth Design Elements

4.12.1 Introduction

San Joaquin County is required to monitor air pollutants in accordance with federal and state standards. Per the California Clean Air Act, air quality plans to work towards attainment of meeting of these standards must be submitted to the California Air Resources Board if regional standards are not satisfied. State legislation, SB 375, seeks to control urban sprawl by setting emission reduction goals for Years 2020 and Horizon Year and provides incentives for local agencies and developers to plan smart growth communities that encourage alternative modes of transportation.

Table 4.15-3 of the City of Tracy's *Draft Recirculated Supplement EIR* (July 2010) indicates that region is not projected to meet state and federal standards for various pollutants. The proposed General Plan is anticipated to increase the population in Tracy which will lead to an increase in vehicle trips and vehicle miles traveled (VMT). The General Plan includes a Sustainability Action Plan (SAP) that included feasible measures to achieve sustainability in multiple sectors and to reduce greenhouse gas (GHG) emissions. These measures include policies and measures to increase transit usage and opportunities, to improving traffic flow in the city, to support development of new bicycle and pedestrian facilities, and other land use policies. Even with the measures outlined in the SAP, the proposed General Plan is anticipated have a cumulative and significant impact to air quality and to greenhouse gas (GHG) emissions.

The City of Tracy's Transportation Master Plan seeks to build upon the foundation and strategies identified in the General Plan and in the SAP. This section discusses strategies, principles, and design elements in the area of transportation to work towards meeting sustainability and GHG emission reduction goals. Smart Growth design elements as it relates to various types of facilities are also discussed.

4.12.2 Roadway Network

Measure T-5 of the SAP lists several smart growth, urban design and planning measures including amendments to the zoning ordinance to require adequate pedestrian access, closure of sidewalk gaps, establishment of walkability standards, and amendment or creation of subdivision design standards to address spacing and connectivity.

The Roadway Classification and Cross Section section discusses context-sensitive and smart growth principles that were used to develop the roadway cross sections. The use of narrow lanes improves mobility for all users thus promoting alternative modes of transportation other than single occupant vehicles. The primary benefit would be reduction in GHG emissions and increased mobility for non-motorists. The reduction in right-of-way requirements allows for additional landscaping to be provided which improves air quality.

The TMP includes policies to address spacing of access points and roadways and includes policies to maintain traffic flow and to reduce congestion which will improve air quality and to reduce GHG.

The TMP also allows for implementation of roundabouts which provide superior benefits to all-way stop and signalized intersections in terms of reducing delay, noise sustainability, and greenhouse gas emissions. Based upon a cursory evaluation of Horizon Year PM peak-hour volumes, approximately ¼ of the study intersections could be converted into a one-lane or two-lane roundabout as opposed to stop sign or traffic signal control (additional detailed operations and design will be required prior to implementation of a roundabout). The candidate locations for a roundabout are:

- Lammers Road & I-580 WB Off*
- Lammers Road & I-580 EB Off*
- Promontory Road & Pavillion
- Corral Hollow Road & I-580 WB Off
- Corral Hollow Road & I-580 EB Off
- Corral Hollow Road & Lammers Road
- Naglee Road & Middle Road
- Tracy Boulevard & Larch Road*
- MacArthur Drive & Arbor Avenue
- Chrisman Road & Arbor Avenue*
- MacArthur Drive & Schulte Road*
- Crossroads Drive & Schulte Road*

*Potential two-lane roundabout

A review of literature research (*Environmental Impact of Kansas Roundabouts*, Kansas State University, September 2003; *Use of Roundabouts in the City of Hamilton*, Hamilton Public Works Department, June 2008; *Modern Roundabouts, Global Warming, and Emissions Reductions*, Tony Redington) indicates that emission reductions of 20 to 60 percent were achieved based on case studies across the US.

Modern roundabouts are one form of intersection control that have seen increased support around the country due to their ability to provide safe, efficient, aesthetic, and sustainable results. Public infrastructure projects are implemented through both private and public sources throughout the City of

Tracy. As new intersections are planned and constructed, and existing intersections are reconstructed, there is a need to evaluate the control method used at each intersection with cost, safety, operational performance, and other metrics in mind. Establishing uniformity in the expectations for both public- and private-sector projects that correspond to intersections is ideal.

For over a decade, the Federal Highway Administration (FHWA) has documented its support for modern roundabouts as a Proven Safety Countermeasure. Roundabouts should also be considered for all existing intersections that have been identified as needing major safety or operational improvements. This would include freeway interchange ramp terminals, and urban, suburban, and rural intersections.

It is a City of Tracy policy that roundabouts be considered as part of an engineering study when a project involves reconstructing an intersection or constructing a new intersection. Need and justification for the installation of roundabouts in Tracy requires documentation in the form of an engineering study that examines the safety, operations, and cost implications of a proposed roundabout, and compares other forms of intersection control, such as stop control or a traffic signal, to the proposed roundabout. Public outreach and education should be an integral aspect of the process of vetting the feasibility of a roundabout.

Consistent with Caltrans Intersection Control Evaluation (ICE), the City shall conduct ICE analysis at intersections where either all-way stop or signalized control is planned to determine a feasible roundabout traffic control solution. Consideration should be given to right-of-way impacts, long-term sustainability, greenhouse gas emissions, and operating and safety conditions.

4.12.3 Bicycle and Pedestrian Facilities

Consistent with the policies in the General Plan and the Sustainability Action Plan, the TMP seeks to increase bicycle and pedestrian facilities. Bicycle and pedestrian facilities are provided on nearly all roadway classification types (except for industrial streets, one-way streets, and alleys).

The policies and measures in the TMP will also be integrated with the Bike Master Plan. The following bicycle and pedestrian Smart Growth design elements are specified in the TMP:

- Since bridges, culverts, and over/underpasses often are spanning major obstacles within the community, when planning right-of-way, planning and design of facilities, strongly consider opportunities to incorporate trails and bikeways within crossings.
- Width of on-street bike lanes is recommended at 5 feet with a desired width of 6 feet. However, wider bike lanes also encourage vehicular speeding when cyclists are not present. The TMP recommends 5 feet bicycle lanes where the lane is adjacent to a curb and 4 feet where the travel lane is adjacent to on-street parking. Off-street bicycle paths can be 8 feet for bicycle-only facilities and 10 feet for shared (multi-use) facilities accommodating both cyclists and pedestrians.
- Limit bicycle use on sidewalk to avoid conflicts with streetscape and pedestrians.
- Provide bicycle detection traffic control devices consistent with the California MUTCD for Class II facilities.

4.12.4 Park and Ride Facilities

As indicated in the Park and Ride Facilities section, future park and ride lots have been identified in the TMP. This strategy is consistent with Measure T-7 of the SAP: Implement San Joaquin's County's Park and

Ride Lot Master Plan. Also, the TMP includes the two following Smart Growth design strategies as it relates to Park and Ride facilities:

- Consider opportunities to share parking facilities for Park and Ride use where parking operations provide complimentary peak demands. Examples of opportunities to utilize parking facilities for dual purpose includes theater or shopping center uses that have peak parking demands during the evening or weekend when a Park and Ride facility would otherwise be in low demand.
- Provide high level of connectivity, beyond typical design expectations for land use to connect to alternative transportation systems such as transit, bicycle, and park and ride facilities. With enhanced efforts to strengthen connectivity, a higher quality of life is provided through provision of multiple transportation options.
-

4.12.5 Railroad Crossings

The following Smart Growth design elements are relevant to railroad crossing planning:

- Provide safe and efficient crossings for all modes across railroads to enhance connectivity between land uses and amenities.

4.12.6 Truck Facilities

The following Smart Growth design elements are relevant to truck route facilities planning:

- Maximum lane widths are 11 feet for all new roadway cross sections.
- Minimize truck route designation in areas where high levels of pedestrian, bicycle, and transit usage are desired since truck routes require increased curb returns at intersections increasing crossing distances for pedestrians and bicyclists.
- Where heavy trucking activity is proposed, consider provision of parallel Class I bicycle routes over the designation in the road hierarchy and consider the accommodation of pedestrians and bicyclists concurrent with truck turn analysis during design review.

4.12.7 Sustainability Policies, Standards, and Performance Measures

The sustainability policies and list of transportation elements in the Goals, Objectives, Policies, and Action section will further compliment the General Plan and the SAP. Transportation elements are listed in these four categories to reduce GHG emissions and vehicle miles traveled:

- Transportation System Operations
- Land Use Integration
- Performance Measures
- Transportation Infrastructure

4.13 Transportation Demand Management

4.13.1 Introduction

A Transportation Demand Management (TDM) Plan is a set of strategies, measures and incentives to encourage residents and employees to walk, bicycle, use public transportation, carpool, or use other alternatives to driving alone. TDM measures encourage a shift to other modes of travel, boost economic efficiency of the transportation infrastructure, improve air quality, save energy, and reduce traffic congestion. The TDM measures discussed below will help the City of Tracy achieve the trip reduction and greenhouse gas emission targets outlined in the city's Sustainability Action Plan. A City TDM program will tier off the San Joaquin Council of Governments (SJCOG) TDM Plan.

4.13.2 TDM Toolkit

An effective TDM toolkit will contain measures that can be tailored and customized for various land uses. For example, measures that work effectively for office land uses may not generate a meaningful reduction in vehicle trips for retail or residential land uses.

San Joaquin Council of Governments (SJCOG) released a Travel Demand Management Plan (August, 2010) which identified a list of potential TDM strategies that may be used in the development of a TDM plan. The strategies are bundled into three incentive categories (financial, system, and demand) and are listed below:

Financial Incentives:

- Roadway pricing – charging motorists tolls for use of a roadway
- Area-wide pricing – charging motorists a toll to enter an area
- Parking pricing – charging motorists for parking
- Parking cash-out – providing a financial incentive for employees or residents in exchange for the parking space
- Employee travel allowance – providing a financial incentive for employees to carpool/vanpool or to use alternative modes of travel
- Transit pass – providing free or discounted transit passes to employees and residents

System Incentives:

- Provision of HOV lanes – providing high occupancy vehicle lanes to encourage carpooling
- Park and Ride lots – providing park and ride lots near transit hubs or central areas
- Transit service – expanding transit services
- Bicycle facilities – expanding bicycle facilities

Demand Incentives:

- Rideshare programs – services that matches riders interested in carpools and vanpools
- Carpool preferential parking – designated parking spaces for carpools
- Vanpool programs – vanpools or shuttles that transport employees to work and to transit centers
- Flexible work schedule – flexible work schedules that allow employees to travel during non-commute times
- Telecommuting – allowing employees to work remotely (e.g. home)
- Car sharing – providing car sharing service for residents and employees
- Bike sharing – providing use of bikes for short term use
- Guaranteed ride home – program that enables commuting employees to utilize taxi services in case of an emergency
- Information and guidance – resource information on TDM programs and measures

- TDM manager – designated person that assists in the management or implementation of a TDM program

SJCOG also operates a program, called Dibs (formerly known as Commute Connection) that provides commute assistance. This program assists commuters with carpooling, vanpooling, and other rideshare options (bicycling, walking, and public transit). Dibs also offers ride matching services, Guaranteed Ride Home, and educational materials to employers.

4.13.3 TDM Measures

Refer to Table 2.11 for proposed TDM measures for the City of Tracy.

4.14 Transit Facilities

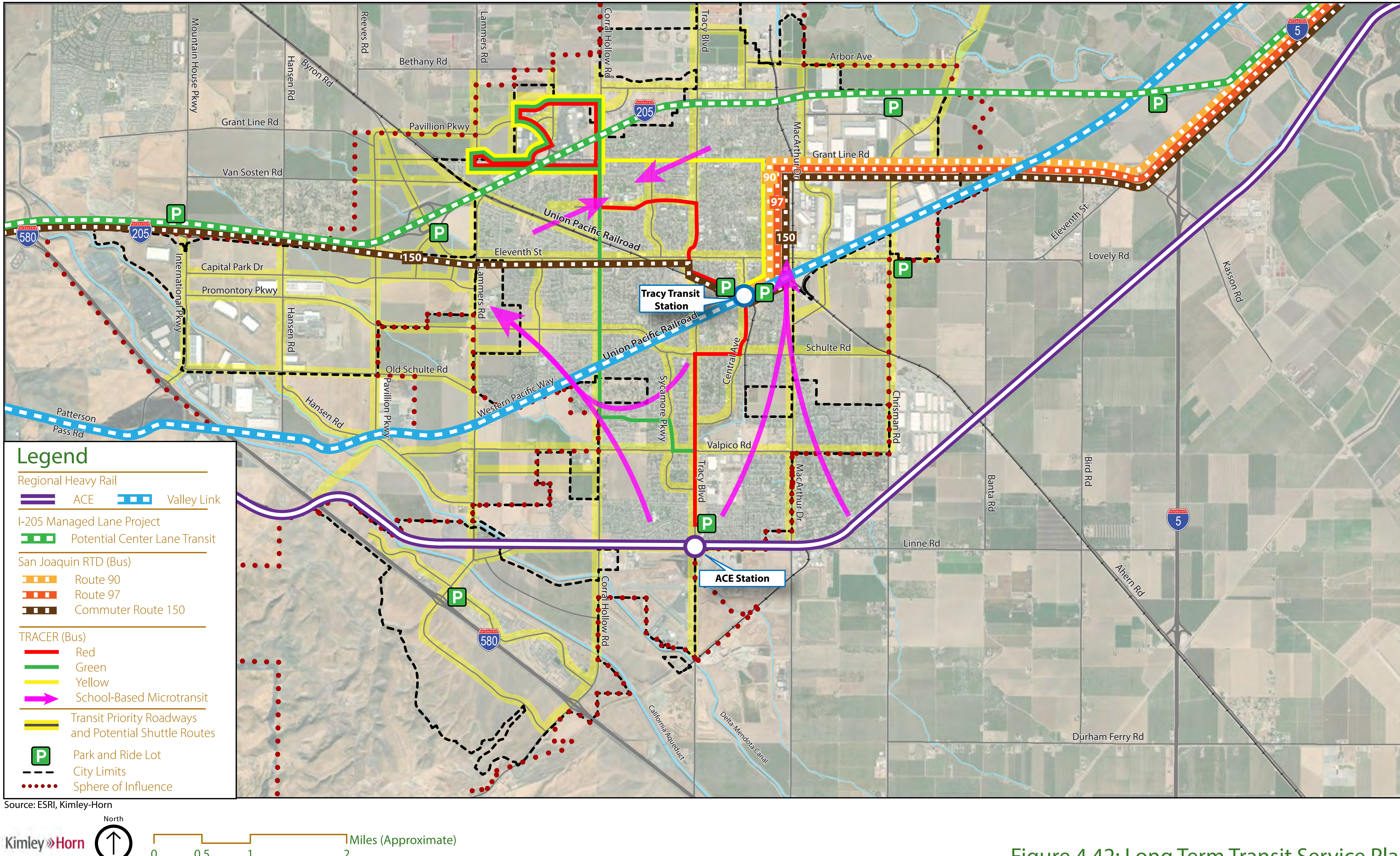
4.14.1 Introduction

Future roadway capacity for private vehicle travel will be severely constrained as is evident in this Master Plan. A focus to shift trips from the private to the public system will have to occur to ensure mobility of the future generations. Tracy will be a hub for local and regional transit connections future Valley Link rail service, and expansion of bus services internal and external to the City. This section documents infrastructure related to transit facility planning for the Tracy Transportation Master Plan (TMP). The existing transit facilities are described in Chapter 2, Existing Conditions.

As indicated on Figure 4.42 substantial growth is anticipated in the western, southern, and eastern portions of the city. This growth will add new residents and employees and result in new and increased demand for transit services.

4.14.2 Planned Transit Improvements

This section describes new or planned transit service anticipated to be implemented over the next 20 years within the City of Tracy on a Master Plan Level. A detailed service plan will have to be developed based on future travel demand. This Master Plan obliges the City and developers to provide transit infrastructure as part of the street system to promote transit usage. The provision of infrastructure cannot be pinned down until Specific Plans and tentative maps for the individual developers are submitted, at which stage driveway access, walkability, connection to sidewalks and bicycle facilities will be detailed.



Source: ESRI, Kimley-Horn

Kimley»Horn

Figure 4.42: Long Term Transit Service Plan

4.14.2.1 Local Fixed-Route Bus Service (TRACER)

The TRACER 2021-2025 Short Range Transit Plan proposes simplifying the existing bus network to improve frequency and directness of travel. This plan will reduce the number of fixed routes to three (red, green, and yellow) and provide a new Personal Mobility on Demand (PMoD) to extend service beyond the ¼ mile walking distance that most riders are willing to travel between their origin/destination and the bus stop. The three fixed route TRACER lines would provide 30-minute headway service from 6:30 AM to 5:30 PM on weekdays and from 8:00 AM to 5:30 PM on weekends.

The PMoD service would offer travel to or from any TRACER bus stop in the service area. This would be operated by multiple TNC, Smart Taxi, or other private sector transportation providers selected by the City. The provider will use a branded mobile app and will supply vehicles for service delivery. The role of the City will be largely confined to subsidizing trips to and from bus stops. This PMoD service will connect riders to fixed route lines and should allow schedule coordination. At times between 5:00 AM and 10:00 PM that the fixed route service is not operating, the PMoD service will include limited subsidy to its fares for travel between any two points in the City.

A separately-branded service PMoD service will be made available to connect commuters to ACE trains and other commuter bus routes connecting to Pleasanton BART.

While the existing TRACER network focuses on several public middle and high schools within the City, fixed route service is an inefficient and expensive way to provide student travel needs in a suburban area. The plan recommends providing dynamically-routed microtransit with reservations available on school days. These transit vans would operate on dynamic routes and schedules to pick up students and arrive in time for the school bell.

The current ADA paratransit options would be maintained, but would give customers the choice between existing TRACER pre-scheduled complementary paratransit service and subsidized accessible PMoD rides from TNC or Smart Taxi operators.

4.14.2.2 Regional Intercity Fixed-Route Bus Service

The existing SRTP only describes existing transit service and does not specifically lay out planned future service. However, SJRTD is planning to provide additional service on the I-205 corridor.

4.14.2.3 Altamont Commuter Express

The Altamont Corridor Vision Phase 1 Improvement Program is a partnership between ACE and the planned Valley Link Rail (described below) that would develop a new rail alignment through the Altamont Pass, used by both ACE and Valley Link, that would permit higher speeds and decrease commute times by 11-15 minutes. Funding is still being sought for these improvements.

4.14.2.4 Valley Link Rail

Valley Link is a proposed 42-mile, 7-station passenger rail project that would connect the existing Dublin/Pleasanton BART Station to the approved North Lathrop ACE Station in San Joaquin County via the Altamont Pass. The planned alignment includes two stations with the City of Tracy, one at the Tracy Transit Station and another on the southwest edge of the City. The project would improve transit connectivity within the megaregion, allowing travel between the San Joaquin Valley, the Tri-Valley area, and the Bay Area via space- and energy-efficient modes.

4.14.3 Future Transit Facilities on Tracy Roadways

Goal 4 of the City's Circulation Element is "A balanced transportation system that encourages the use of public transit and high occupancy vehicles." To strive towards meeting this goal, all existing and future roadways must consider transit improvements, as appropriate. Thus, all major arterials, minor arterials, and collectors within the City's limits, as indicated in Figure 4.42, are to be designated "transit priority roadways." This would require property owners along these roadways to provide improvements to the transit infrastructure system when new or redevelopment is proposed. Improvements will consist of providing right-of-way at the far side of intersections and at development driveways to accommodate sheltered bus turnouts. In addition, coordination with the city and appropriate transit agency may be required to determine if improvements are warranted. Transit services will be closely linked the City ITS system for obtaining bus system information. Transit services will be better integrated and parallel services provided between the various operators. Standard Plans for bus shelters and turnouts are provided in the City of Tracy Standard Plans and will also be available from the City transit operator, TRACER. The provision of bus pull-outs/shelters/stops shall be such to minimize walking distance to destinations, be provided on the far side of intersections. More design practices for on-street transit stops are provided in the APTA's Draft "Design on ON-Street Transit Stops and Access from Surrounding Areas".

5 HORIZON YEAR TMP – COST ESTIMATES

5.1 Introduction

This chapter of the TMP presents an opinion of probable cost estimates for the proposed Horizon Year roadway network improvements as recommended in the previous sections. These cost estimates are based upon initial planning and should be further refined at a later date when additional studies and design of the improvements commence. Cost estimates were provided for the following facilities:

- Overpasses/Underpasses/Bridges/Culverts
- Intersections
- Roadway Segments
- Intelligent Transportation System
- Railroad Crossings

The total cost for all of these improvements is estimated at approximately $1.492 billion as indicated in Table 5.1. The assumptions and methodology used to prepare these costs estimates for each individual category are discussed below.

Table 5.1: Total Preliminary Cost Estimates for Horizon Year TMP Infrastructure

Infrastructure Type	Estimated Cost	
Structures	**$**	**338,849,781**
Intersections	**$**	**232,201,350**
Roadway Segments	**$**	**667,933,470**
Intelligent Transportation Systems	**$**	**53,902,800**
Total	**$**	**1,292,887,401**

5.2 Interchange/Overpass/Underpass/Bridge/Culvert

Section 4.7 identified the overpasses, underpasses, bridges, and culverts that needed to be widened to accommodate Horizon Year growth. These locations are identified in Tables 4.4 through 4.6.

The cost estimates in Table 5.2 assume that either the existing facility will be widened, or a new replacement facility will be provided. The estimate takes into account the following factors:

- Length of structure including tapers and transitions
- Future width of facility based upon:
  - Horizon Year roadway classification
  - Future roadway cross sections
- Provision of pedestrian and bicycle facilities
- Other required design elements (K-rail and separation barriers)
- Right-of-way acquisition cost of $250,000 per acre
- Construction easement cost of $50,000 per acre
- Fees (15% contingency, 10% design and planning, 10% construction management)

A unit cost was applied to the area of the proposed widening or entire bridge replacement to determine the projected cost.

The average unit cost for constructing a new bridge ranges between $250 to 400 per square foot (s.f.) which includes both the superstructure and substructure. The lower end of the price range is for low structure height, no environmental constraints or aesthetic issues, dry conditions, no bridge skews, spread footings, and no stage construction. The higher end of price range is for long spans, high structure height, environmental constraints, aesthetic issues, wet conditions, skewed bridges, pile footings, and stage construction. For this analysis, an average unit cost of $500 per s.f. was used for a new bridge and a unit cost of $400 was used for widening of an existing bridge.

As indicated in Table 5.2 the resulting grand total to improve the overpasses, underpasses, bridges, and culverts is estimated at approximately $338,849,781 which includes costs for contingencies, design and engineering, construction management, and right-of-way acquisition.

Table 5.2: Preliminary Cost Estimates for Interchanges/Overpass/Underpass/Bridge/Culvert

No.	Structure, Type, & Location	Improvement Description	Status	Preliminary Cost Estimate	Total Cost With Markup
Bridges					
1	Delta Mendota Canal/International Parkway	Widen	Planned	$ 5,913,080	$ 7,982,658
2	Delta Mendota Canal/Old Schulte Road	Widen	Planned	$ 4,954,087	$ 6,688,017
3	Delta Mendota Canal/Lammers Road	Widen	Planned	$ 6,641,102	$ 8,965,488
4	California Aqueduct/Lammers Road	Widen	Planned	$ 8,685,102	$ 11,724,888
5	Delta Mendota Canal/Corral Hollow Road	Widen	Planned	$ 4,426,068	$ 5,975,192
6	California Aqueduct/Corral Hollow Road	Widen	Planned	$ 7,488,068	$ 10,108,892
Culvert					
7	Upper Main Canal/Capital Parks Drive	New Culvert	Planned	$ 1,348,014	$ 1,819,819
8	Upper Main Canal/Pavillion Parkway	New Culvert	Planned	$ 1,348,014	$ 1,819,819
9	Upper Main Canal/Promontory Parkway	New Culvert	Planned	$ 1,011,014	$ 1,364,869
10	Upper Main Canal/Lammers Road	Widen	Planned	$ 1,278,142	$ 1,725,492
11	Upper Main Canal/Corral Hollow Road	Widen	Planned	$ 469,108	$ 633,296
Interchange/Overpass/Underpass					
12	I-205/Pavillion Parkway	New 4 Lane Overcrossing	Planned	$ 17,260,098	$ 23,301,132
13	I-205/Lammers Extension	New Interchange	Planned	$ 39,180,000	$ 52,893,000
14	I-205/Tracy Boulevard	Widen WB On/Off-ramps	Planned	$ 7,500,000	$ 10,125,000
15	I-205/Grant Line Road	Add EB Loop On-ramp	Planned	$ 2,500,000	$ 3,375,000
16	I-205/MacArthur Drive	Widen WB On-ramp	Planned	$ 2,500,000	$ 3,375,000
17	I-205/Chrisman Road	New Interchange	Planned	$ 36,056,267	$ 48,675,960
18	I-580/International Parkway	Replace Interchange	Planned	$ 17,260,098	$ 23,301,132
19	I-580/Lammers Road	New Interim Interchange	Planned	$ 17,000,000	$ 22,950,000
20	I-580/Lammers Road	New Undercrossing, Modify Interchange	Planned	$ 22,470,000	$ 30,334,500
21	I-580/Corral Hollow Road	Replace Interchange	Planned	$ 14,074,074	$ 19,000,000
Railroad Crossings					
22	Lammers Road at Western Pacific Way (#1)	Widen At-grade Crossing to 6 Lanes	Planned	$ 1,250,000	$ 1,687,500
23	Lammers Road North of Linne Road (#2)	New 6 Lane Bridge	Planned	$ 5,563,110	$ 7,510,199
24	Corral Hollow Road North of Linne Road (#5)	Widen At-grade Crossing to 4 Lanes	Planned	$ 1,250,000	$ 1,687,500

25	Tracy Boulevard North of Linne Road	Widen At-grade Crossing to 4 Lanes	Planned	$	1,250,000	$	1,687,500
26	11th Street/MacArthur Drive	New Bridge	Partially Complete	$	-	$	-
27	MacArthur Drive South of 6th Street	Close Crossing to Vehicles, Add Pedestrian/Bicycle	Planned	$	1,250,000	$	1,687,500
28	Chrisman road at Schulte Road (#16)	Widen At-grade Crossing to 4 Lanes	Planned	$	1,250,000	$	1,687,500
29	MacArthur Drive Extension (#21)	New 4 Lane Bridge	Planned	$	4,349,086	$	5,871,266
30	Chrisman Road (#22)	New 6 Lane Bridge	Planned	$	5,563,110	$	7,510,199
31	Hansen Road (#23)	New 4 Lane Bridge	Planned	$	4,349,086	$	5,871,266
32	Pavillion Parkway (#24)	New 6 Lane Bridge	Planned	$	5,563,110	$	7,510,199
			Total	**$**	**250,999,838**	**$**	**338,849,781**

Notes

1. Markups include a 15% Contingency, 10% Design and Planning, and 10% Construction Management

2. Refer to Figure 4.19 for existing and future structures

5.3 Intersections

Figure 4.4 identifies the recommended Horizon Year lane geometry at the 107 study intersections plus intersections not analyzed that are required to accommodate the future demand and to maintain the level of service threshold per the City of Tracy and Caltrans level of service standards.

A per lane unit cost was derived to estimate the cost of widening an intersection leg to accommodate a through, left- or right-turn lane assuming a 250-foot lane or pocket. The unit cost included the following cost factors:

- Right-of-way (ROW) acquisition of 12 feet at $250,000 per acre
- Construction easement
- Structural section (concrete pavement, asphalt base, curb)
- Signing and striping
- Traffic signal installation or modification
- Fees (15% contingency, 10% design and planning, 10% construction management)

The per lane unit cost was multiplied by the number of additional lanes required under Horizon Year conditions.

Unit costs were also developed for the following improvements:

- Traffic signal installation
- Roundabout
- Right-turn islands

Table 5.3 summaries the proposed intersection cost estimates. The grand total for the intersection improvements is estimated at approximately $232,201,350.

Table 5.3: Preliminary Cost Estimates for Intersections

No.	Intersection	Status	Preliminary Cost Estimate	Cost with Markups
1	International Parkway/I-205 Westbound Ramps	N/A	$ -	$ -
2	International Parkway/I-205 Eastbound Ramps	N/A	$ -	$ -
3	International Parkway/Capital Parks Drive	Planned	$ 4,230,000	$ 5,710,500
4	International Pkwy/Promontory Parkway	Partially Complete	$ 450,500	$ 608,175
5	International Pkwy/Old Schulte Road	Planned	$ -	$ -
6	International Pkwy/Patterson Pass Rd/ I-580 Westbound Ramps	See Interchange Cost Estimates		
7	International Pkwy/Patterson Pass Rd/ I-580 Eastbound Ramps	See Interchange Cost Estimates		
8	Hansen Road/Capital Parks Dr	Partially Complete	$ 3,853,000	$ 5,201,550
9	Hansen Road/Promontory Parkway	Complete	$ -	$ -
10	Hansen Road/Old Schulte Road	Partially Complete	$ 1,777,500	$ 2,399,625
11	Pavillion Parkway/Capital Parks Dr	Planned	$ 4,448,000	$ 6,004,800

No.	Intersection	Status	Preliminary Cost Estimate	Cost with Markups
12	Pavillion Parkway/Promontory Parkway	Planned	$ 3,332,000	$ 4,498,200
13	Pavillion Parkway/Old Schulte Road	Planned	$ 3,707,000	$ 5,004,450
14	Pavillion Parkway/Hansen Road	Planned	$ 2,699,000	$ 3,643,650
15	Commerce Way/Capital Parks Drive	Planned	$ 4,666,000	$ 6,299,100
16	Road M/Capital Parks Drive	Planned	$ 4,038,000	$ 5,451,300
17	Hansen Road/Valpico Road	Planned	$ 2,699,000	$ 3,643,650
18	Pavillion Parkway/Grant Line Road	Planned	$ 2,699,000	$ 3,643,650
19	Pavillion Parkway/Von Sosten Road	Planned	$ 2,803,000	$ 3,784,050
20	Lammers Extension/Pavillion Pkwy	Planned	$ 3,707,000	$ 5,004,450
21	Lammers Extension/Grant Line Road	Planned	$ 3,707,000	$ 5,004,450
22	Lammers Extension/Van Sosten Road	Planned	$ 3,707,000	$ 5,004,450
23	Lammers Extension/I-205 WB Ramps	See Interchange Cost Estimates		
24	Lammers Extension/I-205 EB Ramps	See Interchange Cost Estimates		
25	Lammers Extension/Commerce Road	Planned	$ 5,771,000	$ 7,790,850
26	Eleventh Street/Road M	Planned	$ 4,415,000	$ 5,960,250
27	Grant Line Road/Pavillion Pkwy	Planned	$ 2,699,000	$ 3,643,650
28	Byron Road/Grant Line Road	Planned	$ -	$ -
29	Lammers Road/Pavillion Pkwy	Planned	$ 3,063,000	$ 4,135,050
30	Grant Line Road/Lammers Road	Planned	$ 2,494,000	$ 3,366,900
31	Lammers Road/Byron Road	Existing	$ -	$ -
32	Lammers Road/Eleventh Street	Existing	$ -	$ -
33	Lammers Road/Capital Parks Drive	Planned	$ 392,000	$ 529,200
34	Lammers Road/Promontory Pkwy	Planned	$ 4,201,000	$ 5,671,350
35	Lammers Road/Crossroads Drive	Planned	$ 3,193,000	$ 4,310,550
36	Lammers Road/Redbridge Rd	Planned	$ 2,741,000	$ 3,700,350
37	Lammers Road/Old Schulte Road	Planned	$ 2,741,000	$ 3,700,350
38	Lammers Road/Western Pacific Wy	Planned	$ 2,946,000	$ 3,977,100
39	Lammers Road/Valpico Road	Planned	$ 4,201,000	$ 5,671,350
40	Lammers Road/Samuel James Way	Planned	$ 3,193,000	$ 4,310,550
41	Lammers Road/Hansen Rd/Ellis Town Drive	Planned	$ 4,051,000	$ 5,468,850
42	North Tracy Hills Drive/Linne Dr	Planned	$ 3,323,000	$ 4,486,050
43	Lammers Road/Linne Road	Planned	$ 3,323,000	$ 4,486,050
44	Lammers Road/Tracy Hills Dr	Planned	$ -	$ -
45	Lammers Road/I-580 WB Ramps	See Interchange Cost Estimates		
46	Lammers Road/I-580 EB Ramps	See Interchange Cost Estimates		
47	Naglee Road/Middle Road	Existing	$ -	$ -
48	Naglee Road/Auto Plaza Drive	Planned	$ 1,431,000	$ 1,931,850
49	Naglee Road/I-205 Westbound Ramps	Existing	$ -	$ -
50	Park & Ride/Naglee Road	Existing	$ -	$ -
51	Naglee Road/Grant Line Road/ I-205 Westbound Ramps	Planned	$ 405,000	$ 546,750
52	Grant Line Road/I-205 EB Ramps	See Interchange Cost Estimates		

No.	Intersection	Status	Preliminary Cost Estimate	Cost with Markups
53	Crossroads Drive/Eleventh Road	Existing	$ -	$ -
54	Crossroads Drive/Schulte Road	Planned	$ 3,967,000	$ 5,355,450
55	Corral Hollow Road/Larch Road	Existing	$ -	$ -
56	Corral Hollow Road/Auto Plaza Drive	Planned	$ 2,205,000	$ 2,976,750
57	Corral Hollow Road/Grant Line Road	Existing	$ -	$ -
58	Corral Hollow Road/Eleventh Street	Planned	$ 652,000	$ 880,200
59	Corral Hollow Road/Schulte Road	Existing	$ -	$ -
60	Corral Hollow Road/Valpico Road	Planned	$ 4,285,000	$ 5,784,750
61	Corral Hollow Road/Samuel James Way	Planned	$ 2,088,000	$ 2,818,800
62	Corral Hollow Road/Peony Drive	Planned	$ 363,000	$ 490,050
63	Corral Hollow Road/Middlefield Drive	Planned	$ 454,000	$ 612,900
64	Corral Hollow Road/Linne Road	Planned	$ 4,197,000	$ 5,665,950
65	Corral Hollow Road/North Tracy Hills Drive	Planned	$ 3,323,000	$ 4,486,050
66	Corral Hollow Road/Tracy Hills Drive	Planned	$ -	$ -
67	Corral Hollow Road/I-580 WB Ramps	See Interchange Cost Estimates		
68	Corral Hollow Road/I-580 EB Ramps	See Interchange Cost Estimates		
69	Corral Hollow Road/Lammers Road	Planned	Funded by Developer	
70	Tracy Boulevard/Sugar Road	Existing	$ -	$ -
71	Tracy Boulevard/Larch Road	Planned	$ 1,931,750	$ 2,607,863
72	Tracy Blvd/I-205 WB Ramps	See Interchange Cost Estimates		
73	Tracy Blvd/I-205 EB Ramps	See Interchange Cost Estimates		
74	Tracy Boulevard/Grant Line Road	Existing	$ -	$ -
75	Tracy Boulevard/Eleventh Street	Existing	$ -	$ -
76	Tracy Boulevard/6th Street	Existing	$ -	$ -
77	Tracy Boulevard/Mount Diablo Avenue	Existing	$ -	$ -
78	Tracy Boulevard/Schulte Road	Existing	$ -	$ -
79	Tracy Boulevard/Central Avenue	Existing	$ -	$ -
80	Tracy Boulevard/Valpico Road	Existing	$ -	$ -
81	Tracy Boulevard/Whispering Wind Drive	Existing	$ -	$ -
82	Tracy Boulevard/ACE Station	Existing	$ -	$ -
83	Tracy Boulevard/Linne Road	Planned	$ 3,498,000	$ 4,722,300
84	Central Avenue/Eleventh Street	Existing	$ -	$ -
85	Central Avenue/Schulte Road	Existing	$ -	$ -
86	MacArthur Drive/Arbor Avenue	Existing	$ -	$ -
87	MacArthur Drive/I-205 WB Ramps	See Interchange Cost Estimates		
88	MacArthur Drive/I-205 EB Ramps	See Interchange Cost Estimates		
89	MacArthur Drive/Pescadero Avenue	Existing	$ -	$ -
90	MacArthur Drive/Grant Line Road	Planned	$ 363,000	$ 490,050
91	MacArthur Drive/Eleventh Street	Planned	$ 3,297,000	$ 4,450,950
92	MacArthur Drive/Eleventh Street (South)	Existing	$ -	$ -
93	MacArthur Drive/6th Street	Existing	$ -	$ -

No.	Intersection	Status	Preliminary Cost Estimate	Cost with Markups
94	MacArthur Drive/Mount Diablo Avenue	Planned	$ 2,816,000	$ 3,801,600
95	MacArthur Drive/Schulte Road	Planned	$ 844,000	$ 1,139,400
96	MacArthur Drive/Valpico Road	Existing	$ -	$ -
97	Chrisman Road/Pescadero Avenue	Planned	$ 3,427,000	$ 4,626,450
98	Chrisman Road/Grant Line Road	Planned	$ 1,961,000	$ 2,647,350
99	Chrisman Road/Eleventh Street	Planned	$ 1,613,000	$ 2,177,550
100	Chrisman Road/Schulte Road	Planned	$ 3,323,000	$ 4,486,050
101	Chrisman Road/Valpico Road	Planned	$ 1,431,000	$ 1,931,850
102	Paradise Road/Arbor Avenue	Planned	$ 4,737,000	$ 6,394,950
103	Paradise Road/I-205 WB Ramps	See Interchange Cost Estimates		
104	Paradise Road/I-205 EB Ramps	See Interchange Cost Estimates		
105	Paradise Road/Pescadero Avenue	Planned	$ 4,457,000	$ 6,016,950
106	Paradise Road/Grant Line Road	Planned	$ 778,250	$ 1,050,638
107	Eleventh Street/Grant Line Road	Existing	$ -	$ -
a	Power Road/Pavillion Parkway	Planned	$ 4,009,000	$ 5,412,150
b	Power Road/Grant Line Road	Planned	$ 2,447,000	$ 3,303,450
c	Hansen Road/Old Hansen Road	Planned	$ 2,428,000	$ 3,277,800
		Total	**$ 172,001,000**	**$ 232,201,350**

Notes:

1. Markups include 15% Contingency, 10% Design & Planning, and 10% Construction Management
2. **Refer to Figure 4.13** for existing and future intersection locations
3. The funding for the MacArthur Drive/I-205 Interchange was repurposed from NEI Phase II to fund the Chrisman Road/I-205 Interchange.

5.4 Roadway Segments

Similar to the process undertaken to estimate the intersection costs, a unit cost was developed for the various roadway types. The cost factors used for the intersections were also used in the roadway segments. In addition, costs to provide streetlights and to coordinate with utility companies were included.

Table 5.4 presents the list of new roadways that will be constructed or existing roadways that will be widened under Horizon Year and for certain roadways, SOI Buildout Conditions. Program costs were calculated based upon right-of-way acquisition and roadway improvements costs. Right-of-way acquisition costs were based upon SOI buildout conditions. ROW and Improvement costs were based upon SOI Buildout conditions for Mountain House Parkway and Lammers Road. Horizon year costs were calculated based on the frontage policy described below.

Included in the roadway segment cost estimates are costs to construct temporary sidewalks or bike paths. Temporary sidewalks or paths would be constructed to provide a continuous connection between adjacent developed and undeveloped parcels. The cost of temporary sidewalks and paths were estimated at 1/3 of the total cost to construct all sidewalks and bike paths in the TMP.

5.4.1 Frontage Policy

A frontage policy was developed as part of this TMP to identify the basic roles and responsibilities of the City and the Developers with respect to future roadway cross-sections within the City of Tracy.

Figure 5.1 illustrates responsibility of the City and the Developer based on roadway type, 2-lane, 4-lane and 6-lane facilities. The interim roadway section may include a 2-lane design segment or a 4-lane design segment depending on the type of roadway. In general, the City shall be responsible for construction of inside lanes including median and streetlights (roadway with four or more lanes). The developer shall be responsible for completing the remaining improvements for the cross-section, including outside lanes (roadway with four or more lanes), shoulders, landscaping, sidewalks, bike lanes /bikeways, and streetlights (roadway with two lanes). The City's responsibility is referred to as "Program Costs." It is recognized that construction of these roadways may occur in phases based upon available funding and development demands. Under the scenario where a roadway would be constructed prior to development in the area, responsibilities of the City and the Developer are illustrated in Figure 5.1. However, the roadway corridor should be preserved to accommodate the ultimate cross-section, including shoulders, sidewalks, landscaped, curb and gutter, a raised median, and storm sewer per the Horizon Year Roadway Network. Paved trails /bike lanes may be included on one or both sides. For some roads i.e. expressways is fully funded (curb-to-curb) by the City's program costs as indicated in Table 5.4.

The TMP indicates ROW requirements for Horizon Year and SOI Buildout. However, due to the uncertainty of long-term future development, these ROW requirements may change. To accommodate a change in potential future ROW, the following requirements are established for all future development.

1. If a Specific Plan or Development Project requires additional roadway travel lanes than indicated in this TMP for SOI Buildout conditions, the project shall mitigate its impact through implementation sustainable development policies by: (1) improving transit usage by employees, and (2) implementing TDM measures, as prescribed by the City and the SJCOG. If the project cannot demonstrate adequate mitigation, additional ROW and roadway improvements would be provided and funded solely by the applicant.
2. If a Specific Plan and Development Project require less ROW than indicated in the Traffic Analysis Study for the project for SOI Buildout conditions, the applicant shall provide an Irrevocable Offer of Dedication (IOD) to the City for the future ROW needs beyond the project ROW requirements. This ROW will remain under ownership and be maintained by the project applicant and only relinquished at the City request. The applicant will then be reimbursed for the subject property. The applicant shall not develop any improvements on the subject property described in the IOD, without prior approval from the City. Any improvements by the applicant will be constructed at the applicant's risk without reimbursement. The City may also relinquish the IOD, in which case ROW costs may be reimbursed to the applicant.

Figure 5.1: Roadway Improvement Cross Section Responsibility Per Frontage Policy

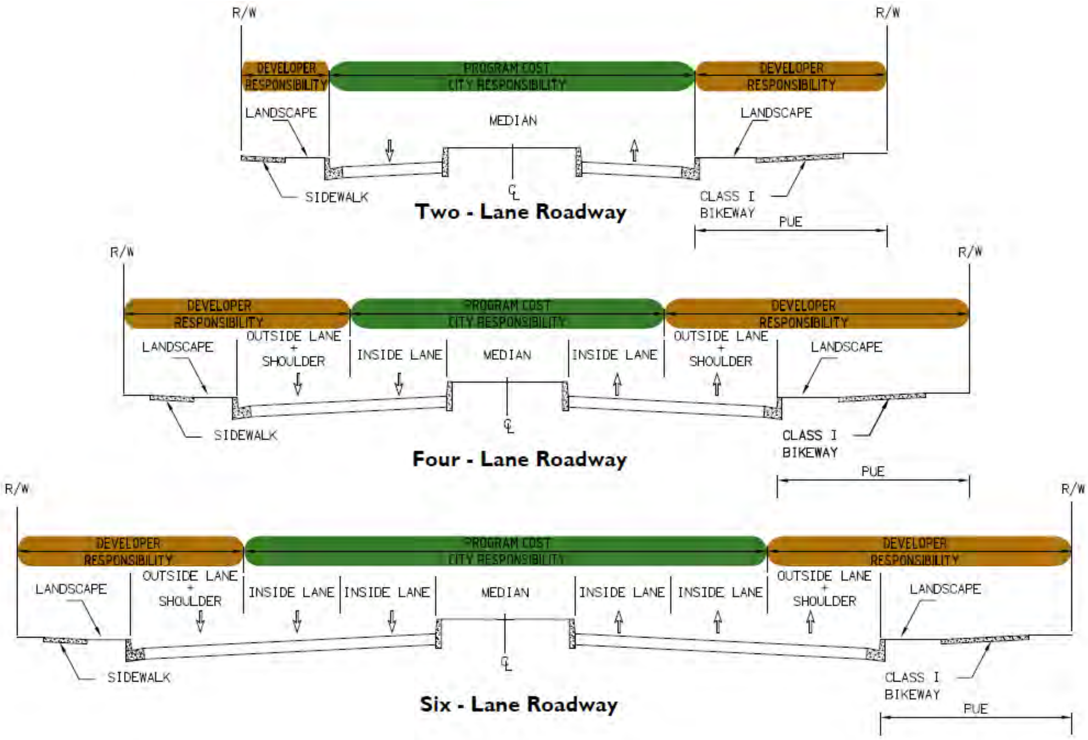
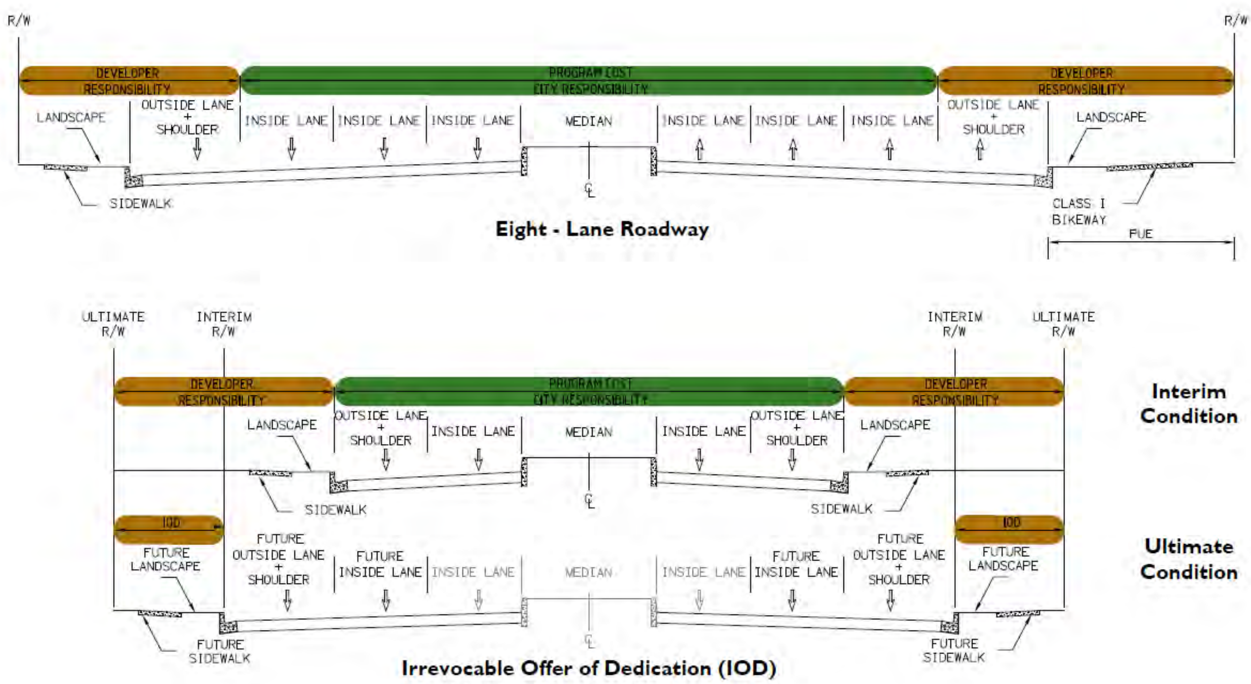


Figure 5.2: Irrevocable Offer of Dedication and Roadway improvement Responsibility Per Frontage Policy



5.4.2 Program Costs

The cost estimates in Table 5.4 were based upon the City's responsibility as outlined in the Frontage policy section discussed above. As indicated in Table 5.4, the Program Costs for the roadway segments costs is estimated at approximately $667,933,470.

Table 5.4: Preliminary Cost Estimates for Roadway Segments

No.	Street	From	To	Street Length (ft)	Roadway Improvement Type at Buildout / Horizon Year	Status	Preliminary Cost Estimates	Cost with Markups
1	International Pkwy	I-205 WB	I-205 EB	N/A	N/A - Interchange Project	Planned	$ -	$ -
2	International Pkwy	I-205 EB	Capital Parks Dr	1,200	Widen 2- to 8-Lane Major Arterial (curb-curb)	Planned	$ 4,080,000	$ 5,508,000
3	International Pkwy	Capital Parks Dr	Promontory Pkwy	700	Widen 2- to 6-Lane Major Arterial (curb-curb)	Partially Completed	$ 930,000	$ 1,255,500
4	International Pkwy	Promontory Pkwy	Old Schulte Rd	3,500	Widen 2- to 4-Lane Major Arterial (curb-curb)	Partially Completed	$ 3,500,000	$ 4,725,000
5	International Pkwy	Old Schulte Rd	I-580 WB	N/A	N/A - Interchange Project	Planned	$ -	$ -
6	International Pkwy	I-580 WB	I-580 EB	N/A	N/A - Interchange Project	Planned	$ -	$ -
7	Hansen Rd	I-205	Capital Parks Dr	1,200	Widen 2- to 2-Lane Divided Arterial	Planned	$ 2,280,000	$ 3,078,000
8	Hansen Rd	Capital Parks Dr	Promontory Pkwy	700	Widen 2- to 4-Lane Major Arterial	Completed	$ -	$ -
9	Hansen Rd	Promontory Pkwy	Old Schulte Rd	3,500	Widen 2- to 4-Lane Major Arterial	Completed	$ -	$ -
10	Pavillion Pkwy	Power Rd	Lammers Rd	1,600	2-Lane Divided Arterial	Planned	$ 3,840,000	$ 5,184,000
11	Pavillion Pkwy	Lammers Rd	Grant Line Rd	2,600	2-Lane Divided Arterial	Planned	$ 6,240,000	$ 8,424,000
12	Pavillion Pkwy	Grant Line Rd	Lammers Extn	1,100	2-Lane Divided Arterial	Planned	$ 2,640,000	$ 3,564,000
13	Pavillion Pkwy	Lammers Extn	Grant Line Rd	500	2-Lane Divided Arterial	Planned	$ 1,200,000	$ 1,620,000
14	Pavillion Pkwy	Grant Line Rd	Von Sosten Rd	1,900	2-Lane Divided Arterial	Planned	$ 4,560,000	$ 6,156,000
15	Pavillion Pkwy	Von Sosten Rd	Capital Parks Dr	4,900	2-Lane Divided Arterial	Planned	$ 11,760,000	$ 15,876,000
16	Pavillion Pkwy	Capital Parks Dr	Promontory Pkwy	2,000	2-Lane Divided Arterial	Planned	$ 4,800,000	$ 6,480,000
17	Pavillion Pkwy	Promontory Pkwy	Old Schulte Rd	2,300	2-Lane Divided Arterial	Planned	$ 5,520,000	$ 7,452,000
18	Pavillion Pkwy	Old Schulte Rd	Hansen Rd	3,000	2-Lane Divided Arterial	Planned	$ 7,200,000	$ 9,720,000
19	Lammers Extn	Pavillion Pkwy	Byron Rd	1,100	2-Lane Major Arterial	Planned	$ 2,640,000	$ 3,564,000
20	Lammers Extn	Byron Rd	Von Sosten Rd	800	2-Lane Major Arterial	Planned	$ 1,920,000	$ 2,592,000
21	Lammers Extn	Von Sosten Rd	I-205 WB	1,100	2-Lane Major Arterial	Planned	$ 2,640,000	$ 3,564,000
22	Lammers Extn	I-205 WB	I-205 EB	900	N/A - Interchange Project	Planned	$ -	$ -
23	Lammers Extn	I-205 EB	Commerce Wy	200	8-Lane Major Arterial	Planned	$ 660,000	$ 891,000
24	Lammers Extn	Commerce Wy	Road M	700	8-Lane Major Arterial	Planned	$ 2,310,000	$ 3,118,500
25	Lammers Extn	Road M	11th St	900	8-Lane Major Arterial	Planned	$ 2,970,000	$ 4,009,500

No.	Street	From	To	Street Length (ft)	Roadway Improvement Type at Buildout / Horizon Year	Status	Preliminary Cost Estimates	Cost with Markups
26	Lammers Rd	City Limits	Pavillion Pkwy	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
27	Lammers Rd	Pavillion Pkwy	Grant Line Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
28	Lammers Rd	Byron Rd	11th St	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
29	Lammers Rd	11th St	Capital Parks Dr	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
30	Lammers Rd	Capital Parks Dr	Promontory Pkwy	1,600	4-Lane Major Arterial (curb-curb)	Partially Completed	$ 900,000	$ 1,215,000
31	Lammers Rd	Promontory Pkwy	Crossroads Dr	700	4-Lane Major Arterial (curb-curb)	Planned	$ 2,100,000	$ 2,835,000
32	Lammers Rd	Crossroads Dr	Redbridge Rd	800	4-Lane Major Arterial (curb-curb)	Planned	$ 2,400,000	$ 3,240,000
33	Lammers Rd	Redbridge Rd	Old Schulte Rd	300	4-Lane Major Arterial (curb-curb)	Planned	$ 900,000	$ 1,215,000
34	Lammers Rd	Old Schulte Rd	Western Pacific Wy	1,300	4-Lane Major Arterial (curb-curb)	Planned	$ 3,900,000	$ 5,265,000
35	Lammers Rd	Western Pacific Wy	Valpico Rd	900	4-Lane Major Arterial (curb-curb)	Planned	$ 2,700,000	$ 3,645,000
36	Lammers Rd	Valpico Rd	Samual James Wy	700	4-Lane Major Arterial (curb-curb)	Planned	$ 2,100,000	$ 2,835,000
37	Lammers Rd	Samual James Wy	Hansen Rd	1,300	4-Lane Major Arterial (curb-curb)	Planned	$ 3,900,000	$ 5,265,000
38	Lammers Rd	Hansen Rd	Linne Rd	2,400	4-Lane Major Arterial (curb-curb)	Planned	$ 7,200,000	$ 9,720,000
39	Lammers Rd	Linne Rd	Tracy Hills Dr	1,400	4-Lane Major Arterial (curb-curb)	Planned	$ 4,200,000	$ 5,670,000
40	Lammers Rd	Tracy Hills Dr	I-580 WB	400	4-Lane Major Arterial (curb-curb)	Planned	$ 1,200,000	$ 1,620,000
41	Lammers Rd	I-580 WB	I-580 EB	N/A	N/A - Interchange Project	Planned	$ -	$ -
42	Lammers Rd	I-580 EB	Corral Hollow Rd	N/A	N/A - Onsite Street Project	Planned	$ -	$ -
43	Power Rd	Pavillion Pkwy	Grant Line Rd	1,600	6-Lane Divided Arterial	Planned	$ 4,160,000	$ 5,616,000
44	Naglee Rd	Middle Rd	Auto Plaza Dr	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
45	Naglee Rd	Auto Plaza Dr	Pavillion Pkwy	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
46	Naglee Rd	Pavillion Pkwy	Private Dwy	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
47	Naglee Rd	Private Dwy	Grant Line Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
48	Crossroads Dr	11th St	Schulte Rd	1,500	4-Lane Divided Arterial	Partially Completed	$ 2,850,000	$ 3,847,500
49	Corral Hollow Rd	Larch Rd	Auto Plaza Dr	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
50	Corral Hollow Rd	Auto Plaza Dr	Grant Line Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
51	Corral Hollow Rd	Grant Line Rd	11th St	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
52	Corral Hollow Rd	11th St	Schulte Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -

No.	Street	From	To	Street Length (ft)	Roadway Improvement Type at Buildout / Horizon Year	Status	Preliminary Cost Estimates	Cost with Markups
53	Corral Hollow Rd	Schulte Rd	Valpico Rd	4,000	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 10,000,000	$ 13,500,000
54	Corral Hollow Rd	Valpico Rd	Samuel James Wy	800	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 2,000,000	$ 2,700,000
55	Corral Hollow Rd	Samual James Wy	Ellis Town Dr/ Peony Dr	500	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 1,250,000	$ 1,687,500
56	Corral Hollow Rd	Ellis Town Dr/Peony Dr	Summit Dr/ Middlefield Dr	1,000	Widen 2- to 4-Lane Major Arterial (curb-curb)	Completed	$ -	$ -
57	Corral Hollow Rd	Summit Dr/Middlefield Dr	Linne Rd	300	Widen 2- to 4-Lane Major Arterial (curb-curb)	Partially Completed	$ 212,500	$ 286,875
58	Corral Hollow Rd	Linne Rd	North Tracy Hills Dr	4,000	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 10,000,000	$ 13,500,000
59	Corral Hollow Rd	North Tracy Hills Dr	Tracy Hills Dr	2,400	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 6,000,000	$ 8,100,000
60	Corral Hollow Rd	Tracy Hills Dr	I-580 WB	1,000	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 2,500,000	$ 3,375,000
61	Corral Hollow Rd	I-580 WB	I-580 EB	N/A	N/A - Interchange Project	Planned	$ -	$ -
62	Corral Hollow Rd	I-580 EB	Lammers Rd	1,400	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 3,500,000	$ 4,725,000
63	Corral Hollow Rd	Lammers Rd	City Limits	2,000	Widen 2- to 2-Lane Divided Arterial (curb-curb)	Planned	$ 3,800,000	$ 5,130,000
64	Tracy Blvd	Larch Rd	I-205 WB	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
65	Tracy Blvd	I-205 WB	I-205 EB	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
66	Tracy Blvd	I-205 EB	Grant Line Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
67	Tracy Blvd	Grant Line Rd	11th St	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
68	Tracy Blvd	11th St	6th St	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
69	Tracy Blvd	6th St	Mt Diablo Ave	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
70	Tracy Blvd	Mt Diablo Ave	Schulte Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
71	Tracy Blvd	Schulte Rd	Central Ave	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
72	Tracy Blvd	Central Ave	Valpico Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
73	Tracy Blvd	Valpico Rd	Whispering Wind Dr	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
74	Tracy Blvd	Whispering Wind Dr	ACE Station	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
75	Tracy Blvd	ACE Station	Linne Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
76	Holly Dr	11th St	Schulte Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
77	MacArthur Dr	Arbor Ave	I-205 WB	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
78	MacArthur Dr	I-205 WB	I-205 EB	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -

No.	Street	From	To	Street Length (ft)	Roadway Improvement Type at Buildout / Horizon Year	Status	Preliminary Cost Estimates	Cost with Markups
79	MacArthur Dr	I-205 EB	Pescadero Ave	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
80	MacArthur Dr	Pescadero Ave	Grant Line Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
81	MacArthur Dr	Grant Line Rd	11th St	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
82	MacArthur Dr	11th St	Mt Diablo Ave	4,700	4-Lane Divided Arterial	Planned	$ 8,930,000	$ 12,055,500
83	MacArthur Dr	Mt Diablo Ave	Schulte Rd	1,300	4-Lane Divided Arterial	Planned	$ 2,470,000	$ 3,334,500
84	MacArthur Dr	Schulte Rd	Valpico Rd	2,800	Widen 2- to 4-Lane Major Arterial (curb-curb)	Completed	$ -	$ -
85	Chrisman Rd	Paradise Rd	Pescadero Ave	1,300	6-Lane Major Arterial (curb-curb)	Planned	$ 4,680,000	$ 6,318,000
86	Chrisman Rd	Pescadero Ave	Grant Line Rd	2,200	4-Lane Major Arterial (curb-curb)	Planned	$ 6,600,000	$ 8,910,000
87	Chrisman Rd	Grant Line Rd	11th St	2,800	Widen 2- to 4-Lane Major Arterial (curb-curb)	Partially Completed	$ 7,130,000	$ 9,625,500
88	Chrisman Rd	11th St	Schulte Rd	4,800	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 12,000,000	$ 16,200,000
89	Chrisman Rd	Schulte Rd	Valpico Rd	3,800	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 9,500,000	$ 12,825,000
90	Paradise Rd	Arbor Ave	I-205 WB	800	Widen 2- to 6-Lane Major Arterial (curb-curb)	Planned	$ 2,480,000	$ 3,348,000
91	Paradise Rd	I-205 WB	I-205 EB	N/A	N/A - Interchange Project	Planned	$ -	$ -
92	Paradise Rd	I-205 EB	Paradise Rd	700	8-Lane Major Arterial	Planned	$ 2,310,000	$ 3,118,500
93	Paradise Rd	Paradise Rd	Pescadero Ave	1,300	6-Lane Major Arterial	Partially Completed	$ 2,400,000	$ 3,240,000
94	Arbor Ave	City Limits	City Limits	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
95	Larch Rd	City Limits	City Limits	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
96	Auto Plaza Dr	Power Rd	Naglee Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
97	Auto Plaza Dr	Naglee Rd	Corral Hollow Rd	2,100	2-Lane Divided Arterial	Planned	$ 5,040,000	$ 6,804,000
98a	Grant Line Rd (Interim)	Byron Rd	Lammers Rd	900	Widen 2- to 4-Lane Divided Arterial	Partially Completed	$ 1,260,000	$ 1,701,000
98b	Grant Line Rd	Pavillion Pkwy	Lammers Rd	3,300	4-Lane Divided Arterial	Planned	$ 6,270,000	$ 8,464,500
99	Grant Line Rd	Lammers Rd	Naglee Rd/ I-205 WB	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
100	Grant Line Rd	Naglee Rd/I-205 WB	I-205 EB	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
101	Grant Line Rd	I-205 EB	Corral Hollow Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
102	Grant Line Rd	Corral Hollow Rd	Tracy Blvd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
103	Grant Line Rd	Tracy Blvd	MacArthur Dr	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -

No.	Street	From	To	Street Length (ft)	Roadway Improvement Type at Buildout / Horizon Year	Status	Preliminary Cost Estimates	Cost with Markups
104	Grant Line Rd	MacArthur Dr	Chrisman Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
105	Grant Line Rd	Chrisman Rd	Paradise Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
106	Grant Line Rd	Paradise Rd	City Limits	800	Widen 2- to 4-Lane Divided Arterial	Partially Completed	$ 700,000	$ 945,000
107	Byron Rd	Pavillion Pkwy	Lammers Extn	600	N/A - No Existing Street Widening	Existing	$ -	$ -
108	Byron Rd	Lammers Extn	Existing Byron Rd	1,900	N/A - No Existing Street Widening	Existing	$ -	$ -
109	Von Sosten Rd	Pavillion Pkwy	Lammers Extn	1,300	2-Lane Divided Arterial	Planned	$ 3,120,000	$ 4,212,000
110	Von Sosten Rd	Lammers Extn	Existing Byron Rd	1,800	2-Lane Divided Arterial	Planned	$ 4,320,000	$ 5,832,000
111	11th St	City Limits	City Limits	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
112	Commerce Wy	Pavillion Pkwy	New Street	1,300	4-Lane Major Arterial	Planned	$ 2,600,000	$ 3,510,000
113	Commerce Wy	New Street	Lammers Extn	1,000	4-Lane Major Arterial	Planned	$ 2,000,000	$ 2,700,000
114	Capital Parks Dr	International Pkwy	Hansen Rd	4,800	4-Lane Divided Arterial	Planned	$ 9,120,000	$ 12,312,000
115	Capital Parks Dr	Hansen Rd	Pavillion Pkwy	4,800	4-Lane Divided Arterial	Planned	$ 9,120,000	$ 12,312,000
116	Capital Parks Dr	Pavillion Pkwy	Commerce Wy	1,200	4-Lane Divided Arterial	Planned	$ 2,280,000	$ 3,078,000
117	Capital Parks Dr	Commerce Wy	Road M	1,800	4-Lane Divided Arterial	Planned	$ 3,420,000	$ 4,617,000
118	Capital Parks Dr	Road M	Lammers Rd	1,000	6-Lane Divided Arterial	Planned	$ 2,600,000	$ 3,510,000
119	Promontory Pkwy	Road H	Pavillion Pkwy	3,400	4-Lane Divided Arterial (curb-curb)	Planned	$ 8,840,000	$ 11,934,000
120	Promontory Pkwy	Pavillion Pkwy	Lammers Rd	1,100	4-Lane Divided Arterial (curb-curb)	Planned	$ 2,860,000	$ 3,861,000
121	Schulte Rd	Lammers Rd	Crossroads Dr	3,500	4-Lane Divided Arterial (curb-curb)	Planned	$ 9,100,000	$ 12,285,000
122	Schulte Rd	Crossroads Dr	Mabel Josehpine Dr	2,000	4-Lane Divided Arterial (curb-curb)	Planned	$ 5,200,000	$ 7,020,000
123	Schulte Rd	Mabel Josehpine Dr	Corral Hollow Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
124	Schulte Rd	Corral Hollow Rd	Tracy Blvd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
125	Schulte Rd	Tracy Blvd	Central Ave	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
126	Schulte Rd	Central Ave	MacArthur Dr	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
127	Schulte Rd	MacArthur Dr	Chrisman Rd	4,800	Widen 2- to 4-Lane Divided Arterial (curb-curb)	Planned	$ 10,080,000	$ 13,608,000
128	Crossroads Dr	Lammers Rd	Schulte Rd	4,000	2-Lane Divided Arterial	Planned	$ 9,600,000	$ 12,960,000
129	Old Schulte Rd	International Pkwy	Hansen Rd	400	Widen 2- to 4-Lane Major Arterial (curb-curb)	Partially Completed	$ 1,875,000	$ 2,531,250
130	Old Schulte Rd	Hansen Rd	Pavillion Pkwy	4,800	Widen 2- to 4-Lane Major Arterial (curb-curb)	Partially	$ 9,750,000	$ 13,162,500

No.	Street	From	To	Street Length (ft)	Roadway Improvement Type at Buildout / Horizon Year	Status	Preliminary Cost Estimates	Cost with Markups
						Completed		
131	Old Schulte Rd	Pavillion Pkwy	Lammers Rd	N/A	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 12,000,000	$ 16,200,000
132	Hansen Rd	Old Schulte Rd	Pavillion Pkwy	6,400	2-Lane Divided Arterial	Planned	$ 15,360,000	$ 20,736,000
133	Hansen Rd	Pavillion Pkwy	Valpico Rd	900	2-Lane Divided Arterial	Planned	$ 2,160,000	$ 2,916,000
134	Hansen Rd	Valpico Rd	Lammers Rd	4,800	2-Lane Divided Arterial	Planned	$ 11,520,000	$ 15,552,000
135	Valpico Rd	Hansen Rd	Lammers Rd	3,800	2-Lane Divided Arterial	Planned	$ 9,120,000	$ 12,312,000
136	Valpico Rd	Lammers Rd	Corral Hollow Rd	6,300	Widen 2- to 4-Lane Divided Arterial	Planned	$ 8,820,000	$ 11,907,000
137	Valpico Rd	Corral Hollow Rd	Cagney Wy	2,500	Widen 2- to 4-Lane Divided Arterial	Planned	$ 3,500,000	$ 4,725,000
138	Valpico Rd	Cagney Wy	Tracy Blvd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
139	Valpico Rd	Tracy Blvd	Glenbriar Dr	2,700	Widen 2- to 4-Lane Divided Arterial	Partially Completed	$ 3,780,000	$ 5,103,000
140	Valpico Rd	Glenbriar Dr	MacArthur Dr	3,500	Widen 2- to 4-Lane Divided Arterial	Completed	$ -	$ -
141	Valpico Rd	MacArthur Dr	Chrisman Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
142	Samuel James Wy	Lammers Rd	Corral Hollow Rd	6,300	2-Lane Collector	Planned	$ 10,080,000	$ 13,608,000
143	Linne Rd	Lammers Rd	North Tracy Hills Dr	300	4-Lane Major Arterial (curb-curb)	Planned	$ 900,000	$ 1,215,000
144	Linne Rd	North Tracy Hills Dr	Corral Hollow Rd	5,600	4-Lane Major Arterial (curb-curb)	Planned	$ 16,800,000	$ 22,680,000
145	Linne Rd	Corral Hollow Rd	Tracy Blvd	4,800	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 12,000,000	$ 16,200,000
146	Linne Rd	Tracy Blvd	City Limits	3,400	2-Lane DividedArterial (curb-curb)	Planned	$ 8,160,000	$ 11,016,000
147	North Tracy Hills Dr	Linne Rd	Corral Hollow Rd	6,400	4-Lane Divided Arterial	Planned	$ 12,160,000	$ 16,416,000
Subtotal							**$ 443,477,500**	**$ 598,694,625**
Non-Developable Frontage (20 miles of estimated frontage)							**$ 31,945,533**	**$ 43,138,620**
Temporary Sidewalk (1/3 of estimated sidewalk costs)							**$ 19,333,500**	**$ 26,100,225**
TOTAL							**$ 494,765,533**	**$ 667,933,470**

Notes

1. Markups include 15% Contingency, 10% Design & Planning, 10% Construction Management

2. Refer to Figure 3.3 for existing and future roadways.

5.5 Intelligent Transportation System

Section 4.10 identified the future Horizon Year Intelligent Transportation System (ITS) infrastructure improvements. Table 5.5 presents an estimate of the costs to implement these improvements. The projected ITS costs are estimated at approximately $53,902,800.

Table 5.5: Preliminary Cost Estimates for Intelligent Transportation System Infrastructure

No.	Improvement Description	Unit	Quantity	Unit Cost	Total Cost	Total Cost With Markup
Fiber Optic Communication System Installation (Traffic Management Improvements Only)						
1	Furnish and Install 3" Conduit	LF	386,000	$ 60	$ 23,160,000	$ 31,266,000
2	Furnish and Install Pull Boxes	EA	1,544	$ 2,000	$ 3,088,000	$ 4,168,800
3	Furnish and Install 144 Strand Singlemode Fiber Optic Cable	LF	386,000	$ 18	$ 6,948,000	$ 9,379,800
4	Signalized Intersection Upgrades (Includes Splice Vault/Enclosure/Communication Equipment/Controller & Cabinet Modifications)	EA	109	$ 43,000	$ 4,687,000	$ 6,327,450
5	Furnish and Install CCTV Camera System (includes CCTV Camera, Cables, Mounting and Video Encoder)	EA	33	$ 15,000	$ 495,000	$ 668,250
6	Furnish and Install DMS System (Including Display/Sign Structure/Pole/Foundation/Splice Vault/Cabinet/Communication Equipment). This TMP includes the use of DMS signs on trailers on an "as needed" basis. Future updates may reassess the use of standard DMS signs.	EA	0	$ 162,500	$ 0	$ 0
7	Furnish and Install Field Communication Hub (Including Splice Vault/Enclosure/Communication Equipment/Cabinet)	EA	4	$ 37,500	$ 150,000	$ 202,500
				Subtotal	**$ 38,528,000**	**$ 52,012,800**
Fiber Optic Communication System Installation (Public Works Department)						
8	PUBLIC WORKS DEPARTMENT Furnish and Install Two (2) Workstations/Computer (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$ 62,500	$ 62,500	$ 84,375
				Subtotal	**$ 62,500**	**$ 84,375**

No.	Improvement Description	Unit	Quantity	Unit Cost		Total Cost		Total Cost With Markup	
Fiber Optic Communication System Installation (Water Department)									
9	WATER TREATMENT PLANT Furnish and Install One (1) Workstation/Computer (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$	62,500	$	62,500	$	84,375
				Subtotal		**$**	**62,500**	**$**	**84,375**
Fiber Optic Communication System Installation (Parks / Library)									
10	TRACY SPORTS COMPLEX Furnish and Install One (1) Workstation/Computer (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$	62,500	$	62,500	$	84,375
11	EL PESCADERO PARK Furnish and Install One (1) Workstation/Computer (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$	62,500	$	62,500	$	84,375
12	TRACY BALL PARK Furnish and Install One (1) Workstation/Computer (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$	62,500	$	62,500	$	84,375
13	POWERS PARK Furnish and Install One (1) Workstation/Computer (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$	62,500	$	62,500	$	84,375

No.	Improvement Description	Unit	Quantity	Unit Cost	Total Cost	Total Cost With Markup
14	LINCOLN PARK Furnish and Install One (1) Workstation/Computer (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$ 62,500	$ 62,500	$ 84,375
15	TRACY PUBLIC LIBRARY Furnish and Install One (1) Workstation/Computer (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$ 62,500	$ 62,500	$ 4,375
				Subtotal	**$ 375,000**	**$ 506,250**
Fiber Optic Communication System Installation (Fire Department / Station)						
16	TRACY FIRE DEPARTMENT BUILDING Furnish and Install One (1) Workstation (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$ 62,500	$ 62,500	$ 84,375
17	TRACY FIRE STATION NO. 1 Furnish and Install One (1) Workstation (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$ 62,500	$ 62,500	$ 84,375
18	TRACY FIRE STATION NO. 6 Furnish and Install One (1) Workstation (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$ 62,500	$ 62,500	$ 84,375

No.	Improvement Description	Unit	Quantity	Unit Cost		Total Cost		Total Cost With Markup	
19	TRACY FIRE STATION NO. 7 Furnish and Install One (1) Workstation/Computer (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$	62,500	$	62,500	$	84,375
					Subtotal	**$**	**250,000**	**$**	**337,500**
City Hall - Traffic Management Center									
20	TRAFFIC MANAGEMENT CENTER (TMC) Furnish and Install TMC (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Video Wall/Communication Equipment & Sofware/Furniture)	LS	1	$	500,000	$	500,000	$	675,000
					Subtotal	**$**	**500,000**	**$**	**675,000**
Other Costs Associated with Intelligent Transportation System									
20	Testing	LS	1	$	62,500	**$**	**62,500**	**$**	**84,375**
21	Training	LS	1	$	25,000	**$**	**25,000**	**$**	**33,750**
22	System Integration	LS	1	$	62,500	**$**	**62,500**	**$**	**84,375**
					Subtotal	**$**	**150,000**	**$**	**$202,500**
					Total Cost	**$**	**39,928,000**	**$**	**53,902,800**

Notes

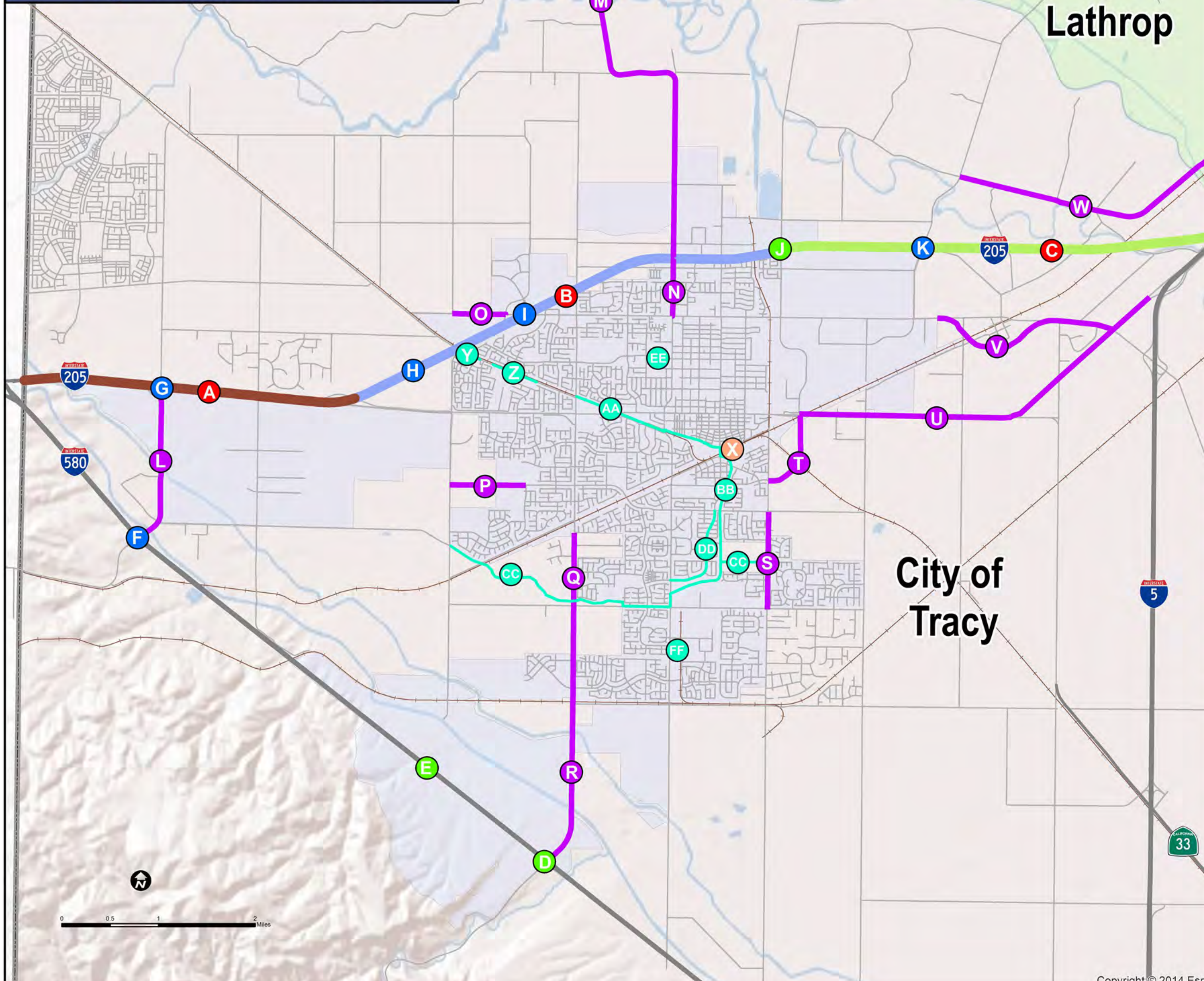
1. Markups in 15% Contingency, 10% Design & Planning, and 10% Construction Management

2. Refer **to Figure 4.38** and **Figure 4.39 for existing** and future ITS infrastructure

APPENDIX A

PLANNED IMPROVEMENTS IN RTP

2018 RTP/SCS Highlighted Projects
City of Tracy and Vicinity



Map Key	Project Name	Description	Project Limits
Mainline Highway			
A	I-205 HOV	Widen from 6 to 8 lanes (outside)	Alameda County Line to Eleventh St
B	I-205 HOV	Widen from 6 to 8 lanes (inside)	Eleventh Street to MacArthur Drive
C	I-205 HOV	Widen from 6 to 8 lanes (inside)	MacArthur Drive to I-5
Interchanges			
D	I-580 at Corral Hollow Road	Modify existing interchange - ENVIRONMENTAL ONLY	I-580 at Coral Hollow Road
E	I-580 at Lammers Road	Construction of new interchange - ENVIRONMENTAL ONLY	I-580 at Lammers Road
F	I-580 at International Pkwy / Patterson Pass Road	Reconstruct interchange	I-580 at International Pkwy / Patterson Pass Road
G	I-205 at Mountain House Pkwy / International Pkwy	Modification of existing interchange	I-205 at Mountain House Pkwy / International Pkwy
H	I-205/Lammers Rd/Eleventh St	Construct new interchange and widen Eleventh Street to 6-lanes	I-205 at new alignment of Eleventh Street / Lammers Road
I	I-205 at Grant Line Road	Modification of existing interchange	I-205 at Grant Line Road
J	I-205 at MacArthur Drive	Modification of existing interchange - ENVIRONMENTAL ONLY	I-205 at MacArthur Drive
K	I-205 at Chrisman Road	Phase 1: Construct new interchange east-west ramps	I-205 at Chrisman Road
Regional Roadways			
L	International Parkway	Widen from 2 to 4 lanes and reconstruct aqueduct bridges	I-205 to I-580
M	Tracy Boulevard	Passing lanes and channelization	I-205 to Howard Road
N	Tracy Boulevard	Widen from 4 lane minor arterial to 4 lane major arterial	I-205 to Eleventh Street
O	Grant Line Road	Widen from 5 to 6 lanes	Naglee Road to Lammers Road
P	Schulte Road	Extend 4 lane roadway	Faith Lane (San Marco Subdivision limits) to Lammers Road
Q	Corral Hollow Road	Widen from 2 to 4 lanes	Parkside Drive to Linne Road
R	Corral Hollow Road Widening	Widen 2 to 4 lanes including ROW and construction of two bridges	Linne Road to I-580
S	MacArthur Drive	Widen 2 to 4 lanes (Valpico Road to Schulte Road)	MacArthur Drive from Valpico Road to Schulte Road;
T	MacArthur Drive	Extend 4 lane roadway (Mt. Diablo Road to Eleventh Street)	Mt. Diablo Road to Eleventh Street
U	Eleventh Street	Improve roadway and intersections	Tracy City Limits to I-5
V	Grant Line Road Corridor Improvements	Realign roadway and widen from 2 to 4 lanes with operational improvements	Tracy City Limits to 11th Street
W	Golden Valley Parkway	Construct new roadway parallel to I-5, 4 lanes from Stewart Road to Paradise	Stewart Road to Paradise Road
Transit			
X	Tracy Multi-modal Center	Construct passenger rail platform and expand parking	Tracy Multi-modal Center
Active Transportation			
Y	Byron Road Trail	Construct Class I Bike Path	Lammers Road to west of Lankershire Road
Z	Byron Road Trail	Construct Class I Bike Path	East of Lankershire Road to west of Belconte Drive
AA	UPRR Trail	Construct Class I Bike Path	Corral Hollow Road to Central Ave
BB	UPRR Rail Trail	Construct Class I Bike Path	Central Avenue to Canal Trail
CC	Canal Trail	Construct Class I Bike Path	Lammers Road to MacArthur Drive
DD	Central Avenue Road Diet	Install center turn lane, Class II Bike Lanes, and sidewalks	Tracy Blvd to Schulte Road
EE	Lowell Ave Sidewalk Construction	Construct sidewalks	Chester Drive to W of Tracy Blvd
FF	Tracy Boulevard Sidewalks	Construct sidewalks	South of Valpico Road to north of Whispering Wind Drive

Table 6-1: 2022 Regional Transportation Plan Project List - Mainline Highway Improvements Category

Identifiers			Project Information				Cost to Deliver	Milestone Years				
2022 RTP MPO ID	CTIPS ID #	PPNO	Jurisdiction	Facility Name/Route	Project Description	Project Limits	Total	FTIP Programming	NEPA Approval	Open to Traffic	MK Renewal Project	RTIF Project
SJ14-1004	112-0000-0421		Caltrans	SR 99/120 Connector Project Phase 1A	(Widen the eastbound SR 120 to southbound SR 99 connector ramp from one-lane to two-lanes; Remove the Austin Road overcrossing and replace with a new 4 lane structure spanning SR 99 and UPRR; Add a new connecting road from Austin Road to Woodward Ave and Moffat Blvd and modify the existing UPRR gated crossing at Woodward Ave;Temporarily close the Austin Road northbound entrance and southbound exit ramps, resulting in a partial interchange.)	On SR-120 from Main Street (P.M. 5.13) to SR-99 and on SR-99 from SR-120 to Olive Avenue (P.M. 6.22)	$52,419,765	2015	2019	2024	X	X
SJ07-1003			Caltrans	I-205 Managed Lanes	Widen from 6 to 8 lanes (inside/outside)	Alameda County Line to Eleventh Street	$90,000,000		2022	2028	X	
SJ14-1001			Caltrans	I-205 Managed Lanes	Widen from 6 to 8 lanes (inside/outside)	Eleventh Street to MacArthur Drive	$90,000,000		2022	2028	X	X
SJ14-1002			Caltrans	I-205 Managed Lanes	Widen from 6 to 8 lanes (inside/outside)	MacArthur Drive to I-5	$90,000,000		2022	2028	X	
SJ07-1008			Caltrans	I-5 HOV Mossdale	Widen to add HOV lanes with HOV Connector Ramps to I-205 and SR-120	I-205 to Louise Avenue (P.M. 12.5/R 16.5)	$200,000,000		2022	2028	X	X
SJ07-1014			Caltrans	SR-120	Widen 4 to 6 lanes (inside)	I-5 to Main Street (P.M. 5.13)	$41,376,709		2024	2030	X	
SJ18-1001			Caltrans	SR-99 HOV	Widen 6 to 8 lanes (inside/outside), including reconstruction of SR-99/Main Street and SR-99/Wilma Avenue interchanges and pedestrian overcrossing	SR-120 to Stanislaus County Line	$150,000,000		2026	2032		
SJ18-1002	212-0000-0743		Caltrans	SR 99/120 Connector Project Phase 1B	Widen the northbound SR 99 to westbound SR 120 connector ramp from one-lane to two-lanes; Add an auxiliary lane in the existing median of westbound SR 120 from Main Street to SR 99; Convert the existing 99/120 separation structure to two lanes and construct a new separation structure to serve the eastbound 120 to northbound 99 connector ramp.)	On SR-120 from Main Street (P.M. 5.13) to SR-99 and on SR-99 from SR-120 to Olive Avenue (P.M. 6.22)	$25,758,534	2019	2019	2026	X	X
SJ11-1001			Caltrans	I-5 HOV	Widen from 6 to 8 lanes (inside median) including auxiliary lanes	Hammer Lane to North of Eight Mile Road	$90,000,000		2009	2036	X	
SJ07-1005			Caltrans	I-5 HOV	Widen 6 to 8 lanes (inside)	French Camp Road to Charter Way	$90,000,000		2030	2038	X	
SJ07-1006			Caltrans	I-5 HOV	Widen 6 to 8 lanes (inside)	Louise Avenue to French Camp Road	$90,000,000		2032	2040	X	
SJ18-1003	212-0000-0744		Caltrans	SR 99/120 Connector Project Phase 1C	Add braided off ramps from SR 99 and SR 120 to Austin Road; Add loop on ramp from Austin Road to northbound SR 99 and to westbound SR 120; Add auxiliary lane on eastbound SR 120 from Main Street to SR 99; Add an auxiliary lane in each direction on SR 99 from SR 120 to approximately 1.7 mile south of Austin Road and relocate the frontage road.	On SR-120 from Main Street (P.M. 5.13) to SR-99 and on SR-99 from SR-120 to Olive Avenue (P.M. 6.22)	$52,548,860	2019	2019	2042	X	X
SJ14-1003			Caltrans	SR-99 Widening	Widen 4 to 6 lanes (inside) - **ENVIRONMENTAL ONLY**	Harney Lane to Turner Road	$3,000,000					
							$1,065,103,868					

Table 6-2: 2022 Regional Transportation Project List - Interchange Improvements Category

Identifiers			Project Information				Cost to Deliver	Milestone Years				
2022 RTP MPO ID	CTIPS ID #	PPNO	Jurisdiction	Facility Name/Route	Project Description	Project Limits	Total	FTIP Programming	NEPA Approval	Open to Traffic	MK Renewal Project	RTIF Project
SJ07-2005			Lathrop	I-5 at Louise Avenue	Reconstruct interchange (PM 16.4-16.8)	I-5 at Louise Avenue	$28,754,000		2024	2030	X	
SJ07-2004			Lathrop	I-5 at Lathrop Road	Reconstruct interchange (P.M. 17.3/17.8)	I-5 at Lathrop Road	$39,146,000		2029	2035	X	
SJ14-2004			Lathrop	SR 120 at Yosemite Ave/Guthmiller Road	Reconstruct interchange	SR 120 at Yosemite Ave/Guthmiller Road	$31,000,000		2020	2025		
SJ11-2015			Lodi	SR-99 at SR-12 West (Kettleman Lane)	Reconstruct interchange and widen to free-flowing interchange	SR-99 at SR-12 West (Kettleman Lane)	$35,000,000		2030	2036	X	
SJ07-2006			Lodi	SR-99 at Harney Lane	Reconstruct interchange to provide 6 through lanes on SR-99, 4 lanes on Harney between Reynolds Ranch Pkwy and SR-99 and modify on-ramps and off-ramps	SR-99 at Harney Lane	$35,000,000	2009	2028	2033	X	
SJ07-1020	112-0000-0347		Lodi	SR-99 at Turner Road	Reconstruct interchange to provide operational and safety improvements on SR-99 at Turner Road (PM 31.3/31.6)	SR-99 at Turner Road	$6,331,338	2019	2020	2024	X	
SJ07-2009	212-0000-0231		Manteca	SR-120 at McKinley Ave	Construct new interchange	SR-120 at McKinley Avenue	$37,850,000	2009	2014	2024	X	X
SJ18-2001			Manteca	SR-120 at Airport Way	Reconstruct interchange	SR-120 at Airport Way	$30,000,000		2029	2031	X	
SJ18-2002			Manteca	SR-120 at Main Street	Reconstruct interchange	SR-120 at Main Street	$30,000,000		2031	2033	X	
SJ14-2001			Manteca	SR-99 at Raymus Expressway	Construction of new interchange - **ENVIRONMENTAL ONLY**	SR-99 at Raymus Expressway	$3,000,000				X	X
SJ11-2004	212-0000-0309		Stockton	I-5 at Hammer Lane	Interchange Modification and auxiliary lanes (PM 32.6)	I-5 at Hammer Lane	$35,000,000	2007	2009	2036		
SJ11-2006	212-0000-0309		Stockton	I-5 at Otto Drive	Construction of a new interchange and auxiliary lanes (PM 33.3/34.2)	I-5 at Otto Drive	$74,000,000	2007	2009	2036		
SJ07-2020	212-0000-0309		Stockton	I-5 at Eight Mile Road	Modification of interchange (P.M. 34.7/35.9)	I-5 at Eight Mile Road	$35,000,000	2007	2009	2036		
SJ11-2002	212-0000-0562		Stockton	SR-99 at Eight Mile Road	Reconstruct Interchange (PM 35.1-35.5)	SR-99 at Eight Mile Road	$85,836,686		2030	2036	X	
SJ11-2001	212-0000-0561		Stockton	SR-99 at Morada	Reconstruct interchange (PM 23.5-24.5)	SR-99 at Morada	$74,000,000		2030	2036		
SJ11-2010	212-0000-0227		Tracy	I-205/Lammers Rd/Eleventh St	Construct Interchange I-205 at Eleventh street realign and widen Eleventh Street to 6-lanes north of Grant Line to Byron Road. Construct Aux lane Hansen to Eleventh; in WB I-205 Eleventh Street to Grant Line Road	Construct Interchange I-205 at Eleventh street realign and widen Eleventh Street to 6-lanes north of Grant Line to Byron Road. Construct Aux lane Hansen to Eleventh; in WB I-205 Eleventh Street to Grant Line Road	$51,500,000	2007	2012	2028	X	
SJ14-2002			Tracy	I-580 at International Pkwy/Patterson Pass Road	Reconstruct interchange	I-580 at Mountain House Parkway	$49,183,000	2015	2020	2025	X	
SJ14-2003			Tracy	I-205 at Mountain House/International Pkwy	Reconstruct interchange	I-205 at Mountain House Parkway	$52,858,000	2015	2020	2028	X	X
SJ11-2011			Tracy	I-205 at Grant Line Road	Modification of existing interchange	I-205 at Grant Line Road	$32,574,820		2022	2030		
SJ11-2012	212-0000-0228		Tracy	I-205 at Chrisman Rd	Phase 1: Construct new interchange east-west ramps	I-205 at Chrisman Rd	$36,056,267	2009	2020	2028		
SJ18-2003			Tracy	I-205 / MacArthur Interchange modification	Modification of existing interchange - **ENVIRONMENTAL ONLY**	At MacArthur (PM 7.8 -PM 8.5)	$2,500,000		2022	2035		

Table 6-2: 2022 Regional Transportation Project List - Interchange Improvements Category

Identifiers: 2022 RTP MPO ID	CTIPS ID #	PPNO	Project Information: Jurisdiction	Facility Name/Route	Project Description	Project Limits	Cost to Deliver: Total	Milestone Years: FTIP Programming	NEPA Approval	Open to Traffic	MK Renewal Project	RTIF Project
SJ11-2031			Tracy	I-580 at Corral Hollow Road	Modification of existing interchange - **ENVIRONMENTAL ONLY**	I-580 at Coral Hollow Road	$2,500,000		2022	2025		
SJ11-2032			Tracy	I-580 at Lammers Road	Construction of new interchange - **ENVIRONMENTAL ONLY**	I-580 at Lammers Road	$3,500,000		2022	2030		
SJ22-2001			Tracy	I-580 at Iron Horse	Construction of new interchange - **ENVIRONMENTAL ONLY**	I-580 at Iron Horse	$3,000,000		2022			
							$813,590,111					

Table 6-3: 2022 Regional Transportation Plan Project List - Regional Roadway Improvements Category

Identifiers: 2022 RTP MPO ID	CTIPS ID #	PPNO	Project Information: Jurisdiction	Facility Name/Route	Project Description	Project Limits	Cost to Deliver: Total	Milestone Years: FTIP Programming	NEPA Approval	Open to Traffic	MK Renewal Project	RTIF Project
SJ07-3013			Escalon	Ullrey Avenue/McHenry Avenue Intersection	Reconstruct intersection, including addition of turn pockets, improvement of traffic signal and installation of train pre-emption system for UPRR railroad crossing.	Intersection of Ullrey Avenue and McHenry Avenue including UPRR railroad crossing.	$1,151,725		2022	2024	X	
SJ07-3011	212-0000-0228		Escalon	SR 120/Brennan Ave Intersection	Intersection improvements	SR-120 at Brennan Avenue	$513,745		2020	2026		
SJ07-3014			Lathrop	Golden Valley Parkway	Construct new roadway parallel to I-5, 2 lanes from Brookhurst Blvd to Stewart Road	Along Northwest side of I-5 from Brookhurst Blvd to Stewart Road	$8,637,938		2018	2026		
SJ14-3001			Lathrop	Golden Valley Parkway	Construct new roadway parallel to I-5, 4 lanes from Stewart Road to Paradise Road	Along Northwest side of I-5 from Stewart Road to Paradise Road	$51,827,628		2018	2028		
SJ07-3014			Lathrop	Golden Valley Parkway	Widen from 2 to 4 lanes, from Brookhurst Blvd to Stewart Road	Along Northwest side of I-5 from Brookhurst Blvd to Stewart Road	$8,637,938		2018	2030		
SJ07-3018			Lodi	Harney Lane	Widen from 2/3 lane collector to 4-lane divided arterial	Hutchins Street to Lower Sacramento Road	$21,181,016	2009	2016	2026	X	
SJ07-3022			Lodi	Victor Road (SR-12)	Widen from 2 to 4 lanes. Add center dual left turn lane, turn pockets at intersections and median seperation with landscape	Between SR 99 to Central California Traction railroad tracks.	$7,000,000		2030	2034	X	
SJ07-3017			Lodi	Ham Lane	Widen 2/3 lanes to 4 lanes	From Lodi Avenue to Elm Street	$3,000,000			2037	X	
SJ11-3010			Manteca	Atherton Drive	Construct new 4 lane roadway (gap closure)	East of Airport Way to Union Road	$2,857,660		2010	2042		
SJ07-3023			Manteca	Airport Way	Widen from 2 to 4 lanes	SR-120 to Yosemite Ave.	$10,411,185		2010	2022		
SJ11-3008			Manteca	Airport Way	Widen from 2 to 4 lanes	Lathrop Road to Roth Road	$7,559,898		2012	2022	X	
SJ07-3027			Manteca	Louise Avenue	Widen from 2 to 4 lanes	Main Street to SR-99	$1,752,926		2022	2023	X	
SJ11-3011			Manteca	Atherton Drive	Construct new 4 lane roadway	McKinley Ave to West of Airport Way	$1,261,305		2012	2023		
SJ07-3024			Manteca	Lathrop Road	Widen from 2 to 4 lanes	From East of UPRR to SR-99	$3,546,894		2016	2024		
SJ11-3014			Manteca	Raymus Expressway	Construct new 4-lane expressway	Main Street to SR-99	$10,761,268		2017	2026		X
SJ14-3003			Manteca	Airport Way	Widen from 2 to 4 lanes	Yosemite Ave. to Lathrop Road	$7,287,829		2010	2027		
SJ11-3013			Manteca	Raymus Expressway	Construct new 2 lane expressway	SR-120 to Woodward Ave	$3,226,198		2017	2028		X
SJ11-3012			Manteca	Atherton Drive	Construct new 4 lane roadway	Woodward Ave to McKinley Ave	$4,976,800		2019	2029		
SJ11-3015			Manteca	Raymus Expressway	Construct new 2 lane expressway	Woodward Ave to Main Street	$10,000,000		2019	2031		X
SJ14-3004			Manteca	Airport Way	Widen from 4 to 6 lanes	SR 120 to Lathrop Road	$10,000,000		2010	2036		
SJ11-3017			Ripon	Jack Tone Road, Phase 1	Widen from 2 to 6 lanes	Santos Road to South Clinton Avenue	$10,941,388		2013	2025		
SJ11-3019			Ripon	Garrison Road Gap Closure	Construct 2-lane extension of Garrison Road.	Maple Avenue to 500 ft east of Acacia Avenue	$3,455,175		2014	2025		
SJ07-3137			Ripon	W. Ripon Road	Widen from 2 to 6 lanes	Jack Tone Road to Olive Expressway	$11,517,251		2020	2024		
SJ14-3006			Ripon	Canal Boulevard Extension	Construct 4-lane extension of Canal Boulevard	Jack Tone Road to Olive Expressway	$5,297,935		2013	2026		X
SJ07-3137			Ripon	Olive Expressway	Construct 6-lane Olive Expressway - **ENVIRONMENTAL ONLY**	Canal Boulevard to Raymus Expressway	$3,000,000					X
SJ11-3029			San Joaquin County	Howard Road	Passing lanes and channelization	Tracy Blvd to Matthews Road	$17,275,876		2021	2023		
SJ14-3005			San Joaquin County	Grant Line Road Corridor Improvements	Realign roadway and widen from 2 to 4 lanes with operational and safety improvements	Tracy City Limits to 11th Street	$31,625,218			2023	X	
SJ11-3031			San Joaquin County	Tracy Boulevard	Passing lanes and channelization	I-205 to Howard Road	$5,758,625		2023	2025		
SJ11-3027			San Joaquin County	Eleventh Street	Operational and safety improvements along corridor and at intersections	Tracy City Limits to I-5	$17,781,483		2023	2028	X	X
SJ07-3154			San Joaquin County	Roth Road	Widen from 2 to 4 lanes with shoulders)	UPRR to Airport Way	$5,388,861			2028		
SJ11-3008			San Joaquin County	Airport Way	Widen from 2 to 4 lanes	Roth Road to French Camp Road	$10,000,000			2036	X	
SJ11-3007			San Joaquin County	Escalon Bellota Road	Widen 2 to 4 lanes with shoulders	Escalon City Limits to Mariposa Road	$17,000,000			2036	X	
SJ11-3030			San Joaquin County	Mariposa Road	Widen roadway from 2 to 3 lanes and widen BNSF railroad grade separation from 2 to 4 lanes	Austin Road to Jack Tone Road	$24,000,000		2032	2037	X	
SJ07-3084			Stockton	Morada Lane	Widen from 3 to 6 lanes	West Ln to UPRR	$9,793,203			2026		
SJ07-3093			Stockton	Alpine Avenue	Widen from 2 to 4 lanes with a middle turn lane. Construct curb, gutter, sidewalks and driveways.	UPRR (SPRR) to Wilson Way	$20,716,390			2026		
SJ11-3044			Stockton	Arch Road	Widen from 2 to 6 lanes	Fite Court to Frontier Way	$1,757,754			2026		
SJ11-3045			Stockton	Arch Road	Widen from 2 to 6 lanes	Frontier Way to SR-99	$5,524,371			2026		
SJ07-3078			Stockton	Maranatha Dr	Construction of new 4 lane road	March Ln to Hammer Ln	$7,407,679			2026		

Table 6-3: 2022 Regional Transportation Plan Project List - Regional Roadway Improvements Category

Identifiers: 2022 RTP MPO ID	CTIPS ID #	PPNO	Project Information: Jurisdiction	Facility Name/Route	Project Description	Project Limits	Cost to Deliver: Total	Milestone Years: FTIP Programming	NEPA Approval	Open to Traffic	MK Renewal Project	RTIF Project
SJ11-3062			Stockton	Maranatha Dr	Construction of new 4 lane road	Wilson Way to March Ln	$13,057,604			2026		
SJ11-3056			Stockton	Lower Sacramento Rd	Widen from 4 to 6 lanes	Armor Dr to Morada Ln	$5,147,709			2026	X	
SJ11-3039			Stockton	Lower Sacramento Rd	Widen from 2 to 6 lanes	Marlette Rd to Pixley Slough	$29,128,500			2026	X	
SJ11-3055			Stockton	Lower Sacramento Rd	Widen from 4 to 6 lanes	Morada Ln to Hammer Ln	$20,000,000			2031		
SJ07-3088			Stockton	Airport Way	Intersection and operational improvements	Harding Way to Industrial Rd	$7,975,894			2031	X	
SJ11-3047			Stockton	Eight Mile Rd	Widen from 2 to 4 lanes	New Road D to New Road F	$3,013,293			2026		
SJ11-3048			Stockton	Eight Mile Rd	Widen from 2 to 4 lanes	New Road F to New Road E	$5,775,479			2026		
SJ11-3050			Stockton	Eight Mile Rd	Widen from 5 to 6 lanes	I-5 to Thornton Rd	$12,000,000			2036	X	
SJ07-3094			Stockton	Eight Mile Rd	Widen from 2 to 4 lanes	Thornton Road to Lower Sacramento Rd	$30,000,000			2036	X	
SJ11-3061			Stockton	Eigth Mile Rd	Widen from 2 to 6 lanes	Lower Sacramento Rd to West Lane	$9,000,000			2036	X	
SJ07-3095			Stockton	Eight Mile Rd	Widen from 2 to 6 lanes	West Ln to Holman Rd	$15,000,000			2036	X	
SJ11-3051			Stockton	Eight Mile Rd	Widen from 2 to 6 lanes	Holman Rd to SR 99	$20,000,000			2036	X	
SJ07-3089			Stockton	Arch Road	Widen from 2 to 6 lanes	Newcastle Rd to Fite Court	$9,000,000			2036		
SJ11-3053			Stockton	French Camp Road	Widen from 2 to 6 lanes	Wolfe Rd to Manthey Rd	$10,000,000			2036		
SJ11-3063			Stockton	March Ln Extension	Construction of new 8 lane road	Holman Rd to SR 99	$30,000,000			2036		
SJ18-3001			Stockton	Mariposa Road	Widen from 2 to 4 lanes	Stagecoach Road to Austin Road	$49,637,664			2036	X	
SJ18-3002			Tracy	International Parkway	Widen from 2 to 4 lanes, including reconstruction of Delta-Mendota Canal and California Aqueduct bridges	I-205 to I-580	$40,310,377			2024		
SJ07-3110			Tracy	Corral Hollow Road	Widen from 2 to 4 lanes	Parkside Drive to Linne Road	$26,382,359			2023	X	
SJ07-3109			Tracy	Schulte Road	Extend 4 lane roadway	Faith Lane (San Marco Subdivision limits) to Lammers Road	$19,506,767			2030	X	
SJ07-3107			Tracy	Grant Line Road	Widen from 5 to 6 lanes	Naglee Road to Lammers Road	$7,362,337			2030	X	
SJ22-3107			Tracy	Grant Line Road	Widen from 3 to 4 lanes	Byron Road to Lammers Road	$7,362,337			2026	X	
SJ07-3181			Tracy	Corral Hollow Road Widening	Widen 2 to 4 lanes including ROW and construction of two bridges	Linne Road to I-580	$44,125,289			2026		
SJ11-3067			Tracy	MacArthur Drive	Extend 4 lane roadway on new alignment and construct railroad grade separation	Mt. Diablo Road to Eleventh Street	$25,000,000			2034	X	
SJ07-3183			Tracy	Tracy Blvd.	Widen from 4 lane minor arterial to 4-lane major arterial	I-205 to Eleventh Street	$20,041,667			2030		
							$842,660,438					

Table 6-4: 2022 Regional Transportation Plan Project List - Railroad Crossing Safety Improvements Category

Identifiers			Project Information				Cost to Deliver	Milestone Years				
2022 RTP MPO ID	CTIPS ID #	PPNO	Jurisdiction	Facility Name/Route	Project Description	Project Limits	Total	FTIP Programming	NEPA Approval	Open to Traffic	MK Renewal Project	RTIF Project
SJ07-4003			Escalon	Escalon BNSF Grade Separation	Construct a grade separation in Escalon at the BNSF Railroad	On Yosemite Avenue (SR-120) and on McHenry Avenue at BNSF	$33,500,000			2041	X	
SJ07-4008			Manteca	Airport Way/UPRR	Construct five lane grade separation over the UPRR	Airport Way/UPRR between Louise Avenue and Northgate Drive	$23,250,000		2030	2034	X	
SJ11-4001			San Joaquin County	Lower Sacramento Road/UPRR (near Woodson Road)	Replace grade separation of roadway and railway	Lower Sacramento Road/UPRR (near Woodson Road)	$42,000,000		2028	2035		
SJ07-4014			Stockton	Alpine Road/UPRR (West)	Construct at-grade quiet zone improvements	On Alpine Avenue at UPRR west of Coronado Avenue	$4,000,000			2030	X	
SJ07-4017			Stockton	Alpine Ave/UPRR (East)	Construct a 4 lane grade separation	On Alpine Ave at UPRR between West Lane and Montego Avenue	$50,683,065			2038	X	
SJ07-4027			Stockton	West Lane at UPRR	Construct a 6 lane grade separation	On West Lane between Alpine Avenue & El Pinal Drive/Klinger Road	$44,230,000					
							$197,663,065					

Table 6-5: 2022 Regional Transportation Plan Project List - Bus Transit Improvements Category

Identifiers			Project Information				Cost to Deliver	Milestone Years		
2022 RTP MPO ID	CTIPS ID #	PPNO	Jurisdiction	Facility Name/Route	Project Description	Project Limits	Total	FTIP Programming	NEPA Approval	Completion
SJ11-5002			Escalon	eTrans Transit Operations	Costs associated with eTrans demand responsive & fixed route transit system	Cities of Escalon and Modesto	$9,225,905			
SJ14-5001			Escalon	eTrans Capital Improvements	Bus Replacements, passenger amenities, and miscellanious equipment	City of Escalon	$1,419,370			
SJ07-5002	212-0000-0155		Lodi	Grapeline Capital	Bus stop shelters/improvements	City of Lodi	$11,922,708			
SJ07-5004	212-0000-0299		Lodi	Grapeline Capital	Transit facility upgrades	City of Lodi	$5,109,732			
SJ07-5005			Lodi	Grapeline Capital	Transit Station Expansion	City of Lodi	$3,548,425			
SJ07-5006	212-00000-0154		Lodi	Grapeline Operating	Costs associated with Grapeline fixed route and Paratransit/Dial-A-Ride services	City of Lodi	$177,421,255			
SJ18-5002			Lodi	Transit Facilities Safety & Security System	Safety and security for Lodi Grapeline service	City of Lodi	$1,277,433			
SJ18-5003			Lodi	Southwest Transit Transfer Station	Construct transit transfer station in southwest Lodi	City of Lodi	$1,064,528			
SJ18-5004			Lodi	Bus Replacements	Purchase replacement buses	City of Lodi	$42,581,101			
SJ18-5050			Lodi	Grapeline Capital	Bicycle Support Program	City of Lodi	$283,874			
SJ18-5051			Lodi	Grapeline Capital	Radio/Communication Upgrade	City of Lodi	$425,811			
SJ18-5052			Lodi	Grapeline Capital	Intelligent Transportation System (ITS) upgrades	City of Lodi	$2,554,866			
SJ18-5053			Lodi	Grapeline Capital	CNG Fuel upgrades	City of Lodi	$851,622			
SJ18-5054			Lodi	Grapeline Capital	Bus Wash upgrades	City of Lodi	$567,748			
SJ07-5015	212-0000-0681		Manteca	Passenger Amenities	Bus shelters/pedestrian facilities, bike facilities, lighting and multifunctional landscaped area.	City of Manteca	$14,193,700			
SJ07-5016	212-0000-0300		Manteca	Safety and Security	Costs associated with Safety/Security/ITS	City of Manteca	$4,258,110			
SJ07-5017	212-0000-0235		Manteca	Manteca Transit Rolling Stock	Purchase of replacement and new buses	City of Manteca	$19,871,181			
SJ07-5018	212-0000-0213		Manteca	Manteca Transit System Operations	Costs associated with the Operations and administration of Dial-A-Ride and fixed route service in Manteca	City of Manteca	$120,646,454			
SJ14-5031	212-0000-0694		Manteca	Bus Maintenance & Storage Facility	Construct a bus maintenance and storage facility	City of Manteca	$6,812,976			
SJ18-5006			Manteca	Manteca Transit Planing	Costs to support transit planning efforts to update the City of Manteca Short-Range Transit Plan every four years	City of Manteca	$1,078,721			
SJ18-5007			Manteca	Bus Enhancements	Enhancements for Manteca Transit buses	City of Manteca	$5,500,059			
SJ18-5008			Manteca	Travel Training	Training to assist customers in using transit services	City of Manteca	$1,693,560			
SJ18-5009			Manteca	Transit Center Improvements	Construct improvements at Manteca Transit Center	City of Manteca	$7,112,953			
SJ07-5019			Ripon	Ripon Blossom Express Operations	Costs associated with the delivery of a fixed route transit system	Cities of Ripon and Modesto	$2,838,740			
SJ18-5010			Ripon	Ripon Dial-A-Ride Operations	Costs associated with the delivery of a Dial-A-Ride service in Ripon	City of Ripon	$2,838,740			
SJ18-5011			Ripon	Ripon Bus Purchases	Purchase of replacement and expansion buses	City of Ripon	$5,961,354			
SJ18-5012			Ripon	Transit Capital Improvements	Construct benches, shelters, and transit maintenance facility	City of Ripon	$5,407,800			
SJ18-5013			Ripon	Ripon Multimodal Station	Construct Multimodal Station	City of Ripon	$8,232,346			
SJ22-5001			RTD	Bus Electricification / Power Distribution	Renewable energy solutions for facility & fleet energy consumption	San Joaquin County	$7,875,000			
SJ22-5002			RTD	Bus Electricification / Power Distribution	Charging infrastructure will be needed if RTD replaces commuter bus with zero-emission electric bus. Depending on the bus purchase the following is an estimated infrastructure cost.	San Joaquin County	$7,500,000			
SJ22-5003			RTD	Bus Electricification / Power Distribution	Hydrogen and lease of the trailer	San Joaquin County	$1,750,000			
SJ22-5004			RTD	Bus Electricification / Power Distribution	Battery energy storage systems	San Joaquin County	$8,344,402			

Table 6-5: 2022 Regional Transportation Plan Project List - Bus Transit Improvements Category

Identifiers			Project Information				Cost to Deliver	Milestone Years		
2022 RTP MPO ID	CTIPS ID #	PPNO	Jurisdiction	Facility Name/Route	Project Description	Project Limits	Total	FTIP Programming	NEPA Approval	Completion
SJ22-5005			RTD	Bus Rolling Stock - Buy / Replacement / Rehab / Rebuild	Replace 14 GILLIG diesel-electric hybrid buses with zero-emission - electric buses in BRT fleet	Stockton Metropolitan Area	$19,600,000			
SJ22-5006			RTD	Bus Rolling Stock - Buy / Replacement / Rehab / Rebuild	Replace 2 Protera - EcoRide BE-35 (SMA)	San Joaquin County	$2,800,000			
SJ22-5007			RTD	Bus Rolling Stock - Buy / Replacement / Rehab / Rebuild	Replace 2 MCI 34500 (Commuter)	San Joaquin County to Bay Area	$2,800,000			
SJ22-5008			RTD	Bus Rolling Stock - Buy / Replacement / Rehab / Rebuild	Replace 6 Nova Hybrid LF Articulated (SMA)	San Joaquin County	$9,600,000			
SJ22-5009			RTD	Bus Rolling Stock - Buy / Replacement / Rehab / Rebuild	Replace 6 Starcarft/Ford Transit 350 HD (Van Go)	San Joaquin County	$1,650,000			
SJ22-5010			RTD	Bus Rolling Stock - Buy / Replacement / Rehab / Rebuild	Replace 22 Glabel Titan II LF (Hopper)	San Joaquin County	$6,050,000			
SJ22-5011			RTD	Bus Rolling Stock - Buy / Replacement / Rehab / Rebuild	Replace 14 Glaval/Ford Transit 350 HD (Van Go)	San Joaquin County	$3,850,000			
SJ22-5012			RTD	Bus Rolling Stock - Buy / Replacement / Rehab / Rebuild	Replace 6 ADA cut-away gasoline	San Joaquin County	$1,650,000			
SJ22-5013			RTD	Bus Rolling Stock - Buy / Replacement / Rehab / Rebuild	Replace 12 cutaway buses used by United Cebral Palsy to transport individuals who would otherwise use SMA paratransit	San Joaquin County	$1,860,000			
SJ22-5014			RTD	Bus Rolling Stock - Buy / Replacement / Rehab / Rebuild	Provide infrastructure to accommdate future replacement of cutaway buses	San Joaquin County	$1,576,200			
SJ22-5015			RTD	Bus Rolling Stock - Buy / Replacement / Rehab / Rebuild	Bus component rebuild and parts	San Joaquin County	$1,381,408			
SJ22-5016			RTD	Bus Rolling Stock - Buy / Replacement / Rehab / Rebuild	Hybrid electric buses (5 new/additional buses)	San Joaquin County	$2,750,000			
SJ22-5017			RTD	Safety and Security	To upgrade surveillance/security camera system at RTD's facilities and bus station/stops; to purchase assessment service, management tool, software and equipment to improve RTD's cyber security.	San Joaquin County	$1,064,500			
SJ22-5018			RTD	Safety and Security	Purchase and/or replace disinfecting chemical vehicle foggers and other misc. safety-related equipment	San Joaquin County	$250,000			
SJ22-5019			RTD	Safety and Security	Security guard radios	San Joaquin County	$18,000			
SJ22-5020			RTD	Safety and Security	Pedestrian collision and avoidance detection system and other safety/security related project with 5% annual increase	San Joaquin County	$5,082,293			
SJ22-5021			RTD	Communication System, Fare Collection (Mobile), Computer Software & Hardware, and Misc. Equipment	Bus video standardization system	San Joaquin County	$4,500,404			
SJ22-5022			RTD	Communication System, Fare Collection (Mobile), Computer Software & Hardware, and Misc. Equipment	Scoping consulting to provide suggestions/planning on new ERP that will provide Integrated Financial and adminstrative solution	San Joaquin County	$100,000			
SJ22-5023			RTD	Communication System, Fare Collection (Mobile), Computer Software & Hardware, and Misc. Equipment	To purchase and install support equipment for bus and facilities. This includes computers and software, ERP, procurement and HR management systems and other misc. equipment	San Joaquin County	$5,135,000			
SJ22-5024			RTD	Communication System, Fare Collection (Mobile), Computer Software & Hardware, and Misc. Equipment	Computer, printer, scanner, camera, video, smartphone, office furniture. Transit vehciel public display monitor system, non-revenue vehicle GPS and other misc. items 5% annual increase	San Joaquin County	$4,663,699			
SJ22-5025			RTD	Communication System, Fare Collection (Mobile), Computer Software & Hardware, and Misc. Equipment	Transit vehicle public display monitor system project	San Joaquin County	$750,000			
SJ22-5026			RTD	Planning / Study / Training, Outreach and Research Projects	Transit asset management system update	San Joaquin County	$28,000			

Table 6-5: 2022 Regional Transportation Plan Project List - Bus Transit Improvements Category

Identifiers: 2022 RTP MPO ID	CTIPS ID #	PPNO	Project Information: Jurisdiction	Facility Name/Route	Project Description	Project Limits	Cost to Deliver: Total	Milestone Years: FTIP Programming	NEPA Approval	Completion
SJ22-5027			RTD	Planning / Study / Training, Outreach and Research Projects	Hydrogen fuel cell electric bus training	San Joaquin County	$269,000			
SJ22-5028			RTD	Planning / Study / Training, Outreach and Research Projects	Service equity analysis of the future changes including service restoration and expansions for Fixed Route in Stockton Metropolitan Area and Intercity	San Joaquin County	$75,000			
SJ22-5029			RTD	Planning / Study / Training, Outreach and Research Projects	RTD's Title VI Program update as required by FTA every 4 years	San Joaquin County	$100,000			
SJ22-5030			RTD	Operating Costs	Costs associated with BRT, SMA, Intercity and County Hopper, Interregional Commuter, Dial-A-Ride, Van GO!, Operations	SMA, San Joaquin County, San Joaquin County to Bay Area	$258,855,400			
SJ22-5031			RTD	Facilitiates Improvement and Update	Bus stations/stops/terminals	San Joaquin County	$1,665,248			
SJ22-5032			RTD	Facilitiates Improvement and Update	Install new benches, shelters, and other amenities	San Joaquin County	$1,750,000			
SJ22-5033			RTD	Facilitiates Improvement and Update	Cost associated with capital improvement and upgrade at RTD's admin and maintenace facilities	San Joaquin County	$2,000,000			
SJ22-5034			RTD	Facilitiates Improvement and Update	Projection for the next 5 year rehabilitation/renovations at RTD's admin and maintenance facilities	San Joaquin County	$17,044,525			
SJ22-5035			RTD	Support Vehicles - Acquistion / Rehab / Renovation	To purchase, refurb and rehab support vehicles for RTD's admin/maintenace	San Joaquin County	$1,500,000			
SJ22-5036			RTD	Future Operations	Future Operations	San Joaquin County	$1,094,697,688			
SJ22-5037			RTD	Future Capital	Future Capital	San Joaquin County	$1,094,697,688			
SJ07-5049			Tracy	TRACER Capital	Purchase replacement buses	Purchase 3 buses every 5 year period	$8,516,220	2007		
SJ07-5055	212-0000-0149		Tracy	TRACER Operations	Costs associated with the delivery of fixed route and paratransit services including salaries, contracting of service, equipments, etc.	City of Tracy	$136,937,007			
SJ22-5038			Tracy	Maintenance Facility	Build a maintenance, storage, and fueling facility	City of Tracy	$5,000,000			
SJ07-5056			Tracy	Tracy Transit Planning	Costs to support transit planning efforts to update the City of Tracy Short-Range Transit Analysis and Action Plan every five years	City of Tracy	$1,064,528			
SJ18-5022			Tracy	TRACER Grant Management and Administration	Costs to support transit service administration and Grant Management	City of Tracy	$45,100,483			
SJ18-5023			Tracy	TRACER Capital	Construction of bus stop improvements every five years	Various locations in City of Tracy	$10,645,275			
							$3,247,248,040			

Table 6-6: 2022 Regional Transportation Plan Project List - Rail Corridor Improvements Category

Identifiers			Project Information				Cost to Deliver	Milestone Years		
2022 RTP MPO ID	CTIPS ID #	PPNO	Jurisdiction	Facility Name/Route	Project Description	Project Limits	Total	FTIP Programming	NEPA Approval	Completion Date
SJ07-6001	112-0000-0139		Caltrans	Caltrans Intercity Rail	Construct double main track, panelized turnouts, relocate/renew siding turnout, and realign existing trackage.	San Joaquin County between Escalon and Stockton	$32,777,029			
SJ11-6001	112-0000-0446		Caltrans	Stockton Diamond Grade Separation	In Stockton, Construct track connections and grade separate the BNSF Stockton Subdivision and UPRR Fresno Subdivision diamond crossing	Intersection of the BNSF and UP railroads.	$230,544,491		2021	2026
SJ07-6003	212-0000-0281/ 212-0000-0645		SJRRC	ACE Capital	Purchase rail cars for ACE service expansion	ACE Capital	$9,244,803			
SJ07-6004	212-0000-0190		SJRRC	ACE Capital	SJRRC shared costs for the overall maintenance of vehicles	ACE Capital	$7,946,328			2030
SJ07-6009			SJRRC	ACE Capital	Realignment of tracking	Near Altamont Pass	$9,454,912			
SJ07-6013	112-0000-0140		SJRRC	ACE Capital	Restoration of abandoned Western Pacific Depot building	Downtown Stockton, between Weber Ave and Miner Ave	$7,353,821	2007		
SJ07-6015	212-0000-0306		SJRRC	Stockton Track Extension Phases II & III (ACE Gap Closure Project)	Allow SJRCC to operate on separate tracks from Union Pacific Railroad between maintenance yard and the station siding.	Between the Stockton ACE Station and the ACE Equipment Maintenance Facility	$19,960,370			
SJ07-6016			SJRRC	ACE Service Extensions	Enhance/extend rail to benefit residents; integrate ACE with the State intercity rail service; extend ACE service	San Joaquin County and San Joaquin Valley; Sacramento, Modesto, and San Francisco	$8,995,824			2030
SJ07-6017			SJRRC	ACE Forward	Acquisition of ACE Corridor between Stockton and Niles Junction	Between Stockton and Niles Junction	$47,274,561			
SJ07-6018			SJRRC	Phase II Implementation Plan for the Central Valley Rail Service	Commuter rail service	Central Valley to Sacramento	$1,050,546			
SJ07-6019			SJRRC	Operations	Shuttle Services in San Joaquin County stations	San Joaquin County	$1,179,763			2030
SJ07-6020			SJRRC	Capital	Maintenance Facility Expansion from 9 train sets to 17 train sets Phase 2	City of Stockton	$16,382,591			2022
SJ07-6021			SJRRC	ACE Operations	ACE operations and Capital Access Fee (5 trains from 2012 to 2016, 6 trains from 2017 to 2021, 7 trains from 2022 to 2029 and 8 trains from 2030 to 2041)	SJRRC/Santa Clara/Alameda contributions shown	$536,397,757			2030
SJ07-6023			SJRRC	Rail Information Systems	Rail Information Systems (Ticket vending machines, on-train internet, changeable message signs at stations, trip planner via internet, real time system for train status for ACE and other connecting services)	ACE Operational Corridor and Station Planning Areas	$14,077,314			
SJ07-6025			SJRRC	Central Valley Rail Service	Central Valley Rail Service Operations and Maintenance, Capital Access Fees, ROW purchase)	Central Valley to Sacramento	$89,296,393			
SJ07-6028			SJRRC	ACE Capital	Rolling Stock/Track Improvements/ Station Improvements	ACE Operational Corridor and Station Planning Areas	$33,617,465			2030
SJ07-6029			SJRRC	ACE Capital	Central Valley to Sacramento Commuter Rail Project - Extension of services	Central Valley to Sacramento	$56,729,473			
SJ07-6035			SJRRC	ACE Capital	Altamont Corridor Speed and Safety upgrades (including signal upgrade to automatic train stop increase train speed from 79 to 90 MPH and several track realighment projects)	ACE Operational Corridor and Station Planning Areas	$31,516,374			
SJ14-6005			SJRRC	Minor Capital	Facilities and information technology maintenance and enhancements, fleet vehicle replacements and expansion	ACE Operational Corridor and Station Planning Areas	$9,318,341			2030
SJ14-6001			SJRRC	ACEforward: Capital Phase 1	Extension of Wyche Siding	Lathrop/Manteca: MP 82.7 to MP 80.4, 8,500' clear of McKinley Ave	$8,673,136			2022
SJ14-6002			SJRRC	ACEforward: Capital Phase 1	Connection from UPRR Fresno Sub to UPRR Oakland Sub	Lathrop, Ca: Oakland Sub MP 84.25 to Fresno Sub MP 94.1	$7,563,449			2022
SJ14-6003			SJRRC	ACEforward: Capital Phase 2	Grade crossing improvements/grade seperations	High priority locations between Stockton and San Jose. Chrisman Rd MP 72.8, McKinley Ave MP 82.1	$14,455,227			2022
SJ14-6006			SJRRC	Robert J. Cabral Station Expansion	Construct park and ride lot and related on-street parking, sidewalks, lighting, security, and other passenger amenity improvements	In Stockton, between the UPRR, Weber Avenue, Union Street, and Main Street	$1,263,387			2020

Table 6-6: 2022 Regional Transportation Plan Project List - Rail Corridor Improvements Category

Identifiers: 2022 RTP MPO ID	CTIPS ID #	PPNO	Project Information: Jurisdiction	Facility Name/Route	Project Description	Project Limits	Cost to Deliver: Total	Milestone Years: FTIP Programming	NEPA Approval	Completion Date
SJ18-6001			SJRRC	Lathrop/Manteca Station Platform Extension project	Lengthen platform at current Lathrop/Manteca Station to allow for eight car train capacity	Lathrop/Manteca	$1,725,954			2022
SJ18-6002			SJRRC	Tracy Station Platform Extension project	Lengthen platform at current Tracy Station to allow for eight car train capacity	City of Tracy	$1,725,954			2022
SJ07-6022			SJRRC	Lathrop Transfer Station	Lathrop Transfer Station- Between ACE and Central Valley Service	City of Lathrop	$25,781,914			2022
SJ18-6003			SJRRC	Manteca Station Project - Platform		City of Manteca	$6,490,057			2022
SJ18-6004			SJRRC	Manteca Station Project - Parking		City of Manteca	$2,483,922			2022
SJ18-6005			SJRRC	Ripon Station Project - Platform		City of Ripon	$6,532,619			2022
SJ18-6006			SJRRC	Ripon Station Project - Parking		City of Ripon	$5,706,805			2022
SJ18-6007			SJRRC	2nd Main Ripon to Modesto		Ripon to Modesto	$5,544,633			2022
SJ18-6008			SJRRC	Rolling stock associated with SB 132		Ripon to Lathrop	$68,847,356			2026
SJ18-6010			Tri-Valley / SJV	Altamont Pass Corridor	Environmental document for transit connectivity	Between BART and ACE in Tri-Valley	$6,745,773			2022
SJ18-6011			Tri-Valley / SJV	Altamont Pass Corridor	Improve the Union Pacific Railroad right-of-way from the San Joaquin County Line for a passenger rail service. Construction of a station and platform to accommodate the new passenger rail service with parking and access onto Patterson Pass Road. Construction of an operations and maintenance facility at Hanson Road in Tracy along the alignment.	Between BART and ACE in Tri-Valley	$157,947,449			2025
							$1,484,605,791			

Table 6-7: 2022 Regional Transportation Plan Project List - Public Airport-Aviation Projects Category

Identifiers: 2022 RTP MPO ID	Project Information: Jurisdiction	Facility Name/Route	Project Description	Cost to Deliver: Total	Milestone Years: NEPA Approval	Completion
SJ18-7001	San Joaquin County	Stockton Metro Airport	Extend Taxiway B to Runway 29R end	$6,043,100		2022
SJ18-7002	San Joaquin County	Stockton Metro Airport	Terminal Apron Extension	$4,599,600		2022
SJ18-7003	San Joaquin County	Stockton Metro Airport	Widen Cargo Apron (includes Environmental Assessment)	$9,637,302		2022
SJ18-7004	San Joaquin County	Stockton Metro Airport	Airport Security System Replacement	$1,166,300		2022
SJ18-7005	San Joaquin County	Stockton Metro Airport	Taxiway B & Taxiway F Realignment	$10,284,300		2022
SJ18-7006	San Joaquin County	Stockton Metro Airport	Terminal Modernization and Expansion - Phase 1	$10,000,000		2022
SJ18-7007	San Joaquin County	Stockton Metro Airport	Runway 11L-29R & Runway 11R-29L Rehabilitation (Crack & Slurry Seal)	$956,100		2022
SJ18-7008	San Joaquin County	Stockton Metro Airport	Pavement Reconstruction / Rehabilitation - Various Taxiways - Phase 1	$105,933		2022
SJ18-7009	San Joaquin County	Stockton Metro Airport	Pavement Reconstruction / Rehabilitation - Various Aprons - Phase 1	$6,548,667		2022
SJ18-7010	San Joaquin County	Stockton Metro Airport	Terminal Modernization and Expansion - Phase 2	$10,000,000		2022
SJ18-7011	San Joaquin County	Stockton Metro Airport	Pavement Reconstruction / Rehabilitation - Various Taxiways - Phase 2	$105,933		2022
SJ18-7012	San Joaquin County	Stockton Metro Airport	Pavement Reconstruction / Rehabilitation - Various Aprons - Phase 2	$6,548,667		2023
SJ18-7013	San Joaquin County	Stockton Metro Airport	Taxiway M & L Decommissioning & Taxiway Nomenclature	$138,700		2023
SJ18-7014	San Joaquin County	Stockton Metro Airport	Pavement Reconstruction / Rehabilitation - Various Taxiways - Phase 3	$105,933		2024
SJ18-7015	San Joaquin County	Stockton Metro Airport	Pavement Reconstruction / Rehabilitation - Various Aprons - Phase 3	$6,548,667		2024
SJ18-7016	San Joaquin County	Stockton Metro Airport	Taxiway B East (partial) & West Reconstruction	$16,823,000		2025

Table 6-7: 2022 Regional Transportation Plan Project List - Public Airport-Aviation Projects Category

Identifiers		Project Information				Cost to Deliver		Milestone Years	
	2022 RTP MPO ID		Jurisdiction	Facility Name/Route	Project Description		Total	NEPA Approval	Completion
	SJ18-7017		San Joaquin County	Stockton Metro Airport	Runway 11R-29L Rehabilitation (Crack & Slurry Seal)		$241,400		2026
	SJ18-7018		San Joaquin County	Stockton Metro Airport	Taxiway D Extension - Phase 1 Environmental & Design		$643,400		2027
	SJ18-7019		San Joaquin County	Stockton Metro Airport	Taxiway D Extension - Phase 2 Construction		$6,726,900		2028
	SJ14-7019		Tracy	Tracy Municipal Airport	Install Helicopter Pad		$126,000		2023
	SJ14-7020		Tracy	Tracy Municipal Airport	Aircraft Wash Facility		$98,000		2023
	SJ14-7021		Tracy	Tracy Municipal Airport	Perimeter Fencing (1,100LF)		$44,000		2023
	SJ14-7022		Tracy	Tracy Municipal Airport	Build Permanent Public Restrooms		$220,500		2023
	SJ14-7023		Tracy	Tracy Municipal Airport	FBO Office - Repair FBO Building		$1,016,946		2023
	SJ14-7024		Tracy	Tracy Municipal Airport	Land Acquisition Identified in Airport Master Plan, Canal Ar		$21,848,504		2023
							$120,577,852		

Table 6-8: 2022 Regional Transportation Plan Project List - Active Transportation and Community Enhancement Projects Category

Identifiers: 2022 RTP MPO ID	CTIPS ID #	Project Information: Jurisdiction	Facility Name/Route	Project Description	Project Limits	Cost to Deliver: Total	Milestone Years: FTIP Programming	NEPA Approval	Completion
SJ22-8001		Lathrop	Various	Lathrop Active Transportation Plan	City limits	$190,000			2024
SJ22-8002		SJ County	Country Club Blvd	Country Club Blvd Complete Streets Corridor Plan	Country Club Blvd	$242,400			2024
SJ22-8003		Stockton	Various	Greater Downtown Bike and Ped Connectivity Project	Downtown Stockton	$1,798,560			2024
SJ22-8004		Stockton	Various	Downtown East-West Connection	Downtown Stockton	$1,799,460			2024
SJ22-8005		Ripon	Various	Ripon Safe Routes to School Improvements	City limits	$1,314,859			2024
SJ22-8006		SJ County	Main St	Road Diet/Buffered Bike Lanes	Main St / Henry Elementary School	$253,000			2024
SJ22-8007		Lathrop	Various	Class II Bikeway to ACE Station	Downtown	$1,001,000			2024
SJ22-8008		Escalon	Main Street	Bike and Pedestrian Improvements	Main Street in Escalon	$1,998,760			2024
SJ22-0809		Tracy	Holly Drive	Pedestrian and Bikeway Improvements	Holly Drive through Tracy	$1,632,000			2024
SJ22-8010		Lodi	Garfield Street	Safe Route to School Project	Garfield Street through Lodi	$705,000			2024
SJ22-8011		SJRRC	East Channel Street	Streetscape and Connectivity Project	East Channel Street, between RTD Downtown Station and Cabral ACE Station	$4,515,058			2024
SJ22-8012		Stockton	Various	Safe Routes to School Safety and Connectivity Improvements	City limits	$1,495,393			2024
SJ22-8013		Stockton	California Street	Separated Bikeway Project Phase 2	California Street	$2,000,000			2024
SJ22-8014		Manteca	Various	Manteca Safe Routes to School - Pedestrian Safety Improvements	City limits	$1,500,000			2024
SJ07-8021		Various	Miscellaneous regional bicycle, pedestrian, and safe routes to school facilities and programs	Specific projects are listed in the 2012 Regional Bicycle, Pedestrian, Safe Routes to School Master Plan and local agency bike plans subject to updates and competitive project selection.	Various locations throughout San Joaquin County	$242,421,823			
SJ14-8001		Various	Miscellaneous regional community enhancement projects	Specific streetscape and community enhancement projects are subject to competitive project selection.	Various locations throughout San Joaquin County	$121,210,911			
					TOTAL	**$384,078,224**			

Table 6-9: 2022 Regional Transportation Plan Project List - Transportation Control Measure Category

Identifiers	Project Information			Cost to Deliver	Milestone Years
2022 RTP MPO ID	Jurisdiction	Project Name	Project Description	Total	Completion
SJ14-9001	Lathrop	Golden Valley Parkway & Lathrop Road Intersection Improvements	Install traffic signal and interconnect four signals	See Operations and Maintenance Project List	
SJ14-8018	Lodi	Citywide Bicycle Facilities Detection Improvement Project	Install video detection of bicyclists at and green painted bicycle lanes at signalized intersections	See Active Transportation and Community Enhancement Project List	
SJ14-9002	Ripon	Colony/Hoff Traffic Signal Project	Install traffic signal	See Operations and Maintenance Project List	
SJ14-9003	San Joaquin County	SR 26 and Jack Tone Road Roundabout	Install roundabout	See Operations and Maintenance Project List	
SJ14-9004	San Joaquin County	SR 4 and Jack Tone Road Roundabout	Install roundabout	See Operations and Maintenance Project List	
SJ14-6006	SJRRC	Robert J. Cabral Station Expansion	Construct park and ride lot	See Rail Corridor Improvements Project List	
SJ22-5003	SJRTD	RTD Solar Power Project	Construct solar power facilities to charge battery electric buses	See Bus Transit Improvements Project List	
SJ14-8001	Stockton	Miner Avenue Complete Street	Install complete street improvements on Miner Avenue	See Active Transportation and Community Enhancement Project List	
SJ14-8015	Stockton	March Lane/EBMUD Bicycle and Pedestrian Path Connectivity Improvements	Reconstruct, widen, and improve existing pathway to Class I Bicycle and Pedestrian Path standards. Install intersection and midblock improvements, high visibility crosswalks, striping, gap closures, upgrade of ADA ramps, flashing beacons, and wayfinding signage	See Active Transportation and Community Enhancement Project List	
SJ14-8016	Stockton	Closing Gaps to Schools	Construct curb, gutter, and sidewalk to close sidewalk gaps along routes to schools. Install or upgrade curb ramps for ADA compliance. Upgrade draingage, crosswalks, and school approach signage as needed	See Active Transportation and Community Enhancement Project List	
SJ14-8017	Stockton	Bear Creek and Pixley Slough Bicycle and Pedestrian Path	Install new bicycle facilities and upgrade various existing bicycle facilities.	See Active Transportation and Community Enhancement Project List	
SJ14-9005	Stockton	Real-time Traffic Flow Monitoring	Implement real-time traffic flow monotiring using Bluetooth/Wifi vehicle probe technology	See Operations and Maintenance Project List	
SJ14-9006	Stockton	Pacific Avenue and March Lane Intersection Modification	Install southbound right turn lane and retime traffic signal	See Operations and Maintenance Project List	
SJ14-9007	Stockton	Left-Turn Lanes Additions at Various Intersections	Install left turn lanes	See Operations and Maintenance Project List	
SJ14-9008	Stockton	Tam O'Shanter Drive and Knickerbocker Drive Roundabout and Bicycle Lane	Install roundabout and Class II Bicycle Lanes	See Operations and Maintenance Project List	
SJ14-9009	Stockton	Montauban Ave and Hammertown Drive Roundabout and Bicycle Lane	Install roundabout and Class II Bicycle Lanes	See Operations and Maintenance Project List	
SJ14-9010	Stockton	Lincoln Street and Eighth Street Roundabout and Bicycle Lane	Install roundabout and Class II Bicycle Lanes	See Operations and Maintenance Project List	
SJ14-8020	Tracy	Lowell Avenue Sidewalk Construction Project	Construct 1,200 feet of sidewalk and one ADA curb ramp	See Active Transportation and Community Enhancement Project List	
SJ11-CM26	Tracy	Corral Hollow Road and Valpico Road Traffic Signal	Install traffic fignal	See Operations and Maintenance Project List	

Table 6-9: 2022 Regional Transportation Plan Project List - Transportation Control Measure Category

Identifiers	Project Information			Cost to Deliver	Milestone Years
2022 RTP MPO ID	**Jurisdiction**	**Project Name**	**Project Description**	**Total**	**Completion**
SJ11-CM18	Tracy	Corral Hollow Road Adaptive Traffic Control	Install adaptive traffic control system	See Operations and Maintenance Project List	
SJ07-9001	Various	Ridesharing and Vanpool Programs	Trip Reduction Coordination, Guaranteed Ride Home, Vanpool Enhancement, Match lists, TDM marketing, etc.	See Operations and Maintenance Project List	
SJ07-9002	Various	Park and Ride Lots	Various Locations	See Operations and Maintenance Project List	
SJ07-9003	Various	Traffic Flow Improvements and Systems Managements	Signal System Improvements, Operational and Intersection Improvements to Smooth Traffic Flow, Closed Circuit TV, Freeway Service Patrols	See Operations and Maintenance Project List	
				$0	

Table 6-10: 2022 Regional Transportation Plan Project List - Operations and Maintenance Category

Identifiers: 2022 RTP MPO ID	CTIPS ID #	PPNO	Project Information: Jurisdiction	Facility Name/Route	Project Description	Project Limits	Cost to Deliver: Total	Milestone Years: FTIP Programming	NEPA Approval	Open to Traffic
SJ07-1019	212-0000-0313		Caltrans	Various locations	SHOPP - Collision Reduction Grouped Projects	Various	$300,000,000	various	various	
SJ07-1020	212-0000-0314		Caltrans	Various locations	SHOPP - Mobility Grouped Projects	Various	$100,000,000	various	various	2042
SJ07-1021	212-0000-0315		Caltrans	Various locations	SHOPP Roadway Preservation Grouped Projects	Various	$200,000,000	various	various	2042
SJ07-1022	212-0000-0392		Caltrans	Various locations	SHOPP-Other (Emergency Response, Mandates, Bridge Preservation, Roadside Preservation Etc.)	Various	$140,000,000	various	various	2042
SJ07-3002	212-0000-0272		Caltrans	Various locations	Caltrans Highway Bridge Program Lump Sum projects (Safety)	Various	$120,000,000	various	various	2042
SJ18-3017			Caltrans	I-5 Stockton Channel Viaduct	Replace Br. No. 26-0176 R/L	In Stockton on I-5 at Br. No. 26-0176 R/L	$600,000,000		2021	2028
SJ07-3003	various		Caltrans	Various locations	Caltrans Highway Bridge Program Line Item projects (Safety)	Various	$200,000,000	various	various	2042
SJ07-3004	212-0000-0307		Caltrans	Various locations	Lump sum for Emergency Repair Program (Safety)	Various	$3,750,000	various	various	2042
SJ07-3005	212-0000-0353/ 212-0000-0567		Caltrans	Various locations	Caltrans Minor Program (Safety)	Various	$12,115,575	various	various	2042
SJ18-3070			Caltrans	SR-120 TMS Upgrade/Repairs	Upgrade existing communication infrastructure between field elements and District 10 TMC	On Route 5, 120, and 99 at various locations in San Joaquin County	$6,970,000			2022
SJ18-3071			Caltrans	SR 120	Contingency Project: Install Ramp Meters	In San Joaquin County on State Route 120	$22,740,000			2023
SJ18-3072			Caltrans	Various routes Phase 1	Repair, update, and install ITS elements, including installation of MVPs, and filling in the gaps	In San Joaquin County on Various Routes	$5,500,000			2024
SJ18-3073			Caltrans	Various routes Phase 2	Repair, update, and install ITS elements, including installation of MVPs, and filling in the gaps	In San Joaquin County on Various Routes	$4,250,000			2025
SJ18-3074			Caltrans	SR 4 various locations	Installing ramp meters	SR-4 Ramp metering system Installation	$56,503,000			2024
SJ18-3075			Caltrans	I- 5 various locations I 205 to Mathews Rd	Install ramp meters and ITS elements	In San Joaquin County on I-5 from I-205 to Mathew Road	$32,175,000			2026
SJ18-3076			Caltrans	I-5 various locations from Mathews to Dr. Martin Luther King Jr. Blvd	Install ramp meters and ITS elements	In San Joaquin County on I-5 from Mathew Road to Dr. Martin Luther King Jr. Blvd	$29,250,000			2027
SJ18-3077			Caltrans	I-5 various locations from Dr. Martin Luther King Jr. Blvd to Calaveras River	Install ramp meters and ITS elements	In San Joaquin County on I-5 from Dr. Martin Luther King Jr. Blvd. to Calaveras River	$23,400,000			2030
SJ18-3078			Caltrans	I-5 various locations from Calaveras River to Eight Mile Rd.	Install ramp meters and ITS elements	In San Joaquin County on I-5 from Calaveras River to Eight Mile Road	$37,050,000			2030
SJ18-3079			Caltrans	SR 99 various locations from Hammer Lane to Armstong Rd	Install ramp meters and ITS elements	In San Joaquin County on SR-99 from Hammer Lane Road to Armstrong Road	$21,450,000			2029
SJ18-3080			Caltrans	SR 99 various locations from Armstong to	Install ramp meters and ITS elements	In San Joaquin County on SR-99 from Armstrong Road to River North of Turner Road	$33,150,000			2030
SJ18-3081			Caltrans	SR 99 various locations	Install ramp meters and ITS elements	In San Joaquin County on SR-99 from River North of Turner Road to North of Acampo Road	$23,400,000			2031
SJ11-3046	212-0000-0001		Escalon	Various Street Rehabilitation	Rehabilitation of various streets and roads	City streets, various locations	$17,859,989	various		2042
SJ11-3047	212-0000-0001		Lathrop	Various Street Rehabilitation	Rehabilitation of various streets and roads	City streets, various locations	$42,102,282	various		2042
SJ11-3048	212-0000-0001		Lodi	Various Street Rehabilitation	Rehabilitation of various streets and roads	City streets, various locations	$154,675,759	various		2042
SJ11-3049	212-0000-0001		Manteca	Various Street Rehabilitation	Rehabilitation of various streets and roads	City streets, various locations	$123,977,617	various		2042

Table 6-10: 2022 Regional Transportation Plan Project List - Operations and Maintenance Category

Identifiers			Project Information				Cost to Deliver	Milestone Years		
2022 RTP MPO ID	CTIPS ID #	PPNO	Jurisdiction	Facility Name/Route	Project Description	Project Limits	Total	FTIP Programming	NEPA Approval	Open to Traffic
SJ18-3001			Port of Stockton	Rough & Ready Island Rail Bridge	Construct new rail bridge (double-track) to replace existing deficient structure	City of Stockton	$18,000,000			2040
SJ11-3050	212-0000-0001		Ripon	Various Street Rehabilitation	Rehabilitation of various streets and roads	City streets, various locations	$36,215,227	various		2042
SJ11-3051	212-0000-0001		San Joaquin County	Various Roadway Rehabilitation	Rehabilitation to include: driveways, wheelchair ramps, median islands, pedestrian improvements, and class II bicycle lanes.	Rehabilitate roadway and surrounding streets	$1,123,060,104	various		2042
SJ11-3042	212-0000-0001		SJCOG	Regional Surface Transportation Program (STP) Lump Sum Projects	Various state highway and transit capital projects	San Joaquin County	$3,038,998	various		2042
SJ11-3043	212-0000-0001		Stockton	Regional Surface Transportation Program (STP) Lump Sum Projects	Rehabilitation to include: driveways, wheelchair ramps, median islands, pedestrian improvements, and class II bicycle lanes.	City streets, various locations	$6,369,495	various		2042
SJ11-3044	212-0000-0001		Stockton	Regional Surface Transportation Program (STP) Lump Sum Projects	Operations and Maintence	City streets, various locations	$2,073,367	various		2042
SJ11-3052	212-0000-0001		Stockton	Various Street Rehabilitation	Rehabilitation of various streets and roads	City streets, various locations	$708,749,034	various		2042
SJ11-CM16	212-0000-0589		Stockton	March Lane Adaptive Traffic Control	Install adaptive traffic control system along March Lane between Feather River drive and Montauban Ave to improve safety and traffic operations	City of Stockton	$1,322,000	2018		2022
SJ11-CM21	212-0000-0601		Stockton	Miner Ave and Filbert St. Signal	Install new traffic signal at the Miner Ave and Filbert St. intersection including EVP, ADA ramps, signs and striping	City of Stockton	$686,000	2018		2022
SJ11-CM24	212-0000-0604		Stockton	Swain Rd. and Montauban Roundabout Installation	Construct roundabout at Swain Road and Montauban Ave. including PTZ cameras, ADA ramp, signs, striping, and street lights	City of Stockton	$837,000	2018		2022
SJ14-CM05	212-0000-0632		Stockton	Thorton Rd at Hammer Ln. and Lower Sac Left Turn Lanes	Add SBL on Thorton(at Hammer), add WBL on Lower Sac(Thorton/Pacific). Retime both signals, as well as adjacent signal (Hammer/Lower Sac). EVP at Pacific/Lower Sac to be upgrade.	City of Stockton	$918,000	2018		2022
SJ14-CM08	212-0000-0635		Stockton	Tam O'Shanter Drive and Castle Oaks Drive Roundabout	Install roundabout at intersection of Tam OShanter Drive and Castle Oaks Drive	City of Stockton	$603,000	2018		2022
SJ14-CM10	212-0000-0641		Stockton	BRT Phase V	Costs associated with installation of signal prioritization equipment for BRT Phase 5 operations on Weber Ave, Miner Ave, Wison Way, Fremont St., Filbert St and Main St.	Stockton Metropolitan Area	$2,099,000	2018		2022
SJ14-CM15	212-0000-0642		Stockton	West Lane Traffic Responsiveness Signal Control System	Install new traffic responsiveness signal control system on West Lane between Harding Way and Enterprise Street.	City of Stockton	$754,000	2018		2022
SJ14-CM16	212-0000-0643		Stockton	BRT Phase 1-B	Costs associated with installation of signal prioritization equipment for BRT operations on Pacific Avenue and Madison Street. Replace signalized intersection at Miner Avenue and San Joaquin Street with a roundabout	Stockton Metropolitan Area	$1,599,000	2018		2022
SJ11-CM26	212-0000-0606		Tracy	Corral Hollow Road and Valpico Road Traffic Signal	Intersection Signalization	Corral Hollow Road and Valpico Road	$751,000	2011		2023

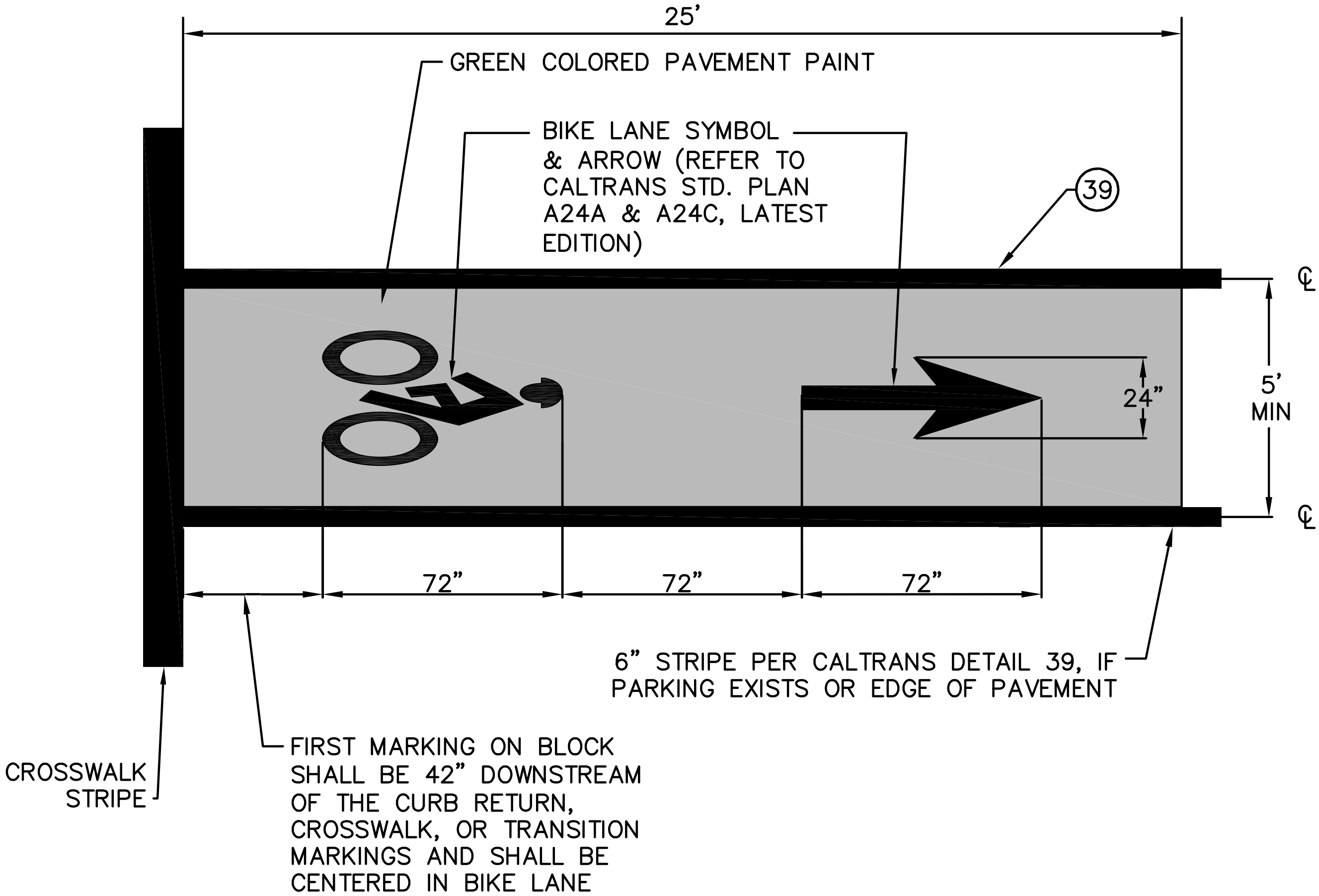
Table 6-10: 2022 Regional Transportation Plan Project List - Operations and Maintenance Category

Identifiers: 2022 RTP MPO ID	CTIPS ID #	PPNO	Project Information: Jurisdiction	Facility Name/Route	Project Description	Project Limits	Cost to Deliver: Total	Milestone Years: FTIP Programming	NEPA Approval	Open to Traffic
SJ11-3053	212-0000-0001		Tracy	Various Street Rehabilitation	Rehabilitation of various streets and roads	City streets, various locations	$197,236,934	various		2042
SJ11-CM18	212-0000-0616		Tracy	Corral Hollow Road Adaptive Trafic Signal	Traffic Signal Coordination	West Valley Mall to Schulte Road	$1,121,625	2011		2023
SJ07-9001	112-0000-0025		Various	Ridesharing and Vanpool Programs	Trip Reduction Coordination, Guaranteed Ride Home, Vanpool Enhancement, Match lists, TDM marketing, etc.	San Joaquin County	$18,000,000	various		2042
SJ07-9002			Various	Park and Ride Lots	Various Locations	San Joaquin County	$2,000,000	various		2042
SJ07-9003			Various	Traffic Flow Improvements and Systems Managements	Signal System Improvements, Operational and Intersection Improvements to Smooth Traffic Flow, Closed Circuit TV, Freeway Service Patrols	San Joaquin County	$5,000,000	various		2042
							$4,440,753,006			

APPENDIX B1 & B2

B1: CITY OF TRACY BIKEWAY, BIKE PARKING STANDARDS

B2: PUBLIC OUTREACH AND SURVEY RESULTS

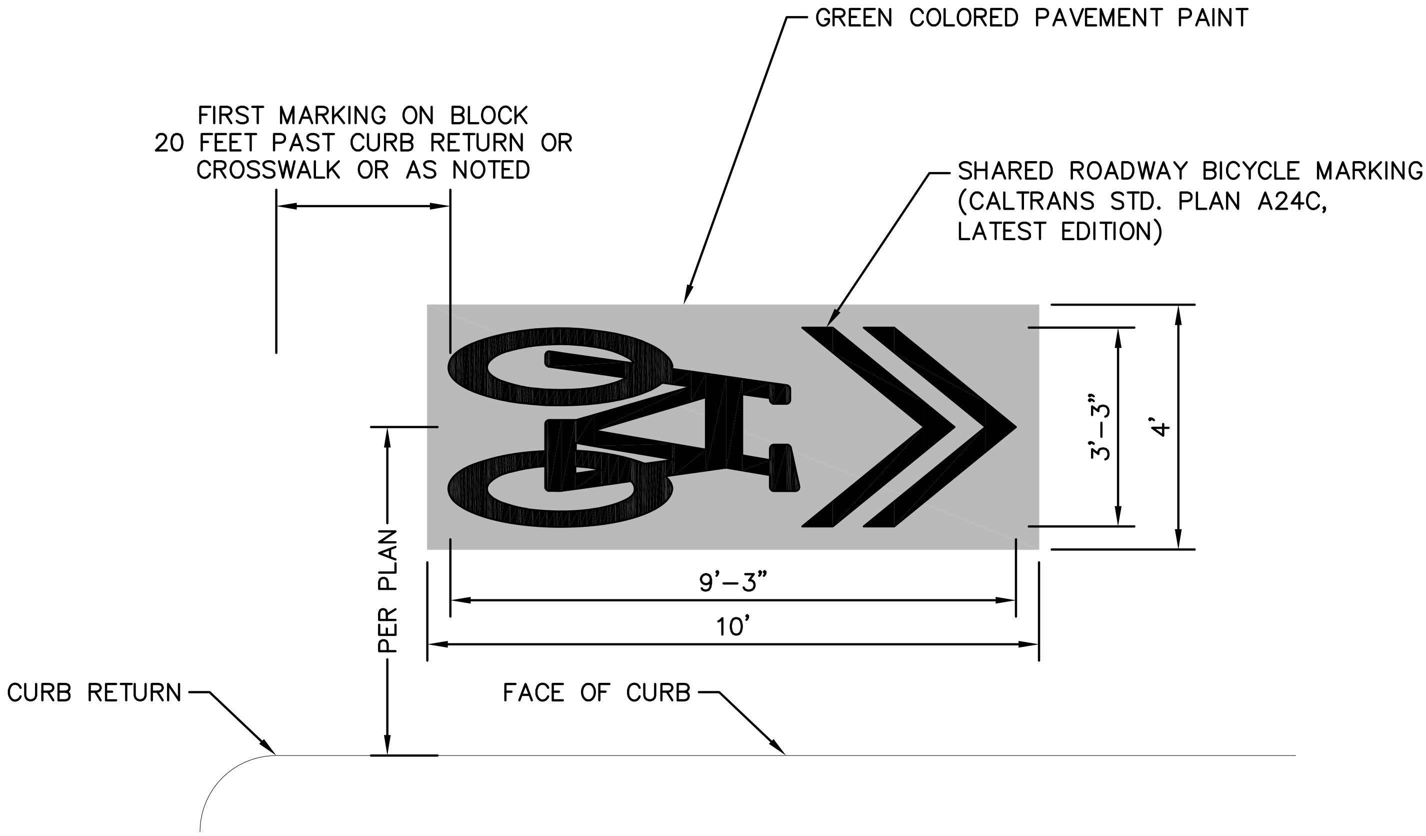


NOTES

1. KEYNOTES REFERENCE DETAILS ON CALTRANS STD. PLAN A20D, LATEST EDITION.
2. LONGITUDINAL SPACING MEASURED FROM THE BASE OF EACH MARKING.
3. LOCATE MARKINGS AT 250' MAXIMUM SPACINGS IN EACH BLOCK.
4. ALL GREEN PAVEMENT PAINT TO BE CYCLE GRIP MMAX GREEN MMA OR APPROVED EQUAL.

CITY OF TRACY

TRACY Think Inside the Triangle™	REVIEWED BY: Robert Armijo CITY ENGINEER RCE 63173		STANDARD PLAN NO. 147 SHEET 1 OF 14
	Res No. 2020–031	DATE: February 18, 2020	**CLASS II BICYCLE LANE MARKING DETAIL**
	Prepared By: Leisser M.	Checked By: Thomas W.	
	Rev: Edgar T.	Rev:	

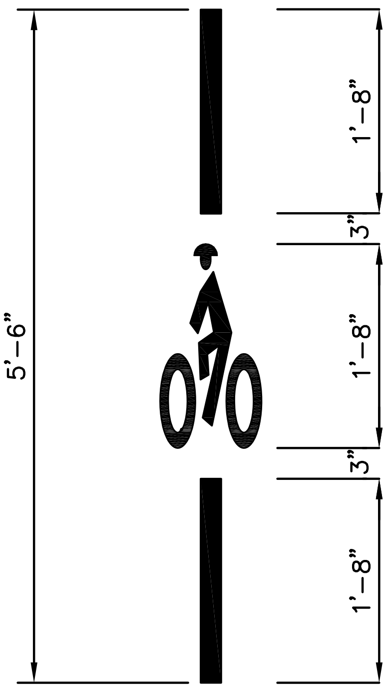


NOTES

1. LEAVE AT LEAST 10' SPACING FROM WORD LEGENDS, LANE ASSIGNMENT ARROWS, OTHER MARKINGS, AND SPEED HUMPS IN THE SAME LANE OF TRAVEL.
2. DISTANCE BETWEEN SHARROWS IS MEASURED FROM BASE OF MARKING TO BASE OF MARKING.
3. PLACE A MINIMUM OF TWO SHARROW MARKINGS ON EACH BLOCK.
4. SHARED LANE MARKINGS USED TO BRIDGE DISCONTINUOUS BICYCLE FACILITIES OR ALONG BUSIER STREETS SHOULD BE PLACED MORE FREQUENTLY (50' TO 100' SPACINGS) THAN ALONG LOW TRAFFIC BICYCLE ROUTES (UP TO 250' SPACINGS).
5. ALL GREEN PAVEMENT PAINT TO BE CYCLE GRIP MMAX GREEN MMA OR APPROVED EQUAL.

CITY OF TRACY

TRACY Think Inside the Triangle ™	REVIEWED BY: Robert Armijo CITY ENGINEER RCE 63173		STANDARD PLAN NO. 147 SHEET 2 OF 14
	Res No. 2020–031	DATE: February 18, 2020	SHARED ROADWAY BICYCLE MARKING
	Prepared By: Leisser M.	Checked By: Thomas W.	
	Rev: Edgar T.	Rev:	



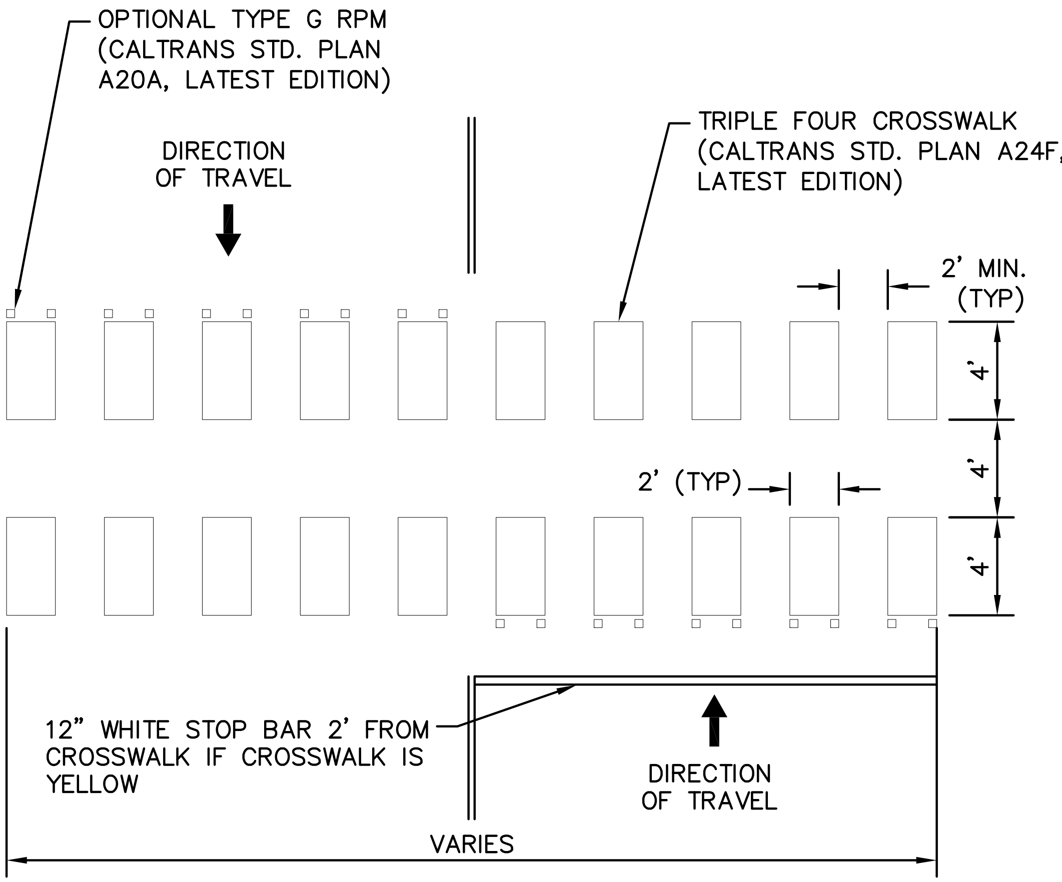
BICYCLE LOOP DETECTOR SYMBOL
(REFER TO CALTRANS STD. PLAN
A24C, LATEST EDITION)

NOTES

1. THE BICYCLE DETECTOR PAVEMENT MARKING (SYMBOL) SHALL BE USED AT ALL ACTUATED TRAFFIC SIGNAL APPROACHES THAT ARE CAPABLE OF DETECTING BICYCLES.
2. A SYMBOL SHALL BE INSTALLED IN THE RIGHT–MOST LANE SERVING THE BICYCLIST'S DESTINATION, INCLUDING LEFT TURN LANES, THROUGH LANES, AND BIKE LANES.
3. THE LEADING EDGE OF THE SYMBOL SHALL BE INSTALLED ONE FOOT BEHIND THE LIMIT LINE (OR CROSSWALK).
4. CENTER THE SYMBOL IN LANE (ALIGNED WITH THE LANE ASSIGNMENT ARROW).

CITY OF TRACY

TRACY Think Inside the Triangle™	REVIEWED BY: Robert Armijo CITY ENGINEER RCE 63173		STANDARD PLAN NO. 147 SHEET 3 OF 14
	Res No. 2020–031	DATE: February 18, 2020	BICYCLE DETECTOR PAVEMENT MARKING
	Prepared By: Leisser M.	Checked By: Thomas W.	
	Rev: Edgar T.	Rev:	

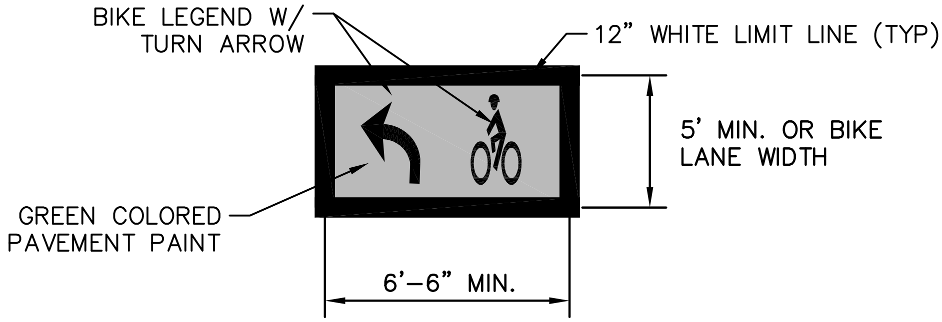


NOTES

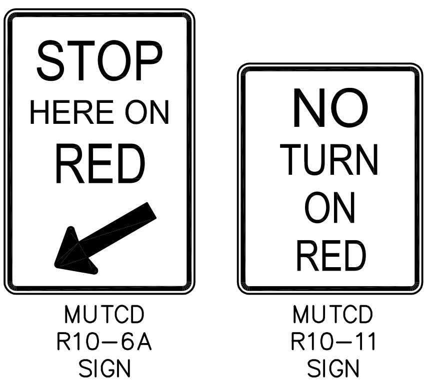
1. SPACES BETWEEN MARKINGS SHALL BE PLACED IN WHEEL TRACKS OF EACH LANE.
2. ALL CROSSWALK MARKINGS SHALL BE WHITE EXCEPT THOSE NEAR SCHOOLS MAY BE YELLOW, REFER TO THE CA MUTCD.
3. TWO RAISED PAVEMENT MARKERS (RPM) SHOULD BE PLACED NEXT TO EACH STRIPE ON THE APPROACH SIDE OF THE CROSSWALK.
4. TRIPLE FOUR CROSSWALK TO BE INSTALLED AS SPECIFIED BY THE ENGINEER.

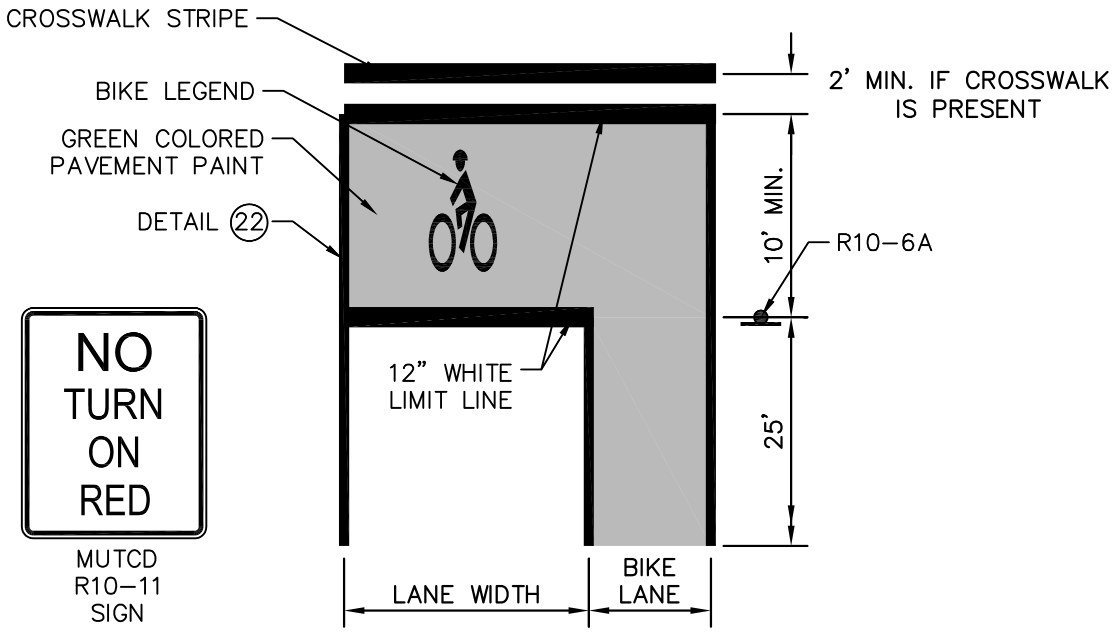
CITY OF TRACY

TRACY Think Inside the Triangle™	REVIEWED BY: Robert Armijo CITY ENGINEER RCE 63173		STANDARD PLAN NO. 147 SHEET 4 OF 14
	Res No. 2020–031	DATE: February 18, 2020	TRIPLE FOUR CROSSWALK
	Prepared By: Leisser M.	Checked By: Thomas W.	
	Rev: Edgar T.	Rev:	



TWO-STAGE LEFT-TURN QUEUE BOX





THROUGH MOVEMENT QUEUE BOX

NOTES

1. "NO RIGHT-TURN ON RED" RESTRICTION SHALL BE IMPLEMENTED WITH THE APPLICATION OF THROUGH MOVEMENT QUEUE BOX WHEN THERE IS NO DEDICATED RIGHT-TURN LANE ADJACENT TO THE CURRENT LANE.
2. FOR BIKE LEGEND AND TURN ARROW, REFER TO CALTRANS STD. PLANS A24B AND A24C, LATEST EDITION.
3. TWO-STAGE LEFT-TURN QUEUE BOX PAVEMENT MARKINGS SHALL BE PLACED CENTERED VERTICALLY AND EVENLY SPACED HORIZONTALLY WITHIN THE BOX.
4. THROUGH MOVEMENT QUEUE BOX PAVEMENT MARKINGS SHALL BE CENTERED VERTICALLY BETWEEN THE TWO LIMIT LINES AND CENTERED HORIZONTALLY ON THE LANE CENTERLINE.
5. KEYNOTES REFERENCE DETAILS ON CALTRANS STD. PLAN A20A AND A20D, LATEST EDITION.
6. MUTCD R10-6A AND R10-11 SIGNS SHALL BE POSITIONED PER CA MUTCD GUIDELINES.
7. ALL GREEN PAVEMENT PAINT TO BE CYCLE GRIP MMAX OR APPROVED EQUAL.
8. BIKE BOX DETAIL SHALL NOT BE IMPLEMENTED WITHOUT PRIOR APPROVAL FROM THE CITY ENGINEER.

CITY OF TRACY

TRACY Think Inside the Triangle™	REVIEWED BY: Robert Armijo CITY ENGINEER RCE 63173		STANDARD PLAN NO. 147 SHEET 5 OF 14
	Res No. 2020-031	DATE: February 18, 2020	BIKE BOX DETAILS
	Prepared By: Leisser M.	Checked By: Thomas W.	
	Rev: Edgar T.	Rev:	

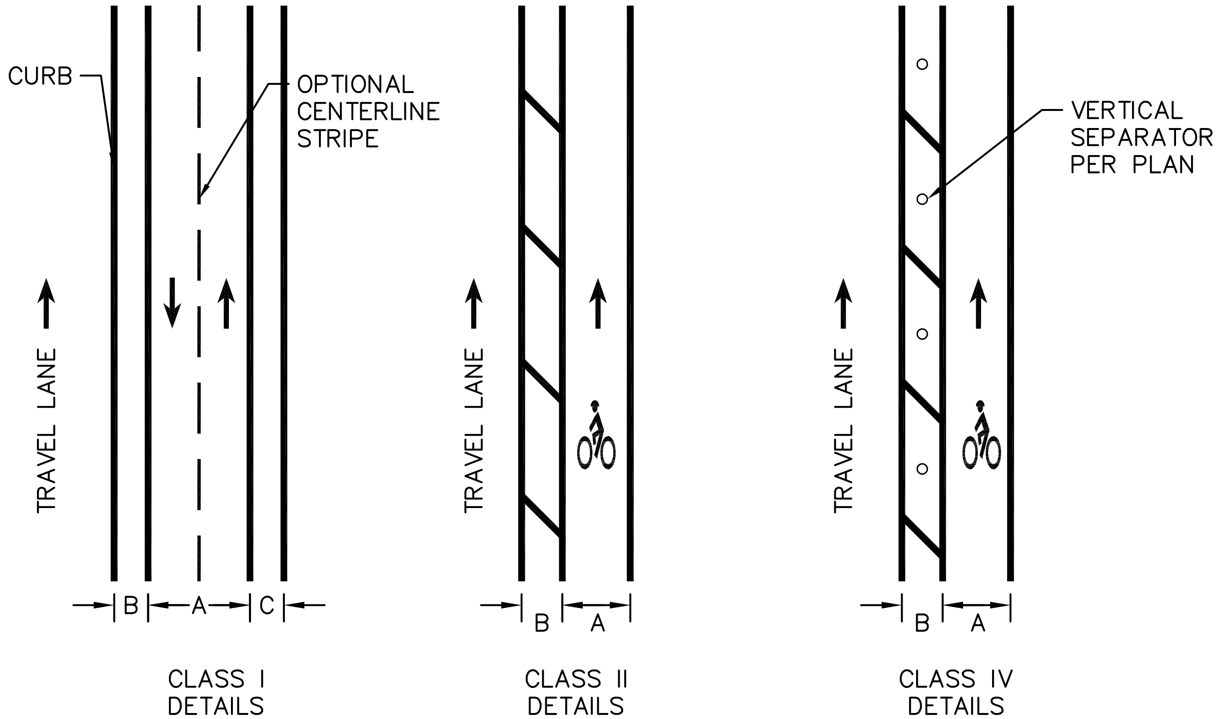


TABLE 1

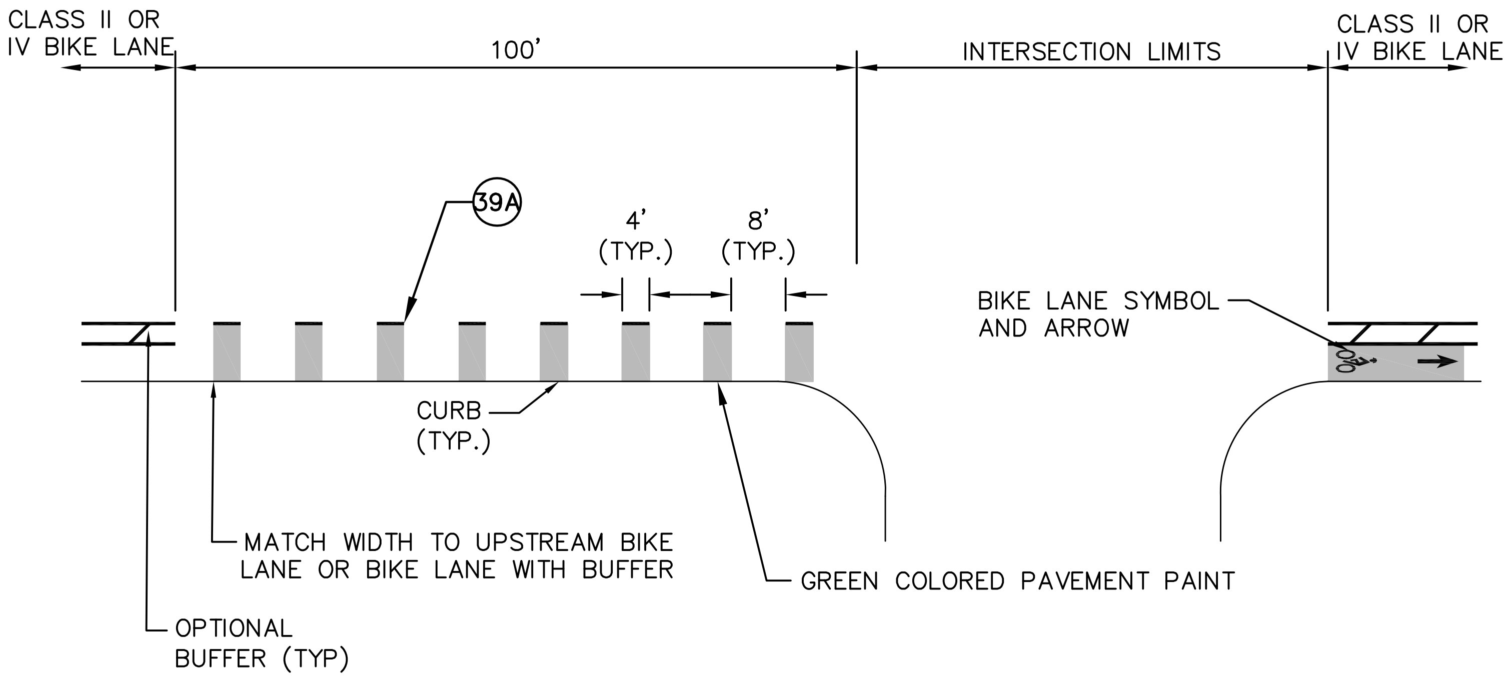
CLASS	WIDTH (A) MINIMUM WIDTH	WIDTH (A) RECOMMENDED WIDTH	TRAVEL LANE BUFFER (B) MINIMUM BUFFER WIDTH	TRAVEL LANE BUFFER (B) RECOMMENDED BUFFER WIDTH	NON TRAVEL LANE BUFFER (C) MINIMUM BUFFER WIDTH	NON TRAVEL LANE BUFFER (C) RECOMMENDED BUFFER WIDTH
I	8'	10'	2'	5'	2'	5'
II	5'	7'	NONE	3'	N/A	N/A
III	N/A	N/A	N/A	N/A	N/A	N/A
IV	5'	7'	2'	3'	N/A	N/A

NOTES

1. SEE TABLE 1 FOR DIMENSIONS.
2. DIAGONAL CROSSHATCH MARKINGS SHALL BE USED IN BUFFERS 2–4 FEET WIDE.
3. NO MARKINGS SHALL BE USED IN BUFFERS LESS THAN 2 FEET.
4. CHEVRONS SHALL BE USED IN BUFFERS GREATER THAN 4 FEET.
5. FOR BIKE LANE SYMBOL AND ARROW SPACING, SEE CITY OF TRACY STD. PLAN NO. 147 SHEET 1 OF 14.
6. CLASS II MINIMUM WIDTH MAY BE REDUCED TO 4 FEET IF NOT ADJACENT TO CURB OR OTHER VERTICAL APPURTENANCES.
7. FOR CLASS IV BIKE LANES ADJACENT TO PARKING A MINIMUM BUFFER WIDTH OF 3 FEET SHALL BE USED.

CITY OF TRACY

TRACY Think Inside the Triangle™	REVIEWED BY: Robert Armijo CITY ENGINEER RCE 63173		STANDARD PLAN NO. 147 SHEET 6 OF 14
	Res No. 2020-031	DATE: February 18, 2020	CLASS I, II, III, IV WIDTHS
	Prepared By: Leisser M.	Checked By: Thomas W.	
	Rev: Edgar T.	Rev:	

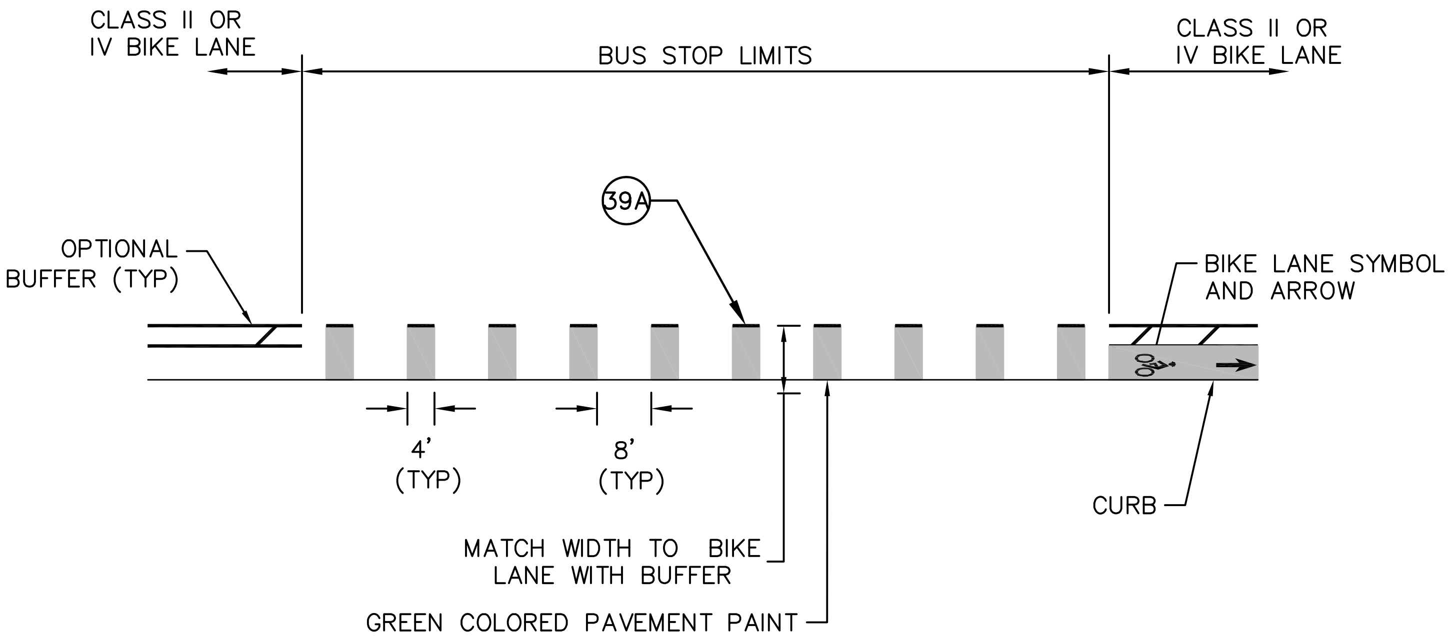


NOTES

1. KEYNOTES REFERENCE DETAILS ON CALTRANS STD. PLAN A20D, LATEST EDITION.
2. FOR BIKE LANE SYMBOL AND ARROW, SEE CITY OF TRACY STD. PLAN NO. 147 SHEET 1 OF 14.
3. FOR CLASS II OR IV BIKE LANE DETAILS, SEE CITY OF TRACY STD. PLAN NO. 147 SHEET 6 OF 14.

CITY OF TRACY

TRACY Think Inside the Triangle™	REVIEWED BY: Robert Armijo CITY ENGINEER RCE 63173		STANDARD PLAN NO. 147 SHEET 7 OF 14
	Res No. 2020-031	DATE: February 18, 2020	BIKE LANE AT INTERSECTION
	Prepared By: Leisser M.	Checked By: Thomas W.	
	Rev: Edgar T.	Rev:	



NOTES

1. KEYNOTES REFERENCE DETAILS ON CALTRANS STD. PLAN A20D, LATEST EDITION.
2. FOR BIKE LANE SYMBOL AND ARROW, SEE CITY OF TRACY STD. PLAN NO. 147 SHEET 1 OF 14.
3. FOR CLASS II AND IV BIKE LANE DETAILS, SEE CITY OF TRACY STD PLAN NO. 147 SHEET 6 OF 14.

CITY OF TRACY

TRACY
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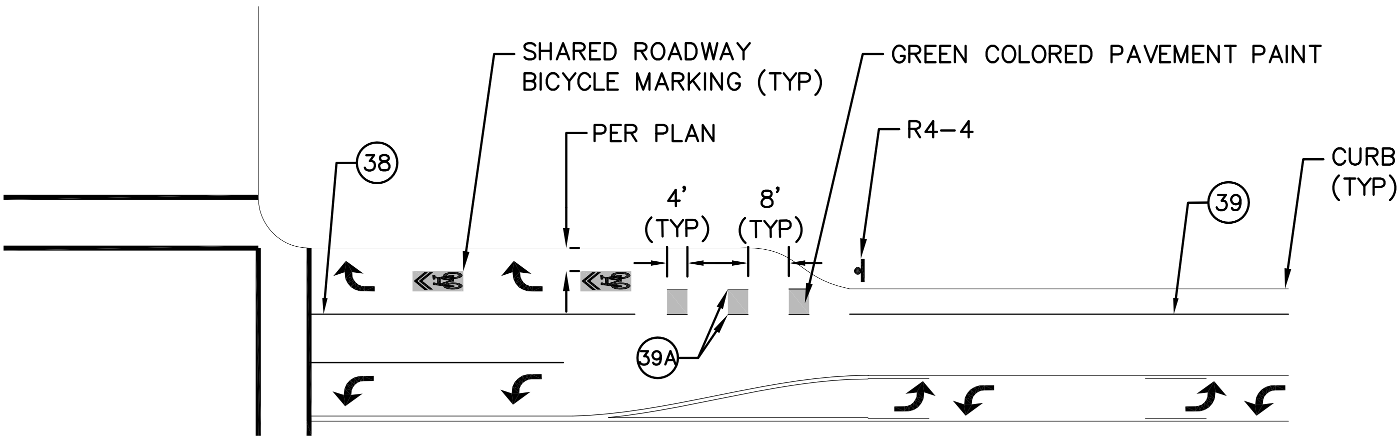
REVIEWED BY: Robert Armijo CITY ENGINEER RCE 63173		STANDARD PLAN NO. 147 SHEET 8 OF 14
Res No. 2020-031	DATE: February 18, 2020	**BIKE LANE AT BUS STOP**
Prepared By: Leisser M.	Checked By: Thomas W.	
Rev: Edgar T.	Rev:	



MUTCD R4-4 SIGN

NOTES

1. THIS TREATMENT USES GREEN BACKED SHARROWS AND RIGHT-TURN ARROWS TO MARK THE MIXING ZONE. THE MARKINGS SHALL BE CENTERED IN THE CHANNELIZED LANE. THE SHARROWS ARE TO BE SPACED EVENLY BETWEEN EACH RIGHT-TURN ARROW. SHARROW SHALL BE PLACED AT BEGINNING OF RIGHT TURN LANE.

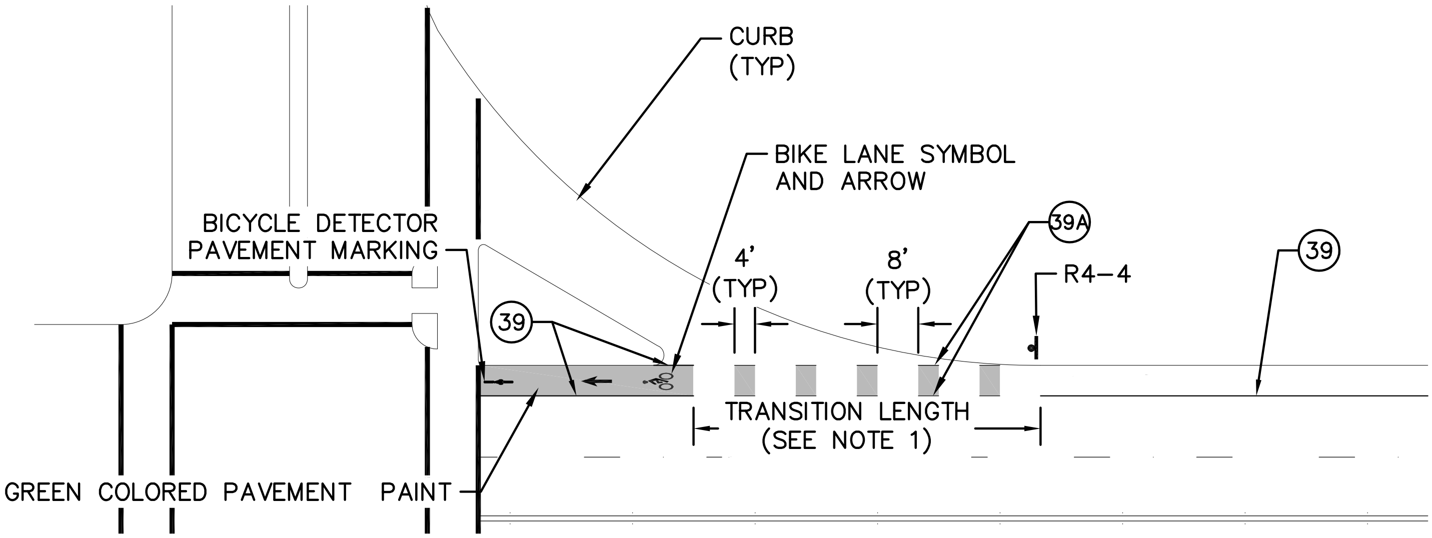
2. KEYNOTES REFERENCE DETAILS ON CALTRANS STD. PLAN A20D, LATEST EDITION.

3. FOR SHARED ROADWAY BICYCLE MARKING DETAIL, SEE CITY OF TRACY STD. PLAN NO. 147 SHEET 2 OF 14.

4. FOR CLASS II OR IV BIKE LANE DETAILS, SEE CITY OF TRACY STD. PLAN NO. 147 SHEET 6 OF 14.

CITY OF TRACY

TRACY Think Inside the Triangle™	REVIEWED BY: Robert Armijo CITY ENGINEER RCE 63173		STANDARD PLAN NO. 147 SHEET 9 OF 14
	Res No. 2020-031	DATE: February 18, 2020	SHARED BIKE/ RIGHT-TURN LANE
	Prepared By: Leisser M.	Checked By: Thomas W.	
	Rev: Edgar T.	Rev:	



MUTCD R4-4 SIGN

NOTES

1. TRANSITION LENGTH IS DETERMINED BY ROADWAY GEOMETRY.

2. KEYNOTES REFERENCE DETAILS ON CALTRANS STD. PLAN A20D, LATEST EDITION.

4. FOR BIKE LANE SYMBOL AND ARROW, SEE CITY OF TRACY STD. PLAN NO. 147 SHEET 1 OF 14.

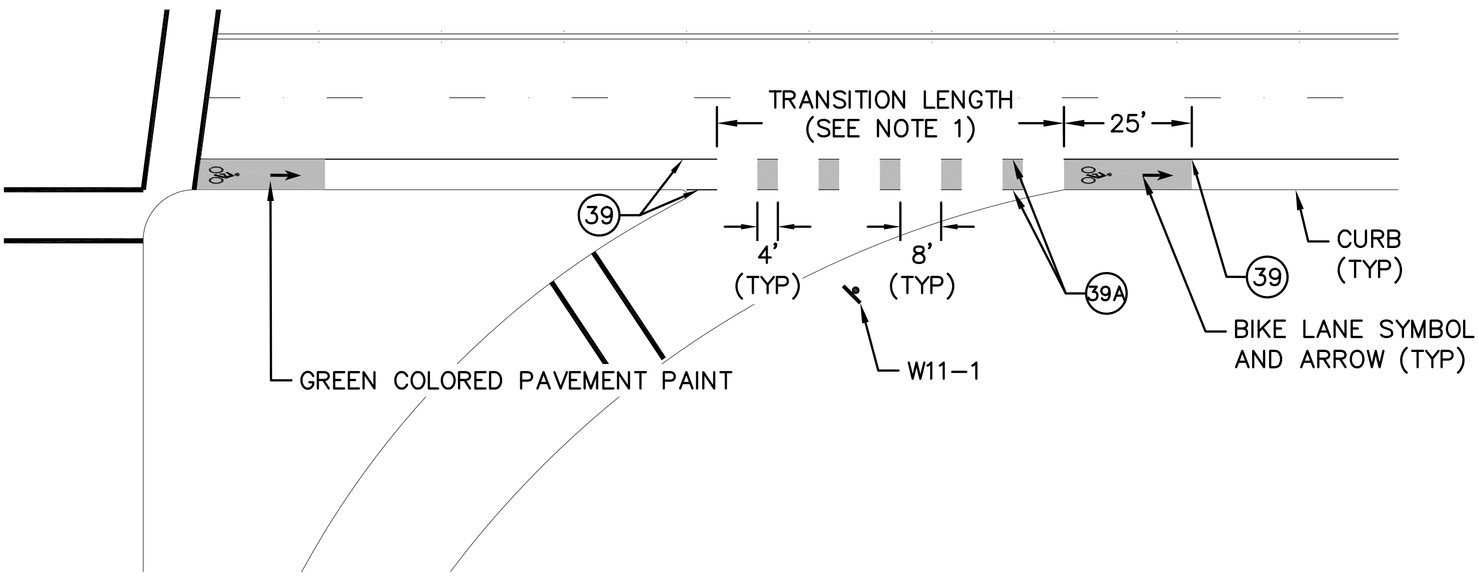
5. FOR BICYCLE DETECTOR PAVEMENT MARKING, SEE CITY OF TRACY STD. PLAN NO. 147 SHEET 3 OF 14.

6. FOR CLASS II OR IV BIKE LANE DETAILS, SEE CITY OF TRACY STD. PLAN NO. 147 SHEET 6 OF 14.

CITY OF TRACY

TRACY
Think Inside the Triangle ™

REVIEWED BY: Robert Armijo CITY ENGINEER RCE 63173		STANDARD PLAN NO. 147 SHEET 10 OF 14
Res No. 2020-031	DATE: February 18, 2020	SLIP TURN UPSTREAM
Prepared By: Leisser M.	Checked By: Thomas W.	
Rev: Edgar T.	Rev:	



MUTCD W11-1 SIGN

NOTES

1. TRANSITION LENGTH IS DETERMINED BY ROADWAY GEOMETRY.

2. KEYNOTES REFERENCE DETAILS ON CALTRANS STD. PLAN A20D, LATEST EDITION.

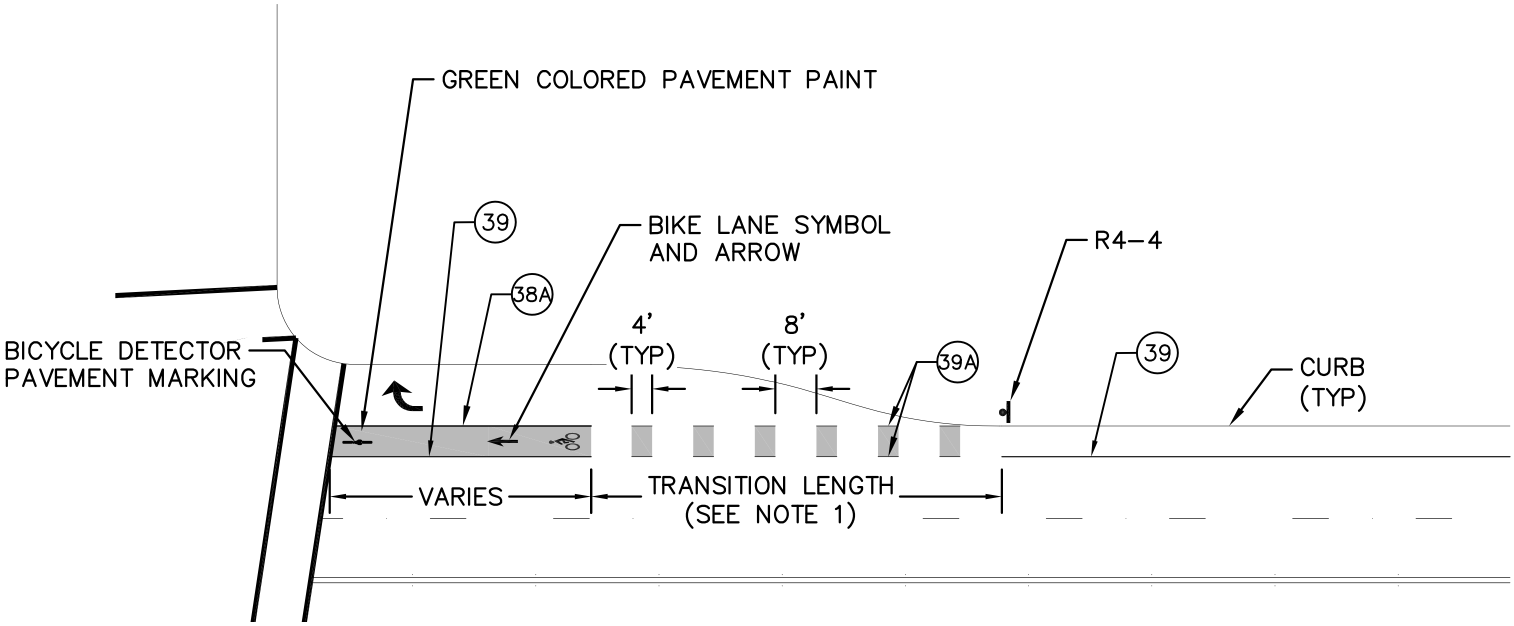
3. FOR BIKE SYMBOL AND ARROW DETAILS, SEE CITY OF TRACY STD. PLAN NO. 147 SHEET 1 OF 14.

4. FOR CLASS II OR IV BIKE LANE DETAILS, SEE CITY OF TRACY STD. PLAN NO. 147 SHEET 6 OF 14.

CITY OF TRACY

TRACY
Think Inside the Triangle™

REVIEWED BY: Robert Armijo CITY ENGINEER RCE 63173		STANDARD PLAN NO. **147** **SHEET 11 OF 14**
Res No. 2020-031	DATE: February 18, 2020	**SLIP TURN DOWNSTREAM**
Prepared By: Leisser M.	Checked By: Thomas W.	
Rev: Edgar T.	Rev:	



NOTES

1. TRANSITION LENGTH TO MATCH BAY TAPER LENGTH (60 FEET MINIMUM).
2. KEYNOTES REFERENCE DETAILS ON CALTRANS STD. PLAN A20D, LATEST EDITION.
4. FOR BIKE LANE SYMBOL AND ARROW, SEE CITY OF TRACY STD. PLAN NO. 147 SHEET 1 OF 14.
5. FOR BICYCLE DETECTOR PAVEMENT MARKING, SEE CITY OF TRACY STD. PLAN NO. 147 SHEET 3 OF 14.
6. FOR CLASS II AND IV BIKE LANE DETAILS, SEE CITY OF TRACY STD. PLAN NO. 147 SHEET 6 OF 14.

MUTCD R4-4 SIGN

CITY OF TRACY

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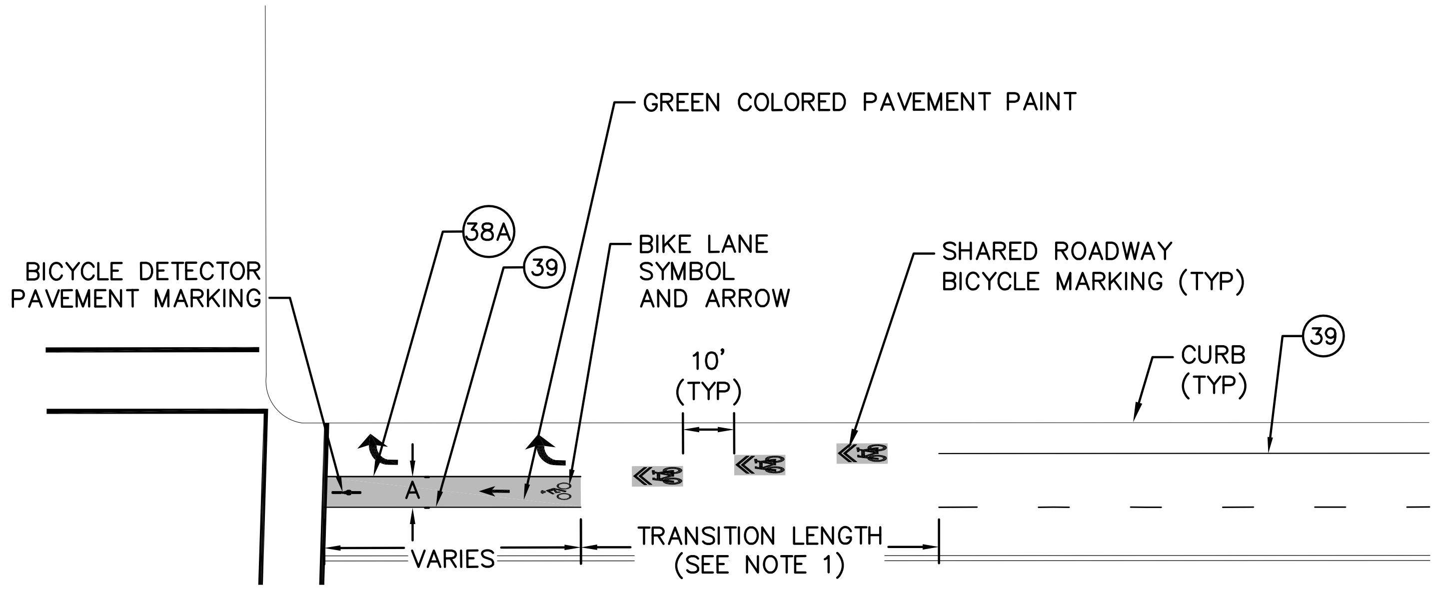
Think Inside the Triangle ™

REVIEWED BY: Robert Armijo CITY ENGINEER RCE 63173		STANDARD PLAN NO. **147** **SHEET 12 OF 14**
Res No. 2020-031	DATE: February 18, 2020	**TURN POCKET**
Prepared By: Leisser M.	Checked By: Thomas W.	
Rev: Edgar T.	Rev:	



NOTES

1. THIS TREATMENT USES GREEN BACKED SHARROWS TO MARK THE MIXING ZONE. THE FIRST SHARROW SHOULD BE CENTERED ON THE RIGHT EDGE OF THE UPSTREAM TRAVEL LANE. THE LAST SHOULD BE CENTERED ON THE LEFT EDGE OF THE RIGHT TURN LANE. THE SHARROWS IN BETWEEN SHOULD SHIFT EVENLY TO THE LEFT. THE TYPICAL TRANSITION LENGTH IS 12 X A (70' AS SHOWN).

2. KEYNOTES REFERENCE DETAILS ON CALTRANS STD. PLAN A20D, LATEST EDITION.

4. FOR BIKE LANE SYMBOL AND ARROW, SEE CITY OF TRACY STD. PLAN NO. 147 SHEET 1 OF 14.

5. FOR SHARED ROADWAY BICYCLE MARKING SEE CITY OF TRACY STD. PLAN NO. 147 SHEET 2 OF 14.

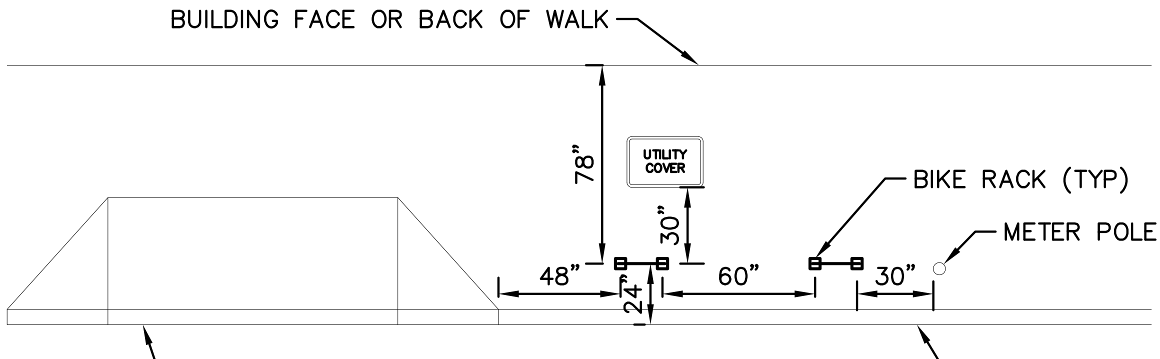
6. FOR BICYCLE DETECTOR PAVEMENT MARKING, SEE CITY OF TRACY STD. PLAN NO. 147 SHEET 3 OF 14.

7. FOR CLASS II AND IV BIKE LANE DETAILS, SEE CITY OF TRACY STD. PLAN NO. 147 SHEET 6 OF 14.

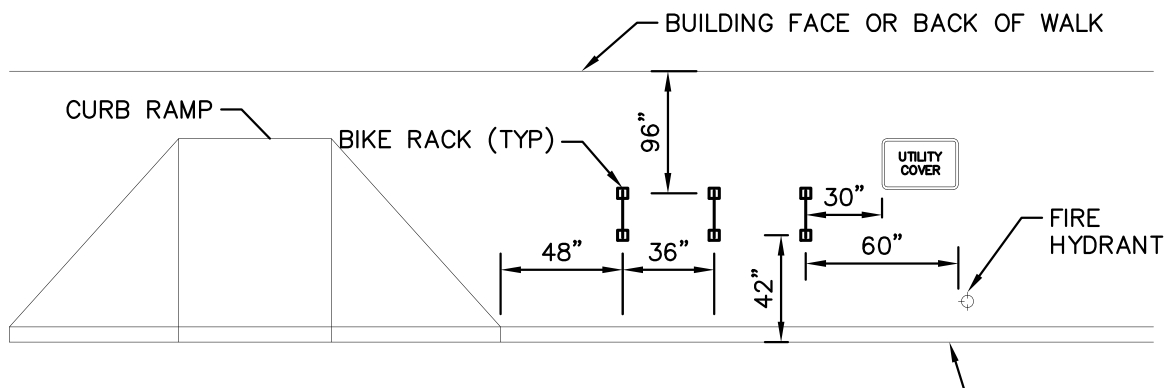
CITY OF TRACY

TRACY
Think Inside the Triangle™

REVIEWED BY: Robert Armijo CITY ENGINEER RCE 63173		STANDARD PLAN NO. 147 SHEET 13 OF 14
Res No. 2020-031	DATE: February 18, 2020	RIGHT TURN ONLY TRAP LANE
Prepared By: Leisser M.	Checked By: Thomas W.	
Rev: Edgar T.	Rev:	



PARALLEL



PERPENDICULAR

MINIMUM SETBACK DISTANCE	OBSTRUCTION TYPE
24" (PARALLEL), 42" (PERPENDICULAR)	CURB FACE, BUILDING FACE (IF RACK IS SITED ADJACENT)
30"	LIGHT POLE, NEWSPAPER RACK, SIGN POLE, USPS MAILBOX, TREE WELL, STREET FURNITURE, TRASH CAN, SURFACE HARDWARE (PG&E, CABLE GRATES, ETC.)
48"	CURB RAMP, CROSSWALK, WHITE/YELLOW LOADING ZONE, STORM DRAIN INLET, BLUE ZONE (DISABLED PARKING), DRIVEWAY
60"	FIRE HYDRANT

NOTES

1. ALL DIMENSIONS ARE MINIMUMS AND SHOULD BE EXCEEDED WHERE POSSIBLE, DEPENDING ON SITE-SPECIFIC CONDITIONS.
2. ALL SETBACK DISTANCES ARE MEASURED FROM THE CENTER OF THE RACK FLANGE, TO THE LEADING EDGE OF OBSTRUCTION.
3. FOR CLASS II RACKS, SEE CITY OF TRACY PARKS AND STREETSCAPE STD. D4.5.1.

CITY OF TRACY

TRACY Think Inside the Triangle™	REVIEWED BY: Robert Armijo CITY ENGINEER RCE 63173		STANDARD PLAN NO. 147 SHEET 14 OF 14
	Res No. 2020-031	DATE: February 18, 2020	CLASS II BIKE RACK LAYOUT
	Prepared By: Leisser M.	Checked By: Thomas W.	
	Rev: Edgar T.	Rev:	

City of Tracy Bikeways Outreach

May 11, 2022

1

Agenda

- Introductions (5 minutes)
- Presentation (10-15 minutes)
  - o Process
    - o TMP
  - o Bike Plan
  - o Bike Classification
  - o Complete Streets
  - o Online Survey Results
  - o Questions/Discussion
- Your Job Tonight (20-25 minutes)
- Wrap-Up (10-15 minutes)

2

2

Rules of Engagement

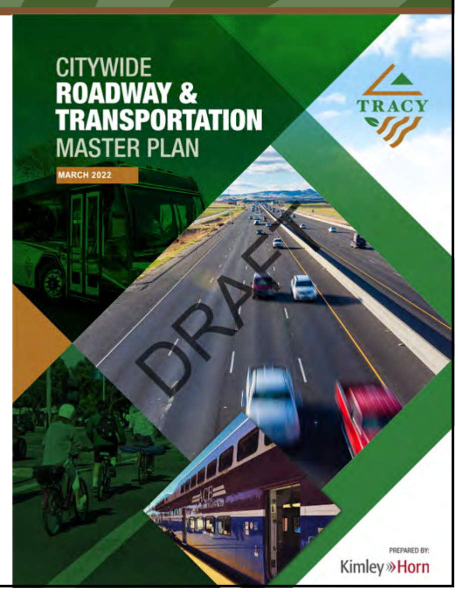
1. Respect each others' time
2. Each comment has merit & deserves to be listened to
3. Respect each others' points
4. No rude interruptions
5. Raise your hand if you want to speak
6. No personal comments, unless they will make everyone smile

May 11, 2022 3

3

Process

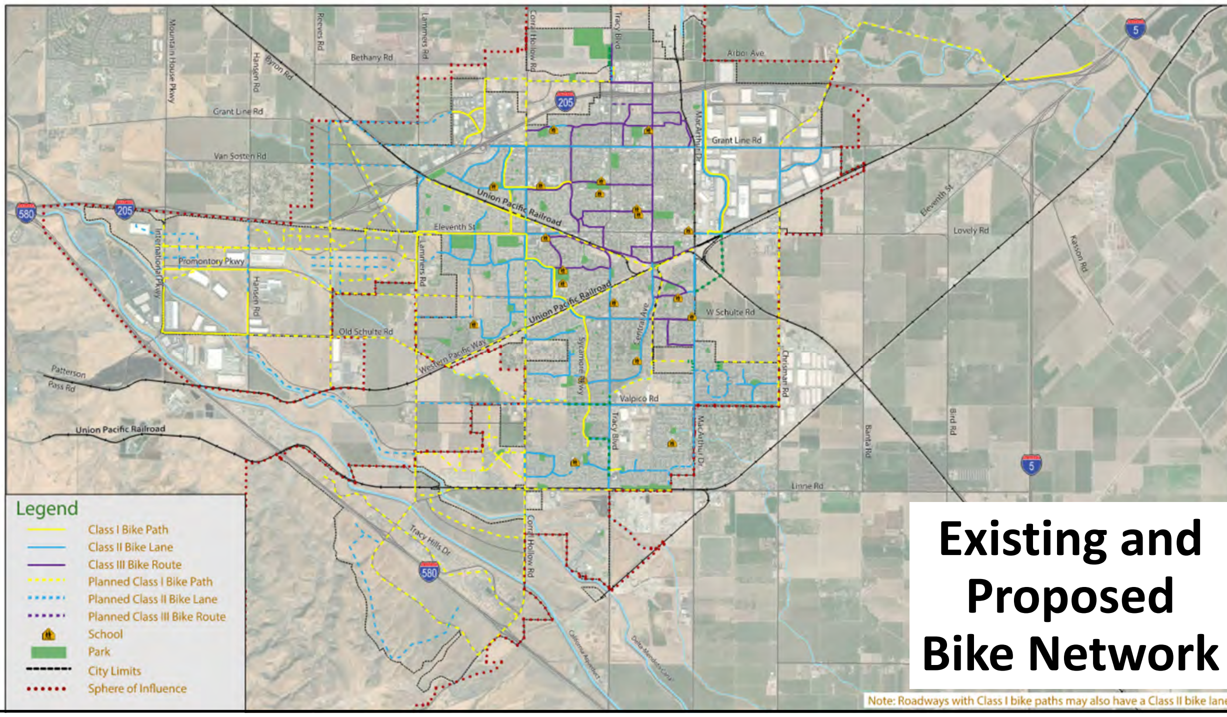
- City of Tracy 2022 Transportation Master Plan (TMP)
- Online Survey
  - https://www.surveymonkey.com/r/Preview/?sm=ss7mHq4CAjNzKEhAwIjNJ7IzhasKbLl5KpE6iYBxvkisHxyYrRs4z7UL_2FoMwfcPR



May 11, 2022

4

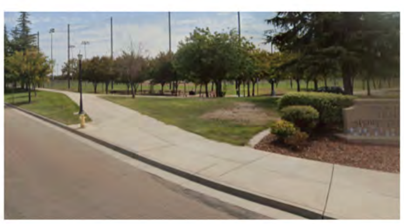
Existing and Proposed Bike Network



5

Bicycle Classification

Class I - Separated Pedestrian/Bicycle Path



Class II - Bicycle Lane

May 1

TRACY

6

Bicycle Classification (Contin.)

Class III - Shared Facility

Class IV - Protected Bicycle Lane

TRACY

"Think Inside the Triangle"

May 11, 2

7

Complete Streets

"Roadway space for everyone"

Pedestrian
- Trail Crossings
- Wide Sidewalks
- Curb Extensions or Bulb-outs
- Pedestrian Refuge Islands or Crossing Islands
- High Visibility Crosswalks
- Pedestrian Facility Gap Closure
- Audible Pedestrian Signals
- Pedestrian-activated Traffic Control Devices and Yield Lines
- Automatic Active Transportation Counters

Bicycle
- Bicycle Parking
- Green Colored Pavement for Bikeways
- Bicycle Boxes
- Bicycle Signals
- Bicycle Detection
- Class II Bike Lanes and Buffered Bike Lanes
- Class I Bike Paths and Class IV Separated Bikeways
- Class III Bike Routes

Transit
- Transit Priority Signals
- Transit Queue Jump Lanes
- Transit Stop Improvements
- Improve Access to Transit Stops (First Mile/Last Mile)
- Park and Ride Lots
- Mobility hubs

Streetscape Features
- Benches and Shaded Areas for Pedestrians
- Green Streets
- Landscaped Areas
- Intersection Streetlighting
- Benches and Shaded Areas

Road Scape Reallocation Features
- Lane Narrowing
- Lane Reduction (Road Diet)
- Curb Radius Reduction and Eliminating Free Right Turns
- Parking Modifications

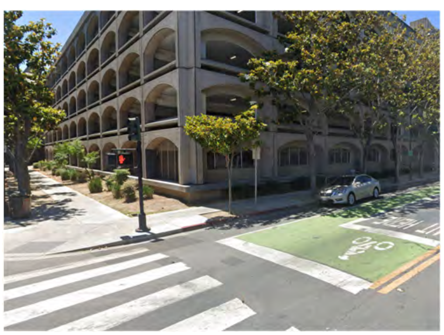
May 11, 2022

8

Complete Streets

May 11, 2022 9

9



Complete Streets

10

May 11, 2022

10

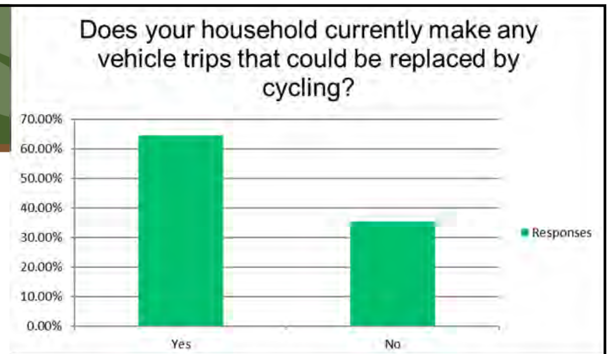
Survey Results

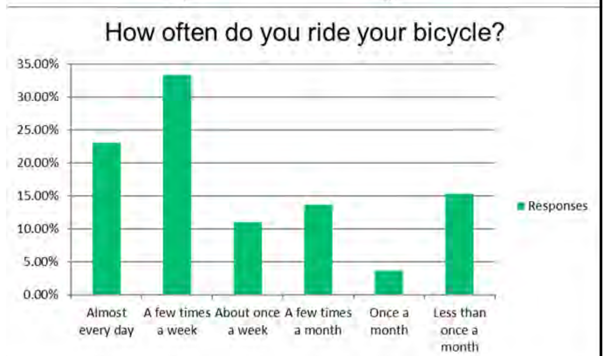
- ~321 Completed Surveys
- Survey Participants
  - 94% Residents
  - 10% Business Owner
  - 6% Employee
  - 1% Military
  - 3% Student
  - 3% Visitor

>100% because participants can choose all that apply

We NEED this.

May 11, 2022





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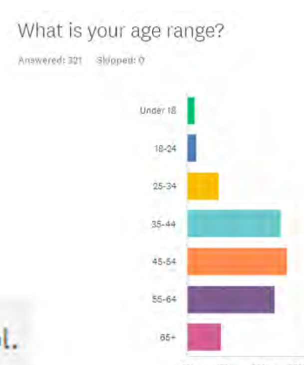
Survey Results (Contin.)

- 55% female responses
- 18% of respondents have kids that bike to school
- 65% are making car trips that could be made by bike
- Separated bike facilities preferred
- 93% want more investment in bike facilities
- Need wayfinding - 82%
- Bikes do not stay in the bike lanes



There should be paved, direct and safe paths to every school.

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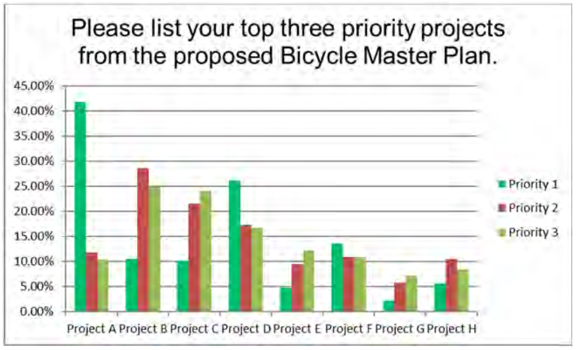
Survey Results (Contin.)



Based on Priority Ranking
- Priority #1: Project A & Project D
- Priority #2: Project B & C
- Priority #3: Project B & C

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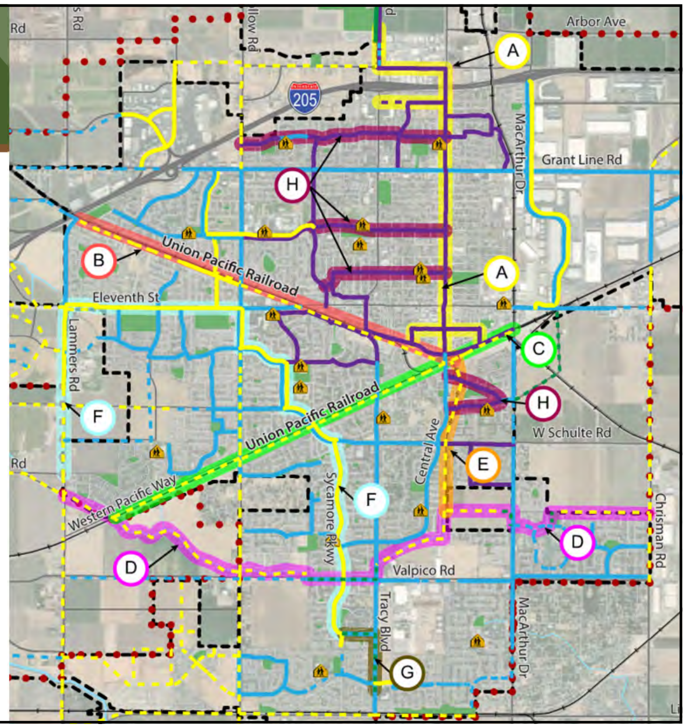

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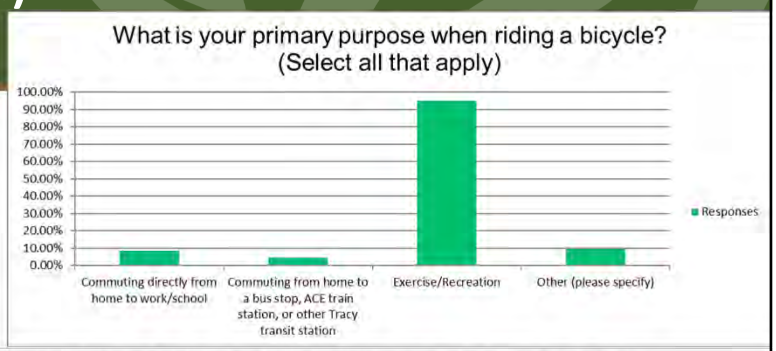
Survey Results (Contin.)

Main trip purpose is recreation

Safety is main concern



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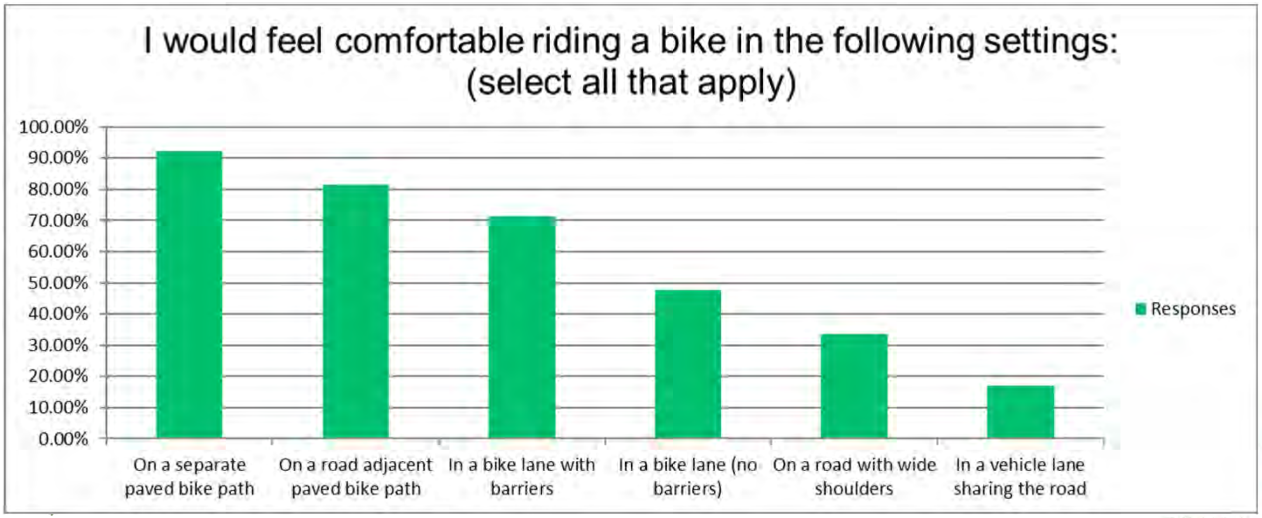
Survey Results (Contin.)



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Comments

My needs are more for recreation. Would love a bike path kinda like the one in Half Moon Bay or Sacramento where you can ride for miles in a safe setting away from cars and traffic.

The proposed facilities are great! Should also add local, bike-supporting commuter improvements in older part of town where bike lanes do not exist on arterials. Too many signs only add visual clutter. Small number of discrete signs, OK. But if you are a local, discovering and enjoying bike paths is more fun when there is not a runway of lights telling you where to go. However, the bike lanes should definitely be marked to notify motorists of the bike lanes, for safety's sake.

Not needed. Money far better spent elsewhere

Roads like Lincoln Dr. are currently wide enough to make them bike friendly and should be surveyed for consideration. Looking into making residential areas safer for riding

Tracy lacks adequate places to lock up your bike when inside a business or government facilities. Tracy lacks adequate bike lines to ride safely.

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Comments

We need to secure the street on Schulte, lower the speed limit and make it more visibe and have a crossing light at the corner of Amaretto Dr and Schulte. The spot is very dangerous and kids WILL get hit by a car. It's just a matter of time.

Build infrastructure first, secure the roads with cameras and use technology to manage and monitor before introducing any new services on road.

anywhere in Tracy when i ride cars come very close to bike riders and its not safe . there is a need for bike lane all over tracy traveled roads

When riding around the area, it seems like Tracy has a lot of starts and stops with bike paths. It would be nice if they all connected.

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How Do we Build These?

- Active Transportation Planning (ATP) Grants
- Private Development
- Capital Improvements Plan (CIP) Projects
- Complete Streets
- Safety Grants
- Restriping Roadways w Pavement Rehab
- Rails to Trails

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Your Job Tonight

- **Bike Classification Board**
  - 3 Dots
    - Place on the three bicycle facility photos you want to see in Tracy
- **Bike Map #1**
  - Provide your comments on the map with a post-it and clearly label/point to the location you would like to see improvements.
- **Bike Map #2**
  - 3 Dots
    - Place on the three projects that you would like to see implemented first
- **Additional Comment Cards**
  - Challenges riding your bike
  - Opportunities for additional improvements
  - Other Comments

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TRACY

"Think Inside the Triangle"

19

Cycling is a huge sport in Tracy that just keeps growing.

Questions/Discussion

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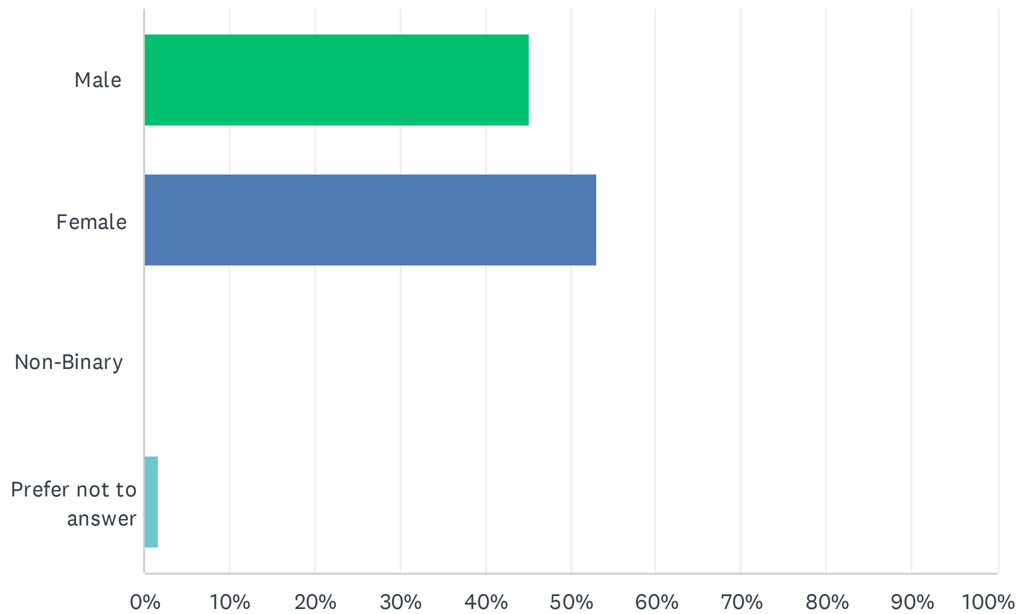
TRACY

"Think Inside the Triangle"

20

Q1 What is your gender?

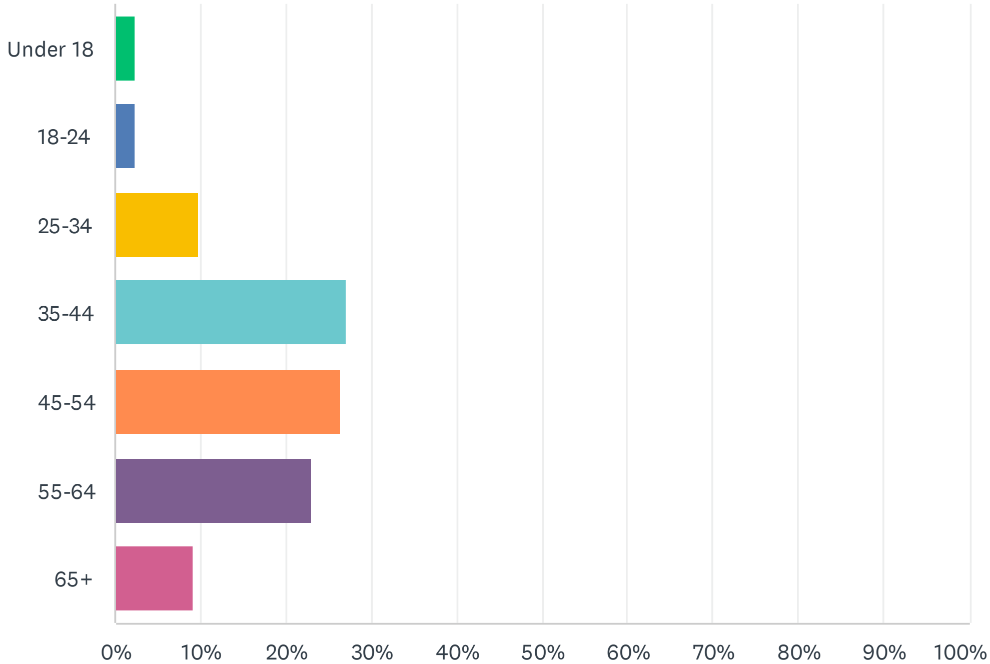
Answered: 348 Skipped: 1



ANSWER CHOICES	RESPONSES	
Male	45.11%	157
Female	53.16%	185
Non-Binary	0.00%	0
Prefer not to answer	1.72%	6
TOTAL		348

Q2 What is your age range?

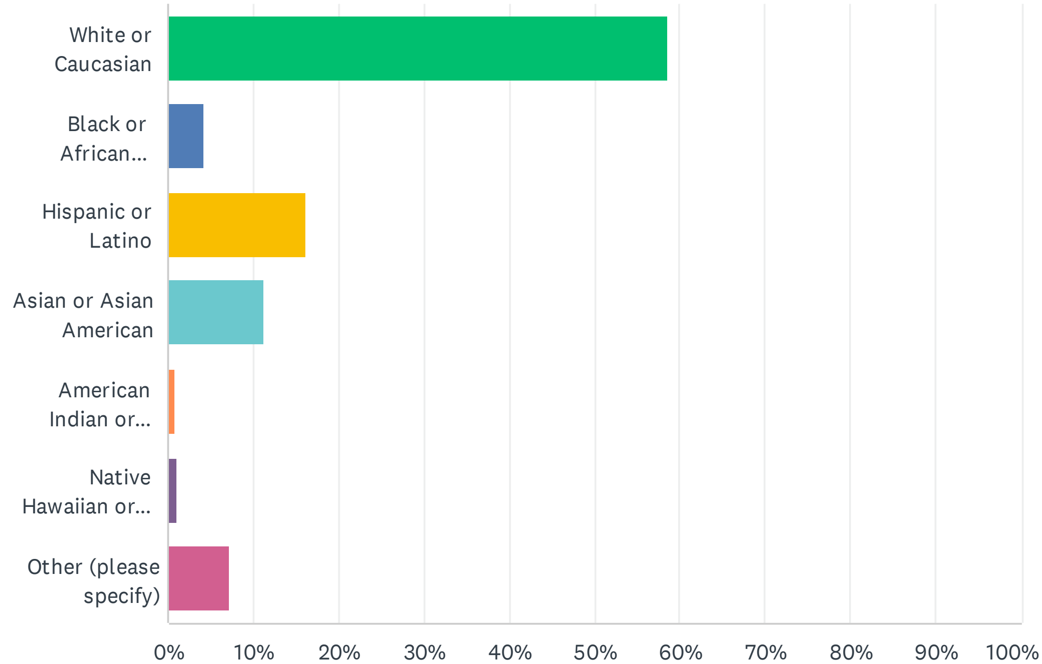
Answered: 348 Skipped: 1



ANSWER CHOICES	RESPONSES	
Under 18	2.30%	8
18-24	2.30%	8
25-34	9.77%	34
35-44	27.01%	94
45-54	26.44%	92
55-64	22.99%	80
65+	9.20%	32
TOTAL		348

Q3 What best describes your ethnicity/race?

Answered: 344   Skipped: 5



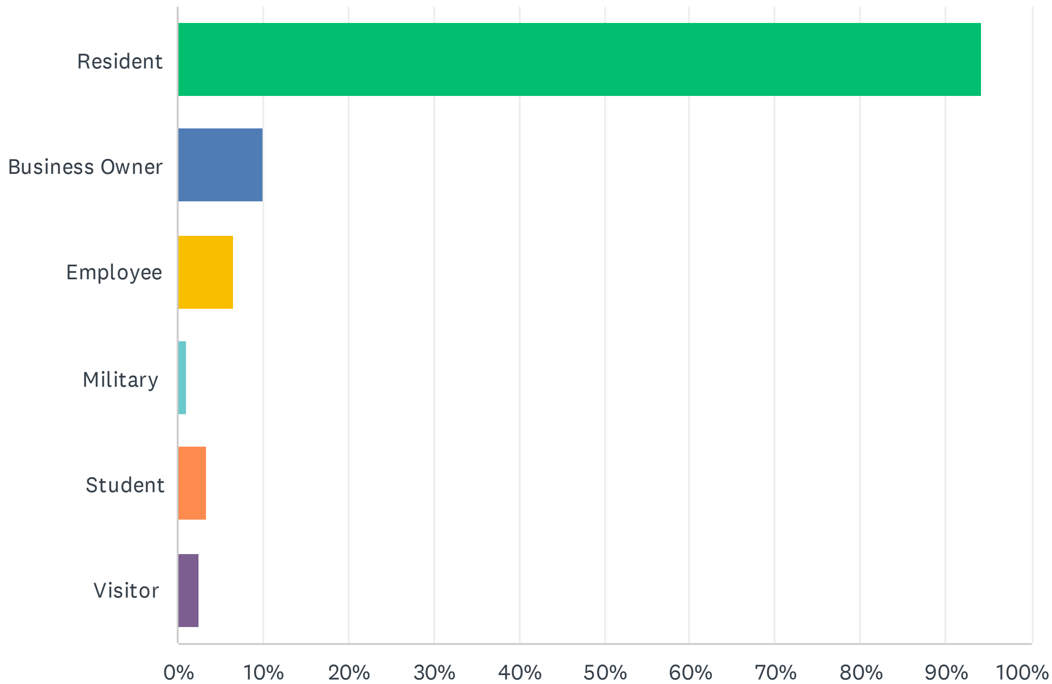
ANSWER CHOICES	RESPONSES	
White or Caucasian	58.72%	202
Black or African American	4.36%	15
Hispanic or Latino	16.28%	56
Asian or Asian American	11.34%	39
American Indian or Alaska Native	0.87%	3
Native Hawaiian or other Pacific Islander	1.16%	4
Other (please specify)	7.27%	25
TOTAL		344

#	OTHER (PLEASE SPECIFY)	DATE
1	afghan	5/11/2022 8:55 PM
2	Californian	3/16/2022 7:29 PM
3	Why???	11/14/2021 2:20 PM
4	Does it matter?	11/5/2021 10:13 AM
5	None	11/5/2021 8:29 AM
6	Na	11/4/2021 9:11 PM
7	Portuguese	11/4/2021 7:07 PM

8	Portuguese	11/4/2021 7:01 PM
9	None ya	10/31/2021 3:27 PM
10	Mixed	10/31/2021 2:58 PM
11	Portuguese, Mexican, French, Arabian	10/24/2021 7:40 AM
12	Acorean	10/22/2021 5:40 PM
13	Persian	10/22/2021 5:06 PM
14	Biracial	10/21/2021 10:54 PM
15	White Black and Hispanic	10/21/2021 6:34 PM
16	Human	10/21/2021 3:07 PM
17	Human	10/21/2021 3:06 PM
18	None of your business	10/20/2021 2:45 PM
19	Persian	10/20/2021 9:07 AM
20	Prefer not to answer	10/19/2021 2:29 PM
21	Mexican	10/18/2021 11:22 PM
22	Irish & Hispanic	10/18/2021 4:42 PM
23	irrelevant.	10/16/2021 1:20 PM
24	Why?	10/15/2021 12:34 PM
25	Why is a survey about bikes concerned	10/15/2021 7:18 AM

Q4 Which of the following applies to you with regards to the City of Tracy? (Select all that apply)

Answered: 348 Skipped: 1



ANSWER CHOICES	RESPONSES	
Resident	94.25%	328
Business Owner	10.06%	35
Employee	6.61%	23
Military	1.15%	4
Student	3.45%	12
Visitor	2.59%	9
Total Respondents: 348		

Q5 If you are a resident of Tracy, what is the closest intersection to your home?

Answered: 332 Skipped: 17

ANSWER CHOICES	RESPONSES	
Street 1	100.00%	332
Street 2	91.87%	305

#	STREET 1	DATE
1	Corral Hollow	8/18/2022 1:34 PM
2	Corral Hollow Road	7/25/2022 12:50 PM
3	Corral Hollow	7/21/2022 8:59 AM
4	W f street	6/23/2022 10:21 PM
5	Fieldview	6/23/2022 5:19 PM
6	Sultana Dr	6/6/2022 10:34 PM
7	Sycamore	5/22/2022 6:06 AM
8	Schulte	5/21/2022 3:31 AM
9	Tracy Blvd	5/20/2022 10:10 PM
10	257 Glenhaven Drive	5/19/2022 10:09 AM
11	Tracy Blvd	5/18/2022 5:22 PM
12	11th	5/16/2022 3:42 PM
13	Allegheny Ct.	5/16/2022 7:07 AM
14	Morris phelps	5/12/2022 3:54 PM
15	Valpico	5/11/2022 8:55 PM
16	Crossroads	5/11/2022 8:36 PM
17	11th St.	5/11/2022 8:35 PM
18	Crossroads	5/11/2022 7:10 PM
19	11th street	5/11/2022 5:50 PM
20	Schulte	5/11/2022 4:03 PM
21	Lowell	5/11/2022 3:11 PM
22	Tracy blvd	5/11/2022 2:29 PM
23	12th	5/11/2022 11:37 AM
24	Sycamore Parkway	5/9/2022 5:54 PM
25	22nd St	5/9/2022 10:03 AM
26	Oakridge & Brookview	5/9/2022 9:25 AM
27	Parkside Drive	5/9/2022 8:42 AM
28	Holly	5/6/2022 2:50 AM

29	1025 Mabel Josephine Ct	5/5/2022 7:32 PM
30	Grant line	5/5/2022 12:37 PM
31	Corral Hollow rd.	5/5/2022 11:23 AM
32	MacArthur &	5/5/2022 10:50 AM
33	Cypress Drive	5/5/2022 8:46 AM
34	Parkside	5/5/2022 8:38 AM
35	Hollywood Avenue	5/5/2022 8:17 AM
36	parkside	5/5/2022 8:00 AM
37	Valpico	5/5/2022 6:59 AM
38	Lincoln Blvd.	5/3/2022 5:18 PM
39	Schulte	4/19/2022 3:47 AM
40	Macarthur	4/15/2022 12:27 PM
41	Beverly	3/25/2022 2:24 PM
42	Schulte	3/25/2022 11:28 AM
43	Lammers	3/16/2022 7:29 PM
44	Glenbriar	3/2/2022 11:35 AM
45	Tennis lane	2/2/2022 8:48 AM
46	duncan dr	1/16/2022 10:42 AM
47	Ironstone Dr.	1/6/2022 10:32 AM
48	Corral hollow	12/30/2021 6:59 AM
49	Glenbriar Drive	12/6/2021 3:51 PM
50	Corral hollow	11/14/2021 2:20 PM
51	Central	11/11/2021 10:37 PM
52	Sycamore parkway	11/10/2021 7:06 PM
53	Third St.	11/9/2021 3:20 PM
54	Columbia Court	11/9/2021 12:50 PM
55	Corral Hallow	11/9/2021 5:04 AM
56	South Tracy	11/8/2021 6:39 PM
57	Tracy blvd	11/8/2021 4:17 PM
58	Ferdinand street	11/7/2021 4:35 PM
59	Corral Hollow	11/7/2021 1:39 PM
60	Shulte	11/7/2021 6:50 AM
61	Lammers	11/7/2021 12:47 AM
62	Grant line	11/6/2021 11:24 PM
63	Lotus	11/6/2021 10:16 PM
64	Valpico	11/6/2021 8:59 PM
65	Corral hollow	11/6/2021 8:36 PM
66	Valpico	11/6/2021 8:03 PM

67	Tulloch	11/6/2021 3:00 PM
68	East street	11/6/2021 1:02 PM
69	Tracy Blvd	11/6/2021 9:36 AM
70	Robert gabriel dr	11/6/2021 8:26 AM
71	Tracy Blvd	11/5/2021 9:27 PM
72	Wall st	11/5/2021 4:56 PM
73	Tracy Blvd	11/5/2021 4:40 PM
74	S Central Ave	11/5/2021 1:23 PM
75	Corral Hollow	11/5/2021 12:25 PM
76	Durham Ferry	11/5/2021 12:12 PM
77	West 9th	11/5/2021 10:30 AM
78	Oakridge	11/5/2021 10:27 AM
79	Amaretto	11/5/2021 10:13 AM
80	Corral hollow	11/5/2021 9:49 AM
81	Centre Court Drive	11/5/2021 9:03 AM
82	South Tracy blvd	11/5/2021 9:02 AM
83	MacArthur dr	11/5/2021 8:53 AM
84	Central	11/5/2021 8:49 AM
85	Martin	11/5/2021 8:29 AM
86	Tracy Hills Rd	11/5/2021 8:09 AM
87	Elevenths St	11/5/2021 8:03 AM
88	Jeffeson pkway	11/5/2021 7:20 AM
89	Corral hollow	11/5/2021 7:05 AM
90	11	11/5/2021 6:11 AM
91	Schulte	11/5/2021 12:16 AM
92	McArthur	11/4/2021 11:31 PM
93	Grantline	11/4/2021 11:07 PM
94	lammers	11/4/2021 11:06 PM
95	Corral Hollow	11/4/2021 10:38 PM
96	Valpico	11/4/2021 10:31 PM
97	Schulte	11/4/2021 10:05 PM
98	Tracy Blvd	11/4/2021 9:53 PM
99	Shulte	11/4/2021 9:11 PM
100	Starflower	11/4/2021 8:58 PM
101	Tracy Blvd	11/4/2021 8:36 PM
102	Belmont ln	11/4/2021 8:35 PM
103	Valpico	11/4/2021 8:22 PM
104	Alvardo Way	11/4/2021 8:20 PM

105	Holly	11/4/2021 8:11 PM
106	Lammers	11/4/2021 8:05 PM
107	Holly dr	11/4/2021 8:00 PM
108	Corral Hollow	11/4/2021 8:00 PM
109	Central	11/4/2021 7:57 PM
110	Tracy Blvd and Whispering Wind drive	11/4/2021 7:55 PM
111	Clover	11/4/2021 7:54 PM
112	Amachi	11/4/2021 7:53 PM
113	MacArthur	11/4/2021 7:48 PM
114	grantline	11/4/2021 7:47 PM
115	South Tracy Blvd	11/4/2021 7:44 PM
116	22nd	11/4/2021 7:38 PM
117	Coralle hollow	11/4/2021 7:37 PM
118	Tracy Blvd.	11/4/2021 7:36 PM
119	Corral Hollow	11/4/2021 7:30 PM
120	North corral hollow	11/4/2021 7:29 PM
121	Tracy Blvd	11/4/2021 7:26 PM
122	Tracy blvd	11/4/2021 7:14 PM
123	Tracy Blvd	11/4/2021 7:13 PM
124	Schulte	11/4/2021 7:12 PM
125	Schulte	11/4/2021 7:12 PM
126	11th St.	11/4/2021 7:10 PM
127	Del Mar Ct	11/4/2021 7:10 PM
128	Tracy blvd	11/4/2021 7:07 PM
129	Windsong	11/4/2021 7:05 PM
130	N. Tracy Blvd	11/4/2021 7:04 PM
131	Tracy blvd	11/4/2021 7:01 PM
132	Schulte	11/4/2021 6:57 PM
133	W valpico rd	11/4/2021 6:55 PM
134	Sycamore	11/4/2021 6:55 PM
135	Lincoln	11/4/2021 6:48 PM
136	Shulte	11/4/2021 6:44 PM
137	Kavanaugh	11/4/2021 6:38 PM
138	Corral Hollow	11/4/2021 6:27 PM
139	Belmont lane	11/4/2021 6:25 PM
140	S MacArthur Dr	11/4/2021 6:24 PM
141	MacArthur	11/4/2021 5:55 PM
142	Macarthur	11/4/2021 4:57 PM

143	Diminique	11/4/2021 4:17 PM
144	Orchard	11/4/2021 3:40 PM
145	Grantline	11/4/2021 2:41 PM
146	Corral Hallow	11/4/2021 2:33 PM
147	Holly	11/4/2021 1:49 PM
148	corral hollow	11/4/2021 12:35 PM
149	Tracy blvd	11/4/2021 12:10 PM
150	Parkside Dr	11/2/2021 7:30 PM
151	Corral Hollow	11/2/2021 7:26 PM
152	Tracy Blvd	11/2/2021 4:11 PM
153	Schulte	11/2/2021 7:56 AM
154	Valpico	11/1/2021 1:37 PM
155	Avalon st	11/1/2021 6:56 AM
156	Buthman	11/1/2021 5:48 AM
157	Oak Ridge	10/31/2021 9:20 PM
158	Paradise Rd	10/31/2021 6:03 PM
159	McArthur & valpico	10/31/2021 5:41 PM
160	Paradise Rd	10/31/2021 5:38 PM
161	Paradise Rd	10/31/2021 5:33 PM
162	Paradise Rd	10/31/2021 5:22 PM
163	Corral hollow	10/31/2021 3:54 PM
164	Tracy Blvd.	10/31/2021 3:27 PM
165	Middlefield	10/31/2021 2:58 PM
166	Monument	10/31/2021 2:14 PM
167	Tracy Blvd	10/31/2021 2:03 PM
168	Havenbrook	10/31/2021 1:47 PM
169	Whispering Wimd	10/31/2021 1:38 PM
170	Lowell Avenue	10/31/2021 1:35 PM
171	Lowell	10/31/2021 12:49 PM
172	Central	10/31/2021 12:41 PM
173	Grant Line	10/31/2021 12:37 PM
174	Tracy blvd	10/31/2021 12:36 PM
175	Lincoln	10/29/2021 9:27 AM
176	Central	10/29/2021 8:26 AM
177	Lammers	10/25/2021 6:14 PM
178	Schulte	10/25/2021 3:29 PM
179	corral hollow	10/25/2021 11:59 AM
180	Lowell	10/24/2021 6:24 PM

181	Eleventh st	10/24/2021 5:46 PM
182	Willow Creek Drive	10/24/2021 1:17 PM
183	Tennis Lane	10/24/2021 12:37 PM
184	Corral hollow	10/24/2021 10:45 AM
185	Tracy Blvd	10/24/2021 7:40 AM
186	Corral Hollow	10/24/2021 6:17 AM
187	Chrisman	10/23/2021 6:51 PM
188	Corral Hollow	10/23/2021 2:41 PM
189	Tracy Blvd	10/23/2021 2:19 PM
190	Sycamore	10/23/2021 1:41 PM
191	4th	10/23/2021 11:18 AM
192	Sycamore Pkwy	10/23/2021 9:07 AM
193	Lowell	10/23/2021 7:31 AM
194	Valpico	10/23/2021 7:29 AM
195	Joe pombo	10/23/2021 6:03 AM
196	Corral Hollow	10/22/2021 8:34 PM
197	Redbrige	10/22/2021 8:30 PM
198	Tracy Blvd	10/22/2021 8:26 PM
199	Holly	10/22/2021 7:50 PM
200	Valpico	10/22/2021 6:59 PM
201	Valpico	10/22/2021 6:29 PM
202	MacArthur	10/22/2021 6:23 PM
203	Holly	10/22/2021 5:58 PM
204	Tracy Blvd.	10/22/2021 5:40 PM
205	Corral Hallow	10/22/2021 4:59 PM
206	Ben Ingram Ln	10/22/2021 4:55 PM
207	Amatchi	10/22/2021 4:55 PM
208	Kavenough	10/22/2021 4:24 PM
209	11th st	10/22/2021 4:06 PM
210	10th st	10/22/2021 2:33 PM
211	Golden Leaf	10/22/2021 11:48 AM
212	Fieldview	10/22/2021 11:31 AM
213	271 king arthur ct	10/22/2021 10:48 AM
214	Tracy Blvd	10/22/2021 10:13 AM
215	Tracy Blvd	10/22/2021 10:09 AM
216	MacArthur	10/22/2021 10:05 AM
217	Vallerand	10/22/2021 10:05 AM
218	Corral Hollow	10/22/2021 1:31 AM

219	Parker Ave	10/21/2021 10:54 PM
220	Kings Canyon ct	10/21/2021 10:37 PM
221	W. Grant Line Rd.	10/21/2021 9:06 PM
222	Tracy Blvd.	10/21/2021 9:05 PM
223	W. Grant Line Rd.	10/21/2021 9:04 PM
224	Serpa Ranch Rd	10/21/2021 8:49 PM
225	Corral Hollow	10/21/2021 8:49 PM
226	Schulte	10/21/2021 8:27 PM
227	Peony Dr	10/21/2021 7:33 PM
228	Serpa Ranch Rd	10/21/2021 7:07 PM
229	Parker	10/21/2021 6:34 PM
230	grantline	10/21/2021 6:32 PM
231	Tracy Blvd	10/21/2021 5:25 PM
232	Serpa Ranch Rd	10/21/2021 5:01 PM
233	Summerlane	10/21/2021 3:07 PM
234	Summerlane	10/21/2021 3:06 PM
235	Glenbriar Dr	10/21/2021 7:30 AM
236	S. Lammers	10/21/2021 6:20 AM
237	Joe pombo	10/21/2021 12:27 AM
238	West willow creek	10/20/2021 11:28 PM
239	Derone Ln	10/20/2021 11:24 PM
240	Orchid parkway	10/20/2021 9:56 PM
241	W. 11 St	10/20/2021 8:48 PM
242	Kagehiro	10/20/2021 7:27 PM
243	Redbridge	10/20/2021 7:11 PM
244	Tracy Blvd	10/20/2021 6:17 PM
245	Parkside	10/20/2021 5:30 PM
246	Tracy Blvd	10/20/2021 4:35 PM
247	Lammers	10/20/2021 4:07 PM
248	Joranollo	10/20/2021 3:56 PM
249	Serpa Ranch Rd	10/20/2021 3:54 PM
250	Valpico	10/20/2021 3:40 PM
251	Parkside Drive	10/20/2021 3:08 PM
252	Schulte	10/20/2021 2:45 PM
253	S. MacArthur Dr	10/20/2021 2:37 PM
254	Valpico	10/20/2021 2:10 PM
255	Kagehiro Drive	10/20/2021 1:56 PM
256	Kagehiro Drive	10/20/2021 1:55 PM

257	MacArthur	10/20/2021 1:25 PM
258	Tennis Lane	10/20/2021 11:22 AM
259	Golden Leaf Lane	10/20/2021 10:47 AM
260	Mount Diablo	10/20/2021 10:14 AM
261	Schulte	10/20/2021 9:20 AM
262	Peerless Way	10/20/2021 9:09 AM
263	Corroll hollow	10/20/2021 9:07 AM
264	Bastille	10/20/2021 7:59 AM
265	Presidio	10/20/2021 7:31 AM
266	Cottage Grove way	10/20/2021 7:21 AM
267	MacArthur	10/20/2021 7:08 AM
268	Cottage grove	10/20/2021 6:19 AM
269	6th street	10/20/2021 5:52 AM
270	Lincoln	10/20/2021 5:36 AM
271	Valpico	10/19/2021 11:06 PM
272	Gilberte	10/19/2021 10:32 PM
273	MacArthur	10/19/2021 10:18 PM
274	valpico	10/19/2021 9:21 PM
275	Elisagaray	10/19/2021 8:34 PM
276	W Shulte	10/19/2021 8:27 PM
277	Tennis lane	10/19/2021 7:42 PM
278	Sycamore Parkway	10/19/2021 6:33 PM
279	lincoln blvd	10/19/2021 6:04 PM
280	11th	10/19/2021 6:03 PM
281	Central	10/19/2021 4:47 PM
282	Sycamore Parkway	10/19/2021 3:50 PM
283	Tracy Blvd	10/19/2021 2:39 PM
284	East	10/19/2021 2:29 PM
285	Chrisman RD /Vernalis	10/19/2021 1:40 PM
286	Jesse Martinez dr	10/19/2021 8:07 AM
287	Macarthur	10/18/2021 11:22 PM
288	Lowel	10/18/2021 4:47 PM
289	Lowel	10/18/2021 4:39 PM
290	Whispering Wind	10/18/2021 1:40 PM
291	Schulte	10/18/2021 1:15 PM
292	Schulte	10/18/2021 12:44 PM
293	Grant line	10/18/2021 12:28 PM
294	Corral hollow rd	10/18/2021 10:02 AM

295	MacArthur	10/18/2021 9:51 AM
296	Valpico	10/18/2021 9:50 AM
297	4th	10/18/2021 9:18 AM
298	Central	10/18/2021 8:35 AM
299	240 San Simeon Way	10/18/2021 8:34 AM
300	Tracy Blvd	10/18/2021 8:17 AM
301	Corral Hollow	10/18/2021 8:11 AM
302	Mt Diablo	10/18/2021 8:06 AM
303	Tracy blvd	10/17/2021 6:14 PM
304	Macarthur	10/16/2021 1:20 PM
305	Central ave	10/15/2021 11:46 PM
306	Tennis Lane	10/15/2021 4:15 PM
307	Victoria	10/15/2021 3:13 PM
308	East	10/15/2021 1:36 PM
309	Peony	10/15/2021 1:25 PM
310	Crossroads	10/15/2021 12:35 PM
311	MacArthur	10/15/2021 12:34 PM
312	Schulte	10/15/2021 11:58 AM
313	East Lake Circle	10/15/2021 11:57 AM
314	2269 Yellowstone Ave	10/15/2021 9:57 AM
315	Middlefield	10/15/2021 9:36 AM
316	Schulte	10/15/2021 9:35 AM
317	Holly	10/15/2021 9:29 AM
318	Tracy blvd	10/15/2021 9:23 AM
319	Tracy Blvd	10/15/2021 8:53 AM
320	Tracy bvld	10/15/2021 8:46 AM
321	Schulte	10/15/2021 7:50 AM
322	Famoso lane	10/15/2021 7:30 AM
323	Wall	10/15/2021 7:18 AM
324	Mac aurther	10/15/2021 7:17 AM
325	Chrisman	10/15/2021 6:58 AM
326	Tracy blvd	10/15/2021 6:46 AM
327	Schulte	10/15/2021 6:35 AM
328	Valpico Rd	10/15/2021 12:55 AM
329	Lincoln	10/15/2021 12:14 AM
330	Shulte	10/14/2021 10:51 PM
331	Corral hollow	10/14/2021 9:40 PM
332	355 Hollywood Ave	10/14/2021 9:40 PM

#	STREET 2	DATE
1	Summit	8/18/2022 1:34 PM
2	Kagehiro Drive	7/25/2022 12:50 PM
3	Ellis Town Drive	7/21/2022 8:59 AM
4	Cozy ct	6/23/2022 10:21 PM
5	Corral Hollow	6/23/2022 5:19 PM
6	Mino Way	6/6/2022 10:34 PM
7	Schulte	5/22/2022 6:06 AM
8	Amaretto	5/21/2022 3:31 AM
9	11th St	5/20/2022 10:10 PM
10	Valpico	5/18/2022 5:22 PM
11	Lammers	5/16/2022 3:42 PM
12	Kern	5/16/2022 7:07 AM
13	Buckinghorse	5/12/2022 3:54 PM
14	Mcarthur	5/11/2022 8:55 PM
15	W. 11th Street	5/11/2022 8:36 PM
16	East street	5/11/2022 8:35 PM
17	11th	5/11/2022 7:10 PM
18	Alden glen	5/11/2022 5:50 PM
19	Tracy blvd	5/11/2022 4:03 PM
20	Tracy Blvd	5/11/2022 3:11 PM
21	Schulte	5/11/2022 2:29 PM
22	highland	5/11/2022 11:37 AM
23	Schulte Rd.	5/9/2022 5:54 PM
24	Parker Ave	5/9/2022 10:03 AM
25	Havenbrook Drive	5/9/2022 8:42 AM
26	East street	5/6/2022 2:50 AM
27	11th	5/5/2022 12:37 PM
28	Tracy Hill dr.	5/5/2022 11:23 AM
29	W. Shulte Rd	5/5/2022 10:50 AM
30	Alden Glen Drive	5/5/2022 8:46 AM
31	Corral Hollow	5/5/2022 8:38 AM
32	Mae Street	5/5/2022 8:17 AM
33	lassen	5/5/2022 8:00 AM
34	Chrisman	5/5/2022 6:59 AM
35	11th Street	5/3/2022 5:18 PM
36	Cedar mountain Dr	4/19/2022 3:47 AM
37	Valpico	4/15/2022 12:27 PM

38	Lincoln	3/25/2022 2:24 PM
39	Cedar mountain Dr	3/25/2022 11:28 AM
40	Byron	3/16/2022 7:29 PM
41	Valpico	3/2/2022 11:35 AM
42	Corral Hollow	2/2/2022 8:48 AM
43	lincoln	1/16/2022 10:42 AM
44	Tosralinda	1/6/2022 10:32 AM
45	Tennis lane	12/30/2021 6:59 AM
46	Valpico Road	12/6/2021 3:51 PM
47	Linne	11/14/2021 2:20 PM
48	Syccamore	11/11/2021 10:37 PM
49	Allegheny	11/10/2021 7:06 PM
50	Central Ave	11/9/2021 3:20 PM
51	Allegheny	11/9/2021 12:50 PM
52	Alegre	11/9/2021 5:04 AM
53	Schulte	11/8/2021 6:39 PM
54	Grantline	11/8/2021 4:17 PM
55	Central Avenue	11/7/2021 4:35 PM
56	Starflower	11/7/2021 1:39 PM
57	Central	11/7/2021 6:50 AM
58	Lincoln	11/6/2021 11:24 PM
59	Starflower	11/6/2021 10:16 PM
60	Tracy blvd	11/6/2021 8:59 PM
61	11th St	11/6/2021 8:36 PM
62	MacArthur	11/6/2021 8:03 PM
63	Acacia	11/6/2021 1:02 PM
64	11th Street	11/6/2021 9:36 AM
65	Carol Ann dr	11/6/2021 8:26 AM
66	Valpico	11/5/2021 9:27 PM
67	Emerson ave	11/5/2021 4:56 PM
68	Whispering Wind	11/5/2021 4:40 PM
69	S MacArthur Drive	11/5/2021 1:23 PM
70	11th St.	11/5/2021 12:25 PM
71	Bird	11/5/2021 12:12 PM
72	Taft	11/5/2021 10:30 AM
73	Brookview	11/5/2021 10:27 AM
74	Schulte	11/5/2021 10:13 AM
75	Lowell	11/5/2021 9:49 AM

76	Tracy Blvd	11/5/2021 9:03 AM
77	Linne rd	11/5/2021 9:02 AM
78	Schulte RD	11/5/2021 8:53 AM
79	Shulte	11/5/2021 8:49 AM
80	Lynch	11/5/2021 8:29 AM
81	Corral Hollow	11/5/2021 8:09 AM
82	Bird	11/5/2021 8:03 AM
83	11th street	11/5/2021 7:20 AM
84	Cypress	11/5/2021 7:05 AM
85	Crossroad	11/5/2021 6:11 AM
86	MacArthur	11/5/2021 12:16 AM
87	Schulte	11/4/2021 11:31 PM
88	11th st	11/4/2021 11:06 PM
89	Middlefield	11/4/2021 10:38 PM
90	Tracy blvd	11/4/2021 10:31 PM
91	Central	11/4/2021 10:05 PM
92	Whispering Wind Drive	11/4/2021 9:53 PM
93	Coral hollow	11/4/2021 9:11 PM
94	Kagehero	11/4/2021 8:58 PM
95	Centre Court	11/4/2021 8:36 PM
96	Castle Haven dr	11/4/2021 8:35 PM
97	MacArthur	11/4/2021 8:22 PM
98	Derecho Way	11/4/2021 8:20 PM
99	Kavanagh	11/4/2021 8:11 PM
100	Eleventh	11/4/2021 8:05 PM
101	Clover Rd	11/4/2021 8:00 PM
102	Grand line	11/4/2021 8:00 PM
103	Schulte	11/4/2021 7:57 PM
104	Holly	11/4/2021 7:54 PM
105	Elissagaray	11/4/2021 7:53 PM
106	Grant line	11/4/2021 7:48 PM
107	lammers	11/4/2021 7:47 PM
108	Parker	11/4/2021 7:38 PM
109	11th	11/4/2021 7:37 PM
110	Whispering Wind Wy	11/4/2021 7:36 PM
111	Cypress	11/4/2021 7:30 PM
112	Wear valpico rd	11/4/2021 7:29 PM
113	Shulte	11/4/2021 7:26 PM

114	Schulte	11/4/2021 7:14 PM
115	Schulte Rd	11/4/2021 7:13 PM
116	Central	11/4/2021 7:12 PM
117	Sycamore	11/4/2021 7:12 PM
118	McArthur	11/4/2021 7:10 PM
119	Isabel Virginia	11/4/2021 7:10 PM
120	Kavanagh	11/4/2021 7:07 PM
121	Cherry Blossom	11/4/2021 7:05 PM
122	Kavanagh	11/4/2021 7:04 PM
123	Kavanagh	11/4/2021 7:01 PM
124	Corral Hollow	11/4/2021 6:57 PM
125	Sycamore pkwy	11/4/2021 6:55 PM
126	Mayflower	11/4/2021 6:55 PM
127	Grantline	11/4/2021 6:48 PM
128	Tracy blvd	11/4/2021 6:44 PM
129	Peony	11/4/2021 6:27 PM
130	De Bord Dr	11/4/2021 6:24 PM
131	Shulte	11/4/2021 5:55 PM
132	Schulte	11/4/2021 4:57 PM
133	East Lake	11/4/2021 4:17 PM
134	Grant line	11/4/2021 3:40 PM
135	Orchard	11/4/2021 2:41 PM
136	Lowell	11/4/2021 2:33 PM
137	Eaton	11/4/2021 1:49 PM
138	macarthur	11/4/2021 12:35 PM
139	11th street	11/4/2021 12:10 PM
140	Corral Hollow Rd	11/2/2021 7:30 PM
141	Tracy Blvd	11/2/2021 7:26 PM
142	Valpico	11/2/2021 4:11 PM
143	Central	11/2/2021 7:56 AM
144	MacArthur	11/1/2021 1:37 PM
145	Augusta ave	11/1/2021 6:56 AM
146	Clover	11/1/2021 5:48 AM
147	Kelley Mist Ct.	10/31/2021 9:20 PM
148	Delta Ave	10/31/2021 6:03 PM
149	McArthur & Esst Lake	10/31/2021 5:41 PM
150	Delta Ave	10/31/2021 5:38 PM
151	Delta Ave	10/31/2021 5:33 PM

152	Delta Ave	10/31/2021 5:22 PM
153	Tracy blvd	10/31/2021 3:54 PM
154	W. Central Ave.	10/31/2021 3:27 PM
155	Corral Hallow	10/31/2021 2:58 PM
156	Tracy Blvd	10/31/2021 2:14 PM
157	Tennis Ln	10/31/2021 2:03 PM
158	Parkside	10/31/2021 1:47 PM
159	Windsong	10/31/2021 1:38 PM
160	Corral Hollow Road	10/31/2021 1:35 PM
161	Corral Hollow	10/31/2021 12:49 PM
162	Schulte	10/31/2021 12:41 PM
163	11 th Street	10/31/2021 12:37 PM
164	11th st	10/29/2021 9:27 AM
165	Tracy blvd	10/29/2021 8:26 AM
166	Westgate	10/25/2021 6:14 PM
167	Tracy Blvd	10/25/2021 3:29 PM
168	grant line rd.	10/25/2021 11:59 AM
169	Lincoln	10/24/2021 6:24 PM
170	Corral hollow	10/24/2021 5:46 PM
171	Deerwood Lane	10/24/2021 1:17 PM
172	Corral Hollow	10/24/2021 12:37 PM
173	Schulte	10/24/2021 10:45 AM
174	11th Street	10/24/2021 7:40 AM
175	11th Street	10/24/2021 6:17 AM
176	Linne	10/23/2021 6:51 PM
177	Schulte	10/23/2021 2:41 PM
178	Linne	10/23/2021 2:19 PM
179	Valpico	10/23/2021 1:41 PM
180	central	10/23/2021 11:18 AM
181	Dove St	10/23/2021 9:07 AM
182	Lincoln	10/23/2021 7:31 AM
183	MacArthur	10/23/2021 7:29 AM
184	grant line	10/23/2021 6:03 AM
185	Belmont	10/22/2021 8:30 PM
186	Whispering winds	10/22/2021 8:26 PM
187	MacArthur	10/22/2021 6:59 PM
188	McArthur	10/22/2021 6:29 PM
189	Valpico	10/22/2021 6:23 PM

190	11th St	10/22/2021 5:58 PM
191	lowell ave.	10/22/2021 5:40 PM
192	Valpico	10/22/2021 4:59 PM
193	Woman Way	10/22/2021 4:55 PM
194	Elissagaray	10/22/2021 4:55 PM
195	Tracy blvd	10/22/2021 4:24 PM
196	tracy blvd	10/22/2021 4:06 PM
197	Vivian ln	10/22/2021 11:31 AM
198	Tracy ca 95376	10/22/2021 10:48 AM
199	Corral hallow	10/22/2021 10:13 AM
200	11th street	10/22/2021 10:09 AM
201	Hotchkiss	10/22/2021 10:05 AM
202	Lincoln	10/22/2021 10:05 AM
203	Valpico	10/22/2021 1:31 AM
204	12th St	10/21/2021 10:54 PM
205	Summertime	10/21/2021 10:37 PM
206	N. Tracy Blvd.	10/21/2021 9:06 PM
207	Central Ave.	10/21/2021 9:05 PM
208	Corral Hallow	10/21/2021 9:04 PM
209	Belmont Wy	10/21/2021 8:49 PM
210	Central	10/21/2021 8:27 PM
211	Cherry blossom lane	10/21/2021 7:33 PM
212	Belmont Wy	10/21/2021 7:07 PM
213	11th	10/21/2021 6:34 PM
214	east	10/21/2021 6:32 PM
215	Shulte	10/21/2021 5:25 PM
216	Belmont Wy	10/21/2021 5:01 PM
217	11th street	10/21/2021 3:07 PM
218	11th street	10/21/2021 3:06 PM
219	Valpico Dr	10/21/2021 7:30 AM
220	Redbridge rd.	10/21/2021 6:20 AM
221	Grant line	10/21/2021 12:27 AM
222	S central	10/20/2021 11:28 PM
223	Tung M Nguyen	10/20/2021 11:24 PM
224	Lowell Strret	10/20/2021 9:56 PM
225	W. Shulte	10/20/2021 8:48 PM
226	Corral Hollow	10/20/2021 7:27 PM
227	Lammers	10/20/2021 7:11 PM

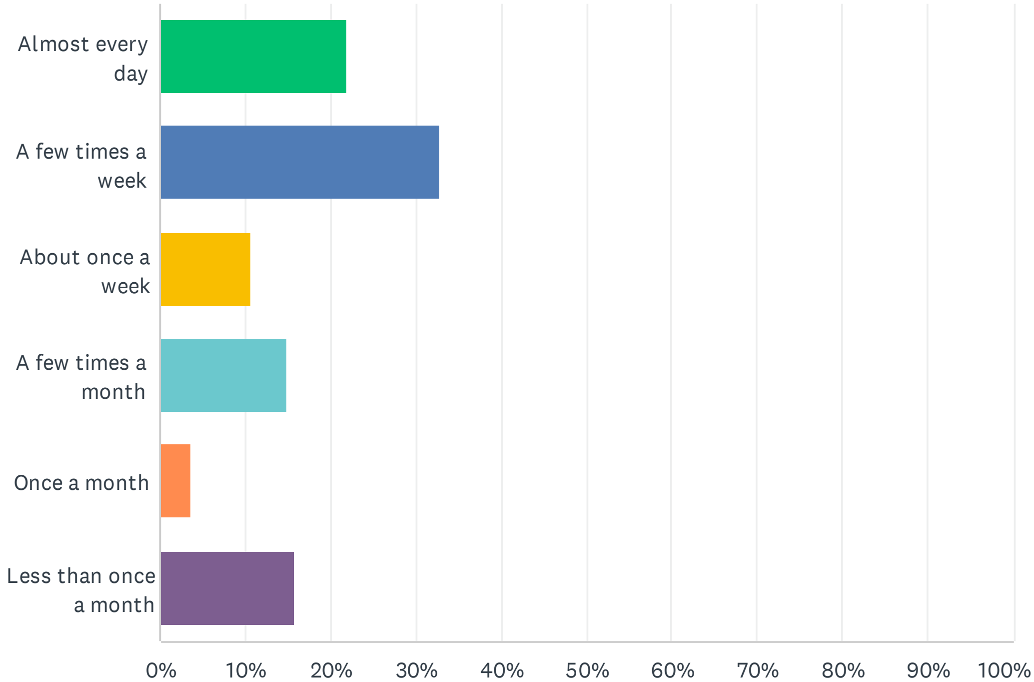
228	Eleventh St	10/20/2021 6:17 PM
229	Corral Hollow	10/20/2021 5:30 PM
230	whispering Wind	10/20/2021 4:35 PM
231	11th Street	10/20/2021 4:07 PM
232	Schulte	10/20/2021 3:56 PM
233	Belmont Wy	10/20/2021 3:54 PM
234	Schulte	10/20/2021 3:40 PM
235	Corral Hollow	10/20/2021 3:08 PM
236	Central	10/20/2021 2:45 PM
237	Eastlake	10/20/2021 2:37 PM
238	Corral Hollow	10/20/2021 1:56 PM
239	Corral Hollow	10/20/2021 1:55 PM
240	Schulte	10/20/2021 1:25 PM
241	Firefly Way	10/20/2021 11:22 AM
242	Carol Ann Drive	10/20/2021 10:47 AM
243	3rd Avenue	10/20/2021 10:14 AM
244	Mcarthur	10/20/2021 9:20 AM
245	McArthur Rd	10/20/2021 9:09 AM
246	Peony dr	10/20/2021 7:59 AM
247	Remington way	10/20/2021 7:21 AM
248	Shulte	10/20/2021 7:08 AM
249	Remington	10/20/2021 6:19 AM
250	Center	10/20/2021 5:52 AM
251	Grant line	10/20/2021 5:36 AM
252	Glenbriar	10/19/2021 11:06 PM
253	Roger	10/19/2021 10:32 PM
254	Yosemite	10/19/2021 10:18 PM
255	sycamore	10/19/2021 9:21 PM
256	Chrisman	10/19/2021 8:34 PM
257	S MacArthur	10/19/2021 8:27 PM
258	Amberwood way	10/19/2021 6:33 PM
259	lowell ave	10/19/2021 6:04 PM
260	Corral Hollow	10/19/2021 6:03 PM
261	Schulte	10/19/2021 4:47 PM
262	Dove	10/19/2021 3:50 PM
263	Holly	10/19/2021 2:29 PM
264	Sentinel	10/19/2021 8:07 AM
265	Wagtail	10/18/2021 11:22 PM

266	Coral hollow	10/18/2021 4:47 PM
267	Coral hollow	10/18/2021 4:39 PM
268	Tracy Blvd	10/18/2021 1:40 PM
269	Central	10/18/2021 1:15 PM
270	Central	10/18/2021 12:44 PM
271	Tracy Boulevard	10/18/2021 12:28 PM
272	Grant line rd	10/18/2021 10:02 AM
273	DeBord	10/18/2021 9:51 AM
274	Sycamore	10/18/2021 9:50 AM
275	c	10/18/2021 9:18 AM
276	East Mt Diablo	10/18/2021 8:35 AM
277	Whispering Wind	10/18/2021 8:17 AM
278	Central	10/18/2021 8:06 AM
279	Carlton	10/17/2021 6:14 PM
280	Valpico	10/16/2021 1:20 PM
281	Tracy Blvd	10/15/2021 11:46 PM
282	Tracy Boulevard	10/15/2021 4:15 PM
283	Central	10/15/2021 3:13 PM
284	Hollywood	10/15/2021 1:36 PM
285	Tropaz Lane	10/15/2021 1:25 PM
286	Eleventh	10/15/2021 12:35 PM
287	Fairoaks	10/15/2021 12:34 PM
288	Central	10/15/2021 11:58 AM
289	Saint Clair Place	10/15/2021 11:57 AM
290	Calamity Lane	10/15/2021 9:36 AM
291	MacArthur	10/15/2021 9:35 AM
292	Lowell	10/15/2021 9:29 AM
293	Tennis lane	10/15/2021 9:23 AM
294	Valpico	10/15/2021 8:53 AM
295	Schulte	10/15/2021 8:46 AM
296	McAurthur	10/15/2021 7:50 AM
297	Maison lane	10/15/2021 7:30 AM
298	Beverly	10/15/2021 7:18 AM
299	Yosemite	10/15/2021 7:17 AM
300	Bates	10/15/2021 6:58 AM
301	Tracy blvd	10/15/2021 6:35 AM
302	Tracy Blvd	10/15/2021 12:55 AM
303	Corral Hollow	10/15/2021 12:14 AM

304	Central	10/14/2021 10:51 PM
305	Schulte	10/14/2021 9:40 PM

Q6 How often do you ride your bicycle?

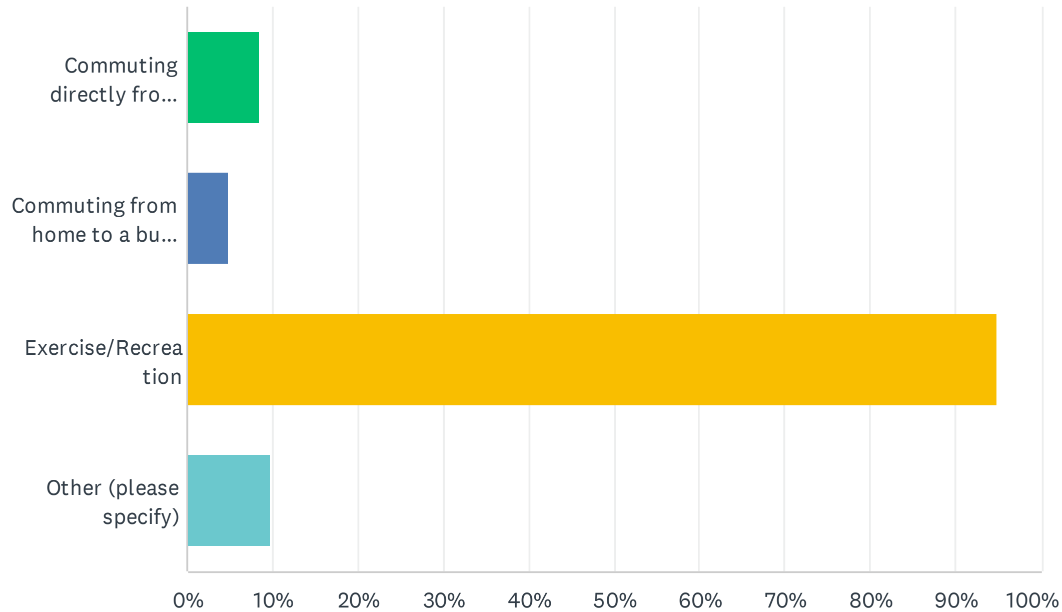
Answered: 328 Skipped: 21



ANSWER CHOICES	RESPONSES	
Almost every day	21.95%	72
A few times a week	32.93%	108
About once a week	10.67%	35
A few times a month	14.94%	49
Once a month	3.66%	12
Less than once a month	15.85%	52
TOTAL		328

Q7 What is your primary purpose when riding a bicycle? (Select all that apply)

Answered: 328 Skipped: 21



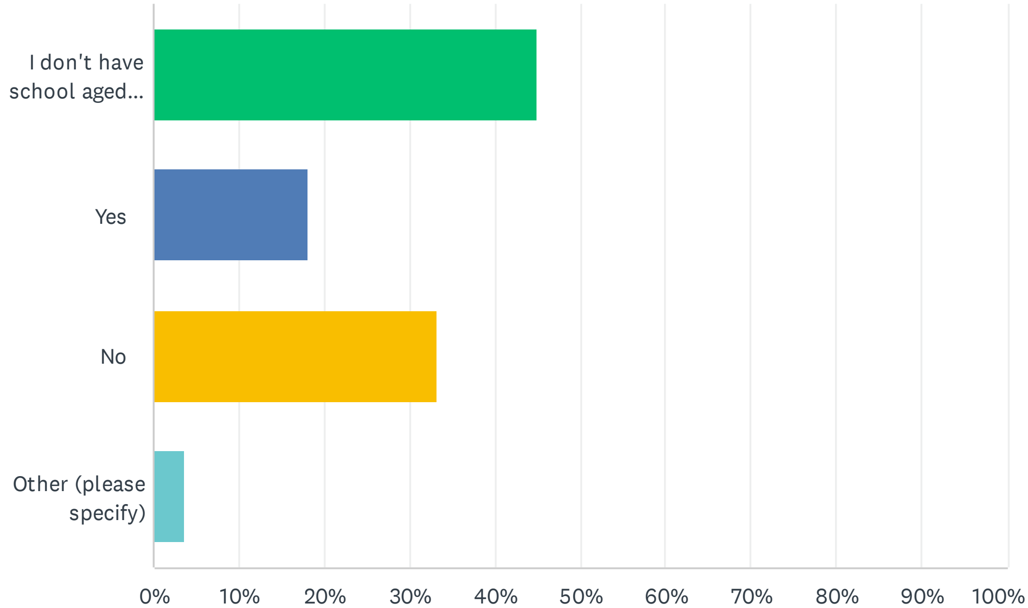
ANSWER CHOICES	RESPONSES	
Commuting directly from home to work/school	8.54%	28
Commuting from home to a bus stop, ACE train station, or other Tracy transit station	4.88%	16
Exercise/Recreation	94.82%	311
Other (please specify)	9.76%	32
Total Respondents: 328		

#	OTHER (PLEASE SPECIFY)	DATE
1	Shorter trips to the supermarket/recreation	7/25/2022 12:51 PM
2	Stress relief	6/23/2022 10:23 PM
3	Farmer's Market	5/9/2022 5:55 PM
4	Don't	5/6/2022 2:51 AM
5	Exercise the dog	3/25/2022 2:26 PM
6	Picking up daughter from school	11/5/2021 1:26 PM
7	Grocery shopping	11/5/2021 10:17 AM
8	Shopping	11/4/2021 8:22 PM
9	Family rides to Aldos!	11/4/2021 7:29 PM
10	Training	10/31/2021 6:04 PM

11	Training	10/31/2021 5:39 PM
12	Just to ride	10/29/2021 9:29 AM
13	Going to start riding to work	10/23/2021 6:52 PM
14	getting out with family/friends	10/23/2021 11:20 AM
15	Never	10/22/2021 8:28 PM
16	Bike tricks	10/22/2021 7:52 PM
17	I don’t ride a bicycle	10/22/2021 6:01 PM
18	daily activities	10/22/2021 5:44 PM
19	The streets are to dangerous to ride my bike	10/22/2021 5:01 PM
20	Having fun	10/21/2021 6:35 PM
21	grocery shopping	10/21/2021 6:33 PM
22	Shopping, church	10/21/2021 3:07 PM
23	To Farmers market and Library	10/21/2021 12:29 AM
24	Running errands	10/20/2021 7:28 PM
25	Small errands	10/20/2021 9:22 AM
26	Exercise and pleasure	10/19/2021 4:49 PM
27	Bike life	10/18/2021 11:24 PM
28	For fun and exercise	10/18/2021 4:40 PM
29	Bike ride outs with TBL!!!!!!	10/18/2021 8:08 AM
30	Social / community outings	10/15/2021 1:38 PM
31	To have fun and ride with friends	10/15/2021 6:59 AM
32	running errands	10/14/2021 10:54 PM

Q8 If you have school age children do they bike to/from school?

Answered: 325 Skipped: 24



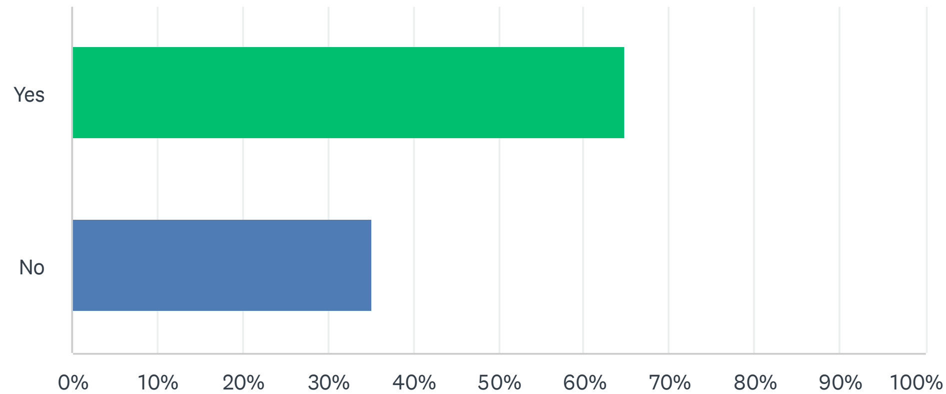
ANSWER CHOICES	RESPONSES	
I don't have school aged children	44.92%	146
Yes	18.15%	59
No	33.23%	108
Other (please specify)	3.69%	12
TOTAL		325

#	OTHER (PLEASE SPECIFY)	DATE
1	Yes, sometimes we bike to school	6/6/2022 10:35 PM
2	3yr old, sits on bike attachment	11/5/2021 1:26 PM
3	They can't bike to/ from school it's not allowed	11/4/2021 10:32 PM
4	Not safe!	10/31/2021 2:59 PM
5	Too dangerous	10/29/2021 9:29 AM
6	they ride there bikes after school	10/23/2021 11:20 AM
7	All around Tracy for excercise	10/22/2021 7:52 PM
8	Do not trust adult and teen drivers	10/19/2021 2:30 PM
9	No kids	10/18/2021 11:24 PM
10	I am in school and I ride my bike to and from school	10/18/2021 4:40 PM
11	Grandchildren	10/18/2021 1:41 PM

12	Scooters	10/18/2021 8:50 AM

Q9 Does your household currently make any vehicle trips that could be replaced by cycling?

Answered: 330   Skipped: 19



ANSWER CHOICES	RESPONSES	
Yes	64.85%	214
No	35.15%	116
TOTAL		330

Q10 If yes, please describe.

Answered: 190 Skipped: 159

#	RESPONSES	DATE
1	-Short trips to friends homes -Short trips to supermarket -Trips to downtown Tracy for dinner	7/25/2022 12:51 PM
2	To the park, store, school, etc.	7/21/2022 9:01 AM
3	Could make trips to town for lunc, dinner, and small need shopping	6/23/2022 10:23 PM
4	To grocery store, restaurants, work, school.	6/23/2022 5:19 PM
5	Could bike to Savemart instead of drive but don't feel safe.	6/6/2022 10:35 PM
6	Biking to SaveMart	5/21/2022 3:32 AM
7	Grocery store. Restaurants.	5/18/2022 5:23 PM
8	We go to Martials Art class on Naglee which we think can be replaced by cycling if we have safer bike lanes.	5/16/2022 3:44 PM
9	Grocery trip to savemart and raleys. Farmers market. Downtown visits. Getting to/from school. Visiting friends in town.	5/12/2022 3:56 PM
10	Trips to get 1 or a few items from a small-medium grocery store like Rite-aid(rip), Walgreens, Raleys, even FoodMaxx; commuting to school; heading to family friend's homes.	5/11/2022 9:00 PM
11	Driving to grocery stores, gym, etc.	5/11/2022 7:11 PM
12	We have savemart across the street. Our kid goes to Williams. We often go to downtown, especially in the summer. We walk every weekend. All of those could be done by a bicycle but we don't feel safe as there are no real bike lanes or trails. We also go to Livermore bike riding on Arroyo Trail and around Del Valle. It's sad that Tracy doesn't offer the same opportunity because once we're done with biking, we'll get food. Our city is missing on additional revenue.	5/11/2022 2:32 PM
13	Farmers market	5/11/2022 1:27 PM
14	Bike to work	5/9/2022 10:04 AM
15	I live 6.5 miles from my place of employment and would bicycle commute but fully half of the roadways available to me do not have a protected bike line, have less than a 12" shoulder available to cyclists, and share the roadway with commercial truck traffic.	5/9/2022 8:48 AM
16	Going to the grocery store	5/5/2022 7:33 PM
17	Store	5/5/2022 12:37 PM
18	We often bike to the park or a nearby ice cream shop.	5/5/2022 10:51 AM
19	Trips to shops, doctor visits, errands	5/5/2022 8:50 AM
20	Going to the post office	5/5/2022 8:18 AM
21	Daily trips to Safeway, Costco, Savemart Bank, Doctors appointments.	5/5/2022 8:01 AM
22	Supermarket	5/5/2022 7:00 AM
23	Trips to grocery store.	5/3/2022 5:19 PM
24	Going to the corner store.	4/19/2022 3:49 AM
25	Trips to school, low amount grocery trips (getting only a handfull of items at stores like walgreens, raleys, and maybe even foodmaxx/safeway), going to friends' houses	4/15/2022 12:29 PM
26	Shopping (grocery, mall, Starbucks, etc)	3/25/2022 2:26 PM
27	To store / at this time it is not safe for wife n children	3/2/2022 11:37 AM

28	Grocery store, dining	2/2/2022 8:49 AM
29	Shopping	12/30/2021 7:01 AM
30	Trips to the grocery store, to downtown, and other people's houses	12/6/2021 3:52 PM
31	Kids to school	11/14/2021 2:21 PM
32	Grocery store trips	11/10/2021 7:08 PM
33	Riding to events downtown Riding to the grocery store or post office. Also, riding to run errands	11/9/2021 3:21 PM
34	Commute to work	11/9/2021 12:51 PM
35	Small grocery or coffee runs	11/8/2021 6:40 PM
36	Grocery store	11/7/2021 1:39 PM
37	Biking to Kimball on a safer path Biking to grocery stores with better bike lanes would make it a lot safer	11/7/2021 12:49 AM
38	Grocery store	11/6/2021 11:25 PM
39	Going to the Sports complex, going grocery shopping, visit friends	11/6/2021 8:37 PM
40	Close to stores	11/6/2021 9:37 AM
41	Son can bike to school, short trips to friends houses	11/6/2021 8:29 AM
42	Grocery store visits, legacy fields	11/5/2021 9:28 PM
43	To the market or downtown	11/5/2021 4:41 PM
44	To local supermarket, downtown, close relatives homes.	11/5/2021 1:26 PM
45	Can't ride in my neighborhood due to high traffic & no shoulder.	11/5/2021 12:13 PM
46	To the Senior Center for classes	11/5/2021 10:30 AM
47	We need more protected bike lanes with barriers or full separation. I can't have my kids riding next to car traffic only separated by a white line.	11/5/2021 10:29 AM
48	Schulte is a very dangerous place to ride. I've seen at least 3 car accidents happening at our intersection while the cross guard was helping the kids crossing (pre-covid), and my husband had an accident there too. Our closest park is on the other side of schulte. We need a light there, it is very very dangerous!!	11/5/2021 10:17 AM
49	Stores and down town visits	11/5/2021 9:04 AM
50	The stores	11/5/2021 9:03 AM
51	Nearest grocery	11/5/2021 8:55 AM
52	Biking could replace my csr however there are not enough safe places to bike. So I don't.	11/5/2021 8:04 AM
53	Grocery shopping	11/5/2021 7:06 AM
54	We could bike to SaveMart or Rite- Aid but don't. Also would love to bike to downtown but don't when with my kid.	11/5/2021 12:17 AM
55	store	11/4/2021 11:07 PM
56	Gymnastics, coffee, play dates	11/4/2021 10:40 PM
57	Store trips	11/4/2021 10:05 PM
58	Kids to school, exercising etc…	11/4/2021 9:11 PM
59	If we could trust the cars not to hit us in the bike lanes, we could ride bikes to the stores and restaurants	11/4/2021 8:37 PM
60	Commuting	11/4/2021 8:36 PM
61	Local Errands	11/4/2021 8:22 PM

62	Downtown dining	11/4/2021 8:12 PM
63	To farmers market, to coffee and ice cream, breakfast/dinner.	11/4/2021 8:06 PM
64	CVS Starbucks	11/4/2021 8:01 PM
65	Riding to the library, or to Raley’s	11/4/2021 7:58 PM
66	Go to the grocery store. My kids like to go for a treat to Starbucks	11/4/2021 7:57 PM
67	Errands around town	11/4/2021 7:54 PM
68	Farmers market, Starbucks run, ice cream run	11/4/2021 7:54 PM
69	To work, Tracy blvd and 11th	11/4/2021 7:49 PM
70	to the grocery store coffee shop	11/4/2021 7:47 PM
71	Biking to local supermarket; biking to friends’ homes.	11/4/2021 7:46 PM
72	Ride to work	11/4/2021 7:39 PM
73	Trips to friends houses.	11/4/2021 7:39 PM
74	Groceries, downtown shopping and events	11/4/2021 7:38 PM
75	My husband often rides from Circle B ranch to his business on Larch rd. It makes me nervous with the drivers. A path would be amazing. Tracy needs this. Families in our community desperately need this.	11/4/2021 7:29 PM
76	Trips to downtown for shopping, banking etc.	11/4/2021 7:15 PM
77	Grocery shopping errands around town	11/4/2021 7:13 PM
78	Shopping, trips to the park, dining out	11/4/2021 7:13 PM
79	Bank, visit friends in town	11/4/2021 7:11 PM
80	In town for errands, to gym	11/4/2021 7:10 PM
81	To school	11/4/2021 6:58 PM
82	Supermarket trips for small amount of stuff	11/4/2021 6:45 PM
83	Going to the store	11/4/2021 6:26 PM
84	Runs for lunch or dinner or ice cream.	11/4/2021 5:56 PM
85	Downtown events. Community events	11/4/2021 4:58 PM
86	Going downtown to eat at restaurants. Picking up a few items at Riley’s or Safeway.	11/4/2021 4:19 PM
87	Riding to and from school	11/4/2021 3:45 PM
88	Stores, shopping, play / practice at parks	11/4/2021 2:34 PM
89	Trips to store, parks, family's houses	11/4/2021 12:36 PM
90	Going out to the market.	11/3/2021 9:59 PM
91	Cycling to work	11/2/2021 7:31 PM
92	School, shopping, dining	11/2/2021 7:27 PM
93	Going to walgreens or soccer practice	11/2/2021 4:12 PM
94	To any of the stores or out to eat.	11/2/2021 7:57 AM
95	Grocery shopping.	11/1/2021 1:38 PM
96	We'd like to be able to ride bike to Raley's but the road has dangerous potholes and no bike lane all the way through	10/31/2021 5:43 PM
97	I drive to grocery store to get a few items that can be carried in my backpack while riding a bike instead of drivibg	10/31/2021 3:57 PM

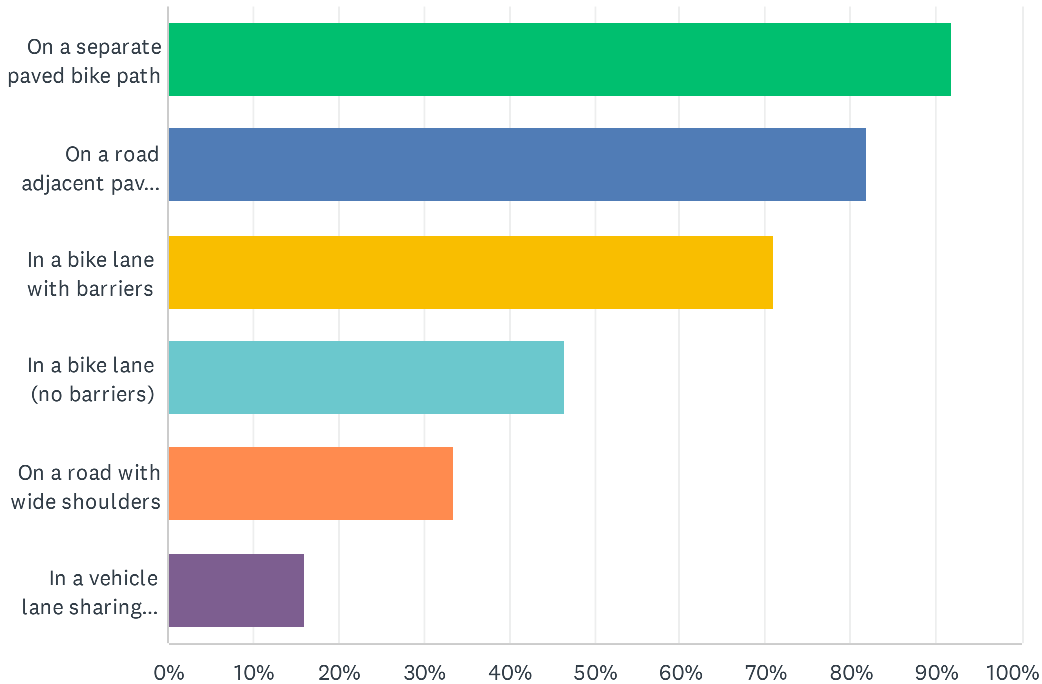
98	Ride to see family and friends	10/31/2021 2:59 PM
99	Grocery store, coffee shop, restaurants	10/31/2021 2:14 PM
100	Downtown to eat	10/31/2021 1:48 PM
101	Grocery store trips, to and from work, to the gym	10/31/2021 1:39 PM
102	Store, school, park, restaurants. A lot of things.	10/29/2021 9:29 AM
103	Local grocery trips and other errands	10/25/2021 6:17 PM
104	cvs, ace,	10/25/2021 12:00 PM
105	Groceries, prescriptions, dining, farmer's market, post office or ups, hair salon, friends, exercise classes, parks, stores, meetings (city offices awa city hall)	10/24/2021 1:23 PM
106	Very visit to downtown. If there were bike racks for parking and maybe even an attendant we'd ride way more often. The attendant would be really appreciated at the mall too. Locked bikes up outside movies and came out to stripped bike frames. Every trip to the mall and movies would be on bikes if there was a $5 parking fee for protected bikes	10/24/2021 10:47 AM
107	Riding downtown for events	10/24/2021 7:41 AM
108	To the Farmers Market or to eat downtown, or to Safeway for groceries, or to City Hall for meetings, or to church, etc.	10/24/2021 6:21 AM
109	General travel	10/23/2021 6:52 PM
110	Store	10/23/2021 1:42 PM
111	to the store down the street	10/23/2021 11:20 AM
112	Trip to nearby strip malls	10/23/2021 9:08 AM
113	Work 3 miles from home	10/23/2021 6:04 AM
114	We live in Edgewood. Within cycling distance there's Raley's, but we can't cycle with groceries.	10/22/2021 8:28 PM
115	To the store but not many bike lanes	10/22/2021 7:52 PM
116	Errands to grocery, drug stores, coffee shop or fast food restaurants.	10/22/2021 7:02 PM
117	I couod ride to get my perscriptions at rite aid or to starbucks for a refresher	10/22/2021 6:31 PM
118	Could go to Rite Aid or Red Maple Village via bike.	10/22/2021 6:24 PM
119	school ,shopping,work and recreation	10/22/2021 5:44 PM
120	I could easily ride my bike to work every day minus rainy days but the roads are to unsafe and need repair and widen	10/22/2021 5:01 PM
121	I could bike to downtown tracy for leisure or to the grocery store for small goods.	10/22/2021 4:56 PM
122	Two and from school. Small town errands.	10/22/2021 4:28 PM
123	We can bike to work and school and to events locally	10/22/2021 2:34 PM
124	Shopping	10/22/2021 11:32 AM
125	Grocery shopping, preorder food pickup	10/22/2021 10:16 AM
126	Trips to the store or pharmacy. Visiting friends in town, or going out for food or drinks.	10/22/2021 10:06 AM
127	Trips to the store	10/22/2021 1:31 AM
128	Grocery shopping	10/21/2021 9:09 PM
129	Store, downtown, school, work	10/21/2021 9:06 PM
130	Work, some shopping	10/21/2021 8:28 PM
131	To neighborhoods	10/21/2021 7:34 PM

132	grabbing a gallon of milk from store	10/21/2021 6:33 PM
133	Shopping	10/21/2021 3:07 PM
134	Small shopping trips (i.e. 99c store, winco), weekends to Farmers market and/or library, coffee run to panera or Starbucks	10/21/2021 12:29 AM
135	To gym/ downtown	10/20/2021 11:28 PM
136	Groceries, church, visiting	10/20/2021 7:28 PM
137	Errands	10/20/2021 5:30 PM
138	For quick things at the store, going to dinner downtown	10/20/2021 3:57 PM
139	Going to the Park	10/20/2021 3:09 PM
140	Downtown.	10/20/2021 2:10 PM
141	Trips to Bank of the West, UPS Store, Grocery Store	10/20/2021 1:57 PM
142	Going to the store	10/20/2021 1:26 PM
143	Store	10/20/2021 11:22 AM
144	Small shopping errands	10/20/2021 10:48 AM
145	Small errands can be done riding bike to nearby stores	10/20/2021 9:22 AM
146	Going to stores and getting haircuts.	10/20/2021 8:00 AM
147	Trips for ice cream or to a park.	10/20/2021 7:09 AM
148	Visiting friends	10/20/2021 6:20 AM
149	Shopping, visiting friends, meetings, entertainment and medical appointments	10/20/2021 5:57 AM
150	Short trips to the store, dental appointments, going out to eat.	10/20/2021 5:37 AM
151	To parks, restaurants and to visit other local family and friends	10/19/2021 11:08 PM
152	Downtown	10/19/2021 10:19 PM
153	2 miles to the grocery store.	10/19/2021 9:22 PM
154	Getting some exercise	10/19/2021 8:35 PM
155	Commuting to work	10/19/2021 7:43 PM
156	We don’t do much cycling in town due to the lack of bike trails	10/19/2021 6:34 PM
157	going to the store getting food	10/19/2021 6:05 PM
158	Grocery store trips, dining etc which I already do	10/19/2021 4:49 PM
159	To and from school and grocery shopping	10/19/2021 2:40 PM
160	We need to drive to where we want to bike, it would be awesome if there were bike lanes down Chrisman Rd.	10/19/2021 1:42 PM
161	Farmers market ,leisure trips down town	10/19/2021 8:08 AM
162	To the grocery store	10/18/2021 4:40 PM
163	Banking, restaurants, visit friends and family.	10/18/2021 1:41 PM
164	Ride to work but not enough bike lanes. Safety is an issue.	10/18/2021 12:44 PM
165	Grocery store Gym Dining	10/18/2021 9:51 AM
166	We drive all over town. And if there were better bike paths then we absolutely could use our bicycles more often to just travel around locally.	10/18/2021 8:38 AM
167	Dinner downtown, shopping, etc.	10/18/2021 8:18 AM
168	Trips to restaurants and supermarket	10/18/2021 8:11 AM

169	Bike riding will never be replaced in our home	10/18/2021 8:08 AM
170	To and from sports practices.	10/18/2021 8:08 AM
171	dinner and runs to store	10/16/2021 1:21 PM
172	Store	10/15/2021 3:13 PM
173	I would ride to more shopping but lack of bike racks and safety on some streets is a deterrent	10/15/2021 1:38 PM
174	To get to and from sports activities, work and school.	10/15/2021 1:26 PM
175	Store but MacArthur is safe on the south of valpico and the north of valpico but a 200 yr section has no path or bike line or sidewalk. It’s the most dangerous design I’ve ever seen. Nice path, then it’s gone. Look out!! Cars doing 75mph and doing doughnuts randomly. Literally a death waiting to happen. The dangers appear as gross neglect by the city. It’s a urgent danger. Similar to the death on 11th. No bike path anymore?? Oh well.	10/15/2021 12:38 PM
176	School drop off can be replaced with bikes	10/15/2021 12:36 PM
177	Back and forth to the store	10/15/2021 11:59 AM
178	Grocery shopping	10/15/2021 9:37 AM
179	To SaveMart or the park	10/15/2021 9:36 AM
180	Library trips and trips to pick up takeout	10/15/2021 9:30 AM
181	Going to the store or to work	10/15/2021 9:23 AM
182	I could ride my bike to work, and my children could ride to school- if it were safe. We need bike lanes	10/15/2021 8:54 AM
183	Riding downtown to the farmers market on Saturday, patronizing local businesses, visiting city parks	10/15/2021 7:52 AM
184	If there were better bike lanes and paths I would use my bike for more local shopping	10/15/2021 7:19 AM
185	TracyBikeLife every Thursdays	10/15/2021 6:47 AM
186	Since Tracy is a very small city, you can bike to the mall or any other businesses, we need more bike lanes and wider. Painted green would be great. Encouraging citizens that work locally to ride bikes to work or at least on the weekends can reduce traffic and would help improve our air quality but we need those bike lanes so it can be safe!	10/15/2021 1:05 AM
187	Outings	10/15/2021 12:15 AM
188	to appointments , post office , dining	10/14/2021 10:54 PM
189	Bike racks to lock up my bike	10/14/2021 9:41 PM
190	To grocery store	10/14/2021 9:40 PM

Q11 I would feel comfortable riding a bike in the following settings: (select all that apply)

Answered: 299 Skipped: 50



ANSWER CHOICES	RESPONSES	
On a separate paved bike path	91.97%	275
On a road adjacent paved bike path	81.94%	245
In a bike lane with barriers	70.90%	212
In a bike lane (no barriers)	46.49%	139
On a road with wide shoulders	33.44%	100
In a vehicle lane sharing the road	16.05%	48
Total Respondents: 299		

Q12 Where are the top three MOST comfortable roads/trails/intersections to ride a bike in Tracy?

Answered: 213 Skipped: 136

ANSWER CHOICES	RESPONSES	
Location 1	100.00%	213
Location 2	71.36%	152
Location 3	53.05%	113

#	LOCATION 1	DATE
1	Sycamore Parkway	7/25/2022 12:54 PM
2	Holdener Park (Livermore)	7/21/2022 9:09 AM
3	Parks that don't have homeless	6/23/2022 10:32 PM
4	On sidewalks	6/23/2022 5:21 PM
5	Central	5/21/2022 3:33 AM
6	N/A	5/20/2022 10:20 PM
7	None	5/19/2022 10:12 AM
8	Sycamore Parkway	5/18/2022 5:29 PM
9	Corrol Hollow	5/16/2022 3:46 PM
10	Sycamore Parkway on sidewalk	5/16/2022 7:10 AM
11	Separate bike path	5/12/2022 3:58 PM
12	Class 1 path on 11th St	5/12/2022 7:59 AM
13	Sycamore Parkway	5/11/2022 9:04 PM
14	Sycamore	5/11/2022 4:06 PM
15	Separated paved bike lane	5/11/2022 2:36 PM
16	separate paved bike path	5/11/2022 11:44 AM
17	Sycamore Pkwy.	5/9/2022 6:03 PM
18	McArthur between Grantline & 11th	5/9/2022 10:07 AM
19	South Tracy Blvd	5/9/2022 9:26 AM
20	Sycamore Parkway	5/9/2022 9:14 AM
21	No where the bicyclists	5/6/2022 2:53 AM
22	Sycamore Pkwy	5/5/2022 10:55 AM
23	N/A	5/5/2022 8:54 AM
24	Sycamore Parkway	5/5/2022 8:52 AM
25	MacArthur drive	5/5/2022 8:22 AM
26	Schulte between Sycamore and Corral Hallow	5/5/2022 8:03 AM
27	Bike path on Sycamore.	5/3/2022 5:22 PM

28	Sycamore parkway	4/15/2022 12:33 PM
29	Sycamore Parkway south of Schulte Rd.	3/25/2022 2:37 PM
30	Schulte	3/25/2022 11:32 AM
31	Levee	3/16/2022 7:32 PM
32	Ellis town drive	3/2/2022 11:39 AM
33	Cypress ave	2/2/2022 8:51 AM
34	Cypress Ave path	12/30/2021 7:06 AM
35	MacArthur Drive (before Cemetery)	12/6/2021 3:54 PM
36	Syccamore	11/11/2021 10:40 PM
37	Sycamore parkway	11/10/2021 7:21 PM
38	Schulte Rd	11/9/2021 3:23 PM
39	Corral Hollow	11/9/2021 12:56 PM
40	Grant line	11/9/2021 5:18 AM
41	Sycamore	11/7/2021 1:41 PM
42	Valpico	11/7/2021 6:55 AM
43	Not many	11/7/2021 12:51 AM
44	Tracy Blvd between Linne and Schulte	11/6/2021 8:09 PM
45	Lincoln park paved path	11/6/2021 1:04 PM
46	Sycamore pkway	11/6/2021 8:33 AM
47	Sycamore	11/5/2021 9:31 PM
48	Sycamore Pkwy	11/5/2021 4:43 PM
49	Eleventh St	11/5/2021 1:46 PM
50	Sports Complex	11/5/2021 12:33 PM
51	The excellent bike trail that follows Sycamore and Schulte	11/5/2021 10:34 AM
52	Trail from Tracy blvd to tennis lane	11/5/2021 10:24 AM
53	Schulte, in between savemart and Williams Middle School	11/5/2021 10:20 AM
54	Shulte	11/5/2021 9:51 AM
55	Cypress	11/5/2021 9:07 AM
56	Sycamore parkway	11/5/2021 9:05 AM
57	11st west of Corral hollow	11/5/2021 8:36 AM
58	There are none accessible without risking life to get to them	11/5/2021 8:11 AM
59	Corral hallow	11/5/2021 8:06 AM
60	Sycamore	11/5/2021 7:08 AM
61	Chrissman	11/5/2021 6:13 AM
62	Shulte rd	11/5/2021 1:06 AM
63	MacArthur from Schulte to Valpico	11/5/2021 12:19 AM
64	None	11/4/2021 11:33 PM
65	11th bike path	11/4/2021 11:10 PM

66	Sycamore	11/4/2021 10:42 PM
67	Sycamore parkway	11/4/2021 10:34 PM
68	Sycamore path	11/4/2021 10:06 PM
69	Parks	11/4/2021 10:01 PM
70	None, tracy sucks for bikes	11/4/2021 9:12 PM
71	Shulte	11/4/2021 8:39 PM
72	Sycamore parkway	11/4/2021 8:26 PM
73	Eagal Lake	11/4/2021 8:15 PM
74	Schulte wide paths	11/4/2021 8:09 PM
75	Grand line	11/4/2021 8:08 PM
76	On separate paved path	11/4/2021 7:59 PM
77	sycamore	11/4/2021 7:49 PM
78	Sycamore Parkway	11/4/2021 7:49 PM
79	Sycamore parkway	11/4/2021 7:43 PM
80	Sycamore Way	11/4/2021 7:41 PM
81	Around parks	11/4/2021 7:40 PM
82	Sycamore	11/4/2021 7:32 PM
83	Sycamore pathway	11/4/2021 7:19 PM
84	Separate bike path	11/4/2021 7:17 PM
85	Shulte	11/4/2021 7:14 PM
86	Sycamore Trail	11/4/2021 7:14 PM
87	None	11/4/2021 7:11 PM
88	Veterans park	11/4/2021 7:10 PM
89	None	11/4/2021 7:09 PM
90	Sycamore pkwy	11/4/2021 7:08 PM
91	Through neighborhoods	11/4/2021 7:06 PM
92	None	11/4/2021 7:03 PM
93	Sycamore	11/4/2021 6:57 PM
94	None	11/4/2021 6:50 PM
95	Sycamore pkwy	11/4/2021 6:46 PM
96	In my development	11/4/2021 6:28 PM
97	Ellis Neighborhood	11/4/2021 6:28 PM
98	Corral Hollow	11/4/2021 3:46 PM
99	Along 11th St by Tracy sports complex	11/4/2021 2:38 PM
100	shulte	11/4/2021 12:37 PM
101	None	11/4/2021 12:13 PM
102	Central Ave between Tracy Bl & Schulte	11/2/2021 7:49 PM
103	Tracy Blvd	11/2/2021 7:29 PM

104	North Corral Hollow road to 580	11/2/2021 4:17 PM
105	Grantline & Corral Hollow	11/2/2021 8:11 AM
106	MacArthur Dr, from Schulte to Valpico	11/1/2021 1:51 PM
107	Edgewood area	11/1/2021 7:03 AM
108	Edgewood area	11/1/2021 7:02 AM
109	Canal/mcarthur	11/1/2021 5:55 AM
110	Old Schulte	10/31/2021 9:26 PM
111	Valpico between Chrisman and Tracy Blvd	10/31/2021 6:11 PM
112	Durham Ferry	10/31/2021 5:49 PM
113	Tracy blvd	10/31/2021 4:02 PM
114	Tracy blvd	10/31/2021 3:35 PM
115	Sycamore pkwy trail	10/31/2021 3:03 PM
116	Sycamore Parkway trail/walkway --not the road	10/31/2021 2:16 PM
117	Bike path between Tracy and Manteca	10/31/2021 1:53 PM
118	Sycamore Parkway Trail	10/31/2021 1:41 PM
119	205 Bike Path	10/31/2021 1:37 PM
120	205 Bicycle Path	10/31/2021 1:24 PM
121	Durham Ferry Rd	10/31/2021 12:52 PM
122	Tracy Blvd	10/31/2021 12:51 PM
123	None	10/29/2021 9:32 AM
124	Central	10/29/2021 8:30 AM
125	Any park	10/24/2021 12:40 PM
126	Sycamore	10/24/2021 11:02 AM
127	6th Street	10/24/2021 6:25 AM
128	None	10/23/2021 6:55 PM
129	central ave	10/23/2021 11:22 AM
130	Orchard parkway	10/23/2021 6:07 AM
131	Lammers/Kimball	10/22/2021 8:32 PM
132	Corral hollow	10/22/2021 7:54 PM
133	The aquaduct	10/22/2021 6:34 PM
134	Sycamore	10/22/2021 5:48 PM
135	Sycamore	10/22/2021 5:11 PM
136	Not	10/22/2021 5:02 PM
137	11th Street between Lammers and Corral Hollow	10/22/2021 4:58 PM
138	Eastlake circle/Hidden Lake	10/22/2021 4:57 PM
139	Sports complex	10/22/2021 4:35 PM
140	McArthur	10/22/2021 2:36 PM
141	Sycamore	10/22/2021 11:51 AM

142	Grantline	10/22/2021 11:38 AM
143	Sycamore	10/22/2021 10:56 AM
144	Separate pages	10/22/2021 10:09 AM
145	Centennial Estates	10/21/2021 10:42 PM
146	Grant Line Rd.	10/21/2021 9:19 PM
147	Corral Hollow	10/21/2021 8:52 PM
148	Sycamore parkway	10/21/2021 8:30 PM
149	Sycamore pkwy	10/21/2021 6:42 PM
150	grantline	10/21/2021 6:35 PM
151	11 st bike/pedestrian path	10/21/2021 12:32 AM
152	Dunno	10/20/2021 11:26 PM
153	No where	10/20/2021 8:51 PM
154	In my neighborhood	10/20/2021 7:29 PM
155	Redbridge	10/20/2021 7:13 PM
156	Separate paved path	10/20/2021 6:20 PM
157	Redbridge	10/20/2021 4:11 PM
158	I do not know	10/20/2021 3:57 PM
159	Sycamore Parkway	10/20/2021 1:58 PM
160	MacArthur	10/20/2021 1:27 PM
161	Tracy Blvd	10/20/2021 11:25 AM
162	Schulte Blvd btw Corral Hollow/Central	10/20/2021 10:54 AM
163	Sycamore Ave	10/20/2021 9:27 AM
164	south tracy /valpico	10/20/2021 8:04 AM
165	Corral hollow	10/20/2021 7:33 AM
166	Sycamore	10/20/2021 7:24 AM
167	Schulte road	10/20/2021 6:21 AM
168	N MacArther Dr (north of 11th street)	10/20/2021 6:13 AM
169	On a road adjacent paved bike path	10/20/2021 5:41 AM
170	CA Aqueduct Bikeway	10/19/2021 11:12 PM
171	Sycamore parkway	10/19/2021 10:34 PM
172	Sycamore	10/19/2021 7:47 PM
173	Sycamore Parkway	10/19/2021 6:35 PM
174	Redbridge road	10/19/2021 6:07 PM
175	Sycamore Pkwy	10/19/2021 6:06 PM
176	Sycamore bike path	10/19/2021 4:52 PM
177	Sycamore Blvd	10/19/2021 2:41 PM
178	None	10/19/2021 2:30 PM
179	Sycamore Parkway	10/19/2021 1:43 PM

180	Shulte	10/19/2021 8:10 AM
181	Lowel	10/18/2021 7:31 PM
182	Lowel	10/18/2021 4:45 PM
183	Central to downtown	10/18/2021 1:43 PM
184	Sycamore	10/18/2021 1:17 PM
185	Sycamore pkwy	10/18/2021 12:46 PM
186	Sycamore has separate bike lane/path	10/18/2021 9:56 AM
187	Sycamore Pkwy	10/18/2021 9:54 AM
188	Central	10/18/2021 8:41 AM
189	Separate paved path	10/18/2021 8:22 AM
190	Sycamore	10/18/2021 8:18 AM
191	MacArthur	10/18/2021 8:13 AM
192	Grant line	10/17/2021 6:23 PM
193	Nowhere. Have y'all seen how people here drive?	10/15/2021 4:17 PM
194	Sycamore parkway	10/15/2021 2:02 PM
195	Sycamore Parkway	10/15/2021 1:27 PM
196	Sycamore	10/15/2021 12:41 PM
197	Eleventh	10/15/2021 12:39 PM
198	Sycamore Lane	10/15/2021 9:59 AM
199	Central	10/15/2021 9:37 AM
200	South Tracy where there are trails	10/15/2021 9:31 AM
201	Tracy blvd	10/15/2021 9:27 AM
202	Sycamore	10/15/2021 8:48 AM
203	South Central Ave	10/15/2021 7:56 AM
204	Central Ave	10/15/2021 7:41 AM
205	Tracy blvd	10/15/2021 7:35 AM
206	Mac Arthur between grant line and 11th	10/15/2021 7:22 AM
207	Sycamore	10/15/2021 7:19 AM
208	McArthur coral	10/15/2021 6:50 AM
209	Sycamore bike paved trail	10/15/2021 1:08 AM
210	Personal Safety?	10/15/2021 12:23 AM
211	Sycamore Parkway	10/14/2021 11:01 PM
212	Sixth and central	10/14/2021 9:44 PM
213	Sycamore parkway	10/14/2021 9:44 PM

#	LOCATION 2	DATE
1	North MacArthur Drive	7/25/2022 12:54 PM
2	Bethany Village Park (Mountain House)	7/21/2022 9:09 AM
3	From McArthur to a paradise road with the new bike lanes	6/23/2022 10:32 PM

4	In parking lots	6/23/2022 5:21 PM
5	None	5/19/2022 10:12 AM
6	Central between Tracy and Schulte	5/18/2022 5:29 PM
7	11th Street	5/16/2022 3:46 PM
8	Schulte on sidewalk	5/16/2022 7:10 AM
9	Road adjacent bike path	5/12/2022 3:58 PM
10	Grant Line between Corral Hollow and MacArthur	5/12/2022 7:59 AM
11	Schulte from Sycamore to Corral Hollow	5/11/2022 9:04 PM
12	Aqueduct	5/11/2022 4:06 PM
13	Road adjacent bike lane	5/11/2022 2:36 PM
14	road adjacent to bike path	5/11/2022 11:44 AM
15	Sycamore Pkwy	5/9/2022 10:07 AM
16	Corral Hollow (Old Schulte to Grantline Road)	5/9/2022 9:14 AM
17	Take up all lanes and hold	5/6/2022 2:53 AM
18	N/A	5/5/2022 8:54 AM
19	On class 1 and class 2 bikeways in town	5/5/2022 8:52 AM
20	Bike path on 11th near Tracy Sports Complex.	5/3/2022 5:22 PM
21	Central ave/downtown area	4/15/2022 12:33 PM
22	Cypress Dr. east of Corral Hollow	3/25/2022 2:37 PM
23	Grant line	3/25/2022 11:32 AM
24	Valpico	3/16/2022 7:32 PM
25	Skate park	3/2/2022 11:39 AM
26	Lillyanna ln	2/2/2022 8:51 AM
27	Tracy Blvd	12/6/2021 3:54 PM
28	Valpico	11/11/2021 10:40 PM
29	California aqueduct	11/10/2021 7:21 PM
30	Kavanagh	11/9/2021 3:23 PM
31	Schulte West of MacArthur	11/9/2021 12:56 PM
32	Corral Hallow	11/9/2021 5:18 AM
33	Schulte	11/7/2021 1:41 PM
34	Lincoln	11/7/2021 6:55 AM
35	Schulte between Corral Hollow & Tracy Blvd	11/6/2021 8:09 PM
36	Schulte dr	11/6/2021 8:33 AM
37	?	11/5/2021 12:33 PM
38	None of the intersections are safe	11/5/2021 10:24 AM
39	Red Bridge	11/5/2021 9:07 AM
40	Corral Hollow south of 11th	11/5/2021 8:36 AM
41	Schulte	11/5/2021 8:06 AM

42	Around hidden lake	11/5/2021 7:08 AM
43	Lamers	11/5/2021 6:13 AM
44	None	11/4/2021 11:33 PM
45	schulte bike path	11/4/2021 11:10 PM
46	Central	11/4/2021 10:42 PM
47	Na	11/4/2021 10:34 PM
48	?	11/4/2021 10:06 PM
49	?	11/4/2021 10:01 PM
50	Tracy Blvd	11/4/2021 8:26 PM
51	Kavanaugh (sidewalk, except by El Pescadero Park)	11/4/2021 8:15 PM
52	Eleventh wide paths	11/4/2021 8:09 PM
53	Corral Hollow	11/4/2021 8:08 PM
54	On road paved path	11/4/2021 7:59 PM
55	none	11/4/2021 7:49 PM
56	Downtown areas	11/4/2021 7:49 PM
57	MacArthur blvd s of grantline	11/4/2021 7:43 PM
58	Neighborhoods	11/4/2021 7:40 PM
59	New bike lane on McArthur	11/4/2021 7:19 PM
60	Road adjacent path	11/4/2021 7:17 PM
61	Corral Hallow	11/4/2021 7:14 PM
62	None	11/4/2021 7:11 PM
63	Edgar thoming Park	11/4/2021 7:10 PM
64	None	11/4/2021 7:09 PM
65	S Tracy blvd	11/4/2021 7:08 PM
66	None	11/4/2021 7:03 PM
67	None	11/4/2021 6:50 PM
68	?	11/4/2021 6:46 PM
69	Hidden Lake	11/4/2021 6:28 PM
70	Grant Line	11/4/2021 3:46 PM
71	Tracy sports complex	11/4/2021 2:38 PM
72	None	11/4/2021 12:13 PM
73	MacArthur between Shulte $ Hidden Lake	11/2/2021 7:49 PM
74	Sycamore	11/2/2021 7:29 PM
75	West Schulte road	11/2/2021 4:17 PM
76	Mac Arthur and Valpico	11/2/2021 8:11 AM
77	Central Ave, from Tracy Blvd to Schulte	11/1/2021 1:51 PM
78	Durham Ferry/kasson	11/1/2021 5:55 AM
79	Durham Ferry	10/31/2021 9:26 PM

80	Schulte between MacArthur and Corral Hollow	10/31/2021 6:11 PM
81	Aqueduct trails	10/31/2021 5:49 PM
82	Shulte	10/31/2021 4:02 PM
83	Aqueduct trail (semi paved)	10/31/2021 3:03 PM
84	Tracy Blvd between Schulte and Linne	10/31/2021 2:16 PM
85	River Islands bike path	10/31/2021 1:53 PM
86	Near the sports park	10/31/2021 1:41 PM
87	South Central Avenue in front of Poet Christian Elementary	10/31/2021 1:24 PM
88	Hansen Rd	10/31/2021 12:52 PM
89	Coral Hollow	10/31/2021 12:51 PM
90	None	10/29/2021 9:32 AM
91	Tracy blvd	10/29/2021 8:30 AM
92	Tennis Lane	10/24/2021 12:40 PM
93	Veterans	10/24/2021 11:02 AM
94	Downtown	10/24/2021 6:25 AM
95	Sycamore parkway	10/23/2021 6:07 AM
96	11th - lammers to corral hollow	10/22/2021 8:32 PM
97	Grant line	10/22/2021 7:54 PM
98	Library	10/22/2021 6:34 PM
99	In	10/22/2021 5:02 PM
100	Sycamore parkway	10/22/2021 4:58 PM
101	Hidden lake	10/22/2021 4:35 PM
102	Schulte	10/22/2021 11:51 AM
103	corral hollow	10/22/2021 11:38 AM
104	W central	10/22/2021 10:56 AM
105	Bike lanes	10/22/2021 10:09 AM
106	N.Tracy Blvd.	10/21/2021 9:19 PM
107	Schulte	10/21/2021 8:52 PM
108	Mac Arthur with green bike lane	10/21/2021 8:30 PM
109	Tracy blvd	10/21/2021 6:42 PM
110	corral hollow	10/21/2021 6:35 PM
111	Parts of corral hollow	10/21/2021 12:32 AM
112	Lammers by high school	10/20/2021 7:13 PM
113	Road adjacent path	10/20/2021 6:20 PM
114	Shulte rd	10/20/2021 11:25 AM
115	Corral Hollow btw 11th St/Schulte	10/20/2021 10:54 AM
116	Along the aquaduct	10/20/2021 9:27 AM
117	south tracy /schulte	10/20/2021 8:04 AM

118	Schulte by Williams	10/20/2021 7:24 AM
119	Eleventh st.	10/20/2021 6:21 AM
120	On bike lane with barriers	10/20/2021 5:41 AM
121	Sycamore Rd. bike path	10/19/2021 11:12 PM
122	Schulte btwn sycamore and lauriana	10/19/2021 10:34 PM
123	Edgewood	10/19/2021 7:47 PM
124	downtown	10/19/2021 6:07 PM
125	Most of Corral Hollow Rd	10/19/2021 4:52 PM
126	None	10/19/2021 2:30 PM
127	Sycamore	10/19/2021 8:10 AM
128	Coral hollow	10/18/2021 7:31 PM
129	Grant line	10/18/2021 4:45 PM
130	Mac Arthur with bike lane	10/18/2021 12:46 PM
131	Green bike lanes on east side of Valpico	10/18/2021 9:56 AM
132	Schulte	10/18/2021 8:41 AM
133	Bike lane with barriers	10/18/2021 8:22 AM
134	Cetral	10/18/2021 8:18 AM
135	Neighborhoods	10/18/2021 8:13 AM
136	Corral Hollow	10/17/2021 6:23 PM
137	Parts of central	10/15/2021 2:02 PM
138	Canals	10/15/2021 1:27 PM
139	Sections of Tracy blvd	10/15/2021 12:41 PM
140	Corral hollow	10/15/2021 12:39 PM
141	Hidden Lake	10/15/2021 9:59 AM
142	Corral hollow	10/15/2021 9:27 AM
143	Syncamore Pkwy	10/15/2021 7:56 AM
144	Sycamore Parkway	10/15/2021 7:41 AM
145	Famoso lane	10/15/2021 7:35 AM
146	Sycamore pky	10/15/2021 7:22 AM
147	Parts of central	10/15/2021 7:19 AM
148	Coral hollow	10/15/2021 6:50 AM
149	Comfort?	10/15/2021 12:23 AM
150	MacArthur , north of 11th St. to Gantline	10/14/2021 11:01 PM
151	Schulte	10/14/2021 9:44 PM
152	Sections of Schultz	10/14/2021 9:44 PM

#	LOCATION 3	DATE
1	South MacArthur Drive	7/25/2022 12:54 PM
2	I guess Sycamore Parkway (Tracy really doesn’t have any nice trails or paths)	7/21/2022 9:09 AM

3	Schulte	6/23/2022 10:32 PM
4	Mountain House	6/23/2022 5:21 PM
5	None	5/19/2022 10:12 AM
6	Edgewood neighborhood	5/18/2022 5:29 PM
7	Off-road/dirt cycling	5/12/2022 3:58 PM
8	10th street	5/11/2022 9:04 PM
9	What's missing above: off-road biking opportunities	5/11/2022 2:36 PM
10	bike lane with barriers	5/11/2022 11:44 AM
11	Tracy Blvd (Schulte to Whispering Wind)	5/9/2022 9:14 AM
12	Up traffic	5/6/2022 2:53 AM
13	S. MacArthur between schulte and valpico	5/5/2022 10:55 AM
14	N/A	5/5/2022 8:54 AM
15	schulte from sycamore to ceciland park	4/15/2022 12:33 PM
16	11th St. between Corral Hollow and Lammers Rd.	3/25/2022 2:37 PM
17	Tracy Blvd	3/25/2022 11:32 AM
18	Sidewalk	3/2/2022 11:39 AM
19	Shulte	2/2/2022 8:51 AM
20	Schulte	11/11/2021 10:40 PM
21	Schulte road west of Mac Arthur	11/10/2021 7:21 PM
22	Residential areas	11/9/2021 3:23 PM
23	Sycamore Parkway	11/9/2021 12:56 PM
24	Mac Arthur	11/9/2021 5:18 AM
25	Lammers	11/7/2021 6:55 AM
26	Sycamore	11/6/2021 8:09 PM
27	?	11/5/2021 12:33 PM
28	Sycamore	11/5/2021 9:07 AM
29	MacAruther	11/5/2021 8:36 AM
30	Downtown 11th street	11/5/2021 8:06 AM
31	Sports complex	11/5/2021 7:08 AM
32	Aqueduct	11/5/2021 6:13 AM
33	None	11/4/2021 11:33 PM
34	Shulte	11/4/2021 10:42 PM
35	Na	11/4/2021 10:34 PM
36	?	11/4/2021 10:06 PM
37	?	11/4/2021 10:01 PM
38	MacArthur, north of 11th st	11/4/2021 8:26 PM
39	Sycamore	11/4/2021 8:15 PM
40	Eleven street	11/4/2021 8:08 PM

41	none	11/4/2021 7:49 PM
42	Kavanaugh	11/4/2021 7:43 PM
43	Bike lane on Tracy blvd	11/4/2021 7:19 PM
44	Lane with barriers	11/4/2021 7:17 PM
45	None	11/4/2021 7:11 PM
46	Sycamore pkwy	11/4/2021 7:10 PM
47	None	11/4/2021 7:09 PM
48	W Central Ave	11/4/2021 7:08 PM
49	None	11/4/2021 7:03 PM
50	None	11/4/2021 6:50 PM
51	?	11/4/2021 6:46 PM
52	Ellisagaray	11/4/2021 6:28 PM
53	Tracy Blvd	11/4/2021 3:46 PM
54	Around veterans park	11/4/2021 2:38 PM
55	None	11/4/2021 12:13 PM
56	Brookview Dr	11/2/2021 7:49 PM
57	Aqueducts	11/2/2021 7:29 PM
58	Valpico	11/2/2021 4:17 PM
59	Schulte, from Sycamore Pkwy to Corral Hollow	11/1/2021 1:51 PM
60	Canals and Midway	11/1/2021 5:55 AM
61	Tracy Blvd	10/31/2021 9:26 PM
62	MacArthur between 11th and 205	10/31/2021 6:11 PM
63	Hansen rd	10/31/2021 5:49 PM
64	Schulte	10/31/2021 3:03 PM
65	Central Blvd	10/31/2021 2:16 PM
66	North part of Corral Hollow	10/31/2021 1:53 PM
67	Tracy Blvd	10/31/2021 1:41 PM
68	Bike Path from Kimball High School to Redbridge	10/31/2021 1:24 PM
69	Central Ave	10/31/2021 12:51 PM
70	None	10/29/2021 9:32 AM
71	Sycamore blvd	10/29/2021 8:30 AM
72	N/A	10/24/2021 12:40 PM
73	Corral hollow (except where no sidewalk exists)	10/24/2021 11:02 AM
74	East Avenue	10/24/2021 6:25 AM
75	Joe pombo	10/23/2021 6:07 AM
76	Tracy Blvd south	10/22/2021 7:54 PM
77	My neighborhood	10/22/2021 6:34 PM
78	Tracy	10/22/2021 5:02 PM

79	Ellisagary ranch	10/22/2021 4:35 PM
80	W 11st	10/22/2021 11:38 AM
81	Pacheco dr	10/22/2021 10:56 AM
82	Bike land with barrier	10/22/2021 10:09 AM
83	Central with bike lane	10/21/2021 8:30 PM
84	Central ave	10/21/2021 6:42 PM
85	macarthur	10/21/2021 6:35 PM
86	Road with barriers	10/20/2021 6:20 PM
87	Sycamore Pkwy	10/20/2021 11:25 AM
88	corall hollow/ schulte	10/20/2021 8:04 AM
89	11th street by Laurence ranch	10/20/2021 7:24 AM
90	On a bike line without barriers but clearly marked bike lane	10/20/2021 5:41 AM
91	Lauriana between schulte and cypress	10/19/2021 10:34 PM
92	Macarthur	10/19/2021 7:47 PM
93	macarthur rd	10/19/2021 6:07 PM
94	Most of Schulte Rd	10/19/2021 4:52 PM
95	None	10/19/2021 2:30 PM
96	East lake dr	10/19/2021 8:10 AM
97	11 street	10/18/2021 7:31 PM
98	11	10/18/2021 4:45 PM
99	Schulte with bike lane	10/18/2021 12:46 PM
100	Green bike lanes on MacArthur	10/18/2021 9:56 AM
101	Bike lane no barriers	10/18/2021 8:22 AM
102	Tracy Blvd	10/18/2021 8:13 AM
103	Schulte	10/17/2021 6:23 PM
104	South TB	10/15/2021 2:02 PM
105	Sections of Schulte	10/15/2021 12:41 PM
106	Schulte	10/15/2021 12:39 PM
107	11th at	10/15/2021 9:27 AM
108	West Kavanugh Ave	10/15/2021 7:56 AM
109	Whispering Wind/Brookview	10/15/2021 7:41 AM
110	Lincoln park	10/15/2021 7:22 AM
111	Central blvd	10/15/2021 6:50 AM
112	Schulte , west of Sycamore Pkwy , to Laurena	10/14/2021 11:01 PM
113	Sections of Tracy Blvd	10/14/2021 9:44 PM

Q13 Where are the top three LEAST comfortable roads/trails/intersections to ride a bike in Tracy?

Answered: 230 Skipped: 119

ANSWER CHOICES	RESPONSES	
Location 1	100.00%	230
Location 2	84.78%	195
Location 3	68.70%	158

#	LOCATION 1	DATE
1	Tracy Blvd	7/25/2022 12:54 PM
2	Corral Hollow & Valpico	7/21/2022 9:09 AM
3	11th street	6/23/2022 10:32 PM
4	Lammers	6/23/2022 5:21 PM
5	Valpico b/w MacArthur & Tracy Blvd	6/6/2022 10:37 PM
6	corral hollow Xstreet parkside	5/22/2022 6:32 AM
7	Schulte	5/21/2022 3:33 AM
8	Tracy blvd at 11th	5/20/2022 10:20 PM
9	Everywhere	5/19/2022 10:12 AM
10	11th street downtown	5/18/2022 5:29 PM
11	Lammers St.	5/16/2022 3:46 PM
12	Schulte between Tracy Blvd and McArthur	5/16/2022 7:10 AM
13	Vehicle sharing lane	5/12/2022 3:58 PM
14	11th St between the Union Pacific tracks and MacArthur	5/12/2022 7:59 AM
15	Macarthur between Schulte and 11th street	5/11/2022 9:04 PM
16	Eleventh	5/11/2022 4:06 PM
17	Valpico	5/11/2022 3:12 PM
18	Crossing Tracy Blvd by Mt. Diablo. You need to go either to Schulte or Tennis Ln intersection - this is dumb.	5/11/2022 2:36 PM
19	sharing the road	5/11/2022 11:44 AM
20	S. Corral Hollow Rd.	5/9/2022 6:03 PM
21	11th St	5/9/2022 10:07 AM
22	11th st	5/9/2022 9:26 AM
23	Tracy Blvd (Linne Road to the Aqueduct; Schulte Road to 6th Street)	5/9/2022 9:14 AM
24	Every location	5/6/2022 2:53 AM
25	Valpico between MacArthur and Tracy Blvd	5/5/2022 10:55 AM
26	Corral Hollow	5/5/2022 8:54 AM

27	Eleventh Street btwn MacArthur and Lincoln	5/5/2022 8:52 AM
28	11th Street	5/5/2022 8:22 AM
29	11th street	5/5/2022 8:03 AM
30	Hidden lake	5/5/2022 7:03 AM
31	11th Street	5/3/2022 5:22 PM
32	Street	4/19/2022 3:51 AM
33	Macarthur from central to 11th street	4/15/2022 12:33 PM
34	Tracy Blvd	3/25/2022 2:37 PM
35	I don't know	3/25/2022 11:32 AM
36	Mac auther	3/16/2022 7:32 PM
37	Valpico rd	3/2/2022 11:39 AM
38	Corral hollow	2/2/2022 8:51 AM
39	Corral hollow near 11th	12/30/2021 7:06 AM
40	MacArthur Drive (after Cemetery)	12/6/2021 3:54 PM
41	Corral hollow/ Linne	11/14/2021 2:24 PM
42	11th street	11/11/2021 10:40 PM
43	North Tracy blvd	11/10/2021 7:21 PM
44	MacArthur Rd	11/9/2021 3:23 PM
45	Valpico east of Tracy Blvd to Pebblebrook Dr.	11/9/2021 12:56 PM
46	Tracy blvd	11/7/2021 4:40 PM
47	Corral Hollow	11/7/2021 1:41 PM
48	Corral Hollow	11/7/2021 8:31 AM
49	Grantline	11/7/2021 6:55 AM
50	Lammers going to Kimball	11/7/2021 12:51 AM
51	Schulte and Byron to 580	11/6/2021 8:09 PM
52	Tracy bld	11/6/2021 8:33 AM
53	11 st	11/5/2021 9:31 PM
54	Tracy Blvd	11/5/2021 4:43 PM
55	Tracy Blvd	11/5/2021 1:46 PM
56	11th & Tracy Blvd.	11/5/2021 12:33 PM
57	Downtown	11/5/2021 12:15 PM
58	Valpico between Corral Hollow and Macarthur	11/5/2021 10:34 AM
59	Corral hollow and 11th	11/5/2021 10:24 AM
60	Starting from the intersection McArthur/Schulte, all the way to Tracy bl.	11/5/2021 10:20 AM
61	Corral hollow	11/5/2021 9:51 AM
62	Everything else	11/5/2021 9:07 AM
63	South of shulte on Corral hallow	11/5/2021 9:05 AM
64	Valpico	11/5/2021 8:56 AM

65	Grant line rd	11/5/2021 8:36 AM
66	Corral Hollow	11/5/2021 8:11 AM
67	MacArthur	11/5/2021 7:08 AM
68	11	11/5/2021 6:13 AM
69	Lammers rd	11/5/2021 1:06 AM
70	MacArthur @ Schulte	11/5/2021 12:19 AM
71	All	11/4/2021 11:33 PM
72	valpico	11/4/2021 11:10 PM
73	Corral hollow	11/4/2021 10:42 PM
74	Tracy blvd	11/4/2021 10:34 PM
75	Schulte	11/4/2021 10:06 PM
76	Roads	11/4/2021 10:01 PM
77	All	11/4/2021 9:12 PM
78	11th street	11/4/2021 8:39 PM
79	Lammers Rd	11/4/2021 8:26 PM
80	Tracy Blvd	11/4/2021 8:15 PM
81	Lammers road	11/4/2021 8:09 PM
82	Intersection	11/4/2021 8:08 PM
83	Central Ave	11/4/2021 7:59 PM
84	Vehicle shared path	11/4/2021 7:59 PM
85	Clover	11/4/2021 7:50 PM
86	tracy blvd	11/4/2021 7:49 PM
87	Corral Hollow	11/4/2021 7:49 PM
88	Tracy blvd	11/4/2021 7:43 PM
89	McArther Blvd	11/4/2021 7:41 PM
90	11th	11/4/2021 7:40 PM
91	Tracy Blvd	11/4/2021 7:32 PM
92	Single lane sections of valpico	11/4/2021 7:19 PM
93	Lane sharing	11/4/2021 7:17 PM
94	All	11/4/2021 7:11 PM
95	Tracy Blvd	11/4/2021 7:10 PM
96	Everywhere	11/4/2021 7:09 PM
97	S lammers rd	11/4/2021 7:08 PM
98	Any major street	11/4/2021 7:06 PM
99	All over	11/4/2021 7:03 PM
100	Tracy Blvd	11/4/2021 6:57 PM
101	Every street	11/4/2021 6:50 PM
102	11th street	11/4/2021 6:28 PM

103	MacArthur	11/4/2021 6:28 PM
104	Corral Hallow where there's no sidewalk	11/4/2021 2:38 PM
105	macarthur	11/4/2021 12:37 PM
106	11 th street	11/4/2021 12:13 PM
107	Tracy Blvd, from or to highway to 11th .	11/3/2021 10:03 PM
108	Valpico between Tracy Blvd & Glenbriar Dr	11/2/2021 7:49 PM
109	Corral hollow	11/2/2021 7:29 PM
110	Valpico between Glenbriar and Raley’s	11/2/2021 8:11 AM
111	Valpico, from MacArthur to Tracy Blvd. Absolutely terrible road and unsafe, really scary to ride on but unfortunately I have to use it every day.	11/1/2021 1:51 PM
112	every where esle	11/1/2021 7:03 AM
113	every where esle	11/1/2021 7:02 AM
114	Paradise	11/1/2021 5:55 AM
115	Valpico	10/31/2021 9:26 PM
116	Sugar Rd	10/31/2021 6:11 PM
117	corral hollow	10/31/2021 5:49 PM
118	Sugar Rd	10/31/2021 5:27 PM
119	Corral hollow	10/31/2021 4:02 PM
120	Corral hollow	10/31/2021 3:35 PM
121	Corral hallow	10/31/2021 3:03 PM
122	Corral Hollow	10/31/2021 2:16 PM
123	W Valpico Rd. Single lane section	10/31/2021 2:09 PM
124	Valpico	10/31/2021 1:53 PM
125	Valpico south of Schulte	10/31/2021 1:41 PM
126	Overpass on Paradise Road	10/31/2021 1:37 PM
127	Overpass on Paradise Road	10/31/2021 1:24 PM
128	11 th Street	10/31/2021 12:52 PM
129	W Valpico Rd	10/31/2021 12:51 PM
130	Valpico	10/31/2021 12:37 PM
131	11th street	10/29/2021 9:32 AM
132	Eleventh st	10/29/2021 8:30 AM
133	most streets	10/25/2021 12:02 PM
134	Corral Hollow	10/24/2021 12:40 PM
135	11th street	10/24/2021 11:02 AM
136	All main roads	10/24/2021 7:42 AM
137	11th Street	10/24/2021 6:25 AM
138	All	10/23/2021 6:55 PM
139	tracy blvd	10/23/2021 11:22 AM
140	West Valrico Rd	10/23/2021 9:12 AM

141	Tracy Blvd	10/23/2021 6:07 AM
142	Most	10/22/2021 8:32 PM
143	Bessie	10/22/2021 7:54 PM
144	Valpico	10/22/2021 7:03 PM
145	Tracy blve.	10/22/2021 6:34 PM
146	Tracy Blvd.	10/22/2021 5:48 PM
147	11th street	10/22/2021 5:11 PM
148	Corel hollow	10/22/2021 5:02 PM
149	Downtown Tracy	10/22/2021 4:58 PM
150	11th street	10/22/2021 4:35 PM
151	Most of tracy	10/22/2021 2:36 PM
152	Corral Hollow	10/22/2021 11:51 AM
153	Lowell	10/22/2021 11:38 AM
154	McArthur	10/22/2021 10:56 AM
155	Sharing the road	10/22/2021 10:09 AM
156	11th St	10/21/2021 10:57 PM
157	11th street	10/21/2021 10:42 PM
158	Corral Hollow	10/21/2021 9:19 PM
159	Corral Hollow	10/21/2021 8:52 PM
160	11th st	10/21/2021 8:30 PM
161	11th st	10/21/2021 6:42 PM
162	larch	10/21/2021 6:35 PM
163	Valpico	10/21/2021 7:34 AM
164	Much of grant line	10/21/2021 12:32 AM
165	Dunno	10/20/2021 11:26 PM
166	S. Lammers Rd	10/20/2021 8:51 PM
167	Middle road	10/20/2021 7:29 PM
168	11th	10/20/2021 7:13 PM
169	Sharing road	10/20/2021 6:20 PM
170	Corral Hallow	10/20/2021 4:11 PM
171	Everywhere?	10/20/2021 3:57 PM
172	MacArthur by cemetery	10/20/2021 1:27 PM
173	11th st	10/20/2021 11:25 AM
174	Central Ave btw 6th and 11th	10/20/2021 10:54 AM
175	Coral hollow	10/20/2021 9:27 AM
176	corall hollow/valpico	10/20/2021 8:04 AM
177	11 th	10/20/2021 7:33 AM
178	Lammers past kimball	10/20/2021 7:24 AM

179	Lammers road by kimball high	10/20/2021 6:21 AM
180	Tracy Blvd	10/20/2021 6:13 AM
181	In vehicle sharing lane	10/20/2021 5:41 AM
182	Corral Hallow Rd.	10/19/2021 11:12 PM
183	Valpico from MacArthur to Tracy blvd	10/19/2021 10:34 PM
184	11th st	10/19/2021 9:24 PM
185	Central	10/19/2021 8:30 PM
186	Tracy Blvd	10/19/2021 7:47 PM
187	Tracy Blvd	10/19/2021 6:35 PM
188	safeway	10/19/2021 6:07 PM
189	11th st	10/19/2021 6:06 PM
190	East St	10/19/2021 4:52 PM
191	All main roads in tracy	10/19/2021 2:30 PM
192	Chrisman Road	10/19/2021 1:43 PM
193	Tracy blvd	10/19/2021 8:10 AM
194	Anywhere down town because I get yelled at for being on the sidewalk	10/18/2021 7:31 PM
195	Tracy blv	10/18/2021 4:45 PM
196	11th	10/18/2021 1:43 PM
197	Chris man	10/18/2021 1:17 PM
198	Tracy blvd	10/18/2021 12:46 PM
199	West side of Valpico	10/18/2021 9:56 AM
200	Shulte Road	10/18/2021 9:54 AM
201	Corral Hollow	10/18/2021 8:41 AM
202	MacArthur between Schulte and Tracy Blvd.	10/18/2021 8:22 AM
203	11st.	10/18/2021 8:18 AM
204	Linne	10/18/2021 8:13 AM
205	Separate paved path	10/18/2021 8:09 AM
206	North of Tracy Blvd	10/17/2021 6:23 PM
207	All	10/16/2021 1:22 PM
208	Schulte	10/15/2021 3:15 PM
209	South Macarthur	10/15/2021 2:02 PM
210	Eleventh Street	10/15/2021 1:27 PM
211	MacArthur south	10/15/2021 12:41 PM
212	Byron	10/15/2021 12:39 PM
213	MacArthur	10/15/2021 12:01 PM
214	Tracy blvd	10/15/2021 11:59 AM
215	Corral Hollow	10/15/2021 9:59 AM
216	Corral Hollow	10/15/2021 9:39 AM

217	Schulte	10/15/2021 9:37 AM
218	Holly	10/15/2021 9:31 AM
219	Grant line	10/15/2021 9:27 AM
220	Tracy bvld	10/15/2021 8:48 AM
221	MacAurthur	10/15/2021 7:56 AM
222	MacArthur n/o W Schulte	10/15/2021 7:41 AM
223	11th street	10/15/2021 7:35 AM
224	11th st	10/15/2021 7:22 AM
225	11th	10/15/2021 7:19 AM
226	Tracy blvd	10/15/2021 6:50 AM
227	Bessie St.	10/15/2021 12:23 AM
228	11th St.	10/14/2021 11:01 PM
229	Corral hollow after schulte going toward 580	10/14/2021 9:44 PM
230	South MacArthur	10/14/2021 9:44 PM

#	LOCATION 2	DATE
1	Eleventh Street	7/25/2022 12:54 PM
2	Corral Hollow & W. Linne Road	7/21/2022 9:09 AM
3	Grant line	6/23/2022 10:32 PM
4	Schulte	6/6/2022 10:37 PM
5	by the cemetary	5/22/2022 6:32 AM
6	11th st	5/21/2022 3:33 AM
7	Byron an Grant Line	5/20/2022 10:20 PM
8	Everywhere	5/19/2022 10:12 AM
9	Tracy Blvd downtown	5/18/2022 5:29 PM
10	Byron	5/16/2022 3:46 PM
11	Wide should road	5/12/2022 3:58 PM
12	Grant Line between Byron and Naglee	5/12/2022 7:59 AM
13	11th street from East st to Corral Hollow	5/11/2022 9:04 PM
14	Valapico	5/11/2022 4:06 PM
15	11th	5/11/2022 3:12 PM
16	11th Street - too much traffic, buses, trucks, etc	5/11/2022 2:36 PM
17	road with wde shoulders	5/11/2022 11:44 AM
18	W. Schulte/Western Pacific Way	5/9/2022 6:03 PM
19	Tracy Blvd	5/9/2022 10:07 AM
20	Linne Road (entire length)	5/9/2022 9:14 AM
21	That the Tracy bike	5/6/2022 2:53 AM
22	Schulte between MacArthur and Tracy Blvd	5/5/2022 10:55 AM
23	11th	5/5/2022 8:54 AM

24	Tracy Blvd btwn N. City limit and Boyd Service Center	5/5/2022 8:52 AM
25	Holly Ave.	5/5/2022 8:22 AM
26	Tracy Blvd	5/5/2022 8:03 AM
27	Valpico	5/5/2022 7:03 AM
28	Downtown Tracy	5/3/2022 5:22 PM
29	11th street from central to corral hollow	4/15/2022 12:33 PM
30	Grant Line Road	3/25/2022 2:37 PM
31	I don't know	3/25/2022 11:32 AM
32	Shulte	3/16/2022 7:32 PM
33	Corral hollow	3/2/2022 11:39 AM
34	11th Street	2/2/2022 8:51 AM
35	11th Street	12/6/2021 3:54 PM
36	Tracy Blvd/11th st	11/14/2021 2:24 PM
37	Grant line	11/11/2021 10:40 PM
38	11th street	11/10/2021 7:21 PM
39	Valpico	11/9/2021 3:23 PM
40	Tracy Blvd.	11/9/2021 12:56 PM
41	Corral hollow	11/7/2021 4:40 PM
42	Grantline	11/7/2021 8:31 AM
43	Central	11/7/2021 6:55 AM
44	Crossing coral hallow	11/7/2021 12:51 AM
45	Corrall Hollow anywhere on it	11/6/2021 8:09 PM
46	Corale hollow	11/6/2021 8:33 AM
47	Grant line	11/5/2021 9:31 PM
48	Central	11/5/2021 4:43 PM
49	S MacArthur Drive	11/5/2021 1:46 PM
50	Corral Hollow	11/5/2021 12:33 PM
51	Corral Hollow	11/5/2021 12:15 PM
52	Corrall Hollow from Ellis Town to Schulte	11/5/2021 10:34 AM
53	Corral hollow and grantline	11/5/2021 10:24 AM
54	Tracy Blvd	11/5/2021 9:51 AM
55	Central	11/5/2021 9:05 AM
56	Schulte	11/5/2021 8:56 AM
57	Lincoln	11/5/2021 8:36 AM
58	Valpico	11/5/2021 8:11 AM
59	Downtown	11/5/2021 7:08 AM
60	Coralhollow	11/5/2021 6:13 AM
61	11th st	11/5/2021 1:06 AM

62	6th St from Central to MacArthur	11/5/2021 12:19 AM
63	All	11/4/2021 11:33 PM
64	corral hallow	11/4/2021 11:10 PM
65	Valpico	11/4/2021 10:42 PM
66	Valpico	11/4/2021 10:34 PM
67	Central	11/4/2021 10:06 PM
68	Roads	11/4/2021 10:01 PM
69	Tracy blvd	11/4/2021 8:39 PM
70	Corral Hollow south of Schulte	11/4/2021 8:26 PM
71	11th street	11/4/2021 8:15 PM
72	Western pacific rd	11/4/2021 8:09 PM
73	Trails	11/4/2021 8:08 PM
74	Tracy Ave	11/4/2021 7:59 PM
75	Road wide	11/4/2021 7:59 PM
76	East	11/4/2021 7:50 PM
77	grantline	11/4/2021 7:49 PM
78	Valpico	11/4/2021 7:49 PM
79	Central ave downtown	11/4/2021 7:43 PM
80	Tracy Blvd	11/4/2021 7:41 PM
81	Grant line	11/4/2021 7:40 PM
82	Central	11/4/2021 7:32 PM
83	Linne Rd	11/4/2021 7:19 PM
84	Road with wide shoulders	11/4/2021 7:17 PM
85	All	11/4/2021 7:11 PM
86	Corral Hollow	11/4/2021 7:10 PM
87	Everywhere	11/4/2021 7:09 PM
88	W Schultz rd	11/4/2021 7:08 PM
89	All over	11/4/2021 7:03 PM
90	Eleventh street	11/4/2021 6:57 PM
91	Any street	11/4/2021 6:50 PM
92	Lammers road	11/4/2021 6:28 PM
93	Corral Hollow	11/4/2021 6:28 PM
94	Byron rd	11/4/2021 2:38 PM
95	corral hollow	11/4/2021 12:37 PM
96	Tracy blvd	11/4/2021 12:13 PM
97	Corral Hollow between Parkside Dr & Valpico	11/2/2021 7:49 PM
98	Grantline	11/2/2021 7:29 PM
99	Mac Arthur and Schutle especially south on Mac Arthur	11/2/2021 8:11 AM

100	Corral Hollow, from Schulte to 580, Scary road, no shoulders and too much traffic.	11/1/2021 1:51 PM
101	North Tracy Blvd	11/1/2021 5:55 AM
102	Schulte	10/31/2021 9:26 PM
103	Schulte between Corral Hollow and Hansen	10/31/2021 6:11 PM
104	schulte	10/31/2021 5:49 PM
105	Arbor Rd	10/31/2021 5:27 PM
106	Eleventh street	10/31/2021 4:02 PM
107	Valpico	10/31/2021 3:03 PM
108	Tracy Blvd except between Schulte and Linne	10/31/2021 2:16 PM
109	Corral Hollow Rd single lane heading to Tracy Hills	10/31/2021 2:09 PM
110	Chrisman	10/31/2021 1:53 PM
111	Christian by the depot tracks	10/31/2021 1:41 PM
112	Byron Road / Corral Hollow Road (Intersection)	10/31/2021 1:24 PM
113	Tracy Blvb	10/31/2021 12:52 PM
114	Line Rd	10/31/2021 12:51 PM
115	Tracy blvd	10/29/2021 9:32 AM
116	Grantline rd	10/29/2021 8:30 AM
117	Eleventh St	10/24/2021 12:40 PM
118	Central	10/24/2021 11:02 AM
119	Corral Hollow	10/24/2021 6:25 AM
120	11th st	10/23/2021 11:22 AM
121	Grantline Rd	10/23/2021 9:12 AM
122	Grant line	10/23/2021 6:07 AM
123	Holly	10/22/2021 7:54 PM
124	MacArthur	10/22/2021 7:03 PM
125	McAurthur	10/22/2021 6:34 PM
126	MacArthur	10/22/2021 5:48 PM
127	Coroll hollow	10/22/2021 5:11 PM
128	Valpico	10/22/2021 5:02 PM
129	Corral Hollow	10/22/2021 4:58 PM
130	Tracy blvd	10/22/2021 4:35 PM
131	N. Tracy blvd	10/22/2021 11:38 AM
132	Eleventh st	10/22/2021 10:56 AM
133	Road with wide shoulders	10/22/2021 10:09 AM
134	Grant Line Rd	10/21/2021 10:57 PM
135	Corral hollow	10/21/2021 10:42 PM
136	Lincoln Blvd.	10/21/2021 9:19 PM
137	Tracy blvd without the bike lane	10/21/2021 8:30 PM

138	Coral hallow	10/21/2021 6:42 PM
139	lammers	10/21/2021 6:35 PM
140	Tracy Blvd	10/21/2021 7:34 AM
141	Downtown on 11th	10/21/2021 12:32 AM
142	E 11st	10/20/2021 8:51 PM
143	Corral Hollow	10/20/2021 7:29 PM
144	Tracy blvd	10/20/2021 7:13 PM
145	No barriers	10/20/2021 6:20 PM
146	Schulte	10/20/2021 4:11 PM
147	Schulte by cemetery	10/20/2021 1:27 PM
148	Corral Hallow rd	10/20/2021 11:25 AM
149	Most of 11th Street	10/20/2021 10:54 AM
150	Schulte	10/20/2021 9:27 AM
151	11 th and Tracy blvd	10/20/2021 8:04 AM
152	Valpico Rd.	10/20/2021 7:24 AM
153	Valpico	10/20/2021 6:21 AM
154	Center	10/20/2021 6:13 AM
155	Road with wide shoulder	10/20/2021 5:41 AM
156	Lammers Rd.	10/19/2021 11:12 PM
157	tracy blvd	10/19/2021 9:24 PM
158	11th St	10/19/2021 8:30 PM
159	Eleventh Street	10/19/2021 7:47 PM
160	el pescadaro	10/19/2021 6:07 PM
161	Corral hollow	10/19/2021 6:06 PM
162	Valpico near Taylor Farms	10/19/2021 4:52 PM
163	Valpico	10/19/2021 1:43 PM
164	Eleventh	10/19/2021 8:10 AM
165	Country roads	10/18/2021 4:45 PM
166	Coral Hollow	10/18/2021 1:43 PM
167	MacArthur	10/18/2021 1:17 PM
168	11th st	10/18/2021 12:46 PM
169	Corral Hollow	10/18/2021 9:56 AM
170	Grant Line	10/18/2021 8:41 AM
171	Valpico between Sycamore to the West all the way until it ends	10/18/2021 8:22 AM
172	Coral Hallow	10/18/2021 8:18 AM
173	Corral Hollow	10/18/2021 8:13 AM
174	South of Tracy blvd	10/17/2021 6:23 PM
175	of	10/16/2021 1:22 PM

176	Corral hollow	10/15/2021 3:15 PM
177	Corral hollow	10/15/2021 2:02 PM
178	Corral Hollow	10/15/2021 1:27 PM
179	MacArthur north near 11th	10/15/2021 12:41 PM
180	Eleventh pass tracy	10/15/2021 12:39 PM
181	Schulte	10/15/2021 12:01 PM
182	11th st	10/15/2021 11:59 AM
183	Eleventh St	10/15/2021 9:59 AM
184	Tracy Blvd	10/15/2021 9:39 AM
185	MacArthur	10/15/2021 9:37 AM
186	Grantline	10/15/2021 9:31 AM
187	Mac Arthur	10/15/2021 9:27 AM
188	East schulte	10/15/2021 8:48 AM
189	Valpico	10/15/2021 7:56 AM
190	Tracy Blvd n/o W 6th St	10/15/2021 7:41 AM
191	Tracy blvd	10/15/2021 7:22 AM
192	Grant line	10/15/2021 7:19 AM
193	11th street	10/15/2021 6:50 AM
194	Corral Hallow	10/14/2021 11:01 PM
195	11 St	10/14/2021 9:44 PM

#	LOCATION 3	DATE
1	Grant Line Road	7/25/2022 12:54 PM
2	Tracy Blvd & W. Linne Road	7/21/2022 9:09 AM
3	The elpascadero skate park	6/23/2022 10:32 PM
4	Industrial areas	6/23/2022 5:21 PM
5	MacArthur	5/21/2022 3:33 AM
6	Grant line from Byron to Corral Hollow	5/20/2022 10:20 PM
7	Everywhere	5/19/2022 10:12 AM
8	Two lane sections of Corral Hollow	5/18/2022 5:29 PM
9	Grand Line	5/16/2022 3:46 PM
10	Lane w/o barriers	5/12/2022 3:58 PM
11	Tracy Blvd between 4th St and Grant Line	5/12/2022 7:59 AM
12	Tracy Blvd	5/11/2022 9:04 PM
13	Lammers	5/11/2022 4:06 PM
14	Grant line	5/11/2022 3:12 PM
15	Chrisman Rd - there is no shoulder	5/11/2022 2:36 PM
16	Linne Rd.	5/9/2022 6:03 PM
17	Chrisman Rd	5/9/2022 10:07 AM

18	Schulte Road (Tracy Blvd to Macarthur Drive)	5/9/2022 9:14 AM
19	Group rides that takes up every lane plus oncoming	5/6/2022 2:53 AM
20	S. Chrisman Road	5/5/2022 10:55 AM
21	Tracy Blvd	5/5/2022 8:54 AM
22	East-bound Sixth Street btwn Central Ave and A St. where rocks and gravel dominate the shoulder!	5/5/2022 8:52 AM
23	East Street	5/5/2022 8:22 AM
24	Grantline	5/5/2022 8:03 AM
25	Tracy blvd and valpico	4/15/2022 12:33 PM
26	I don't know	3/25/2022 11:32 AM
27	Lammers	3/16/2022 7:32 PM
28	Down town	3/2/2022 11:39 AM
29	Tracy Blvd	2/2/2022 8:51 AM
30	Grant Line	12/6/2021 3:54 PM
31	Grant line/ Corral hollow	11/14/2021 2:24 PM
32	South Corral Hollow	11/10/2021 7:21 PM
33	Laments Rd especially in front of kimball	11/9/2021 3:23 PM
34	Grant Line	11/9/2021 12:56 PM
35	Lowell	11/7/2021 4:40 PM
36	Tracy Bl	11/7/2021 8:31 AM
37	Corral hollow	11/7/2021 6:55 AM
38	Grantline Blvd	11/6/2021 8:09 PM
39	Grantline	11/6/2021 8:33 AM
40	Tracy Blvd	11/5/2021 9:31 PM
41	Non updated parts of MacArthur	11/5/2021 4:43 PM
42	?	11/5/2021 12:33 PM
43	Tracy Blvd	11/5/2021 12:15 PM
44	Schulte from Central to MacArthur	11/5/2021 10:34 AM
45	Corral hollow and valpico	11/5/2021 10:24 AM
46	11th street	11/5/2021 8:56 AM
47	11 st seat of Corral Hollow	11/5/2021 8:36 AM
48	11th	11/5/2021 7:08 AM
49	Grant lane	11/5/2021 6:13 AM
50	Old shelter rd	11/5/2021 1:06 AM
51	Valpico	11/5/2021 12:19 AM
52	All	11/4/2021 11:33 PM
53	Lammers	11/4/2021 10:34 PM
54	Roads	11/4/2021 10:01 PM
55	Grantline	11/4/2021 8:39 PM

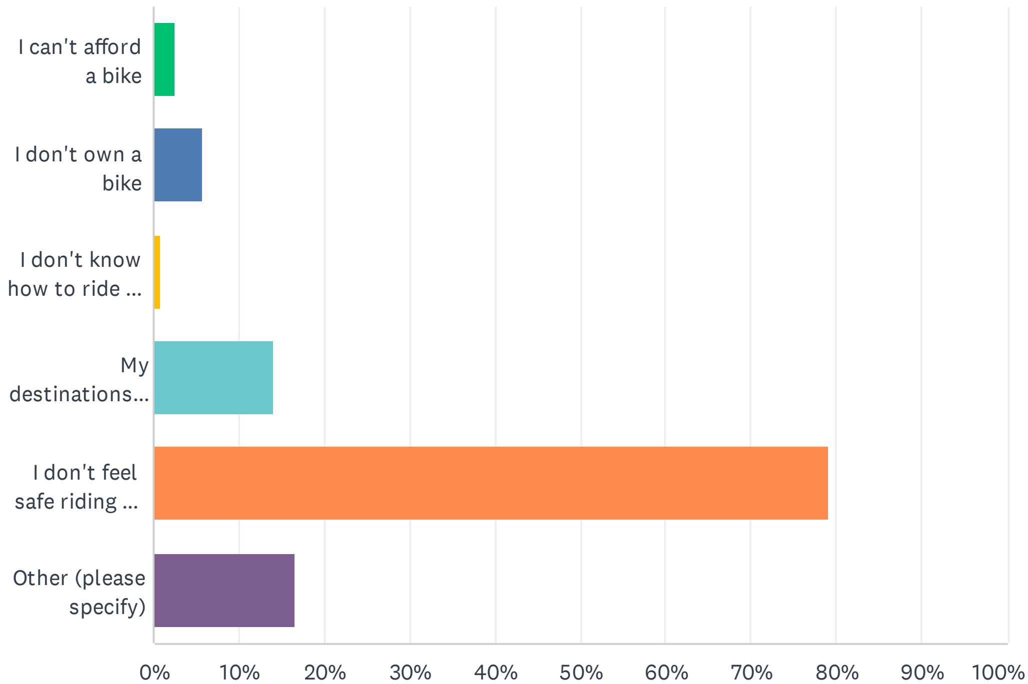
56	Valpico between Chrisman Rd and Tracy Blvd	11/4/2021 8:26 PM
57	Mac Arthur	11/4/2021 8:15 PM
58	Valpico/lammers through to tracy blvd	11/4/2021 8:09 PM
59	Roads	11/4/2021 8:08 PM
60	11	11/4/2021 7:49 PM
61	North Tracy Blvd	11/4/2021 7:49 PM
62	Everywhere Crossing 11th St. Going south	11/4/2021 7:43 PM
63	Grantline	11/4/2021 7:32 PM
64	Lane without barriers	11/4/2021 7:17 PM
65	All	11/4/2021 7:11 PM
66	Everywhere	11/4/2021 7:09 PM
67	Byron rd	11/4/2021 7:08 PM
68	All over	11/4/2021 7:03 PM
69	Schulte	11/4/2021 6:57 PM
70	Anywhere	11/4/2021 6:50 PM
71	Coral hollow	11/4/2021 6:28 PM
72	Valpico	11/4/2021 6:28 PM
73	Lammersville where there's no sidewalk	11/4/2021 2:38 PM
74	tracy blvd	11/4/2021 12:37 PM
75	McArthur	11/4/2021 12:13 PM
76	Western Pacific Way	11/2/2021 7:49 PM
77	Valpico	11/2/2021 7:29 PM
78	Schulte East of Central. Also Chrisman and 11th	11/2/2021 8:11 AM
79	11th St, from Corral Hollow to MacArthur, no shoulder or bike lane, way too dangerous to bike	11/1/2021 1:51 PM
80	Byron/lamers area	11/1/2021 5:55 AM
81	Corral hollow	10/31/2021 9:26 PM
82	Corral Hollow between Old Schulte and 580	10/31/2021 6:11 PM
83	chrisman	10/31/2021 5:49 PM
84	Paradise Rd	10/31/2021 5:27 PM
85	Grantline	10/31/2021 4:02 PM
86	11st	10/31/2021 3:03 PM
87	Valpico	10/31/2021 2:16 PM
88	South part of Corral Hollow	10/31/2021 1:53 PM
89	Linne road	10/31/2021 1:41 PM
90	Railroad Tracks Intersection on Schulte Road	10/31/2021 1:24 PM
91	Corral Hollow	10/31/2021 12:52 PM
92	S Chrisman Rd	10/31/2021 12:51 PM
93	Corral Hollow	10/29/2021 9:32 AM

94	Corral hollow rd	10/29/2021 8:30 AM
95	Grantline Rd	10/24/2021 12:40 PM
96	Chrisman	10/24/2021 11:02 AM
97	Grantline	10/24/2021 6:25 AM
98	Corralled Hollow South of Schulte	10/23/2021 9:12 AM
99	Valpico	10/23/2021 6:07 AM
100	Parker	10/22/2021 7:54 PM
101	11nth st.	10/22/2021 6:34 PM
102	11th St.	10/22/2021 5:48 PM
103	Tracy Blvd	10/22/2021 5:11 PM
104	Grant line rd	10/22/2021 5:02 PM
105	Val pico	10/22/2021 4:58 PM
106	Valpico	10/22/2021 4:35 PM
107	Byron	10/22/2021 11:38 AM
108	Grantline rd	10/22/2021 10:56 AM
109	Corrall Hallow	10/21/2021 10:57 PM
110	11th St.	10/21/2021 9:19 PM
111	Holly	10/21/2021 8:30 PM
112	Grant line	10/21/2021 6:42 PM
113	11th strret	10/21/2021 6:35 PM
114	Byron rd	10/20/2021 8:51 PM
115	11th street	10/20/2021 7:29 PM
116	C Hollow	10/20/2021 7:13 PM
117	Wide shoulders	10/20/2021 6:20 PM
118	Lammers	10/20/2021 4:11 PM
119	Valpico	10/20/2021 1:27 PM
120	Grant Line Rs	10/20/2021 11:25 AM
121	11th st	10/20/2021 9:27 AM
122	Western Pacific	10/20/2021 7:24 AM
123	Western pacific road	10/20/2021 6:21 AM
124	Grantline	10/20/2021 6:13 AM
125	Valpico Rd.	10/19/2021 11:12 PM
126	central ave	10/19/2021 9:24 PM
127	Grant Line	10/19/2021 8:30 PM
128	Corral Hollow	10/19/2021 7:47 PM
129	Grantline	10/19/2021 6:07 PM
130	Tracy blvd	10/19/2021 6:06 PM
131	MacArthur from Valpico to 11th St	10/19/2021 4:52 PM

132	Grant line	10/19/2021 8:10 AM
133	Anywhere down town cause I get yelled at on the side walks	10/18/2021 4:45 PM
134	Tracy Blvd	10/18/2021 1:43 PM
135	Schulte	10/18/2021 1:17 PM
136	Mac Arthur	10/18/2021 12:46 PM
137	North side of Tracy Blvd	10/18/2021 9:56 AM
138	11th	10/18/2021 8:41 AM
139	Corral Hollow between Schulte and Whispering Wind	10/18/2021 8:22 AM
140	Grant line	10/18/2021 8:18 AM
141	11th st	10/18/2021 8:13 AM
142	11th	10/17/2021 6:23 PM
143	them	10/16/2021 1:22 PM
144	Tracy blvd	10/15/2021 3:15 PM
145	11 street	10/15/2021 2:02 PM
146	Valpico	10/15/2021 1:27 PM
147	Corral hollow	10/15/2021 12:41 PM
148	Lowell	10/15/2021 12:39 PM
149	Corral Hollow	10/15/2021 12:01 PM
150	Grant line	10/15/2021 11:59 AM
151	Grant Line Blvd	10/15/2021 9:59 AM
152	11th street	10/15/2021 9:39 AM
153	Tracy Blvd	10/15/2021 9:31 AM
154	Schulte	10/15/2021 9:27 AM
155	Tracy Blvd	10/15/2021 7:56 AM
156	Grant line	10/15/2021 7:22 AM
157	Bessie	10/15/2021 6:50 AM
158	Tracy Blvd	10/14/2021 11:01 PM

Q14 If you don't bike at all, what is keeping you from biking? (Select all that apply)

Answered: 120   Skipped: 229



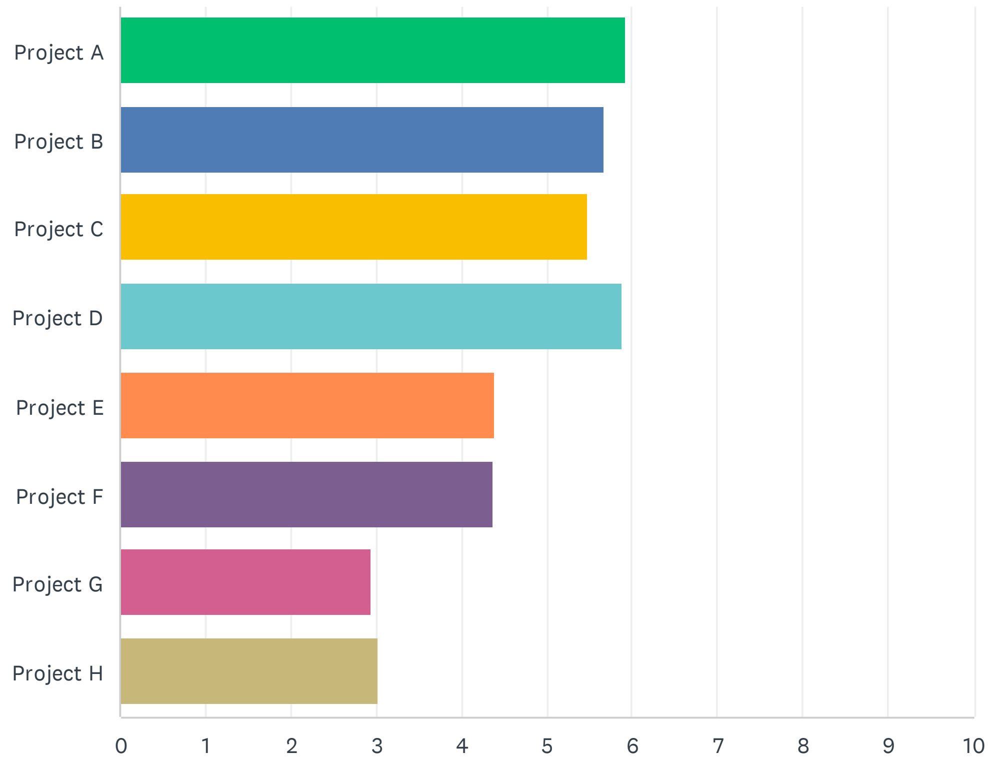
ANSWER CHOICES	RESPONSES	
I can't afford a bike	2.50%	3
I don't own a bike	5.83%	7
I don't know how to ride a bike	0.83%	1
My destinations are too far to bike	14.17%	17
I don't feel safe riding a bike on city roads/facilities	79.17%	95
Other (please specify)	16.67%	20
Total Respondents: 120		

#	OTHER (PLEASE SPECIFY)	DATE
1	Too many erratic drivers. Need barrier or separated bike road to reduce stress/risk of biking, else won't even consider biking.	5/19/2022 10:12 AM
2	I own a bike	5/12/2022 7:59 AM
3	Bikers are non compliant to traffic	5/6/2022 2:53 AM
4	N/A	11/9/2021 3:23 PM
5	I have little kids who are too small to come with me on city roads.	11/6/2021 1:04 PM
6	We own an embarrassing amount of bicycles.	11/4/2021 7:32 PM

7	I ride less than I did five years ago due due to more traffic, trucks and poor road conditions	10/31/2021 1:53 PM
8	I would rather run, walk.	10/29/2021 9:32 AM
9	Certain roads, times of day are not safe at all tone riding a bike: at any school during drop off/pick up, commute hours on major thoroughfares like Eleventh, Central, Tracy Blvd, Corral Hollow, Grantline	10/24/2021 1:30 PM
10	N/A	10/24/2021 12:40 PM
11	People are never following rules of the road	10/23/2021 6:55 PM
12	Bike needs to be fixed	10/23/2021 7:31 AM
13	Summer is too hot, winter is too rainy	10/22/2021 8:29 PM
14	Not applicable	10/22/2021 7:54 PM
15	To old to ride bike	10/22/2021 5:11 PM
16	I have a bike	10/21/2021 6:42 PM
17	Nor enough street lighting	10/21/2021 3:09 PM
18	I have a bike.	10/20/2021 4:11 PM
19	Unsafe, too many close calls, both my sons have been hit going to and from school. My was hit, miss treated by law enforcement (no ems was called, 2 blocks from fire department) resulting in him having trouble in school(senior year) and loosing the opportunity to go to state for XC. My daughter is to afraid of getting hit	10/20/2021 6:13 AM
20	Physical disability	10/15/2021 4:17 PM

Q15 Please list your top three priority projects from the proposed Bicycle Master Plan.

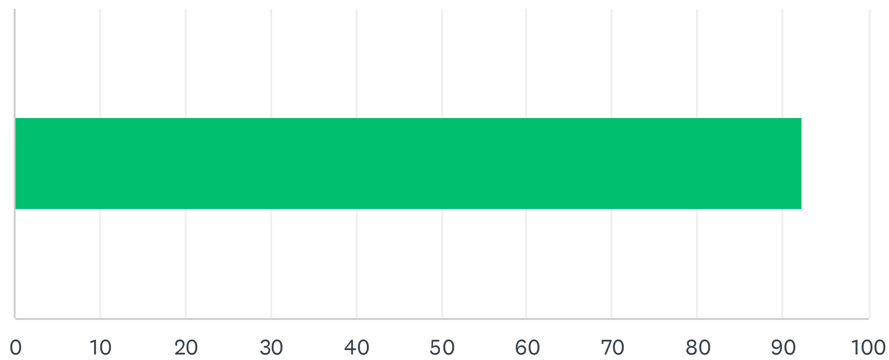
Answered: 201 Skipped: 148



	1	2	3	4	5	6	7	8	TOTAL	SCORE
Project A	39.41% 67	12.35% 21	10.00% 17	11.76% 20	10.00% 17	5.88% 10	4.12% 7	6.47% 11	170	5.93
Project B	11.86% 21	27.68% 49	23.73% 42	13.56% 24	8.47% 15	6.78% 12	5.65% 10	2.26% 4	177	5.67
Project C	10.80% 19	21.02% 37	24.43% 43	18.18% 32	11.36% 20	6.82% 12	3.98% 7	3.41% 6	176	5.48
Project D	25.27% 47	17.74% 33	16.67% 31	16.13% 30	13.44% 25	6.99% 13	2.69% 5	1.08% 2	186	5.88
Project E	5.45% 9	9.70% 16	11.52% 19	15.76% 26	24.85% 41	17.58% 29	12.73% 21	2.42% 4	165	4.39
Project F	12.80% 21	10.98% 18	12.80% 21	6.10% 10	8.54% 14	26.83% 44	14.02% 23	7.93% 13	164	4.37
Project G	3.87% 6	5.16% 8	6.45% 10	5.16% 8	6.45% 10	11.61% 18	40.00% 62	21.29% 33	155	2.94
Project H	5.03% 8	10.69% 17	8.81% 14	3.77% 6	6.29% 10	7.55% 12	9.43% 15	48.43% 77	159	3.02

Q16 The City should continue to invest in adding bicycle facilities.

Answered: 223 Skipped: 126



ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER	RESPONSES
	92	20,610	223
Total Respondents: 223			

#		DATE
1	100	8/18/2022 1:39 PM
2	100	7/25/2022 1:01 PM
3	100	7/21/2022 9:15 AM
4	100	6/23/2022 5:24 PM
5	87	5/21/2022 3:37 AM
6	99	5/20/2022 10:40 PM
7	100	5/19/2022 10:28 AM
8	100	5/18/2022 5:40 PM
9	100	5/16/2022 3:51 PM
10	100	5/12/2022 4:04 PM
11	100	5/12/2022 8:01 AM
12	100	5/11/2022 9:22 PM
13	49	5/11/2022 8:54 PM
14	54	5/11/2022 4:12 PM
15	100	5/11/2022 3:14 PM
16	100	5/11/2022 2:46 PM
17	87	5/11/2022 11:50 AM
18	100	5/9/2022 10:13 AM
19	100	5/9/2022 9:36 AM
20	98	5/9/2022 9:34 AM

21	0	5/6/2022 2:57 AM
22	100	5/5/2022 3:03 PM
23	100	5/5/2022 11:33 AM
24	100	5/5/2022 11:12 AM
25	100	5/5/2022 9:11 AM
26	87	5/5/2022 8:57 AM
27	100	5/5/2022 8:11 AM
28	100	5/4/2022 11:53 PM
29	67	5/3/2022 5:32 PM
30	96	4/19/2022 3:54 AM
31	100	4/15/2022 1:06 PM
32	42	4/11/2022 1:50 PM
33	100	3/25/2022 2:55 PM
34	78	3/25/2022 11:35 AM
35	100	3/16/2022 7:34 PM
36	95	3/2/2022 11:43 AM
37	100	2/2/2022 8:58 AM
38	100	12/30/2021 7:19 AM
39	100	12/6/2021 4:00 PM
40	54	11/14/2021 2:27 PM
41	100	11/11/2021 10:51 PM
42	100	11/10/2021 7:38 PM
43	80	11/9/2021 3:28 PM
44	99	11/9/2021 1:09 PM
45	100	11/8/2021 4:19 PM
46	100	11/7/2021 4:42 PM
47	100	11/7/2021 8:34 AM
48	100	11/7/2021 7:00 AM
49	97	11/7/2021 12:55 AM
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51	87	11/6/2021 8:17 PM
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57	100	11/5/2021 1:56 PM
58	100	11/5/2021 12:22 PM

59	100	11/5/2021 10:46 AM
60	100	11/5/2021 10:35 AM
61	70	11/5/2021 10:29 AM
62	98	11/5/2021 10:29 AM
63	100	11/5/2021 9:55 AM
64	99	11/5/2021 9:14 AM
65	100	11/5/2021 9:14 AM
66	100	11/5/2021 9:08 AM
67	100	11/5/2021 8:41 AM
68	100	11/5/2021 8:17 AM
69	100	11/5/2021 8:07 AM
70	51	11/5/2021 7:27 AM
71	2	11/5/2021 6:17 AM
72	100	11/5/2021 12:28 AM
73	52	11/4/2021 11:16 PM
74	100	11/4/2021 10:46 PM
75	100	11/4/2021 10:38 PM
76	100	11/4/2021 10:07 PM
77	100	11/4/2021 9:15 PM
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79	99	11/4/2021 8:34 PM
80	100	11/4/2021 8:22 PM
81	70	11/4/2021 8:18 PM
82	80	11/4/2021 8:16 PM
83	54	11/4/2021 8:11 PM
84	100	11/4/2021 8:09 PM
85	100	11/4/2021 8:05 PM
86	100	11/4/2021 8:02 PM
87	100	11/4/2021 8:01 PM
88	100	11/4/2021 7:59 PM
89	96	11/4/2021 7:58 PM
90	100	11/4/2021 7:52 PM
91	97	11/4/2021 7:50 PM
92	100	11/4/2021 7:43 PM
93	100	11/4/2021 7:40 PM
94	100	11/4/2021 7:34 PM
95	100	11/4/2021 7:27 PM
96	100	11/4/2021 7:25 PM

97	100	11/4/2021 7:22 PM
98	80	11/4/2021 7:18 PM
99	94	11/4/2021 7:17 PM
100	98	11/4/2021 7:16 PM
101	98	11/4/2021 7:15 PM
102	100	11/4/2021 7:11 PM
103	100	11/4/2021 7:01 PM
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125	98	10/31/2021 2:03 PM
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127	100	10/31/2021 1:07 PM
128	0	10/29/2021 9:37 AM
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130	97	10/25/2021 12:09 PM
131	100	10/24/2021 6:26 PM
132	100	10/24/2021 12:47 PM
133	100	10/24/2021 11:05 AM
134	100	10/24/2021 7:46 AM

135	100	10/24/2021 6:37 AM
136	99	10/23/2021 7:02 PM
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140	100	10/22/2021 8:39 PM
141	0	10/22/2021 8:39 PM
142	72	10/22/2021 8:35 PM
143	99	10/22/2021 7:12 PM
144	100	10/22/2021 6:39 PM
145	77	10/22/2021 6:23 PM
146	100	10/22/2021 6:00 PM
147	100	10/22/2021 5:04 PM
148	100	10/22/2021 5:00 PM
149	100	10/22/2021 2:39 PM
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151	100	10/22/2021 10:10 AM
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167	100	10/20/2021 5:33 PM
168	100	10/20/2021 4:18 PM
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171	100	10/20/2021 2:41 PM
172	97	10/20/2021 2:07 PM

173	100	10/20/2021 1:30 PM
174	97	10/20/2021 11:27 AM
175	97	10/20/2021 11:00 AM
176	5	10/20/2021 10:23 AM
177	100	10/20/2021 9:48 AM
178	50	10/20/2021 8:10 AM
179	100	10/20/2021 7:28 AM
180	100	10/20/2021 6:46 AM
181	100	10/20/2021 6:24 AM
182	73	10/20/2021 5:49 AM
183	100	10/19/2021 11:23 PM
184	72	10/19/2021 10:38 PM
185	77	10/19/2021 9:31 PM
186	100	10/19/2021 8:37 PM
187	70	10/19/2021 8:37 PM
188	100	10/19/2021 7:58 PM
189	100	10/19/2021 6:41 PM
190	89	10/19/2021 6:12 PM
191	100	10/19/2021 6:10 PM
192	100	10/19/2021 5:00 PM
193	68	10/19/2021 2:32 PM
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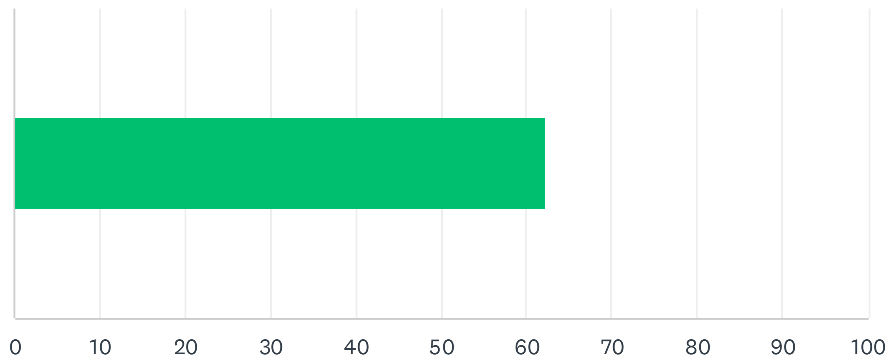
199	96	10/18/2021 9:58 AM
200	100	10/18/2021 8:54 AM
201	100	10/18/2021 8:52 AM
202	100	10/18/2021 8:14 AM
203	100	10/18/2021 8:13 AM
204	55	10/17/2021 6:29 PM
205	50	10/15/2021 11:48 PM
206	94	10/15/2021 3:18 PM
207	100	10/15/2021 1:32 PM
208	100	10/15/2021 12:48 PM
209	97	10/15/2021 12:03 PM
210	100	10/15/2021 9:43 AM

211	99	10/15/2021 9:40 AM
212	100	10/15/2021 9:37 AM
213	100	10/15/2021 9:29 AM
214	100	10/15/2021 8:08 AM
215	100	10/15/2021 7:50 AM
216	100	10/15/2021 7:39 AM
217	100	10/15/2021 7:26 AM
218	100	10/15/2021 7:25 AM
219	100	10/15/2021 7:02 AM
220	100	10/15/2021 6:55 AM
221	100	10/15/2021 1:15 AM
222	100	10/14/2021 11:14 PM
223	100	10/14/2021 10:06 PM

Q17 The proposed facilities above are adequate to meet my cycling needs

Answered: 216 Skipped: 133



ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER	RESPONSES
	62	13,469	216
Total Respondents: 216			

#		DATE
1	100	8/18/2022 1:39 PM
2	70	7/25/2022 1:01 PM
3	64	7/21/2022 9:15 AM
4	1	6/23/2022 5:24 PM
5	19	5/21/2022 3:37 AM
6	23	5/20/2022 10:40 PM
7	20	5/19/2022 10:28 AM
8	80	5/18/2022 5:40 PM
9	50	5/16/2022 3:51 PM
10	29	5/12/2022 4:04 PM
11	77	5/12/2022 8:01 AM
12	74	5/11/2022 9:22 PM
13	53	5/11/2022 8:54 PM
14	35	5/11/2022 4:12 PM
15	100	5/11/2022 3:14 PM
16	60	5/11/2022 2:46 PM
17	52	5/11/2022 11:50 AM
18	23	5/9/2022 6:27 PM
19	75	5/9/2022 10:13 AM
20	1	5/9/2022 9:36 AM

21	98	5/9/2022 9:34 AM
22	0	5/6/2022 2:57 AM
23	0	5/5/2022 3:03 PM
24	48	5/5/2022 11:33 AM
25	85	5/5/2022 11:12 AM
26	30	5/5/2022 9:11 AM
27	48	5/5/2022 8:57 AM
28	0	5/5/2022 8:11 AM
29	51	5/4/2022 11:53 PM
30	100	4/19/2022 3:54 AM
31	80	4/15/2022 1:06 PM
32	50	4/11/2022 1:50 PM
33	10	3/25/2022 2:55 PM
34	74	3/25/2022 11:35 AM
35	66	3/16/2022 7:34 PM
36	95	3/2/2022 11:43 AM
37	83	2/2/2022 8:58 AM
38	5	12/30/2021 7:19 AM
39	27	12/6/2021 4:00 PM
40	52	11/14/2021 2:27 PM
41	100	11/11/2021 10:51 PM
42	75	11/10/2021 7:38 PM
43	100	11/9/2021 3:28 PM
44	100	11/9/2021 1:09 PM
45	55	11/8/2021 4:19 PM
46	100	11/7/2021 4:42 PM
47	100	11/7/2021 8:34 AM
48	53	11/7/2021 7:00 AM
49	97	11/7/2021 12:55 AM
50	92	11/6/2021 9:03 PM
51	74	11/6/2021 8:17 PM
52	75	11/6/2021 2:50 PM
53	51	11/6/2021 9:40 AM
54	40	11/5/2021 9:39 PM
55	50	11/5/2021 4:52 PM
56	53	11/5/2021 1:56 PM
57	70	11/5/2021 12:22 PM
58	100	11/5/2021 10:35 AM

59	10		11/5/2021 10:29 AM
60	49		11/5/2021 10:29 AM
61	71		11/5/2021 9:55 AM
62	36		11/5/2021 9:14 AM
63	76		11/5/2021 9:14 AM
64	52		11/5/2021 9:08 AM
65	10		11/5/2021 8:41 AM
66	50		11/5/2021 8:17 AM
67	100		11/5/2021 8:07 AM
68	9		11/5/2021 7:27 AM
69	5		11/5/2021 6:17 AM
70	57		11/5/2021 12:28 AM
71	50		11/4/2021 11:16 PM
72	80		11/4/2021 10:46 PM
73	72		11/4/2021 10:38 PM
74	53		11/4/2021 10:07 PM
75	100		11/4/2021 10:04 PM
76	75		11/4/2021 9:15 PM
77	53		11/4/2021 8:43 PM
78	78		11/4/2021 8:34 PM
79	80		11/4/2021 8:22 PM
80	52		11/4/2021 8:18 PM
81	70		11/4/2021 8:16 PM
82	73		11/4/2021 8:11 PM
83	72		11/4/2021 8:09 PM
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95	100		11/4/2021 7:22 PM
96	60		11/4/2021 7:18 PM

97	0	11/4/2021 7:16 PM
98	64	11/4/2021 7:15 PM
99	100	11/4/2021 7:11 PM
100	49	11/4/2021 7:01 PM
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102	0	11/4/2021 6:57 PM
103	0	11/4/2021 6:48 PM
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107	100	11/4/2021 4:25 PM
108	70	11/4/2021 2:47 PM
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121	80	10/31/2021 2:03 PM
122	100	10/31/2021 1:46 PM
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125	49	10/25/2021 7:03 PM
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128	75	10/24/2021 12:47 PM
129	100	10/24/2021 11:05 AM
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132	49	10/23/2021 7:02 PM
133	27	10/23/2021 2:44 PM
134	50	10/23/2021 2:26 PM

135	100	10/23/2021 11:29 AM
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143	100	10/22/2021 5:04 PM
144	71	10/22/2021 5:00 PM
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146	100	10/22/2021 10:13 AM
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155	42	10/21/2021 7:48 AM
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157	81	10/21/2021 12:46 AM
158	49	10/20/2021 11:29 PM
159	70	10/20/2021 9:01 PM
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162	25	10/20/2021 6:22 PM
163	57	10/20/2021 5:33 PM
164	100	10/20/2021 4:18 PM
165	60	10/20/2021 4:01 PM
166	53	10/20/2021 3:24 PM
167	100	10/20/2021 2:41 PM
168	23	10/20/2021 1:30 PM
169	55	10/20/2021 11:27 AM
170	75	10/20/2021 11:00 AM
171	100	10/20/2021 10:23 AM
172	100	10/20/2021 9:48 AM

173	100	10/20/2021 8:10 AM
174	16	10/20/2021 7:28 AM
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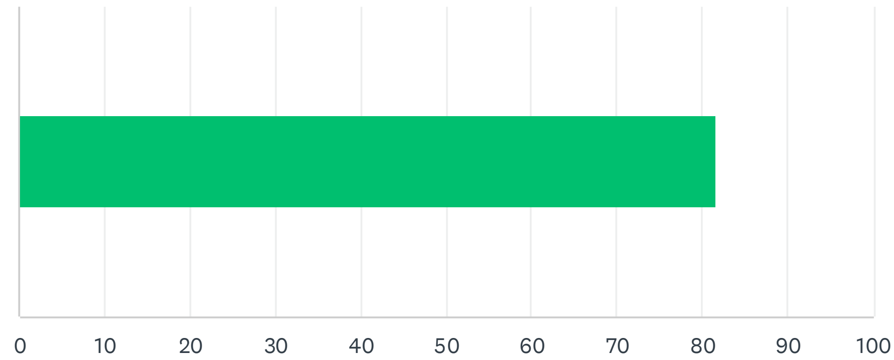
205	57	10/15/2021 9:37 AM
206	100	10/15/2021 9:29 AM
207	5	10/15/2021 8:08 AM
208	100	10/15/2021 7:50 AM
209	100	10/15/2021 7:39 AM
210	53	10/15/2021 7:26 AM

211	72	10/15/2021 7:25 AM
212	50	10/15/2021 7:02 AM
213	100	10/15/2021 6:55 AM
214	100	10/15/2021 1:15 AM
215	75	10/14/2021 11:14 PM
216	51	10/14/2021 10:06 PM

Q18 An integrated wayfinding and signage program would be useful to help navigate the bicycle network.

Answered: 221   Skipped: 128



ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER	RESPONSES
	82	18,052	221
Total Respondents: 221			

#		DATE
1	100	8/18/2022 1:39 PM
2	80	7/25/2022 1:01 PM
3	81	7/21/2022 9:15 AM
4	52	6/23/2022 5:24 PM
5	63	5/21/2022 3:37 AM
6	100	5/19/2022 10:28 AM
7	75	5/18/2022 5:40 PM
8	75	5/16/2022 3:51 PM
9	100	5/12/2022 4:04 PM
10	82	5/12/2022 8:01 AM
11	87	5/11/2022 9:22 PM
12	93	5/11/2022 8:54 PM
13	100	5/11/2022 4:12 PM
14	100	5/11/2022 3:14 PM
15	90	5/11/2022 2:46 PM
16	91	5/11/2022 11:50 AM
17	78	5/9/2022 6:27 PM
18	60	5/9/2022 10:13 AM
19	51	5/9/2022 9:36 AM

20	98	5/9/2022 9:34 AM
21	0	5/6/2022 2:57 AM
22	100	5/5/2022 3:03 PM
23	100	5/5/2022 11:33 AM
24	50	5/5/2022 11:12 AM
25	20	5/5/2022 9:11 AM
26	80	5/5/2022 8:57 AM
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31	90	4/15/2022 1:06 PM
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33	85	3/25/2022 2:55 PM
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35	59	3/16/2022 7:34 PM
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38	54	12/30/2021 7:19 AM
39	86	12/6/2021 4:00 PM
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41	100	11/11/2021 10:51 PM
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46	100	11/7/2021 4:42 PM
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50	100	11/6/2021 9:03 PM
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61	12	11/5/2021 10:29 AM
62	99	11/5/2021 10:29 AM
63	73	11/5/2021 9:55 AM
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65	100	11/5/2021 9:14 AM
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127	100	10/31/2021 1:46 PM
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130	77	10/25/2021 7:03 PM
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132	100	10/24/2021 12:47 PM
133	51	10/24/2021 11:05 AM

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213	100	10/15/2021 7:50 AM
214	100	10/15/2021 7:39 AM
215	53	10/15/2021 7:26 AM
216	55	10/15/2021 7:25 AM
217	52	10/15/2021 7:02 AM
218	100	10/15/2021 6:55 AM
219	100	10/15/2021 1:15 AM
220	100	10/14/2021 11:14 PM
221	100	10/14/2021 10:06 PM

Q19 If you disagreed with any of the statements above, please explain below:

Answered: 39 Skipped: 310

#	RESPONSES	DATE
1	It's too dangerous	6/23/2022 5:24 PM
2	Need to implemented protected intersections with refuge islands and dedicated bike signals for high traffic intersections. Bicyclists will refuse to ride if they don't feel safe on the road especially with erratic drivers who don't respect bicyclist and pedestrian right of way.	5/19/2022 10:28 AM
3	You're completely missing dirt trails. Can you add some dirt trails along Union Pacific railroad? People are already riding there.	5/12/2022 4:04 PM
4	It seems that you are forgetting mountain biking hills.	5/11/2022 2:46 PM
5	You have failed to define what you mean by " bicycle facilities" etc.	5/9/2022 6:27 PM
6	The proposed improvements would approach the adequate standard ONLY if All proposals were adopted. Compliance with posted speed limits is so poor that safety is still less than optimum for most of the indicated areas slated as Class III. We also need more bike racks downtown/near food and entertainment venues!	5/9/2022 9:36 AM
7	The bicyclist of Tracy take up all lanes and even oncoming lanes going towards cars what is adding all this going to do but spend money that will not make any difference	5/6/2022 2:57 AM
8	All streets should be safe for cyclists.	5/5/2022 3:03 PM
9	Maps would only be needed if the canal bikeways actually were put in place.	5/5/2022 11:12 AM
10	The proposed facilities are great! Should also add local, bike-supporting commuter improvements in older part of town where bike lanes do not exist on arterials. Too many signs only add visual clutter. Small number of discrete signs, OK. But if you are a local, discovering and enjoying bike paths is more fun when there is not a runway of lights telling you where to go. However, the bike lanes should definitely be marked to notify motorists of the bike lanes, for safety's sake.	5/5/2022 9:11 AM
11	My needs are more for recreation. Would love a bike path kinda like the one in Half Moon Bay or Sacramento where you can ride for miles in a safe setting away from cars and traffic.	5/5/2022 8:57 AM
12	Biking is not respected by drivers. I've been hit my wife has been hit. We need to focus on a bike friendly city as a priority and it will draw business opportunity.	5/5/2022 8:11 AM
13	Roads like Lincoln Dr. are currently wide enough to make them bike friendly and should be surveyed for consideration. Looking into making residential areas safer for riding	3/25/2022 2:55 PM
14	My cycling is mostly for recreation so I prefer class 1 or 4 paths. I don’t want to fight with traffic or crazy drivers when I’m riding with my kids so class 2 and 3 aren’t going to be utilized by me.	11/6/2021 2:50 PM
15	Signage would be great, but our city tends to over spend in fancy signs that end up being vandalized or stop working.	11/5/2021 4:52 PM
16	Wayfinding isn't necessary, just invest in making sure that routes are identified properly in apps like Google Maps and Strava.	11/5/2021 10:46 AM
17	We need to secure the street on Schulte, lower the speed limit and make it more visibe and have a crossing light at the corner of Amaretto Dr and Schulte. The spot is very dangerous and kids WILL get hit by a car. It's just a matter of time.	11/5/2021 10:29 AM
18	If you want to replace car trips all access roads should have bike ways with no brakes between them	11/5/2021 8:41 AM

19	Build infrastructure first, secure the roads with cameras and use technology to manage and monitor before introducing any new services on road.	11/5/2021 6:17 AM
20	Bike paths on roads impede traffic and are dangerous	11/4/2021 10:04 PM
21	Our city has unsafe bike paths for the most part. There should be paved, direct and safe paths to every school.	11/4/2021 8:01 PM
22	We NEED this.	11/4/2021 7:40 PM
23	You really need to meet with the cycling community to hear our needs. This survey while a great start needs much more input, for a safe cycling city. Take a look at Livermore, I would much rather drive there to ride safely than in my own city.	11/2/2021 8:11 PM
24	anywhere in Tracy when i ride cars come very close to bike riders and its not safe . there is a need for bike lane all over tracy traveled roads	11/2/2021 4:21 PM
25	When riding around the area, it seems like Tracy has a lot of starts and stops with bike paths. It would be nice if they all connected.	11/2/2021 8:29 AM
26	Tracy has increased Industrial sites tenfold, along with an increase in housing, but it has failed to make improvements to the road infrastructure or widen the roads to accommodate more traffic and cyclists. It is really scary to ride on a lot of the roads due to increased commuters heading to work and all the shipping trucks.	11/1/2021 2:06 PM
27	Plans appear to be disconnected they should be done to provide more cohesive and complete cycling routes.	10/31/2021 1:07 PM
28	Why biking? Why cant thr city do more fore the kids. Biking will only be used by a few people. Make some sports fields. Make a youth center where every kid has a chance. Not be plaved on a waiting list.	10/29/2021 9:37 AM
29	Bicycle safety is needed more than any of this	10/23/2021 7:02 PM
30	Not needed. Money far better spent elsewhere	10/23/2021 2:26 PM
31	Cyclists in Tracy seldom use bike lanes. Groups of teens swarm the roads avoiding the lanes creating congestion. At night, unsavory characters move erratically with no reflectors cutting back and forth across roads avoiding lanes entirely. If bike lanes are created, we should have harsh penalties for cyclists avoiding them.	10/22/2021 8:39 PM
32	Tracy lacks adequate places to lock up your bike when inside a business or government facilities. Tracy lacks adequate bike lines to ride safely.	10/22/2021 6:00 PM
33	A planned separate bike path only & walking path NOT on a street (like Manteca … landscaped & maintained)	10/21/2021 11:04 PM
34	More trails on outskirts	10/20/2021 7:19 PM
35	I think the money should be spent on fixing our streets	10/20/2021 10:23 AM
36	The city is so patchwork right now. We need clear east west and north south bicycle facilities to public transit	10/20/2021 7:28 AM
37	Cycling is a huge sport in Tracy that just keeps growing. Clean up the skate and bike parks that ate currently unsafe for my kids to use due to the ount of homeless people living in the parks. We also need a pump track and dedicated bike park for the local lods to recreate in.	10/18/2021 8:52 AM
38	See below	10/15/2021 8:08 AM
39	#17 what facilities do we have? We don’t have an integrated bike path system yet.	10/14/2021 10:06 PM

Q20 19. What improvements or features would you add to the City of Tracy bicycle network?

Answered: 111 Skipped: 238

#	RESPONSES	DATE
1	Many bike paths separate from the roads. Bike-only roadways during certain times of week. Possible bike paths that go underneath major roads rather than across.	7/25/2022 1:01 PM
2	Barriers. Separated lanes for cyclists.	6/23/2022 5:24 PM
3	Pathways to connect neighboring cities like mountain house and Manteca. An endurance Loop 10 to 20+ miles around town of minimally uninterrupted bike paths	5/20/2022 10:40 PM
4	Protected intersections with refuge islands and dedicated bike signals for high traffic intersections. Traffic calming measures to slow erratic drivers (enforced by TPD) (road diets, vehicle speed feedback signs, speed humps). Bulb outs at intersections. Delineators, curbs, or bollards to protect bike lanes (critical for feeling safe) or separate bike lanes.	5/19/2022 10:28 AM
5	Adding Bike lanes and some more street lights on Streets like Lammers and Byron would be very helpful.	5/16/2022 3:51 PM
6	1) More crosswalks for bicycles and pedestrians. It's odd to have a stop sign at Schulte & Morris Phelps but no way to cross the road. 2) We need some of those highly visible cross walks and paths where the lights on the ground flicker when there is a bike or a pedestrian.	5/12/2022 4:04 PM
7	More bike racks and lockers, buffer zones, Dutch model crossings at most large intersections	5/12/2022 8:01 AM
8	I would get rid of the bike lane next to the class 1 paths on Schulte and Lauriana, and definitely consider adding a protected bike lane on 11th street or a close street adjacent to it. Add some clear signage around sycamore indicating which paths are for bikes and which are for pedestriasns,	5/11/2022 9:22 PM
9	The city should focus on bike trails.	5/11/2022 8:54 PM
10	More trails for bike use to be more relaxing	5/11/2022 4:12 PM
11	More dirt roads cycling roads. While the paved path will be awesome, we need true dirt trails.	5/11/2022 2:46 PM
12	build separate bike paths within the city	5/11/2022 11:50 AM
13	What we need are proper bike lanes SEPARATED FROM AUTOMOBILE TRAFFIC! Additional posts/creatively designed racks for bicycles downtown and at stores.	5/9/2022 6:27 PM
14	bike racks at parks	5/9/2022 10:13 AM
15	Class IV lanes included in the plan, a way to travel completely around the city of Tracy on protected Class I bike ways, and a way for people working in the Schulte area between Patterson Pass and Coral Hollow to bike to work on protected and LIGHTED Class I bike ways.	5/9/2022 9:36 AM
16	So if these bicycle lanes get put in can the cars use them since the lanes for traffic are being all used by the bicyclists.	5/6/2022 2:57 AM
17	Bike lanes on all major thoroughfares.	5/5/2022 3:03 PM
18	My daughter goes to school at Montessori middle school. Currently the only way to bike there is along Tracy blvd which is really busy and dangerous (couple people hit in the last couple months). Any thoughts on opening a trail to there.	5/5/2022 11:12 AM
19	First, I would fix the numbering of this question (20. 19.). Develop plan for bike lanes on arterial streets in older part of town (11th, Tracy Blvd, MacArthur, East St near Lincoln Park, etc.) Bike plan should definitely extend into new, developing areas of town, too, so that schools, parks, and shopping are connected to residential neighborhoods with class 1 or class 2 bikeways.	5/5/2022 9:11 AM

20	Concentrate on bike safety in and around town. I like the green bike lanes.	5/5/2022 8:57 AM
21	Bike anywhere opportunities. Become known as a bike city.	5/5/2022 8:11 AM
22	Have more support for all types of mobility transportation types such as scooters. Separate pathways allow for mobility devices other than bicycles to be used. Create paths on the land near the railroads. This would help to connect major roads to each other.	5/3/2022 5:32 PM
23	get rid of one lane on 11th street from Tracy blvd to macarthur, currently very loud, not pleasant to bike on, plus has many businesses and shops that people will want to get to. Install either class iv or class 1 bike path, and perhaps even make the possibility for a bus lane in the future.	4/15/2022 1:06 PM
24	Benches to rest	2/2/2022 8:58 AM
25	Bike park with trails	12/30/2021 7:19 AM
26	Shade and picnic areas or network with existing parks	11/11/2021 10:51 PM
27	Connect current bike paths that start and stop	11/10/2021 7:38 PM
28	I don’t understand how to answer question 15. My answer just populated the numbers.	11/9/2021 3:28 PM
29	Separate trails and paths	11/6/2021 8:17 PM
30	The biggest determining factor of whether I use bike paths/trails is the safety. I prefer class 1 or 4 however my concern with class 1 is whether the city will allow homeless people to hang out/camp on them or not. Secondly, I would like a connecting loop. Some of the proposed improvements would eventually allow for that. Last, but not least, I think safety of school routes is of highest priority so I listed that first. However, it does not make clear what the improvements will be so I’m not sure whether I really agree with the proposed improvements.	11/6/2021 2:50 PM
31	Parking	11/6/2021 9:40 AM
32	More safe places to ride is all we need. Right now we have nothing that connects safely that wound allow people to make bike riding a safe choice if needed.	11/5/2021 4:52 PM
33	For trails, ensure sufficient shade is provided as well as water fountains and dog poop bags/trash cans as well.	11/5/2021 1:56 PM
34	Keep security & emergency personnel near by	11/5/2021 12:22 PM
35	Canal trail looks AMAZING! Also, need more trails separated from traffic, Class IV with barriers would help make cycling more appealing and likely add more mileage than only focusing on Class I.	11/5/2021 10:46 AM
36	No Class IV? Really?	11/5/2021 10:35 AM
37	We need to secure the street on Schulte, lower the speed limit and make it more visibe and have a crossing light at the corner of Amaretto Dr and Schulte.	11/5/2021 10:29 AM
38	Safe riding areas to downtown. I would develop nice trails through the bow tie area	11/5/2021 9:14 AM
39	More connections to downtown	11/5/2021 9:14 AM
40	Signs and ramps at ends	11/5/2021 8:41 AM
41	City needs to focus on repairing roads and	11/5/2021 7:27 AM
42	None	11/5/2021 6:17 AM
43	Bicycle Route maps online and in print. Bike maintenance stations.	11/5/2021 12:28 AM
44	Water fountains	11/4/2021 10:38 PM
45	Walking, running, biking multipurpose paths away from road traffic!	11/4/2021 10:04 PM
46	See fremont bike paths along the alameda creek	11/4/2021 9:15 PM
47	Yes	11/4/2021 8:11 PM
48	Lighted path options. Patrol from parks & Rec. or other police units to ensure no homeless encampments or dangers along paths	11/4/2021 8:09 PM

49	Water fountains	11/4/2021 8:05 PM
50	Paved safe and direct paths to every school	11/4/2021 8:01 PM
51	Trash cans, bike racks, and water fountains	11/4/2021 7:52 PM
52	If this plan follows through, it would be a great start.	11/4/2021 7:40 PM
53	Places to easily secure my bike. Also additional marked crosswalks where possible.	11/4/2021 7:25 PM
54	An app on phone to show connecting points of trails. Kind of like navigation.	11/4/2021 7:22 PM
55	More of a park feel,trees, grass	11/4/2021 7:11 PM
56	I would love to see off-road bike trails and separated paved bike trails where you don't have to worry about cars, lights, etc	11/4/2021 6:38 PM
57	Wider bike lanes and lanes that actually go somewhere and don’t just disappear.	11/2/2021 8:11 PM
58	Bike lanes	11/2/2021 4:21 PM
59	Connect the excising paths.	11/2/2021 8:29 AM
60	Dedicated bike lanes on main roads with shoulders. Schulte, Durham ferry, corral hollow north of the mall	10/31/2021 9:47 PM
61	Mandatory class II or class IV bike lane for all new warehouse, homes or any developments that impact the roads.	10/31/2021 6:27 PM
62	Enforce the Helmet Law on "ride outs."	10/31/2021 2:03 PM
63	Clean riding areas with minimal debris	10/31/2021 1:46 PM
64	Fix roads that are in a very bad state of repair such as the stretch of Valpico between MacArthur and Tracy Blvd. This is a hazard for all users of the road.	10/31/2021 1:07 PM
65	Get rid of it...	10/29/2021 9:37 AM
66	bmx dirt track for the kids.	10/25/2021 12:09 PM
67	Painted bike lanes, barriers on busy streets.	10/24/2021 12:47 PM
68	Attended bike parking or bike lockers downtown and at the mall	10/24/2021 11:05 AM
69	Overall safety. Designated bike paths will alert car drivers to be more aware or bicyclists.	10/24/2021 7:46 AM
70	Pump stations located every quarter mile.	10/24/2021 6:37 AM
71	Rule following for road ways	10/23/2021 7:02 PM
72	None	10/23/2021 2:26 PM
73	dirt/ cement bike park or some type of pump track	10/23/2021 11:29 AM
74	Bike lanes, places to lock up bikes while shopping, eating, etc.	10/22/2021 7:12 PM
75	N/a	10/22/2021 6:39 PM
76	Better and safer bike lanes that connect all through out Tracy. Lights that are triggered by bikes ,bicycle education police enforcement and charging stations for bikes !!!	10/22/2021 6:00 PM
77	A bike park	10/22/2021 2:39 PM
78	See above	10/21/2021 11:04 PM
79	more routes please bike lanes	10/21/2021 6:42 PM
80	Connected bike paths to get from home to path If not adequate parking lot in area	10/21/2021 7:48 AM
81	More bike lanes on country roads separated from traffic. Like Livermore.	10/21/2021 6:26 AM
82	Better route under freeway at grant line and/or 11st to Byron	10/21/2021 12:46 AM
83	Safe ways to get from neighbors to shopping abd church	10/20/2021 7:39 PM

84	It just needs to be safe!!! Separate bike paths along well lit roads and with any cars.	10/20/2021 4:18 PM
85	There needs to be a FULL CIRLCE bike AND RUNNING path around the city of at least 6.2 miles (10K)	10/20/2021 2:07 PM
86	Dedicated trails	10/20/2021 11:27 AM
87	Barriers, colored bike lanes, car speeding issues, street sweeping of bike lanes, flashing lights, bike trail map,	10/20/2021 9:48 AM
88	It would be really good to get something to connect to Livermore in some way over old altamont. Then we could connect to iron horse and all the Bay Area paths and network. The valley is too isolated.	10/20/2021 7:28 AM
89	Safety enforcement and education campaign for automotive drivers	10/20/2021 5:49 AM
90	Unpaved (dirt) paths along the rail lines would also be ideal	10/19/2021 11:23 PM
91	Better policing or regulations of where cyclists are able to cycle. Covid is not an excuse to allow anybody from interfering with car traffic, especially in to oncoming traffic, which puts the vehicle passengers in danger let alone the cyclist. Some of us have children in the car too. Should cyclists mot equally respect vehicle drivers too?	10/19/2021 8:37 PM
92	Tracy absolutely needs more Class I bike trails.	10/19/2021 6:41 PM
93	More separation from traffic	10/19/2021 6:12 PM
94	NEW SKATEPARK WITH BIKE PARK	10/19/2021 6:10 PM
95	Painted share lanes with symbol where bike lanes end and road continues	10/19/2021 5:00 PM
96	Somewhere to ride on the down town streets	10/18/2021 7:34 PM
97	Signage reminding drivers when to legally merge into lane	10/18/2021 10:09 AM
98	Pump track and dedicated bike park and dedicated bike lanes around town in as many areas as possible. But ESPECIALLY on main thoroughfares!	10/18/2021 8:52 AM
99	CA Aquaduct	10/17/2021 6:29 PM
100	Set weekly bicycle routes for large group rides to keep the city informed of route and riders safe. Route should include numerous join in spots/ rest spots. Off main unsafe roads. Should be mandatory for the city to provide a blessing on the routes.	10/15/2021 12:48 PM
101	We need a bike park/pump track area for us to ride	10/15/2021 12:03 PM
102	Enforcement of bike lanes. On Grantline they are used as blocks long turn lanes	10/15/2021 9:37 AM
103	I cannot emphasize enough the importance of a bike park here in Tracy. A bike park, whether it is a pumptrack, bmx track, or jump/skills course, will not only encourage younger riders to improve their handling skills, but gives the cycling community a hub to educate one another and grow stronger. A bike park is crucial to the City of Tracy's bicycle network as it will give riders a SAFE and fun place to exercise. Having a bicycle park in my hometown as I grew up helped me hone the bike handling skills I have today and kept me out of trouble. Please do not leave the bike park out of the City's proposed bike plans.	10/15/2021 8:08 AM
104	BMX facilities that have multiple tracks and training areas.	10/15/2021 7:50 AM
105	Bike park, Pump track . Somewhere i can ride my bmx bike on an practice for bmx races	10/15/2021 7:39 AM
106	BMX or pump track like facilities in parks	10/15/2021 7:26 AM
107	Pump track	10/15/2021 7:25 AM
108	Bike parks with jumps	10/15/2021 7:02 AM
109	Bike park	10/15/2021 6:55 AM
110	I would like to see a bmx bike track and/or a bike pump track , at legacy fields	10/14/2021 11:14 PM
111	BMX bike park, or Pump Park	10/14/2021 10:06 PM

Q21 Which major origins or destinations should be included in a Tracy bicycle wayfinding program?

Answered: 89 Skipped: 260

ANSWER CHOICES	RESPONSES	
Location 1	100.00%	89
Location 2	88.76%	79
Location 3	65.17%	58

#	LOCATION 1	DATE
1	10th Street Downtown Tracy	7/25/2022 1:01 PM
2	Ellis	7/21/2022 9:15 AM
3	Downtown	6/23/2022 5:24 PM
4	ACE station	5/20/2022 10:40 PM
5	Downtown	5/18/2022 5:40 PM
6	Downtown	5/12/2022 4:04 PM
7	Transit Center	5/12/2022 8:01 AM
8	Tracy Downtown transit center	5/11/2022 9:22 PM
9	Downtown	5/11/2022 2:46 PM
10	Legacy Fields	5/9/2022 10:13 AM
11	None	5/6/2022 2:57 AM
12	Downtown Tracy	5/5/2022 11:12 AM
13	Lincoln Park	5/5/2022 8:57 AM
14	Downtown	5/5/2022 8:11 AM
15	Downtown Tracy	5/3/2022 5:32 PM
16	10th street downtown	4/15/2022 1:06 PM
17	Levee	3/16/2022 7:34 PM
18	Mall	3/2/2022 11:43 AM
19	Tracy HIgh	12/6/2021 4:00 PM
20	Schulte road west of Lammers road	11/10/2021 7:38 PM
21	Near any middle schools	11/9/2021 3:28 PM
22	Grant line	11/9/2021 5:27 AM
23	ACE Train Station	11/6/2021 8:17 PM
24	Downtown	11/6/2021 9:40 AM
25	Tracy Hills	11/5/2021 9:39 PM
26	Sports Complex	11/5/2021 1:56 PM
27	None, use tech instead	11/5/2021 10:46 AM

28	Ace Train	11/5/2021 10:35 AM
29	Parks	11/5/2021 10:29 AM
30	Down town	11/5/2021 9:14 AM
31	Downtown	11/5/2021 9:14 AM
32	Downtown	11/5/2021 8:41 AM
33	Tracy Sport complex	11/5/2021 7:27 AM
34	The mall	11/4/2021 10:38 PM
35	All middle and high schools	11/4/2021 8:43 PM
36	Shopping at Naglee and Grant Line	11/4/2021 8:34 PM
37	10th street retail	11/4/2021 8:22 PM
38	Sycamore prkwy	11/4/2021 7:58 PM
39	Parks	11/4/2021 7:52 PM
40	the mall	11/4/2021 7:50 PM
41	Mall	11/4/2021 7:43 PM
42	Transit station	11/4/2021 7:25 PM
43	Downtown Tracy	11/4/2021 7:22 PM
44	Valpico Rd	11/4/2021 6:38 PM
45	Valpico	11/2/2021 8:11 PM
46	Country road	11/1/2021 6:08 AM
47	Schulte to Petterson pass	10/31/2021 9:47 PM
48	Livermore	10/31/2021 6:27 PM
49	Tracy hills	10/31/2021 4:24 PM
50	West High School	10/31/2021 2:03 PM
51	Transportation stations	10/31/2021 1:46 PM
52	None	10/29/2021 9:37 AM
53	all	10/25/2021 12:09 PM
54	Downtown area	10/24/2021 12:47 PM
55	Downtown	10/24/2021 11:05 AM
56	Bicycle repair station	10/24/2021 7:46 AM
57	City Hall	10/24/2021 6:37 AM
58	pump track	10/23/2021 11:29 AM
59	Grocery shopping	10/22/2021 7:12 PM
60	McArthur	10/22/2021 6:39 PM
61	Downtown	10/22/2021 6:00 PM
62	Downtown	10/22/2021 2:39 PM
63	Library	10/21/2021 11:04 PM
64	nature trails	10/21/2021 6:42 PM
65	Valpico	10/21/2021 7:48 AM

66	Downtown	10/21/2021 12:46 AM
67	Southwinds	10/20/2021 7:39 PM
68	Downtown	10/20/2021 4:01 PM
69	Kaiser Tracy / Grant Line Area	10/20/2021 2:07 PM
70	Schulte near cemetery	10/20/2021 1:30 PM
71	Aqueduct	10/20/2021 9:48 AM
72	Livermore	10/20/2021 7:28 AM
73	Delta college extension	10/20/2021 6:46 AM
74	Library	10/20/2021 6:24 AM
75	West Valley Mall	10/19/2021 8:37 PM
76	Downtown	10/19/2021 6:41 PM
77	Downtown	10/19/2021 6:12 PM
78	SKATEPARK	10/19/2021 6:10 PM
79	chrisman rd	10/19/2021 1:47 PM
80	DOWN TOWN	10/18/2021 7:34 PM
81	Downtown	10/18/2021 10:09 AM
82	Downtown	10/15/2021 12:48 PM
83	Dowtown	10/15/2021 9:40 AM
84	Legacy fields	10/15/2021 9:37 AM
85	Bicycle Park	10/15/2021 8:08 AM
86	Legacy fields	10/15/2021 7:50 AM
87	McArthur	10/15/2021 6:55 AM
88	legacy fields	10/14/2021 11:14 PM
89	Definitely nature park being planned, the multigenerational and pool com0lex	10/14/2021 10:06 PM

#	LOCATION 2	DATE
1	ACE Train Station	7/25/2022 1:01 PM
2	Tracy Hills	7/21/2022 9:15 AM
3	Near all schools	6/23/2022 5:24 PM
4	ACE	5/18/2022 5:40 PM
5	ACE station	5/12/2022 4:04 PM
6	City Hall	5/12/2022 8:01 AM
7	Entrances to E bike path	5/11/2022 9:22 PM
8	Costco area	5/11/2022 2:46 PM
9	Transit Station	5/9/2022 10:13 AM
10	None	5/6/2022 2:57 AM
11	Mall	5/5/2022 11:12 AM
12	Downtown	5/5/2022 8:57 AM
13	11th from Jefferson Pkwy to Banta	5/5/2022 8:11 AM

14	West Valley Mall Location	5/3/2022 5:32 PM
15	intersection of d and e project	4/15/2022 1:06 PM
16	Country	3/16/2022 7:34 PM
17	Down town	3/2/2022 11:43 AM
18	The Mall	12/6/2021 4:00 PM
19	Schulte road east of Tracy blvd	11/10/2021 7:38 PM
20	Downtown	11/9/2021 3:28 PM
21	Corral Hallow	11/9/2021 5:27 AM
22	Byron Road	11/6/2021 8:17 PM
23	Mall	11/6/2021 9:40 AM
24	Ellis	11/5/2021 9:39 PM
25	Downtown	11/5/2021 1:56 PM
26	Downtown	11/5/2021 10:35 AM
27	Downtown	11/5/2021 10:29 AM
28	South tracy	11/5/2021 9:14 AM
29	Mall	11/5/2021 8:41 AM
30	Downtown	11/4/2021 10:38 PM
31	Tracy blvd	11/4/2021 8:43 PM
32	ACE train	11/4/2021 8:34 PM
33	Transit station	11/4/2021 8:22 PM
34	Downtown area	11/4/2021 7:58 PM
35	Transit	11/4/2021 7:52 PM
36	downtown	11/4/2021 7:50 PM
37	Downtown	11/4/2021 7:43 PM
38	ACE station	11/4/2021 7:25 PM
39	MacArthur	11/4/2021 6:38 PM
40	Corral Hollow	11/2/2021 8:11 PM
41	Chrisman	10/31/2021 9:47 PM
42	Stockton	10/31/2021 6:27 PM
43	Livermore	10/31/2021 4:24 PM
44	Tracy High School	10/31/2021 2:03 PM
45	Major businesses	10/31/2021 1:46 PM
46	None	10/29/2021 9:37 AM
47	Mall	10/24/2021 11:05 AM
48	Rest area with water fountain	10/24/2021 7:46 AM
49	Grand Theatre	10/24/2021 6:37 AM
50	club house	10/23/2021 11:29 AM
51	Schools	10/22/2021 7:12 PM

52	11nth st.	10/22/2021 6:39 PM
53	Legaqcy fields	10/22/2021 6:00 PM
54	Tracy blvd	10/22/2021 2:39 PM
55	Lighted baseball fields	10/21/2021 11:04 PM
56	safe bike route on Byron	10/21/2021 6:42 PM
57	Tracy Blvd	10/21/2021 7:48 AM
58	Parks	10/21/2021 12:46 AM
59	Tracy Mall	10/20/2021 7:39 PM
60	Mall Area	10/20/2021 4:01 PM
61	Downtown	10/20/2021 2:07 PM
62	MacArthur near cemetery	10/20/2021 1:30 PM
63	Mall area, shopping center access	10/20/2021 9:48 AM
64	Ace train	10/20/2021 7:28 AM
65	The shopping mall	10/20/2021 6:46 AM
66	Schools	10/20/2021 6:24 AM
67	Delta	10/19/2021 8:37 PM
68	ACE train	10/19/2021 6:41 PM
69	bike PARK	10/19/2021 6:10 PM
70	valpico	10/19/2021 1:47 PM
71	Mall/Naglee shopping dining area	10/18/2021 10:09 AM
72	Mall	10/15/2021 12:48 PM
73	Schools	10/15/2021 9:40 AM
74	Transit center	10/15/2021 9:37 AM
75	Downtown	10/15/2021 8:08 AM
76	Tracy sports park	10/15/2021 7:50 AM
77	Tracy blvd	10/15/2021 6:55 AM
78	paths to other cities	10/14/2021 11:14 PM
79	Grand theater	10/14/2021 10:06 PM

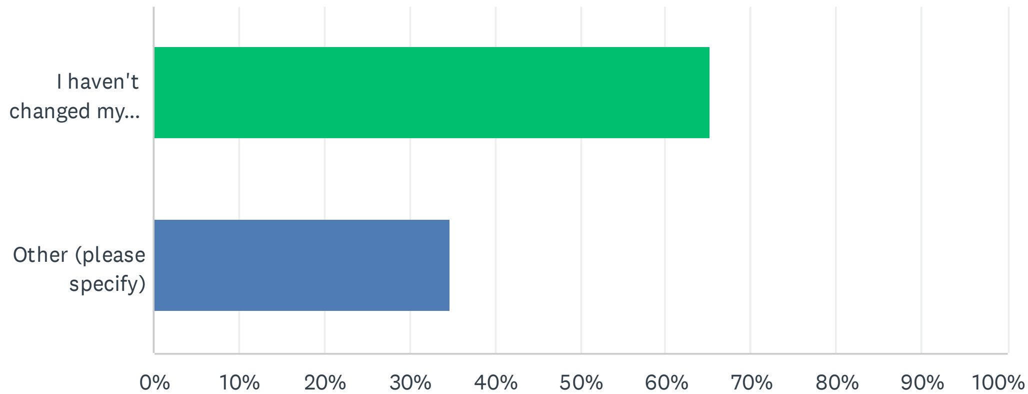
#	LOCATION 3	DATE
1	Tracy High School	7/25/2022 1:01 PM
2	South Tracy integration	7/21/2022 9:15 AM
3	Industrial areas	6/23/2022 5:24 PM
4	West Valley Mall	5/18/2022 5:40 PM
5	Mall/Target	5/12/2022 4:04 PM
6	Ace Station	5/12/2022 8:01 AM
7	Sycamore parkway intersections	5/11/2022 9:22 PM
8	Raleys center	5/11/2022 2:46 PM
9	Library	5/9/2022 10:13 AM

10	None	5/6/2022 2:57 AM
11	nearby eaterys	5/5/2022 11:12 AM
12	Tracy Blvd from Lammers to the Airport	5/5/2022 8:11 AM
13	intersection of d and c project	4/15/2022 1:06 PM
14	Paradise rd	3/16/2022 7:34 PM
15	Corral Hollow south of Linne road	11/10/2021 7:38 PM
16	Near the library	11/9/2021 3:28 PM
17	Mac Arthur	11/9/2021 5:27 AM
18	Corrall Hollow	11/6/2021 8:17 PM
19	Mall	11/5/2021 9:39 PM
20	Library	11/5/2021 1:56 PM
21	Mall	11/5/2021 10:35 AM
22	Schools	11/5/2021 10:29 AM
23	Costco	11/5/2021 8:41 AM
24	Corral hollow and 11th	11/4/2021 10:38 PM
25	11th street	11/4/2021 8:43 PM
26	The high schools	11/4/2021 8:34 PM
27	Ace train	11/4/2021 8:22 PM
28	naglee	11/4/2021 7:50 PM
29	Chrisman Road	11/2/2021 8:11 PM
30	MacAurthor	10/31/2021 9:47 PM
31	Manteca	10/31/2021 6:27 PM
32	manteca	10/31/2021 4:24 PM
33	Kimball High School	10/31/2021 2:03 PM
34	Downtown and/or parks	10/31/2021 1:46 PM
35	None	10/29/2021 9:37 AM
36	11th street bridge	10/24/2021 11:05 AM
37	West Valley Mall	10/24/2021 6:37 AM
38	Downtown	10/22/2021 7:12 PM
39	Linne	10/22/2021 6:39 PM
40	Airport	10/22/2021 6:00 PM
41	11th	10/22/2021 2:39 PM
42	Banta	10/21/2021 6:42 PM
43	Schools, shopping	10/21/2021 12:46 AM
44	Costco	10/20/2021 7:39 PM
45	Sport Complex	10/20/2021 4:01 PM
46	Tracy Mall	10/20/2021 2:07 PM
47	Connect access to sports parks and playgrounds	10/20/2021 9:48 AM

48	Library	10/20/2021 6:46 AM
49	Manteca	10/19/2021 8:37 PM
50	Schools	10/19/2021 6:41 PM
51	schult	10/19/2021 1:47 PM
52	Legacy Fields / Sports parks	10/18/2021 10:09 AM
53	Veterans	10/15/2021 12:48 PM
54	ACE train	10/15/2021 9:37 AM
55	Airport	10/15/2021 8:08 AM
56	Coral hollow	10/15/2021 6:55 AM
57	downtown	10/14/2021 11:14 PM
58	Tracy mall	10/14/2021 10:06 PM

Q22 As of today, how have your cycling habits changed as a result of the COVID-19 pandemic?

Answered: 210 Skipped: 139



ANSWER CHOICES	RESPONSES	
I haven't changed my cycling as a result of the pandemic	65.24%	137
Other (please specify)	34.76%	73
TOTAL		210

#	OTHER (PLEASE SPECIFY)	DATE
1	increased use of bicycle	8/18/2022 1:39 PM
2	Just don't go out as often as pre-COVID	6/23/2022 5:24 PM
3	Less commuting = less bike riding	5/18/2022 5:40 PM
4	Began biking more to save gas and get fresh air	5/12/2022 8:01 AM
5	I first got on a bike during the pandemic	5/11/2022 9:22 PM
6	Increased need for outdoors	5/11/2022 2:46 PM
7	I am biking less	5/9/2022 10:13 AM
8	Don't go out in groups for covid parties	5/6/2022 2:57 AM
9	Try to bike more but dangerous streets limit my range with a young child.	5/5/2022 11:12 AM
10	Bicycle more for exercise and recreation due to natural social distancing with bicycling.	5/5/2022 9:11 AM
11	As a result we bike more.	5/5/2022 8:11 AM
12	I ride less, due to spending more time inside.	5/3/2022 5:32 PM
13	Covid got me on a bike in the first place	4/15/2022 1:06 PM
14	They changed during the height of the pandemic but are back to the way they were before	3/25/2022 2:55 PM
15	Riding more often	2/2/2022 8:58 AM
16	Ride more	12/30/2021 7:19 AM
17	I bike more	12/6/2021 4:00 PM

18	Yes, I cycle more	11/14/2021 2:27 PM
19	Not cycling	11/6/2021 9:40 AM
20	I bought a bike because of covid	11/5/2021 9:39 PM
21	We ride more	11/5/2021 4:52 PM
22	Use my bike more often	11/5/2021 1:56 PM
23	Cant breath & bike with mask	11/5/2021 12:22 PM
24	Exercise only, not currently commuting to Ace	11/5/2021 10:46 AM
25	limited group rides	11/5/2021 8:17 AM
26	I ride my bike more for exercise	11/4/2021 8:43 PM
27	I cycle more	11/4/2021 8:22 PM
28	I cycle way more	11/4/2021 8:18 PM
29	The family rides bikes more often, but mostly just in neighborhood	11/4/2021 8:16 PM
30	I’ve started to cycle more	11/4/2021 8:09 PM
31	More outdoor activities due to nothing available indoors.	11/4/2021 8:02 PM
32	Cycling more	11/4/2021 8:01 PM
33	Biking more	11/4/2021 7:56 PM
34	Absolutely. We needed more exercise outdoors, and it has made such wonderful time with the kids to do something healthy as a family. We ride our bikes way more often. I’ve never seen so many kids, teens, and families ride in the last two years. These are the kind of activities our city should be investing in.	11/4/2021 7:40 PM
35	More time cycling	11/4/2021 7:27 PM
36	More than usual	11/4/2021 7:25 PM
37	Yes my family bikes more	11/4/2021 7:17 PM
38	I have been riding more often	11/4/2021 7:16 PM
39	Yes. It’s a better hobby to do when away from people and stores.	11/4/2021 6:57 PM
40	I ride more since the pandemic	11/4/2021 6:38 PM
41	Yes	11/4/2021 6:30 PM
42	Yes, riding more!	11/4/2021 2:47 PM
43	I cycle more	11/2/2021 8:11 PM
44	Bike significantly more	10/31/2021 3:07 PM
45	Cycling more	10/31/2021 1:07 PM
46	mostly stay home	10/25/2021 7:03 PM
47	Rode more	10/24/2021 6:26 PM
48	It has increased	10/24/2021 12:47 PM
49	Way more cycling	10/24/2021 11:05 AM
50	They have increased	10/24/2021 7:46 AM
51	Increased	10/24/2021 6:37 AM
52	The need to be outside in the fresh air	10/23/2021 7:02 PM
53	More often	10/22/2021 8:35 PM
54	I ride more now	10/22/2021 10:10 AM

55	I ride much more often & bring my small dog	10/21/2021 11:04 PM
56	Increased riding	10/21/2021 8:33 PM
57	I wear a mask, avoid getting close to others	10/20/2021 2:07 PM
58	Less need to ride to train	10/20/2021 11:27 AM
59	Mask wearing, time of day to ride to avoid traffic; stores restaunts closed that I would ride bike to	10/20/2021 9:48 AM
60	It actually improved over lock down due to less traffic	10/20/2021 6:46 AM
61	Kids ride more	10/20/2021 6:24 AM
62	I’ve moved since the pandemic and it’s no longer bike friendly	10/19/2021 10:38 PM
63	staying home more.	10/19/2021 9:31 PM
64	we picked up bike riding during the pandemic	10/19/2021 1:47 PM
65	Increased cycling	10/18/2021 12:55 PM
66	Increased	10/18/2021 10:09 AM
67	I ride my bicycle WAY more!	10/18/2021 8:52 AM
68	Increased	10/15/2021 1:32 PM
69	I ride my bike more often	10/15/2021 9:29 AM
70	I have spent more time exploring within the city to learn new routes and find parks rather than traveling outside of Tracy to go ride my bike.	10/15/2021 8:08 AM
71	Much more frequent	10/15/2021 7:25 AM
72	Increased to improve my health	10/15/2021 1:15 AM
73	Got me to get a bike	10/14/2021 10:06 PM

APPENDIX C

INRIX FREEWAY DATA

INRIX SPEED DATA

September & October 2019 Typical weekday (Tue-Thu) Average Data

Segment		ID	0:00	0:15	0:30	0:45	1:00	1:15	1:30	1:45	2:00	2:15	2:30	2:45	3:00	3:15	3:30	3:45	4:00	4:15	4:30	4:45	5:00	5:15	5:30	5:45	6:00	6:15	6:30	6:45	7:00	7:15	7:30	7:45	8:00	8:15	8:30	8:45	9:00	9:15	9:30	9:45	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30	13:45	14:00	14:15	14:30	14:45	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	18:00	18:15	18:30	18:45	19:00	19:15	19:30	19:45	20:00	20:15	20:30	20:45	21:00	21:15	21:30	21:45	22:00	22:15	22:30	22:45	23:00	23:15	23:30	23:45
I-205 Eastbound																																																																																																				
I-580	Diverge	1626698981	53	53	54	59	62	62	62	62	66	64	64	66	65	65	65	65	64	63	65	67	66	67	68	67	66	67	67	69	68	69	70	71	71	70	71	71	70	70	70	69	69	69	68	68	69	69	69	69	69	68	68	68	68	67	66	64	65	64	63	62	62	62	61	62	59	58	61	63	63	63	63	61	61	60	60	58	56	56	55	54	57	60	63	64	66	65	64	64	61	61	61	61	59	59	57	56
	Basic	1626727250	51	51	50	53	58	61	63	64	66	65	63	65	65	66	66	66	65	63	65	68	68	68	69	69	68	69	68	71	70	71	72	73	72	72	72	72	72	72	71	70	71	71	70	70	70	70	71	70	70	70	70	70	69	69	67	65	66	66	65	64	65	65	62	62	61	60	63	63	63	64	63	60	60	60	59	58	55	54	52	52	55	60	63	64	65	64	63	62	61	65	65	65	62	60	57	55
	Basic	1626727270	53	54	52	54	57	61	62	65	66	64	62	64	66	67	65	65	64	64	64	67	66	68	69	70	70	70	69	72	71	72	73	73	72	72	72	72	71	72	71	70	71	71	70	70	70	70	70	70	70	70	70	69	69	68	67	66	66	67	66	65	65	64	61	62	61	61	63	62	62	64	62	61	61	61	60	58	57	57	54	53	56	61	63	64	66	64	64	63	63	66	67	66	62	61	59	57
	Basic	1626727125	61	62	59	60	61	62	64	65	67	65	63	65	66	67	65	65	65	64	65	67	66	69	71	72	72	71	70	72	71	72	74	73	73	73	73	72	71	72	71	70	70	70	70	69	70	70	71	70	70	70	70	69	69	69	67	67	67	68	67	66	67	67	64	64	64	65	65	65	64	66	65	64	65	65	64	62	61	61	60	60	61	64	66	66	68	68	67	68	68	69	69	68	66	66	65	64
	Basic	1626727148	66	65	64	65	65	66	67	67	69	68	66	67	68	68	67	66	66	66	66	68	67	71	73	73	74	72	71	73	72	72	74	74	73	73	73	72	72	72	71	71	70	71	71	70	71	71	71	71	71	71	71	70	70	70	69	69	69	69	69	68	68	67	65	65	64	66	66	66	65	66	66	66	66	66	65	64	64	64	64	64	65	67	68	69	71	71	70	70	71	72	71	72	70	69	69	69
	Diverge	1626727169	67	67	67	67	67	67	68	68	70	69	66	67	69	68	67	66	66	66	67	68	67	71	72	73	73	72	71	73	72	72	73	73	73	73	72	72	72	72	71	70	70	70	71	70	71	71	70	70	70	71	71	70	69	70	68	69	68	69	69	68	68	67	65	64	64	66	65	65	65	65	65	65	66	66	66	65	64	64	65	65	65	67	68	69	70	71	70	70	71	72	72	72	71	71	71	71
Mountain House Pkwy	Basic	1626659668	68	69	68	68	68	67	68	68	70	69	67	67	69	69	67	67	66	66	67	69	68	71	73	73	73	72	70	73	71	71	73	72	72	72	71	71	71	72	70	70	69	69	70	70	70	70	70	70	70	70	70	69	69	69	67	68	67	67	67	66	66	64	63	62	62	64	63	62	63	63	64	63	64	64	65	64	64	64	65	65	66	68	69	70	71	71	71	71	72	73	72	73	72	72	72	72
	Merge	1626742955	68	69	68	68	67	67	68	68	69	69	66	67	69	69	67	66	66	66	66	69	69	72	72	73	73	72	70	72	71	70	71	71	71	70	71	70	70	70	70	69	68	68	69	69	70	69	69	69	69	70	69	69	68	68	67	67	67	67	67	65	64	64	62	61	62	63	63	63	63	63	64	64	64	64	64	65	63	64	65	66	66	68	69	70	71	71	71	71	72	73	72	73	72	72	72	72
	Merge	1626659763	69	69	69	69	68	68	67	68	70	70	67	68	70	69	67	67	67	66	67	69	70	72	72	73	73	72	71	73	72	71	72	71	72	70	71	71	70	69	69	69	68	68	69	69	69	70	69	69	69	69	69	69	68	68	67	67	68	68	67	65	63	64	63	62	64	64	64	64	65	65	66	65	65	65	66	66	65	66	67	67	67	69	70	71	71	72	72	72	73	73	73	74	73	73	73	72
	Diverge	1626659742	71	71	71	71	69	71	68	70	70	69	68	70	70	70	67	66	67	67	68	70	70	71	72	73	73	72	71	73	72	71	73	72	72	71	71	71	70	70	70	70	69	69	69	69	69	70	70	70	69	69	70	69	69	69	68	68	69	69	66	63	63	64	64	64	65	65	64	66	68	67	68	68	68	67	68	67	67	67	67	67	68	69	70	70	71	71	72	72	73	73	73	74	73	73	73	72
11th St	Basic	1626618421	73	74	73	73	72	72	70	71	72	70	69	71	71	71	69	69	68	67	68	71	71	72	72	73	73	74	72	74	73	72	74	73	73	72	72	73	72	71	71	70	69	69	70	69	70	70	70	70	70	70	70	69	69	69	68	69	69	67	64	63	63	62	61	61	61	60	62	68	69	68	69	68	69	68	69	67	67	67	68	69	69	71	71	72	72	72	73	74	74	74	74	75	74	74	73	73
	Basic	1626618402	73	74	73	73	73	72	71	71	72	70	68	71	70	71	70	70	68	68	69	71	70	72	72	73	72	73	72	74	73	73	74	73	73	72	72	73	71	71	70	70	69	70	70	69	69	70	70	70	69	69	70	69	69	68	68	68	67	64	63	62	60	58	59	59	57	58	60	67	67	67	67	66	65	65	66	65	64	65	67	68	69	70	71	71	72	72	73	74	73	73	73	74	73	73	73	73
	Basic	1626618302	73	73	72	73	72	72	71	71	71	69	68	70	70	71	69	70	68	67	69	71	71	72	72	73	72	73	72	73	73	72	74	73	73	72	72	72	71	71	71	70	69	69	70	68	69	70	70	70	69	69	70	69	68	67	68	67	65	63	61	59	56	56	57	56	53	55	59	64	64	63	63	62	62	63	63	62	61	64	66	67	68	69	70	71	71	71	72	74	73	73	73	74	73	73	72	73
	Basic	1626618283	72	73	72	73	72	71	70	70	71	69	68	70	69	71	69	70	68	67	69	71	71	72	72	73	71	73	71	73	72	73	73	73	72	71	72	72	70	70	70	69	68	68	69	67	66	69	69	69	67	68	69	67	67	66	66	65	63	61	60	56	52	54	56	53	50	54	58	60	61	59	59	59	59	60	60	60	59	61	64	66	67	69	69	70	71	70	72	73	72	72	72	73	72	73	72	72
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Grant Line Rd	Basic	1626656166	72	72	72	71	71	70	70	70	71	69	69	69	70	71	68	69	68	66	69	70	70	71	71	72	71	72	70	72	72	71	73	72	72	71	71	71	70	70	70	69	67	68	68	67	67	68	68	68	66	66	66	65	66	65	65	61	57	58	55	47	43	45	51	42	40	48	45	43	45	40	43	45	50	52	52	54	55	56	60	65	66	68	68	69	70	70	71	72	71	72	72	72	72	72	72	72
	Merge	1626722408	72	72	72	72	71	71	71	71	71	70	70	69	70	71	70	69	69	67	69	70	70	72	72	72	70	72	70	71	71	70	72	71	71	70	70	70	69	69	69	68	67	67	68	67	66	67	67	67	66	64	65	64	65	63	62	58	55	55	51	42	39	43	43	38	38	42	39	37	37	35	36	38	43	46	45	50	52	53	59	64	66	67	68	70	70	70	71	72	72	72	72	72	72	73	72	73
	Diverge	1626722384	72	72	72	72	72	71	72	71	71	70	69	70	70	71	70	70	69	67	69	72	70	72	72	72	71	72	71	72	71	71	72	72	71	70	70	70	70	69	69	68	67	67	68	67	67	67	67	67	66	65	64	64	64	63	61	58	55	55	49	42	42	45	41	35	38	39	38	39	36	35	35	38	44	44	44	49	53	56	60	63	66	67	68	70	70	70	71	72	72	72	72	73	72	73	72	73
Tracy Blvd	Basic	1626631807	72	72	71	71	71	71	71	71	71	70	69	70	70	71	70	69	69	66	69	71	71	71	72	72	71	71	70	71	70	70	71	71	71	70	70	70	70	69	69	68	67	67	68	67	67	68	67	67	66	66	64	64	63	63	60	54	51	48	39	35	36	36	30	25	27	29	27	27	24	23	24	27	33	33	33	40	48	53	57	59	63	65	67	69	69	70	71	72	72	71	72	73	72	73	72	73
	Merge/Diverge	1626707406	71	72	72	71	71	70	71	71	71	70	68	70	71	71	69	68	69	66	68	71	70	71	72	72	71	71	70	70	69	69	70	70	70	69	69	70	70	69	68	68	67	67	68	67	67	67	67	67	66	67	64	64	62	61	59	51	49	46	38	36	38	35	32	27	28	28	28	26	25	25	26	28	33	32	34	39	45	51	55	56	61	62	65	68	69	69	70	71	71	71	71	72	72	73	71	72
Mac Arthur Dr	Merge	1626709713	73	73	73	72	72	70	71	71	72	70	69	71	71	72	71	70	71	68	69	72	71	72	73	72	72	72	71	71	69	70	71	71	71	70	70	71	70	69	69	69	68	68	68	68	68	68	68	68	67	64	66	64	63	61	59	53	52	49	44	41	43	41	39	32	34	31	33	31	30	30	32	37	43	40	43	44	49	54	58	59	62	62	65	69	70	70	71	72	72	73	72	73	73	74	73	73
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	Basic	1626730360	72	75	73	73	73	72	72	72	73	72	70	70	72	72	72	71	72	69	71	73	72	73	74	73	73	73	72	72	71	71	72	71	72	71	70	70	70	70	70	69	69	69	69	68	68	69	68	68	68	67	67	65	64	62	60	56	57	52	50	51	52	50	49	48	46	43	46	43	44	45	47	48	50	50	52	52	57	58	59	59	61	63	67	69	71	70	72	73	74	74	73	74	74	74	73	73
	Basic	1626730339	70	72	70	71	73	72	73	72	73	72	71	71	72	72	72	71	72	70	71	73	73	73	73	73	73	73	72	72	71	71	72	72	73	71	71	71	71	70	70	70	69	69	70	69	69	69	69	69	68	68	68	67	64	62	62	58	58	53	53	56	55	53	52	49	47	45	49	46	48	49	51	50	52	53	54	54	59	59	59	60	60	64	67	69	70	70	72	73	73	73	74	74	74	74	70	70
	Basic	1626730419	70	71	69	70	70	71	72	72	73	72	71	70	72	72	72	71	72	70	72	73	73	73	74	73	73	73	72	72	71	71	72	72	73	72	71	71	71	70	70	70	69	69	70	69	69	69	69	69	68	68	67	68	65	63	63	59	59	55	55	58	58	55	54	51	48	47	50	48	51	52	53	52	54	55	55	56	60	60	60	61	60	65	67	69	70	70	72	73	73	73	73	74	73	71	70	70
	Basic	1626730397	70	70	69	69	71	71	72	72	73	72	70	69	72	72	71	71	72	71	71	73	72	72	73	73	72	73	72	72	71	71	70	72	73	72	71	71	71	70	70	70	69	69	70	69	69	69	68	68	68	68	68	68	65	64	63	59	59	55	58	59	59	56	55	52	47	47	48	47	52	53	53	52	54	56	55	57	61	61	61	63	61	65	68	68	70	70	71	72	72	73	73	73	72	70	69	70
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	Basic	1626730277	71	71	69	70	72	70	71	71	73	71	70	69	70	70	71	70	72	70	70	72	71	72	72	72	72	72	71	71	70	70	71	71	72	71	71	70	71	70	70	69	69	68	69	66	65	66	67	67	67	67	66	67	66	63	63	61	60	57	59	59	57	55	51	48	43	42	43	46	49	51	49	50	51	55	54	58	61	61	61	61	61	64	65	67	68	68	68	68	68	69	71	71	71	70	70	71
I-5	Basic	449822676	69	71	70	69	70	69	70	69	71	70	69	69	70	71	71	69	71	70	69	71	71	71	71	71	71	70	69	70	69	69	70	70	70	70	69	69	69	68	68	67	67	66	66	64	63	64	65	65	66	66	65	65	65	62	62	62	59	58	59	58	55	53	48	42	38	39	40	43	47	48	45	46	49	54	54	58	61	60	61	61	61	63	64	66	67	66	66	66	68	69	69	70	70	69	70	70
I-205 Westbound																																																																																																					
I-5	Basic	1626680450	67	66	66	68	66	64	70	67	70	69	72	72	72	70	67	62	62	63	63	62	61	61	61	61	63	64	63	64	66	64	65	65	66	65	65	65	64	62	61	61	62	63	63	61	59	60	62	63	64	65	64	65	65	66	65	64	65	65	66	66	66	67	66	67	67	66	67	67	68	67	68	68	69	69	69	69	69	68	68	68	68	67	68	69	69	69	69	70	70	70	69	69	68	69	67	67
	Basic	1626680509	68	67	66	67	67	65	71	68	71	71	74	74	73	72	69	65	65	67	67	65	63	64	63	63	65	65	66	67	68	67	68	68	69	68	67	67	67	65	64	64	65	65	64	64	62	63	65	66	67	68	67	68	69	69	67	65	66	66	69	70	69	69	69	69	69	69	69	69	70	70	70	71	71	71	71	71	72	71	71	71	71	69	71	72	71	71	71	72	72	72	70	71	69	70	67	69
	Basic	1626680489	68	67	67	68	68	65	71	68	72	71	74	74	73	72	69	65	65	67	67	65	63	64	63	64	65	66	66	67	69	67	69	69	69	69	68	68	68	67	64	65	65	65	63	64	64	64	66	67	68	69	68	69	69	70	68	67	68	68	69	71	70	70	71	71	70	70	71	71	71	71	71	72	72	72	71	72	73	71	72	71	72	71	71	72	72	72	71	73	72	72	70	71	69	70	68	69
	Basic	1626680395	69	68	68	68	68	66	71	68	72	71	74	74	74	73	70	68	67	68	68	67	67	67	66	66	68	68	68	69	70	68	70	70	71	70	70	70	69	69	66	65	67	67	64	65	66	66	67	68	69	70	70	70	70	71	70	70	71	70	70	72	71	71	71	72	72	72	72	72	73	72	72	73	73	73	73	73	73	73	73	72	73	72	73	74	73	73	73	74	74	73	72	72	70	71	69	70
	Basic	1626680376	70	68	69	69	68	66	71	69	72	72	75	74	74	74	71	68	68	69	69	67	67	68	67	67	68	68	68	69	70	68	70	71	71	71	70	70	70	69	67	66	67	67	64	65	67	67	67	68	69	70	70	70	71	71	71	71	72	71	71	72	71	71	72	72	72	72	72	72	73	72	72	73	73	73	73	73	74	73	73	73	73	72	73	74	73	73	73	74	74	74	73	73	71	72	68	70
	Basic	1626680433	69	68	68	68	68	66	71	69	72	71	74	75	74	73	71	68	68	69	68	67	67	68	66	67	68	68	68	69	70	68	70	70	70	70	69	70	69	69	68	66	67	67	63	64	66	67	67	68	69	69	69	69	71	71	70	71	71	71	70	72	71	71	72	72	72	72	72	72	73	72	72	73	73	73	73	73	74	73	73	73	73	72	73	74	73	73	73	74	74	74	72	73	71	71	67	70
	Basic	1626680414	69	68	68	69	68	66	71	68	72	71	74	75	74	73	71	69	69	70	69	67	67	68	67	67	68	68	68	68	69	67	69	69	70	70	69	69	69	68	68	66	66	66	64	65	67	68	67	68	69	69	69	69	70	70	70	70	70	71	70	72	70	71	71	71	71	71	71	72	72	72	71	72	73	72	72	72	73	72	73	72	73	72	73	73	73	72	73	74	74	74	72	73	71	71	68	71
	Diverge	1626680319	69	67	68	68	67	65	70	68	71	71	74	74	74	73	70	69	69	69	69	68	68	68	67	67	68	68	68	68	70	68	69	68	69	70	69	69	68	68	68	66	66	66	65	66	68	68	67	68	68	67	68	69	69	70	70	70	70	70	69	71	70	70	71	71	71	71	71	72	72	71	71	72	72	72	72	72	72	72	72	72	72	71	72	72	73	72	72	73	73	73	72	72	70	70	68	70
Mac Arthur Dr	Basic	1626723719	68	66	67	67	66	65	69	68	70	71	73	73	73	73	70	68	67	69	68	68	68	68	67	67	68	68	67	68	69	68	68	68	68	69	69	68	69	69	68	68	66	66	66	66	68	69	68	68	65	65	67	69	70	70	70	70	70	70	69	70	70	70	70	70	71	70	70	70	71	70	70	71	72	71	71	72	72	71	71	71	72	70	71	71	71	71	72	72	72	72	70	71	69	69	67	65
	Merge/Diverge	1626723701	67	66	67	67	67	65	68	68	70	70	72	73	73	72	69	68	67	68	68	68	68	68	66	67	68	67	67	69	70	67	68	68	68	69	69	69	69	68	68	68	66	65	65	66	67	68	67	66	64	64	66	68	69	70	70	70	69	70	69	71	70	70	70	71	71	71	70	70	71	71	70	71	71	71	71	71	71	71	71	70	71	69	70	71	71	70	71	71	72	71	70	70	68	69	66	67
Tracy Blvd	Basic	1626707510	67	67	67	68	66	64	69	67	70	70	73	74	72	72	70	68	67	68	68	68	68	67	68	68	68	68	69	70	69	69	69	67	69	69	69	69	69	68	69	69	67	66	65	66	67	69	67	65	65	63	66	68	70	70	70	70	70	71	70	71	70	70	71	71	72	71	72	71	72	71	71	72	72	72	71	71	72	72	71	70	71	69	71	72	72	71	71	72	72	72	70	70	69	69	67	67
	Merge	1626723595	67	67	68	68	67	66	69	68	70	71	73	74	73	73	69	67	66	67	68	68	68	67	66	67	67	67	67	68	70	68	69	68	67	68	69	69	68	68	68	68	68	66	65	66	65	67	65	65	65	63	65	68	69	70	70	70	70	71	70	71	70	70	71	71	72	71	71	71	71	72	71	72	72	72	71	71	72	71	71	70	71	70	71	72	72	71	71	72	72	72	70	70	69	69	67	67
	Basic	1626723597	66	66	67	67	67	65	67	68	69	71	72	73	72	72	69	66	64	65	66	66	66	65	64	64	64	64	64	65	67	65	65	65	65	66	66	67	66	67	67	67	67	65	64	65	65	65	64	64	64	63	64	67	68	69	69	69	69	69	68	70	69	69	69	69	70	69	69	70	70	70	70	71	71	70	70	70	70	70	70	69	70	69	69	70	71	70	70	71	71	72	69	69	68	68	65	66
	Diverge	1626722346	65	66	66	67	67	65	67	68	68	71	71	70	69	71	68	66	62	63	66	67	67	66	63	64	66	64	62	61	64	65	66	66	66	66	66	65	65	66	67	68	68	67	65	66	66	66	65	66	65	66	65	68	69	70	71	70	70	71	70	72	71	71	72	71	72	71	71	72	72	72	72	73	72	73	73	72	72	71	72	71	71	71	71	71	72	71	71	71	72	72	69	69	70	69	64	65
Grant Line Rd	Basic	1626656063	65	66	66	66	67	65	68	68	68	71	69	69	69	71	68	65	60	61	65	66	67	65	61	59	60	58	58	58	61	62	64	66	66	66	66	65	65	65	66	67	68	67	65	66	66	65	66	68	68	68	67	67	68	70	70	70	70	71	70	72	71	71	72	71	72	72	72	72	72	72	72	72	72	73	72	72	71	71	70	71	70	70	71	71	71	70	71	71	71	69	68	69	69	64	66
	Merge	1626718766	66	67	66	66	68	65	68	69	69	71	70	70	70	71	68	65	58	59	64	66	66	61	56	51	47	48	48	53	56	57	59	63	66	65	66	65	65	64	65	66	68	67	65	65	66	65	67	68	69	66	66	66	68	70	70	70	70	71	70	72	71	71	72	71	72	71	72	72	72	72	72	72	72	72	72	71	72	70	71	70	70	70	69	71	71	71	70	71	71	71	68	68	70	70	65	66
	Basic	1626718622	66	67	67	67	68	66	68	69	69	71	70	72	71	71	68	64	57	57	62	64	63	51	39	31	32	33	35	41	49	50	48	55	62	63	64	64	65	65	65	66	68	68	66	66	66	66	68	69	69	69	67	66	68	69	70	70	70	71	70	72	71	70	71	70	71	70	72	72	72	72	71	72	72	72	72	71	72	71	71	70	70	70	70	71	71	71	70	71	71	71	70	69	70	70	66	67
	Basic	1626718645	67	67	67	67	67	66	67	69	69	71	70	72	71	71	68	63	55	54	60	61	55	37	25	22	18	19	20	28	38	46	46	48	54	60	62	62	65	64	65	66	67	68	67	66	65	66	68	69	69	69	67	66	68	68	69	70	70	71	70	72	71	70	71	71	72	71	72	72	72	72	72	72	72	72	73	71	71	71	71	70	70	70	70	71	71	71	70	71	71	71	69	68	69	70	65	67
	Basic	1626718667	66	66	66	67	67	65	67	68	68	71	70	73	72	70	68	62	53	48	56	56	44	26	19	14	11	12	13	17	24	34	43	47	49	57	59	61	63	64	65	65	66	68	68	66	66	66	68	69	69	69	66	66	67	66	68	70	70	71	70	72	71	70	71	71	72	71	71	72	72	72	72	72	71	72	72	71	71	71	71	70	70	69	70	71	71	70	70	71	71	71	70	68	69	70	65	66
11th St	Basic	1626718688	66	66	66	67	67	66	67	68	68	71	70	73	72	71	68	60	49	43	50	45	31	19	14	11	10	10	10	12	15	21	33	43	46	50	53	58	62	63	65	65	66	68	68	66	66	66	67	68	69	69	66	66	67	66	68	70	70	71	70	71	72	71	72	71	72	71	72	72	72	72	72	72	71	72	72	71	71	71	70	69	70	69	69	70	71	70	70	71	71	71	70	67	69	70	65	66
	Merge	1626723576	66	67	68	68	68	68	68	71	71	71	70	73	72	71	66	57	44	36	36	27	19	13	10	9	9	8	9	9	11	13	16	25	36	43	48	52	56	61	64	64	65	67	67	67	65	66	67	68	68	69	66	66	67	67	68	70	70	71	69	71	71	71	71	71	71	70	71	72	71	71	71	72	71	70	71	70	70	71	70	69	70	69	69	70	70	70	69	70	72	70	70	69	70	70	66	67
	Diverge	1626723642	66	66	68	68	68	68	68	71	71	71	70	73	72	69	64	53	38	33	30	22	16	13	10	10	10	10	9	10	11	11	13	18	26	39	45	48	53	57	62	64	65	66	67	67	66	66	66	68	68	67	65	66	67	68	67	70	69	70	70	71	71	71	71	71	72	71	71	72	71	71	71	72	71	70	71	71	71	71	70	69	70	69	69	70	71	70	70	70	71	70	70	69	70	70	68	66
Mountain House Pkwy	Basic	1626659860	65	64	68	67	66	67	67	69	71	70	70	72	71	66	61	50	38	33	25	18	13	10	9	8	8	8	7	7	8	8	9	11	14	26	39	45	51	54	60	64	64	65	67	67	67	67	67	68	68	68	66	66	67	69	69	70	69	70	70	71	71	71	71	71	72	71	71	72	72	71	71	72	72	71	71	71	71	71	70	69	69	69	69	70	70	70	69	69	71	70	70	68	69	69	68	65
	Merge	1626673575	67	65	68	68	67	68	67	69	70	70	70	69	68	66	59	50	39	31	23	16	12	11	10	9	10	10	10	10	10	10	11	12	14	21	32	42	51	54	59	64	65	65	67	68	68	68	67	69	69	70	68	67	68	71	71	71	70	71	70	71	72	72	72	71	72	72	71	73	72	72	72	73	72	72	72	71	71	72	71	70	70	69	70	71	70	70	67	66	68	70	70	69	70	69	68	68
	Basic	1626673553	63	62	65	66	65	64	64	66	68	68	68	66	66	64	58	51	45	36	24	18	15	14	14	13	14	13	13	13	13	13	14	15	17	21	29	39	49	53	56	61	63	63	64	66	66	66	66	68	67	68	67	66	67	68	69	69	69	70	69	70	71	70	70	70	71	70	70	71	71	71	70	71	71	71	70	70	69	70	69	68	68	67	68	67	66	63	60	60	63	65	66	66	67	65	65	65
	Basic	1626673611	62	61	63	64	63	62	62	66	67	66	67	67	67	66	60	56	53	40	24	17	15	14	14	14	14	13	13	13	14	14	15	15	17	20	27	37	47	53	56	60	61	62	63	64	65	66	65	66	66	67	67	66	66	67	68	69	69	69	69	69	70	69	69	69	70	69	69	71	70	70	70	71	70	70	70	70	68	69	68	67	66	66	66	65	65	61	59	60	61	63	64	64	65	64	63	63
	Basic	429468564	62	62	64	65	63	63	63	66	68	67	68	69	69	68	66	62	57	38	23	16	14	14	13	14	14	14	15	14	14	15	15	15	17	20	25	35	47	54	57	62	63	64	65	66	67	67	67	68	68	68	69	69	68	69	69	70	70	70	70	70	71	70	70	70	70	70	69	71	71	71	70	71	71	71	71	70	69	69	68	68	66	66	66	66	66	65	63	63	65	65	65	65	65	65	65	64
I-580	Merge	1626768823	63	64	64	65	64	64	64	67	68	68	69	70	70	70	68	64	56	32	20	16	15	15	14	14	14	14	15	15	15	15	15	15	16	17	20	26	39	50	56	61	64	65	66	68	69	69	68	69	69	69	70	70	70	70	71	71	71	71	71	71	71	71	71	71	70	71	71	70	72	72	71	71	71	71	72	71	71	70	70	69	69	68	67	67	67	67	66	65	65	66	66	66	66	66	65	65
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97

Traffic Speed (MPH)

10	25	40	55	70

INRIX SPEED DATA

September & October 2019 Typical weekday (Tue-Thu) Average Data

Segment		ID	0:00	0:15	0:30	0:45	1:00	1:15	1:30	1:45	2:00	2:15	2:30	2:45	3:00	3:15	3:30	3:45	4:00	4:15	4:30	4:45	5:00	5:15	5:30	5:45
I-580 Eastbound																										
	Diverge	1626698712	70	71	70	68	66	68	67	67	66	64	64	66	66	64	64	63	64	65	70	68	67	66	68	69
Patterson Pass Rd	Basic	1626753465	72	71	70	68	67	69	68	68	66	64	64	65	66	63	64	64	64	64	70	67	68	67	68	70
	Merge	1626630999	72	72	71	68	67	70	68	68	68	65	63	66	67	64	64	64	64	67	70	68	68	67	68	70
	Basic	1626631014	72	72	71	69	68	70	69	67	68	65	64	67	67	64	64	64	64	66	70	68	67	68	68	70
	Basic	1626630993	71	71	70	69	68	70	68	67	68	65	64	67	67	64	64	64	64	65	70	68	67	67	67	70
	Basic	1626631052	71	72	70	69	68	69	68	67	67	65	65	68	68	64	63	65	64	65	70	69	66	66	67	70
	Basic	1626631033	71	72	71	70	69	69	68	68	68	67	66	68	69	64	63	66	64	66	70	69	69	68	68	70
	Basic	1626630938	71	72	71	69	68	68	68	68	68	67	65	68	69	64	64	65	64	65	70	69	68	68	67	70
	Basic	1626630919	72	72	71	69	66	69	69	68	68	66	66	67	69	64	64	66	64	65	70	70	69	68	68	70
	Basic	1626630976	72	71	70	69	66	69	69	67	67	65	65	67	69	64	64	66	64	65	69	70	69	68	68	70
	Diverge	1626630957	70	70	70	67	66	68	68	66	66	64	64	66	68	63	64	65	64	64	66	68	68	67	67	69
Corral Hollow Rd	Basic	1626753445	70	69	70	67	65	67	67	65	65	64	63	66	68	62	63	64	63	64	65	67	67	67	66	69
	Merge	1626753343	71	70	71	68	66	69	68	66	66	65	64	66	69	63	63	66	64	65	66	68	68	68	67	70
	Basic	1626753325	71	70	72	69	66	69	68	67	66	66	64	66	69	63	64	66	64	65	66	69	69	69	67	70
	Basic	1626753383	72	70	72	69	65	68	68	66	65	66	65	66	69	64	64	66	64	65	65	69	69	69	67	70
	Basic	400421603	71	69	71	69	65	68	68	66	66	66	64	66	69	64	64	65	64	65	67	69	69	69	66	70
	Diverge	1626753261	71	70	71	68	65	67	67	66	66	65	64	65	67	64	64	64	64	64	66	69	68	68	66	69
SR 132	Basic	400070856	71	69	73	69	66	68	68	66	67	65	63	64	65	64	65	65	65	64	65	69	70	69	67	69
I-580 Westbound																										
SR 132	Basic	1626687248	68	68	65	67	65	68	65	65	65	65	67	69	67	72	72	74	74	74	72	67	63	57	46	38
	Merge	170404958	67	68	64	66	65	68	64	65	66	68	69	70	72	74	74	74	72	71	67	60	56	46	36	27
	Basic	400428728	68	69	65	66	65	69	66	66	67	69	70	71	72	75	74	73	70	70	66	61	59	51	41	34
	Basic	1626714398	68	69	65	67	65	69	65	65	66	69	69	70	73	75	74	73	70	69	66	62	60	54	42	36
	Basic	1626714275	67	69	65	67	64	69	65	65	66	69	69	70	71	74	73	73	69	68	65	62	60	53	42	37
	Basic	1626714296	67	68	65	67	64	68	66	65	66	68	70	71	71	73	73	73	69	68	65	63	59	50	40	36
	Diverge	1626714316	67	69	64	66	63	68	66	66	65	68	70	71	71	74	72	72	69	68	64	62	57	47	37	34
Corral Hollow Rd	Basic	1626687231	65	68	64	65	62	67	65	65	65	68	69	70	70	73	71	71	68	66	63	60	55	44	36	32
	Merge	1626687134	65	69	64	66	63	67	66	65	66	68	69	70	71	73	71	71	68	66	62	59	55	46	38	35
	Basic	1626687112	66	68	64	66	63	67	66	65	65	67	69	70	72	73	72	71	69	66	63	61	58	52	46	44
	Basic	1626687172	67	69	64	66	64	68	67	66	66	68	70	71	72	74	72	72	70	68	66	63	60	54	50	46
	Basic	1626687156	67	69	63	67	64	67	66	66	66	68	70	71	72	74	72	71	69	67	65	63	60	53	50	44
	Basic	1626687056	68	68	63	67	64	67	66	66	66	68	70	71	71	74	73	72	69	66	65	62	58	52	49	44
	Basic	1626687037	68	68	63	67	64	68	67	66	66	68	70	72	72	74	74	73	70	67	66	63	58	52	49	45
	Basic	1626687095	67	69	64	67	65	68	67	66	67	69	70	72	73	74	74	73	70	68	67	64	59	52	47	45
	Basic	1626687098	67	69	64	66	64	67	66	65	66	68	69	71	72	74	73	72	69	66	65	62	56	50	45	45
	Diverge	1626687078	65	68	63	65	64	66	66	63	64	66	67	70	71	73	72	71	67	65	63	60	53	48	44	45
Mountain House Pkwy	Basic	1626679920	65	69	64	64	63	66	66	64	64	68	67	70	72	73	73	72	69	67	65	61	54	49	47	48
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

Segment		ID	6:00	6:15	6:30	6:45	7:00	7:15	7:30	7:45	8:00	8:15	8:30	8:45	9:00	9:15	9:30	9:45	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45
I-580 Eastbound																										
	Diverge	1626698712	69	69	67	67	70	70	69	72	71	71	70	70	70	69	69	71	71	69	70	69	68	69	69	70
Patterson Pass Rd	Basic	1626753465	70	69	68	68	72	71	71	71	71	72	71	70	70	69	69	70	70	68	70	69	68	69	68	70
	Merge	1626630999	70	69	68	68	71	70	70	71	71	71	70	69	68	69	69	69	70	68	68	69	68	68	68	69
	Basic	1626631014	70	69	68	68	71	70	71	72	71	71	71	69	68	69	68	69	70	69	68	69	69	69	69	69
	Basic	1626630993	69	70	68	69	72	70	71	72	71	71	72	70	70	70	70	69	70	69	69	69	69	69	69	69
	Basic	1626631052	69	69	68	68	72	70	71	73	71	71	72	70	70	70	70	70	71	70	69	69	69	69	70	70
	Basic	1626631033	70	70	69	69	72	70	71	73	71	72	72	71	71	71	71	71	71	70	70	69	70	69	70	70
	Basic	1626630938	71	70	70	69	72	71	71	73	72	73	72	71	71	71	70	71	72	70	70	69	70	70	69	71
	Basic	1626630919	70	70	70	70	72	72	71	73	72	73	72	70	70	71	70	71	72	70	70	69	70	69	69	70
	Basic	1626630976	70	70	70	70	72	72	71	73	71	72	72	69	70	71	69	71	72	70	70	70	70	69	69	70
	Diverge	1626630957	69	68	70	69	71	71	70	71	70	71	71	69	69	70	68	69	70	69	68	69	69	69	68	69
Corral Hollow Rd	Basic	1626753445	70	68	70	69	70	70	70	71	71	72	71	70	69	69	69	69	70	69	68	69	69	68	69	70
	Merge	1626753343	69	69	70	69	69	71	70	71	71	71	72	70	70	70	70	70	71	70	69	70	70	70	70	71
	Basic	1626753325	69	70	71	70	70	71	71	72	72	71	72	71	71	70	70	70	72	70	69	71	71	70	71	71
	Basic	1626753383	70	70	70	70	70	71	71	72	72	72	72	71	71	70	70	71	71	70	69	70	71	69	70	71
	Basic	400421603	71	69	70	70	70	71	71	72	73	72	72	71	70	70	70	70	71	69	69	70	70	70	70	71
	Diverge	1626753261	70	69	69	69	68	70	70	72	72	71	72	70	70	69	69	69	70	69	68	69	69	69	69	70
SR 132	Basic	400070856	71	70	69	71	70	71	71	72	74	71	71	70	72	72	71	71	72	71	69	70	70	70	71	71
I-580 Westbound																										
SR 132	Basic	1626687248	31	29	30	34	40	52	60	66	68	71	71	72	71	71	71	71	70	68	67	68	68	68	69	70
	Merge	170404958	24	20	21	23	25	36	50	59	65	70	71	71	71	72	71	70	70	69	69	71	69	69	68	71
	Basic	400428728	30	26	25	28	28	38	50	58	64	69	71	71	71	72	71	71	71	70	70	71	70	70	69	71
	Basic	1626714398	31	27	25	30	31	39	49	56	63	68	71	71	71	72	72	71	71	70	70	71	69	70	70	71
	Basic	1626714275	31	27	26	31	32	37	44	52	60	67	70	70	70	71	71	71	70	69	70	70	69	69	69	71
	Basic	1626714296	30	25	25	30	32	35	38	49	59	65	69	70	70	70	70	71	70	69	69	70	69	68	69	70
	Diverge	1626714316	27	24	24	28	30	33	33	46	57	64	67	68	70	70	70	70	69	68	69	70	68	68	68	70
Corral Hollow Rd	Basic	1626687231	24	21	23	24	27	28	28	41	54	60	66	67	69	68	69	69	69	67	68	69	68	67	68	69
	Merge	1626687134	30	28	30	29	32	32	33	43	54	60	64	65	68	68	69	69	69	68	69	70	69	67	68	69
	Basic	1626687112	42	41	39	39	42	43	45	52	59	62	65	67	68	69	70	69	70	69	69	70	70	68	68	70
	Basic	1626687172	45	45	42	43	46	46	50	56	62	65	67	68	69	70	70	70	70	69	70	71	71	69	69	71
	Basic	1626687156	45	44	41	43	46	47	53	57	62	64	67	68	69	70	70	70	70	69	69	71	70	69	69	70
	Basic	1626687056	45	42	41	45	49	50	55	59	63	64	68	68	69	70	70	70	70	70	70	71	70	69	69	70
	Basic	1626687037	45	41	40	45	49	51	57	60	64	65	69	68	69	70	71	70	71	70	70	72	71	70	70	70
	Basic	1626687095	46	40	40	44	50	51	58	61	64	66	69	69	70	70	71	71	71	71	70	72	71	70	70	71
	Basic	1626687098	44	41	40	43	49	52	58	60	62	65	68	68	69	69	70	70	70	69	70	71	70	69	69	70
	Diverge	1626687078	44	42	40	45	49	53	57	59	60	63	66	67	67	68	69	69	69	68	68	70	69	68	68	69
Mountain House Pkwy	Basic	1626679920	42	41	41	49	49	55	58	62	62	65	67	69	68	69	70	70	70	69	69	70	70	68	69	69
		1	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49

Segment		ID	12:00	12:15	12:30	12:45	13:00	13:15	13:30	13:45	14:00	14:15	14:30	14:45	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45
I-580 Eastbound																										
	Diverge	1626698712	70	70	69	71	71	72	71	71	71	71	71	71	71	71	71	71	70	70	71	72	73	71	72	71
Patterson Pass Rd	Basic	1626753465	69	69	69	70	71	71	71	71	71	71	71	70	70	70	69	69	69	68	70	71	71	70	71	70
	Merge	1626630999	68	69	68	69	70	70	70	70	69	70	70	68	69	69	68	67	68	67	68	69	70	70	70	70
	Basic	1626631014	69	69	68	69	70	71	70	70	69	70	70	68	68	69	67	66	68	66	68	68	70	70	70	71
	Basic	1626630993	69	69	68	70	70	72	70	70	69	70	70	68	68	69	67	67	68	66	68	69	70	71	71	71
	Basic	1626631052	69	70	68	70	71	72	71	70	70	71	70	69	68	69	67	67	67	65	67	68	69	70	70	70
	Basic	1626631033	70	70	70	70	72	72	71	71	70	71	71	70	70	70	70	69	68	66	68	69	70	70	71	71
	Basic	1626630938	70	70	69	70	72	72	71	72	71	71	71	70	70	70	70	68	67	66	67	68	69	70	71	70
	Basic	1626630919	70	70	69	70	71	72	71	71	71	71	71	70	70	70	69	67	66	66	66	66	69	70	70	70
	Basic	1626630976	70	70	69	70	71	73	71	71	70	71	70	70	69	69	69	65	65	65	64	64	67	69	69	69
	Diverge	1626630957	69	69	67	68	70	72	70	69	69	69	70	69	68	68	67	64	62	62	62	62	65	67	67	68
Corral Hollow Rd	Basic	1626753445	69	69	67	68	71	73	72	71	70	70	71	70	68	69	68	64	62	60	61	62	63	66	67	68
	Merge	1626753343	71	70	69	70	71	73	72	71	71	71	72	70	69	71	68	64	62	59	60	62	62	65	67	68
	Basic	1626753325	71	70	69	70	72	73	72	71	71	71	72	70	68	70	67	63	62	60	61	63	64	65	66	67
	Basic	1626753383	71	71	70	70	71	73	72	71	71	70	71	69	68	69	66	65	65	63	65	66	67	67	67	68
	Basic	400421603	71	71	69	70	71	73	72	70	71	70	71	70	67	69	67	66	67	65	66	67	69	67	68	68
	Diverge	1626753261	69	70	69	70	70	72	72	69	70	70	70	69	67	68	67	67	67	66	67	68	69	69	68	69
SR 132	Basic	400070856	71	72	69	71	71	74	74	72	73	71	73	73	72	72	71	72	72	72	72	73	74	74	74	74
I-580 Westbound																										
SR 132	Basic	1626687248	67	68	71	71	71	70	72	70	70	71	70	71	73	73	73	73	73	73	72	72	72	73	72	71
	Merge	170404958	69	68	71	70	70	71	73	71	69	71	70	71	73	73	73	74	72	74	73	73	73	73	73	74
	Basic	400428728	69	70	72	71	71	72	73	73	70	72	71	71	74	73	74	73	72	74	74	73	74	74	74	75
	Basic	1626714398	69	70	72	71	71	72	74	73	71	72	71	70	74	73	74	74	73	74	74	74	74	74	74	75
	Basic	1626714275	69	70	72	71	70	72	74	72	70	71	71	71	73	73	74	73	72	74	73	73	74	74	74	74
	Basic	1626714296	68	70	72	71	70	71	73	71	70	71	71	70	72	72	74	73	72	74	74	73	74	74	73	74
	Diverge	1626714316	68	69	71	71	69	70	72	70	70	70	70	69	72	72	73	73	71	73	73	73	73	73	73	74
Corral Hollow Rd	Basic	1626687231	67	69	70	70	69	69	72	70	69	69	70	69	72	71	72	73	71	73	73	72	72	72	72	74
	Merge	1626687134	68	68	70	70	69	70	72	71	69	69	70	69	72	71	73	72	71	73	73	73	73	72	73	73
	Basic	1626687112	68	69	71	71	70	71	72	72	70	70	71	70	72	73	74	73	73	74	74	74	74	73	74	74
	Basic	1626687172	69	70	72	71	70	72	73	74	72	70	72	70	72	73	74	74	74	73	74	74	74	73	74	74
	Basic	1626687156	68	69	71	70	70	71	73	73	71	70	71	70	73	73	74	74	73	73	74	73	74	73	73	73
	Basic	1626687056	69	69	71	71	70	71	73	73	71	71	71	71	73	73	74	74	74	73	74	74	74	73	72	73
	Basic	1626687037	69	70	71	71	70	71	73	73	72	72	72	71	72	74	74	74	74	73	74	74	74	73	72	73
	Basic	1626687095	70	70	71	71	70	72	73	73	72	71	72	71	72	74	75	74	75	74	75	74	74	74	73	73
	Basic	1626687098	69	69	71	71	70	71	72	73	71	71	72	71	72	73	74	74	74	73	74	73	74	73	73	72
	Diverge	1626687078	67	68	69	69	69	70	71	72	70	69	70	70	71	71	73	73	73	72	73	73	72	73	71	71
Mountain House Pkwy	Basic	1626679920	68	69	70	70	69	70	71	73	70	70	70	71	72	73	73	73	73	72	73	73	73	73	72	73
		1	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73

Segment		ID	18:00	18:15	18:30	18:45	19:00	19:15	19:30	19:45	20:00	20:15	20:30	20:45	21:00	21:15	21:30	21:45	22:00	22:15	22:30	22:45	23:00	23:15	23:30	23:45
I-580 Eastbound																										
	Diverge	1626698712	73	72	72	71	70	71	71	72	70	72	71	71	72	71	71	72	71	71	72	69	69	68	68	70
Patterson Pass Rd	Basic	1626753465	73	72	72	71	71	71	71	72	71	73	72	72	73	71	72	72	72	72	72	70	70	68	70	70
	Merge	1626630999	72	72	72	71	71	71	71	72	71	73	72	72	73	71	71	73	72	72	73	70	70	68	70	71
	Basic	1626631014	72	71	72	71	71	72	71	73	72	71	71	71	71	71	70	73	72	73	74	71	70	68	71	71
	Basic	1626630993	73	72	72	72	71	72	71	72	70	70	70	70	71	70	69	71	71	72	74	71	70	69	71	72
	Basic	1626631052	72	71	72	71	70	71	70	71	69	69	69	69	70	69	68	70	69	72	73	71	70	69	71	72
	Basic	1626631033	73	72	72	72	71	72	71	69	69	70	70	70	71	70	69	70	70	70	71	72	71	69	71	73
	Basic	1626630938	72	72	72	72	71	72	69	69	69	70	70	70	71	70	70	71	70	70	70	69	69	68	70	72
	Basic	1626630919	72	72	72	72	72	72	69	69	69	70	70	70	71	70	69	70	70	70	70	70	68	67	69	70
	Basic	1626630976	71	71	72	72	71	72	69	69	69	70	70	70	71	70	70	70	70	70	70	70	68	67	68	70
	Diverge	1626630957	69	69	71	71	70	71	70	71	70	70	71	70	71	70	69	70	70	70	70	70	69	67	69	71
Corral Hollow Rd	Basic	1626753445	69	69	71	72	71	72	71	72	72	71	71	70	71	68	69	70	70	70	69	70	69	67	69	71
	Merge	1626753343	70	70	73	73	73	73	72	74	73	73	73	72	72	71	70	71	72	70	70	72	70	69	70	72
	Basic	1626753325	69	69	72	73	72	73	72	74	73	74	73	72	72	71	71	72	73	70	70	72	70	69	70	72
	Basic	1626753383	70	70	72	72	72	72	71	73	73	73	73	71	72	71	71	72	72	70	71	72	70	68	70	72
	Basic	400421603	69	70	71	71	71	71	71	73	72	72	73	72	72	70	71	71	72	70	70	71	70	68	70	71
	Diverge	1626753261	70	70	71	70	70	70	70	72	71	71	72	71	71	69	70	70	71	69	69	71	70	68	69	70
SR 132	Basic	400070856	74	74	74	73	73	73	73	74	73	72	73	71	72	71	71	71	71	69	69	71	69	67	69	70
I-580 Westbound																										
SR 132	Basic	1626687248	72	71	72	71	71	70	70	67	69	71	70	68	69	67	68	65	68	68	68	68	68	66	65	66
	Merge	170404958	73	73	73	73	72	70	71	68	70	71	71	69	69	67	69	66	68	70	68	67	68	66	66	65
	Basic	400428728	74	74	73	73	73	69	71	68	69	71	70	68	69	67	69	67	68	69	69	67	69	67	66	66
	Basic	1626714398	74	75	73	74	73	70	70	68	69	70	70	68	69	67	69	68	68	69	68	66	69	66	65	65
	Basic	1626714275	73	74	73	73	73	70	70	68	69	70	70	68	69	67	69	67	68	69	69	66	68	66	65	65
	Basic	1626714296	73	74	73	73	72	70	70	68	68	70	70	67	68	67	68	67	68	69	68	65	67	65	66	65
	Diverge	1626714316	73	74	72	72	71	69	69	67	67	68	70	68	68	66	68	67	67	68	68	66	68	65	64	65
Corral Hollow Rd	Basic	1626687231	73	73	71	72	71	69	69	66	67	68	69	67	68	66	65	66	66	67	67	65	68	63	62	64
	Merge	1626687134	72	72	71	72	71	69	69	67	67	69	70	68	69	67	67	68	67	68	67	65	68	65	63	65
	Basic	1626687112	73	73	72	72	71	70	69	67	66	70	70	68	69	67	67	68	68	68	66	65	68	66	64	65
	Basic	1626687172	74	74	73	73	72	71	69	68	67	70	70	68	70	69	68	68	69	68	67	66	68	66	65	67
	Basic	1626687156	74	73	73	72	71	70	70	69	66	70	71	68	69	69	69	68	68	68	67	66	68	66	65	67
	Basic	1626687056	74	73	73	73	71	70	69	69	67	69	72	68	69	69	68	67	68	68	67	66	68	66	65	66
	Basic	1626687037	74	74	73	73	72	71	69	69	68	70	72	68	70	70	68	68	68	69	67	66	68	66	65	66
	Basic	1626687095	75	74	74	73	72	71	70	69	69	70	72	69	70	70	69	68	69	69	67	65	68	66	65	65
	Basic	1626687098	74	74	72	72	72	71	70	70	68	69	72	68	69	69	68	67	68	68	66	65	67	66	65	65
	Diverge	1626687078	73	72	72	72	71	70	69	68	66	68	70	67	67	69	67	67	66	67	64	64	65	64	63	63
Mountain House Pkwy	Basic	1626679920	73	73	73	72	71	71	69	69	67	69	71	68	68	69	67	67	67	68	65	64	64	65	64	64
		1	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97

Traffic Speed (MPH)

10 25 40 55 70

APPENDIX D

VMT BANKING PROJECT COST ESTIMATES

City of Tracy TMP

Estimate of Conceptual Project Costs

A. Legacy Fields Bicycle Connection

From Legacy Fields to Rail Trail

Kimley»Horn

Date Prepared:	September 2, 2021

#	Item	Unit	Quantity	Unit Cost	Total Cost	Notes
	Tracy Blvd (Legacy Fields to Larch Rd)					
1	Remove Asphalt	LF	1,350	$25	$33,800	Removal of existing trail
2	Remove Concrete (Sidewalk)	LF	1,000	$75	$75,000	Removal of existing sidewalk east of Tracy Blvd
3	Trail (14' Width)	LF	1,350	$280	$378,000	Includes additional amenities along the trail. Spans just south of the existing ped crossing to Legacy Fields.
4	Class I Path (12' Width)	SF	5,400	$25	$135,000	Concrete Path
5	Buffer Striping	LF	2,000	$2	$3,000	Buffer for new Class II south of the pedestrian crossing
	W. Larch Rd (Tracy Blvd to Holly Dr)					
6	Sharrow Markings	EA	27	$10	$300	Spaced at 100' each marking
	Holly Rd (Larch Rd to Rail Trail)					
7	Sharrow Markings	EA	38	$10	$400	Spaced at 100' each marking
	N. Tracy Blvd, 10th St, & East St					
8	Sharrow Markings	EA	45	$10	$500	Spaced at 100' each marking
	SUB-TOTAL MAJOR CONSTRUCTION ITEMS				**$626,000**	**Notes**
	Utility Work	% of sub-total major construction items		8.0%	$50,100	
	Landscaping	% of sub-total major construction items		8.0%	$50,100	
	Erosion Control	% of sub-total major construction items		6.0%	$37,600	
	Drainage	% of sub-total major construction items		5.0%	$31,300	
	Traffic Control / Detour	% of sub-total major construction items		5.0%	$31,300	
	Traffic - Signage & Striping	% of sub-total major construction items		3.0%	$18,800	
	Mobilization	% of sub-total major construction items		8.0%	$50,100	
	Misc. - Lighting/Commercial Signs	% of sub-total major construction items		5.0%	$31,300	
	Minor Contract Revisions	% of sub-total major construction items		5.0%	$31,300	
	SUB-TOTAL CONSTRUCTION COSTS				**$957,900**	**Notes**
	Design Engineering	% of sub-total construction costs		15.0%	$143,700	
	Construction Management/Materials Testing	% of sub-total construction costs		15.0%	$143,700	
	SUB-TOTAL DESIGN AND PROJECT ADMIN				**$287,400**	
	SUB-TOTAL				**$1,245,300**	**Notes**
	Contingency (40%)	% of sub-total		40.0%	$498,200	
	Total Project Cost Estimate (2020 Cost Rounded up to the Nearest $10,000)					**$1,750,000**

Opinion of Probable Construction Costs

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It should be noted that the provided cost estimation excludes Right of Way acquisition costs that may be required for these improvements to be implemented.

City of Tracy TMP

Estimate of Conceptual Project Costs

B. Rail Trail & Class I Gap Closure

From Lammers Rd to Central Ave

Date Prepared: September 2, 2021

	Item	Unit	Quantity	Unit Cost	Total Cost	Notes
	Byron Rd (Gap Closure)					
1	Class I Path (12' Width)	SF	36,000	$25	$900,000	Concrete Path
	Rail Trail (Lammers Rd to Corral Hollow Rd)					
2	Rail Trail (14' Width)	LF	6,750	$280	$1,890,000	Includes additional amenities along the trail
3	Fencing	LF	6,750	$40	$270,000	Chainlink fence
	Rail Trail (Corral Hollow Rd to Central Ave)					
4	Rail Trail (14' Width)	LF	8,400	$280	$2,352,000	Includes additional amenities along the trail
5	Rail Trail Crossing Intersection Improvements	EA	4	$250,000	$1,000,000	Byron & Corral Hollow, 11th St , Tracy Blvd, & Central Ave
6	Fencing	LF	8,400	$40	$336,000	Chainlink fence
	SUB-TOTAL MAJOR CONSTRUCTION ITEMS				**$6,748,000**	**Notes**
	Utility Work	% of sub-total major construction items		8.0%	$539,900	
	Landscaping	% of sub-total major construction items		8.0%	$539,900	
	Erosion Control	% of sub-total major construction items		6.0%	$404,900	
	Drainage	% of sub-total major construction items		5.0%	$337,400	
	Traffic Control / Detour	% of sub-total major construction items		5.0%	$337,400	
	Traffic - Signage & Striping	% of sub-total major construction items		3.0%	$202,500	
	Mobilization	% of sub-total major construction items		8.0%	$539,900	
	Misc. - Lighting/Commercial Signs	% of sub-total major construction items		5.0%	$337,400	
	Minor Contract Revisions	% of sub-total major construction items		5.0%	$337,400	
	SUB-TOTAL CONSTRUCTION COSTS				**$10,324,700**	**Notes**
	Design Engineering	% of sub-total construction costs		15.0%	$1,548,800	
	Construction Management/Materials Testing	% of sub-total construction costs		15.0%	$1,548,800	
	SUB-TOTAL DESIGN AND PROJECT ADMIN				**$3,097,600**	
	SUB-TOTAL				**$13,422,300**	**Notes**
	Contingency (40%)	% of sub-total		40.0%	$5,369,000	
	Total Project Cost Estimate (2020 Cost Rounded up to the Nearest $10,000)					**$18,800,000**

Opinion of Probable Construction Costs

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City of Tracy TMP

Estimate of Conceptual Project Costs

C. Rail Trail

From Lammers Rd to MacArthur Dr

Kimley»Horn

Date Prepared: **September 2, 2021**

	Item	Unit	Quantity	Unit Cost	Total Cost	Notes
1	Rail Trail (14' Width)	LF	19,200	$280	$5,376,000	Includes additional amenities along the trail.
2	Rail Trail Crossing Intersection Improvements	EA	4	$1,000,000	$4,000,000	Byron & Corral Hollow, 11th St , Tracy Blvd, & Central Ave
3	Fencing	LF	19,200	$40	$768,000	Chainlink fence
	SUB-TOTAL MAJOR CONSTRUCTION ITEMS				**$10,144,000**	**Notes**
	Utility Work	% of sub-total major construction items		8.0%	$811,600	
	Landscaping	% of sub-total major construction items		8.0%	$811,600	
	Erosion Control	% of sub-total major construction items		6.0%	$608,700	
	Drainage	% of sub-total major construction items		5.0%	$507,200	
	Traffic Control / Detour	% of sub-total major construction items		5.0%	$507,200	
	Traffic - Signage & Striping	% of sub-total major construction items		3.0%	$304,400	
	Mobilization	% of sub-total major construction items		8.0%	$811,600	
	Misc. - Lighting/Commercial Signs	% of sub-total major construction items		5.0%	$507,200	
	Minor Contract Revisions	% of sub-total major construction items		5.0%	$507,200	
	SUB-TOTAL CONSTRUCTION COSTS				**$15,520,700**	**Notes**
	Design Engineering	% of sub-total construction costs		15.0%	$2,328,200	
	Construction Management/Materials Testing	% of sub-total construction costs		15.0%	$2,328,200	
	SUB-TOTAL DESIGN AND PROJECT ADMIN				**$4,656,400**	
	SUB-TOTAL				**$20,177,100**	**Notes**
	Contingency (40%)	% of sub-total		40.0%	$8,070,900	
	Total Project Cost Estimate (2020 Cost Rounded up to the Nearest $10,000)					**$28,250,000**

Opinion of Probable Construction Costs

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City of Tracy TMP

Estimate of Conceptual Project Costs

D. WSID Cannel Trail

From Lammers Rd to Chrisman

Kimley»Horn

Date Prepared:	September 2, 2021

#	Item	Unit	Quantity	Unit Cost	Total Cost	Notes
	Canal Trail (Lammers Rd to Valpico Rd)					
1	Canal Trail (14' Width)	LF	10,900	$280	$3,052,000	Includes additional amenities along the trail.
2	Canal Trail Crossing Intersection Improvements	EA	2	$250,000	$500,000	Western Pacific Way, Corral Hollow
3	Fencing	LF	10,900	$40	$436,000	Chainlink fence
4	Privacy Fence	LF	10,900	$80	$872,000	Sound Wall?
	Valpico Rd (Canal to Tracy Blvd)					
5	Remove Concrete (Sidewalk)	LF	2,600	$75	$195,000	Assume removal of entire existing sidewalk width
6	Class I Path (12' Width)	SF	31,200	$25	$780,000	Concrete Path
7	Intersection Crossing Upgrades (Unsignalized Intersections)	EA	1	$10,000	$10,000	ADA intersection improvements
8	Intersection Crossing Upgrades (Signalized Intersections)	EA	1	$250,000	$250,000	ADA intersection improvements with potential signal pole relocations
	Tracy Blvd (Valpico Rd to Canal)					
8	Remove Concrete (Sidewalk)	LF	550	$75	$41,300	Assume removal of entire existing sidewalk width
9	Class I Path (12' Width)	SF	6,600	$25	$165,000	Concrete Path
	Canal Trail (Tracy Blvd to MacArthur Dr)					
10	Canal Trail (14' Width)	LF	6,450	$280	$1,806,000	Includes additional amenities along the trail.
11	Canal Trail Rail Crossing	EA	1	$250,000	$250,000	Rail Crossing
12	Fencing	LF	6,450	$40	$258,000	Chainlink fence
13	Privacy Fence	LF	6,450	$80	$516,000	Sound Wall?
	MacArthur Dr (Canal to Eastlake Dr)					
14	Remove Concrete (Sidewalk)	LF	550	$75	$41,300	Assume removal of entire existing sidewalk width
15	Class I Path (12' Width)	SF	6,600	$25	$165,000	Concrete Path
16	Intersection Crossing Upgrades (Unsignalized Intersections)	EA	1	$10,000	$10,000	ADA intersection improvements
17	Intersection Crossing Upgrades (Signalized Intersections)	EA	1	$250,000	$250,000	ADA intersection improvements with potential signal pole relocations
	Eastlake (MacArthur to Joseph Tiago Park)					
17	Remove Concrete (Sidewalk)	LF	1,550	$75	$116,300	Assume removal of entire existing sidewalk width
18	Class I Path (12' Width)	SF	18,600	$25	$465,000	Concrete Path
19	Intersection Crossing Upgrades (Unsignalized Intersections)	EA	4	$10,000	$40,000	ADA intersection improvements
	Joseph Tiago Park (Eastlake to Canal)					
18	Trail (14' Width)	LF	550	$280	$154,000	Includes additional amenities along the trail.
	Canal Trail (Joseph Tiago Park to Chrisman Rd)					
19	Canal Trail (14' Width)	LF	3,800	$280	$1,064,000	Includes additional amenities along the trail.
20	Intersection Crossing Upgrades (Unsignalized Intersections)	EA	1	$10,000	$10,000	ADA intersection improvements
21	Fencing	LF	3,800	$40	$152,000	Chainlink fence
22	Privacy Fence	LF	3,800	$80	$304,000	Sound Wall?
	SUB-TOTAL MAJOR CONSTRUCTION ITEMS				**$11,902,900**	**Notes**
	Utility Work	% of sub-total major construction items		8.0%	$952,300	
	Landscaping	% of sub-total major construction items		8.0%	$952,300	
	Erosion Control	% of sub-total major construction items		6.0%	$714,200	
	Drainage	% of sub-total major construction items		5.0%	$595,200	
	Traffic Control / Detour	% of sub-total major construction items		5.0%	$595,200	
	Traffic - Signage & Striping	% of sub-total major construction items		3.0%	$357,100	
	Mobilization	% of sub-total major construction items		8.0%	$952,300	
	Misc. - Lighting/Commercial Signs	% of sub-total major construction items		5.0%	$595,200	
	Minor Contract Revisions	% of sub-total major construction items		5.0%	$595,200	
	SUB-TOTAL CONSTRUCTION COSTS				**$18,211,900**	**Notes**
	Design Engineering	% of sub-total construction costs		15.0%	$2,731,800	
	Construction Management/Materials Testing	% of sub-total construction costs		15.0%	$2,731,800	
	SUB-TOTAL DESIGN AND PROJECT ADMIN				**$5,463,600**	
	SUB-TOTAL				**$23,675,500**	**Notes**
	Contingency (40%)	% of sub-total		40.0%	$9,470,200	
	Total Project Cost Estimate (2020 Cost Rounded up to the Nearest $10,000)					**$33,150,000**

Opinion of Probable Construction Costs

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City of Tracy TMP

Estimate of Conceptual Project Costs

E. Rail Trail

WSID Canal Trail to MacArthur

Kimley»Horn

Date Prepared: **September 2, 2021**

	Item	Unit	Quantity	Unit Cost	Total Cost	Notes
1	Rail Trail (14' Width)	LF	6,100	$280	$1,708,000	Includes additional amenities along the trail.
2	Rail Trail Crossing Intersection Improvements	EA	3	$250,000	$750,000	East Schulte, E. Mt Diablo, 3rd St
3	Fencing	LF	6,100	$40	$244,000	Chainlink fence
	SUB-TOTAL MAJOR CONSTRUCTION ITEMS				**$2,702,000**	**Notes**
	Utility Work	% of sub-total major construction items		8.0%	$216,200	
	Landscaping	% of sub-total major construction items		8.0%	$216,200	
	Erosion Control	% of sub-total major construction items		6.0%	$162,200	
	Drainage	% of sub-total major construction items		5.0%	$135,100	
	Traffic Control / Detour	% of sub-total major construction items		5.0%	$135,100	
	Traffic - Signage & Striping	% of sub-total major construction items		3.0%	$81,100	
	Mobilization	% of sub-total major construction items		8.0%	$216,200	
	Misc. - Lighting/Commercial Signs	% of sub-total major construction items		5.0%	$135,100	
	Minor Contract Revisions	% of sub-total major construction items		5.0%	$135,100	
	SUB-TOTAL CONSTRUCTION COSTS				**$4,134,300**	**Notes**
	Design Engineering	% of sub-total construction costs		15.0%	$620,200	
	Construction Management/Materials Testing	% of sub-total construction costs		15.0%	$620,200	
	SUB-TOTAL DESIGN AND PROJECT ADMIN				**$1,240,400**	
	SUB-TOTAL				**$5,374,700**	**Notes**
	Contingency (40%)	% of sub-total		40.0%	$2,149,900	
	Total Project Cost Estimate (2020 Cost Rounded up to the Nearest $10,000)					**$7,530,000**

Opinion of Probable Construction Costs

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City of Tracy TMP

Estimate of Conceptual Project Costs

F. Existing Class I Improvements

Lammers Rd, 11th St, Corral Hollow Rd, Cypress St, Larriana Ln, Schulte Rd, & Sycamore Pkwy

Kimley»Horn

Date Prepared: September 2, 2021

	Item	Unit	Quantity	Unit Cost	Total Cost	Notes
	Lammers Rd (Redbridge to Kimball High School)					
1	Remove Asphalt	LF	3,000	$25	$75,000	Removal of existing trail
2	Trail (14' Width)	LF	3,000	$280	$840,000	Includes additional amenities along the trail.
	W. 11th Street (Gap Closure and Intersection Upgrades)					
3	Remove Concrete (Sidewalk)	LF	1,350	$75	$101,300	Removal of existing sidewalk
4	Class I Path (12' Width)	SF	16,200	$25	$405,000	Concrete Path to tie in with existing Class I facility
5	Intersection Crossing Upgrades (Unsignalized Intersections)	EA	2	$10,000	$20,000	ADA intersection improvements
6	Intersection Crossing Upgrades (Signalized Intersections)	EA	1	$250,000	$250,000	ADA intersection improvements with potential signal pole relocations
	Corral Hollow Rd (W. 11th St to Cypress Dr)					
7	Class I Path (12' Width)	SF	19,200	$25	$480,000	Concrete Path
8	Intersection Crossing Upgrades (Unsignalized Intersections)	EA	3	$10,000	$30,000	ADA intersection improvements
	Cypress Dr (Corral Hollow Rd to Larriana Ln)					
9	Remove Asphalt	LF	1,850	$25	$46,300	Removal of existing trail
10	Trail (14' Width)	LF	1,850	$280	$518,000	Includes additional amenities along the trail.
11	Intersection Crossing Upgrades (Unsignalized Intersections)	EA	2	$10,000	$20,000	ADA intersection improvements
	Larriana Ln (Cypress Dr to W. Schulte Rd)					
12	Remove Asphalt	LF	1,800	$25	$45,000	Removal of existing trail
13	Trail (14' Width)	LF	1,800	$280	$504,000	Includes additional amenities along the trail.
14	Intersection Crossing Upgrades (Unsignalized Intersections)	EA	1	$10,000	$10,000	ADA intersection improvements
	W. Schulte Rd (Corral Hollow Rd to Sycamore Pwky)					
15	Remove Asphalt	LF	550	$25	$13,800	Removal of existing trail
16	Trail (14' Width)	LF	550	$280	$154,000	Includes additional amenities along the trail.
17	Intersection Crossing Upgrades (Signalized Intersections)	EA	1	$250,000	$250,000	ADA intersection improvements with potential signal pole relocations
18	Pedestrian Rail Crossings	EA	1	$250,000	$250,000	ADA intersection improvements
	Sycamore Pkwy (W. Schulte Rd to Windham Ct)					
19	Remove Asphalt	LF	9,100	$25	$227,500	Removal of existing trail
20	Trail (14' Width)	LF	9,100	$280	$2,548,000	Includes additional amenities along the trail.
21	Intersection Crossing Upgrades (Unsignalized Intersections)	EA	9	$10,000	$90,000	ADA intersection improvements with potential signal pole relocations
22	Prefab Bridges	EA	2	$250,000	$500,000	Prefab bridges to/from the Edgar Thoming Park
				SUB-TOTAL MAJOR CONSTRUCTION ITEMS	**$7,377,900**	**Notes**
	Utility Work	% of sub-total major construction items		8.0%	$590,300	
	Landscaping	% of sub-total major construction items		8.0%	$590,300	
	Erosion Control	% of sub-total major construction items		6.0%	$442,700	
	Drainage	% of sub-total major construction items		5.0%	$368,900	
	Traffic Control / Detour	% of sub-total major construction items		10.0%	$737,800	
	Traffic - Signage & Striping	% of sub-total major construction items		3.0%	$221,400	
	Mobilization	% of sub-total major construction items		10.0%	$737,800	
	Misc. - Lighting/Commercial Signs	% of sub-total major construction items		10.0%	$737,800	
	Minor Contract Revisions	% of sub-total major construction items		5.0%	$368,900	
				SUB-TOTAL CONSTRUCTION COSTS	**$12,173,800**	**Notes**
	Design Engineering	% of sub-total construction costs		15.0%	$1,826,100	
	Construction Management/Materials Testing	% of sub-total construction costs		15.0%	$1,826,100	
				SUB-TOTAL DESIGN AND PROJECT ADMIN	**$3,652,200**	
				SUB-TOTAL	**$15,826,000**	**Notes**
	Contingency (40%)	% of sub-total		40.0%	$6,330,400	
				Total Project Cost Estimate (2020 Cost Rounded up to the Nearest $10,000)		**$22,160,000**

Opinion of Probable Construction Costs

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City of Tracy TMP

Estimate of Conceptual Project Costs

G. Class I Bike Path Extension

From Sycamore to ACE Station

Kimley»Horn

Date Prepared: **September 2, 2021**

	Item	Unit	Quantity	Unit Cost	Total Cost	Notes
	Tracy Blvd (Sycamore Pkwy to Ace Station)					
1	Remove Concrete (Sidewalk)	LF	2,250	$75	$168,800	Assume removal of entire existing sidewalk width 5' sidewalk
2	Class I Path (12' Width)	SF	37,200	$25	$930,000	Concrete Path
3	Intersection Crossing Upgrades (Unsignalized Intersections)	EA	3	$10,000	$30,000	ADA intersection improvements
4	Intersection Crossing Upgrades (Signalized Intersections)	EA	1	$250,000	$250,000	ADA intersection improvements with potential signal pole relocations
	SUB-TOTAL MAJOR CONSTRUCTION ITEMS				**$1,378,800**	**Notes**
	Utility Work	% of sub-total major construction items		8.0%	$110,400	
	Landscaping	% of sub-total major construction items		8.0%	$110,400	
	Erosion Control	% of sub-total major construction items		6.0%	$82,800	
	Drainage	% of sub-total major construction items		5.0%	$69,000	
	Traffic Control / Detour	% of sub-total major construction items		5.0%	$69,000	
	Traffic - Signage & Striping	% of sub-total major construction items		3.0%	$41,400	
	Mobilization	% of sub-total major construction items		8.0%	$110,400	
	Misc. - Lighting/Commercial Signs	% of sub-total major construction items		5.0%	$69,000	
	Minor Contract Revisions	% of sub-total major construction items		5.0%	$69,000	
	SUB-TOTAL CONSTRUCTION COSTS				**$2,110,200**	**Notes**
	Design Engineering	% of sub-total construction costs		15.0%	$316,600	
	Construction Management/Materials Testing	% of sub-total construction costs		15.0%	$316,600	
	SUB-TOTAL DESIGN AND PROJECT ADMIN				**$633,200**	
	SUB-TOTAL				**$2,743,400**	**Notes**
	Contingency (40%)	% of sub-total		40.0%	$1,097,400	
	Total Project Cost Estimate (2020 Cost Rounded up to the Nearest $10,000)					**$3,850,000**

Opinion of Probable Construction Costs

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City of Tracy TMP

Estimate of Conceptual Project Costs

H. Safe Routes to School

From Sycamore to ACE Station

Kimley»Horn

Date Prepared: September 2, 2021

	Item	Unit	Quantity	Unit Cost	Total Cost	Notes
	Kavanagh Ave					
1	Sharrow Markings	EA	68	$10	$700	Spaced at 100' each marking excluding section with Class II facility
	Lowell Ave					
2	Sharrow Markings	EA	52	$10	$500	Spaced at 100' each marking
	Eaton Ave					
3	Sharrow Markings	EA	51	$10	$500	Spaced at 100' each marking
	Mt. Diablo & 3rd St					
4	Sharrow Markings	EA	45	$10	$500	Spaced at 100' each marking
	SUB-TOTAL MAJOR CONSTRUCTION ITEMS				**$2,200**	**Notes**
	Utility Work	% of sub-total major construction items		8.0%	$200	
	Landscaping	% of sub-total major construction items		8.0%	$200	
	Erosion Control	% of sub-total major construction items		6.0%	$200	
	Drainage	% of sub-total major construction items		5.0%	$200	
	Traffic Control / Detour	% of sub-total major construction items		5.0%	$200	
	Traffic - Signage & Striping	% of sub-total major construction items		3.0%	$100	
	Mobilization	% of sub-total major construction items		8.0%	$200	
	Misc. - Lighting/Commercial Signs	% of sub-total major construction items		5.0%	$200	
	Minor Contract Revisions	% of sub-total major construction items		5.0%	$200	
	SUB-TOTAL CONSTRUCTION COSTS				**$3,900**	**Notes**
	Design Engineering	% of sub-total construction costs		15.0%	$600	
	Construction Management/Materials Testing	% of sub-total construction costs		15.0%	$600	
	SUB-TOTAL DESIGN AND PROJECT ADMIN				**$1,200**	
	SUB-TOTAL				**$5,100**	**Notes**
	Contingency (40%)	% of sub-total		40.0%	$2,100	
	Total Project Cost Estimate (2020 Cost Rounded up to the Nearest $10,000)					**$10,000**

Opinion of Probable Construction Costs

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City of Tracy TMP

Estimate of Conceptual Project Costs

I. Corral Hollow Rd Gap Closure

From North of Western Pkwy to south of the Rail Crossing

Kimley»Horn

Date Prepared: September 2, 2021

	Item	Unit	Quantity	Unit Cost	Total Cost	Notes
1	Minor Concrete (Sidewalk)	LF	1,000	$100	$100,000	Assume Full Proposed Sidewalk Width Per Section
2	Pedestrian Rail Crossings	EA	4	$250,000	$1,000,000	
				SUB-TOTAL MAJOR CONSTRUCTION ITEMS	**$1,100,000**	**Notes**
	Utility Work	% of sub-total major construction items		8.0%	$88,000	
	Landscaping	% of sub-total major construction items		8.0%	$88,000	
	Erosion Control	% of sub-total major construction items		6.0%	$66,000	
	Drainage	% of sub-total major construction items		5.0%	$55,000	
	Traffic Control / Detour	% of sub-total major construction items		5.0%	$55,000	
	Traffic - Signage & Striping	% of sub-total major construction items		3.0%	$33,000	
	Mobilization	% of sub-total major construction items		8.0%	$88,000	
	Misc. - Lighting/Commercial Signs	% of sub-total major construction items		5.0%	$55,000	
	Minor Contract Revisions	% of sub-total major construction items		5.0%	$55,000	
				SUB-TOTAL CONSTRUCTION COSTS	**$1,683,000**	**Notes**
	Design Engineering	% of sub-total construction costs		15.0%	$252,500	
	Construction Management/Materials Testing	% of sub-total construction costs		15.0%	$252,500	
				SUB-TOTAL DESIGN AND PROJECT ADMIN	**$505,000**	
				SUB-TOTAL	**$2,188,000**	**Notes**
	Contingency (40%)	% of sub-total		40.0%	$875,200	
					Total Project Cost Estimate (2020 Cost Rounded up to the Nearest $10,000)	**$3,070,000**

Opinion of Probable Construction Costs

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

It should be noted that the provided cost estimation excludes Right of Way acquisition costs that may be required for these improvements to be implemented.

City of Tracy TMP

Estimate of Conceptual Project Costs

J. Schulte Rd Gap Closure

From North of the Rail Crossing to South of the Rail Crossing

Date Prepared: September 2, 2021

	Item	Unit	Quantity	Unit Cost	Total Cost	Notes
1	Minor Concrete (Sidewalk)	LF	450	$100	$45,000	Assume Full Proposed Sidewalk Width Per Section
2	Pedestrian Rail Crossings	EA	2	$250,000	$500,000	
				SUB-TOTAL MAJOR CONSTRUCTION ITEMS	**$545,000**	**Notes**
	Utility Work	% of sub-total major construction items		8.0%	$43,600	
	Landscaping	% of sub-total major construction items		8.0%	$43,600	
	Erosion Control	% of sub-total major construction items		6.0%	$32,700	
	Drainage	% of sub-total major construction items		5.0%	$27,300	
	Traffic Control / Detour	% of sub-total major construction items		5.0%	$27,300	
	Traffic - Signage & Striping	% of sub-total major construction items		3.0%	$16,400	
	Mobilization	% of sub-total major construction items		8.0%	$43,600	
	Misc. - Lighting/Commercial Signs	% of sub-total major construction items		5.0%	$27,300	
	Minor Contract Revisions	% of sub-total major construction items		5.0%	$27,300	
				SUB-TOTAL CONSTRUCTION COSTS	**$834,100**	**Notes**
	Design Engineering	% of sub-total construction costs		15.0%	$125,200	
	Construction Management/Materials Testing	% of sub-total construction costs		15.0%	$125,200	
				SUB-TOTAL DESIGN AND PROJECT ADMIN	**$250,400**	
				SUB-TOTAL	**$1,084,500**	**Notes**
	Contingency (40%)	% of sub-total		40.0%	$433,800	
				Total Project Cost Estimate (2020 Cost Rounded up to the Nearest $10,000)		**$1,520,000**

Opinion of Probable Construction Costs

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It should be noted that the provided cost estimation excludes Right of Way acquisition costs that may be required for these improvements to be implemented.

City of Tracy TMP

Estimate of Conceptual Project Costs

K. MacArthur Dr Gap Closure

From North of the Rail Crossing to South of the Rail Crossing

Kimley»Horn

Date Prepared: September 2, 2021

	Item	Unit	Quantity	Unit Cost	Total Cost	Notes
1	Minor Concrete (Curb and Gutter)	LF	800	$115	$92,000	Includes Sawcut and 1' Wide HMA Plug
2	Minor Concrete (Sidewalk)	LF	800	$100	$80,000	Assume Full Proposed Sidewalk Width Per Section
3	Pedestrian Rail Crossings	EA	2	$250,000	$500,000	
				SUB-TOTAL MAJOR CONSTRUCTION ITEMS	**$672,000**	**Notes**
	Utility Work	% of sub-total major construction items		8.0%	$53,800	
	Landscaping	% of sub-total major construction items		8.0%	$53,800	
	Erosion Control	% of sub-total major construction items		6.0%	$40,400	
	Drainage	% of sub-total major construction items		5.0%	$33,600	
	Traffic Control / Detour	% of sub-total major construction items		5.0%	$33,600	
	Traffic - Signage & Striping	% of sub-total major construction items		3.0%	$20,200	
	Mobilization	% of sub-total major construction items		8.0%	$53,800	
	Misc. - Lighting/Commercial Signs	% of sub-total major construction items		5.0%	$33,600	
	Minor Contract Revisions	% of sub-total major construction items		5.0%	$33,600	
				SUB-TOTAL CONSTRUCTION COSTS	**$1,028,400**	**Notes**
	Design Engineering	% of sub-total construction costs		15.0%	$154,300	
	Construction Management/Materials Testing	% of sub-total construction costs		15.0%	$154,300	
				SUB-TOTAL DESIGN AND PROJECT ADMIN	**$308,600**	
				SUB-TOTAL	**$1,337,000**	**Notes**
	Contingency (40%)	% of sub-total		40.0%	$534,800	
					Total Project Cost Estimate (2020 Cost Rounded up to the Nearest $10,000)	**$1,880,000**

Opinion of Probable Construction Costs

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It should be noted that the provided cost estimation excludes Right of Way acquisition costs that may be required for these improvements to be implemented.

City of Tracy TMP

Estimate of Conceptual Project Costs

L. Eleventh St Sidewalk Gap Closure

From the Rail Overcrossing to Chrisman Road

Kimley»Horn

Date Prepared: September 2, 2021

	Item	Unit	Quantity	Unit Cost	Total Cost	Notes
1	Minor Concrete (Curb and Gutter)	LF	4,040	$115	$464,600	Includes Sawcut and 1' Wide HMA Plug
2	Minor Concrete (Sidewalk)	LF	4,040	$100	$404,000	Assume Full Proposed Sidewalk Width Per Section
3	Intersection Crossing Upgrades (Unsignalized Intersections)	EA	20	$10,000	$200,000	ADA intersection improvements
	SUB-TOTAL MAJOR CONSTRUCTION ITEMS				**$1,068,600**	**Notes**
	Utility Work	% of sub-total major construction items		8.0%	$85,500	
	Landscaping	% of sub-total major construction items		8.0%	$85,500	
	Erosion Control	% of sub-total major construction items		6.0%	$64,200	
	Drainage	% of sub-total major construction items		5.0%	$53,500	
	Traffic Control / Detour	% of sub-total major construction items		5.0%	$53,500	
	Traffic - Signage & Striping	% of sub-total major construction items		3.0%	$32,100	
	Mobilization	% of sub-total major construction items		8.0%	$85,500	
	Misc. - Lighting/Commercial Signs	% of sub-total major construction items		5.0%	$53,500	
	Minor Contract Revisions	% of sub-total major construction items		5.0%	$53,500	
	SUB-TOTAL CONSTRUCTION COSTS				**$1,635,400**	**Notes**
	Design Engineering	% of sub-total construction costs		15.0%	$245,400	
	Construction Management/Materials Testing	% of sub-total construction costs		15.0%	$245,400	
	SUB-TOTAL DESIGN AND PROJECT ADMIN				**$490,800**	
	SUB-TOTAL				**$2,126,200**	**Notes**
	Contingency (40%)	% of sub-total		40.0%	$850,500	
	Total Project Cost Estimate (2020 Cost Rounded up to the Nearest $10,000)					**$2,980,000**

Opinion of Probable Construction Costs

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It should be noted that the provided cost estimation excludes Right of Way acquisition costs that may be required for these improvements to be implemented.

City of Tracy TMP

Estimate of Conceptual Project Costs

M .Moblity Hubs

City of Tracy Future Mobility Hubs (Excluding the Valley Link Station)

Kimley»Horn

Date Prepared: **September 2, 2021**

	Item	Unit	Quantity	Unit Cost	Total Cost	Notes
1	Existing Tracy Transit Center Upgrades	EA	1	$3,500,000	$3,500,000	Facility Upgrades
2	1 Moblity Hub along I-205	EA	1	$3,500,000	$3,500,000	These costs are only for the facility amenities
	SUB-TOTAL MAJOR CONSTRUCTION ITEMS				**$7,000,000**	**Notes**
	Utility Work	% of sub-total major construction items		8.0%	$560,000	
	Landscaping	% of sub-total major construction items		8.0%	$560,000	
	Erosion Control	% of sub-total major construction items		6.0%	$420,000	
	Drainage	% of sub-total major construction items		5.0%	$350,000	
	Traffic Control / Detour	% of sub-total major construction items		5.0%	$350,000	
	Traffic - Signage & Striping	% of sub-total major construction items		3.0%	$210,000	
	Mobilization	% of sub-total major construction items		8.0%	$560,000	
	Misc. - Lighting/Commercial Signs	% of sub-total major construction items		5.0%	$350,000	
	Minor Contract Revisions	% of sub-total major construction items		5.0%	$350,000	
	SUB-TOTAL CONSTRUCTION COSTS				**$10,710,000**	**Notes**
	Design Engineering	% of sub-total construction costs		15.0%	$1,606,500	
	Construction Management/Materials Testing	% of sub-total construction costs		15.0%	$1,606,500	
	SUB-TOTAL DESIGN AND PROJECT ADMIN				**$3,213,000**	
	SUB-TOTAL				**$13,923,000**	**Notes**
	Contingency (40%)	% of sub-total		40.0%	$5,569,200	
	Total Project Cost Estimate (2020 Cost Rounded up to the Nearest $10,000)					**$19,500,000**

Opinion of Probable Construction Costs

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

It should be noted that the provided cost estimation excludes Right of Way acquisition costs that may be required for these improvements to be implemented.

APPENDIX E

CITY OF TRACY TRANSPORTATION DEMAND MODEL VALIDATION MEMO

Memorandum

To: Matt Brogan, P.E.
Mark Thomas

From: Michael Schmitt, AICP CTP, PTP, RSP1
Chris Gregerson, P.E., T.E., PTOE, PTP

Re: Draft Validation Memorandum
City of Tracy Travel Demand Model

Date: August 3, 2021

This memorandum documents the validation effort completed for the travel demand model developed for the City of Tracy, CA based on the tri-county model that includes SJCOG, StanCOG, and MCAG. The model was developed to include additional roadway network and land use detail not included in the original version of the model for the 2015 and 2042 model scenarios. Described below are the changes and enhancements made to the model, as well as the validation results for roadways within the City of Tracy for the current model compared to the original model. A discussion on the application of the model under over capacity conditions along the freeways in future years is provided following the validation discussion.

Model Modifications

Through the process of developing the model for the City of Tracy, several inconsistencies and enhancements were made to the original model. The changes made to the model include:

- Additional roadway network links were added to the model within the City's Sphere of Influence (SOI), particularly in the western portion of the City, to provide a more refined distribution of trips throughout the City.
- Existing Traffic Analysis Zones (TAZs) were split to create many more TAZs within the City to provide a more refined distribution of land uses within the City to the surrounding roadway network.
- Land use refinements were made to the TAZs within the Tracy SOI based on information provided by City staff.
- The land use file that contains socioeconomic data for each TAZ was updated to modify the County column for San Joaquin County so that the name is only one word. As the file is a comma delimited file, spaces are read in the model as a column divider and as such, all land uses within San Joaquin County was incorrect (one column off).
- The trip generation rates for residential land uses were modified based on work performed by others for SJCOG to better reflect measurements taken throughout the County. The trip generation rates were also stratified by household vehicle ownership in addition to household size and household income category. Previously trip generation rates were only stratified by household size and household income category.
    - The residential trip generation rates were further refined based on field observations performed in 2021.
- The roadway network was updated to include the I-205/I-580 interchange because previously vehicles were cutting through the City to move between the two freeways.

- Turn restrictions were implemented at all interchanges within the Tracy SOI to eliminate vehicles traveling from one off-ramp to the corresponding on-ramp to avoid congestion on the freeways.
- Other minor roadway network modifications were made to I-580 and SR-132 in the southern portion of the Tracy SOI to remove the phenomenon of vehicles making U-turns along SR-132.
- The attractions for external zones were decreased slightly.
- Transit routes were updated to accommodate the refined roadway network within the Tracy SOI.

Model Validation

Twenty-five locations throughout the City of Tracy were used to perform static validation tests on both the original version of the model and the model created for the City of Tracy. Four static validation tests were performed on the two models at the twenty-five locations:

- Model Volume/Count Ratio
- Percent of Volumes/Counts within Maximum Deviation
- Percent Root Mean Square Error
- Correlation Coefficient

Daily traffic counts were collected in 2016 by Kimley-Horn and 2011 by the City of Tracy[1]. As the model was originally validated for the year 2015, and to provide consistency in validation tests at each of the locations, the 2011 traffic counts were grown to represent 2016 conditions. This was completed by identifying locations in which counts were collected in both 2011 and 2016 and calculating a yearly growth rate based on the combined volumes at these locations. The average annual growth rate was calculated to be 1.4-percent. Once all count locations were set to 2016 conditions, the daily model volumes at each of the twenty-five locations from each model were used to perform the validation tests described above. Table 1 summarizes the results of the four tests for the original model while Table 2 summarizes the results of the four tests for the version of the model created for the City of Tracy. Appendix A contains the validation calculations for the original model while Appendix B contains the validation calculations for the City of Tracy version of the model.

Table 1 – Validation Results for Original Tri-County Model in the City of Tracy

Validation Test	Result
Model/Count Ratio (Target: 0.9 - 1.1)	0.695
% RMSE (Target: <40%)	50.0%
Correlation Coefficient (Target: >0.88)	0.659
% w/in Deviation Limit (Target: >75%)	32.0%

Table 2 – Validation Results for City of Tracy Model

Validation Test	Result
Model/Count Ratio (Target: 0.9 - 1.1)	0.881
% RMSE (Target: <40%)	30.0%
Correlation Coefficient (Target: >0.88)	0.816
% w/in Deviation Limit (Target: >75%)	56.0%

[1] *Traffic Count Map – Average Daily Traffic (ADT)*. City of Tracy. March 2011.

As shown in Table 1 and Table 2, while neither model achieves the target for all four tests, the version of the model created for the City of Tracy performs better for all four tests and represents a notable improvement in terms of validation for the purposes of analysis within the City of Tracy.

Future Year Model Modifications

A post-processing technique was created for the 2042 version of the City's version of the model to eliminate the phenomenon of freeway ramps being drastically over capacity. Due to the fact that the model will distribute trips regardless of the roadway capacity, the closer to the edge of the model you are, the fewer alternate paths are available to distribute trips. This phenomenon is more pronounced in the City of Tracy due to its location on the edge of the model and the fact that I-580 is a major connection to the Bay Area. When applying logic to this phenomenon, it is understood that trips will spread out during the peaks rather than traveling along severely congested roadways. Therefore, a process was developed to reduce volumes along roadways that contribute to over-capacity ramps located along I-205 and I-580 within the Tracy SOI.

A select link run was performed on every ramp within the Tracy SOI that was found to be over capacity based on a capacity of 1,500 vehicles per hour per lane (veh/hr/ln). Based on the results of the select link runs, volumes were reduced for each ramp so that they would not exceed the 1,500 veh/hr/ln capacity. This reduction was applied for every link that contributes vehicles to those ramps, but the reduction was only applied to the portion of the link's volume that ends up on the ramp. For example, if a link has a total volume of 3,000 vehicles during the AM peak-hour and 400 of those end up on ramps that have a combined reduction of 50-percent, the link was reduced by 200 vehicles. These reductions were understood to represent vehicles that would choose to travel outside of the peaks rather than being eliminated altogether.

The freeways (I-205 and I-580) are forecasted to be significantly over capacity within the Tracy SOI. Therefore, these segments will be capped at their capacity and thus, no validation tests were performed on freeway facilities.

Kimley»Horn

Appendix A

Validation Results for Original Model

ID	A	B	Classification	Roadway	Location	Count Year	Traffic Count	Model Volumes	Squared Error	Percent Error	Caltrans Limit	Within Limit	% Diff
1	13043	12634	Collector	Corral Hollow Road	b/n Kavanagh Ave and Mall Entry	2016	11,220	3,664	57,091,902	-67.34%	35%	NO	32.66%
2	12705	13740	Collector	Corral Hollow Road	b/n Linne Road and Peony Drive	2016	8,789	5,818	8,824,218	-33.80%	39%	YES	66.20%
3	13740	12701	Collector	Corral Hollow Road	S/O Valpico	2016*	6,217	7,987	3,131,749	28.47%	44%	YES	128.47%
4	12700	13899	Arterial	Corral Hollow Road	N/O Valpico	2016*	18,329	7,278	122,121,988	-60.29%	29%	NO	39.71%
5	12685	12666	Arterial	Corral Hollow Road	S/O 11th St	2016*	28,190	13,967	202,309,566	-50.46%	26%	NO	49.54%
6	12665	16797	Arterial	Corral Hollow Road	N/O Byron	2016*	31,620	19,881	137,810,336	-37.13%	25%	NO	62.87%
7	12671	16179	Arterial	Eleventh Street	b/n Lincoln Blvd and Tracy Blvd	2016	27,849	20,632	52,083,961	-25.91%	26%	YES	74.09%
8	12666	13257	Arterial	Eleventh Street	b/n Corral Hollow Road and Alden Glen	2016	31,531	20,020	132,500,131	-36.51%	25%	NO	63.49%
9	13732	13910	Arterial	Eleventh Street	b/n Corral Hollow Road and Lammers Road	2016	35,328	34,020	1,712,096	-3.70%	24%	YES	96.30%
10	15790	15785	Arterial	Eleventh Street	b/n Lammers Road and I205	2016*	25,441	44,129	349,234,680	73.46%	26%	NO	173.46%
11	12682	14083	Arterial	Eleventh Street	E/O Chrisman Road	2016*	27,869	23,518	18,931,468	-15.61%	26%	YES	84.39%
12	14479	12634	Arterial	Grant Line Road	W/O Corrall Hollow	2016*	29,369	14,026	235,411,421	-52.24%	26%	NO	47.76%
13	13752	12635	Arterial	Grant Line Road	W/O Tracy Blvd	2016*	25,725	16,103	92,578,583	-37.40%	26%	NO	62.60%
14	12643	12247	Collector	Grant Line Road	E/O MacArthur	2016*	10,719	5,901	23,210,273	-44.95%	36%	NO	55.05%
15	12638	12639	Collector	Grant Line Road	b/n Tracy Blvd and MacAurthur	2016	12,420	8,017	19,382,591	-35.45%	33%	NO	64.55%
16	16188	16208	Local	Hansen Road	S/O I-205 Overpass	2019	3,634	6,820	10,148,277	87.66%	60%	NO	187.66%
17	16220	16221	Collector	Lammers Road	N/O SCHULTE	2016*	8,146	10,653	6,285,357	30.78%	40%	YES	130.78%
18	13910	26587	Arterial	Lammers Road	N/O 11th St	2016*	6,646	2,595	16,406,245	-60.95%	43%	NO	39.05%
19	12703	12698	Collector	MacArthur Drive	b/n East Lake Dr and Valpiro Rd	2016	8,123	5,929	4,813,765	-27.01%	40%	YES	72.99%
20	12633	13555	Arterial	MacArthur Drive	b/n Pescadero Ave and I-205	2016	22,155	9,634	156,763,617	-56.51%	27%	NO	43.49%
21	14279	12245	Collector	Mountain House Parkway	S/O Berkeley RD, N/O Schulte Rd	2016	19,018	19,602	340,939	3.07%	28%	YES	103.07%
22	13747	13749	Collector	Naglee Road	b/n Grant Line and Park and Ride	2016	25,362	4,847	420,853,585	-80.89%	26%	NO	19.11%
23	12628	12627	Arterial	Tracy Boulevard	N/O Kavanagh Ave	2016*	23,903	16,870	49,454,669	-29.42%	27%	NO	70.58%
24	12635	12644	Arterial	Tracy Boulevard	b/n Vallerand Dr and Grant Line	2016	22,109	7,342	218,073,886	-66.79%	27%	NO	33.21%
25	12628	12635	Arterial	Tracy Boulevard	b/n Clover Road and Grant Line Road	2016*	23,929	14,070	97,194,085	-41.20%	27%	NO	58.80%

Appendix B

Validation Results for City of Tracy Model

ID	A	B	Classification	Roadway	Location	Count Year	Traffic Count	Model Volumes	Squared Error	Percent Error	Caltrans Limit	Within Limit	% Diff
1	13043	30305	Collector	Corral Hollow Road	b/n Kavanagh Ave and Mall Entry	2016	11,220	9,474	3,049,228	-15.56%	35%	YES	84.44%
2	12705	13740	Arterial	Corral Hollow Road	b/n Linne Road and Peony Drive	2016	8,789	12,864	16,609,159	46.37%	39%	NO	146.37%
3	30117	12701	Collector	Corral Hollow Road	S/O Valpico	2016*	6,217	11,479	27,690,832	84.64%	44%	NO	184.64%
4	12700	13899	Arterial	Corral Hollow Road	N/O Valpico	2016*	18,329	11,411	47,854,484	-37.74%	29%	NO	62.26%
5	30245	12666	Arterial	Corral Hollow Road	S/O 11th St	2016*	28,190	25,369	7,962,282	-10.01%	26%	YES	89.99%
6	12665	16797	Arterial	Corral Hollow Road	N/O Byron	2016*	31,620	22,146	89,760,174	-29.96%	25%	NO	70.04%
7	12671	16179	Arterial	Eleventh Street	W/O Tracy Blvd	2016	27,849	18,914	79,828,327	-32.08%	26%	NO	67.92%
8	12666	13257	Arterial	Eleventh Street	E/O Corral Hollow Road	2016	31,531	19,722	139,449,068	-37.45%	25%	NO	62.55%
9	13732	30163	Arterial	Eleventh Street	b/n Corral Hollow Road and Lammers Road	2016	35,328	31,666	13,409,493	-10.37%	24%	YES	89.63%
10	15790	30314	Arterial	Eleventh Street	b/n Lammers Road and I205	2016*	25,441	30,285	23,467,841	19.04%	26%	YES	119.04%
11	12682	14083	Arterial	Eleventh Street	E/O Chrisman Road	2016*	27,869	25,796	4,298,481	-7.44%	26%	YES	92.56%
12	14479	12634	Local	Grant Line Road	W/O Corrall Hollow	2016*	29,369	29,774	163,710	1.38%	26%	YES	101.38%
13	30224	12635	Arterial	Grant Line Road	W/O Tracy Blvd	2016*	25,725	16,875	78,325,190	-34.40%	26%	NO	65.60%
14	12643	12247	Arterial	Grant Line Road	E/O MacArthur	2016*	10,719	7,689	9,179,508	-28.27%	36%	YES	71.73%
15	12638	12639	Arterial	Grant Line Road	b/n Tracy Blvd and MacAurthur	2016	12,420	10,195	4,949,506	-17.91%	33%	YES	82.09%
16	16188	30075	Collector	Hansen Road	S/O I-205 Overpass	2019	3,634	6,754	9,731,791	85.84%	60%	NO	185.84%
17	16220	16221	Arterial	Lammers Road	N/O SCHULTE	2016*	8,146	7,954	36,986	-2.36%	40%	YES	97.64%
18	13910	26587	Arterial	Lammers Road	N/O 11th St	2016*	6,646	4,234	5,813,996	-36.28%	43%	YES	63.72%
19	12703	30202	Collector	MacArthur Drive	b/n East Lake Dr and Valpiro Rd	2016	8,123	7,743	144,133	-4.67%	40%	YES	95.33%
20	12633	13555	Local	MacArthur Drive	b/n Pescadero Ave and I-205	2016	22,155	19,880	5,176,451	-10.27%	27%	YES	89.73%
21	30376	30377	Arterial	Mountain House Parkway	S/O Berkeley RD, N/O Schulte Rd	2016	19,018	30,016	120,964,102	57.83%	28%	NO	157.83%
22	13747	13749	Collector	Naglee Road	b/n Grant Line and Park and Ride	2016	25,362	16,527	78,061,047	-34.84%	26%	NO	65.16%
23	12628	12627	Arterial	Tracy Boulevard	N/O Kavanagh Ave	2016*	23,903	26,102	4,835,300	9.20%	27%	YES	109.20%
24	12635	12644	Arterial	Tracy Boulevard	b/n Vallerand Dr and Grant Line	2016	22,109	13,225	78,925,256	-40.18%	27%	NO	59.82%
25	12628	12635	Arterial	Tracy Boulevard	b/n Clover Road and Grant Line Road	2016*	23,929	18,908	25,207,729	-20.98%	27%	YES	79.02%

APPENDIX F

LEVEL OF SERVICE CALCULATION WORKSHEETS WITH CUT-THROUGH TRAFFIC AND NO PEAK SPREADING

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	70	0	10	0	1690	2410	0	1100	3440
Future Volume (veh/h)	0	0	0	70	0	10	0	1690	2410	0	1100	3440
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1781	1781	0	1781	1781	0	1781	1781
Adj Flow Rate, veh/h				70	0	0	0	1690	0	0	1100	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				8	8	8	0	8	8	0	8	8
Cap, veh/h				353	0		0	2876		0	5208	
Arrive On Green				0.07	0.00	0.00	0.00	1.00	0.00	0.00	0.85	0.00
Sat Flow, veh/h				5090	0	3019	0	3474	2657	0	6378	1510
Grp Volume(v), veh/h				70	0	0	0	1690	0	0	1100	0
Grp Sat Flow(s),veh/h/ln				1697	0	1510	0	1692	1329	0	1532	1510
Q Serve(g_s), s				1.6	0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.0
Cycle Q Clear(g_c), s				1.6	0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				353	0		0	2876		0	5208	
V/C Ratio(X)				0.20	0.00		0.00	0.59		0.00	0.21	
Avail Cap(c_a), veh/h				386	0		0	2876		0	5208	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	0.09	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				52.7	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0
Incr Delay (d2), s/veh				0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				52.9	0.0	0.0	0.0	0.1	0.0	0.0	1.7	0.0
LnGrp LOS				D	A		A	A		A	A	
Approach Vol, veh/h					70	A		1690	A		1100	A
Approach Delay, s/veh					52.9			0.1			1.7	
Approach LOS					D			A			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		107.7				107.7		12.3				
Change Period (Y+Rc), s		5.7				5.7		5.1				
Max Green Setting (Gmax), s		101.2				101.2		8.0				
Max Q Clear Time (g_c+I1), s		2.0				5.9		3.6				
Green Ext Time (p_c), s		11.5				5.4		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	2.0
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1390	0	1180	0	0	0	0	2710	500	0	1160	20
Future Volume (veh/h)	1390	0	1180	0	0	0	0	2710	500	0	1160	20
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781				0	1781	1781	0	1781	1781
Adj Flow Rate, veh/h	1757	0	787				0	2710	0	0	1160	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8				0	8	8	0	8	8
Cap, veh/h	1496	0	666				0	2282		0	2282	
Arrive On Green	0.44	0.00	0.44				0.00	0.47	0.00	0.00	0.47	0.00
Sat Flow, veh/h	3393	0	1510				0	5024	2657	0	5024	1510
Grp Volume(v), veh/h	1757	0	787				0	2710	0	0	1160	0
Grp Sat Flow(s),veh/h/ln	1697	0	1510				0	1621	1329	0	1621	1510
Q Serve(g_s), s	52.9	0.0	52.9				0.0	56.3	0.0	0.0	20.0	0.0
Cycle Q Clear(g_c), s	52.9	0.0	52.9				0.0	56.3	0.0	0.0	20.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	1496	0	666				0	2282		0	2282	
V/C Ratio(X)	1.17	0.00	1.18				0.00	1.19		0.00	0.51	
Avail Cap(c_a), veh/h	1496	0	666				0	2282		0	2282	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.99	0.00
Uniform Delay (d), s/veh	33.6	0.0	33.5				0.0	31.8	0.0	0.0	22.2	0.0
Incr Delay (d2), s/veh	86.0	0.0	97.0				0.0	89.2	0.0	0.0	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	38.9	0.0	36.7				0.0	39.1	0.0	0.0	7.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	119.5	0.0	130.5				0.0	121.0	0.0	0.0	23.0	0.0
LnGrp LOS	F	A	F				A	F		A	C	
Approach Vol, veh/h		2544						2710	A		1160	A
Approach Delay, s/veh		122.9						121.0			23.0	
Approach LOS		F						F			C	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	62.0	58.0	62.0
Change Period (Y+Rc), s	5.7	5.1	5.7
Max Green Setting (Gmax), s	56.3	52.9	56.3
Max Q Clear Time (g_c+I1), s	58.3	54.9	22.0
Green Ext Time (p_c), s	0.0	0.0	5.7

Intersection Summary	
HCM 6th Ctrl Delay	104.1
HCM 6th LOS	F

Notes
User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	140	10	50	390	1000	260	1960	50	660	930	10
Future Volume (veh/h)	20	140	10	50	390	1000	260	1960	50	660	930	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	20	140	10	50	390	1000	260	1960	50	660	930	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	28	732	52	78	874	1196	598	1948	674	631	1165	386
Arrive On Green	0.02	0.23	0.23	0.05	0.26	0.26	0.71	0.80	0.80	0.19	0.24	0.24
Sat Flow, veh/h	1697	3206	227	1697	3385	2657	1697	4863	1510	3291	4863	1510
Grp Volume(v), veh/h	20	73	77	50	390	1000	260	1960	50	660	930	10
Grp Sat Flow(s),veh/h/ln	1697	1692	1741	1697	1692	1329	1697	1621	1510	1646	1621	1510
Q Serve(g_s), s	1.4	4.2	4.3	3.5	11.6	31.0	7.8	48.1	0.8	23.0	21.6	0.2
Cycle Q Clear(g_c), s	1.4	4.2	4.3	3.5	11.6	31.0	7.8	48.1	0.8	23.0	21.6	0.2
Prop In Lane	1.00		0.13	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	28	387	398	78	874	1196	598	1948	674	631	1165	386
V/C Ratio(X)	0.73	0.19	0.19	0.64	0.45	0.84	0.43	1.01	0.07	1.05	0.80	0.03
Avail Cap(c_a), veh/h	71	387	398	254	874	1196	598	1948	674	631	1540	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	0.77	0.77	0.77	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.8	37.3	37.4	56.2	37.3	29.1	12.6	11.9	6.2	48.5	42.9	14.1
Incr Delay (d2), s/veh	30.2	0.2	0.2	0.8	0.0	0.5	0.4	19.5	0.2	48.5	5.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.8	1.9	1.5	4.8	12.5	2.4	7.6	0.3	13.4	9.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.9	37.6	37.6	57.0	37.3	29.6	13.0	31.4	6.3	97.0	48.7	14.3
LnGrp LOS	F	D	D	E	D	C	B	F	A	F	D	B
Approach Vol, veh/h		170			1440			2270			1600	
Approach Delay, s/veh		43.6			32.7			28.7			68.4	
Approach LOS		D			C			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.0	52.1	9.5	31.4	46.3	32.7	5.9	35.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	23.0	45.0	18.0	18.0	30.0	38.0	5.0	31.0
Max Q Clear Time (g_c+I1), s	25.0	50.1	5.5	6.3	9.8	23.6	3.4	33.0
Green Ext Time (p_c), s	0.0	0.0	0.1	0.5	0.7	5.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	41.8
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	60	110	110	330	580	280	610	220	10	870	10
Future Volume (veh/h)	10	60	110	110	330	580	280	610	220	10	870	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	60	110	110	330	580	280	610	220	10	870	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	20	416	352	133	534	453	396	1776	792	16	966	431
Arrive On Green	0.01	0.23	0.23	0.08	0.30	0.30	0.23	0.52	0.52	0.01	0.29	0.29
Sat Flow, veh/h	1697	1781	1510	1697	1781	1510	1697	3385	1510	1697	3385	1510
Grp Volume(v), veh/h	10	60	110	110	330	580	280	610	220	10	870	10
Grp Sat Flow(s),veh/h/ln	1697	1781	1510	1697	1781	1510	1697	1692	1510	1697	1692	1510
Q Serve(g_s), s	0.7	3.2	7.2	7.7	19.1	36.0	18.2	12.5	7.7	0.7	29.7	0.4
Cycle Q Clear(g_c), s	0.7	3.2	7.2	7.7	19.1	36.0	18.2	12.5	7.7	0.7	29.7	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	20	416	352	133	534	453	396	1776	792	16	966	431
V/C Ratio(X)	0.50	0.14	0.31	0.83	0.62	1.28	0.71	0.34	0.28	0.62	0.90	0.02
Avail Cap(c_a), veh/h	71	450	381	141	534	453	396	1776	792	57	1049	468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.12	0.12	0.12	0.57	0.57	0.57	0.81	0.81	0.81
Uniform Delay (d), s/veh	58.9	36.5	38.0	54.5	36.1	42.0	42.2	16.5	9.9	59.2	41.2	18.6
Incr Delay (d2), s/veh	17.9	0.2	0.5	4.7	0.3	128.4	3.3	0.3	0.5	28.0	11.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.4	2.7	3.4	8.0	29.0	7.7	4.6	3.1	0.4	13.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.8	36.7	38.5	59.2	36.3	170.4	45.5	16.8	10.4	87.2	52.2	18.6
LnGrp LOS	E	D	D	E	D	F	D	B	B	F	D	B
Approach Vol, veh/h		180			1020			1110			890	
Approach Delay, s/veh		40.0			115.0			22.8			52.2	
Approach LOS		D			F			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.8	40.0	13.4	32.7	5.1	68.7	6.1	40.0				
Change Period (Y+Rc), s	5.8	* 5.8	4.0	* 4.7	4.0	5.8	4.7	* 4				
Max Green Setting (Gmax), s	24.0	* 37	10.0	* 30	4.0	57.2	5.0	* 36				
Max Q Clear Time (g_c+I1), s	20.2	31.7	9.7	9.2	2.7	14.5	2.7	38.0				
Green Ext Time (p_c), s	0.3	2.6	0.0	0.6	0.0	5.1	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			61.4									
HCM 6th LOS			E									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	30	220	1140	80	290	70	820	600	100	920	30
Future Volume (veh/h)	30	30	220	1140	80	290	70	820	600	100	920	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1125	1688	1406	938	1688	1406	1125	1688	1406	1125	1688	1406
Adj Flow Rate, veh/h	30	30	220	1140	80	290	70	820	600	100	920	30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	69	157	187	935	675	552	69	875	1351	131	870	400
Arrive On Green	0.06	0.09	0.09	0.37	0.40	0.40	0.06	0.27	0.27	0.06	0.27	0.27
Sat Flow, veh/h	1072	1688	1192	2518	1688	1192	1072	3207	2098	2079	3207	1192
Grp Volume(v), veh/h	30	30	220	1140	80	290	70	820	600	100	920	30
Grp Sat Flow(s),veh/h/ln	1072	1688	1192	839	1688	1192	1072	1603	1049	1039	1603	1192
Q Serve(g_s), s	3.8	2.3	13.0	52.0	4.2	24.2	9.0	35.0	20.0	6.6	38.0	2.4
Cycle Q Clear(g_c), s	3.8	2.3	13.0	52.0	4.2	24.2	9.0	35.0	20.0	6.6	38.0	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	69	157	187	935	675	552	69	875	1351	131	870	400
V/C Ratio(X)	0.44	0.19	1.17	1.22	0.12	0.53	1.02	0.94	0.44	0.76	1.06	0.07
Avail Cap(c_a), veh/h	398	157	187	935	675	552	69	875	1351	134	870	400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.1	58.6	59.0	44.0	26.5	26.7	65.5	49.7	12.4	64.6	51.0	31.7
Incr Delay (d2), s/veh	4.3	0.6	120.7	108.2	0.1	0.9	113.0	17.3	0.2	22.3	46.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.0	12.8	19.7	1.7	6.8	4.6	15.7	4.4	2.1	20.4	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.3	59.2	179.7	152.2	26.5	27.6	178.5	67.0	12.6	86.8	97.7	31.8
LnGrp LOS	E	E	F	F	C	C	F	E	B	F	F	C
Approach Vol, veh/h		280			1510			1490			1050	
Approach Delay, s/veh		154.7			121.6			50.4			94.8	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.8	45.2	59.0	20.0	16.0	45.0	16.0	63.0
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	9.0	38.0	52.0	13.0	9.0	38.0	52.0	13.0
Max Q Clear Time (g_c+I1), s	8.6	37.0	54.0	15.0	11.0	40.0	5.8	26.2
Green Ext Time (p_c), s	0.0	0.7	0.0	0.0	0.0	0.0	0.1	0.0

Intersection Summary		
HCM 6th Ctrl Delay		92.7
HCM 6th LOS		F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1060	0	0	0	0	0	0	0	0	490	0
Future Volume (veh/h)	0	1060	0	0	0	0	0	0	0	0	490	0
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Work Zone On Approach		No									No	
Adj Sat Flow, veh/h/ln	0	1781	0							0	1781	0
Adj Flow Rate, veh/h	0	1060	0							0	490	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	8	0							0	8	0
Cap, veh/h	0	1698	0							0	946	0
Arrive On Green	0.00	0.50	0.00							0.00	0.28	0.00
Sat Flow, veh/h	0	3563	0							0	3563	0
Grp Volume(v), veh/h	0	1060	0							0	490	0
Grp Sat Flow(s),veh/h/ln	0	1692	0							0	1692	0
Q Serve(g_s), s	0.0	8.3	0.0							0.0	4.5	0.0
Cycle Q Clear(g_c), s	0.0	8.3	0.0							0.0	4.5	0.0
Prop In Lane	0.00		0.00							0.00		0.00
Lane Grp Cap(c), veh/h	0	1698	0							0	946	0
V/C Ratio(X)	0.00	0.62	0.00							0.00	0.52	0.00
Avail Cap(c_a), veh/h	0	2873	0							0	7508	0
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00							0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	6.6	0.0							0.0	11.1	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0							0.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.8	0.0							0.0	1.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	7.0	0.0							0.0	11.5	0.0
LnGrp LOS	A	A	A							A	B	A
Approach Vol, veh/h		1060									490	
Approach Delay, s/veh		7.0									11.5	
Approach LOS		A									B	
Timer - Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		22.3						14.2				
Change Period (Y+Rc), s		4.0						4.0				
Max Green Setting (Gmax), s		31.0						81.0				
Max Q Clear Time (g_c+I1), s		10.3						6.5				
Green Ext Time (p_c), s		8.0						3.8				
Intersection Summary												
HCM 6th Ctrl Delay			8.4									
HCM 6th LOS			A									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	40	0	0	0	0	0	40	0
Future Volume (veh/h)	0	0	0	0	40	0	0	0	0	0	40	0
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach					No						No	
Adj Sat Flow, veh/h/ln				0	1781	0				0	1781	0
Adj Flow Rate, veh/h				0	40	0				0	40	0
Peak Hour Factor				1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %				0	8	0				0	8	0
Cap, veh/h				0	1081	0				0	140	0
Arrive On Green				0.00	0.32	0.00				0.00	0.04	0.00
Sat Flow, veh/h				0	3563	0				0	3563	0
Grp Volume(v), veh/h				0	40	0				0	40	0
Grp Sat Flow(s),veh/h/ln				0	1692	0				0	1692	0
Q Serve(g_s), s				0.0	0.1	0.0				0.0	0.1	0.0
Cycle Q Clear(g_c), s				0.0	0.1	0.0				0.0	0.1	0.0
Prop In Lane				0.00		0.00				0.00		0.00
Lane Grp Cap(c), veh/h				0	1081	0				0	140	0
V/C Ratio(X)				0.00	0.04	0.00				0.00	0.28	0.00
Avail Cap(c_a), veh/h				0	15140	0				0	15140	0
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.00	1.00	0.00				0.00	1.00	0.00
Uniform Delay (d), s/veh				0.0	2.9	0.0				0.0	5.8	0.0
Incr Delay (d2), s/veh				0.0	0.0	0.0				0.0	1.1	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	0.0	0.0				0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	2.9	0.0				0.0	6.9	0.0
LnGrp LOS				A	A	A				A	A	A
Approach Vol, veh/h					40						40	
Approach Delay, s/veh					2.9						6.9	
Approach LOS					A						A	

Timer - Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		8.0						4.5				
Change Period (Y+Rc), s		4.0						4.0				
Max Green Setting (Gmax), s		56.0						56.0				
Max Q Clear Time (g_c+I1), s		2.1						2.1				
Green Ext Time (p_c), s		0.2						0.2				

Intersection Summary			
HCM 6th Ctrl Delay			4.9
HCM 6th LOS			A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	500	20	630	1670	10	150	140	320	20	530	450
Future Volume (veh/h)	150	500	20	630	1670	10	150	140	320	20	530	450
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	150	500	0	630	1670	10	150	140	0	20	530	450
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	141	1103		710	1551	716	137	550		28	505	554
Arrive On Green	0.08	0.33	0.00	0.22	0.46	0.46	0.04	0.31	0.00	0.02	0.28	0.28
Sat Flow, veh/h	1697	3385	1510	3291	3385	1510	3291	1781	1510	1697	1781	1510
Grp Volume(v), veh/h	150	500	0	630	1670	10	150	140	0	20	530	450
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1646	1692	1510	1646	1781	1510	1697	1781	1510
Q Serve(g_s), s	10.0	14.0	0.0	22.3	55.0	0.4	5.0	7.1	0.0	1.4	34.0	32.3
Cycle Q Clear(g_c), s	10.0	14.0	0.0	22.3	55.0	0.4	5.0	7.1	0.0	1.4	34.0	32.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	1103		710	1551	716	137	550		28	505	554
V/C Ratio(X)	1.06	0.45		0.89	1.08	0.01	1.09	0.25		0.73	1.05	0.81
Avail Cap(c_a), veh/h	141	1103		878	1551	716	137	550		71	505	554
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	32.0	0.0	45.7	32.5	16.7	57.5	31.1	0.0	58.8	43.0	34.3
Incr Delay (d2), s/veh	92.9	0.3	0.0	9.4	46.5	0.0	104.2	0.2	0.0	30.2	53.8	9.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	5.8	0.0	10.0	31.7	0.1	4.0	3.0	0.0	0.8	21.9	13.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	147.9	32.3	0.0	55.1	79.0	16.7	161.7	31.4	0.0	88.9	96.8	43.3
LnGrp LOS	F	C		E	F	B	F	C		F	F	D
Approach Vol, veh/h		650	A		2310			290	A		1000	
Approach Delay, s/veh		58.9			72.2			98.8			72.6	
Approach LOS		E			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	41.1	29.9	43.1	9.0	38.0	14.0	59.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	34.0	32.0	33.0	5.0	34.0	10.0	55.0
Max Q Clear Time (g_c+I1), s	3.4	9.1	24.3	16.0	7.0	36.0	12.0	57.0
Green Ext Time (p_c), s	0.0	0.6	1.6	3.1	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	72.1
HCM 6th LOS	E

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	140	10	390	1750	120	90	460	20	50	880	180
Future Volume (veh/h)	70	140	10	390	1750	120	90	460	20	50	880	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	70	140	10	390	1750	120	90	460	20	50	880	180
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	71	1017	453	413	1701	759	85	895	399	63	852	379
Arrive On Green	0.04	0.30	0.30	0.24	0.50	0.50	0.05	0.26	0.26	0.04	0.25	0.25
Sat Flow, veh/h	1697	3385	1508	1697	3385	1510	1697	3385	1508	1697	3385	1508
Grp Volume(v), veh/h	70	140	10	390	1750	120	90	460	20	50	880	180
Grp Sat Flow(s),veh/h/ln	1697	1692	1508	1697	1692	1510	1697	1692	1508	1697	1692	1508
Q Serve(g_s), s	4.9	3.6	0.6	27.1	60.3	5.2	6.0	13.9	1.2	3.5	30.2	12.2
Cycle Q Clear(g_c), s	4.9	3.6	0.6	27.1	60.3	5.2	6.0	13.9	1.2	3.5	30.2	12.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	71	1017	453	413	1701	759	85	895	399	63	852	379
V/C Ratio(X)	0.99	0.14	0.02	0.94	1.03	0.16	1.06	0.51	0.05	0.79	1.03	0.47
Avail Cap(c_a), veh/h	71	1017	453	424	1701	759	85	895	399	85	852	379
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	30.6	29.5	44.6	29.9	16.1	57.0	37.6	32.9	57.3	44.9	38.2
Incr Delay (d2), s/veh	103.5	0.1	0.0	29.5	29.6	0.1	115.3	0.5	0.1	29.3	39.7	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	1.5	0.2	14.3	29.2	1.7	5.2	5.6	0.4	2.0	16.9	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	161.0	30.7	29.6	74.1	59.4	16.2	172.3	38.1	33.0	86.6	84.6	39.1
LnGrp LOS	F	C	C	E	F	B	F	D	C	F	F	D
Approach Vol, veh/h		220			2260			570			1110	
Approach Delay, s/veh		72.1			59.7			59.1			77.3	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.2	40.8	8.5	37.5	9.0	65.0	10.0	36.0
Change Period (Y+Rc), s	4.0	* 4.7	4.0	5.8	4.0	* 4.7	4.0	5.8
Max Green Setting (Gmax), s	30.0	* 35	6.0	30.2	5.0	* 60	6.0	30.2
Max Q Clear Time (g_c+I1), s	29.1	5.6	5.5	15.9	6.9	62.3	8.0	32.2
Green Ext Time (p_c), s	0.1	0.8	0.0	2.4	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	64.9
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	470	70	340	1090	240	370	610	70	10	480	680
Future Volume (veh/h)	250	470	70	340	1090	240	370	610	70	10	480	680
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	250	470	70	340	1090	240	370	610	70	10	480	680
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	305	593	429	748	1049	732	358	745	676	297	970	572
Arrive On Green	0.09	0.18	0.18	0.23	0.31	0.31	0.11	0.22	0.22	0.17	0.29	0.29
Sat Flow, veh/h	3291	3385	1510	3291	3385	1510	3291	3385	1510	1697	3385	1510
Grp Volume(v), veh/h	250	470	70	340	1090	240	370	610	70	10	480	680
Grp Sat Flow(s),veh/h/ln	1646	1692	1510	1646	1692	1510	1646	1692	1510	1697	1692	1510
Q Serve(g_s), s	8.9	15.8	1.9	10.6	36.8	3.3	12.9	20.4	0.0	0.6	14.0	34.0
Cycle Q Clear(g_c), s	8.9	15.8	1.9	10.6	36.8	3.3	12.9	20.4	0.0	0.6	14.0	34.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	305	593	429	748	1049	732	358	745	676	297	970	572
V/C Ratio(X)	0.82	0.79	0.16	0.45	1.04	0.33	1.03	0.82	0.10	0.03	0.50	1.19
Avail Cap(c_a), veh/h	341	941	584	748	1049	732	358	1038	806	297	970	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.9	46.9	11.8	39.5	40.9	6.5	52.9	44.0	19.0	40.6	35.2	36.9
Incr Delay (d2), s/veh	13.4	3.4	0.3	0.4	38.3	0.4	56.7	4.4	0.1	0.0	0.6	101.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	6.7	0.8	4.2	20.2	1.6	8.0	8.7	1.1	0.2	5.7	31.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.3	50.3	12.1	39.9	79.3	6.9	109.6	48.5	19.1	40.7	35.8	138.1
LnGrp LOS	E	D	B	D	F	A	F	D	B	D	D	F
Approach Vol, veh/h		790			1670			1050			1170	
Approach Delay, s/veh		52.0			60.9			68.1			95.3	
Approach LOS		D			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.5	27.3	26.3	31.6	17.5	43.3	18.4	39.5
Change Period (Y+Rc), s	6.5	6.5	5.5	5.5	6.5	6.5	5.5	5.5
Max Green Setting (Gmax), s	16.1	33.0	10.5	36.4	12.3	36.8	12.9	34.0
Max Q Clear Time (g_c+I1), s	12.6	17.8	2.6	22.4	10.9	38.8	14.9	36.0
Green Ext Time (p_c), s	0.5	3.0	0.0	3.8	0.1	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	69.6
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	740	40	760	1510	10	180	110	530	10	360	320
Future Volume (veh/h)	10	740	40	760	1510	10	180	110	530	10	360	320
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	740	40	760	1510	10	180	110	530	10	360	320
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	16	796	398	725	2827	892	170	860	1029	16	554	261
Arrive On Green	0.01	0.16	0.16	0.43	0.58	0.58	0.10	0.25	0.25	0.01	0.16	0.16
Sat Flow, veh/h	1697	4863	1510	1697	4863	1510	1697	3385	1510	1697	3385	1510
Grp Volume(v), veh/h	10	740	40	760	1510	10	180	110	530	10	360	320
Grp Sat Flow(s),veh/h/ln	1697	1621	1510	1697	1621	1510	1697	1692	1510	1697	1692	1510
Q Serve(g_s), s	0.6	16.5	2.2	47.0	20.7	0.3	11.0	2.8	19.0	0.6	10.9	18.0
Cycle Q Clear(g_c), s	0.6	16.5	2.2	47.0	20.7	0.3	11.0	2.8	19.0	0.6	10.9	18.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	16	796	398	725	2827	892	170	860	1029	16	554	261
V/C Ratio(X)	0.62	0.93	0.10	1.05	0.53	0.01	1.06	0.13	0.52	0.62	0.65	1.22
Avail Cap(c_a), veh/h	278	796	398	725	2827	892	170	860	1029	62	554	261
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.3	45.4	30.6	31.5	14.0	9.3	49.5	31.6	8.6	54.3	43.1	45.5
Incr Delay (d2), s/veh	32.3	17.3	0.1	46.8	0.2	0.0	86.2	0.1	0.4	32.3	2.7	129.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	7.9	0.8	27.9	7.3	0.1	8.7	1.1	5.7	0.4	4.8	16.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.6	62.6	30.7	78.3	14.2	9.3	135.7	31.7	9.1	86.6	45.7	175.3
LnGrp LOS	F	E	C	F	B	A	F	C	A	F	D	F
Approach Vol, veh/h		790			2280			820			690	
Approach Delay, s/veh		61.3			35.5			39.9			106.4	
Approach LOS		E			D			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.1	31.9	51.0	22.0	15.0	22.0	5.1	67.9				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	4.0	25.0	47.0	18.0	11.0	18.0	18.0	47.0				
Max Q Clear Time (g_c+I1), s	2.6	21.0	49.0	18.5	13.0	20.0	2.6	22.7				
Green Ext Time (p_c), s	0.0	1.1	0.0	0.0	0.0	0.0	0.0	12.8				
Intersection Summary												
HCM 6th Ctrl Delay			51.4									
HCM 6th LOS			D									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	130	10	620	1730	10	320	480	170	10	1240	490
Future Volume (veh/h)	130	130	10	620	1730	10	320	480	170	10	1240	490
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	130	130	10	620	1730	10	320	480	170	10	1240	490
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	99	747	522	700	1269	580	212	1435	961	16	1044	554
Arrive On Green	0.06	0.22	0.22	0.21	0.38	0.38	0.13	0.42	0.42	0.01	0.31	0.31
Sat Flow, veh/h	1697	3385	1510	3291	3385	1510	1697	3385	1510	1697	3385	1510
Grp Volume(v), veh/h	130	130	10	620	1730	10	320	480	170	10	1240	490
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1646	1692	1510	1697	1692	1510	1697	1692	1510
Q Serve(g_s), s	7.0	3.7	0.5	21.9	45.0	0.5	15.0	11.4	5.5	0.7	37.0	36.5
Cycle Q Clear(g_c), s	7.0	3.7	0.5	21.9	45.0	0.5	15.0	11.4	5.5	0.7	37.0	36.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	99	747	522	700	1269	580	212	1435	961	16	1044	554
V/C Ratio(X)	1.31	0.17	0.02	0.89	1.36	0.02	1.51	0.33	0.18	0.62	1.19	0.89
Avail Cap(c_a), veh/h	99	747	522	878	1269	580	212	1435	961	57	1044	554
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	37.9	25.9	45.8	37.5	22.9	52.5	23.2	8.9	59.2	41.5	35.6
Incr Delay (d2), s/veh	196.0	0.1	0.0	9.1	168.5	0.0	251.9	0.1	0.1	33.6	94.4	15.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	1.6	0.2	9.8	47.9	0.2	21.2	4.6	1.8	0.5	28.9	15.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	252.5	38.0	25.9	54.9	206.0	22.9	304.4	23.3	9.0	92.8	135.9	51.4
LnGrp LOS	F	D	C	D	F	C	F	C	A	F	F	D
Approach Vol, veh/h		270			2360			970			1740	
Approach Delay, s/veh		140.8			165.5			113.5			111.9	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	54.9	29.5	30.5	19.0	41.0	11.0	49.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	48.0	32.0	20.0	15.0	37.0	7.0	45.0
Max Q Clear Time (g_c+I1), s	2.7	13.4	23.9	5.7	17.0	39.0	9.0	47.0
Green Ext Time (p_c), s	0.0	4.2	1.6	0.6	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	137.4
HCM 6th LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	350	100	30	140	1050	180	430	740	30	30	760	230
Future Volume (veh/h)	350	100	30	140	1050	180	430	740	30	30	760	230
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	350	100	30	140	1050	180	430	740	30	30	760	230
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	329	1010	451	172	1015	453	402	1547	63	280	768	232
Arrive On Green	0.10	0.30	0.30	0.10	0.30	0.30	0.12	0.47	0.47	0.30	0.30	0.30
Sat Flow, veh/h	3291	3385	1510	1697	3385	1510	3291	3315	134	666	2560	775
Grp Volume(v), veh/h	350	100	30	140	1050	180	430	378	392	30	502	488
Grp Sat Flow(s),veh/h/ln	1646	1692	1510	1697	1692	1510	1646	1692	1757	666	1692	1642
Q Serve(g_s), s	9.0	1.9	1.3	7.3	27.0	8.5	11.0	13.8	13.8	3.0	26.6	26.6
Cycle Q Clear(g_c), s	9.0	1.9	1.3	7.3	27.0	8.5	11.0	13.8	13.8	3.0	26.6	26.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.08	1.00		0.47
Lane Grp Cap(c), veh/h	329	1010	451	172	1015	453	402	790	820	280	508	493
V/C Ratio(X)	1.06	0.10	0.07	0.81	1.03	0.40	1.07	0.48	0.48	0.11	0.99	0.99
Avail Cap(c_a), veh/h	329	1010	451	283	1015	453	402	790	820	280	508	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.5	22.8	22.6	39.6	31.5	25.0	39.5	16.5	16.5	23.1	31.4	31.4
Incr Delay (d2), s/veh	67.4	0.0	0.1	8.9	37.4	0.6	64.4	0.5	0.4	0.2	37.2	37.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	0.7	0.4	3.3	15.4	2.9	8.0	5.2	5.4	0.5	15.7	15.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	107.9	22.9	22.7	48.5	68.9	25.6	103.9	16.9	16.9	23.3	68.5	69.1
LnGrp LOS	F	C	C	D	F	C	F	B	B	C	E	E
Approach Vol, veh/h		480			1370			1200			1020	
Approach Delay, s/veh		84.8			61.1			48.1			67.5	
Approach LOS		F			E			D			E	

Timer - Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		46.0	13.1	30.9	15.0	31.0	13.0	31.0
Change Period (Y+Rc), s		4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s		42.0	15.0	21.0	11.0	27.0	9.0	27.0
Max Q Clear Time (g_c+I1), s		15.8	9.3	3.9	13.0	28.6	11.0	29.0
Green Ext Time (p_c), s		5.3	0.1	0.5	0.0	0.0	0.0	0.0

Intersection Summary			
HCM 6th Ctrl Delay			61.7
HCM 6th LOS			E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	170	20	610	720	310	530	850	40	50	870	10
Future Volume (veh/h)	50	170	20	610	720	310	530	850	40	50	870	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	50	170	20	610	720	310	530	850	40	50	870	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	58	233	197	564	764	648	477	1198	534	79	865	386
Arrive On Green	0.03	0.13	0.13	0.33	0.43	0.43	0.14	0.35	0.35	0.05	0.26	0.26
Sat Flow, veh/h	1697	1781	1510	1697	1781	1510	3291	3385	1510	1697	3385	1510
Grp Volume(v), veh/h	50	170	20	610	720	310	530	850	40	50	870	10
Grp Sat Flow(s),veh/h/ln	1697	1781	1510	1697	1781	1510	1646	1692	1510	1697	1692	1510
Q Serve(g_s), s	3.4	10.8	1.4	39.0	45.4	17.3	17.0	25.4	2.1	3.4	30.0	0.6
Cycle Q Clear(g_c), s	3.4	10.8	1.4	39.0	45.4	17.3	17.0	25.4	2.1	3.4	30.0	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	58	233	197	564	764	648	477	1198	534	79	865	386
V/C Ratio(X)	0.86	0.73	0.10	1.08	0.94	0.48	1.11	0.71	0.07	0.63	1.01	0.03
Avail Cap(c_a), veh/h	58	273	232	564	805	682	477	1198	534	260	865	386
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.4	49.0	44.9	39.2	32.1	24.1	50.2	32.7	25.2	55.0	43.7	32.7
Incr Delay (d2), s/veh	71.8	8.0	0.2	61.9	18.6	0.5	75.3	2.0	0.1	8.1	31.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	5.3	0.5	25.6	22.9	6.2	12.0	10.6	0.8	1.6	16.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	128.2	57.0	45.1	101.1	50.7	24.6	125.4	34.7	25.2	63.1	75.6	32.8
LnGrp LOS	F	E	D	F	D	C	F	C	C	E	F	C
Approach Vol, veh/h		240			1640			1420			930	
Approach Delay, s/veh		70.8			64.5			68.3			74.5	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	45.5	43.0	19.3	21.0	34.0	8.0	54.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	18.0	29.0	39.0	18.0	17.0	30.0	4.0	53.0
Max Q Clear Time (g_c+I1), s	5.4	27.4	41.0	12.8	19.0	32.0	5.4	47.4
Green Ext Time (p_c), s	0.1	0.9	0.0	0.4	0.0	0.0	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	68.3
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1040	520	10	10	2310	140	70	410	10	170	120	930
Future Volume (veh/h)	1040	520	10	10	2310	140	70	410	10	170	120	930
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	1040	520	10	10	2310	140	70	410	10	170	120	930
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	709	750	312	718	1760	761	89	481	12	242	787	1190
Arrive On Green	0.22	0.15	0.15	0.42	0.36	0.36	0.05	0.14	0.14	0.14	0.23	0.23
Sat Flow, veh/h	3291	4863	1510	1697	4863	1510	1697	3377	82	1697	3385	2657
Grp Volume(v), veh/h	1040	520	10	10	2310	140	70	205	215	170	120	930
Grp Sat Flow(s),veh/h/ln	1646	1621	1510	1697	1621	1510	1697	1692	1767	1697	1692	1329
Q Serve(g_s), s	25.0	11.8	0.2	0.4	42.0	3.0	4.7	13.7	13.8	11.1	3.3	27.0
Cycle Q Clear(g_c), s	25.0	11.8	0.2	0.4	42.0	3.0	4.7	13.7	13.8	11.1	3.3	27.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	709	750	312	718	1760	761	89	241	252	242	787	1190
V/C Ratio(X)	1.47	0.69	0.03	0.01	1.31	0.18	0.79	0.85	0.85	0.70	0.15	0.78
Avail Cap(c_a), veh/h	709	2640	898	718	1760	761	146	277	289	263	787	1190
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.5	46.5	16.4	19.4	37.0	6.0	54.4	48.6	48.6	47.4	35.4	27.2
Incr Delay (d2), s/veh	217.8	1.2	0.0	0.0	144.8	0.1	14.4	19.6	19.2	7.5	0.1	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	31.6	4.8	0.1	0.2	39.9	1.1	2.4	7.1	7.4	5.2	1.4	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	263.3	47.6	16.4	19.4	181.8	6.1	68.7	68.2	67.8	54.9	35.5	30.6
LnGrp LOS	F	D	B	B	F	A	E	E	E	D	D	C
Approach Vol, veh/h		1570			2460			490			1220	
Approach Delay, s/veh		190.3			171.2			68.1			34.5	
Approach LOS		F			F			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.5	20.5	53.1	21.9	10.1	31.0	29.0	46.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	18.0	19.0	4.0	63.0	10.0	27.0	25.0	42.0
Max Q Clear Time (g_c+I1), s	13.1	15.8	2.4	13.8	6.7	29.0	27.0	44.0
Green Ext Time (p_c), s	0.2	0.8	0.0	4.2	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	138.6
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	570	290	10	10	940	690	10	20	10	210	20	1780
Future Volume (veh/h)	570	290	10	10	940	690	10	20	10	210	20	1780
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	570	290	10	10	940	690	10	20	10	210	20	1780
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	718	1645	56	16	973	1031	353	75	35	1590	1044	1218
Arrive On Green	0.15	0.34	0.34	0.01	0.20	0.20	0.21	0.03	0.03	0.48	0.31	0.31
Sat Flow, veh/h	4784	4829	165	1697	4863	1510	1697	2247	1040	3291	3385	2657
Grp Volume(v), veh/h	570	194	106	10	940	690	10	15	15	210	20	1780
Grp Sat Flow(s),veh/h/ln	1595	1621	1752	1697	1621	1510	1697	1692	1594	1646	1692	1329
Q Serve(g_s), s	13.8	5.0	5.1	0.7	23.0	0.0	0.6	1.0	1.1	4.2	0.5	37.0
Cycle Q Clear(g_c), s	13.8	5.0	5.1	0.7	23.0	0.0	0.6	1.0	1.1	4.2	0.5	37.0
Prop In Lane	1.00		0.09	1.00		1.00	1.00		0.65	1.00		1.00
Lane Grp Cap(c), veh/h	718	1105	597	16	973	1031	353	56	53	1590	1044	1218
V/C Ratio(X)	0.79	0.18	0.18	0.62	0.97	0.67	0.03	0.26	0.29	0.13	0.02	1.46
Avail Cap(c_a), veh/h	1555	1594	861	57	973	1031	353	282	266	1590	1044	1218
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.44	0.44	0.44
Uniform Delay (d), s/veh	49.2	27.7	27.8	59.2	47.6	11.1	37.8	56.6	56.6	17.1	28.9	32.5
Incr Delay (d2), s/veh	1.9	0.1	0.1	33.6	21.1	1.7	0.0	10.9	13.2	0.0	0.0	209.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	2.0	2.2	0.5	11.1	10.3	0.2	0.6	0.6	1.6	0.2	45.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.1	27.8	27.9	92.8	68.7	12.8	37.9	67.4	69.8	17.1	28.9	242.1
LnGrp LOS	D	C	C	F	E	B	D	E	E	B	C	F
Approach Vol, veh/h		870			1640			40			2010	
Approach Delay, s/veh		43.1			45.3			60.9			216.4	
Approach LOS		D			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	62.0	8.0	5.1	44.9	29.0	41.0	22.0	28.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	21.0	20.0	4.0	59.0	4.0	37.0	39.0	24.0
Max Q Clear Time (g_c+I1), s	16.2	3.1	2.7	7.1	2.6	39.0	15.8	25.0
Green Ext Time (p_c), s	0.6	0.1	0.0	2.1	0.0	0.0	2.2	0.0

Intersection Summary		
HCM 6th Ctrl Delay		120.5
HCM 6th LOS		F

Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	10	800	840	10	60	190		
Future Volume (veh/h)	10	800	840	10	60	190		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach	No		No			No		
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781		
Adj Flow Rate, veh/h	10	0	840	10	60	190		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	8	8	8	8	8	8		
Cap, veh/h	18		1096	929	84	1377		
Arrive On Green	0.01	0.00	0.62	0.62	0.05	0.77		
Sat Flow, veh/h	1697	1510	1781	1510	1697	1781		
Grp Volume(v), veh/h	10	0	840	10	60	190		
Grp Sat Flow(s),veh/h/ln	1697	1510	1781	1510	1697	1781		
Q Serve(g_s), s	0.2	0.0	12.7	0.1	1.3	1.0		
Cycle Q Clear(g_c), s	0.2	0.0	12.7	0.1	1.3	1.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	18		1096	929	84	1377		
V/C Ratio(X)	0.56		0.77	0.01	0.71	0.14		
Avail Cap(c_a), veh/h	825		2745	2326	1513	4526		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.2	0.0	5.2	2.8	17.3	1.1		
Incr Delay (d2), s/veh	24.4	0.0	1.2	0.0	10.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.2	0.0	2.1	0.0	0.7	0.0		
Unsig. Movement Delay, s/veh								
LnGrp Delay(d),s/veh	42.6	0.0	6.3	2.8	27.8	1.1		
LnGrp LOS	D		A	A	C	A		
Approach Vol, veh/h	10	A	850			250		
Approach Delay, s/veh	42.6		6.3			7.5		
Approach LOS	D		A			A		
Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	5.8	26.8				32.6		4.4
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	33.0	57.0				94.0		18.0
Max Q Clear Time (g_c+I1), s	3.3	14.7				3.0		2.2
Green Ext Time (p_c), s	0.1	8.1				1.2		0.0

Intersection Summary			
HCM 6th Ctrl Delay			6.9
HCM 6th LOS			A

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	1260	90	390	10	70	1340
Future Volume (veh/h)	1260	90	390	10	70	1340
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	1344	0	390	10	70	1340
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	1481	659	425	1650	355	1920
Arrive On Green	0.44	0.00	0.25	0.49	0.20	0.20
Sat Flow, veh/h	3393	1510	1697	3474	1781	3019
Grp Volume(v), veh/h	1344	0	390	10	70	1340
Grp Sat Flow(s),veh/h/ln	1697	1510	1697	1692	1781	1510
Q Serve(g_s), s	38.9	0.0	23.6	0.2	3.5	21.0
Cycle Q Clear(g_c), s	38.9	0.0	23.6	0.2	3.5	21.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1481	659	425	1650	355	1920
V/C Ratio(X)	0.91	0.00	0.92	0.01	0.20	0.70
Avail Cap(c_a), veh/h	1739	774	531	1863	355	1920
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	0.0	38.5	13.9	35.2	10.8
Incr Delay (d2), s/veh	6.6	0.0	18.5	0.0	0.3	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.5	0.0	11.8	0.1	1.5	18.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.3	0.0	57.0	13.9	35.4	11.9
LnGrp LOS	C	A	E	B	D	B
Approach Vol, veh/h	1344			400	1410	
Approach Delay, s/veh	34.3			55.9	13.1	
Approach LOS	C			E	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		55.4		50.0	30.4	25.0
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		58.0		54.0	33.0	21.0
Max Q Clear Time (g_c+I1), s		2.2		40.9	25.6	23.0
Green Ext Time (p_c), s		0.0		5.1	0.8	0.0

Intersection Summary			
HCM 6th Ctrl Delay			27.6
HCM 6th LOS			C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	320	240	40	220	10	250	440	10	10	90	520
Future Volume (veh/h)	110	320	240	40	220	10	250	440	10	10	90	520
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	110	320	240	40	220	10	250	440	10	10	90	520
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	139	404	343	53	298	14	297	1669	744	17	1110	495
Arrive On Green	0.08	0.23	0.23	0.03	0.18	0.18	0.18	0.49	0.49	0.01	0.33	0.33
Sat Flow, veh/h	1697	1781	1510	1697	1691	77	1697	3385	1510	1697	3385	1510
Grp Volume(v), veh/h	110	320	240	40	0	230	250	440	10	10	90	520
Grp Sat Flow(s),veh/h/ln	1697	1781	1510	1697	0	1768	1697	1692	1510	1697	1692	1510
Q Serve(g_s), s	4.3	11.4	9.8	1.6	0.0	8.3	9.6	5.1	0.2	0.4	1.2	22.0
Cycle Q Clear(g_c), s	4.3	11.4	9.8	1.6	0.0	8.3	9.6	5.1	0.2	0.4	1.2	22.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	404	343	53	0	312	297	1669	744	17	1110	495
V/C Ratio(X)	0.79	0.79	0.70	0.75	0.00	0.74	0.84	0.26	0.01	0.58	0.08	1.05
Avail Cap(c_a), veh/h	202	584	495	101	0	474	405	1715	765	101	1110	495
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.2	24.4	23.8	32.2	0.0	26.2	26.8	9.9	8.7	33.1	15.6	22.5
Incr Delay (d2), s/veh	12.4	4.7	2.6	19.0	0.0	3.4	11.1	0.1	0.0	27.4	0.0	54.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	5.0	3.5	0.9	0.0	3.6	4.6	1.7	0.1	0.3	0.4	14.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.6	29.1	26.4	51.2	0.0	29.6	37.9	10.0	8.7	60.5	15.6	76.8
LnGrp LOS	D	C	C	D	A	C	D	A	A	E	B	F
Approach Vol, veh/h		670			270			700			620	
Approach Delay, s/veh		30.4			32.8			19.9			67.7	
Approach LOS		C			C			B			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.7	37.1	6.1	19.2	15.8	26.0	9.5	15.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	34.0	4.0	22.0	16.0	22.0	8.0	18.0
Max Q Clear Time (g_c+I1), s	2.4	7.1	3.6	13.4	11.6	24.0	6.3	10.3
Green Ext Time (p_c), s	0.0	3.1	0.0	1.9	0.3	0.0	0.0	0.7

Intersection Summary		
HCM 6th Ctrl Delay		37.7
HCM 6th LOS		D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1110	140	1040	1310	350	10	350	1480	510	550	100
Future Volume (veh/h)	20	1110	140	1040	1310	350	10	350	1480	510	550	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	20	1110	140	1040	1310	0	10	350	0	510	550	100
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	28	1155	373	1195	1594		16	381		521	1227	547
Arrive On Green	0.02	0.24	0.24	0.25	0.47	0.00	0.01	0.21	0.00	0.16	0.36	0.36
Sat Flow, veh/h	1697	4863	1510	4784	3385	1510	1697	1781	2657	3291	3385	1510
Grp Volume(v), veh/h	20	1110	140	1040	1310	0	10	350	0	510	550	100
Grp Sat Flow(s),veh/h/ln	1697	1621	1510	1595	1692	1510	1697	1781	1329	1646	1692	1510
Q Serve(g_s), s	1.3	25.6	8.8	23.7	38.0	0.0	0.7	21.9	0.0	17.5	14.1	5.1
Cycle Q Clear(g_c), s	1.3	25.6	8.8	23.7	38.0	0.0	0.7	21.9	0.0	17.5	14.1	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	28	1155	373	1195	1594		16	381		521	1227	547
V/C Ratio(X)	0.72	0.96	0.38	0.87	0.82		0.62	0.92		0.98	0.45	0.18
Avail Cap(c_a), veh/h	60	1155	373	1389	1667		90	407		521	1227	547
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	42.8	35.5	40.9	26.0	0.0	56.1	43.7	0.0	47.7	27.6	24.7
Incr Delay (d2), s/veh	28.6	17.9	0.6	5.6	3.3	0.0	32.8	24.9	0.0	33.9	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	12.1	3.3	9.8	15.5	0.0	0.4	12.2	0.0	9.6	5.7	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.3	60.7	36.2	46.5	29.3	0.0	88.9	68.7	0.0	81.5	27.8	24.9
LnGrp LOS	F	E	D	D	C		F	E		F	C	C
Approach Vol, veh/h		1270			2350	A		360	A		1160	
Approach Delay, s/veh		58.4			36.9			69.2			51.2	
Approach LOS		E			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.0	28.3	32.4	31.0	5.1	45.2	5.9	57.5				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.0	26.0	33.0	27.0	6.0	38.0	4.0	56.0				
Max Q Clear Time (g_c+I1), s	19.5	23.9	25.7	27.6	2.7	16.1	3.3	40.0				
Green Ext Time (p_c), s	0.0	0.4	2.7	0.0	0.0	4.1	0.0	8.8				
Intersection Summary												
HCM 6th Ctrl Delay			47.7									
HCM 6th LOS			D									

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	10	20	10	60	780	10	830	10	300	930	500
Future Volume (veh/h)	230	10	20	10	60	780	10	830	10	300	930	500
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	230	10	20	10	60	780	10	830	10	300	930	500
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	274	679	590	17	409	539	17	1375	17	418	1920	840
Arrive On Green	0.16	0.38	0.38	0.01	0.23	0.23	0.01	0.28	0.28	0.13	0.39	0.39
Sat Flow, veh/h	1697	1781	1510	1697	1781	1510	1697	4953	60	3291	4863	1510
Grp Volume(v), veh/h	230	10	20	10	60	780	10	543	297	300	930	500
Grp Sat Flow(s),veh/h/ln	1697	1781	1510	1697	1781	1510	1697	1621	1771	1646	1621	1510
Q Serve(g_s), s	10.3	0.3	0.6	0.5	2.1	18.0	0.5	11.4	11.4	6.9	11.2	17.2
Cycle Q Clear(g_c), s	10.3	0.3	0.6	0.5	2.1	18.0	0.5	11.4	11.4	6.9	11.2	17.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	274	679	590	17	409	539	17	900	492	418	1920	840
V/C Ratio(X)	0.84	0.01	0.03	0.59	0.15	1.45	0.59	0.60	0.60	0.72	0.48	0.60
Avail Cap(c_a), veh/h	455	796	689	87	409	539	87	1076	588	1974	4283	1573
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	15.1	14.7	38.6	24.1	25.2	38.6	24.6	24.6	32.9	17.7	11.5
Incr Delay (d2), s/veh	7.1	0.0	0.0	28.6	0.2	212.0	28.6	0.7	1.2	2.3	0.2	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.1	0.2	0.3	0.9	41.0	0.3	4.3	4.7	2.8	4.0	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.9	15.1	14.7	67.3	24.2	237.2	67.3	25.2	25.8	35.2	17.9	12.2
LnGrp LOS	D	B	B	E	C	F	E	C	C	D	B	B
Approach Vol, veh/h		260			850			850			1730	
Approach Delay, s/veh		36.2			220.2			25.9			19.3	
Approach LOS		D			F			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	25.8	4.8	33.9	4.8	34.9	16.6	22.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	47.0	26.0	4.0	35.0	4.0	69.0	21.0	18.0				
Max Q Clear Time (g_c+I1), s	8.9	13.4	2.5	2.6	2.5	19.2	12.3	20.0				
Green Ext Time (p_c), s	1.1	4.5	0.0	0.1	0.0	11.7	0.4	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			68.3									
HCM 6th LOS			E									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	60	260	20	110	160	10	660	10	10	800	150
Future Volume (veh/h)	20	60	260	20	110	160	10	660	10	10	800	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	20	60	260	20	110	160	10	660	10	10	800	150
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	34	79	342	34	178	258	18	1452	451	18	1452	451
Arrive On Green	0.02	0.27	0.27	0.02	0.27	0.27	0.01	0.30	0.30	0.01	0.30	0.30
Sat Flow, veh/h	1697	291	1263	1697	656	954	1697	4863	1510	1697	4863	1510
Grp Volume(v), veh/h	20	0	320	20	0	270	10	660	10	10	800	150
Grp Sat Flow(s),veh/h/ln	1697	0	1554	1697	0	1610	1697	1621	1510	1697	1621	1510
Q Serve(g_s), s	0.5	0.0	7.6	0.5	0.0	5.9	0.2	4.4	0.2	0.2	5.5	3.1
Cycle Q Clear(g_c), s	0.5	0.0	7.6	0.5	0.0	5.9	0.2	4.4	0.2	0.2	5.5	3.1
Prop In Lane	1.00		0.81	1.00		0.59	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	34	0	421	34	0	436	18	1452	451	18	1452	451
V/C Ratio(X)	0.59	0.00	0.76	0.59	0.00	0.62	0.56	0.45	0.02	0.56	0.55	0.33
Avail Cap(c_a), veh/h	170	0	699	170	0	724	170	2189	679	170	2189	679
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.4	0.0	13.4	19.4	0.0	12.8	19.7	11.4	9.9	19.7	11.8	10.9
Incr Delay (d2), s/veh	15.4	0.0	2.8	15.4	0.0	1.4	24.7	0.2	0.0	24.7	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.4	0.3	0.0	1.9	0.2	1.3	0.1	0.2	1.6	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.8	0.0	16.2	34.8	0.0	14.2	44.4	11.6	9.9	44.4	12.1	11.4
LnGrp LOS	C	A	B	C	A	B	D	B	A	D	B	B
Approach Vol, veh/h		340			290			680			960	
Approach Delay, s/veh		17.3			15.6			12.1			12.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.4	15.9	4.8	14.8	4.4	15.9	4.8	14.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	18.0	4.0	18.0	4.0	18.0	4.0	18.0
Max Q Clear Time (g_c+I1), s	2.2	6.4	2.5	9.6	2.2	7.5	2.5	7.9
Green Ext Time (p_c), s	0.0	3.5	0.0	1.3	0.0	4.4	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	70	0	10	0	660	2670	0	560	510
Future Volume (veh/h)	0	0	0	70	0	10	0	660	2670	0	560	510
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1781	1781	0	1781	1781	0	1781	1781
Adj Flow Rate, veh/h				70	0	10	0	660	2670	0	560	510
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				8	8	8	0	8	8	0	8	8
Cap, veh/h				174	0	52	0	3012	2365	0	4328	1344
Arrive On Green				0.03	0.00	0.03	0.00	0.89	0.89	0.00	0.89	0.89
Sat Flow, veh/h				5090	0	1510	0	3474	2657	0	5024	1510
Grp Volume(v), veh/h				70	0	10	0	660	2670	0	560	510
Grp Sat Flow(s),veh/h/ln				1697	0	1510	0	1692	1329	0	1621	1510
Q Serve(g_s), s				1.4	0.0	0.7	0.0	2.8	94.0	0.0	1.5	5.9
Cycle Q Clear(g_c), s				1.4	0.0	0.7	0.0	2.8	94.0	0.0	1.5	5.9
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				174	0	52	0	3012	2365	0	4328	1344
V/C Ratio(X)				0.40	0.00	0.19	0.00	0.22	1.13	0.00	0.13	0.38
Avail Cap(c_a), veh/h				867	0	257	0	3012	2365	0	4328	1344
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				49.9	0.0	49.6	0.0	0.8	5.8	0.0	0.7	1.0
Incr Delay (d2), s/veh				1.5	0.0	1.8	0.0	0.0	64.1	0.0	0.0	0.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.6	0.0	0.3	0.0	0.2	24.6	0.0	0.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				51.4	0.0	51.4	0.0	0.8	69.9	0.0	0.7	1.1
LnGrp LOS				D	A	D	A	A	F	A	A	A
Approach Vol, veh/h					80			3330			1070	
Approach Delay, s/veh					51.4			56.2			0.9	
Approach LOS					D			E			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		98.0				98.0		7.6				
Change Period (Y+Rc), s		4.0				4.0		4.0				
Max Green Setting (Gmax), s		94.0				94.0		18.0				
Max Q Clear Time (g_c+I1), s		96.0				7.9		3.4				
Green Ext Time (p_c), s		0.0				7.2		0.2				

Intersection Summary			
HCM 6th Ctrl Delay			42.9
HCM 6th LOS			D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	0	1250	0	0	0	0	3290	1210	0	630	10
Future Volume (veh/h)	30	0	1250	0	0	0	0	3290	1210	0	630	10
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781				0	1781	1781	0	1781	1781
Adj Flow Rate, veh/h	30	0	0				0	3290	1210	0	630	10
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8				0	8	8	0	8	8
Cap, veh/h	38	0					0	4430	2420	0	4430	1375
Arrive On Green	0.02	0.00	0.00				0.00	0.91	0.91	0.00	0.91	0.91
Sat Flow, veh/h	1697	0	1510				0	5024	2657	0	5024	1510
Grp Volume(v), veh/h	30	0	0				0	3290	1210	0	630	10
Grp Sat Flow(s),veh/h/ln	1697	0	1510				0	1621	1329	0	1621	1510
Q Serve(g_s), s	2.1	0.0	0.0				0.0	22.4	8.9	0.0	1.6	0.1
Cycle Q Clear(g_c), s	2.1	0.0	0.0				0.0	22.4	8.9	0.0	1.6	0.1
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	38	0					0	4430	2420	0	4430	1375
V/C Ratio(X)	0.79	0.00					0.00	0.74	0.50	0.00	0.14	0.01
Avail Cap(c_a), veh/h	792	0					0	4430	2420	0	4430	1375
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.09	0.09	0.00	1.00	1.00
Uniform Delay (d), s/veh	58.4	0.0	0.0				0.0	1.5	0.9	0.0	0.5	0.5
Incr Delay (d2), s/veh	29.2	0.0	0.0				0.0	0.1	0.1	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0				0.0	0.3	0.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.6	0.0	0.0				0.0	1.6	0.9	0.0	0.6	0.5
LnGrp LOS	F	A					A	A	A	A	A	A
Approach Vol, veh/h		30	A					4500			640	
Approach Delay, s/veh		87.6						1.4			0.6	
Approach LOS		F						A			A	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	113.3	6.7	113.3
Change Period (Y+Rc), s	4.0	4.0	4.0
Max Green Setting (Gmax), s	56.0	56.0	56.0
Max Q Clear Time (g_c+I1), s	24.4	4.1	3.6
Green Ext Time (p_c), s	31.2	0.1	5.2

Intersection Summary	
HCM 6th Ctrl Delay	1.8
HCM 6th LOS	A

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1590	10	10	10	1010	220	670	2700	10	30	1120	740
Future Volume (veh/h)	1590	10	10	10	1010	220	670	2700	10	30	1120	740
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	1590	10	0	10	1010	0	670	2700	10	30	1120	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	1116	59		792	903		494	2043	1208	110	1054	
Arrive On Green	0.23	0.03	0.00	0.47	0.27	0.00	0.15	0.33	0.33	0.01	0.07	0.00
Sat Flow, veh/h	4784	1781	1510	1697	3385	1510	3291	6128	1510	3291	4863	2657
Grp Volume(v), veh/h	1590	10	0	10	1010	0	670	2700	10	30	1120	0
Grp Sat Flow(s),veh/h/ln	1595	1781	1510	1697	1692	1510	1646	1532	1510	1646	1621	1329
Q Serve(g_s), s	28.0	0.7	0.0	0.4	32.0	0.0	18.0	40.0	0.0	1.1	26.0	0.0
Cycle Q Clear(g_c), s	28.0	0.7	0.0	0.4	32.0	0.0	18.0	40.0	0.0	1.1	26.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1116	59		792	903		494	2043	1208	110	1054	
V/C Ratio(X)	1.42	0.17		0.01	1.12		1.36	1.32	0.01	0.27	1.06	
Avail Cap(c_a), veh/h	1116	831		792	903		494	2043	1208	110	1054	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.69	0.69	0.69	0.09	0.09	0.00
Uniform Delay (d), s/veh	46.0	56.4	0.0	17.2	44.0	0.0	51.0	40.0	2.4	57.9	55.7	0.0
Incr Delay (d2), s/veh	196.2	6.0	0.0	0.0	68.3	0.0	169.7	147.3	0.0	0.1	30.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	31.3	0.4	0.0	0.2	21.8	0.0	19.0	35.7	0.0	0.5	14.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	242.2	62.4	0.0	17.2	112.3	0.0	220.7	187.3	2.4	58.0	86.4	0.0
LnGrp LOS	F	E		B	F		F	F	A	E	F	
Approach Vol, veh/h		1600	A		1020	A		3380			1150	A
Approach Delay, s/veh		241.1			111.3			193.3			85.7	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	60.0	8.0	22.0	30.0	32.0	36.0	8.0	44.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	56.0	18.0	26.0	28.0	32.0	4.0	40.0
Max Q Clear Time (g_c+I1), s	2.4	2.7	20.0	28.0	30.0	34.0	3.1	42.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	175.0
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	800	340	1730	2220	1150	390
Future Volume (veh/h)	800	340	1730	2220	1150	390
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	800	340	1730	2220	1155	385
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	901	774	1854	3714	1666	1079
Arrive On Green	0.25	0.25	0.39	0.61	0.33	0.33
Sat Flow, veh/h	5024	1510	4784	6378	5090	1510
Grp Volume(v), veh/h	800	340	1730	2220	1155	385
Grp Sat Flow(s),veh/h/ln	1621	1510	1595	1532	1697	1510
Q Serve(g_s), s	19.0	17.4	41.6	26.8	23.7	11.7
Cycle Q Clear(g_c), s	19.0	17.4	41.6	26.8	23.7	11.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	901	774	1854	3714	1666	1079
V/C Ratio(X)	0.89	0.44	0.93	0.60	0.69	0.36
Avail Cap(c_a), veh/h	932	783	1914	3830	1666	1079
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	1.00	1.00	0.82	0.82
Uniform Delay (d), s/veh	44.0	17.1	35.3	14.6	35.1	6.6
Incr Delay (d2), s/veh	1.1	0.0	8.9	0.2	2.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	9.7	16.8	8.4	10.0	3.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.1	17.1	44.2	14.8	37.1	7.3
LnGrp LOS	D	B	D	B	D	A
Approach Vol, veh/h	1140			3950	1540	
Approach Delay, s/veh	36.8			27.7	29.7	
Approach LOS	D			C	C	

Timer - Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		43.3	50.5	26.2				76.7
Change Period (Y+Rc), s		4.0	4.0	4.0				4.0
Max Green Setting (Gmax), s		37.0	48.0	23.0				75.0
Max Q Clear Time (g_c+I1), s		25.7	43.6	21.0				28.8
Green Ext Time (p_c), s		5.1	2.9	1.2				27.2

Intersection Summary			
HCM 6th Ctrl Delay			29.7
HCM 6th LOS			C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1730	1370	10	2020	680	20
Future Volume (veh/h)	1730	1370	10	2020	680	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	1730	1370	10	2020	680	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	2386	1304	18	2817	870	399
Arrive On Green	0.49	0.49	0.01	0.58	0.26	0.26
Sat Flow, veh/h	5024	2657	1697	5024	3291	1510
Grp Volume(v), veh/h	1730	1370	10	2020	680	20
Grp Sat Flow(s),veh/h/ln	1621	1329	1697	1621	1646	1510
Q Serve(g_s), s	14.4	25.1	0.3	15.3	9.8	0.5
Cycle Q Clear(g_c), s	14.4	25.1	0.3	15.3	9.8	0.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2386	1304	18	2817	870	399
V/C Ratio(X)	0.73	1.05	0.57	0.72	0.78	0.05
Avail Cap(c_a), veh/h	2386	1304	133	3138	1223	561
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.3	13.0	25.2	7.7	17.4	14.0
Incr Delay (d2), s/veh	1.1	39.4	25.8	0.7	2.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	12.7	0.2	3.8	3.5	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.4	52.5	51.0	8.5	19.6	14.1
LnGrp LOS	B	F	D	A	B	B
Approach Vol, veh/h	3100			2030	700	
Approach Delay, s/veh	29.6			8.7	19.5	
Approach LOS	C			A	B	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	17.5	4.5	29.1	33.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	19.0	4.0	25.0	33.0
Max Q Clear Time (g_c+I1), s	11.8	2.3	27.1	17.3
Green Ext Time (p_c), s	1.7	0.0	0.0	12.3

Intersection Summary	
HCM 6th Ctrl Delay	21.1
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1480	240	10	1570	10	30	30	10	40	70	470
Future Volume (veh/h)	10	1480	240	10	1570	10	30	30	10	40	70	470
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	1480	0	10	1570	10	30	30	10	40	70	470
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	17	1627		17	1658	11	79	372	124	49	59	397
Arrive On Green	0.01	0.48	0.00	0.01	0.48	0.48	0.02	0.29	0.29	0.03	0.30	0.30
Sat Flow, veh/h	1697	3385	1510	1697	3448	22	3291	1279	426	1697	200	1341
Grp Volume(v), veh/h	10	1480	0	10	770	810	30	0	40	40	0	540
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1697	1692	1777	1646	0	1705	1697	0	1540
Q Serve(g_s), s	0.5	34.1	0.0	0.5	36.6	36.7	0.8	0.0	1.4	2.0	0.0	25.0
Cycle Q Clear(g_c), s	0.5	34.1	0.0	0.5	36.6	36.7	0.8	0.0	1.4	2.0	0.0	25.0
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.25	1.00		0.87
Lane Grp Cap(c), veh/h	17	1627		17	814	855	79	0	496	49	0	456
V/C Ratio(X)	0.60	0.91		0.60	0.95	0.95	0.38	0.00	0.08	0.82	0.00	1.18
Avail Cap(c_a), veh/h	80	1643		80	821	863	156	0	496	121	0	456
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.6	20.2	0.0	41.6	20.9	20.9	40.6	0.0	21.7	40.8	0.0	29.7
Incr Delay (d2), s/veh	29.3	7.9	0.0	29.3	19.5	19.0	3.0	0.0	0.1	26.9	0.0	103.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	14.0	0.0	0.3	17.6	18.4	0.3	0.0	0.6	1.2	0.0	21.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.0	28.1	0.0	71.0	40.4	39.9	43.6	0.0	21.8	67.7	0.0	133.1
LnGrp LOS	E	C		E	D	D	D	A	C	E	A	F
Approach Vol, veh/h		1490	A		1590			70			580	
Approach Delay, s/veh		28.4			40.4			31.1			128.6	
Approach LOS		C			D			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	28.6	4.8	44.6	6.0	29.0	4.8	44.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	23.0	4.0	41.0	4.0	25.0	4.0	41.0
Max Q Clear Time (g_c+I1), s	4.0	3.4	2.5	36.1	2.8	27.0	2.5	38.7
Green Ext Time (p_c), s	0.0	0.1	0.0	3.8	0.0	0.0	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	49.1
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	1370	650	40	300	50
Future Volume (veh/h)	10	1370	650	40	300	50
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	1370	650	40	300	50
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	0	1230	1146	71	332	55
Arrive On Green	0.00	0.69	0.69	0.69	0.23	0.23
Sat Flow, veh/h	0	1781	1661	102	1425	238
Grp Volume(v), veh/h	0	1370	0	690	351	0
Grp Sat Flow(s),veh/h/ln	0	1781	0	1763	1667	0
Q Serve(g_s), s	0.0	72.0	0.0	20.8	21.3	0.0
Cycle Q Clear(g_c), s	0.0	72.0	0.0	20.8	21.3	0.0
Prop In Lane	0.00			0.06	0.85	0.14
Lane Grp Cap(c), veh/h	0	1230	0	1217	389	0
V/C Ratio(X)	0.00	1.11	0.00	0.57	0.90	0.00
Avail Cap(c_a), veh/h	0	1230	0	1217	639	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	16.2	0.0	8.2	38.9	0.0
Incr Delay (d2), s/veh	0.0	63.1	0.0	0.6	10.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	44.0	0.0	6.6	9.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	79.2	0.0	8.8	49.1	0.0
LnGrp LOS	A	F	A	A	D	A
Approach Vol, veh/h		1370	690		351	
Approach Delay, s/veh		79.2	8.8		49.1	
Approach LOS		E	A		D	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	76.0	28.3	0.0	76.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	72.0	40.0	4.0	64.0
Max Q Clear Time (g_c+I1), s	74.0	23.3	0.0	22.8
Green Ext Time (p_c), s	0.0	1.0	0.0	5.2

Intersection Summary	
HCM 6th Ctrl Delay	54.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	270	100	880	320	800	10
Future Volume (veh/h)	270	100	880	320	800	10
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	270	100	880	320	800	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	301	255	879	830	762	678
Arrive On Green	0.17	0.17	0.27	0.47	0.45	0.45
Sat Flow, veh/h	1781	1510	3291	1781	1697	1510
Grp Volume(v), veh/h	270	100	880	320	800	10
Grp Sat Flow(s),veh/h/ln	1781	1510	1646	1781	1697	1510
Q Serve(g_s), s	17.5	7.0	31.5	13.8	53.0	0.4
Cycle Q Clear(g_c), s	17.5	7.0	31.5	13.8	53.0	0.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	301	255	879	830	762	678
V/C Ratio(X)	0.90	0.39	1.00	0.39	1.05	0.01
Avail Cap(c_a), veh/h	332	282	879	868	762	678
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	43.6	43.2	20.5	32.5	18.0
Incr Delay (d2), s/veh	24.4	1.2	30.6	0.4	46.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	2.6	16.1	5.6	30.2	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	72.4	44.8	73.9	20.9	78.8	18.0
LnGrp LOS	E	D	F	C	F	B
Approach Vol, veh/h	370			1200	810	
Approach Delay, s/veh	64.9			59.7	78.0	
Approach LOS	E			E	E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		60.0		58.0	35.0	25.0
Change Period (Y+Rc), s		* 5		5.0	3.5	5.0
Max Green Setting (Gmax), s		* 58		53.0	31.5	22.0
Max Q Clear Time (g_c+I1), s		15.8		55.0	33.5	19.5
Green Ext Time (p_c), s		1.6		0.0	0.0	0.4

Intersection Summary			
HCM 6th Ctrl Delay			66.8
HCM 6th LOS			E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	890	260	590	3100	310	770	550	150	20	120	80
Future Volume (veh/h)	50	890	260	590	3100	310	770	550	150	20	120	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	50	890	0	590	3100	0	770	550	0	20	120	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	231	2085		345	2307		417	799		190	565	
Arrive On Green	0.07	0.43	0.00	0.10	0.47	0.00	0.13	0.24	0.00	0.06	0.17	0.00
Sat Flow, veh/h	3291	4863	1510	3291	4863	1510	3291	3385	1510	3291	3385	1510
Grp Volume(v), veh/h	50	890	0	590	3100	0	770	550	0	20	120	0
Grp Sat Flow(s),veh/h/ln	1646	1621	1510	1646	1621	1510	1646	1692	1510	1646	1692	1510
Q Serve(g_s), s	1.3	11.7	0.0	9.6	43.4	0.0	11.6	13.6	0.0	0.5	2.8	0.0
Cycle Q Clear(g_c), s	1.3	11.7	0.0	9.6	43.4	0.0	11.6	13.6	0.0	0.5	2.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	231	2085		345	2307		417	799		190	565	
V/C Ratio(X)	0.22	0.43		1.71	1.34		1.85	0.69		0.11	0.21	
Avail Cap(c_a), veh/h	291	2174		345	2307		417	1609		367	1557	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.2	18.3	0.0	40.9	24.0	0.0	39.9	31.9	0.0	40.9	32.9	0.0
Incr Delay (d2), s/veh	0.2	0.3	0.0	330.9	157.7	0.0	389.5	1.5	0.0	0.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.0	0.0	19.6	48.0	0.0	27.1	5.5	0.0	0.2	1.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.3	18.6	0.0	371.8	181.7	0.0	429.5	33.4	0.0	41.1	33.1	0.0
LnGrp LOS	D	B		F	F		F	C		D	C	
Approach Vol, veh/h		940	A		3690	A		1320	A		140	A
Approach Delay, s/veh		19.7			212.1			264.4			34.2	
Approach LOS		B			F			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	43.2	15.0	19.3	9.8	47.4	8.7	25.6
Change Period (Y+Rc), s	6.5	6.1	5.5	6.1	5.5	6.1	5.5	6.1
Max Green Setting (Gmax), s	7.5	38.8	9.5	40.0	6.0	41.3	8.1	41.4
Max Q Clear Time (g_c+I1), s	11.6	13.7	13.6	4.8	3.3	45.4	2.5	15.6
Green Ext Time (p_c), s	0.0	9.0	0.0	0.5	0.0	0.0	0.0	3.9

Intersection Summary	
HCM 6th Ctrl Delay	189.7
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	100	490	10	760	110	1990	1210	10	30	340	610
Future Volume (veh/h)	150	100	490	10	760	110	1990	1210	10	30	340	610
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	150	100	490	10	760	110	1990	1210	10	30	340	610
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	170	959	1492	170	505	554	718	1621	654	141	1378	579
Arrive On Green	0.10	0.28	0.28	0.10	0.28	0.28	0.15	0.33	0.33	0.08	0.28	0.28
Sat Flow, veh/h	1697	3385	3442	1697	1781	1510	4784	4863	1510	1697	4863	1510
Grp Volume(v), veh/h	150	100	490	10	760	110	1990	1210	10	30	340	610
Grp Sat Flow(s),veh/h/ln	1697	1692	1147	1697	1781	1510	1595	1621	1510	1697	1621	1510
Q Serve(g_s), s	10.5	2.6	11.3	0.6	34.0	6.0	18.0	26.5	0.5	2.0	6.5	34.0
Cycle Q Clear(g_c), s	10.5	2.6	11.3	0.6	34.0	6.0	18.0	26.5	0.5	2.0	6.5	34.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	170	959	1492	170	505	554	718	1621	654	141	1378	579
V/C Ratio(X)	0.88	0.10	0.33	0.06	1.51	0.20	2.77	0.75	0.02	0.21	0.25	1.05
Avail Cap(c_a), veh/h	170	959	1492	382	505	554	718	1621	654	184	1378	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.3	31.8	22.5	48.9	43.0	26.0	51.0	35.5	19.4	51.3	33.1	37.0
Incr Delay (d2), s/veh	38.9	0.0	0.1	0.1	237.7	0.1	801.7	1.9	0.0	1.1	0.1	52.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	1.1	2.9	0.3	48.0	2.1	60.2	10.3	0.2	0.9	2.5	24.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.2	31.8	22.6	48.9	280.7	26.0	852.7	37.4	19.4	52.4	33.2	89.5
LnGrp LOS	F	C	C	D	F	C	F	D	B	D	C	F
Approach Vol, veh/h		740			880			3210			980	
Approach Delay, s/veh		38.0			246.3			542.8			68.8	
Approach LOS		D			F			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	40.0	22.0	40.0	18.0	40.0	16.0	46.0				
Change Period (Y+Rc), s	6.0	* 6	4.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	27.0	* 21	18.0	34.0	12.0	34.0	13.0	37.0				
Max Q Clear Time (g_c+I1), s	12.5	13.3	20.0	36.0	12.5	36.0	4.0	28.5				
Green Ext Time (p_c), s	0.0	1.7	0.0	0.0	0.0	0.0	0.0	4.8				
Intersection Summary												
HCM 6th Ctrl Delay			353.6									
HCM 6th LOS			F									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	100	40	60	1570	350	460	1830	10	120	660	20
Future Volume (veh/h)	10	100	40	60	1570	350	460	1830	10	120	660	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	100	40	60	1570	350	460	1830	10	120	660	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	16	1290	1014	76	1410	730	493	1818	632	113	729	241
Arrive On Green	0.01	0.38	0.38	0.04	0.42	0.42	0.58	0.75	0.75	0.07	0.15	0.15
Sat Flow, veh/h	1697	3385	1510	1697	3385	1510	1697	4863	1510	1697	4863	1510
Grp Volume(v), veh/h	10	100	40	60	1570	350	460	1830	10	120	660	20
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1697	1692	1510	1697	1621	1510	1697	1621	1510
Q Serve(g_s), s	0.7	2.3	0.3	4.2	50.0	14.7	29.8	44.9	0.2	8.0	16.0	0.2
Cycle Q Clear(g_c), s	0.7	2.3	0.3	4.2	50.0	14.7	29.8	44.9	0.2	8.0	16.0	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	16	1290	1014	76	1410	730	493	1818	632	113	729	241
V/C Ratio(X)	0.62	0.08	0.04	0.79	1.11	0.48	0.93	1.01	0.02	1.06	0.90	0.08
Avail Cap(c_a), veh/h	57	1290	1014	141	1410	730	493	1818	632	113	729	241
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	0.09	0.09	0.09	0.60	0.60	0.60	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.2	23.7	2.4	56.7	35.0	13.1	24.1	15.1	8.2	56.0	50.2	43.0
Incr Delay (d2), s/veh	33.3	0.0	0.0	1.7	52.1	0.0	17.4	17.9	0.0	101.9	16.8	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.9	0.1	1.8	30.2	4.9	10.6	9.3	0.1	6.5	7.4	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.5	23.7	2.5	58.4	87.1	13.1	41.4	33.0	8.2	157.9	67.0	43.6
LnGrp LOS	F	C	A	E	F	B	D	F	A	F	E	D
Approach Vol, veh/h		150			1980			2300			800	
Approach Delay, s/veh		22.6			73.1			34.6			80.0	
Approach LOS		C			E			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	48.9	9.4	49.7	38.9	22.0	5.1	54.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	8.0	42.0	10.0	44.0	32.0	18.0	4.0	50.0
Max Q Clear Time (g_c+I1), s	10.0	46.9	6.2	4.3	31.8	18.0	2.7	52.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	55.8
HCM 6th LOS	E

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	410	300	2000	110	40	720
Future Volume (veh/h)	410	300	2000	110	40	720
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	410	300	2000	110	40	720
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	484	431	2826	877	163	2826
Arrive On Green	0.29	0.29	0.39	0.39	1.00	1.00
Sat Flow, veh/h	1697	1510	5024	1510	184	5024
Grp Volume(v), veh/h	410	300	2000	110	40	720
Grp Sat Flow(s),veh/h/ln	1697	1510	1621	1510	184	1621
Q Serve(g_s), s	13.7	10.6	20.8	2.8	12.4	0.0
Cycle Q Clear(g_c), s	13.7	10.6	20.8	2.8	33.2	0.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	484	431	2826	877	163	2826
V/C Ratio(X)	0.85	0.70	0.71	0.13	0.25	0.25
Avail Cap(c_a), veh/h	622	554	2826	877	163	2826
HCM Platoon Ratio	1.00	1.00	0.67	0.67	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.72	0.72	0.62	0.62
Uniform Delay (d), s/veh	20.2	19.1	14.0	8.5	9.9	0.0
Incr Delay (d2), s/veh	8.5	2.6	1.1	0.2	2.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	3.7	7.9	0.8	0.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.7	21.8	15.1	8.7	12.1	0.1
LnGrp LOS	C	C	B	A	B	A
Approach Vol, veh/h	710		2110			760
Approach Delay, s/veh	25.7		14.8			0.8
Approach LOS	C		B			A

Timer - Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		38.9				38.9		21.1
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		30.0				30.0		22.0
Max Q Clear Time (g_c+I1), s		22.8				35.2		15.7
Green Ext Time (p_c), s		6.3				0.0		1.5

Intersection Summary		
HCM 6th Ctrl Delay		14.0
HCM 6th LOS		B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	60	180	2090	20	20	1100
Future Volume (veh/h)	60	180	2090	20	20	1100
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	60	180	2090	20	20	1100
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	72	216	2107	654	306	3308
Arrive On Green	0.19	0.19	0.43	0.43	0.36	1.00
Sat Flow, veh/h	387	1160	5024	1510	1697	5024
Grp Volume(v), veh/h	241	0	2090	20	20	1100
Grp Sat Flow(s),veh/h/ln	1553	0	1621	1510	1697	1621
Q Serve(g_s), s	9.0	0.0	25.6	0.5	0.5	0.0
Cycle Q Clear(g_c), s	9.0	0.0	25.6	0.5	0.5	0.0
Prop In Lane	0.25	0.75		1.00	1.00	
Lane Grp Cap(c), veh/h	290	0	2107	654	306	3308
V/C Ratio(X)	0.83	0.00	0.99	0.03	0.07	0.33
Avail Cap(c_a), veh/h	466	0	2107	654	306	3308
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.84	0.84	0.89	0.89
Uniform Delay (d), s/veh	23.5	0.0	16.9	9.8	15.9	0.0
Incr Delay (d2), s/veh	6.9	0.0	16.1	0.1	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	10.3	0.1	0.2	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.4	0.0	33.0	9.8	16.0	0.2
LnGrp LOS	C	A	C	A	B	A
Approach Vol, veh/h	241		2110			1120
Approach Delay, s/veh	30.4		32.8			0.5
Approach LOS	C		C			A

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	14.8	30.0				44.8		15.2
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	4.0	26.0				34.0		18.0
Max Q Clear Time (g_c+I1), s	2.5	27.6				2.0		11.0
Green Ext Time (p_c), s	0.0	0.0				8.5		0.4

Intersection Summary	
HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	110	30	1040	2000	670	460
Future Volume (veh/h)	110	30	1040	2000	670	460
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	110	30	1040	2000	670	460
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	153	136	1585	3870	1251	388
Arrive On Green	0.09	0.09	0.48	0.80	0.26	0.26
Sat Flow, veh/h	1697	1510	3291	5024	5024	1510
Grp Volume(v), veh/h	110	30	1040	2000	670	460
Grp Sat Flow(s),veh/h/ln	1697	1510	1646	1621	1621	1510
Q Serve(g_s), s	4.4	1.3	16.8	10.0	8.3	18.0
Cycle Q Clear(g_c), s	4.4	1.3	16.8	10.0	8.3	18.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	153	136	1585	3870	1251	388
V/C Ratio(X)	0.72	0.22	0.66	0.52	0.54	1.18
Avail Cap(c_a), veh/h	436	388	1585	3870	1251	388
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.50	0.50	0.93	0.93
Uniform Delay (d), s/veh	31.0	29.6	13.8	2.5	22.4	26.0
Incr Delay (d2), s/veh	6.3	0.8	0.5	0.2	1.5	105.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	1.1	5.0	0.5	3.0	17.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.3	30.4	14.3	2.7	23.9	131.1
LnGrp LOS	D	C	B	A	C	F
Approach Vol, veh/h	140			3040	1130	
Approach Delay, s/veh	35.8			6.7	67.6	
Approach LOS	D			A	E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		59.7		10.3	37.7	22.0
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		44.0		18.0	22.0	18.0
Max Q Clear Time (g_c+I1), s		12.0		6.4	18.8	20.0
Green Ext Time (p_c), s		13.9		0.3	1.6	0.0

Intersection Summary			
HCM 6th Ctrl Delay			23.6
HCM 6th LOS			C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	70	70	2970	50	10	690
Future Volume (veh/h)	70	70	2970	50	10	690
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	70	70	2970	50	10	690
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	86	86	3025	939	232	3905
Arrive On Green	0.11	0.11	0.62	0.62	0.14	0.80
Sat Flow, veh/h	794	794	5024	1510	1697	5024
Grp Volume(v), veh/h	141	0	2970	50	10	690
Grp Sat Flow(s),veh/h/ln	1599	0	1621	1510	1697	1621
Q Serve(g_s), s	7.8	0.0	53.4	1.2	0.5	2.9
Cycle Q Clear(g_c), s	7.8	0.0	53.4	1.2	0.5	2.9
Prop In Lane	0.50	0.50		1.00	1.00	
Lane Grp Cap(c), veh/h	173	0	3025	939	232	3905
V/C Ratio(X)	0.82	0.00	0.98	0.05	0.04	0.18
Avail Cap(c_a), veh/h	320	0	3026	939	232	3905
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.09	0.09	0.93	0.93
Uniform Delay (d), s/veh	39.3	0.0	16.5	6.6	33.8	2.0
Incr Delay (d2), s/veh	9.0	0.0	2.3	0.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	15.7	0.3	0.2	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.2	0.0	18.8	6.7	33.8	2.1
LnGrp LOS	D	A	B	A	C	A
Approach Vol, veh/h	141		3020			700
Approach Delay, s/veh	48.2		18.6			2.6
Approach LOS	D		B			A

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	16.3	60.0				76.3		13.7
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	4.0	56.0				64.0		18.0
Max Q Clear Time (g_c+I1), s	2.5	55.4				4.9		9.8
Green Ext Time (p_c), s	0.0	0.6				3.4		0.3

Intersection Summary	
HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	60	10	20	700	640	70	2380	10	20	710	40
Future Volume (veh/h)	10	60	10	20	700	640	70	2380	10	20	710	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	60	10	20	700	640	70	2380	10	20	710	40
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	16	551	974	57	594	615	570	2188	730	125	915	298
Arrive On Green	0.01	0.31	0.31	0.03	0.33	0.33	0.67	0.90	0.90	0.07	0.19	0.19
Sat Flow, veh/h	1697	1781	1510	1697	1781	1510	1697	4863	1510	1697	4863	1510
Grp Volume(v), veh/h	10	60	10	20	700	640	70	2380	10	20	710	40
Grp Sat Flow(s),veh/h/ln	1697	1781	1510	1697	1781	1510	1697	1621	1510	1697	1621	1510
Q Serve(g_s), s	0.7	2.9	0.1	1.4	40.0	40.0	1.8	54.0	0.1	1.3	16.7	1.5
Cycle Q Clear(g_c), s	0.7	2.9	0.1	1.4	40.0	40.0	1.8	54.0	0.1	1.3	16.7	1.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	16	551	974	57	594	615	570	2188	730	125	915	298
V/C Ratio(X)	0.62	0.11	0.01	0.35	1.18	1.04	0.12	1.09	0.01	0.16	0.78	0.13
Avail Cap(c_a), veh/h	57	551	974	254	594	615	570	2188	730	125	2026	643
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.24	0.24	0.24	0.57	0.57	0.57	0.98	0.98	0.98
Uniform Delay (d), s/veh	59.2	29.6	3.2	56.7	40.0	35.6	13.4	6.0	1.4	52.1	46.3	39.7
Incr Delay (d2), s/veh	33.6	0.1	0.0	0.9	85.0	29.6	0.1	44.5	0.0	0.6	6.3	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.3	0.0	0.6	31.2	18.8	0.7	11.3	0.0	0.6	7.2	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.8	29.7	3.2	57.6	125.0	65.2	13.4	50.5	1.4	52.7	52.6	40.6
LnGrp LOS	F	C	A	E	F	F	B	F	A	D	D	D
Approach Vol, veh/h		80			1360			2460			770	
Approach Delay, s/veh		34.3			95.9			49.3			52.0	
Approach LOS		C			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	58.0	8.0	41.1	44.3	26.6	5.1	44.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	54.0	18.0	26.0	10.0	50.0	4.0	40.0
Max Q Clear Time (g_c+I1), s	3.3	56.0	3.4	4.9	3.8	18.7	2.7	42.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.3	0.1	3.9	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		63.0
HCM 6th LOS		E

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	410	2040	10	10	720
Future Volume (veh/h)	10	410	2040	10	10	720
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	410	2040	10	10	720
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	9	369	2308	716	128	2999
Arrive On Green	0.25	0.25	0.47	0.47	0.15	1.00
Sat Flow, veh/h	36	1475	5024	1510	1697	5024
Grp Volume(v), veh/h	421	0	2040	10	10	720
Grp Sat Flow(s),veh/h/ln	1514	0	1621	1510	1697	1621
Q Serve(g_s), s	15.0	0.0	22.8	0.1	0.3	0.0
Cycle Q Clear(g_c), s	15.0	0.0	22.8	0.1	0.3	0.0
Prop In Lane	0.02	0.97		1.00	1.00	
Lane Grp Cap(c), veh/h	379	0	2308	716	128	2999
V/C Ratio(X)	1.11	0.00	0.88	0.01	0.08	0.24
Avail Cap(c_a), veh/h	379	0	2351	730	128	2999
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	0.73	0.00	1.00	1.00	0.86	0.86
Uniform Delay (d), s/veh	22.5	0.0	14.3	0.6	23.7	0.0
Incr Delay (d2), s/veh	74.0	0.0	5.4	0.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.6	0.0	7.2	0.1	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	96.5	0.0	19.7	0.6	23.9	0.2
LnGrp LOS	F	A	B	A	C	A
Approach Vol, veh/h	421		2050			730
Approach Delay, s/veh	96.5		19.6			0.5
Approach LOS	F		B			A

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	8.5	32.5	41.0	19.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	29.0	37.0	15.0
Max Q Clear Time (g_c+I1), s	2.3	24.8	2.0	17.0
Green Ext Time (p_c), s	0.0	3.7	5.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	25.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	40	160	40	320	160	520	1880	10	60	670	10
Future Volume (veh/h)	10	40	160	40	320	160	520	1880	10	60	670	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	40	160	40	320	160	520	1880	10	60	670	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	17	237	201	140	367	311	689	2627	815	75	880	13
Arrive On Green	0.01	0.13	0.13	0.08	0.21	0.21	0.41	0.54	0.54	0.04	0.18	0.18
Sat Flow, veh/h	1697	1781	1510	1697	1781	1510	1697	4863	1510	1697	4937	74
Grp Volume(v), veh/h	10	40	160	40	320	160	520	1880	10	60	440	240
Grp Sat Flow(s),veh/h/ln	1697	1781	1510	1697	1781	1510	1697	1621	1510	1697	1621	1768
Q Serve(g_s), s	0.5	1.6	8.2	1.8	13.9	6.2	21.0	23.2	0.1	2.8	10.3	10.3
Cycle Q Clear(g_c), s	0.5	1.6	8.2	1.8	13.9	6.2	21.0	23.2	0.1	2.8	10.3	10.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	17	237	201	140	367	311	689	2627	815	75	578	315
V/C Ratio(X)	0.59	0.17	0.80	0.28	0.87	0.52	0.76	0.72	0.01	0.80	0.76	0.76
Avail Cap(c_a), veh/h	85	401	340	140	401	340	689	2627	815	106	729	398
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.14	0.14	0.14	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.4	30.8	33.6	34.5	30.8	18.9	20.4	13.8	3.1	37.9	31.2	31.3
Incr Delay (d2), s/veh	28.8	0.3	7.1	1.1	17.7	1.3	0.7	0.2	0.0	24.1	9.1	15.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.7	3.3	0.8	7.6	2.7	7.4	6.9	0.1	1.6	4.5	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.2	31.1	40.7	35.6	48.4	20.2	21.0	14.0	3.1	62.0	40.3	47.2
LnGrp LOS	E	C	D	D	D	C	C	B	A	E	D	D
Approach Vol, veh/h		210			520			2410			740	
Approach Delay, s/veh		40.2			38.8			15.5			44.3	
Approach LOS		D			D			B			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	47.2	10.6	14.6	36.5	18.3	4.8	20.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	37.0	4.0	18.0	24.0	18.0	4.0	18.0
Max Q Clear Time (g_c+I1), s	4.8	25.2	3.8	10.2	23.0	12.3	2.5	15.9
Green Ext Time (p_c), s	0.0	8.8	0.0	0.4	0.2	1.9	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	25.4
HCM 6th LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	450	10	10	1510	240	10
Future Volume (veh/h)	450	10	10	1510	240	10
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	450	10	10	1510	240	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	1517	676	17	1777	580	516
Arrive On Green	0.45	0.45	0.01	0.52	0.34	0.34
Sat Flow, veh/h	3474	1510	1697	3474	1697	1510
Grp Volume(v), veh/h	450	10	10	1510	240	10
Grp Sat Flow(s),veh/h/ln	1692	1510	1697	1692	1697	1510
Q Serve(g_s), s	5.1	0.2	0.4	23.0	6.5	0.3
Cycle Q Clear(g_c), s	5.1	0.2	0.4	23.0	6.5	0.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1517	676	17	1777	580	516
V/C Ratio(X)	0.30	0.01	0.58	0.85	0.41	0.02
Avail Cap(c_a), veh/h	1517	676	113	1918	580	516
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.5	9.2	29.6	12.2	15.1	13.1
Incr Delay (d2), s/veh	0.1	0.0	26.7	3.6	2.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.1	0.3	7.8	2.6	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.6	9.2	56.2	15.9	17.3	13.2
LnGrp LOS	B	A	E	B	B	B
Approach Vol, veh/h	460			1520	250	
Approach Delay, s/veh	10.6			16.1	17.2	
Approach LOS	B			B	B	

Timer - Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		24.5	4.6	30.9				35.5
Change Period (Y+Rc), s		4.0	4.0	4.0				4.0
Max Green Setting (Gmax), s		18.0	4.0	26.0				34.0
Max Q Clear Time (g_c+I1), s		8.5	2.4	7.1				25.0
Green Ext Time (p_c), s		0.5	0.0	2.9				6.5

Intersection Summary			
HCM 6th Ctrl Delay			15.1
HCM 6th LOS			B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1370	380	2020	290	160	700
Future Volume (veh/h)	1370	380	2020	290	160	700
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	1167	598	2020	290	160	700
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	1188	528	2091	649	170	2772
Arrive On Green	0.35	0.35	0.43	0.43	0.10	0.57
Sat Flow, veh/h	3393	1510	5024	1510	1697	5024
Grp Volume(v), veh/h	1167	598	2020	290	160	700
Grp Sat Flow(s),veh/h/ln	1697	1510	1621	1510	1697	1621
Q Serve(g_s), s	34.1	35.0	40.5	13.6	9.4	7.2
Cycle Q Clear(g_c), s	34.1	35.0	40.5	13.6	9.4	7.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	1188	528	2091	649	170	2772
V/C Ratio(X)	0.98	1.13	0.97	0.45	0.94	0.25
Avail Cap(c_a), veh/h	1188	528	2091	649	170	2772
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.58	0.58	0.26	0.26	0.87	0.87
Uniform Delay (d), s/veh	32.2	32.5	27.8	20.1	44.7	10.8
Incr Delay (d2), s/veh	15.9	73.1	4.8	0.6	48.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.1	23.1	15.1	4.5	6.1	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.1	105.6	32.6	20.7	93.0	11.0
LnGrp LOS	D	F	C	C	F	B
Approach Vol, veh/h	1765		2310			860
Approach Delay, s/veh	67.6		31.1			26.2
Approach LOS	E		C			C

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	14.0	47.0				61.0		39.0
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	10.0	43.0				57.0		35.0
Max Q Clear Time (g_c+I1), s	11.4	42.5				9.2		37.0
Green Ext Time (p_c), s	0.0	0.5				5.0		0.0

Intersection Summary			
HCM 6th Ctrl Delay			43.3
HCM 6th LOS			D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	10	110	190	10	720	10	1330	80	320	1730	30
Future Volume (veh/h)	270	10	110	190	10	720	10	1330	80	320	1730	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	270	10	110	190	10	720	10	1330	80	320	1730	30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	269	135	129	318	187	766	16	1422	917	603	2010	1136
Arrive On Green	0.16	0.08	0.08	0.19	0.10	0.10	0.01	0.56	0.56	0.18	0.59	0.59
Sat Flow, veh/h	1697	1781	1510	1697	1781	2657	1697	3385	1510	3291	3385	1510
Grp Volume(v), veh/h	270	10	110	190	10	720	10	1330	80	320	1730	30
Grp Sat Flow(s),veh/h/ln	1697	1781	1510	1697	1781	1329	1697	1692	1510	1646	1692	1510
Q Serve(g_s), s	19.0	0.6	6.9	12.3	0.6	8.5	0.7	43.6	0.0	10.6	50.9	0.6
Cycle Q Clear(g_c), s	19.0	0.6	6.9	12.3	0.6	8.5	0.7	43.6	0.0	10.6	50.9	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	269	135	129	318	187	766	16	1422	917	603	2010	1136
V/C Ratio(X)	1.01	0.07	0.85	0.60	0.05	0.94	0.62	0.94	0.09	0.53	0.86	0.03
Avail Cap(c_a), veh/h	269	297	266	318	267	885	57	1495	950	603	2010	1136
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.73	0.73	0.73	0.46	0.46	0.46
Uniform Delay (d), s/veh	50.5	51.5	36.8	44.6	48.3	20.0	59.0	25.0	7.3	44.3	20.2	3.8
Incr Delay (d2), s/veh	56.2	0.2	14.5	3.1	0.1	16.3	25.5	9.9	0.1	0.4	2.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.2	0.3	3.1	5.4	0.3	7.8	0.4	15.8	0.7	4.2	18.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	106.7	51.8	51.2	47.7	48.5	36.3	84.6	34.9	7.5	44.8	22.7	3.8
LnGrp LOS	F	D	D	D	D	D	F	C	A	D	C	A
Approach Vol, veh/h		390			920			1420			2080	
Approach Delay, s/veh		89.7			38.8			33.7			25.8	
Approach LOS		F			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	54.4	26.5	13.1	5.1	75.3	23.0	16.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	14.0	53.0	17.0	20.0	4.0	63.0	19.0	18.0
Max Q Clear Time (g_c+I1), s	12.6	45.6	14.3	8.9	2.7	52.9	21.0	10.5
Green Ext Time (p_c), s	0.2	4.9	0.1	0.2	0.0	7.5	0.0	2.0

Intersection Summary			
HCM 6th Ctrl Delay			35.8
HCM 6th LOS			D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	10	0	630	120	780	0	0	470	1540
Future Volume (veh/h)	0	0	0	10	0	630	120	780	0	0	470	1540
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1781	1781	1781	1781	0	0	1781	1781
Adj Flow Rate, veh/h				10	0	630	120	780	0	0	470	1540
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				8	8	8	8	8	0	0	8	8
Cap, veh/h				566	0	503	127	2031	0	0	1664	1306
Arrive On Green				0.33	0.00	0.33	0.08	0.60	0.00	0.00	0.82	0.82
Sat Flow, veh/h				1697	0	1510	1697	3474	0	0	3474	2657
Grp Volume(v), veh/h				10	0	630	120	780	0	0	470	1540
Grp Sat Flow(s),veh/h/ln				1697	0	1510	1697	1692	0	0	1692	1329
Q Serve(g_s), s				0.5	0.0	40.0	8.4	14.4	0.0	0.0	3.9	59.0
Cycle Q Clear(g_c), s				0.5	0.0	40.0	8.4	14.4	0.0	0.0	3.9	59.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				566	0	503	127	2031	0	0	1664	1306
V/C Ratio(X)				0.02	0.00	1.25	0.94	0.38	0.00	0.00	0.28	1.18
Avail Cap(c_a), veh/h				566	0	503	127	2031	0	0	1664	1306
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67
Upstream Filter(I)				1.00	0.00	1.00	0.68	0.68	0.00	0.00	0.54	0.54
Uniform Delay (d), s/veh				26.8	0.0	40.0	55.2	12.5	0.0	0.0	5.8	10.7
Incr Delay (d2), s/veh				0.0	0.0	129.0	49.5	0.4	0.0	0.0	0.2	85.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.2	0.0	32.6	5.3	5.1	0.0	0.0	1.2	19.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				26.8	0.0	169.0	104.7	12.9	0.0	0.0	6.0	95.8
LnGrp LOS				C	A	F	F	B	A	A	A	F
Approach Vol, veh/h					640			900			2010	
Approach Delay, s/veh					166.8			25.1			74.8	
Approach LOS					F			C			E	

Timer - Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		76.0			13.0	63.0		44.0
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0
Max Green Setting (Gmax), s		72.0			9.0	59.0		40.0
Max Q Clear Time (g_c+I1), s		16.4			10.4	61.0		42.0
Green Ext Time (p_c), s		5.8			0.0	0.0		0.0

Intersection Summary		
HCM 6th Ctrl Delay		78.8
HCM 6th LOS		E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	0	30	0	0	0	0	800	60	350	120	0
Future Volume (veh/h)	100	0	30	0	0	0	0	800	60	350	120	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781				0	1781	1781	1781	1781	0
Adj Flow Rate, veh/h	100	0	30				0	800	60	350	120	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8				0	8	8	8	8	0
Cap, veh/h	267	0	119				0	1116	84	433	2405	0
Arrive On Green	0.08	0.00	0.08				0.00	0.35	0.35	0.26	0.71	0.00
Sat Flow, veh/h	3393	0	1510				0	3280	239	1697	3474	0
Grp Volume(v), veh/h	100	0	30				0	424	436	350	120	0
Grp Sat Flow(s),veh/h/ln	1697	0	1510				0	1692	1738	1697	1692	0
Q Serve(g_s), s	1.1	0.0	0.7				0.0	8.3	8.3	7.3	0.4	0.0
Cycle Q Clear(g_c), s	1.1	0.0	0.7				0.0	8.3	8.3	7.3	0.4	0.0
Prop In Lane	1.00		1.00				0.00		0.14	1.00		0.00
Lane Grp Cap(c), veh/h	267	0	119				0	592	608	433	2405	0
V/C Ratio(X)	0.37	0.00	0.25				0.00	0.72	0.72	0.81	0.05	0.00
Avail Cap(c_a), veh/h	2594	0	1154				0	803	825	716	3390	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	16.6	0.0	16.4				0.0	10.7	10.7	13.2	1.6	0.0
Incr Delay (d2), s/veh	0.9	0.0	1.1				0.0	2.0	1.9	3.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.2				0.0	2.2	2.2	2.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.5	0.0	17.5				0.0	12.7	12.6	16.9	1.7	0.0
LnGrp LOS	B	A	B				A	B	B	B	A	A
Approach Vol, veh/h		130						860			470	
Approach Delay, s/veh		17.5						12.7			13.0	
Approach LOS		B						B			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.7	17.3		7.0		31.0
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	16.0	18.0		29.0		38.0
Max Q Clear Time (g_c+I1), s	9.3	10.3		3.1		2.4
Green Ext Time (p_c), s	0.6	3.0		0.4		0.7

Intersection Summary			
HCM 6th Ctrl Delay			13.2
HCM 6th LOS			B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection						
Int Delay, s/veh	7					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	310	240	10	130	220
Future Vol, veh/h	10	310	240	10	130	220
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	8	8	8	8	8	8
Mvmt Flow	10	310	240	10	130	220

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	730	240	350	0	-	0
Stage 1	240	-	-	-	-	-
Stage 2	490	-	-	-	-	-
Critical Hdwy	6.48	6.28	4.18	-	-	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	2.272	-	-	-
Pot Cap-1 Maneuver	381	784	1176	-	-	-
Stage 1	786	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	303	784	1176	-	-	-
Mov Cap-2 Maneuver	303	-	-	-	-	-
Stage 1	625	-	-	-	-	-
Stage 2	604	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.4	8.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1176	-	747	-	-
HCM Lane V/C Ratio	0.204	-	0.428	-	-
HCM Control Delay (s)	8.8	0	13.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.8	-	2.2	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	240	10	1560	1100	10	10	10	10	10	730	440
Future Volume (veh/h)	10	240	10	1560	1100	10	10	10	10	10	730	440
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	240	10	1560	1100	10	10	10	10	10	730	440
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	16	325	159	1650	1989	902	16	824	1124	16	824	382
Arrive On Green	0.01	0.10	0.10	0.50	0.59	0.59	0.01	0.24	0.24	0.01	0.24	0.24
Sat Flow, veh/h	1697	3385	1510	3291	3385	1510	1697	3385	1510	1697	3385	1510
Grp Volume(v), veh/h	10	240	10	1560	1100	10	10	10	10	10	730	440
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1646	1692	1510	1697	1692	1510	1697	1692	1510
Q Serve(g_s), s	0.6	7.4	0.6	48.0	21.2	0.3	0.6	0.2	0.2	0.6	22.2	26.0
Cycle Q Clear(g_c), s	0.6	7.4	0.6	48.0	21.2	0.3	0.6	0.2	0.2	0.6	22.2	26.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	16	325	159	1650	1989	902	16	824	1124	16	824	382
V/C Ratio(X)	0.61	0.74	0.06	0.95	0.55	0.01	0.61	0.01	0.01	0.61	0.89	1.15
Avail Cap(c_a), veh/h	365	570	269	1726	1989	902	64	824	1124	64	824	382
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.7	47.0	43.0	25.3	13.5	8.7	52.7	30.7	3.5	52.7	39.0	39.9
Incr Delay (d2), s/veh	31.9	3.3	0.2	11.1	0.3	0.0	31.9	0.0	0.0	31.9	11.4	94.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.2	0.2	19.9	7.5	0.1	0.4	0.1	0.0	0.4	10.3	19.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.6	50.3	43.2	36.4	13.8	8.7	84.6	30.7	3.5	84.6	50.4	134.1
LnGrp LOS	F	D	D	D	B	A	F	C	A	F	D	F
Approach Vol, veh/h		260			2670			30			1180	
Approach Delay, s/veh		51.3			27.0			39.6			81.9	
Approach LOS		D			C			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	30.0	57.5	14.3	5.0	30.0	5.0	66.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	26.0	56.0	18.0	4.0	26.0	23.0	51.0
Max Q Clear Time (g_c+I1), s	2.6	2.2	50.0	9.4	2.6	28.0	2.6	23.2
Green Ext Time (p_c), s	0.0	0.0	3.5	0.9	0.0	0.0	0.0	9.1

Intersection Summary			
HCM 6th Ctrl Delay			44.2
HCM 6th LOS			D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	10	3580	1240	400	60	40	60	10	10	1190	70
Future Volume (veh/h)	40	10	3580	1240	400	60	40	60	10	10	1190	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	40	10	3580	1240	400	60	40	60	10	10	1190	70
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	87	1503	728	86	2005	294	172	639	626	19	595	558
Arrive On Green	0.03	0.44	0.44	0.05	0.47	0.46	0.04	0.36	0.36	0.01	0.33	0.33
Sat Flow, veh/h	3291	3385	1510	1697	4283	628	4784	1781	1510	1697	1781	1510
Grp Volume(v), veh/h	40	10	3580	1240	301	159	40	60	10	10	1190	70
Grp Sat Flow(s),veh/h/ln	1646	1692	1510	1697	1621	1668	1595	1781	1510	1697	1781	1510
Q Serve(g_s), s	1.4	0.2	52.5	6.0	6.4	6.7	1.0	2.6	0.5	0.7	39.5	3.6
Cycle Q Clear(g_c), s	1.4	0.2	52.5	6.0	6.4	6.7	1.0	2.6	0.5	0.7	39.5	3.6
Prop In Lane	1.00		1.00	1.00		0.38	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	87	1503	728	86	1518	781	172	639	626	19	595	558
V/C Ratio(X)	0.46	0.01	4.91	14.40	0.20	0.20	0.23	0.09	0.02	0.53	2.00	0.13
Avail Cap(c_a), veh/h	122	1503	728	86	1518	781	243	639	626	60	595	558
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.7	18.3	30.6	56.1	18.4	18.6	55.4	25.2	20.4	58.2	39.4	24.6
Incr Delay (d2), s/veh	3.7	0.0	1764.8	6054.6	0.1	0.1	0.8	0.1	0.0	20.9	455.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.1	376.6	147.3	2.4	2.6	0.4	1.1	0.2	0.4	91.7	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.5	18.3	1795.4	6110.7	18.5	18.7	56.2	25.2	20.4	79.1	495.3	24.7
LnGrp LOS	E	B	F	F	B	B	E	C	C	E	F	C
Approach Vol, veh/h		3630			1700			110			1270	
Approach Delay, s/veh		1771.4			4462.3			36.1			466.1	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	56.5	8.3	43.5	7.1	59.4	5.3	46.4
Change Period (Y+Rc), s	* 4.7	4.9	4.6	5.3	* 4.2	4.9	* 4.2	5.3
Max Green Setting (Gmax), s	* 5.3	51.6	5.4	38.2	* 4.2	53.2	* 4	40.0
Max Q Clear Time (g_c+I1), s	3.0	54.5	3.0	41.5	3.4	8.7	2.7	4.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	2177.6
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	3610	10	10	440	80	10	10	10	20	10	90
Future Volume (veh/h)	110	3610	10	10	440	80	10	10	10	20	10	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	110	3610	10	10	440	80	10	10	10	20	10	90
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	148	3118	9	33	2305	409	33	103	103	59	252	346
Arrive On Green	0.09	0.62	0.62	0.02	0.55	0.55	0.02	0.13	0.13	0.03	0.14	0.14
Sat Flow, veh/h	1697	5007	14	1697	4154	737	1697	817	817	1697	1781	1510
Grp Volume(v), veh/h	110	2336	1284	10	341	179	10	0	20	20	10	90
Grp Sat Flow(s),veh/h/ln	1697	1621	1779	1697	1621	1649	1697	0	1634	1697	1781	1510
Q Serve(g_s), s	5.8	57.0	57.0	0.5	4.8	5.0	0.5	0.0	1.0	1.1	0.4	4.5
Cycle Q Clear(g_c), s	5.8	57.0	57.0	0.5	4.8	5.0	0.5	0.0	1.0	1.1	0.4	4.5
Prop In Lane	1.00		0.01	1.00		0.45	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	148	2019	1108	33	1799	915	33	0	206	59	252	346
V/C Ratio(X)	0.74	1.16	1.16	0.30	0.19	0.20	0.30	0.00	0.10	0.34	0.04	0.26
Avail Cap(c_a), veh/h	293	2019	1108	148	1799	915	148	0	518	148	564	610
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	17.3	17.3	44.3	10.1	10.2	44.3	0.0	35.4	43.1	33.9	28.9
Incr Delay (d2), s/veh	2.7	76.8	81.9	1.8	0.1	0.1	1.8	0.0	0.1	1.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	38.9	44.3	0.2	1.6	1.7	0.2	0.0	0.4	0.5	0.2	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.5	94.1	99.1	46.1	10.2	10.3	46.1	0.0	35.5	44.4	34.0	29.1
LnGrp LOS	D	F	F	D	B	B	D	A	D	D	C	C
Approach Vol, veh/h		3730			530			30			120	
Approach Delay, s/veh		94.3			10.9			39.0			32.0	
Approach LOS		F			B			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	61.5	6.3	17.5	12.5	55.3	7.7	16.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.0	57.0	8.0	29.0	15.8	49.2	8.0	29.0
Max Q Clear Time (g_c+I1), s	2.5	59.0	2.5	6.5	7.8	7.0	3.1	3.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	4.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	82.2
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	800	1200	0	890	3550	0	0	0	100	350	80
Future Volume (veh/h)	170	800	1200	0	890	3550	0	0	0	100	350	80
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	0	1781	1781				1781	1781	1781
Adj Flow Rate, veh/h	170	800	1200	0	890	0				100	350	80
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	0	8	8				8	8	8
Cap, veh/h	256	2209	985	0	2534					420	441	499
Arrive On Green	0.08	0.65	0.65	0.00	0.52	0.00				0.25	0.25	0.25
Sat Flow, veh/h	3291	3385	1510	0	5024	1510				1697	1781	1510
Grp Volume(v), veh/h	170	800	1200	0	890	0				100	350	80
Grp Sat Flow(s),veh/h/ln	1646	1692	1510	0	1621	1510				1697	1781	1510
Q Serve(g_s), s	3.7	8.0	48.4	0.0	8.0	0.0				3.5	13.6	2.8
Cycle Q Clear(g_c), s	3.7	8.0	48.4	0.0	8.0	0.0				3.5	13.6	2.8
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	256	2209	985	0	2534					420	441	499
V/C Ratio(X)	0.66	0.36	1.22	0.00	0.35					0.24	0.79	0.16
Avail Cap(c_a), veh/h	275	2209	985	0	2534					897	942	924
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	33.3	5.9	12.9	0.0	10.4	0.0				22.3	26.1	17.5
Incr Delay (d2), s/veh	5.4	0.2	107.3	0.0	0.2	0.0				0.3	3.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	2.1	40.2	0.0	2.4	0.0				1.3	5.8	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.6	6.1	120.2	0.0	10.6	0.0				22.6	29.4	17.7
LnGrp LOS	D	A	F	A	B					C	C	B
Approach Vol, veh/h		2170			890	A					530	
Approach Delay, s/veh		71.8			10.6						26.4	
Approach LOS		E			B						C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		52.4		21.8	9.8	42.6
Change Period (Y+Rc), s		5.3		4.0	* 4.2	5.3
Max Green Setting (Gmax), s		47.1		38.6	* 6	36.9
Max Q Clear Time (g_c+I1), s		50.4		15.6	5.7	10.0
Green Ext Time (p_c), s		0.0		2.1	0.0	10.2

Intersection Summary			
HCM 6th Ctrl Delay			49.9
HCM 6th LOS			D

Notes

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	680	230	0	0	4280	10	160	0	850	0	0	0
Future Volume (veh/h)	680	230	0	0	4280	10	160	0	850	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1781	1781	0	0	1781	1781	1781	0	1781			
Adj Flow Rate, veh/h	680	230	0	0	4280	0	160	0	850			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	8	8	0	0	8	8	8	0	8			
Cap, veh/h	283	2056	0	0	1982		553	0	492			
Arrive On Green	0.17	0.61	0.00	0.00	0.41	0.00	0.33	0.00	0.33			
Sat Flow, veh/h	1697	3474	0	0	5024	1510	1697	0	1510			
Grp Volume(v), veh/h	680	230	0	0	4280	0	160	0	850			
Grp Sat Flow(s),veh/h/ln	1697	1692	0	0	1621	1510	1697	0	1510			
Q Serve(g_s), s	20.0	3.4	0.0	0.0	48.9	0.0	8.4	0.0	39.1			
Cycle Q Clear(g_c), s	20.0	3.4	0.0	0.0	48.9	0.0	8.4	0.0	39.1			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	283	2056	0	0	1982		553	0	492			
V/C Ratio(X)	2.40	0.11	0.00	0.00	2.16		0.29	0.00	1.73			
Avail Cap(c_a), veh/h	283	2056	0	0	1982		553	0	492			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	50.0	9.9	0.0	0.0	35.6	0.0	30.1	0.0	40.4			
Incr Delay (d2), s/veh	642.9	0.0	0.0	0.0	523.5	0.0	0.8	0.0	336.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	58.8	1.2	0.0	0.0	114.4	0.0	3.6	0.0	60.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	692.9	10.0	0.0	0.0	559.1	0.0	30.9	0.0	376.5			
LnGrp LOS	F	A	A	A	F		C	A	F			
Approach Vol, veh/h		910			4280	A		1010				
Approach Delay, s/veh		520.3			559.1			321.8				
Approach LOS		F			F			F				

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		76.9			24.0	52.9		43.1				
Change Period (Y+Rc), s		5.3			* 4.2	5.3		4.2				
Max Green Setting (Gmax), s		71.6			* 20	47.6		38.9				
Max Q Clear Time (g_c+I1), s		5.4			22.0	50.9		41.1				
Green Ext Time (p_c), s		1.6			0.0	0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		514.7
HCM 6th LOS		F

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	1020	70	30	3780	40	550	160	270	60	20	70
Future Volume (veh/h)	40	1020	70	30	3780	40	550	160	270	60	20	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	40	1020	70	30	3780	40	550	160	270	60	20	70
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	92	2254	700	78	2211	686	263	379	321	112	43	151
Arrive On Green	0.05	0.46	0.46	0.05	0.45	0.45	0.16	0.21	0.21	0.07	0.12	0.12
Sat Flow, veh/h	1697	4863	1510	1697	4863	1510	1697	1781	1510	1697	347	1215
Grp Volume(v), veh/h	40	1020	70	30	3780	40	550	160	270	60	0	90
Grp Sat Flow(s),veh/h/ln	1697	1621	1510	1697	1621	1510	1697	1781	1510	1697	0	1563
Q Serve(g_s), s	2.2	13.8	2.5	1.7	44.0	1.4	15.0	7.5	16.6	3.3	0.0	5.2
Cycle Q Clear(g_c), s	2.2	13.8	2.5	1.7	44.0	1.4	15.0	7.5	16.6	3.3	0.0	5.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.78
Lane Grp Cap(c), veh/h	92	2254	700	78	2211	686	263	379	321	112	0	194
V/C Ratio(X)	0.43	0.45	0.10	0.39	1.71	0.06	2.09	0.42	0.84	0.53	0.00	0.46
Avail Cap(c_a), veh/h	149	2254	700	149	2211	686	263	679	576	177	0	517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.3	17.6	14.6	44.9	26.4	14.8	40.9	32.9	36.5	43.7	0.0	39.4
Incr Delay (d2), s/veh	1.2	0.2	0.1	1.2	321.2	0.0	503.9	0.7	5.9	1.5	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	4.7	0.8	0.7	80.8	0.5	42.9	3.3	6.5	1.4	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.5	17.8	14.7	46.0	347.6	14.8	544.8	33.7	42.4	45.2	0.0	40.7
LnGrp LOS	D	B	B	D	F	B	F	C	D	D	A	D
Approach Vol, veh/h		1130			3850			980			150	
Approach Delay, s/veh		18.6			341.8			322.9			42.5	
Approach LOS		B			F			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	50.3	20.0	17.0	10.3	49.5	11.4	25.6
Change Period (Y+Rc), s	5.0	5.5	5.0	5.0	5.0	5.5	5.0	5.0
Max Green Setting (Gmax), s	8.5	44.0	15.0	32.0	8.5	44.0	10.1	36.9
Max Q Clear Time (g_c+I1), s	3.7	15.8	17.0	7.2	4.2	46.0	5.3	18.6
Green Ext Time (p_c), s	0.0	10.9	0.0	0.4	0.0	0.0	0.0	1.7

Intersection Summary		
HCM 6th Ctrl Delay		271.6
HCM 6th LOS		F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	240	30	320	1490	230	380	290	10	20	80	80
Future Volume (veh/h)	80	240	30	320	1490	230	380	290	10	20	80	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	80	240	30	320	1490	230	380	290	10	20	80	80
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	101	1053	130	139	1089	166	174	381	13	33	248	210
Arrive On Green	0.06	0.35	0.35	0.08	0.37	0.37	0.10	0.22	0.22	0.02	0.14	0.14
Sat Flow, veh/h	1697	3032	375	1697	2946	448	1697	1712	59	1697	1781	1510
Grp Volume(v), veh/h	80	133	137	320	846	874	380	0	300	20	80	80
Grp Sat Flow(s),veh/h/ln	1697	1692	1714	1697	1692	1701	1697	0	1771	1697	1781	1510
Q Serve(g_s), s	2.3	2.7	2.8	4.0	18.0	18.0	5.0	0.0	7.7	0.6	2.0	2.3
Cycle Q Clear(g_c), s	2.3	2.7	2.8	4.0	18.0	18.0	5.0	0.0	7.7	0.6	2.0	2.3
Prop In Lane	1.00		0.22	1.00		0.26	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	101	588	595	139	626	629	174	0	394	33	248	210
V/C Ratio(X)	0.79	0.23	0.23	2.30	1.35	1.39	2.18	0.00	0.76	0.61	0.32	0.38
Avail Cap(c_a), veh/h	697	1182	1197	139	626	629	174	0	691	592	1134	961
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.6	11.3	11.3	22.3	15.3	15.3	21.8	0.0	17.7	23.7	18.9	19.0
Incr Delay (d2), s/veh	12.6	0.2	0.2	605.2	169.0	185.0	550.0	0.0	3.1	16.5	0.7	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.9	0.9	24.8	34.7	37.7	28.4	0.0	3.0	0.4	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	11.4	11.5	627.6	184.4	200.4	571.8	0.0	20.8	40.2	19.6	20.2
LnGrp LOS	D	B	B	F	F	F	F	A	C	D	B	C
Approach Vol, veh/h		350			2040			680			180	
Approach Delay, s/veh		16.9			260.8			328.7			22.2	
Approach LOS		B			F			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.9	14.8	8.0	20.9	9.0	10.8	6.9	22.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	17.0	19.0	4.0	34.0	5.0	31.0	20.0	18.0
Max Q Clear Time (g_c+I1), s	2.6	9.7	6.0	4.8	7.0	4.3	4.3	20.0
Green Ext Time (p_c), s	0.0	1.1	0.0	1.5	0.0	0.6	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	235.5
HCM 6th LOS	F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	630	790	700	170	310	50
Future Volume (veh/h)	630	790	700	170	310	50
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	630	790	700	170	310	50
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	679	604	1760	785	311	1760
Arrive On Green	0.40	0.40	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1697	1510	3474	1510	606	3474
Grp Volume(v), veh/h	630	790	700	170	310	50
Grp Sat Flow(s),veh/h/ln	1697	1510	1692	1510	606	1692
Q Serve(g_s), s	35.4	40.0	12.5	6.1	39.5	0.7
Cycle Q Clear(g_c), s	35.4	40.0	12.5	6.1	52.0	0.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	679	604	1760	785	311	1760
V/C Ratio(X)	0.93	1.31	0.40	0.22	1.00	0.03
Avail Cap(c_a), veh/h	679	604	1760	785	311	1760
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.6	30.0	14.5	13.0	34.8	11.7
Incr Delay (d2), s/veh	19.1	150.4	0.1	0.1	49.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.6	39.3	4.5	2.0	11.9	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	47.8	180.4	14.7	13.1	84.5	11.7
LnGrp LOS	D	F	B	B	F	B
Approach Vol, veh/h	1420		870			360
Approach Delay, s/veh	121.5		14.4			74.4
Approach LOS	F		B			E

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	56.0	56.0	44.0
Change Period (Y+Rc), s	4.0	4.0	4.0
Max Green Setting (Gmax), s	52.0	52.0	40.0
Max Q Clear Time (g_c+I1), s	14.5	54.0	42.0
Green Ext Time (p_c), s	6.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	79.9
HCM 6th LOS	E

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	190	60	2040	680	50	630
Future Volume (veh/h)	190	60	2040	680	50	630
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	190	60	2040	680	50	630
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	222	1108	1984	2701	540	439
Arrive On Green	0.13	0.13	0.60	0.80	0.16	0.16
Sat Flow, veh/h	1697	1510	3291	3474	3474	1510
Grp Volume(v), veh/h	190	60	2040	680	50	630
Grp Sat Flow(s),veh/h/ln	1697	1510	1646	1692	1692	1510
Q Serve(g_s), s	12.4	1.2	68.0	5.7	1.4	18.0
Cycle Q Clear(g_c), s	12.4	1.2	68.0	5.7	1.4	18.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	222	1108	1984	2701	540	439
V/C Ratio(X)	0.85	0.05	1.03	0.25	0.09	1.44
Avail Cap(c_a), veh/h	331	1205	1984	2701	540	439
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.9	4.2	22.4	2.9	40.4	40.0
Incr Delay (d2), s/veh	13.1	0.0	27.7	0.0	0.1	208.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	2.4	31.0	1.4	0.6	48.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	61.1	4.2	50.1	2.9	40.5	248.7
LnGrp LOS	E	A	F	A	D	F
Approach Vol, veh/h	250			2720	680	
Approach Delay, s/veh	47.4			38.3	233.3	
Approach LOS	D			D	F	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		94.0		18.8	72.0	22.0
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		90.0		22.0	68.0	18.0
Max Q Clear Time (g_c+I1), s		7.7		14.4	70.0	20.0
Green Ext Time (p_c), s		5.4		0.4	0.0	0.0

Intersection Summary			
HCM 6th Ctrl Delay			75.3
HCM 6th LOS			E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	680	160	100	1540	570	1330	1130	10	80	210	50
Future Volume (veh/h)	250	680	160	100	1540	570	1330	1130	10	80	210	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	250	680	0	100	1540	570	1330	1130	10	80	210	50
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	141	1828		266	1265	632	1271	1124	623	375	490	294
Arrive On Green	0.08	0.38	0.00	0.08	0.37	0.36	0.27	0.33	0.33	0.08	0.14	0.13
Sat Flow, veh/h	1697	4863	1510	3291	3385	1510	4784	3385	1510	4784	3385	1510
Grp Volume(v), veh/h	250	680	0	100	1540	570	1330	1130	10	80	210	50
Grp Sat Flow(s),veh/h/ln	1697	1621	1510	1646	1692	1510	1595	1692	1510	1595	1692	1510
Q Serve(g_s), s	10.0	12.2	0.0	3.5	45.0	42.5	32.0	40.0	0.5	1.9	6.8	3.3
Cycle Q Clear(g_c), s	10.0	12.2	0.0	3.5	45.0	42.5	32.0	40.0	0.5	1.9	6.8	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	1828		266	1265	632	1271	1124	623	375	490	294
V/C Ratio(X)	1.77	0.37		0.38	1.22	0.90	1.05	1.01	0.02	0.21	0.43	0.17
Avail Cap(c_a), veh/h	141	1828		301	1265	632	1271	1124	623	437	984	514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	27.3	0.0	52.5	37.7	32.7	44.2	40.2	20.9	52.0	47.0	40.4
Incr Delay (d2), s/veh	375.8	0.1	0.0	0.9	105.4	16.1	38.3	28.1	0.0	0.3	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.9	4.6	0.0	1.4	36.3	17.6	16.7	20.4	0.2	0.8	2.9	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	431.1	27.4	0.0	53.4	143.2	48.8	82.5	68.4	20.9	52.3	47.5	40.7
LnGrp LOS	F	C		D	F	D	F	F	C	D	D	D
Approach Vol, veh/h		930	A		2210			2470			340	
Approach Delay, s/veh		135.9			114.8			75.8			47.7	
Approach LOS		F			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	44.0	13.7	49.3	36.0	21.4	14.0	49.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.0	38.0	9.0	40.0	30.0	33.0	8.0	43.0
Max Q Clear Time (g_c+I1), s	13.9	42.0	5.5	14.2	34.0	8.8	12.0	47.0
Green Ext Time (p_c), s	0.1	0.0	0.1	3.3	0.0	1.1	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		98.0
HCM 6th LOS		F

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	840	290	40	2300	440	410	2120	80	130	320	1150
Future Volume (veh/h)	230	840	290	40	2300	440	410	2120	80	130	320	1150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	230	840	0	40	2300	440	410	2120	80	130	320	1150
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	302	1839		237	1743	642	219	1783	662	219	1783	692
Arrive On Green	0.09	0.38	0.00	0.07	0.36	0.36	0.07	0.37	0.37	0.07	0.37	0.37
Sat Flow, veh/h	3291	4863	1510	3291	4863	1510	3291	4863	1510	3291	4863	1510
Grp Volume(v), veh/h	230	840	0	40	2300	440	410	2120	80	130	320	1150
Grp Sat Flow(s),veh/h/ln	1646	1621	1510	1646	1621	1510	1646	1621	1510	1646	1621	1510
Q Serve(g_s), s	8.2	15.6	0.0	1.4	43.0	28.4	8.0	44.0	3.8	4.6	5.4	44.0
Cycle Q Clear(g_c), s	8.2	15.6	0.0	1.4	43.0	28.4	8.0	44.0	3.8	4.6	5.4	44.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	302	1839		237	1743	642	219	1783	662	219	1783	692
V/C Ratio(X)	0.76	0.46		0.17	1.32	0.69	1.87	1.19	0.12	0.59	0.18	1.66
Avail Cap(c_a), veh/h	302	1839		302	1743	642	219	1783	662	219	1783	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.2	28.1	0.0	52.3	38.5	28.0	56.0	38.0	20.0	54.4	25.8	32.5
Incr Delay (d2), s/veh	10.9	0.2	0.0	0.3	148.1	3.0	407.7	90.9	0.1	6.5	0.0	304.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	5.8	0.0	0.6	40.0	10.4	15.7	31.7	1.3	2.1	2.0	77.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.1	28.2	0.0	52.7	186.6	31.0	463.7	128.9	20.1	60.9	25.8	336.8
LnGrp LOS	E	C		D	F	C	F	F	C	E	C	F
Approach Vol, veh/h		1070	A		2780			2610			1600	
Approach Delay, s/veh		35.9			160.0			178.2			252.2	
Approach LOS		D			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	49.4	11.0	48.0	14.0	47.0	11.0	48.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	9.0	41.0	6.0	42.0	9.0	41.0	6.0	42.0
Max Q Clear Time (g_c+I1), s	3.4	17.6	6.6	46.0	10.2	45.0	10.0	46.0
Green Ext Time (p_c), s	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	167.7
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	150	60	20	1450	500	150	1930	30	240	430	280
Future Volume (veh/h)	10	150	60	20	1450	500	150	1930	30	240	430	280
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	150	60	20	1450	500	150	1930	30	240	430	280
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	24	1355	689	42	1031	336	95	1749	27	185	1149	535
Arrive On Green	0.01	0.40	0.40	0.02	0.41	0.41	0.06	0.35	0.35	0.06	0.35	0.35
Sat Flow, veh/h	1697	3385	1510	1697	2510	817	1697	4933	77	3291	3242	1510
Grp Volume(v), veh/h	10	150	60	20	950	1000	150	1268	692	240	430	280
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1697	1692	1634	1697	1621	1768	1646	1621	1510
Q Serve(g_s), s	0.7	3.2	2.6	1.3	47.5	47.5	6.5	41.0	41.0	6.5	11.4	17.0
Cycle Q Clear(g_c), s	0.7	3.2	2.6	1.3	47.5	47.5	6.5	41.0	41.0	6.5	11.4	17.0
Prop In Lane	1.00		1.00	1.00		0.50	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	24	1355	689	42	695	671	95	1149	627	185	1149	535
V/C Ratio(X)	0.41	0.11	0.09	0.48	1.37	1.49	1.57	1.10	1.10	1.30	0.37	0.52
Avail Cap(c_a), veh/h	88	1390	705	88	695	671	95	1149	627	185	1149	535
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	21.8	17.8	55.7	34.1	34.1	54.6	37.3	37.3	54.6	27.8	29.6
Incr Delay (d2), s/veh	4.1	0.0	0.1	3.1	174.2	228.2	302.1	59.5	67.9	167.7	0.2	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.3	0.9	0.6	52.0	60.3	10.7	25.0	28.7	6.9	4.3	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.7	21.8	17.8	58.8	208.2	262.3	356.7	96.8	105.2	222.3	28.0	30.5
LnGrp LOS	E	C	B	E	F	F	F	F	F	F	C	C
Approach Vol, veh/h		220			1970			2110			950	
Approach Delay, s/veh		22.5			234.2			118.1			77.8	
Approach LOS		C			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	51.3	11.0	46.0	6.1	52.5	11.0	46.0
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	6.0	47.5	6.5	41.0	6.0	47.5	6.5	41.0
Max Q Clear Time (g_c+I1), s	3.3	5.2	8.5	43.0	2.7	49.5	8.5	19.0
Green Ext Time (p_c), s	0.0	0.9	0.0	0.0	0.0	0.0	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	150.3
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	70	10	50	940	510	30	1150	10	30	300	30
Future Volume (veh/h)	10	70	10	50	940	510	30	1150	10	30	300	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	70	10	50	940	510	30	1150	10	30	300	30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	16	1169	163	63	897	476	38	1169	10	119	1312	585
Arrive On Green	0.01	0.39	0.39	0.04	0.42	0.42	0.02	0.34	0.34	0.07	0.39	0.39
Sat Flow, veh/h	1697	2977	416	1697	2136	1134	1697	3439	30	1697	3385	1510
Grp Volume(v), veh/h	10	39	41	50	740	710	30	566	594	30	300	30
Grp Sat Flow(s),veh/h/ln	1697	1692	1700	1697	1692	1577	1697	1692	1776	1697	1692	1510
Q Serve(g_s), s	0.6	1.4	1.5	2.9	42.0	42.0	1.8	33.2	33.2	1.7	6.0	1.1
Cycle Q Clear(g_c), s	0.6	1.4	1.5	2.9	42.0	42.0	1.8	33.2	33.2	1.7	6.0	1.1
Prop In Lane	1.00		0.24	1.00		0.72	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	16	664	668	63	711	663	38	575	604	119	1312	585
V/C Ratio(X)	0.61	0.06	0.06	0.79	1.04	1.07	0.78	0.98	0.98	0.25	0.23	0.05
Avail Cap(c_a), veh/h	68	664	668	119	711	663	102	575	604	119	1312	585
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	18.9	18.9	47.8	29.0	29.0	48.6	32.7	32.7	44.0	20.6	13.9
Incr Delay (d2), s/veh	31.1	0.0	0.0	19.7	45.1	55.6	26.6	32.4	31.6	1.1	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.6	0.6	1.6	24.8	25.1	1.0	17.7	18.5	0.7	2.3	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.4	18.9	18.9	67.5	74.1	84.6	75.2	65.1	64.3	45.1	21.0	14.1
LnGrp LOS	F	B	B	E	F	F	E	E	E	D	C	B
Approach Vol, veh/h		90			1500			1190			360	
Approach Delay, s/veh		25.8			78.8			65.0			22.4	
Approach LOS		C			E			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	38.0	7.7	43.3	6.3	42.8	5.0	46.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	34.0	7.0	39.0	6.0	32.0	4.0	42.0
Max Q Clear Time (g_c+I1), s	3.7	35.2	4.9	3.5	3.8	8.0	2.6	44.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.3	0.0	1.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	65.6
HCM 6th LOS	E

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	40	10	380	1150	340	10
Future Volume (veh/h)	40	10	380	1150	340	10
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	40	10	380	1150	340	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	72	64	807	2564	615	274
Arrive On Green	0.04	0.04	0.48	0.76	0.18	0.18
Sat Flow, veh/h	1697	1510	1697	3474	3474	1510
Grp Volume(v), veh/h	40	10	380	1150	340	10
Grp Sat Flow(s),veh/h/ln	1697	1510	1697	1692	1692	1510
Q Serve(g_s), s	0.9	0.3	6.1	5.0	3.7	0.2
Cycle Q Clear(g_c), s	0.9	0.3	6.1	5.0	3.7	0.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	72	64	807	2564	615	274
V/C Ratio(X)	0.55	0.16	0.47	0.45	0.55	0.04
Avail Cap(c_a), veh/h	212	189	807	2564	1608	717
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.97	0.97
Uniform Delay (d), s/veh	18.8	18.5	7.1	1.8	14.9	6.7
Incr Delay (d2), s/veh	6.4	1.1	0.4	0.6	3.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.2	1.2	0.2	1.3	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.2	19.6	7.5	2.4	18.3	6.9
LnGrp LOS	C	B	A	A	B	A
Approach Vol, veh/h	50			1530	350	
Approach Delay, s/veh	24.1			3.6	18.0	
Approach LOS	C			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		34.3		5.7	23.0	11.3
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		27.0		5.0	4.0	19.0
Max Q Clear Time (g_c+I1), s		7.0		2.9	8.1	5.7
Green Ext Time (p_c), s		7.8		0.0	0.0	1.6

Intersection Summary			
HCM 6th Ctrl Delay			6.8
HCM 6th LOS			A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	50	10	40	90	350	40	1150	10	50	290	10
Future Volume (veh/h)	50	50	10	40	90	350	40	1150	10	50	290	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	50	50	10	40	90	350	40	1150	10	50	290	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	83	466	93	73	101	393	73	1241	553	83	1261	562
Arrive On Green	0.05	0.32	0.32	0.04	0.32	0.32	0.04	0.37	0.37	0.05	0.37	0.37
Sat Flow, veh/h	1697	1441	288	1697	319	1240	1697	3385	1510	1697	3385	1510
Grp Volume(v), veh/h	50	0	60	40	0	440	40	1150	10	50	290	10
Grp Sat Flow(s),veh/h/ln	1697	0	1730	1697	0	1558	1697	1692	1510	1697	1692	1510
Q Serve(g_s), s	2.4	0.0	2.1	2.0	0.0	22.7	2.0	27.5	0.4	2.4	5.0	0.4
Cycle Q Clear(g_c), s	2.4	0.0	2.1	2.0	0.0	22.7	2.0	27.5	0.4	2.4	5.0	0.4
Prop In Lane	1.00		0.17	1.00		0.80	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	83	0	559	73	0	495	73	1241	553	83	1261	562
V/C Ratio(X)	0.60	0.00	0.11	0.55	0.00	0.89	0.55	0.93	0.02	0.60	0.23	0.02
Avail Cap(c_a), veh/h	121	0	696	121	0	627	121	1258	561	121	1261	562
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	0.0	20.0	39.6	0.0	27.4	39.6	25.7	17.1	39.3	18.2	16.7
Incr Delay (d2), s/veh	6.8	0.0	0.1	6.2	0.0	12.5	6.2	11.9	0.0	6.8	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.8	0.9	0.0	9.9	0.9	11.9	0.1	1.1	1.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.1	0.0	20.1	45.8	0.0	39.9	45.8	37.5	17.1	46.1	18.3	16.8
LnGrp LOS	D	A	C	D	A	D	D	D	B	D	B	B
Approach Vol, veh/h		110			480			1200			350	
Approach Delay, s/veh		31.9			40.4			37.6			22.2	
Approach LOS		C			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.1	36.8	7.7	31.9	7.7	37.3	8.1	31.4				
Change Period (Y+Rc), s	4.0	* 5.8	4.0	4.6	4.0	5.8	4.0	4.6				
Max Green Setting (Gmax), s	6.0	* 31	6.0	34.0	6.0	30.6	6.0	34.0				
Max Q Clear Time (g_c+I1), s	4.4	29.5	4.0	4.1	4.0	7.0	4.4	24.7				
Green Ext Time (p_c), s	0.0	1.4	0.0	0.3	0.0	2.4	0.0	2.1				

Intersection Summary	
HCM 6th Ctrl Delay	35.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	20	30	280	90	10	400	1180	40	10	330	10
Future Volume (veh/h)	10	20	30	280	90	10	400	1180	40	10	330	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	20	30	280	90	10	400	1180	40	10	330	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	25	56	83	319	409	45	440	1526	680	25	764	341
Arrive On Green	0.01	0.09	0.09	0.19	0.26	0.26	0.26	0.45	0.45	0.01	0.23	0.23
Sat Flow, veh/h	1697	643	965	1697	1575	175	1697	3385	1510	1697	3385	1510
Grp Volume(v), veh/h	10	0	50	280	0	100	400	1180	40	10	330	10
Grp Sat Flow(s),veh/h/ln	1697	0	1608	1697	0	1750	1697	1692	1510	1697	1692	1510
Q Serve(g_s), s	0.5	0.0	2.3	12.6	0.0	3.5	18.0	23.1	1.2	0.5	6.6	0.4
Cycle Q Clear(g_c), s	0.5	0.0	2.3	12.6	0.0	3.5	18.0	23.1	1.2	0.5	6.6	0.4
Prop In Lane	1.00		0.60	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	0	139	319	0	454	440	1526	680	25	764	341
V/C Ratio(X)	0.39	0.00	0.36	0.88	0.00	0.22	0.91	0.77	0.06	0.39	0.43	0.03
Avail Cap(c_a), veh/h	130	0	676	367	0	980	497	1879	838	130	1211	540
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.3	0.0	33.8	31.0	0.0	22.8	28.2	18.2	12.2	38.3	26.1	23.7
Incr Delay (d2), s/veh	9.6	0.0	1.6	18.8	0.0	0.2	19.4	1.9	0.1	9.6	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.0	6.6	0.0	1.4	9.0	8.0	0.4	0.2	2.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.9	0.0	35.4	49.8	0.0	23.1	47.6	20.1	12.2	47.9	26.6	23.8
LnGrp LOS	D	A	D	D	A	C	D	C	B	D	C	C
Approach Vol, veh/h		60			380			1620			350	
Approach Delay, s/veh		37.5			42.8			26.7			27.2	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	41.2	18.8	11.9	24.4	23.5	5.2	25.5
Change Period (Y+Rc), s	5.5	5.8	4.0	5.1	4.0	5.8	4.0	5.1
Max Green Setting (Gmax), s	6.0	43.6	17.0	33.0	23.0	28.1	6.0	44.0
Max Q Clear Time (g_c+I1), s	2.5	25.1	14.6	4.3	20.0	8.6	2.5	5.5
Green Ext Time (p_c), s	0.0	10.3	0.2	0.2	0.4	2.6	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	29.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	390	10	300	1250	820	10	730	540	100	270	260
Future Volume (veh/h)	60	390	10	300	1250	820	10	730	540	100	270	260
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	60	390	10	300	1250	820	10	730	0	100	270	260
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	73	1488	38	365	1723	768	16	815		117	508	453
Arrive On Green	0.04	0.44	0.44	0.11	0.51	0.51	0.01	0.24	0.00	0.07	0.30	0.30
Sat Flow, veh/h	1697	3372	86	3291	3385	1510	1697	3385	1510	1697	1692	1510
Grp Volume(v), veh/h	60	195	205	300	1250	820	10	730	0	100	270	260
Grp Sat Flow(s),veh/h/ln	1697	1692	1766	1646	1692	1510	1697	1692	1510	1697	1692	1510
Q Serve(g_s), s	4.1	8.5	8.5	10.3	33.3	59.0	0.7	24.2	0.0	6.8	15.4	16.9
Cycle Q Clear(g_c), s	4.1	8.5	8.5	10.3	33.3	59.0	0.7	24.2	0.0	6.8	15.4	16.9
Prop In Lane	1.00		0.05	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	73	747	779	365	1723	768	16	815		117	508	453
V/C Ratio(X)	0.82	0.26	0.26	0.82	0.73	1.07	0.62	0.90		0.85	0.53	0.57
Avail Cap(c_a), veh/h	73	747	779	483	1723	768	59	934		117	526	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	20.5	20.5	50.4	22.2	28.5	57.2	42.6	0.0	53.4	33.8	34.3
Incr Delay (d2), s/veh	49.8	0.2	0.2	8.4	1.6	51.9	33.0	10.2	0.0	42.2	0.9	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	3.2	3.3	4.5	12.3	29.9	0.4	10.8	0.0	4.2	6.2	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	104.8	20.6	20.6	58.8	23.7	80.3	90.2	52.8	0.0	95.6	34.7	35.9
LnGrp LOS	F	C	C	E	C	F	F	D		F	C	D
Approach Vol, veh/h		460			2370			740	A		630	
Approach Delay, s/veh		31.6			47.7			53.3			44.9	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	31.9	16.9	55.1	5.1	38.8	9.0	63.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	8.0	32.0	17.0	47.0	4.0	36.0	5.0	59.0
Max Q Clear Time (g_c+I1), s	8.8	26.2	12.3	10.5	2.7	18.9	6.1	61.0
Green Ext Time (p_c), s	0.0	1.7	0.5	2.1	0.0	1.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	46.5
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	10	240	1260	560	10
Future Volume (veh/h)	10	10	240	1260	560	10
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	10	240	1260	560	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	35	31	314	2266	1116	498
Arrive On Green	0.02	0.02	0.18	0.67	0.33	0.33
Sat Flow, veh/h	1697	1510	1697	3474	3474	1510
Grp Volume(v), veh/h	10	10	240	1260	560	10
Grp Sat Flow(s),veh/h/ln	1697	1510	1697	1692	1692	1510
Q Serve(g_s), s	0.1	0.2	3.5	5.1	3.4	0.1
Cycle Q Clear(g_c), s	0.1	0.2	3.5	5.1	3.4	0.1
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	35	31	314	2266	1116	498
V/C Ratio(X)	0.28	0.32	0.76	0.56	0.50	0.02
Avail Cap(c_a), veh/h	1182	1052	788	4456	2359	1052
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.5	12.5	10.0	2.2	7.0	5.8
Incr Delay (d2), s/veh	4.3	5.7	3.9	0.2	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.9	0.1	0.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.8	18.2	13.9	2.5	7.3	5.9
LnGrp LOS	B	B	B	A	A	A
Approach Vol, veh/h	20			1500	570	
Approach Delay, s/veh	17.5			4.3	7.3	
Approach LOS	B			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		21.3		4.5	8.8	12.5
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		34.0		18.0	12.0	18.0
Max Q Clear Time (g_c+I1), s		7.1		2.2	5.5	5.4
Green Ext Time (p_c), s		9.6		0.0	0.3	3.1

Intersection Summary			
HCM 6th Ctrl Delay			5.2
HCM 6th LOS			A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	110	110	110	70	210	280	1060	170	260	170	150
Future Volume (veh/h)	240	110	110	110	70	210	280	1060	170	260	170	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	240	110	110	110	175	140	280	1060	170	260	170	150
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	385	133	133	138	226	192	1472	1122	500	812	443	198
Arrive On Green	0.12	0.16	0.16	0.08	0.13	0.13	0.45	0.33	0.33	0.25	0.13	0.13
Sat Flow, veh/h	3291	817	817	1697	1781	1510	3291	3385	1510	3291	3385	1510
Grp Volume(v), veh/h	240	0	220	110	175	140	280	1060	170	260	170	150
Grp Sat Flow(s),veh/h/ln	1646	0	1634	1697	1781	1510	1646	1692	1510	1646	1692	1510
Q Serve(g_s), s	6.3	0.0	11.7	5.7	8.6	8.0	4.6	27.4	7.6	5.8	4.1	8.6
Cycle Q Clear(g_c), s	6.3	0.0	11.7	5.7	8.6	8.0	4.6	27.4	7.6	5.8	4.1	8.6
Prop In Lane	1.00		0.50	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	385	0	266	138	226	192	1472	1122	500	812	443	198
V/C Ratio(X)	0.62	0.00	0.83	0.80	0.77	0.73	0.19	0.94	0.34	0.32	0.38	0.76
Avail Cap(c_a), veh/h	658	0	436	226	356	302	1472	1128	503	812	940	419
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.9	0.0	36.5	40.6	38.0	37.8	15.0	29.3	22.7	27.7	35.8	37.7
Incr Delay (d2), s/veh	1.7	0.0	6.7	10.0	5.5	5.2	0.0	2.3	0.2	0.2	2.5	23.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	5.1	2.8	4.1	3.2	1.5	10.3	2.7	2.1	1.8	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.5	0.0	43.2	50.6	43.6	43.0	15.0	31.5	22.8	27.9	38.3	61.3
LnGrp LOS	D	A	D	D	D	D	B	C	C	C	D	E
Approach Vol, veh/h		460			425			1510			580	
Approach Delay, s/veh		41.3			45.2			27.5			39.6	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.2	33.8	11.3	18.6	44.3	15.8	14.5	15.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	8.0	30.0	12.0	24.0	13.0	25.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	7.8	29.4	7.7	13.7	6.6	10.6	8.3	10.6
Green Ext Time (p_c), s	0.0	0.4	0.1	0.9	0.5	1.2	0.6	0.9

Intersection Summary	
HCM 6th Ctrl Delay	34.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	10	0	1360	10	150	0	0	240	140
Future Volume (veh/h)	0	0	0	10	0	1360	10	150	0	0	240	140
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1781	1781	1781	1781	0	0	1781	1781
Adj Flow Rate, veh/h				10	0	0	10	150	0	0	240	140
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				8	8	8	8	8	0	0	8	8
Cap, veh/h				16	0		1319	3127	0	0	383	171
Arrive On Green				0.01	0.00	0.00	0.78	0.92	0.00	0.00	0.11	0.11
Sat Flow, veh/h				1697	0	1510	1697	3474	0	0	3474	1510
Grp Volume(v), veh/h				10	0	0	10	150	0	0	240	140
Grp Sat Flow(s),veh/h/ln				1697	0	1510	1697	1692	0	0	1692	1510
Q Serve(g_s), s				0.7	0.0	0.0	0.2	0.4	0.0	0.0	8.1	10.9
Cycle Q Clear(g_c), s				0.7	0.0	0.0	0.2	0.4	0.0	0.0	8.1	10.9
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				16	0		1319	3127	0	0	383	171
V/C Ratio(X)				0.62	0.00		0.01	0.05	0.00	0.00	0.63	0.82
Avail Cap(c_a), veh/h				1216	0		1319	3127	0	0	508	226
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.99	0.99	0.00	0.00	0.95	0.95
Uniform Delay (d), s/veh				59.2	0.0	0.0	3.0	0.4	0.0	0.0	50.8	52.0
Incr Delay (d2), s/veh				33.6	0.0	0.0	0.0	0.0	0.0	0.0	7.2	32.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.5	0.0	0.0	0.0	0.0	0.0	0.0	3.7	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				92.8	0.0	0.0	3.0	0.4	0.0	0.0	57.9	84.3
LnGrp LOS				F	A		A	A	A	A	E	F
Approach Vol, veh/h					10	A		160			380	
Approach Delay, s/veh					92.8			0.6			67.7	
Approach LOS					F			A			E	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		114.9			97.3	17.6		5.1				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		26.0			4.0	18.0		86.0				
Max Q Clear Time (g_c+I1), s		2.4			2.2	12.9		2.7				
Green Ext Time (p_c), s		0.5			0.0	0.7		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			48.6
HCM 6th LOS			D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	0	10	0	0	0	0	100	20	210	40	0
Future Volume (veh/h)	60	0	10	0	0	0	0	100	20	210	40	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781				0	1781	1781	1781	1781	0
Adj Flow Rate, veh/h	60	0	10				0	100	20	210	40	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8				0	8	8	8	8	0
Cap, veh/h	82	0	73				0	2264	1010	253	2920	0
Arrive On Green	0.05	0.00	0.05				0.00	0.67	0.67	0.15	0.86	0.00
Sat Flow, veh/h	1697	0	1510				0	3474	1510	1697	3474	0
Grp Volume(v), veh/h	60	0	10				0	100	20	210	40	0
Grp Sat Flow(s),veh/h/ln	1697	0	1510				0	1692	1510	1697	1692	0
Q Serve(g_s), s	3.1	0.0	0.6				0.0	0.9	0.4	10.8	0.1	0.0
Cycle Q Clear(g_c), s	3.1	0.0	0.6				0.0	0.9	0.4	10.8	0.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	82	0	73				0	2264	1010	253	2920	0
V/C Ratio(X)	0.73	0.00	0.14				0.00	0.04	0.02	0.83	0.01	0.00
Avail Cap(c_a), veh/h	377	0	335				0	2264	1010	660	2920	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.99	0.99	0.88	0.88	0.00
Uniform Delay (d), s/veh	42.2	0.0	41.0				0.0	5.1	5.0	37.2	0.9	0.0
Incr Delay (d2), s/veh	11.6	0.0	0.8				0.0	0.0	0.0	6.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.2				0.0	0.2	0.1	4.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.8	0.0	41.8				0.0	5.1	5.0	43.2	0.9	0.0
LnGrp LOS	D	A	D				A	A	A	D	A	A
Approach Vol, veh/h		70						120			250	
Approach Delay, s/veh		52.1						5.1			36.5	
Approach LOS		D						A			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	17.4	64.2		8.4		81.6
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	35.0	23.0		20.0		62.0
Max Q Clear Time (g_c+I1), s	12.8	2.9		5.1		2.1
Green Ext Time (p_c), s	0.7	0.4		0.1		0.1

Intersection Summary		
HCM 6th Ctrl Delay		30.4
HCM 6th LOS		C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	100	10	10	30	20	20
Future Volume (veh/h)	100	10	10	30	20	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	100	10	10	30	20	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	160	142	18	816	399	338
Arrive On Green	0.09	0.09	0.01	0.46	0.22	0.22
Sat Flow, veh/h	1697	1510	1697	1781	1781	1510
Grp Volume(v), veh/h	100	10	10	30	20	20
Grp Sat Flow(s),veh/h/ln	1697	1510	1697	1781	1781	1510
Q Serve(g_s), s	1.0	0.1	0.1	0.2	0.2	0.2
Cycle Q Clear(g_c), s	1.0	0.1	0.1	0.2	0.2	0.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	160	142	18	816	399	338
V/C Ratio(X)	0.63	0.07	0.54	0.04	0.05	0.06
Avail Cap(c_a), veh/h	1803	1605	475	2790	1893	1605
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.8	7.4	8.8	2.7	5.4	5.5
Incr Delay (d2), s/veh	4.0	0.2	22.7	0.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.1	0.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.8	7.6	31.5	2.7	5.5	5.5
LnGrp LOS	B	A	C	A	A	A
Approach Vol, veh/h	110			40	40	
Approach Delay, s/veh	11.4			9.9	5.5	
Approach LOS	B			A	A	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		12.2		5.7	4.2	8.0
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		28.0		19.0	5.0	19.0
Max Q Clear Time (g_c+I1), s		2.2		3.0	2.1	2.2
Green Ext Time (p_c), s		0.1		0.2	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	9.8
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	110	60	30	20	50	530
Future Vol, veh/h	110	60	30	20	50	530
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	8	8	8	8	8	8
Mvmt Flow	110	60	30	20	50	530

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	670	40	0	0	50	0
Stage 1	40	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Critical Hdwy	6.48	6.28	-	-	4.18	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	-	-	2.272	-
Pot Cap-1 Maneuver	413	1014	-	-	1519	-
Stage 1	967	-	-	-	-	-
Stage 2	520	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	394	1014	-	-	1519	-
Mov Cap-2 Maneuver	394	-	-	-	-	-
Stage 1	967	-	-	-	-	-
Stage 2	496	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.8	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	502	1519	-
HCM Lane V/C Ratio	-	-	0.339	0.033	-
HCM Control Delay (s)	-	-	15.8	7.5	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.5	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	70	700	750	730	10	1060	40	140	40	200	400
Future Volume (veh/h)	10	70	700	750	730	10	1060	40	140	40	200	400
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	70	0	750	730	10	1060	40	140	40	200	400
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	64	132		768	794	354	1463	1006	1205	50	267	283
Arrive On Green	0.04	0.04	0.00	0.23	0.23	0.23	0.44	0.56	0.56	0.03	0.15	0.15
Sat Flow, veh/h	1697	3385	1510	3291	3385	1510	3291	1781	1510	1697	1781	1510
Grp Volume(v), veh/h	10	70	0	750	730	10	1060	40	140	40	200	400
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1646	1692	1510	1646	1781	1510	1697	1781	1510
Q Serve(g_s), s	0.7	2.4	0.0	27.2	25.3	0.5	31.7	1.2	2.5	2.8	12.9	18.0
Cycle Q Clear(g_c), s	0.7	2.4	0.0	27.2	25.3	0.5	31.7	1.2	2.5	2.8	12.9	18.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	64	132		768	794	354	1463	1006	1205	50	267	283
V/C Ratio(X)	0.16	0.53		0.98	0.92	0.03	0.72	0.04	0.12	0.80	0.75	1.41
Avail Cap(c_a), veh/h	240	508		768	818	365	1463	1006	1205	99	267	283
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.58	0.58	0.00	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.9	56.6	0.0	45.7	44.8	27.0	27.3	11.6	2.7	57.9	48.8	48.7
Incr Delay (d2), s/veh	0.7	1.9	0.0	26.7	15.2	0.0	0.2	0.0	0.0	24.1	17.4	204.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.1	0.0	14.0	12.3	0.2	12.3	0.5	0.6	1.5	7.0	22.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.5	58.5	0.0	72.3	60.0	27.1	27.5	11.6	2.7	81.9	66.2	253.4
LnGrp LOS	E	E		E	E	C	C	B	A	F	E	F
Approach Vol, veh/h		80	A		1490			1240			640	
Approach Delay, s/veh		58.3			66.0			24.2			184.2	
Approach LOS		E			E			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	71.8	32.0	8.7	57.3	22.0	8.5	32.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	7.0	51.0	28.0	18.0	40.0	18.0	17.0	29.0
Max Q Clear Time (g_c+I1), s	4.8	4.5	29.2	4.4	33.7	20.0	2.7	27.3
Green Ext Time (p_c), s	0.0	0.7	0.0	0.2	2.5	0.0	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	72.7
HCM 6th LOS	E

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	480	0	1130	2210	100	0	0	760	880
Future Volume (veh/h)	0	0	0	480	0	1130	2210	100	0	0	760	880
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1781	1781	1781	1781	0	0	1781	1781
Adj Flow Rate, veh/h				480	0	0	2210	100	0	0	760	880
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				8	8	8	8	8	0	0	8	8
Cap, veh/h				598	0		1317	1349	0	0	1096	477
Arrive On Green				0.18	0.00	0.00	0.40	0.76	0.00	0.00	0.54	0.53
Sat Flow, veh/h				3393	0	1510	3291	1781	0	0	3474	1510
Grp Volume(v), veh/h				480	0	0	2210	100	0	0	760	880
Grp Sat Flow(s),veh/h/ln				1697	0	1510	1646	1781	0	0	1692	1510
Q Serve(g_s), s				16.3	0.0	0.0	48.0	1.7	0.0	0.0	19.8	38.0
Cycle Q Clear(g_c), s				16.3	0.0	0.0	48.0	1.7	0.0	0.0	19.8	38.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				598	0		1317	1349	0	0	1096	477
V/C Ratio(X)				0.80	0.00		1.68	0.07	0.00	0.00	0.69	1.84
Avail Cap(c_a), veh/h				763	0		1317	1349	0	0	1096	477
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67
Upstream Filter(I)				1.00	0.00	0.00	0.09	0.09	0.00	0.00	0.33	0.33
Uniform Delay (d), s/veh				47.4	0.0	0.0	36.0	3.8	0.0	0.0	23.2	28.3
Incr Delay (d2), s/veh				5.6	0.0	0.0	305.7	0.0	0.0	0.0	1.2	382.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.3	0.0	0.0	74.4	0.5	0.0	0.0	6.6	61.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				53.0	0.0	0.0	341.7	3.8	0.0	0.0	24.4	410.3
LnGrp LOS				D	A		F	A	A	A	C	F
Approach Vol, veh/h					480	A		2310			1640	
Approach Delay, s/veh					53.0			327.0			231.5	
Approach LOS					D			F			F	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		94.9			52.0	42.9		25.1				
Change Period (Y+Rc), s		4.9			4.0	4.9		4.9				
Max Green Setting (Gmax), s		84.1			48.0	32.1		26.1				
Max Q Clear Time (g_c+I1), s		3.7			50.0	40.0		18.3				
Green Ext Time (p_c), s		0.4			0.0	0.0		2.0				

Intersection Summary			
HCM 6th Ctrl Delay			262.0
HCM 6th LOS			F

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	0	170	0	0	0	0	2220	80	610	640	0
Future Volume (veh/h)	90	0	170	0	0	0	0	2220	80	610	640	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781				0	1781	1781	1781	1781	0
Adj Flow Rate, veh/h	90	0	170				0	2220	80	610	640	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8				0	8	8	8	8	0
Cap, veh/h	237	0	199				0	1708	750	427	2678	0
Arrive On Green	0.14	0.00	0.13				0.00	0.50	0.50	0.25	0.79	0.00
Sat Flow, veh/h	1697	0	1510				0	3474	1510	1697	3474	0
Grp Volume(v), veh/h	90	0	170				0	2220	80	610	640	0
Grp Sat Flow(s),veh/h/ln	1697	0	1510				0	1692	1510	1697	1692	0
Q Serve(g_s), s	5.6	0.0	12.7				0.0	58.1	3.2	29.0	5.6	0.0
Cycle Q Clear(g_c), s	5.6	0.0	12.7				0.0	58.1	3.2	29.0	5.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	237	0	199				0	1708	750	427	2678	0
V/C Ratio(X)	0.38	0.00	0.86				0.00	1.30	0.11	1.43	0.24	0.00
Avail Cap(c_a), veh/h	308	0	262				0	1708	750	427	2678	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	45.0	0.0	48.9				0.0	28.5	15.4	43.1	3.1	0.0
Incr Delay (d2), s/veh	1.0	0.0	18.7				0.0	139.4	0.1	205.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	5.8				0.0	55.0	1.1	36.3	1.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.0	0.0	67.6				0.0	168.0	15.5	248.7	3.1	0.0
LnGrp LOS	D	A	E				A	F	B	F	A	A
Approach Vol, veh/h		260						2300			1250	
Approach Delay, s/veh		60.1						162.7			123.0	
Approach LOS		E						F			F	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	33.0	62.1		20.1		95.1
Change Period (Y+Rc), s	4.0	4.9		4.9		4.9
Max Green Setting (Gmax), s	29.0	57.2		20.0		90.2
Max Q Clear Time (g_c+I1), s	31.0	60.1		14.7		7.6
Green Ext Time (p_c), s	0.0	0.0		0.5		3.2

Intersection Summary			
HCM 6th Ctrl Delay			142.6
HCM 6th LOS			F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	500	60	190	1350	210	160	1080	10	30	230	280
Future Volume (veh/h)	120	500	60	190	1350	210	160	1080	10	30	230	280
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	120	500	60	190	1350	210	160	1080	10	30	230	280
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	120	1195	143	224	1334	205	156	1017	9	71	424	378
Arrive On Green	0.07	0.39	0.39	0.13	0.45	0.45	0.09	0.30	0.29	0.04	0.25	0.24
Sat Flow, veh/h	1697	3044	364	1697	2939	453	1697	3436	32	1697	1692	1510
Grp Volume(v), veh/h	120	277	283	190	772	788	160	532	558	30	230	280
Grp Sat Flow(s),veh/h/ln	1697	1692	1716	1697	1692	1700	1697	1692	1776	1697	1692	1510
Q Serve(g_s), s	8.5	14.3	14.4	13.1	54.4	54.4	11.0	35.5	35.5	2.1	14.1	20.6
Cycle Q Clear(g_c), s	8.5	14.3	14.4	13.1	54.4	54.4	11.0	35.5	35.5	2.1	14.1	20.6
Prop In Lane	1.00		0.21	1.00		0.27	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	120	665	674	224	768	771	156	501	525	71	424	378
V/C Ratio(X)	1.00	0.42	0.42	0.85	1.01	1.02	1.03	1.06	1.06	0.42	0.54	0.74
Avail Cap(c_a), veh/h	120	665	674	322	768	771	156	501	525	113	465	415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	55.7	26.5	26.5	50.9	32.8	32.8	54.5	42.2	42.3	56.0	39.0	41.9
Incr Delay (d2), s/veh	81.6	1.9	1.9	1.0	11.0	16.0	80.0	57.8	56.9	1.4	1.0	6.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	6.0	6.1	5.5	23.2	24.5	8.1	22.5	23.5	0.9	5.9	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	137.3	28.4	28.5	51.9	43.8	48.8	134.5	100.1	99.1	57.4	40.0	47.9
LnGrp LOS	F	C	C	D	F	F	F	F	F	E	D	D
Approach Vol, veh/h		680			1750			1250			540	
Approach Delay, s/veh		47.6			46.9			104.1			45.1	
Approach LOS		D			D			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	39.5	19.8	51.1	15.0	34.1	12.5	58.4
Change Period (Y+Rc), s	4.5	5.0	4.5	4.5	4.5	5.0	4.5	4.5
Max Green Setting (Gmax), s	8.0	34.5	22.3	36.7	10.5	32.0	8.0	51.0
Max Q Clear Time (g_c+I1), s	4.1	37.5	15.1	16.4	13.0	22.6	10.5	56.4
Green Ext Time (p_c), s	0.0	0.0	0.2	2.1	0.0	1.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	63.7
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	690	150	40	1670	10	390	930	60	10	140	220
Future Volume (veh/h)	180	690	150	40	1670	10	390	930	60	10	140	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	180	690	150	40	1670	10	390	930	60	10	140	220
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	258	1640	731	194	1574	702	329	1040	464	91	795	355
Arrive On Green	0.08	0.48	0.48	0.06	0.47	0.47	0.10	0.31	0.31	0.03	0.23	0.23
Sat Flow, veh/h	3291	3385	1510	3291	3385	1510	3291	3385	1510	3291	3385	1510
Grp Volume(v), veh/h	180	690	150	40	1670	10	390	930	60	10	140	220
Grp Sat Flow(s),veh/h/ln	1646	1692	1510	1646	1692	1510	1646	1692	1510	1646	1692	1510
Q Serve(g_s), s	6.1	15.2	6.5	1.3	53.5	0.4	11.5	30.2	3.3	0.3	3.8	15.0
Cycle Q Clear(g_c), s	6.1	15.2	6.5	1.3	53.5	0.4	11.5	30.2	3.3	0.3	3.8	15.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	258	1640	731	194	1574	702	329	1040	464	91	795	355
V/C Ratio(X)	0.70	0.42	0.21	0.21	1.06	0.01	1.18	0.89	0.13	0.11	0.18	0.62
Avail Cap(c_a), veh/h	258	1640	731	258	1574	702	329	1104	492	258	1030	459
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.43	0.43	0.43	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.7	19.2	17.0	51.6	30.8	16.6	51.7	38.0	28.7	54.5	35.1	39.4
Incr Delay (d2), s/veh	6.9	0.8	0.6	0.2	40.8	0.0	96.2	4.1	0.0	0.2	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	6.1	2.3	0.6	29.8	0.1	9.1	12.8	1.2	0.1	1.6	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.6	20.0	17.6	51.7	71.6	16.6	148.0	42.2	28.8	54.7	35.1	40.1
LnGrp LOS	E	B	B	D	F	B	F	D	C	D	D	D
Approach Vol, veh/h		1020			1720			1380			370	
Approach Delay, s/veh		26.4			70.8			71.5			38.6	
Approach LOS		C			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.3	59.2	15.0	30.5	12.5	57.0	6.7	38.8
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	8.0	43.5	10.5	33.0	8.0	43.5	8.0	35.5
Max Q Clear Time (g_c+I1), s	13.3	17.2	13.5	17.0	8.1	55.5	2.3	32.2
Green Ext Time (p_c), s	0.0	3.3	0.0	0.8	0.0	0.0	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	58.3
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	10	280	10	210	10	1120	50	70	190	10
Future Volume (veh/h)	10	10	10	280	10	210	10	1120	50	70	190	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	10	10	280	10	210	10	1120	0	70	190	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	206	202	178	355	10	219	33	1233		180	1493	78
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.02	0.36	0.00	0.11	0.46	0.46
Sat Flow, veh/h	414	549	482	793	28	594	1697	3474	0	1697	3272	171
Grp Volume(v), veh/h	30	0	0	500	0	0	10	1120	0	70	98	102
Grp Sat Flow(s),veh/h/ln	1445	0	0	1415	0	0	1697	1692	0	1697	1692	1751
Q Serve(g_s), s	0.0	0.0	0.0	30.0	0.0	0.0	0.5	28.3	0.0	3.5	3.0	3.0
Cycle Q Clear(g_c), s	1.0	0.0	0.0	31.0	0.0	0.0	0.5	28.3	0.0	3.5	3.0	3.0
Prop In Lane	0.33		0.33	0.56		0.42	1.00		0.00	1.00		0.10
Lane Grp Cap(c), veh/h	586	0	0	584	0	0	33	1233		180	772	799
V/C Ratio(X)	0.05	0.00	0.00	0.86	0.00	0.00	0.30	0.91		0.39	0.13	0.13
Avail Cap(c_a), veh/h	591	0	0	589	0	0	153	1286		180	772	799
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	18.3	0.0	0.0	27.6	0.0	0.0	43.5	27.2	0.0	37.5	14.1	14.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	11.6	0.0	0.0	1.8	11.3	0.0	0.5	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	11.9	0.0	0.0	0.2	12.6	0.0	1.4	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.3	0.0	0.0	39.2	0.0	0.0	45.3	38.5	0.0	38.0	14.5	14.5
LnGrp LOS	B	A	A	D	A	A	D	D		D	B	B
Approach Vol, veh/h		30			500			1130	A		270	
Approach Delay, s/veh		18.3			39.2			38.5			20.6	
Approach LOS		B			D			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.5	37.8		37.7	6.3	46.1		37.7
Change Period (Y+Rc), s	5.0	* 5		4.5	4.5	5.0		4.5
Max Green Setting (Gmax), s	8.3	* 34		33.5	8.1	34.4		33.5
Max Q Clear Time (g_c+I1), s	5.5	30.3		3.0	2.5	5.0		33.0
Green Ext Time (p_c), s	0.0	2.5		0.1	0.0	1.1		0.2

Intersection Summary	
HCM 6th Ctrl Delay	35.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	10	10	240	10	400	10	1450	10	10	140	20
Future Volume (veh/h)	60	10	10	240	10	400	10	1450	10	10	140	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	60	10	10	240	10	400	10	1450	10	10	140	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	256	42	24	556	17	473	730	1800	12	208	1556	219
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	404	134	77	1312	55	1510	1168	3446	24	346	2980	419
Grp Volume(v), veh/h	80	0	0	250	0	400	10	712	748	10	78	82
Grp Sat Flow(s),veh/h/ln	615	0	0	1367	0	1510	1168	1692	1777	346	1692	1706
Q Serve(g_s), s	2.2	0.0	0.0	0.0	0.0	12.1	0.2	16.9	16.9	1.2	1.1	1.2
Cycle Q Clear(g_c), s	9.6	0.0	0.0	7.4	0.0	12.1	1.4	16.9	16.9	18.1	1.1	1.2
Prop In Lane	0.75		0.12	0.96		1.00	1.00		0.01	1.00		0.25
Lane Grp Cap(c), veh/h	322	0	0	573	0	473	730	884	928	208	884	891
V/C Ratio(X)	0.25	0.00	0.00	0.44	0.00	0.84	0.01	0.81	0.81	0.05	0.09	0.09
Avail Cap(c_a), veh/h	380	0	0	648	0	558	815	1007	1057	234	1007	1015
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.6	0.0	0.0	14.0	0.0	15.6	6.2	9.6	9.6	17.1	5.8	5.8
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.5	0.0	10.1	0.0	4.3	4.2	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	2.1	0.0	4.9	0.0	5.2	5.4	0.1	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.0	0.0	0.0	14.5	0.0	25.7	6.2	13.9	13.8	17.2	5.9	5.9
LnGrp LOS	B	A	A	B	A	C	A	B	B	B	A	A
Approach Vol, veh/h		80			650			1470			170	
Approach Delay, s/veh		16.0			21.4			13.8			6.5	
Approach LOS		B			C			B			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		29.5		19.3		29.5		19.3				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		29.0		18.0		29.0		18.0				
Max Q Clear Time (g_c+I1), s		18.9		11.6		20.1		14.1				
Green Ext Time (p_c), s		6.5		0.2		0.6		1.2				
Intersection Summary												
HCM 6th Ctrl Delay			15.4									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	200	190	10	1120	390	50	890	30	20	130	260
Future Volume (veh/h)	120	200	190	10	1120	390	50	890	30	20	130	260
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	120	200	190	10	1120	390	50	890	30	20	130	260
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	141	853	761	58	1127	385	63	915	408	42	872	389
Arrive On Green	0.08	0.50	0.50	0.03	0.46	0.46	0.04	0.27	0.27	0.02	0.26	0.26
Sat Flow, veh/h	1697	1692	1510	1697	2475	846	1697	3385	1510	1697	3385	1510
Grp Volume(v), veh/h	120	200	190	10	759	751	50	890	30	20	130	260
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1697	1692	1629	1697	1692	1510	1697	1692	1510
Q Serve(g_s), s	8.2	7.8	8.3	0.7	51.8	53.2	3.4	30.4	1.7	1.4	3.5	18.0
Cycle Q Clear(g_c), s	8.2	7.8	8.3	0.7	51.8	53.2	3.4	30.4	1.7	1.4	3.5	18.0
Prop In Lane	1.00		1.00	1.00		0.52	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	853	761	58	770	742	63	915	408	42	872	389
V/C Ratio(X)	0.85	0.23	0.25	0.17	0.99	1.01	0.79	0.97	0.07	0.48	0.15	0.67
Avail Cap(c_a), veh/h	141	853	761	450	770	742	93	915	408	87	904	403
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.9	16.3	16.4	54.8	31.5	31.8	55.8	42.2	31.7	56.3	33.5	38.9
Incr Delay (d2), s/veh	35.1	0.1	0.2	0.5	28.8	36.1	14.1	23.2	0.1	3.2	0.1	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	2.9	2.8	0.3	25.9	27.0	1.7	15.4	0.6	0.6	1.4	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.0	16.4	16.6	55.3	60.2	67.9	70.0	65.4	31.8	59.4	33.6	42.9
LnGrp LOS	F	B	B	E	E	F	E	E	C	E	C	D
Approach Vol, veh/h		510			1520			970			410	
Approach Delay, s/veh		33.3			64.0			64.6			40.8	
Approach LOS		C			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	58.7	7.4	36.6	8.5	64.4	8.8	35.1
Change Period (Y+Rc), s	4.5	5.5	4.5	5.0	4.5	5.5	4.5	5.0
Max Green Setting (Gmax), s	9.7	53.2	6.0	31.6	31.0	31.9	6.4	31.2
Max Q Clear Time (g_c+I1), s	10.2	55.2	3.4	32.4	2.7	10.3	5.4	20.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	1.5	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	56.8
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	50	10	170	310	70	20	670	210	20	290	30
Future Volume (veh/h)	50	50	10	170	310	70	20	670	210	20	290	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	50	50	10	170	310	70	20	670	210	20	290	30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	127	298	60	209	360	81	64	861	270	64	1052	108
Arrive On Green	0.07	0.21	0.21	0.12	0.26	0.26	0.04	0.34	0.34	0.04	0.34	0.34
Sat Flow, veh/h	1697	1441	288	1697	1407	318	1697	2536	795	1697	3099	318
Grp Volume(v), veh/h	50	0	60	170	0	380	20	447	433	20	157	163
Grp Sat Flow(s),veh/h/ln	1697	0	1730	1697	0	1724	1697	1692	1638	1697	1692	1724
Q Serve(g_s), s	1.7	0.0	1.8	6.0	0.0	13.0	0.7	14.6	14.6	0.7	4.2	4.2
Cycle Q Clear(g_c), s	1.7	0.0	1.8	6.0	0.0	13.0	0.7	14.6	14.6	0.7	4.2	4.2
Prop In Lane	1.00		0.17	1.00		0.18	1.00		0.48	1.00		0.18
Lane Grp Cap(c), veh/h	127	0	358	209	0	441	64	575	556	64	575	585
V/C Ratio(X)	0.39	0.00	0.17	0.81	0.00	0.86	0.31	0.78	0.78	0.31	0.27	0.28
Avail Cap(c_a), veh/h	220	0	787	317	0	882	220	660	639	234	674	686
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.2	0.0	20.0	26.3	0.0	21.9	28.8	18.2	18.3	28.8	14.8	14.8
Incr Delay (d2), s/veh	0.7	0.0	0.1	5.1	0.0	2.0	1.0	6.1	6.4	1.0	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.7	2.6	0.0	5.0	0.3	5.8	5.7	0.3	1.4	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.9	0.0	20.1	31.4	0.0	23.8	29.9	24.4	24.6	29.9	15.2	15.3
LnGrp LOS	C	A	C	C	A	C	C	C	C	C	B	B
Approach Vol, veh/h		110			550			900			340	
Approach Delay, s/veh		23.7			26.2			24.6			16.1	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.8	25.4	12.1	17.2	6.8	25.4	9.1	20.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	24.0	11.5	28.0	8.0	24.5	8.0	31.5
Max Q Clear Time (g_c+I1), s	2.7	16.6	8.0	3.8	2.7	6.2	3.7	15.0
Green Ext Time (p_c), s	0.0	4.3	0.0	0.1	0.0	2.6	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	23.5
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	60	40	130	1070	160	70	600	50	140	310	20
Future Volume (veh/h)	130	60	40	130	1070	160	70	600	50	140	310	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	130	60	40	130	1070	160	70	600	50	140	310	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	159	757	462	282	1240	553	125	770	343	171	822	53
Arrive On Green	0.09	0.37	0.37	0.09	0.37	0.37	0.07	0.23	0.23	0.10	0.25	0.25
Sat Flow, veh/h	1697	2019	1233	3291	3385	1510	1697	3385	1510	1697	3229	207
Grp Volume(v), veh/h	130	49	51	130	1070	160	70	600	50	140	162	168
Grp Sat Flow(s),veh/h/ln	1697	1692	1560	1646	1692	1510	1697	1692	1510	1697	1692	1744
Q Serve(g_s), s	6.7	1.7	1.9	3.4	26.3	6.7	3.6	14.9	2.4	7.3	7.1	7.1
Cycle Q Clear(g_c), s	6.7	1.7	1.9	3.4	26.3	6.7	3.6	14.9	2.4	7.3	7.1	7.1
Prop In Lane	1.00		0.79	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	159	634	584	282	1240	553	125	770	343	171	431	444
V/C Ratio(X)	0.82	0.08	0.09	0.46	0.86	0.29	0.56	0.78	0.15	0.82	0.38	0.38
Avail Cap(c_a), veh/h	219	765	705	293	1395	622	151	1407	627	285	837	863
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	18.1	18.1	39.1	26.3	20.2	40.2	32.6	27.7	39.6	27.6	27.6
Incr Delay (d2), s/veh	11.1	0.1	0.1	0.4	5.5	0.3	1.5	2.1	0.2	3.7	0.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.6	0.7	1.3	10.7	2.3	1.5	5.9	0.8	3.1	2.8	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.0	18.1	18.2	39.5	31.8	20.5	41.6	34.7	27.9	43.3	28.2	28.3
LnGrp LOS	D	B	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		230			1360			720			470	
Approach Delay, s/veh		36.7			31.2			34.9			32.7	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.5	25.4	12.2	38.6	11.1	27.8	12.9	37.9
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	15.1	37.3	8.0	40.6	8.0	44.4	11.6	37.0
Max Q Clear Time (g_c+I1), s	9.3	16.9	5.4	3.9	5.6	9.1	8.7	28.3
Green Ext Time (p_c), s	0.1	3.5	0.0	0.4	0.0	1.6	0.0	4.6

Intersection Summary		
HCM 6th Ctrl Delay		32.9
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	30	30	300	200	180	10	520	70	80	270	120
Future Volume (veh/h)	110	30	30	300	200	180	10	520	70	80	270	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	110	30	30	300	200	180	10	520	70	80	270	120
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	161	136	136	206	344	292	26	800	107	137	764	330
Arrive On Green	0.09	0.17	0.17	0.12	0.19	0.19	0.02	0.27	0.27	0.08	0.33	0.33
Sat Flow, veh/h	1697	817	817	1697	1781	1510	1697	2999	402	1697	2300	995
Grp Volume(v), veh/h	110	0	60	300	200	180	10	293	297	80	197	193
Grp Sat Flow(s),veh/h/ln	1697	0	1634	1697	1781	1510	1697	1692	1709	1697	1692	1602
Q Serve(g_s), s	3.1	0.0	1.6	6.0	5.0	5.4	0.3	7.6	7.6	2.2	4.3	4.5
Cycle Q Clear(g_c), s	3.1	0.0	1.6	6.0	5.0	5.4	0.3	7.6	7.6	2.2	4.3	4.5
Prop In Lane	1.00		0.50	1.00		1.00	1.00		0.24	1.00		0.62
Lane Grp Cap(c), veh/h	161	0	272	206	344	292	26	451	456	137	562	532
V/C Ratio(X)	0.69	0.00	0.22	1.46	0.58	0.62	0.38	0.65	0.65	0.58	0.35	0.36
Avail Cap(c_a), veh/h	206	0	993	206	1082	917	206	898	906	337	1028	973
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	0.0	17.8	21.7	18.1	18.2	24.1	16.1	16.1	21.9	12.5	12.5
Incr Delay (d2), s/veh	3.4	0.0	0.5	230.0	1.9	2.6	3.3	1.9	1.9	1.5	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.6	15.3	2.0	1.9	0.1	2.5	2.6	0.8	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.0	0.0	18.3	251.7	20.0	20.8	27.4	17.9	18.0	23.3	12.9	13.0
LnGrp LOS	C	A	B	F	B	C	C	B	B	C	B	B
Approach Vol, veh/h		170			680			600			470	
Approach Delay, s/veh		22.7			122.4			18.1			14.7	
Approach LOS		C			F			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	17.7	10.5	12.7	5.3	20.9	9.2	14.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.8	26.2	6.0	30.0	6.0	30.0	6.0	30.0
Max Q Clear Time (g_c+I1), s	4.2	9.6	8.0	3.6	2.3	6.5	5.1	7.4
Green Ext Time (p_c), s	0.0	3.5	0.0	0.3	0.0	2.5	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	54.6
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	10	590	10	10	580
Future Vol, veh/h	10	10	590	10	10	580
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	8	8	8	8	8	8
Mvmt Flow	10	10	590	10	10	580

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	905	300	0	0	600	0
Stage 1	595	-	-	-	-	-
Stage 2	310	-	-	-	-	-
Critical Hdwy	6.96	7.06	-	-	4.26	-
Critical Hdwy Stg 1	5.96	-	-	-	-	-
Critical Hdwy Stg 2	5.96	-	-	-	-	-
Follow-up Hdwy	3.58	3.38	-	-	2.28	-
Pot Cap-1 Maneuver	265	679	-	-	933	-
Stage 1	497	-	-	-	-	-
Stage 2	699	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	262	679	-	-	933	-
Mov Cap-2 Maneuver	262	-	-	-	-	-
Stage 1	497	-	-	-	-	-
Stage 2	691	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.1	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	378	933	-
HCM Lane V/C Ratio	-	-	0.053	0.011	-
HCM Control Delay (s)	-	-	15.1	8.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	450	540	20	30	1900	150	10	20	20	110	20	480
Future Volume (veh/h)	450	540	20	30	1900	150	10	20	20	110	20	480
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	450	540	20	30	1900	150	10	20	20	110	20	480
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	439	2119	78	37	1777	881	62	109	89	99	431	566
Arrive On Green	0.13	0.64	0.64	0.02	0.52	0.52	0.15	0.15	0.15	0.06	0.24	0.24
Sat Flow, veh/h	3291	3329	123	1697	3385	1510	170	724	596	1697	1781	1510
Grp Volume(v), veh/h	450	274	286	30	1900	150	50	0	0	110	20	480
Grp Sat Flow(s),veh/h/ln	1646	1692	1759	1697	1692	1510	1490	0	0	1697	1781	1510
Q Serve(g_s), s	16.0	8.4	8.5	2.1	63.0	5.5	0.0	0.0	0.0	7.0	1.0	29.0
Cycle Q Clear(g_c), s	16.0	8.4	8.5	2.1	63.0	5.5	3.2	0.0	0.0	7.0	1.0	29.0
Prop In Lane	1.00		0.07	1.00		1.00	0.20		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	439	1077	1120	37	1777	881	259	0	0	99	431	566
V/C Ratio(X)	1.03	0.25	0.26	0.81	1.07	0.17	0.19	0.00	0.00	1.11	0.05	0.85
Avail Cap(c_a), veh/h	439	1077	1120	85	1777	881	259	0	0	99	431	566
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.0	9.5	9.5	58.5	28.5	11.6	44.7	0.0	0.0	56.5	34.9	34.4
Incr Delay (d2), s/veh	49.6	0.1	0.1	33.2	42.6	0.1	0.4	0.0	0.0	123.7	0.0	11.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	2.8	3.0	1.2	33.5	1.7	1.3	0.0	0.0	6.4	0.5	14.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.6	9.6	9.6	91.7	71.1	11.7	45.1	0.0	0.0	180.2	34.9	45.9
LnGrp LOS	F	A	A	F	F	B	D	A	A	F	C	D
Approach Vol, veh/h		1010			2080			50			610	
Approach Delay, s/veh		50.6			67.1			45.1			69.8	
Approach LOS		D			E			D			E	

Timer - Assigned Phs	1	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	11.0	22.0	6.6	80.4		33.0	20.0	67.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s	7.0	18.0	6.0	73.0		29.0	16.0	63.0
Max Q Clear Time (g_c+I1), s	9.0	5.2	4.1	10.5		31.0	18.0	65.0
Green Ext Time (p_c), s	0.0	0.1	0.0	2.2		0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	62.8
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	630	80	30	1610	10	130	560	40	10	60	10
Future Volume (veh/h)	10	630	80	30	1610	10	130	560	40	10	60	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	630	80	30	1610	10	130	560	40	10	60	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	91	1518	192	37	1606	10	156	527	38	16	425	360
Arrive On Green	0.05	0.50	0.50	0.02	0.47	0.47	0.09	0.32	0.32	0.01	0.24	0.24
Sat Flow, veh/h	1697	3022	383	1697	3449	21	1697	1643	117	1697	1781	1510
Grp Volume(v), veh/h	10	352	358	30	790	830	130	0	600	10	60	10
Grp Sat Flow(s),veh/h/ln	1697	1692	1712	1697	1692	1778	1697	0	1760	1697	1781	1510
Q Serve(g_s), s	0.7	15.7	15.8	2.1	55.9	55.9	9.0	0.0	38.5	0.7	3.2	0.6
Cycle Q Clear(g_c), s	0.7	15.7	15.8	2.1	55.9	55.9	9.0	0.0	38.5	0.7	3.2	0.6
Prop In Lane	1.00		0.22	1.00		0.01	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	91	850	860	37	788	828	156	0	565	16	425	360
V/C Ratio(X)	0.11	0.41	0.42	0.82	1.00	1.00	0.83	0.00	1.06	0.62	0.14	0.03
Avail Cap(c_a), veh/h	91	850	860	85	788	828	247	0	565	58	425	360
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.36	0.36	0.36	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	18.8	18.8	58.5	32.0	32.1	53.6	0.0	40.8	59.2	36.0	35.0
Incr Delay (d2), s/veh	0.2	1.5	1.5	5.8	19.6	19.4	6.8	0.0	55.5	13.8	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	6.5	6.6	1.0	26.3	27.6	4.1	0.0	25.1	0.4	1.4	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.2	20.3	20.3	64.3	51.7	51.5	60.4	0.0	96.3	73.0	36.1	35.0
LnGrp LOS	D	C	C	E	F	F	E	A	F	E	D	D
Approach Vol, veh/h		720			1650			730			80	
Approach Delay, s/veh		20.7			51.8			89.9			40.6	
Approach LOS		C			D			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	60.4	15.5	33.1	6.6	64.8	5.6	43.0
Change Period (Y+Rc), s	4.5	* 4.5	4.5	4.5	4.0	4.5	4.5	4.5
Max Green Setting (Gmax), s	4.0	* 56	17.5	25.1	6.0	53.9	4.1	38.5
Max Q Clear Time (g_c+I1), s	2.7	57.9	11.0	5.2	4.1	17.8	2.7	40.5
Green Ext Time (p_c), s	0.0	0.0	0.1	0.1	0.0	3.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	53.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	210	10	180	1470	250	10	170	100	10	180	20
Future Volume (veh/h)	60	210	10	180	1470	250	10	170	100	10	180	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	60	210	10	180	1470	250	10	170	100	10	180	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	87	1605	76	212	1630	272	25	198	116	25	296	33
Arrive On Green	0.05	0.49	0.49	0.12	0.56	0.56	0.01	0.19	0.19	0.01	0.19	0.19
Sat Flow, veh/h	1697	3290	156	1697	2901	485	1697	1052	619	1697	1575	175
Grp Volume(v), veh/h	60	108	112	180	847	873	10	0	270	10	0	200
Grp Sat Flow(s),veh/h/ln	1697	1692	1753	1697	1692	1694	1697	0	1670	1697	0	1750
Q Serve(g_s), s	3.2	3.2	3.2	9.6	40.5	43.0	0.5	0.0	14.4	0.5	0.0	9.7
Cycle Q Clear(g_c), s	3.2	3.2	3.2	9.6	40.5	43.0	0.5	0.0	14.4	0.5	0.0	9.7
Prop In Lane	1.00		0.09	1.00		0.29	1.00		0.37	1.00		0.10
Lane Grp Cap(c), veh/h	87	826	856	212	951	952	25	0	314	25	0	329
V/C Ratio(X)	0.69	0.13	0.13	0.85	0.89	0.92	0.40	0.00	0.86	0.40	0.00	0.61
Avail Cap(c_a), veh/h	110	826	856	386	1007	1008	110	0	473	110	0	495
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.1	12.9	12.9	39.5	17.7	18.3	45.0	0.0	36.3	45.0	0.0	34.3
Incr Delay (d2), s/veh	7.1	0.1	0.1	3.6	9.8	12.6	3.8	0.0	10.9	3.8	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.1	1.2	4.1	16.0	17.6	0.3	0.0	6.7	0.3	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.2	13.0	13.0	43.2	27.6	30.9	48.8	0.0	47.2	48.8	0.0	36.5
LnGrp LOS	D	B	B	D	C	C	D	A	D	D	A	D
Approach Vol, veh/h		280			1900			280			210	
Approach Delay, s/veh		21.0			30.6			47.2			37.1	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	56.3	5.4	21.9	15.5	49.5	5.4	21.9
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	6.0	54.9	6.0	26.1	21.0	39.9	6.0	26.1
Max Q Clear Time (g_c+I1), s	5.2	45.0	2.5	11.7	11.6	5.2	2.5	16.4
Green Ext Time (p_c), s	0.0	6.8	0.0	0.8	0.1	1.0	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	60	10	540	380	10	80	10	350	80	750	710
Future Volume (veh/h)	10	60	10	540	380	10	80	10	350	80	750	710
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	60	10	540	380	10	80	10	350	80	750	710
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	16	89	15	532	628	17	63	748	634	101	788	668
Arrive On Green	0.01	0.06	0.06	0.31	0.36	0.36	0.04	0.42	0.42	0.06	0.44	0.44
Sat Flow, veh/h	1697	1489	248	1697	1728	45	1697	1781	1510	1697	1781	1510
Grp Volume(v), veh/h	10	0	70	540	0	390	80	10	350	80	750	710
Grp Sat Flow(s),veh/h/ln	1697	0	1737	1697	0	1773	1697	1781	1510	1697	1781	1510
Q Serve(g_s), s	0.6	0.0	4.3	34.0	0.0	19.5	4.0	0.4	19.0	5.0	44.0	48.0
Cycle Q Clear(g_c), s	0.6	0.0	4.3	34.0	0.0	19.5	4.0	0.4	19.0	5.0	44.0	48.0
Prop In Lane	1.00		0.14	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	16	0	103	532	0	645	63	748	634	101	788	668
V/C Ratio(X)	0.61	0.00	0.68	1.02	0.00	0.61	1.28	0.01	0.55	0.79	0.95	1.06
Avail Cap(c_a), veh/h	63	0	288	532	0	785	63	748	634	188	788	668
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	0.0	50.0	37.2	0.0	28.2	52.2	18.4	23.8	50.3	29.1	30.2
Incr Delay (d2), s/veh	32.1	0.0	7.5	42.9	0.0	0.9	205.8	0.0	1.0	12.8	21.0	52.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	2.1	20.0	0.0	8.2	5.2	0.1	6.7	2.5	22.0	26.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.6	0.0	57.5	80.2	0.0	29.1	258.0	18.4	24.8	63.1	50.1	82.9
LnGrp LOS	F	A	E	F	A	C	F	B	C	E	D	F
Approach Vol, veh/h		80			930			440			1540	
Approach Delay, s/veh		61.0			58.7			67.1			65.9	
Approach LOS		E			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.5	49.5	38.0	10.5	8.0	52.0	5.0	43.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	12.0	40.0	34.0	18.0	4.0	48.0	4.0	48.0				
Max Q Clear Time (g_c+I1), s	7.0	21.0	36.0	6.3	6.0	50.0	2.6	21.5				
Green Ext Time (p_c), s	0.1	1.2	0.0	0.2	0.0	0.0	0.0	2.4				
Intersection Summary												
HCM 6th Ctrl Delay			63.7									
HCM 6th LOS			E									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	660	30	260	1710	190	0	0	180	1100
Future Volume (veh/h)	0	0	0	660	30	260	1710	190	0	0	180	1100
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1781	1781	1781	1781	0	0	1781	1781
Adj Flow Rate, veh/h				475	289	260	1710	190	0	0	0	1220
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				8	8	8	8	8	0	0	8	8
Cap, veh/h				379	193	174	1237	1248	0	0	506	858
Arrive On Green				0.22	0.22	0.22	0.38	0.70	0.00	0.00	0.00	0.28
Sat Flow, veh/h				1697	864	777	3291	1781	0	0	1781	3019
Grp Volume(v), veh/h				475	0	549	1710	190	0	0	0	1220
Grp Sat Flow(s),veh/h/ln				1697	0	1642	1646	1781	0	0	1781	1510
Q Serve(g_s), s				26.8	0.0	26.8	45.1	4.3	0.0	0.0	0.0	34.1
Cycle Q Clear(g_c), s				26.8	0.0	26.8	45.1	4.3	0.0	0.0	0.0	34.1
Prop In Lane				1.00		0.47	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				379	0	367	1237	1248	0	0	506	858
V/C Ratio(X)				1.25	0.00	1.50	1.38	0.15	0.00	0.00	0.00	1.42
Avail Cap(c_a), veh/h				379	0	367	1237	1248	0	0	506	858
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				46.6	0.0	46.6	37.5	6.0	0.0	0.0	0.0	42.9
Incr Delay (d2), s/veh				134.1	0.0	237.8	177.2	0.0	0.0	0.0	0.0	196.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				25.2	0.0	35.0	47.7	1.4	0.0	0.0	0.0	35.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				180.7	0.0	284.4	214.6	6.0	0.0	0.0	0.0	239.6
LnGrp LOS				F	A	F	F	A	A	A	A	F
Approach Vol, veh/h					1024			1900			1220	
Approach Delay, s/veh					236.3			193.8			239.6	
Approach LOS					F			F			F	

Timer - Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		89.0			50.0	39.0		31.0
Change Period (Y+Rc), s		4.9			4.9	4.9		4.2
Max Green Setting (Gmax), s		84.1			45.1	34.1		26.8
Max Q Clear Time (g_c+I1), s		6.3			47.1	36.1		28.8
Green Ext Time (p_c), s		0.4			0.0	0.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	217.8
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	0	290	0	0	0	0	1800	10	10	840	0
Future Volume (veh/h)	110	0	290	0	0	0	0	1800	10	10	840	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	0	1781				0	1781	1781	1781	1781	0
Adj Flow Rate, veh/h	110	0	290				0	1800	10	10	840	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	0	8				0	8	8	8	8	0
Cap, veh/h	370	0	329				0	1990	888	21	1169	0
Arrive On Green	0.22	0.00	0.22				0.00	0.59	0.59	0.01	0.66	0.00
Sat Flow, veh/h	1697	0	1510				0	3474	1510	1697	1781	0
Grp Volume(v), veh/h	110	0	290				0	1800	10	10	840	0
Grp Sat Flow(s),veh/h/ln	1697	0	1510				0	1692	1510	1697	1781	0
Q Serve(g_s), s	3.9	0.0	13.4				0.0	33.8	0.2	0.4	22.1	0.0
Cycle Q Clear(g_c), s	3.9	0.0	13.4				0.0	33.8	0.2	0.4	22.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	370	0	329				0	1990	888	21	1169	0
V/C Ratio(X)	0.30	0.00	0.88				0.00	0.90	0.01	0.47	0.72	0.00
Avail Cap(c_a), veh/h	423	0	377				0	2060	919	118	1306	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.6	0.0	27.3				0.0	13.1	6.2	35.4	8.1	0.0
Incr Delay (d2), s/veh	0.2	0.0	17.7				0.0	6.2	0.0	15.1	2.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	6.1				0.0	11.2	0.1	0.3	6.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.8	0.0	45.0				0.0	19.3	6.2	50.5	10.0	0.0
LnGrp LOS	C	A	D				A	B	A	D	B	A
Approach Vol, veh/h		400						1810			850	
Approach Delay, s/veh		39.1						19.2			10.5	
Approach LOS		D						B			B	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	4.9	47.3	19.9	52.2
Change Period (Y+Rc), s	4.0	4.9	* 4.2	4.9
Max Green Setting (Gmax), s	5.0	43.9	* 18	52.9
Max Q Clear Time (g_c+I1), s	2.4	35.8	15.4	24.1
Green Ext Time (p_c), s	0.0	6.7	0.3	7.1

Intersection Summary	
HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	20	60	330	10	590	20	1040	120	260	820	50
Future Volume (veh/h)	190	20	60	330	10	590	20	1040	120	260	820	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	190	20	60	330	10	590	20	1040	120	260	820	50
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	216	105	315	316	583	629	55	1012	733	294	1204	729
Arrive On Green	0.13	0.27	0.27	0.19	0.33	0.33	0.03	0.30	0.30	0.09	0.36	0.36
Sat Flow, veh/h	1697	392	1177	1697	1781	1510	1697	3385	1510	3291	3385	1510
Grp Volume(v), veh/h	190	0	80	330	10	590	20	1040	120	260	820	50
Grp Sat Flow(s),veh/h/ln	1697	0	1570	1697	1781	1510	1697	1692	1510	1646	1692	1510
Q Serve(g_s), s	12.9	0.0	4.6	21.9	0.4	38.4	1.4	35.1	5.2	9.2	24.2	2.1
Cycle Q Clear(g_c), s	12.9	0.0	4.6	21.9	0.4	38.4	1.4	35.1	5.2	9.2	24.2	2.1
Prop In Lane	1.00		0.75	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	216	0	420	316	583	629	55	1012	733	294	1204	729
V/C Ratio(X)	0.88	0.00	0.19	1.04	0.02	0.94	0.36	1.03	0.16	0.88	0.68	0.07
Avail Cap(c_a), veh/h	253	0	454	316	583	629	116	1012	733	294	1204	729
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.4	0.0	33.2	47.8	26.7	32.8	55.6	41.2	16.9	52.9	32.2	16.2
Incr Delay (d2), s/veh	23.4	0.0	0.2	62.2	0.0	21.7	1.5	35.6	0.1	24.7	1.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	0.0	1.8	14.6	0.2	19.2	0.6	19.1	1.8	4.7	9.8	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.8	0.0	33.4	110.0	26.7	54.5	57.1	76.8	17.0	77.6	33.9	16.3
LnGrp LOS	E	A	C	F	C	D	E	F	B	E	C	B
Approach Vol, veh/h		270			930			1180			1130	
Approach Delay, s/veh		61.8			73.9			70.4			43.2	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	40.1	26.4	35.9	8.3	46.8	19.4	42.9
Change Period (Y+Rc), s	4.5	5.0	4.5	4.5	4.5	5.0	4.5	4.5
Max Green Setting (Gmax), s	10.5	35.1	21.9	34.0	8.0	37.6	17.5	38.4
Max Q Clear Time (g_c+I1), s	11.2	37.1	23.9	6.6	3.4	26.2	14.9	40.4
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	5.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	61.9
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	650	40	350	2100	550	40	550	80	100	540	560
Future Volume (veh/h)	100	650	40	350	2100	550	40	550	80	100	540	560
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	100	650	40	350	2100	550	40	550	80	100	540	560
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	86	958	59	358	1544	765	63	799	116	86	958	427
Arrive On Green	0.05	0.30	0.30	0.21	0.46	0.46	0.04	0.27	0.27	0.05	0.28	0.28
Sat Flow, veh/h	1697	3239	199	1697	3385	1510	1697	2966	430	1697	3385	1510
Grp Volume(v), veh/h	100	339	351	350	2100	550	40	313	317	100	540	560
Grp Sat Flow(s),veh/h/ln	1697	1692	1746	1697	1692	1510	1697	1692	1704	1697	1692	1510
Q Serve(g_s), s	6.0	20.9	21.0	24.3	54.0	33.5	2.8	19.6	19.8	6.0	16.1	33.5
Cycle Q Clear(g_c), s	6.0	20.9	21.0	24.3	54.0	33.5	2.8	19.6	19.8	6.0	16.1	33.5
Prop In Lane	1.00		0.11	1.00		1.00	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	86	500	516	358	1544	765	63	456	459	86	958	427
V/C Ratio(X)	1.16	0.68	0.68	0.98	1.36	0.72	0.64	0.69	0.69	1.16	0.56	1.31
Avail Cap(c_a), veh/h	86	500	516	358	1544	765	86	479	482	86	958	427
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.2	36.7	36.8	46.4	32.2	22.7	56.2	38.8	38.8	56.2	36.2	42.4
Incr Delay (d2), s/veh	147.6	4.4	4.3	41.1	166.4	3.8	3.9	4.7	4.8	147.6	1.1	155.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	9.2	9.5	14.2	57.0	12.3	1.2	8.7	8.8	6.1	6.8	30.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	203.8	41.1	41.0	87.5	198.6	26.4	60.1	43.5	43.6	203.8	37.3	198.3
LnGrp LOS	F	D	D	F	F	C	E	D	D	F	D	F
Approach Vol, veh/h		790			3000			670			1200	
Approach Delay, s/veh		61.7			154.1			44.6			126.3	
Approach LOS		E			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	37.4	30.0	40.0	9.4	39.0	11.0	59.0				
Change Period (Y+Rc), s	5.0	5.5	5.0	5.0	5.0	5.5	5.0	5.0				
Max Green Setting (Gmax), s	6.0	33.5	25.0	35.0	6.0	33.5	6.0	54.0				
Max Q Clear Time (g_c+I1), s	8.0	21.8	26.3	23.0	4.8	35.5	8.0	56.0				
Green Ext Time (p_c), s	0.0	3.6	0.0	4.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			122.3									
HCM 6th LOS			F									

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	770	10	210	2270	310	60	470	10	70	360	250
Future Volume (veh/h)	60	770	10	210	2270	310	60	470	10	70	360	250
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	60	770	10	210	2270	310	60	470	10	70	360	250
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	103	1520	678	242	1781	795	61	689	15	89	422	289
Arrive On Green	0.06	0.45	0.45	0.14	0.53	0.53	0.04	0.20	0.20	0.05	0.22	0.22
Sat Flow, veh/h	1697	3385	1510	1697	3385	1510	1697	3389	72	1697	1923	1314
Grp Volume(v), veh/h	60	770	10	210	2270	310	60	234	246	70	316	294
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1697	1692	1510	1697	1692	1768	1697	1692	1545
Q Serve(g_s), s	3.8	18.0	0.4	13.5	58.5	13.6	3.9	14.2	14.3	4.5	19.9	20.4
Cycle Q Clear(g_c), s	3.8	18.0	0.4	13.5	58.5	13.6	3.9	14.2	14.3	4.5	19.9	20.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		0.85
Lane Grp Cap(c), veh/h	103	1520	678	242	1781	795	61	344	359	89	372	339
V/C Ratio(X)	0.58	0.51	0.01	0.87	1.27	0.39	0.98	0.68	0.68	0.79	0.85	0.87
Avail Cap(c_a), veh/h	122	1520	678	382	1781	795	61	396	414	153	487	445
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	21.8	17.0	46.6	26.3	15.7	53.5	41.0	41.0	52.1	41.6	41.8
Incr Delay (d2), s/veh	1.9	0.3	0.0	12.1	128.0	0.3	108.8	2.8	2.7	14.1	8.6	10.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	7.0	0.1	6.4	53.3	4.6	3.5	6.2	6.5	2.3	9.2	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.8	22.1	17.0	58.7	154.3	16.0	162.4	43.7	43.6	66.2	50.3	52.7
LnGrp LOS	D	C	B	E	F	B	F	D	D	E	D	D
Approach Vol, veh/h		840			2790			540			680	
Approach Delay, s/veh		24.2			131.7			56.9			53.0	
Approach LOS		C			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	54.4	8.0	28.9	11.2	63.0	9.8	27.1
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.5	4.5	4.0	4.5
Max Green Setting (Gmax), s	25.0	42.0	4.0	32.0	8.0	58.5	10.0	26.0
Max Q Clear Time (g_c+I1), s	15.5	20.0	5.9	22.4	5.8	60.5	6.5	16.3
Green Ext Time (p_c), s	0.4	3.7	0.0	2.0	0.0	0.0	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	93.7
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	680	10	400	2180	0	10	0	160	0	0	0
Future Volume (veh/h)	0	680	10	400	2180	0	10	0	160	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	0	680	0	400	2180	0	10	0	160	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	3	1367		445	2486	0	219	0	195	0	3	0
Arrive On Green	0.00	0.40	0.00	0.26	0.73	0.00	0.13	0.00	0.13	0.00	0.00	0.00
Sat Flow, veh/h	1697	3385	1510	1697	3474	0	1697	0	1510	0	1781	0
Grp Volume(v), veh/h	0	680	0	400	2180	0	10	0	160	0	0	0
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1697	1692	0	1697	0	1510	0	1781	0
Q Serve(g_s), s	0.0	9.9	0.0	15.0	31.7	0.0	0.3	0.0	6.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	9.9	0.0	15.0	31.7	0.0	0.3	0.0	6.8	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	3	1367		445	2486	0	219	0	195	0	3	0
V/C Ratio(X)	0.00	0.50		0.90	0.88	0.00	0.05	0.00	0.82	0.00	0.00	0.00
Avail Cap(c_a), veh/h	180	1825		717	2897	0	270	0	240	0	621	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	14.7	0.0	23.5	6.5	0.0	25.2	0.0	28.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	5.9	3.0	0.0	0.1	0.0	16.7	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.6	0.0	6.2	6.5	0.0	0.1	0.0	3.2	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	15.0	0.0	29.4	9.5	0.0	25.3	0.0	44.7	0.0	0.0	0.0
LnGrp LOS	A	B		C	A	A	C	A	D	A	A	A
Approach Vol, veh/h		680	A		2580			170			0	
Approach Delay, s/veh		15.0			12.6			43.6			0.0	
Approach LOS		B			B			D				
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.8	31.2		0.0	0.0	53.0		13.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	27.9	35.6		23.0	7.0	56.5		10.5				
Max Q Clear Time (g_c+I1), s	17.0	11.9		0.0	0.0	33.7		8.8				
Green Ext Time (p_c), s	0.3	3.5		0.0	0.0	14.8		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			14.6									
HCM 6th LOS			B									

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	160	10	10	10	10	400
Future Vol, veh/h	160	10	10	10	10	400
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	8	8	8	8	8	8
Mvmt Flow	160	10	10	10	10	400

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	240	210	410	0	-	0
Stage 1	210	-	-	-	-	-
Stage 2	30	-	-	-	-	-
Critical Hdwy	6.48	6.28	4.18	-	-	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	2.272	-	-	-
Pot Cap-1 Maneuver	735	815	1117	-	-	-
Stage 1	811	-	-	-	-	-
Stage 2	977	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	728	815	1117	-	-	-
Mov Cap-2 Maneuver	728	-	-	-	-	-
Stage 1	804	-	-	-	-	-
Stage 2	977	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.4	4.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1117	-	733	-	-
HCM Lane V/C Ratio	0.009	-	0.232	-	-
HCM Control Delay (s)	8.3	0	11.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.9	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	110	10	240	580	560	360	400	200	10	90	10
Future Volume (veh/h)	10	110	10	240	580	560	360	400	200	10	90	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	110	10	240	580	560	360	400	200	10	90	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	16	679	62	274	478	462	319	456	386	16	122	14
Arrive On Green	0.01	0.42	0.42	0.16	0.57	0.57	0.19	0.26	0.26	0.01	0.08	0.08
Sat Flow, veh/h	1697	1609	146	1697	833	804	1697	1781	1510	1697	1575	175
Grp Volume(v), veh/h	10	0	120	240	0	1140	360	400	200	10	0	100
Grp Sat Flow(s),veh/h/ln	1697	0	1755	1697	0	1637	1697	1781	1510	1697	0	1750
Q Serve(g_s), s	0.6	0.0	4.5	14.7	0.0	61.0	20.0	22.9	12.1	0.6	0.0	5.9
Cycle Q Clear(g_c), s	0.6	0.0	4.5	14.7	0.0	61.0	20.0	22.9	12.1	0.6	0.0	5.9
Prop In Lane	1.00		0.08	1.00		0.49	1.00		1.00	1.00		0.10
Lane Grp Cap(c), veh/h	16	0	741	274	0	940	319	456	386	16	0	135
V/C Ratio(X)	0.61	0.00	0.16	0.88	0.00	1.21	1.13	0.88	0.52	0.61	0.00	0.74
Avail Cap(c_a), veh/h	64	0	741	431	0	940	319	587	497	64	0	313
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.4	0.0	19.0	43.5	0.0	22.6	43.1	37.9	33.9	52.4	0.0	48.0
Incr Delay (d2), s/veh	31.9	0.0	0.1	11.7	0.0	105.8	89.2	11.7	1.1	31.9	0.0	7.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.9	7.0	0.0	49.0	16.0	11.1	4.5	0.4	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.3	0.0	19.1	55.2	0.0	128.4	132.3	49.6	35.0	84.3	0.0	55.6
LnGrp LOS	F	A	B	E	A	F	F	D	C	F	A	E
Approach Vol, veh/h		130			1380			960			110	
Approach Delay, s/veh		24.1			115.6			77.6			58.2	
Approach LOS		C			F			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	31.2	21.2	48.9	24.0	12.2	5.0	65.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	35.0	27.0	38.0	20.0	19.0	4.0	61.0
Max Q Clear Time (g_c+I1), s	2.6	24.9	16.7	6.5	22.0	7.9	2.6	63.0
Green Ext Time (p_c), s	0.0	2.2	0.5	0.7	0.0	0.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	94.4
HCM 6th LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	250	40	50	1500	260	170	680	40	70	200	70
Future Volume (veh/h)	20	250	40	50	1500	260	170	680	40	70	200	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	20	250	40	50	1500	260	170	680	40	70	200	70
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	30	1299	580	139	1541	687	245	781	46	119	604	205
Arrive On Green	0.02	0.38	0.38	0.08	0.46	0.46	0.07	0.24	0.24	0.07	0.24	0.24
Sat Flow, veh/h	1697	3385	1510	1697	3385	1510	3291	3248	191	1697	2480	842
Grp Volume(v), veh/h	20	250	40	50	1500	260	170	354	366	70	134	136
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1697	1692	1510	1646	1692	1747	1697	1692	1630
Q Serve(g_s), s	1.0	4.2	1.4	2.4	37.1	9.7	4.3	17.2	17.2	3.4	5.6	5.9
Cycle Q Clear(g_c), s	1.0	4.2	1.4	2.4	37.1	9.7	4.3	17.2	17.2	3.4	5.6	5.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		0.52
Lane Grp Cap(c), veh/h	30	1299	580	139	1541	687	245	407	420	119	412	397
V/C Ratio(X)	0.67	0.19	0.07	0.36	0.97	0.38	0.70	0.87	0.87	0.59	0.33	0.34
Avail Cap(c_a), veh/h	79	1382	616	141	1541	687	347	455	470	119	412	397
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.7	17.5	16.7	37.1	22.8	15.3	38.6	31.2	31.2	38.5	26.6	26.7
Incr Delay (d2), s/veh	22.5	0.1	0.1	1.9	17.0	0.4	3.5	15.6	15.4	5.1	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.5	0.5	1.0	16.6	3.1	1.8	8.4	8.6	1.5	2.2	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.2	17.6	16.7	39.0	39.8	15.7	42.1	46.8	46.6	43.6	27.1	27.3
LnGrp LOS	E	B	B	D	D	B	D	D	D	D	C	C
Approach Vol, veh/h		310			1810			890			340	
Approach Delay, s/veh		20.5			36.3			45.8			30.6	
Approach LOS		C			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	37.7	10.6	25.6	5.5	43.8	10.4	25.8
Change Period (Y+Rc), s	4.6	4.9	4.6	* 5	4.0	* 4.9	4.0	5.0
Max Green Setting (Gmax), s	7.1	34.9	6.0	* 23	4.0	* 39	9.0	20.5
Max Q Clear Time (g_c+I1), s	4.4	6.2	5.4	19.2	3.0	39.1	6.3	7.9
Green Ext Time (p_c), s	0.0	1.5	0.0	1.4	0.0	0.0	0.2	1.0

Intersection Summary		
HCM 6th Ctrl Delay		36.8
HCM 6th LOS		D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	110	10	30	800	50	100	320	70	40	220	460
Future Volume (veh/h)	60	110	10	30	800	50	100	320	70	40	220	460
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	60	110	10	30	800	50	100	320	70	40	220	460
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	87	818	693	72	747	47	124	405	89	84	468	396
Arrive On Green	0.05	0.46	0.46	0.04	0.45	0.45	0.07	0.29	0.29	0.05	0.26	0.26
Sat Flow, veh/h	1697	1781	1510	1697	1659	104	1697	1416	310	1697	1781	1510
Grp Volume(v), veh/h	60	110	10	30	0	850	100	0	390	40	220	460
Grp Sat Flow(s),veh/h/ln	1697	1781	1510	1697	0	1763	1697	0	1726	1697	1781	1510
Q Serve(g_s), s	4.1	4.2	0.4	2.0	0.0	53.2	6.9	0.0	24.6	2.7	12.3	31.0
Cycle Q Clear(g_c), s	4.1	4.2	0.4	2.0	0.0	53.2	6.9	0.0	24.6	2.7	12.3	31.0
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	87	818	693	72	0	794	124	0	494	84	468	396
V/C Ratio(X)	0.69	0.13	0.01	0.42	0.00	1.07	0.80	0.00	0.79	0.48	0.47	1.16
Avail Cap(c_a), veh/h	103	818	693	115	0	794	135	0	494	115	468	396
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.1	18.4	17.4	55.1	0.0	32.4	53.9	0.0	38.8	54.6	36.6	43.5
Incr Delay (d2), s/veh	10.0	0.1	0.0	1.4	0.0	52.4	24.3	0.0	8.4	1.6	0.7	96.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	1.7	0.1	0.9	0.0	32.8	3.7	0.0	11.3	1.2	5.3	21.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.1	18.5	17.4	56.5	0.0	84.9	78.1	0.0	47.2	56.2	37.4	140.3
LnGrp LOS	E	B	B	E	A	F	E	A	D	E	D	F
Approach Vol, veh/h		180			880			490			720	
Approach Delay, s/veh		34.0			83.9			53.5			104.2	
Approach LOS		C			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	59.2	13.3	36.0	10.6	58.2	10.4	38.8
Change Period (Y+Rc), s	4.6	5.0	4.6	5.0	4.6	5.0	4.6	5.0
Max Green Setting (Gmax), s	8.0	52.4	9.4	31.0	7.2	53.2	8.0	32.4
Max Q Clear Time (g_c+I1), s	4.0	6.2	8.9	33.0	6.1	55.2	4.7	26.6
Green Ext Time (p_c), s	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	79.8
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	320	770	10	10	2240	910	10	10	10	210	20	30
Future Volume (veh/h)	320	770	10	10	2240	910	10	10	10	210	20	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	320	770	10	10	2240	910	10	10	10	210	20	30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	261	2376	1074	16	1888	987	16	31	31	163	80	121
Arrive On Green	0.15	0.70	0.70	0.01	0.56	0.56	0.01	0.04	0.04	0.10	0.12	0.12
Sat Flow, veh/h	1697	3385	1510	1697	3385	1510	1697	817	817	1697	643	965
Grp Volume(v), veh/h	320	770	10	10	2240	910	10	0	20	210	0	50
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1697	1692	1510	1697	0	1634	1697	0	1608
Q Serve(g_s), s	16.0	9.1	0.2	0.6	58.0	54.6	0.6	0.0	1.2	10.0	0.0	2.9
Cycle Q Clear(g_c), s	16.0	9.1	0.2	0.6	58.0	54.6	0.6	0.0	1.2	10.0	0.0	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		0.60
Lane Grp Cap(c), veh/h	261	2376	1074	16	1888	987	16	0	63	163	0	201
V/C Ratio(X)	1.23	0.32	0.01	0.61	1.19	0.92	0.61	0.00	0.32	1.29	0.00	0.25
Avail Cap(c_a), veh/h	261	2376	1074	65	1888	987	65	0	314	163	0	402
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.0	6.0	4.4	51.3	23.0	15.7	51.3	0.0	48.7	47.0	0.0	41.1
Incr Delay (d2), s/veh	130.8	0.1	0.0	31.6	89.7	13.6	31.6	0.0	2.9	167.4	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.9	2.5	0.0	0.4	43.1	18.5	0.4	0.0	0.6	11.8	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	174.8	6.1	4.4	82.9	112.7	29.3	82.9	0.0	51.5	214.4	0.0	41.7
LnGrp LOS	F	A	A	F	F	C	F	A	D	F	A	D
Approach Vol, veh/h		1100			3160			30			260	
Approach Delay, s/veh		55.1			88.6			62.0			181.2	
Approach LOS		E			F			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	8.0	5.0	77.0	5.0	17.0	20.0	62.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	10.0	20.0	4.0	70.0	4.0	26.0	16.0	58.0				
Max Q Clear Time (g_c+I1), s	12.0	3.2	2.6	11.1	2.6	4.9	18.0	60.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	5.7	0.0	0.2	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			85.6									
HCM 6th LOS			F									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	510	310	10	980	830	240	80	340	10	10	610	1660
Future Volume (veh/h)	510	310	10	980	830	240	80	340	10	10	610	1660
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	510	310	10	980	830	240	80	340	10	10	610	1660
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	573	1186	38	614	872	403	108	1230	830	16	1383	879
Arrive On Green	0.17	0.24	0.24	0.19	0.26	0.26	0.36	0.36	0.36	0.01	0.41	0.41
Sat Flow, veh/h	3291	4841	155	3291	3385	1510	157	3385	1510	1697	3385	1510
Grp Volume(v), veh/h	510	207	113	980	830	240	80	340	10	10	610	1660
Grp Sat Flow(s),veh/h/ln	1646	1621	1754	1646	1692	1510	157	1692	1510	1697	1692	1510
Q Serve(g_s), s	17.1	5.8	5.9	21.0	27.2	15.6	31.4	8.0	0.3	0.7	14.6	46.0
Cycle Q Clear(g_c), s	17.1	5.8	5.9	21.0	27.2	15.6	40.9	8.0	0.3	0.7	14.6	46.0
Prop In Lane	1.00		0.09	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	573	794	430	614	872	403	108	1230	830	16	1383	879
V/C Ratio(X)	0.89	0.26	0.26	1.60	0.95	0.60	0.74	0.28	0.01	0.62	0.44	1.89
Avail Cap(c_a), veh/h	702	922	498	614	872	403	108	1230	830	60	1383	879
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.5	34.3	34.3	45.8	41.1	35.9	47.7	25.4	11.5	55.5	24.0	23.5
Incr Delay (d2), s/veh	10.5	0.1	0.1	275.9	19.6	1.7	21.4	0.0	0.0	32.6	0.2	403.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	2.2	2.4	31.8	13.2	5.8	2.9	3.1	0.1	0.4	5.6	119.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.0	34.3	34.4	321.7	60.7	37.6	69.1	25.4	11.5	88.2	24.2	427.2
LnGrp LOS	E	C	C	F	E	D	E	C	B	F	C	F
Approach Vol, veh/h		830			2050			430			2280	
Approach Delay, s/veh		47.6			182.8			33.2			317.9	
Approach LOS		D			F			C			F	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.0	33.6		52.0	25.6	35.0	5.1	46.9
Change Period (Y+Rc), s	6.0	6.0		* 6	6.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	21.0	32.0		* 46	24.0	29.0	4.0	36.0
Max Q Clear Time (g_c+I1), s	23.0	7.9		48.0	19.1	29.2	2.7	42.9
Green Ext Time (p_c), s	0.0	0.7		0.0	0.5	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	206.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	700	10	1310	1680	300	10	180	460	10	1590	1230
Future Volume (veh/h)	160	700	10	1310	1680	300	10	180	460	10	1590	1230
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	160	700	10	1310	1680	300	10	180	0	10	1590	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	273	621	277	933	1299	579	60	1297		460	1297	
Arrive On Green	0.08	0.18	0.18	0.28	0.38	0.38	0.38	0.38	0.00	0.38	0.38	0.00
Sat Flow, veh/h	3291	3385	1510	3291	3385	1510	306	3385	1510	1147	3385	1510
Grp Volume(v), veh/h	160	700	10	1310	1680	300	10	180	0	10	1590	0
Grp Sat Flow(s),veh/h/ln	1646	1692	1510	1646	1692	1510	306	1692	1510	1147	1692	1510
Q Serve(g_s), s	5.6	22.0	0.7	34.0	46.0	18.3	0.0	4.2	0.0	0.7	46.0	0.0
Cycle Q Clear(g_c), s	5.6	22.0	0.7	34.0	46.0	18.3	46.0	4.2	0.0	4.8	46.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	273	621	277	933	1299	579	60	1297		460	1297	
V/C Ratio(X)	0.59	1.13	0.04	1.40	1.29	0.52	0.17	0.14		0.02	1.23	
Avail Cap(c_a), veh/h	274	621	277	933	1299	579	60	1297		460	1297	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	53.0	49.0	40.3	43.0	37.0	28.4	60.0	24.1	0.0	25.7	37.0	0.0
Incr Delay (d2), s/veh	5.0	76.8	0.1	188.6	137.9	1.6	4.7	0.2	0.0	0.1	108.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	15.6	0.2	37.4	42.3	6.4	0.4	1.6	0.0	0.2	37.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.1	125.8	40.4	231.6	174.9	30.0	64.7	24.3	0.0	25.7	145.5	0.0
LnGrp LOS	E	F	D	F	F	C	E	C		C	F	
Approach Vol, veh/h		870			3290			190	A		1600	A
Approach Delay, s/veh		112.4			184.3			26.4			144.8	
Approach LOS		F			F			C			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	40.0	28.0		52.0	16.0	52.0		52.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	34.0	22.0		46.0	10.0	46.0		46.0				
Max Q Clear Time (g_c+I1), s	36.0	24.0		48.0	7.6	48.0		48.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.2	0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		158.1
HCM 6th LOS		F

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	230	110	580	420	940	1120
Future Volume (veh/h)	230	110	580	420	940	1120
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	230	110	580	420	940	1120
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	265	786	619	2607	1247	1394
Arrive On Green	0.16	0.16	0.36	0.77	0.37	0.37
Sat Flow, veh/h	1697	1510	1697	3474	3474	2657
Grp Volume(v), veh/h	230	110	580	420	940	1120
Grp Sat Flow(s),veh/h/ln	1697	1510	1697	1692	1692	1329
Q Serve(g_s), s	14.3	4.1	35.8	3.5	26.3	37.6
Cycle Q Clear(g_c), s	14.3	4.1	35.8	3.5	26.3	37.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	265	786	619	2607	1247	1394
V/C Ratio(X)	0.87	0.14	0.94	0.16	0.75	0.80
Avail Cap(c_a), veh/h	329	843	736	2841	1249	1395
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.7	13.4	33.2	3.3	29.9	21.2
Incr Delay (d2), s/veh	18.2	0.1	17.8	0.0	2.6	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	0.0	16.8	0.8	10.5	15.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	62.8	13.5	51.0	3.3	32.6	24.7
LnGrp LOS	E	B	D	A	C	C
Approach Vol, veh/h	340			1000	2060	
Approach Delay, s/veh	46.9			31.0	28.3	
Approach LOS	D			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		87.5		20.9	43.5	43.9
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		91.0		21.0	47.0	40.0
Max Q Clear Time (g_c+I1), s		5.5		16.3	37.8	39.6
Green Ext Time (p_c), s		1.9		0.6	1.8	0.4

Intersection Summary			
HCM 6th Ctrl Delay			30.9
HCM 6th LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	20	60	10	10	30	620	820	10	40	470	160
Future Volume (veh/h)	160	20	60	10	10	30	620	820	10	40	470	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	160	20	60	10	10	0	620	820	10	40	470	160
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	282	52	157	129	106		643	2638	32	526	2607	1163
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.00	0.77	0.77	0.77	0.77	0.77	0.77
Sat Flow, veh/h	1338	392	1177	480	794	1510	758	3425	42	629	3385	1510
Grp Volume(v), veh/h	160	0	80	20	0	0	620	405	425	40	470	160
Grp Sat Flow(s),veh/h/ln	1338	0	1570	1274	0	1510	758	1692	1774	629	1692	1510
Q Serve(g_s), s	4.7	0.0	3.9	0.0	0.0	0.0	60.9	6.0	6.0	1.7	3.1	2.3
Cycle Q Clear(g_c), s	8.6	0.0	3.9	3.9	0.0	0.0	64.0	6.0	6.0	7.7	3.1	2.3
Prop In Lane	1.00		0.75	0.50		1.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	282	0	210	235	0		643	1303	1366	526	2607	1163
V/C Ratio(X)	0.57	0.00	0.38	0.09	0.00		0.96	0.31	0.31	0.08	0.18	0.14
Avail Cap(c_a), veh/h	393	0	340	358	0		643	1303	1366	526	2607	1163
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.7	0.0	32.9	31.6	0.0	0.0	14.2	2.9	2.9	4.1	2.5	2.5
Incr Delay (d2), s/veh	1.8	0.0	1.1	0.2	0.0	0.0	26.9	0.1	0.1	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	1.5	0.4	0.0	0.0	13.7	1.0	1.0	0.2	0.5	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.5	0.0	34.0	31.7	0.0	0.0	41.1	3.0	3.0	4.1	2.6	2.5
LnGrp LOS	D	A	C	C	A		D	A	A	A	A	A
Approach Vol, veh/h		240			20	A		1450			670	
Approach Delay, s/veh		35.7			31.7			19.3			2.7	
Approach LOS		D			C			B			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		68.0		15.1		68.0		15.1				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		64.0		18.0		64.0		18.0				
Max Q Clear Time (g_c+I1), s		66.0		10.6		9.7		5.9				
Green Ext Time (p_c), s		0.0		0.5		3.4		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			16.4
HCM 6th LOS			B

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	160	10	2450	890	10	90	260	470	10	2110	320
Future Volume (veh/h)	20	160	10	2450	890	10	90	260	470	10	2110	320
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	20	160	10	2450	890	10	90	260	470	10	2110	320
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	376	190	12	1179	630	7	160	1302	1974	16	1459	625
Arrive On Green	0.11	0.11	0.11	0.36	0.36	0.36	0.16	0.64	0.64	0.01	0.30	0.30
Sat Flow, veh/h	3291	1659	104	3291	1758	20	1697	3385	2657	1697	4863	1510
Grp Volume(v), veh/h	20	0	170	2450	0	900	90	260	470	10	2110	320
Grp Sat Flow(s),veh/h/ln	1646	0	1763	1646	0	1778	1697	1692	1329	1697	1621	1510
Q Serve(g_s), s	0.6	0.0	11.3	43.0	0.0	43.0	5.9	3.8	0.7	0.7	36.0	5.2
Cycle Q Clear(g_c), s	0.6	0.0	11.3	43.0	0.0	43.0	5.9	3.8	0.7	0.7	36.0	5.2
Prop In Lane	1.00		0.06	1.00		0.01	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	376	0	201	1179	0	637	160	1302	1974	16	1459	625
V/C Ratio(X)	0.05	0.00	0.84	2.08	0.00	1.41	0.56	0.20	0.24	0.62	1.45	0.51
Avail Cap(c_a), veh/h	521	0	279	1179	0	637	160	1302	1974	85	1459	625
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.00	0.89	1.00	0.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.4	0.0	52.1	38.5	0.0	38.5	48.3	13.9	0.9	59.2	42.0	26.1
Incr Delay (d2), s/veh	0.1	0.0	13.9	487.7	0.0	194.9	4.4	0.3	0.3	33.6	204.7	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	5.7	96.9	0.0	52.8	2.5	1.4	0.4	0.4	41.2	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	0.0	66.0	526.2	0.0	233.4	52.7	14.2	1.2	92.8	246.7	29.1
LnGrp LOS	D	A	E	F	A	F	D	B	A	F	F	C
Approach Vol, veh/h		190			3350			820			2440	
Approach Delay, s/veh		64.1			447.5			11.0			217.5	
Approach LOS		E			F			B			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	50.2	47.0	17.7	15.3	40.0	17.7	47.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	36.0	43.0	19.0	6.0	36.0	19.0	43.0
Max Q Clear Time (g_c+I1), s	2.7	5.8	45.0	13.3	7.9	38.0	2.6	45.0
Green Ext Time (p_c), s	0.0	3.5	0.0	0.4	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	301.7
HCM 6th LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1690	0	100	0	710	30	0	3160	1410
Future Volume (veh/h)	0	0	0	1690	0	100	0	710	30	0	3160	1410
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1781	1781	0	1781	1781	0	1781	1781
Adj Flow Rate, veh/h				1690	0	100	0	710	30	0	3160	1410
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				8	8	8	0	8	8	0	8	8
Cap, veh/h				1400	0	415	0	3202	1409	0	2228	1749
Arrive On Green				0.28	0.00	0.28	0.00	0.66	0.66	0.00	0.88	0.88
Sat Flow, veh/h				5090	0	1510	0	5024	1510	0	3474	2657
Grp Volume(v), veh/h				1690	0	100	0	710	30	0	3160	1410
Grp Sat Flow(s),veh/h/ln				1697	0	1510	0	1621	1510	0	1692	1329
Q Serve(g_s), s				33.0	0.0	6.2	0.0	7.0	0.2	0.0	79.0	26.9
Cycle Q Clear(g_c), s				33.0	0.0	6.2	0.0	7.0	0.2	0.0	79.0	26.9
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				1400	0	415	0	3202	1409	0	2228	1749
V/C Ratio(X)				1.21	0.00	0.24	0.00	0.22	0.02	0.00	1.42	0.81
Avail Cap(c_a), veh/h				1400	0	415	0	3202	1409	0	2228	1749
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.94	0.94	0.00	0.09	0.09
Uniform Delay (d), s/veh				43.5	0.0	33.8	0.0	8.2	0.3	0.0	7.5	4.2
Incr Delay (d2), s/veh				100.3	0.0	0.3	0.0	0.2	0.0	0.0	188.4	0.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				26.7	0.0	2.3	0.0	2.1	0.0	0.0	62.6	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				143.8	0.0	34.1	0.0	8.4	0.3	0.0	195.9	4.6
LnGrp LOS				F	A	C	A	A	A	A	F	A
Approach Vol, veh/h					1790			740			4570	
Approach Delay, s/veh					137.7			8.0			136.9	
Approach LOS					F			A			F	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		83.0				83.0		37.0				
Change Period (Y+Rc), s		4.0				4.0		4.0				
Max Green Setting (Gmax), s		79.0				79.0		33.0				
Max Q Clear Time (g_c+I1), s		9.0				81.0		35.0				
Green Ext Time (p_c), s		5.1				0.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			123.6
HCM 6th LOS			F

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	440	0	10	0	0	0	0	300	700	10	4840	0
Future Volume (veh/h)	440	0	10	0	0	0	0	300	700	10	4840	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781				0	1781	1781	1781	1781	0
Adj Flow Rate, veh/h	440	0	10				0	300	700	10	4840	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8				0	8	8	8	8	0
Cap, veh/h	554	0	328				0	3802	2077	16	4010	0
Arrive On Green	0.11	0.00	0.11				0.00	0.78	0.78	0.01	0.55	0.00
Sat Flow, veh/h	5090	0	3019				0	5024	2657	1697	5024	0
Grp Volume(v), veh/h	440	0	10				0	300	700	10	4840	0
Grp Sat Flow(s),veh/h/ln	1697	0	1510				0	1621	1329	1697	1621	0
Q Serve(g_s), s	10.1	0.0	0.4				0.0	1.7	9.4	0.7	98.9	0.0
Cycle Q Clear(g_c), s	10.1	0.0	0.4				0.0	1.7	9.4	0.7	98.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	554	0	328				0	3802	2077	16	4010	0
V/C Ratio(X)	0.79	0.00	0.03				0.00	0.08	0.34	0.62	1.21	0.00
Avail Cap(c_a), veh/h	763	0	453				0	3802	2077	57	4010	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.67	0.67	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.72	0.72	0.09	0.09	0.00
Uniform Delay (d), s/veh	52.2	0.0	47.8				0.0	3.0	3.9	59.4	26.9	0.0
Incr Delay (d2), s/veh	4.0	0.0	0.0				0.0	0.0	0.3	3.5	93.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	0.1				0.0	0.4	1.7	0.3	72.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.2	0.0	47.9				0.0	3.1	4.2	63.0	120.2	0.0
LnGrp LOS	E	A	D				A	A	A	E	F	A
Approach Vol, veh/h		450						1000			4850	
Approach Delay, s/veh		56.0						3.9			120.1	
Approach LOS		E						A			F	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.1	97.8		17.1		102.9
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	4.0	86.0		18.0		94.0
Max Q Clear Time (g_c+I1), s	2.7	11.4		12.1		100.9
Green Ext Time (p_c), s	0.0	5.3		0.9		0.0

Intersection Summary		
HCM 6th Ctrl Delay		97.1
HCM 6th LOS		F

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	910	60	1790	3050	100	90
Future Volume (veh/h)	910	60	1790	3050	100	90
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	910	60	1790	3050	100	90
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	1155	75	1712	3524	332	673
Arrive On Green	0.16	0.16	0.52	0.72	0.20	0.20
Sat Flow, veh/h	7353	456	3291	5024	1697	3442
Grp Volume(v), veh/h	746	224	1790	3050	100	90
Grp Sat Flow(s),veh/h/ln	1443	1699	1646	1621	1697	1147
Q Serve(g_s), s	12.4	12.7	52.0	46.3	5.0	2.2
Cycle Q Clear(g_c), s	12.4	12.7	52.0	46.3	5.0	2.2
Prop In Lane		0.27	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	950	280	1712	3524	332	673
V/C Ratio(X)	0.79	0.80	1.05	0.87	0.30	0.13
Avail Cap(c_a), veh/h	1039	306	1712	3599	332	673
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.09	0.09	0.99	0.99
Uniform Delay (d), s/veh	40.1	40.2	24.0	10.2	34.4	33.2
Incr Delay (d2), s/veh	3.1	10.9	22.6	0.2	2.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	5.9	22.8	11.2	2.2	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	43.2	51.1	46.6	10.4	36.7	33.6
LnGrp LOS	D	D	F	B	D	C
Approach Vol, veh/h	970			4840	190	
Approach Delay, s/veh	45.0			23.8	35.3	
Approach LOS	D			C	D	

Timer - Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		23.5	56.0	20.5				76.5
Change Period (Y+Rc), s		4.0	4.0	4.0				4.0
Max Green Setting (Gmax), s		18.0	52.0	18.0				74.0
Max Q Clear Time (g_c+I1), s		7.0	54.0	14.7				48.3
Green Ext Time (p_c), s		0.4	0.0	1.8				23.6

Intersection Summary	
HCM 6th Ctrl Delay	27.6
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	310	10	450	820	140	10	10	50	30	380	1220
Future Volume (veh/h)	10	310	10	450	820	140	10	10	50	30	380	1220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	310	10	450	820	140	10	10	50	30	380	1220
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	17	515	245	497	1473	694	17	75	374	41	542	835
Arrive On Green	0.01	0.15	0.15	0.29	0.44	0.44	0.01	0.29	0.29	0.02	0.30	0.30
Sat Flow, veh/h	1697	3385	1510	1697	3385	1510	1697	258	1291	1697	1781	2657
Grp Volume(v), veh/h	10	310	10	450	820	140	10	0	60	30	380	1220
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1697	1692	1510	1697	0	1549	1697	1781	1329
Q Serve(g_s), s	0.5	6.7	0.4	20.1	14.3	4.4	0.5	0.0	2.3	1.4	14.9	24.0
Cycle Q Clear(g_c), s	0.5	6.7	0.4	20.1	14.3	4.4	0.5	0.0	2.3	1.4	14.9	24.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.83	1.00		1.00
Lane Grp Cap(c), veh/h	17	515	245	497	1473	694	17	0	449	41	542	835
V/C Ratio(X)	0.59	0.60	0.04	0.91	0.56	0.20	0.59	0.00	0.13	0.72	0.70	1.46
Avail Cap(c_a), veh/h	645	1587	723	667	1630	764	86	0	449	129	542	835
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	31.2	27.9	26.8	16.6	12.7	38.9	0.0	20.7	38.2	24.3	27.1
Incr Delay (d2), s/veh	28.7	0.4	0.0	13.0	0.1	0.1	28.7	0.0	0.0	21.0	3.4	214.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.6	0.2	9.1	4.8	1.3	0.3	0.0	0.8	0.8	6.3	32.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.6	31.7	27.9	39.8	16.7	12.8	67.6	0.0	20.8	59.3	27.7	241.4
LnGrp LOS	E	C	C	D	B	B	E	A	C	E	C	F
Approach Vol, veh/h		330			1410			70			1630	
Approach Delay, s/veh		32.6			23.7			27.4			188.3	
Approach LOS		C			C			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.1	18.0	5.9	27.9	4.8	40.3	4.8	29.0
Change Period (Y+Rc), s	4.0	6.0	4.0	5.0	4.0	6.0	4.0	5.0
Max Green Setting (Gmax), s	31.0	37.0	6.0	22.0	30.0	38.0	4.0	24.0
Max Q Clear Time (g_c+I1), s	22.1	8.7	3.4	4.3	2.5	16.3	2.5	26.0
Green Ext Time (p_c), s	1.0	1.2	0.0	0.1	0.0	3.7	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		102.6
HCM 6th LOS		F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	530	0	10	0	3080	990	0	390	1180
Future Volume (veh/h)	0	0	0	530	0	10	0	3080	990	0	390	1180
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1781	1781	0	1781	1781	0	1781	1781
Adj Flow Rate, veh/h				530	0	0	0	3080	0	0	390	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				8	8	8	0	8	8	0	8	8
Cap, veh/h				551	0		0	2744		0	4969	
Arrive On Green				0.11	0.00	0.00	0.00	1.00	0.00	0.00	0.81	0.00
Sat Flow, veh/h				5090	0	3019	0	3474	2657	0	6378	1510
Grp Volume(v), veh/h				530	0	0	0	3080	0	0	390	0
Grp Sat Flow(s),veh/h/ln				1697	0	1510	0	1692	1329	0	1532	1510
Q Serve(g_s), s				12.4	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0
Cycle Q Clear(g_c), s				12.4	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				551	0		0	2744		0	4969	
V/C Ratio(X)				0.96	0.00		0.00	1.12		0.00	0.08	
Avail Cap(c_a), veh/h				551	0		0	2744		0	4969	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	0.09	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				53.2	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0
Incr Delay (d2), s/veh				28.6	0.0	0.0	0.0	55.6	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.6	0.0	0.0	0.0	21.2	0.0	0.0	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				81.8	0.0	0.0	0.0	55.6	0.0	0.0	2.3	0.0
LnGrp LOS				F	A		A	F		A	A	
Approach Vol, veh/h					530	A		3080	A		390	A
Approach Delay, s/veh					81.8			55.6			2.3	
Approach LOS					F			E			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		103.0				103.0		17.0				
Change Period (Y+Rc), s		5.7				5.7		5.1				
Max Green Setting (Gmax), s		97.3				97.3		11.9				
Max Q Clear Time (g_c+I1), s		2.0				3.5		14.4				
Green Ext Time (p_c), s		57.5				1.6		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			53.8
HCM 6th LOS			D

Notes
User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2200	0	2060	0	0	0	0	1870	10	0	910	10
Future Volume (veh/h)	2200	0	2060	0	0	0	0	1870	10	0	910	10
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781				0	1781	1781	0	1781	1781
Adj Flow Rate, veh/h	2841	0	1373				0	1870	0	0	910	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8				0	8	8	0	8	8
Cap, veh/h	1835	0	816				0	1795		0	1795	
Arrive On Green	0.54	0.00	0.54				0.00	0.37	0.00	0.00	0.37	0.00
Sat Flow, veh/h	3393	0	1510				0	5024	2657	0	5024	1510
Grp Volume(v), veh/h	2841	0	1373				0	1870	0	0	910	0
Grp Sat Flow(s),veh/h/ln	1697	0	1510				0	1621	1329	0	1621	1510
Q Serve(g_s), s	64.9	0.0	64.9				0.0	44.3	0.0	0.0	17.4	0.0
Cycle Q Clear(g_c), s	64.9	0.0	64.9				0.0	44.3	0.0	0.0	17.4	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	1835	0	816				0	1795		0	1795	
V/C Ratio(X)	1.55	0.00	1.68				0.00	1.04		0.00	0.51	
Avail Cap(c_a), veh/h	1835	0	816				0	1795		0	1795	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.81	0.00
Uniform Delay (d), s/veh	27.5	0.0	27.5				0.0	37.8	0.0	0.0	29.4	0.0
Incr Delay (d2), s/veh	249.4	0.0	312.1				0.0	33.0	0.0	0.0	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	88.4	0.0	92.8				0.0	22.0	0.0	0.0	6.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	276.9	0.0	339.6				0.0	70.8	0.0	0.0	30.2	0.0
LnGrp LOS	F	A	F				A	F		A	C	
Approach Vol, veh/h		4214						1870	A		910	A
Approach Delay, s/veh		297.4						70.8			30.2	
Approach LOS		F						E			C	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		50.0		70.0		50.0
Change Period (Y+Rc), s		5.7		5.1		5.7
Max Green Setting (Gmax), s		44.3		64.9		44.3
Max Q Clear Time (g_c+I1), s		46.3		66.9		19.4
Green Ext Time (p_c), s		0.0		0.0		4.0

Intersection Summary			
HCM 6th Ctrl Delay			202.0
HCM 6th LOS			F

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	420	50	40	90	420	10	780	40	730	1660	10
Future Volume (veh/h)	20	420	50	40	90	420	10	780	40	730	1660	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	20	420	50	40	90	420	10	780	40	730	1660	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	28	496	59	68	632	496	419	2027	629	813	2027	629
Arrive On Green	0.02	0.16	0.16	0.04	0.19	0.19	0.08	0.14	0.14	0.25	0.42	0.42
Sat Flow, veh/h	1697	3048	361	1697	3385	2657	1697	4863	1510	3291	4863	1510
Grp Volume(v), veh/h	20	232	238	40	90	420	10	780	40	730	1660	10
Grp Sat Flow(s),veh/h/ln	1697	1692	1716	1697	1692	1329	1697	1621	1510	1646	1621	1510
Q Serve(g_s), s	1.4	16.0	16.2	2.8	2.7	18.3	0.7	17.5	2.8	25.8	36.3	0.4
Cycle Q Clear(g_c), s	1.4	16.0	16.2	2.8	2.7	18.3	0.7	17.5	2.8	25.8	36.3	0.4
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	28	275	279	68	632	496	419	2027	629	813	2027	629
V/C Ratio(X)	0.73	0.84	0.85	0.59	0.14	0.85	0.02	0.38	0.06	0.90	0.82	0.02
Avail Cap(c_a), veh/h	71	324	329	254	1015	797	419	2027	629	987	2391	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.94	0.94	0.94	0.62	0.62	0.62	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.8	48.8	48.8	56.6	40.8	47.1	41.8	37.7	31.4	43.7	31.0	15.1
Incr Delay (d2), s/veh	30.2	15.9	16.7	7.3	0.1	4.6	0.0	0.3	0.1	9.6	3.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	7.9	8.2	1.3	1.1	6.4	0.3	7.6	1.0	11.2	14.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.9	64.7	65.5	63.9	40.9	51.7	41.8	38.1	31.5	53.3	34.8	15.2
LnGrp LOS	F	E	E	E	D	D	D	D	C	D	C	B
Approach Vol, veh/h		490			550			830			2400	
Approach Delay, s/veh		66.1			50.8			37.8			40.3	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.6	54.0	8.8	23.5	33.6	54.0	5.9	26.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	36.0	27.0	18.0	23.0	4.0	59.0	5.0	36.0				
Max Q Clear Time (g_c+I1), s	27.8	19.5	4.8	18.2	2.7	38.3	3.4	20.3				
Green Ext Time (p_c), s	1.9	3.0	0.0	1.2	0.0	11.8	0.0	2.1				
Intersection Summary												
HCM 6th Ctrl Delay			44.2									
HCM 6th LOS			D									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	270	270	140	50	10	110	770	70	340	660	10
Future Volume (veh/h)	10	270	270	140	50	10	110	770	70	340	660	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	270	270	140	50	10	110	770	70	340	660	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	432	363	307	165	82	70	489	1111	496	368	819	365
Arrive On Green	0.25	0.20	0.20	0.10	0.05	0.05	0.29	0.33	0.33	0.07	0.08	0.08
Sat Flow, veh/h	1697	1781	1510	1697	1781	1510	1697	3385	1510	1697	3385	1510
Grp Volume(v), veh/h	10	270	270	140	50	10	110	770	70	340	660	10
Grp Sat Flow(s),veh/h/ln	1697	1781	1510	1697	1781	1510	1697	1692	1510	1697	1692	1510
Q Serve(g_s), s	0.5	17.1	20.8	9.7	3.3	0.8	5.9	23.7	1.9	23.9	23.0	0.6
Cycle Q Clear(g_c), s	0.5	17.1	20.8	9.7	3.3	0.8	5.9	23.7	1.9	23.9	23.0	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	432	363	307	165	82	70	489	1111	496	368	819	365
V/C Ratio(X)	0.02	0.74	0.88	0.85	0.61	0.14	0.22	0.69	0.14	0.92	0.81	0.03
Avail Cap(c_a), veh/h	432	445	377	170	560	474	489	1111	496	382	1255	560
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.61	0.61	0.61	0.83	0.83	0.83
Uniform Delay (d), s/veh	33.5	44.9	46.4	53.3	56.2	55.0	32.5	35.0	6.8	54.7	52.4	24.6
Incr Delay (d2), s/veh	0.0	5.3	17.8	30.9	7.1	0.9	0.1	2.2	0.4	24.0	7.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	8.1	9.1	5.5	1.6	0.3	2.4	9.7	1.4	13.3	11.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.6	50.2	64.1	84.2	63.3	55.9	32.6	37.2	7.2	78.7	59.5	24.8
LnGrp LOS	C	D	E	F	E	E	C	D	A	E	E	C
Approach Vol, veh/h		550			200			950			1010	
Approach Delay, s/veh		56.7			77.6			34.5			65.6	
Approach LOS		E			E			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	34.8	15.6	29.1	30.0	45.2	35.2	9.5
Change Period (Y+Rc), s	5.8	* 5.8	4.0	* 4.7	4.0	5.8	4.7	* 4
Max Green Setting (Gmax), s	15.0	* 45	12.0	* 30	27.0	32.5	5.0	* 38
Max Q Clear Time (g_c+I1), s	7.9	25.0	11.7	22.8	25.9	25.7	2.5	5.3
Green Ext Time (p_c), s	0.1	4.0	0.0	1.6	0.1	2.8	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	53.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	50	80	520	40	70	130	830	1080	190	880	30
Future Volume (veh/h)	50	50	80	520	40	70	130	830	1080	190	880	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1125	1688	1406	938	1688	1406	1125	1688	1406	1125	1688	1406
Adj Flow Rate, veh/h	50	50	80	520	40	70	130	830	1080	190	880	30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	79	132	181	586	400	371	79	1236	1297	153	1236	548
Arrive On Green	0.07	0.08	0.08	0.23	0.24	0.24	0.07	0.39	0.39	0.07	0.39	0.39
Sat Flow, veh/h	1072	1688	1192	2518	1688	1192	1072	3207	2098	2079	3207	1192
Grp Volume(v), veh/h	50	50	80	520	40	70	130	830	1080	190	880	30
Grp Sat Flow(s),veh/h/ln	1072	1688	1192	839	1688	1192	1072	1603	1049	1039	1603	1192
Q Serve(g_s), s	5.5	3.4	7.4	24.3	2.3	5.2	9.0	26.2	47.0	9.0	28.3	1.7
Cycle Q Clear(g_c), s	5.5	3.4	7.4	24.3	2.3	5.2	9.0	26.2	47.0	9.0	28.3	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	79	132	181	586	400	371	79	1236	1297	153	1236	548
V/C Ratio(X)	0.63	0.38	0.44	0.89	0.10	0.19	1.64	0.67	0.83	1.24	0.71	0.05
Avail Cap(c_a), veh/h	79	222	244	826	651	548	79	1236	1297	153	1236	548
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	53.4	47.0	45.2	36.3	30.7	56.5	31.0	18.3	56.5	31.7	18.3
Incr Delay (d2), s/veh	15.1	1.8	1.7	8.6	0.1	0.2	339.1	1.4	4.8	150.5	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	1.5	2.2	5.4	0.9	1.5	9.8	9.9	11.3	5.5	10.8	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.0	55.2	48.7	53.8	36.4	31.0	395.5	32.5	23.1	207.0	33.7	18.3
LnGrp LOS	E	E	D	D	D	C	F	C	C	F	C	B
Approach Vol, veh/h		180			630			2040			1100	
Approach Delay, s/veh		56.4			50.2			50.6			63.2	
Approach LOS		E			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	54.0	35.4	16.5	16.0	54.0	16.0	35.9
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	9.0	47.0	40.0	16.0	9.0	47.0	9.0	47.0
Max Q Clear Time (g_c+I1), s	11.0	49.0	26.3	9.4	11.0	30.3	7.5	7.2
Green Ext Time (p_c), s	0.0	0.0	2.0	0.2	0.0	3.9	0.0	0.5

Intersection Summary

HCM 6th Ctrl Delay		54.3
HCM 6th LOS		D

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1470	0	0	0	0	0	0	0	0	360	0
Future Volume (veh/h)	0	1470	0	0	0	0	0	0	0	0	360	0
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Work Zone On Approach		No									No	
Adj Sat Flow, veh/h/ln	0	1781	0							0	1781	0
Adj Flow Rate, veh/h	0	1470	0							0	360	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	8	0							0	8	0
Cap, veh/h	0	1781	0							0	770	0
Arrive On Green	0.00	0.53	0.00							0.00	0.23	0.00
Sat Flow, veh/h	0	3563	0							0	3563	0
Grp Volume(v), veh/h	0	1470	0							0	360	0
Grp Sat Flow(s),veh/h/ln	0	1692	0							0	1692	0
Q Serve(g_s), s	0.0	11.8	0.0							0.0	3.0	0.0
Cycle Q Clear(g_c), s	0.0	11.8	0.0							0.0	3.0	0.0
Prop In Lane	0.00		0.00							0.00		0.00
Lane Grp Cap(c), veh/h	0	1781	0							0	770	0
V/C Ratio(X)	0.00	0.83	0.00							0.00	0.47	0.00
Avail Cap(c_a), veh/h	0	1876	0							0	9797	0
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00							0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	6.4	0.0							0.0	10.8	0.0
Incr Delay (d2), s/veh	0.0	3.0	0.0							0.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.5	0.0							0.0	0.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.5	0.0							0.0	11.3	0.0
LnGrp LOS	A	A	A							A	B	A
Approach Vol, veh/h		1470									360	
Approach Delay, s/veh		9.5									11.3	
Approach LOS		A									B	

Timer - Assigned Phs	2	8
Phs Duration (G+Y+Rc), s	21.1	11.4
Change Period (Y+Rc), s	4.0	4.0
Max Green Setting (Gmax), s	18.0	94.0
Max Q Clear Time (g_c+I1), s	13.8	5.0
Green Ext Time (p_c), s	3.3	2.7

Intersection Summary	
HCM 6th Ctrl Delay	9.8
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	20	0	0	0	0	0	30	0
Future Volume (veh/h)	0	0	0	0	20	0	0	0	0	0	30	0
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach					No						No	
Adj Sat Flow, veh/h/ln				0	1781	0				0	1781	0
Adj Flow Rate, veh/h				0	20	0				0	30	0
Peak Hour Factor				1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %				0	8	0				0	8	0
Cap, veh/h				0	1093	0				0	107	0
Arrive On Green				0.00	0.32	0.00				0.00	0.03	0.00
Sat Flow, veh/h				0	3563	0				0	3563	0
Grp Volume(v), veh/h				0	20	0				0	30	0
Grp Sat Flow(s),veh/h/ln				0	1692	0				0	1692	0
Q Serve(g_s), s				0.0	0.0	0.0				0.0	0.1	0.0
Cycle Q Clear(g_c), s				0.0	0.0	0.0				0.0	0.1	0.0
Prop In Lane				0.00		0.00				0.00		0.00
Lane Grp Cap(c), veh/h				0	1093	0				0	107	0
V/C Ratio(X)				0.00	0.02	0.00				0.00	0.28	0.00
Avail Cap(c_a), veh/h				0	4916	0				0	25674	0
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.00	1.00	0.00				0.00	1.00	0.00
Uniform Delay (d), s/veh				0.0	2.9	0.0				0.0	5.9	0.0
Incr Delay (d2), s/veh				0.0	0.0	0.0				0.0	1.4	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	0.0	0.0				0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	2.9	0.0				0.0	7.3	0.0
LnGrp LOS				A	A	A				A	A	A
Approach Vol, veh/h					20						30	
Approach Delay, s/veh					2.9						7.3	
Approach LOS					A						A	
Timer - Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		8.0						4.4				
Change Period (Y+Rc), s		4.0						4.0				
Max Green Setting (Gmax), s		18.0						94.0				
Max Q Clear Time (g_c+I1), s		2.0						2.1				
Green Ext Time (p_c), s		0.0						0.2				
Intersection Summary												
HCM 6th Ctrl Delay			5.5									
HCM 6th LOS			A									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	1380	90	240	450	40	20	490	270	10	160	60
Future Volume (veh/h)	260	1380	90	240	450	40	20	490	270	10	160	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	260	1380	0	240	450	40	20	490	0	10	160	60
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	294	1533		297	1251	572	55	533		16	521	703
Arrive On Green	0.17	0.45	0.00	0.09	0.37	0.37	0.02	0.30	0.00	0.01	0.29	0.29
Sat Flow, veh/h	1697	3385	1510	3291	3385	1510	3291	1781	1510	1697	1781	1510
Grp Volume(v), veh/h	260	1380	0	240	450	40	20	490	0	10	160	60
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1646	1692	1510	1646	1781	1510	1697	1781	1510
Q Serve(g_s), s	16.2	40.7	0.0	7.7	10.5	1.8	0.6	28.7	0.0	0.6	7.5	2.4
Cycle Q Clear(g_c), s	16.2	40.7	0.0	7.7	10.5	1.8	0.6	28.7	0.0	0.6	7.5	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	294	1533		297	1251	572	55	533		16	521	703
V/C Ratio(X)	0.88	0.90		0.81	0.36	0.07	0.36	0.92		0.61	0.31	0.09
Avail Cap(c_a), veh/h	471	1628		304	1251	572	122	626		63	626	793
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.6	27.3	0.0	48.3	24.8	21.4	52.6	36.6	0.0	53.3	29.7	16.1
Incr Delay (d2), s/veh	11.3	7.0	0.0	14.6	0.2	0.1	4.0	17.1	0.0	32.1	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	17.3	0.0	3.8	4.2	0.7	0.3	14.4	0.0	0.4	3.2	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.9	34.3	0.0	62.9	25.0	21.5	56.6	53.7	0.0	85.4	30.1	16.1
LnGrp LOS	D	C		E	C	C	E	D		F	C	B
Approach Vol, veh/h		1640	A		730			510	A		230	
Approach Delay, s/veh		37.6			37.2			53.8			28.8	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	36.4	13.8	52.9	5.8	35.6	22.8	43.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	38.0	10.0	52.0	4.0	38.0	30.0	32.0
Max Q Clear Time (g_c+I1), s	2.6	30.7	9.7	42.7	2.6	9.5	18.2	12.5
Green Ext Time (p_c), s	0.0	1.6	0.0	6.2	0.0	1.0	0.6	3.0

Intersection Summary	
HCM 6th Ctrl Delay	39.5
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	1180	60	10	100	30	10	590	300	80	410	10
Future Volume (veh/h)	110	1180	60	10	100	30	10	590	300	80	410	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	110	1180	60	10	100	30	10	590	300	80	410	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	140	1491	664	21	1254	559	21	878	391	102	1040	463
Arrive On Green	0.08	0.44	0.44	0.01	0.37	0.37	0.01	0.26	0.26	0.06	0.31	0.31
Sat Flow, veh/h	1697	3385	1509	1697	3385	1510	1697	3385	1508	1697	3385	1508
Grp Volume(v), veh/h	110	1180	60	10	100	30	10	590	300	80	410	10
Grp Sat Flow(s),veh/h/ln	1697	1692	1509	1697	1692	1510	1697	1692	1508	1697	1692	1508
Q Serve(g_s), s	5.2	24.3	1.9	0.5	1.6	1.0	0.5	12.7	14.9	3.8	7.8	0.4
Cycle Q Clear(g_c), s	5.2	24.3	1.9	0.5	1.6	1.0	0.5	12.7	14.9	3.8	7.8	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	140	1491	664	21	1254	559	21	878	391	102	1040	463
V/C Ratio(X)	0.79	0.79	0.09	0.47	0.08	0.05	0.47	0.67	0.77	0.78	0.39	0.02
Avail Cap(c_a), veh/h	313	2262	1008	104	1845	823	104	1258	560	251	1549	690
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.6	19.5	13.3	39.9	16.6	16.4	39.9	27.0	27.8	37.7	22.2	19.6
Incr Delay (d2), s/veh	9.4	1.1	0.1	15.6	0.0	0.0	15.6	0.9	4.0	12.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	8.5	0.6	0.3	0.6	0.3	0.3	4.8	5.4	1.8	2.9	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.0	20.7	13.3	55.5	16.6	16.5	55.5	27.9	31.8	50.0	22.4	19.7
LnGrp LOS	D	C	B	E	B	B	E	C	C	D	C	B
Approach Vol, veh/h		1350			140			900			500	
Approach Delay, s/veh		22.4			19.4			29.5			26.8	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	40.5	8.9	26.9	10.7	34.8	5.0	30.8
Change Period (Y+Rc), s	4.0	* 4.7	4.0	5.8	4.0	* 4.7	4.0	5.8
Max Green Setting (Gmax), s	5.0	* 54	12.0	30.2	15.0	* 44	5.0	37.2
Max Q Clear Time (g_c+I1), s	2.5	26.3	5.8	16.9	7.2	3.6	2.5	9.8
Green Ext Time (p_c), s	0.0	9.4	0.1	3.9	0.1	0.7	0.0	2.5

Intersection Summary		
HCM 6th Ctrl Delay		25.2
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	490	990	250	80	370	10	60	310	210	130	430	240
Future Volume (veh/h)	490	990	250	80	370	10	60	310	210	130	430	240
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	490	990	250	80	370	10	60	310	210	130	430	240
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	583	1268	684	286	963	576	257	583	392	164	647	556
Arrive On Green	0.18	0.37	0.37	0.09	0.28	0.28	0.08	0.17	0.17	0.10	0.19	0.19
Sat Flow, veh/h	3291	3385	1510	3291	3385	1510	3291	3385	1510	1697	3385	1510
Grp Volume(v), veh/h	490	990	250	80	370	10	60	310	210	130	430	240
Grp Sat Flow(s),veh/h/ln	1646	1692	1510	1646	1692	1510	1646	1692	1510	1697	1692	1510
Q Serve(g_s), s	12.8	23.1	9.7	2.0	7.8	0.4	1.5	7.4	10.7	6.7	10.5	10.6
Cycle Q Clear(g_c), s	12.8	23.1	9.7	2.0	7.8	0.4	1.5	7.4	10.7	6.7	10.5	10.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	583	1268	684	286	963	576	257	583	392	164	647	556
V/C Ratio(X)	0.84	0.78	0.37	0.28	0.38	0.02	0.23	0.53	0.54	0.79	0.66	0.43
Avail Cap(c_a), veh/h	720	1662	859	336	1267	712	336	983	570	327	1290	843
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.5	24.6	16.0	38.1	25.6	17.2	38.6	33.6	28.4	39.4	33.4	21.2
Incr Delay (d2), s/veh	7.3	2.2	0.5	0.5	0.4	0.0	0.5	1.1	1.6	8.2	1.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	8.7	3.1	0.8	3.0	0.1	0.6	3.0	3.8	3.0	4.2	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.8	26.8	16.5	38.6	26.0	17.2	39.1	34.7	30.0	47.6	35.1	21.9
LnGrp LOS	D	C	B	D	C	B	D	C	C	D	D	C
Approach Vol, veh/h		1730			460			580			800	
Approach Delay, s/veh		29.9			28.0			33.5			33.2	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.3	39.9	14.1	20.9	22.3	31.9	12.5	22.5				
Change Period (Y+Rc), s	6.5	6.5	5.5	5.5	6.5	6.5	5.5	5.5				
Max Green Setting (Gmax), s	9.1	43.8	17.2	25.9	19.5	33.4	9.1	34.0				
Max Q Clear Time (g_c+I1), s	14.0	25.1	8.7	12.7	14.8	9.8	3.5	12.6				
Green Ext Time (p_c), s	0.1	8.4	0.2	2.7	1.0	2.4	0.1	4.3				
Intersection Summary												
HCM 6th Ctrl Delay			30.9									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1260	210	460	690	10	20	100	670	10	20	10
Future Volume (veh/h)	10	1260	210	460	690	10	20	100	670	10	20	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	1260	210	460	690	10	20	100	670	10	20	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	17	1558	510	502	2951	931	29	687	753	17	661	310
Arrive On Green	0.01	0.32	0.32	0.30	0.61	0.61	0.02	0.20	0.20	0.01	0.20	0.20
Sat Flow, veh/h	1697	4863	1510	1697	4863	1510	1697	3385	1510	1697	3385	1510
Grp Volume(v), veh/h	10	1260	210	460	690	10	20	100	670	10	20	10
Grp Sat Flow(s),veh/h/ln	1697	1621	1510	1697	1621	1510	1697	1692	1510	1697	1692	1510
Q Serve(g_s), s	0.5	22.3	10.0	24.5	6.1	0.2	1.1	2.3	19.0	0.5	0.4	0.5
Cycle Q Clear(g_c), s	0.5	22.3	10.0	24.5	6.1	0.2	1.1	2.3	19.0	0.5	0.4	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	17	1558	510	502	2951	931	29	687	753	17	661	310
V/C Ratio(X)	0.60	0.81	0.41	0.92	0.23	0.01	0.68	0.15	0.89	0.60	0.03	0.03
Avail Cap(c_a), veh/h	72	1713	558	688	3479	1095	72	687	753	72	687	321
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.2	29.2	23.9	31.8	8.4	6.9	45.8	30.7	21.1	46.2	30.5	29.8
Incr Delay (d2), s/veh	30.4	2.8	0.5	13.7	0.0	0.0	24.1	0.1	12.7	30.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	8.8	3.6	11.6	2.0	0.1	0.7	0.9	14.9	0.4	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.6	32.0	24.4	45.5	8.5	6.9	69.9	30.8	33.8	76.6	30.5	29.8
LnGrp LOS	E	C	C	D	A	A	E	C	C	E	C	C
Approach Vol, veh/h		1480			1160			790			40	
Approach Delay, s/veh		31.2			23.2			34.3			41.9	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.9	23.0	31.7	34.0	5.6	22.3	4.9	60.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	19.0	38.0	33.0	4.0	19.0	4.0	67.0
Max Q Clear Time (g_c+I1), s	2.5	21.0	26.5	24.3	3.1	2.5	2.5	8.1
Green Ext Time (p_c), s	0.0	0.0	1.2	5.8	0.0	0.1	0.0	5.8

Intersection Summary	
HCM 6th Ctrl Delay	29.3
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	1300	160	270	110	10	10	900	410	10	420	60
Future Volume (veh/h)	180	1300	160	270	110	10	10	900	410	10	420	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	180	1300	160	270	110	10	10	900	410	10	420	60
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	211	1468	655	331	1387	619	16	1047	467	16	1047	467
Arrive On Green	0.12	0.43	0.43	0.10	0.41	0.41	0.01	0.31	0.31	0.01	0.31	0.31
Sat Flow, veh/h	1697	3385	1510	3291	3385	1510	1697	3385	1510	1697	3385	1510
Grp Volume(v), veh/h	180	1300	160	270	110	10	10	900	410	10	420	60
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1646	1692	1510	1697	1692	1510	1697	1692	1510
Q Serve(g_s), s	11.3	38.5	7.3	8.8	2.2	0.4	0.6	27.3	28.1	0.6	10.7	3.1
Cycle Q Clear(g_c), s	11.3	38.5	7.3	8.8	2.2	0.4	0.6	27.3	28.1	0.6	10.7	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	211	1468	655	331	1387	619	16	1047	467	16	1047	467
V/C Ratio(X)	0.85	0.89	0.24	0.82	0.08	0.02	0.61	0.86	0.88	0.61	0.40	0.13
Avail Cap(c_a), veh/h	342	1582	706	392	1387	619	62	1117	498	62	1117	498
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	28.4	19.6	48.1	19.6	19.1	53.8	35.4	35.7	53.8	29.7	27.1
Incr Delay (d2), s/veh	10.9	6.1	0.2	10.8	0.0	0.0	32.2	6.6	15.6	32.2	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	16.3	2.6	4.1	0.9	0.2	0.4	12.0	12.2	0.4	4.4	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.6	34.5	19.8	58.9	19.7	19.1	86.0	42.1	51.3	86.0	30.0	27.2
LnGrp LOS	E	C	B	E	B	B	F	D	D	F	C	C
Approach Vol, veh/h		1640			390			1320			490	
Approach Delay, s/veh		35.6			46.8			45.3			30.8	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	37.8	15.0	51.3	5.0	37.8	17.6	48.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	36.0	13.0	51.0	4.0	36.0	22.0	42.0
Max Q Clear Time (g_c+I1), s	2.6	30.1	10.8	40.5	2.6	12.7	13.3	4.2
Green Ext Time (p_c), s	0.0	3.7	0.2	6.8	0.0	3.0	0.3	0.7

Intersection Summary	
HCM 6th Ctrl Delay	39.5
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	380	690	240	70	100	30	20	340	160	280	490	270
Future Volume (veh/h)	380	690	240	70	100	30	20	340	160	280	490	270
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	380	690	240	70	100	30	20	340	160	280	490	270
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	477	909	405	87	593	264	62	1107	511	455	867	476
Arrive On Green	0.14	0.27	0.27	0.05	0.18	0.18	0.02	0.49	0.49	0.41	0.41	0.41
Sat Flow, veh/h	3291	3385	1510	1697	3385	1510	3291	2249	1038	855	2109	1157
Grp Volume(v), veh/h	380	690	240	70	100	30	20	254	246	280	393	367
Grp Sat Flow(s),veh/h/ln	1646	1692	1510	1697	1692	1510	1646	1692	1595	855	1692	1573
Q Serve(g_s), s	7.1	12.0	8.8	2.6	1.6	1.1	0.4	5.7	5.9	18.7	11.4	11.5
Cycle Q Clear(g_c), s	7.1	12.0	8.8	2.6	1.6	1.1	0.4	5.7	5.9	19.4	11.4	11.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.65	1.00		0.74
Lane Grp Cap(c), veh/h	477	909	405	87	593	264	62	833	785	455	696	647
V/C Ratio(X)	0.80	0.76	0.59	0.80	0.17	0.11	0.32	0.31	0.31	0.62	0.56	0.57
Avail Cap(c_a), veh/h	514	1164	519	159	952	425	206	1058	997	531	846	787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	21.5	20.4	30.0	22.4	22.2	31.0	9.7	9.7	17.1	14.4	14.5
Incr Delay (d2), s/veh	8.1	2.2	1.4	15.4	0.1	0.2	3.0	0.2	0.2	1.6	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	4.4	0.2	1.3	0.6	0.4	0.2	1.9	1.8	3.4	4.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	23.7	21.7	45.4	22.6	22.4	34.0	9.9	10.0	18.7	15.2	15.3
LnGrp LOS	C	C	C	D	C	C	C	A	A	B	B	B
Approach Vol, veh/h		1310			200			520			1040	
Approach Delay, s/veh		26.5			30.5			10.9			16.2	
Approach LOS		C			C			B			B	

Timer - Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		35.5	7.3	21.2	5.2	30.3	13.3	15.2
Change Period (Y+Rc), s		4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s		40.0	6.0	22.0	4.0	32.0	10.0	18.0
Max Q Clear Time (g_c+I1), s		7.9	4.6	14.0	2.4	21.4	9.1	3.6
Green Ext Time (p_c), s		3.4	0.0	3.2	0.0	4.9	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	20.6
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	560	350	110	120	20	90	490	620	100	710	10
Future Volume (veh/h)	10	560	350	110	120	20	90	490	620	100	710	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	560	350	110	120	20	90	490	620	100	710	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	16	606	514	135	731	619	141	1197	534	132	1315	587
Arrive On Green	0.01	0.34	0.34	0.08	0.41	0.41	0.04	0.35	0.35	0.08	0.39	0.39
Sat Flow, veh/h	1697	1781	1510	1697	1781	1510	3291	3385	1510	1697	3385	1510
Grp Volume(v), veh/h	10	560	350	110	120	20	90	490	620	100	710	10
Grp Sat Flow(s),veh/h/ln	1697	1781	1510	1697	1781	1510	1646	1692	1510	1697	1692	1510
Q Serve(g_s), s	0.6	32.5	21.4	6.9	4.6	0.9	2.9	11.8	38.0	6.2	17.4	0.4
Cycle Q Clear(g_c), s	0.6	32.5	21.4	6.9	4.6	0.9	2.9	11.8	38.0	6.2	17.4	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	16	606	514	135	731	619	141	1197	534	132	1315	587
V/C Ratio(X)	0.61	0.92	0.68	0.82	0.16	0.03	0.64	0.41	1.16	0.76	0.54	0.02
Avail Cap(c_a), veh/h	63	647	548	142	731	619	214	1197	534	284	1544	688
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	34.1	30.4	48.7	20.0	18.9	50.6	26.2	34.7	48.6	25.4	20.2
Incr Delay (d2), s/veh	32.0	18.5	3.2	28.6	0.1	0.0	4.8	0.2	91.8	8.6	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	16.8	8.1	4.0	1.9	0.3	1.3	4.7	27.2	2.9	7.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.0	52.6	33.6	77.3	20.1	19.0	55.4	26.5	126.5	57.1	25.8	20.2
LnGrp LOS	F	D	C	E	C	B	E	C	F	E	C	C
Approach Vol, veh/h		920			250			1200			820	
Approach Delay, s/veh		45.7			45.2			80.3			29.5	
Approach LOS		D			D			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	42.0	12.5	40.6	8.6	45.8	5.0	48.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	18.0	38.0	9.0	39.0	7.0	49.0	4.0	44.0
Max Q Clear Time (g_c+I1), s	8.2	40.0	8.9	34.5	4.9	19.4	2.6	6.6
Green Ext Time (p_c), s	0.1	0.0	0.0	2.1	0.0	5.6	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	54.5
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	520	1720	10	10	390	180	10	110	10	70	190	920
Future Volume (veh/h)	520	1720	10	10	390	180	10	110	10	70	190	920
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	520	1720	10	10	390	180	10	110	10	70	190	920
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	638	2093	665	17	1198	475	17	868	78	116	1133	1404
Arrive On Green	0.19	0.43	0.43	0.01	0.25	0.25	0.01	0.28	0.28	0.07	0.33	0.33
Sat Flow, veh/h	3291	4863	1510	1697	4863	1510	1697	3141	282	1697	3385	2657
Grp Volume(v), veh/h	520	1720	10	10	390	180	10	59	61	70	190	920
Grp Sat Flow(s),veh/h/ln	1646	1621	1510	1697	1621	1510	1697	1692	1731	1697	1692	1329
Q Serve(g_s), s	11.3	23.2	0.3	0.4	4.9	6.9	0.4	1.9	2.0	3.0	2.9	18.6
Cycle Q Clear(g_c), s	11.3	23.2	0.3	0.4	4.9	6.9	0.4	1.9	2.0	3.0	2.9	18.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	638	2093	665	17	1198	475	17	468	478	116	1133	1404
V/C Ratio(X)	0.81	0.82	0.02	0.59	0.33	0.38	0.59	0.13	0.13	0.60	0.17	0.66
Avail Cap(c_a), veh/h	885	2222	705	91	1198	475	91	468	478	410	1456	1658
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	18.7	11.7	36.7	23.0	19.8	36.7	20.2	20.2	33.7	17.5	12.7
Incr Delay (d2), s/veh	4.2	2.5	0.0	28.2	0.2	0.5	28.2	0.1	0.1	5.0	0.1	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	8.4	0.1	0.3	1.8	2.4	0.3	0.7	0.8	1.4	1.1	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.9	21.2	11.7	64.9	23.1	20.3	64.9	20.3	20.3	38.6	17.5	13.4
LnGrp LOS	C	C	B	E	C	C	E	C	C	D	B	B
Approach Vol, veh/h		2250			580			130			1180	
Approach Delay, s/veh		23.8			23.0			23.7			15.5	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	24.6	4.7	36.0	4.7	28.9	18.4	22.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	18.0	18.0	4.0	34.0	4.0	32.0	20.0	18.0
Max Q Clear Time (g_c+I1), s	13.3	4.0	2.4	25.2	2.4	20.6	13.3	8.9
Green Ext Time (p_c), s	0.1	0.4	0.0	6.8	0.0	4.3	1.2	2.2

Intersection Summary	
HCM 6th Ctrl Delay	21.3
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1560	410	10	10	180	200	10	10	10	1020	20	500
Future Volume (veh/h)	1560	410	10	10	180	200	10	10	10	1020	20	500
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	1560	410	10	10	180	200	10	10	10	1020	20	500
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	1356	1653	40	16	314	830	809	57	49	1598	143	865
Arrive On Green	0.28	0.34	0.34	0.01	0.06	0.06	0.48	0.03	0.03	0.49	0.04	0.04
Sat Flow, veh/h	4784	4884	119	1697	4863	1510	1697	1725	1482	3291	3385	2657
Grp Volume(v), veh/h	1560	272	148	10	180	200	10	10	10	1020	20	500
Grp Sat Flow(s),veh/h/ln	1595	1621	1760	1697	1621	1510	1697	1692	1515	1646	1692	1329
Q Serve(g_s), s	34.0	7.3	7.3	0.7	4.3	0.0	0.4	0.7	0.8	27.7	0.7	0.0
Cycle Q Clear(g_c), s	34.0	7.3	7.3	0.7	4.3	0.0	0.4	0.7	0.8	27.7	0.7	0.0
Prop In Lane	1.00		0.07	1.00		1.00	1.00		0.98	1.00		1.00
Lane Grp Cap(c), veh/h	1356	1097	596	16	314	830	809	56	50	1598	143	865
V/C Ratio(X)	1.15	0.25	0.25	0.62	0.57	0.24	0.01	0.17	0.20	0.64	0.14	0.58
Avail Cap(c_a), veh/h	1356	1297	704	57	729	959	809	268	240	1598	1354	1816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.70	0.70	0.70	1.00	1.00	1.00	1.00	1.00	1.00	0.22	0.22	0.22
Uniform Delay (d), s/veh	43.0	28.7	28.7	59.2	54.5	14.0	16.5	56.4	56.4	23.0	55.4	33.6
Incr Delay (d2), s/veh	74.3	0.1	0.2	33.6	1.6	0.1	0.0	6.6	8.8	0.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.6	2.9	3.1	0.5	1.8	2.8	0.1	0.4	0.4	10.6	0.3	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	117.3	28.7	28.8	92.8	56.2	14.2	16.5	63.0	65.3	23.2	55.5	33.8
LnGrp LOS	F	C	C	F	E	B	B	E	E	C	E	C
Approach Vol, veh/h		1980			390			30			1540	
Approach Delay, s/veh		98.5			35.6			48.3			27.1	
Approach LOS		F			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	62.3	8.0	5.1	44.6	61.2	9.1	38.0	11.7				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	33.0	19.0	4.0	48.0	4.0	48.0	34.0	18.0				
Max Q Clear Time (g_c+I1), s	29.7	2.8	2.7	9.3	2.4	2.7	36.0	6.3				
Green Ext Time (p_c), s	1.5	0.0	0.0	2.9	0.0	2.4	0.0	1.4				
Intersection Summary												
HCM 6th Ctrl Delay			64.0									
HCM 6th LOS			E									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	130	120	10	620	640
Future Volume (veh/h)	10	130	120	10	620	640
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	0	120	10	620	640
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	18		258	218	768	1297
Arrive On Green	0.01	0.00	0.14	0.14	0.45	0.73
Sat Flow, veh/h	1697	1510	1781	1510	1697	1781
Grp Volume(v), veh/h	10	0	120	10	620	640
Grp Sat Flow(s),veh/h/ln	1697	1510	1781	1510	1697	1781
Q Serve(g_s), s	0.2	0.0	1.9	0.2	9.6	4.7
Cycle Q Clear(g_c), s	0.2	0.0	1.9	0.2	9.6	4.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	18		258	218	768	1297
V/C Ratio(X)	0.55		0.47	0.05	0.81	0.49
Avail Cap(c_a), veh/h	997		1222	1035	3823	5468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.1	0.0	12.0	11.3	7.2	1.8
Incr Delay (d2), s/veh	23.8	0.0	1.3	0.1	2.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.7	0.0	2.2	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.9	0.0	13.3	11.4	9.3	2.1
LnGrp LOS	D		B	B	A	A
Approach Vol, veh/h	10	A	130			1260
Approach Delay, s/veh	38.9		13.2			5.6
Approach LOS	D		B			A

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	17.9	8.4				26.3		4.3
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	69.0	21.0				94.0		18.0
Max Q Clear Time (g_c+I1), s	11.6	3.9				6.7		2.2
Green Ext Time (p_c), s	2.3	0.5				5.3		0.0

Intersection Summary		
HCM 6th Ctrl Delay		6.6
HCM 6th LOS		A

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	1140	50	40	10	30	840
Future Volume (veh/h)	1140	50	40	10	30	840
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	1187	0	40	10	30	840
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	1561	695	59	1239	435	2127
Arrive On Green	0.46	0.00	0.03	0.37	0.24	0.24
Sat Flow, veh/h	3393	1510	1697	3474	1781	3019
Grp Volume(v), veh/h	1187	0	40	10	30	840
Grp Sat Flow(s),veh/h/ln	1697	1510	1697	1692	1781	1510
Q Serve(g_s), s	13.4	0.0	1.1	0.1	0.6	5.2
Cycle Q Clear(g_c), s	13.4	0.0	1.1	0.1	0.6	5.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1561	695	59	1239	435	2127
V/C Ratio(X)	0.76	0.00	0.68	0.01	0.07	0.39
Avail Cap(c_a), veh/h	5161	2296	332	3089	1122	3292
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.3	0.0	22.0	9.3	13.4	2.8
Incr Delay (d2), s/veh	0.8	0.0	12.7	0.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	0.6	0.0	0.2	4.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.1	0.0	34.7	9.3	13.4	2.9
LnGrp LOS	B	A	C	A	B	A
Approach Vol, veh/h	1187			50	870	
Approach Delay, s/veh	11.1			29.6	3.3	
Approach LOS	B			C	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		20.9		25.2	5.6	15.2
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		42.0		70.0	9.0	29.0
Max Q Clear Time (g_c+I1), s		2.1		15.4	3.1	7.2
Green Ext Time (p_c), s		0.0		5.8	0.0	4.0

Intersection Summary	
HCM 6th Ctrl Delay	8.3
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	330	250	60	10	40	10	140	40	10	10	40	40
Future Volume (veh/h)	330	250	60	10	40	10	140	40	10	10	40	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	330	250	60	10	40	10	140	40	10	10	40	40
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	420	611	518	18	146	36	178	686	306	18	367	163
Arrive On Green	0.25	0.34	0.34	0.01	0.11	0.11	0.11	0.20	0.20	0.01	0.11	0.11
Sat Flow, veh/h	1697	1781	1510	1697	1376	344	1697	3385	1510	1697	3385	1510
Grp Volume(v), veh/h	330	250	60	10	0	50	140	40	10	10	40	40
Grp Sat Flow(s),veh/h/ln	1697	1781	1510	1697	0	1720	1697	1692	1510	1697	1692	1510
Q Serve(g_s), s	6.7	4.0	1.0	0.2	0.0	1.0	3.0	0.4	0.2	0.2	0.4	0.9
Cycle Q Clear(g_c), s	6.7	4.0	1.0	0.2	0.0	1.0	3.0	0.4	0.2	0.2	0.4	0.9
Prop In Lane	1.00		1.00	1.00		0.20	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	420	611	518	18	0	182	178	686	306	18	367	163
V/C Ratio(X)	0.79	0.41	0.12	0.56	0.00	0.27	0.79	0.06	0.03	0.56	0.11	0.24
Avail Cap(c_a), veh/h	873	1592	1349	184	0	838	413	2108	940	184	1649	736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.0	9.3	8.3	18.2	0.0	15.2	16.1	11.9	11.8	18.2	14.9	15.1
Incr Delay (d2), s/veh	3.3	0.4	0.1	24.4	0.0	0.8	7.4	0.0	0.0	24.4	0.1	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	1.2	0.3	0.2	0.0	0.4	1.3	0.1	0.1	0.2	0.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.3	9.7	8.4	42.6	0.0	16.0	23.5	11.9	11.9	42.6	15.0	15.9
LnGrp LOS	B	A	A	D	A	B	C	B	B	D	B	B
Approach Vol, veh/h		640			60			190			90	
Approach Delay, s/veh		13.0			20.4			20.5			18.4	
Approach LOS		B			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.4	11.5	4.4	16.7	7.9	8.0	13.1	7.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	23.0	4.0	33.0	9.0	18.0	19.0	18.0
Max Q Clear Time (g_c+I1), s	2.2	2.4	2.2	6.0	5.0	2.9	8.7	3.0
Green Ext Time (p_c), s	0.0	0.2	0.0	1.7	0.1	0.2	0.8	0.1

Intersection Summary	
HCM 6th Ctrl Delay	15.4
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	990	120	230	630	360	230	420	870	220	330	10
Future Volume (veh/h)	30	990	120	230	630	360	230	420	870	220	330	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	30	990	120	230	630	0	230	420	0	220	330	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	43	1494	464	378	1222		281	514		320	745	332
Arrive On Green	0.03	0.31	0.31	0.08	0.36	0.00	0.17	0.29	0.00	0.10	0.22	0.22
Sat Flow, veh/h	1697	4863	1510	4784	3385	1510	1697	1781	2657	3291	3385	1510
Grp Volume(v), veh/h	30	990	120	230	630	0	230	420	0	220	330	10
Grp Sat Flow(s),veh/h/ln	1697	1621	1510	1595	1692	1510	1697	1781	1329	1646	1692	1510
Q Serve(g_s), s	1.2	12.4	4.2	3.3	10.3	0.0	9.2	15.4	0.0	4.5	5.9	0.4
Cycle Q Clear(g_c), s	1.2	12.4	4.2	3.3	10.3	0.0	9.2	15.4	0.0	4.5	5.9	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	1494	464	378	1222		281	514		320	745	332
V/C Ratio(X)	0.70	0.66	0.26	0.61	0.52		0.82	0.82		0.69	0.44	0.03
Avail Cap(c_a), veh/h	145	2217	688	682	1736		653	1243		610	1688	753
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	21.2	18.3	31.3	17.6	0.0	28.3	23.2	0.0	30.7	23.6	21.5
Incr Delay (d2), s/veh	18.7	0.5	0.3	1.6	0.3	0.0	5.8	3.2	0.0	2.6	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	4.5	1.4	1.3	3.8	0.0	4.0	6.5	0.0	1.8	2.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.6	21.7	18.6	32.9	18.0	0.0	34.1	26.5	0.0	33.3	24.1	21.5
LnGrp LOS	D	C	B	C	B		C	C		C	C	C
Approach Vol, veh/h		1140			860	A		650	A		560	
Approach Delay, s/veh		22.2			21.9			29.2			27.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	24.3	9.5	25.6	15.6	19.5	5.8	29.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	13.0	49.0	10.0	32.0	27.0	35.0	6.0	36.0
Max Q Clear Time (g_c+I1), s	6.5	17.4	5.3	14.4	11.2	7.9	3.2	12.3
Green Ext Time (p_c), s	0.4	2.9	0.3	7.1	0.6	2.3	0.0	4.5

Intersection Summary	
HCM 6th Ctrl Delay	24.5
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	330	10	10	10	10	290	10	900	10	500	170	10
Future Volume (veh/h)	330	10	10	10	10	290	10	900	10	500	170	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	330	10	10	10	10	290	10	900	10	500	170	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	468	641	559	574	641	839	17	1362	15	645	2240	695
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.01	0.27	0.27	0.20	0.46	0.46
Sat Flow, veh/h	1028	1781	1510	1326	1781	1510	1697	4959	55	3291	4863	1510
Grp Volume(v), veh/h	330	10	10	10	10	290	10	588	322	500	170	10
Grp Sat Flow(s),veh/h/ln	1028	1781	1510	1326	1781	1510	1697	1621	1772	1646	1621	1510
Q Serve(g_s), s	21.6	0.3	0.3	0.3	0.3	7.5	0.4	11.4	11.4	10.2	1.4	0.3
Cycle Q Clear(g_c), s	21.8	0.3	0.3	0.6	0.3	7.5	0.4	11.4	11.4	10.2	1.4	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	468	641	559	574	641	839	17	890	486	645	2240	695
V/C Ratio(X)	0.71	0.02	0.02	0.02	0.02	0.35	0.58	0.66	0.66	0.77	0.08	0.01
Avail Cap(c_a), veh/h	780	1182	1017	976	1182	1297	96	1510	825	1301	3913	1215
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.6	14.6	14.1	14.8	14.6	8.6	34.9	22.8	22.8	27.0	10.7	10.4
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.0	0.0	0.2	27.8	0.8	1.5	2.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.1	0.1	0.1	0.1	2.2	0.3	4.2	4.7	4.0	0.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.6	14.6	14.2	14.8	14.6	8.9	62.7	23.6	24.3	29.0	10.7	10.4
LnGrp LOS	C	B	B	B	B	A	E	C	C	C	B	B
Approach Vol, veh/h		350			310			920			680	
Approach Delay, s/veh		23.0			9.3			24.3			24.2	
Approach LOS		C			A			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.9	23.5		29.5	4.7	36.6		29.5
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	28.0	33.0		47.0	4.0	57.0		47.0
Max Q Clear Time (g_c+I1), s	12.2	13.4		23.8	2.4	3.4		9.5
Green Ext Time (p_c), s	1.7	6.0		1.7	0.0	1.3		1.1

Intersection Summary		
HCM 6th Ctrl Delay		22.0
HCM 6th LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	60	10	10	20	10	30	720	10	10	170	10
Future Volume (veh/h)	190	60	10	10	20	10	30	720	10	10	170	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	190	60	10	10	20	10	30	720	10	10	170	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	207	281	47	18	86	43	49	1473	457	18	1382	429
Arrive On Green	0.12	0.19	0.19	0.01	0.08	0.08	0.03	0.30	0.30	0.01	0.28	0.28
Sat Flow, veh/h	1697	1489	248	1697	1120	560	1697	4863	1510	1697	4863	1510
Grp Volume(v), veh/h	190	0	70	10	0	30	30	720	10	10	170	10
Grp Sat Flow(s),veh/h/ln	1697	0	1737	1697	0	1681	1697	1621	1510	1697	1621	1510
Q Serve(g_s), s	3.6	0.0	1.1	0.2	0.0	0.6	0.6	4.0	0.2	0.2	0.9	0.2
Cycle Q Clear(g_c), s	3.6	0.0	1.1	0.2	0.0	0.6	0.6	4.0	0.2	0.2	0.9	0.2
Prop In Lane	1.00		0.14	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	207	0	327	18	0	130	49	1473	457	18	1382	429
V/C Ratio(X)	0.92	0.00	0.21	0.56	0.00	0.23	0.61	0.49	0.02	0.56	0.12	0.02
Avail Cap(c_a), veh/h	207	0	953	207	0	922	207	2667	828	207	2667	828
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.2	0.0	11.3	16.2	0.0	14.2	15.7	9.4	8.0	16.2	8.7	8.5
Incr Delay (d2), s/veh	40.7	0.0	0.3	24.0	0.0	0.9	11.4	0.3	0.0	24.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	0.4	0.2	0.0	0.2	0.3	1.0	0.0	0.2	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.9	0.0	11.6	40.2	0.0	15.1	27.1	9.6	8.0	40.2	8.8	8.5
LnGrp LOS	D	A	B	D	A	B	C	A	A	D	A	A
Approach Vol, veh/h		260			40			760			190	
Approach Delay, s/veh		43.3			21.4			10.3			10.4	
Approach LOS		D			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.3	13.9	4.3	10.2	5.0	13.3	8.0	6.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	18.0	4.0	18.0	4.0	18.0	4.0	18.0
Max Q Clear Time (g_c+I1), s	2.2	6.0	2.2	3.1	2.6	2.9	5.6	2.6
Green Ext Time (p_c), s	0.0	4.0	0.0	0.2	0.0	0.9	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1050	0	10	0	740	1150	0	160	10
Future Volume (veh/h)	0	0	0	1050	0	10	0	740	1150	0	160	10
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1781	1781	0	1781	1781	0	1781	1781
Adj Flow Rate, veh/h				1050	0	10	0	740	1150	0	160	10
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				8	8	8	0	8	8	0	8	8
Cap, veh/h				1475	0	437	0	1985	1558	0	2852	885
Arrive On Green				0.29	0.00	0.29	0.00	0.59	0.59	0.00	0.59	0.59
Sat Flow, veh/h				5090	0	1510	0	3474	2657	0	5024	1510
Grp Volume(v), veh/h				1050	0	10	0	740	1150	0	160	10
Grp Sat Flow(s),veh/h/ln				1697	0	1510	0	1692	1329	0	1621	1510
Q Serve(g_s), s				11.9	0.0	0.3	0.0	7.5	20.4	0.0	0.9	0.2
Cycle Q Clear(g_c), s				11.9	0.0	0.3	0.0	7.5	20.4	0.0	0.9	0.2
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				1475	0	437	0	1985	1558	0	2852	885
V/C Ratio(X)				0.71	0.00	0.02	0.00	0.37	0.74	0.00	0.06	0.01
Avail Cap(c_a), veh/h				3780	0	1121	0	3352	2631	0	4816	1495
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				20.5	0.0	16.4	0.0	7.1	9.7	0.0	5.7	5.6
Incr Delay (d2), s/veh				0.6	0.0	0.0	0.0	0.1	0.7	0.0	0.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.4	0.0	0.1	0.0	2.2	4.7	0.0	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				21.2	0.0	16.4	0.0	7.2	10.4	0.0	5.7	5.6
LnGrp LOS				C	A	B	A	A	B	A	A	A
Approach Vol, veh/h					1060			1890			170	
Approach Delay, s/veh					21.1			9.2			5.7	
Approach LOS					C			A			A	

Timer - Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		41.9				41.9		22.7
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		64.0				64.0		48.0
Max Q Clear Time (g_c+I1), s		22.4				2.9		13.9
Green Ext Time (p_c), s		15.5				1.2		4.8

Intersection Summary	
HCM 6th Ctrl Delay	13.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	0	2250	0	0	0	0	1630	10	0	1210	10
Future Volume (veh/h)	260	0	2250	0	0	0	0	1630	10	0	1210	10
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781				0	1781	1781	0	1781	1781
Adj Flow Rate, veh/h	260	0	0				0	1630	10	0	1210	10
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8				0	8	8	0	8	8
Cap, veh/h	305	0					0	3664	2002	0	3664	1137
Arrive On Green	0.18	0.00	0.00				0.00	0.75	0.75	0.00	0.75	0.75
Sat Flow, veh/h	1697	0	1510				0	5024	2657	0	5024	1510
Grp Volume(v), veh/h	260	0	0				0	1630	10	0	1210	10
Grp Sat Flow(s),veh/h/ln	1697	0	1510				0	1621	1329	0	1621	1510
Q Serve(g_s), s	17.8	0.0	0.0				0.0	14.9	0.1	0.0	9.8	0.2
Cycle Q Clear(g_c), s	17.8	0.0	0.0				0.0	14.9	0.1	0.0	9.8	0.2
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	305	0					0	3664	2002	0	3664	1137
V/C Ratio(X)	0.85	0.00					0.00	0.44	0.00	0.00	0.33	0.01
Avail Cap(c_a), veh/h	1145	0					0	3664	2002	0	3664	1137
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.73	0.73	0.00	0.92	0.92
Uniform Delay (d), s/veh	47.7	0.0	0.0				0.0	5.5	3.7	0.0	4.9	3.7
Incr Delay (d2), s/veh	6.7	0.0	0.0				0.0	0.3	0.0	0.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	0.0	0.0				0.0	4.4	0.0	0.0	2.9	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.3	0.0	0.0				0.0	5.8	3.7	0.0	5.1	3.7
LnGrp LOS	D	A					A	A	A	A	A	A
Approach Vol, veh/h		260	A					1640			1220	
Approach Delay, s/veh		54.3						5.8			5.1	
Approach LOS		D						A			A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		94.4		25.6		94.4
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		31.0		81.0		31.0
Max Q Clear Time (g_c+I1), s		16.9		19.8		11.8
Green Ext Time (p_c), s		9.6		1.8		8.8

Intersection Summary	
HCM 6th Ctrl Delay	9.5
HCM 6th LOS	A

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	680	400	420	10	10	30	10	940	10	130	2070	1260
Future Volume (veh/h)	680	400	420	10	10	30	10	940	10	130	2070	1260
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	680	400	0	10	10	0	10	940	10	130	2070	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	1767	437		267	113		31	1383	578	784	2211	
Arrive On Green	0.37	0.25	0.00	0.16	0.03	0.00	0.01	0.23	0.23	0.24	0.45	0.00
Sat Flow, veh/h	4784	1781	1510	1697	3385	1510	3291	6128	1510	3291	4863	2657
Grp Volume(v), veh/h	680	400	0	10	10	0	10	940	10	130	2070	0
Grp Sat Flow(s),veh/h/ln	1595	1781	1510	1697	1692	1510	1646	1532	1510	1646	1621	1329
Q Serve(g_s), s	12.5	26.2	0.0	0.6	0.3	0.0	0.4	16.8	0.0	3.8	48.5	0.0
Cycle Q Clear(g_c), s	12.5	26.2	0.0	0.6	0.3	0.0	0.4	16.8	0.0	3.8	48.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1767	437		267	113		31	1383	578	784	2211	
V/C Ratio(X)	0.38	0.92		0.04	0.09		0.32	0.68	0.02	0.17	0.94	
Avail Cap(c_a), veh/h	1767	505		267	508		302	2911	955	784	2229	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.94	0.94	0.94	0.09	0.09	0.00
Uniform Delay (d), s/veh	27.8	44.1	0.0	42.8	56.2	0.0	59.1	42.5	23.0	36.2	31.1	0.0
Incr Delay (d2), s/veh	0.1	26.4	0.0	0.1	0.3	0.0	5.5	0.6	0.0	0.0	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	14.7	0.0	0.3	0.2	0.0	0.2	6.4	0.2	1.5	18.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.0	70.5	0.0	42.9	56.6	0.0	64.5	43.0	23.0	36.3	32.0	0.0
LnGrp LOS	C	E		D	E		E	D	C	D	C	
Approach Vol, veh/h		1080	A		20	A		960			2200	A
Approach Delay, s/veh		43.7			49.7			43.1			32.3	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	32.9	33.4	5.1	58.5	48.3	8.0	32.6	31.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	34.0	11.0	55.0	20.0	18.0	9.0	57.0
Max Q Clear Time (g_c+I1), s	12.6	28.2	2.4	50.5	14.5	2.3	5.8	18.8
Green Ext Time (p_c), s	0.0	1.2	0.0	4.0	1.4	0.0	0.1	8.3

Intersection Summary	
HCM 6th Ctrl Delay	37.7
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1230	1250	430	650	300	1520
Future Volume (veh/h)	1230	1250	430	650	300	1520
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	1230	1250	430	650	300	1520
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	1175	1189	538	2375	1852	1988
Arrive On Green	0.16	0.16	0.11	0.39	0.55	0.55
Sat Flow, veh/h	5024	1510	4784	6378	3393	3019
Grp Volume(v), veh/h	1230	1250	430	650	300	1520
Grp Sat Flow(s),veh/h/ln	1621	1510	1595	1532	1697	1510
Q Serve(g_s), s	29.0	29.0	10.5	8.7	5.3	41.6
Cycle Q Clear(g_c), s	29.0	29.0	10.5	8.7	5.3	41.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1175	1189	538	2375	1852	1988
V/C Ratio(X)	1.05	1.05	0.80	0.27	0.16	0.76
Avail Cap(c_a), veh/h	1175	1189	797	2707	1852	1988
HCM Platoon Ratio	0.67	0.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.45	0.45	1.00	1.00	0.40	0.40
Uniform Delay (d), s/veh	50.3	6.4	51.9	25.2	13.6	14.1
Incr Delay (d2), s/veh	31.3	32.9	3.5	0.1	0.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.3	47.6	4.3	3.1	2.0	12.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	81.6	39.3	55.5	25.2	13.7	15.3
LnGrp LOS	F	F	E	C	B	B
Approach Vol, veh/h	2480			1080	1820	
Approach Delay, s/veh	60.3			37.3	15.0	
Approach LOS	E			D	B	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	69.5	17.5	33.0	50.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	59.0	20.0	29.0	53.0
Max Q Clear Time (g_c+I1), s	43.6	12.5	31.0	10.7
Green Ext Time (p_c), s	8.1	1.0	0.0	4.6

Intersection Summary	
HCM 6th Ctrl Delay	40.4
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1550	530	10	760	450	10
Future Volume (veh/h)	1550	530	10	760	450	10
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	1550	530	10	760	450	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	2498	1365	18	2993	664	304
Arrive On Green	0.51	0.51	0.01	0.62	0.20	0.20
Sat Flow, veh/h	5024	2657	1697	5024	3291	1510
Grp Volume(v), veh/h	1550	530	10	760	450	10
Grp Sat Flow(s),veh/h/ln	1621	1329	1697	1621	1646	1510
Q Serve(g_s), s	10.0	5.3	0.3	3.1	5.5	0.2
Cycle Q Clear(g_c), s	10.0	5.3	0.3	3.1	5.5	0.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2498	1365	18	2993	664	304
V/C Ratio(X)	0.62	0.39	0.56	0.25	0.68	0.03
Avail Cap(c_a), veh/h	2890	1579	155	3779	1354	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.6	6.5	21.6	3.8	16.2	14.0
Incr Delay (d2), s/veh	0.3	0.2	25.1	0.0	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	1.0	0.2	0.6	1.9	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.9	6.6	46.6	3.9	17.4	14.1
LnGrp LOS	A	A	D	A	B	B
Approach Vol, veh/h	2080			770	460	
Approach Delay, s/veh	7.6			4.4	17.3	
Approach LOS	A			A	B	

Timer - Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		12.8	4.5	26.5				30.9
Change Period (Y+Rc), s		4.0	4.0	4.0				4.0
Max Green Setting (Gmax), s		18.0	4.0	26.0				34.0
Max Q Clear Time (g_c+I1), s		7.5	2.3	12.0				5.1
Green Ext Time (p_c), s		1.3	0.0	10.5				6.0

Intersection Summary	
HCM 6th Ctrl Delay	8.2
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	1260	60	10	730	10	30	10	10	10	10	10
Future Volume (veh/h)	260	1260	60	10	730	10	30	10	10	10	10	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	260	1260	0	10	730	10	30	10	10	10	10	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	330	1870		18	1260	17	90	81	81	18	67	67
Arrive On Green	0.19	0.55	0.00	0.01	0.37	0.37	0.03	0.10	0.10	0.01	0.08	0.08
Sat Flow, veh/h	1697	3385	1510	1697	3419	47	3291	817	817	1697	817	817
Grp Volume(v), veh/h	260	1260	0	10	361	379	30	0	20	10	0	20
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1697	1692	1773	1646	0	1634	1697	0	1634
Q Serve(g_s), s	7.1	13.0	0.0	0.3	8.4	8.4	0.4	0.0	0.5	0.3	0.0	0.6
Cycle Q Clear(g_c), s	7.1	13.0	0.0	0.3	8.4	8.4	0.4	0.0	0.5	0.3	0.0	0.6
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.50	1.00		0.50
Lane Grp Cap(c), veh/h	330	1870		18	624	653	90	0	162	18	0	134
V/C Ratio(X)	0.79	0.67		0.57	0.58	0.58	0.33	0.00	0.12	0.57	0.00	0.15
Avail Cap(c_a), veh/h	834	3260		139	936	981	270	0	636	139	0	636
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.7	7.8	0.0	24.0	12.4	12.4	23.3	0.0	20.1	24.0	0.0	20.8
Incr Delay (d2), s/veh	4.2	0.4	0.0	25.6	0.9	0.8	2.1	0.0	0.3	25.6	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	3.3	0.0	0.2	2.8	2.9	0.2	0.0	0.2	0.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	8.2	0.0	49.6	13.2	13.2	25.4	0.0	20.4	49.6	0.0	21.3
LnGrp LOS	C	A		D	B	B	C	A	C	D	A	C
Approach Vol, veh/h		1520	A		750			50			30	
Approach Delay, s/veh		10.7			13.7			23.4			30.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.5	8.8	4.5	31.0	5.3	8.0	13.5	22.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	19.0	4.0	47.0	4.0	19.0	24.0	27.0
Max Q Clear Time (g_c+I1), s	2.3	2.5	2.3	15.0	2.4	2.6	9.1	10.4
Green Ext Time (p_c), s	0.0	0.0	0.0	12.0	0.0	0.0	0.7	4.3

Intersection Summary	
HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	520	450	30	30	10
Future Volume (veh/h)	10	520	450	30	30	10
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	520	450	30	30	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	0	830	769	51	215	72
Arrive On Green	0.00	0.47	0.47	0.47	0.18	0.18
Sat Flow, veh/h	0	1781	1652	110	1206	402
Grp Volume(v), veh/h	0	520	0	480	41	0
Grp Sat Flow(s),veh/h/ln	0	1781	0	1762	1649	0
Q Serve(g_s), s	0.0	4.9	0.0	4.5	0.5	0.0
Cycle Q Clear(g_c), s	0.0	4.9	0.0	4.5	0.5	0.0
Prop In Lane	0.00			0.06	0.73	0.24
Lane Grp Cap(c), veh/h	0	830	0	821	294	0
V/C Ratio(X)	0.00	0.63	0.00	0.58	0.14	0.00
Avail Cap(c_a), veh/h	0	6978	0	6273	1761	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	4.5	0.0	4.4	7.8	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.7	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.0	0.2	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	5.3	0.0	5.1	8.0	0.0
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h		520	480		41	
Approach Delay, s/veh		5.3	5.1		8.0	
Approach LOS		A	A		A	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	14.5	8.0	0.0	14.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	88.0	24.0	4.0	80.0
Max Q Clear Time (g_c+I1), s	6.9	2.5	0.0	6.5
Green Ext Time (p_c), s	3.5	0.1	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	5.3
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	340	230	10	170	140	430
Future Volume (veh/h)	340	230	10	170	140	430
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	340	230	10	170	140	430
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	501	424	192	739	626	557
Arrive On Green	0.28	0.28	0.06	0.42	0.37	0.37
Sat Flow, veh/h	1781	1510	3291	1781	1697	1510
Grp Volume(v), veh/h	340	230	10	170	140	430
Grp Sat Flow(s),veh/h/ln	1781	1510	1646	1781	1697	1510
Q Serve(g_s), s	7.9	6.0	0.1	2.9	2.6	11.6
Cycle Q Clear(g_c), s	7.9	6.0	0.1	2.9	2.6	11.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	501	424	192	739	626	557
V/C Ratio(X)	0.68	0.54	0.05	0.23	0.22	0.77
Avail Cap(c_a), veh/h	1962	1663	320	2289	1869	1663
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	14.1	20.6	8.8	10.0	12.9
Incr Delay (d2), s/veh	2.0	1.3	0.0	0.2	0.2	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	1.8	0.0	0.8	0.8	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.7	15.4	20.6	8.9	10.3	15.7
LnGrp LOS	B	B	C	A	B	B
Approach Vol, veh/h	570			180	570	
Approach Delay, s/veh	16.2			9.6	14.3	
Approach LOS	B			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		24.2		22.1	6.2	18.0
Change Period (Y+Rc), s		* 5		5.0	3.5	5.0
Max Green Setting (Gmax), s		* 60		51.0	4.5	51.0
Max Q Clear Time (g_c+I1), s		4.9		13.6	2.1	9.9
Green Ext Time (p_c), s		0.8		3.5	0.0	3.2

Intersection Summary		
HCM 6th Ctrl Delay		14.5
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	2580	60	230	840	10	200	150	140	20	200	40
Future Volume (veh/h)	120	2580	60	230	840	10	200	150	140	20	200	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	120	2580	0	230	840	0	200	150	0	20	200	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	295	2463		308	2538		346	536		196	381	
Arrive On Green	0.09	0.51	0.00	0.09	0.52	0.00	0.11	0.16	0.00	0.06	0.11	0.00
Sat Flow, veh/h	3291	4863	1510	3291	4863	1510	3291	3385	1510	3291	3385	1510
Grp Volume(v), veh/h	120	2580	0	230	840	0	200	150	0	20	200	0
Grp Sat Flow(s),veh/h/ln	1646	1621	1510	1646	1621	1510	1646	1692	1510	1646	1692	1510
Q Serve(g_s), s	3.0	43.9	0.0	5.9	8.7	0.0	5.0	3.4	0.0	0.5	4.8	0.0
Cycle Q Clear(g_c), s	3.0	43.9	0.0	5.9	8.7	0.0	5.0	3.4	0.0	0.5	4.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	295	2463		308	2538		346	536		196	381	
V/C Ratio(X)	0.41	1.05		0.75	0.33		0.58	0.28		0.10	0.52	
Avail Cap(c_a), veh/h	342	2463		308	2538		384	1644		384	1644	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	37.3	21.4	0.0	38.3	12.0	0.0	37.0	32.1	0.0	38.6	36.3	0.0
Incr Delay (d2), s/veh	0.3	32.1	0.0	8.6	0.2	0.0	0.8	0.4	0.0	0.2	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	21.2	0.0	2.6	2.7	0.0	2.0	1.4	0.0	0.2	2.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.6	53.5	0.0	46.9	12.1	0.0	37.8	32.5	0.0	38.8	37.4	0.0
LnGrp LOS	D	F		D	B		D	C		D	D	
Approach Vol, veh/h		2700	A		1070	A		350	A		220	A
Approach Delay, s/veh		52.8			19.6			35.5			37.5	
Approach LOS		D			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	47.9	12.5	13.8	11.2	49.2	8.6	17.7
Change Period (Y+Rc), s	6.5	6.1	5.5	6.1	5.5	6.1	5.5	6.1
Max Green Setting (Gmax), s	6.0	41.8	8.0	40.0	6.9	41.9	8.0	40.0
Max Q Clear Time (g_c+I1), s	7.9	45.9	7.0	6.8	5.0	10.7	2.5	5.4
Green Ext Time (p_c), s	0.0	0.0	0.1	0.8	0.0	9.1	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	42.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	490	1710	10	90	20	380	320	10	20	240	230
Future Volume (veh/h)	150	490	1710	10	90	20	380	320	10	20	240	230
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	150	490	1710	10	90	20	380	320	10	20	240	230
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	204	897	1305	245	515	618	545	879	491	204	1028	501
Arrive On Green	0.12	0.27	0.27	0.14	0.29	0.29	0.11	0.18	0.18	0.12	0.21	0.21
Sat Flow, veh/h	1697	3385	3442	1697	1781	1510	4784	4863	1510	1697	4863	1510
Grp Volume(v), veh/h	150	490	1710	10	90	20	380	320	10	20	240	230
Grp Sat Flow(s),veh/h/ln	1697	1692	1147	1697	1781	1510	1595	1621	1510	1697	1621	1510
Q Serve(g_s), s	7.1	10.3	22.0	0.4	3.1	0.7	6.3	4.8	0.4	0.9	3.4	10.0
Cycle Q Clear(g_c), s	7.1	10.3	22.0	0.4	3.1	0.7	6.3	4.8	0.4	0.9	3.4	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	204	897	1305	245	515	618	545	879	491	204	1028	501
V/C Ratio(X)	0.73	0.55	1.31	0.04	0.17	0.03	0.70	0.36	0.02	0.10	0.23	0.46
Avail Cap(c_a), veh/h	368	897	1305	511	580	673	1211	2403	964	204	1876	764
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.2	26.2	25.8	30.6	22.1	14.7	35.4	29.8	19.0	32.5	27.1	21.8
Incr Delay (d2), s/veh	7.1	0.7	145.2	0.0	0.1	0.0	1.6	0.3	0.0	0.3	0.1	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	4.0	25.1	0.2	1.3	0.2	2.4	1.8	0.1	0.4	1.2	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.3	26.9	171.0	30.6	22.2	14.7	37.0	30.1	19.0	32.8	27.3	22.6
LnGrp LOS	D	C	F	C	C	B	D	C	B	C	C	C
Approach Vol, veh/h		2350			120			710			490	
Approach Delay, s/veh		132.7			21.6			33.6			25.3	
Approach LOS		F			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	28.0	13.5	23.5	16.0	30.0	16.0	21.0
Change Period (Y+Rc), s	6.0	* 6	4.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	25.0	* 22	21.0	32.0	18.0	27.0	10.0	41.0
Max Q Clear Time (g_c+I1), s	12.4	24.0	8.3	12.0	9.1	5.1	2.9	6.8
Green Ext Time (p_c), s	0.0	0.0	1.1	2.6	0.4	0.3	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	95.6
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1230	340	100	80	130	40	540	180	80	1230	10
Future Volume (veh/h)	10	1230	340	100	80	130	40	540	180	80	1230	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	1230	340	100	80	130	40	540	180	80	1230	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	700	1355	759	122	202	179	174	1630	615	100	1420	1064
Arrive On Green	0.41	0.40	0.40	0.07	0.06	0.06	0.20	0.67	0.67	0.06	0.29	0.29
Sat Flow, veh/h	1697	3385	1510	1697	3385	1510	1697	4863	1510	1697	4863	1510
Grp Volume(v), veh/h	10	1230	340	100	80	130	40	540	180	80	1230	10
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1697	1692	1510	1697	1621	1510	1697	1621	1510
Q Serve(g_s), s	0.4	41.1	3.7	7.0	2.7	4.2	2.4	5.6	5.5	5.6	28.8	0.0
Cycle Q Clear(g_c), s	0.4	41.1	3.7	7.0	2.7	4.2	2.4	5.6	5.5	5.6	28.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	700	1355	759	122	202	179	174	1630	615	100	1420	1064
V/C Ratio(X)	0.01	0.91	0.45	0.82	0.40	0.73	0.23	0.33	0.29	0.80	0.87	0.01
Avail Cap(c_a), veh/h	700	1410	784	127	1551	781	174	1630	615	170	1540	1101
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.49	0.49	0.49	0.91	0.91	0.91	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	33.9	9.1	54.9	54.4	22.0	43.8	14.1	11.3	55.7	40.3	5.3
Incr Delay (d2), s/veh	0.0	4.6	0.2	29.3	1.2	5.0	0.7	0.5	1.2	13.2	7.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	17.4	3.5	4.0	1.2	2.0	1.0	1.9	1.8	2.7	12.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	38.5	9.3	84.2	55.5	27.0	44.4	14.6	12.5	68.9	47.6	5.3
LnGrp LOS	C	D	A	F	E	C	D	B	B	E	D	A
Approach Vol, veh/h		1580			310			760			1320	
Approach Delay, s/veh		32.1			52.8			15.7			48.5	
Approach LOS		C			D			B			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	44.2	12.7	52.0	16.3	39.0	53.5	11.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	12.0	33.0	9.0	50.0	7.0	38.0	4.0	55.0
Max Q Clear Time (g_c+I1), s	17.6	7.6	9.0	43.1	4.4	30.8	2.4	6.2
Green Ext Time (p_c), s	0.1	4.6	0.0	4.9	0.0	4.3	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	36.0
HCM 6th LOS	D

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	70	40	710	430	130	1530
Future Volume (veh/h)	70	40	710	430	130	1530
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	70	40	710	430	130	1530
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	110	98	3900	1211	497	3900
Arrive On Green	0.06	0.06	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1697	1510	5024	1510	470	5024
Grp Volume(v), veh/h	70	40	710	430	130	1530
Grp Sat Flow(s),veh/h/ln	1697	1510	1621	1510	470	1621
Q Serve(g_s), s	2.4	1.5	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.4	1.5	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	110	98	3900	1211	497	3900
V/C Ratio(X)	0.64	0.41	0.18	0.36	0.26	0.39
Avail Cap(c_a), veh/h	509	453	3900	1211	497	3900
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.93	0.93	0.60	0.60
Uniform Delay (d), s/veh	27.4	27.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	6.0	2.7	0.1	0.8	0.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.6	0.0	0.3	0.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.4	29.7	0.1	0.8	0.8	0.2
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	110		1140			1660
Approach Delay, s/veh	32.0		0.3			0.2
Approach LOS	C		A			A

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	52.1	52.1	7.9
Change Period (Y+Rc), s	4.0	4.0	4.0
Max Green Setting (Gmax), s	34.0	34.0	18.0
Max Q Clear Time (g_c+I1), s	2.0	2.0	4.4
Green Ext Time (p_c), s	7.7	15.8	0.2

Intersection Summary	
HCM 6th Ctrl Delay	1.5
HCM 6th LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	40	70	1090	50	140	1460
Future Volume (veh/h)	40	70	1090	50	140	1460
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	40	70	1090	50	140	1460
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	51	89	1422	441	710	3781
Arrive On Green	0.09	0.09	0.29	0.29	0.84	1.00
Sat Flow, veh/h	567	993	5024	1510	1697	5024
Grp Volume(v), veh/h	111	0	1090	50	140	1460
Grp Sat Flow(s),veh/h/ln	1574	0	1621	1510	1697	1621
Q Serve(g_s), s	4.1	0.0	12.3	1.5	1.0	0.0
Cycle Q Clear(g_c), s	4.1	0.0	12.3	1.5	1.0	0.0
Prop In Lane	0.36	0.63		1.00	1.00	
Lane Grp Cap(c), veh/h	140	0	1422	441	710	3781
V/C Ratio(X)	0.79	0.00	0.77	0.11	0.20	0.39
Avail Cap(c_a), veh/h	472	0	1621	503	710	3781
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.81	0.81	0.92	0.92
Uniform Delay (d), s/veh	26.8	0.0	19.4	15.5	2.9	0.0
Incr Delay (d2), s/veh	9.5	0.0	3.3	0.4	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	4.3	0.5	0.3	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.3	0.0	22.6	16.0	3.0	0.3
LnGrp LOS	D	A	C	B	A	A
Approach Vol, veh/h	111		1140			1600
Approach Delay, s/veh	36.3		22.3			0.5
Approach LOS	D		C			A

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	29.1	21.5	50.7	9.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	10.0	20.0	34.0	18.0
Max Q Clear Time (g_c+I1), s	3.0	14.3	2.0	6.1
Green Ext Time (p_c), s	0.2	3.3	12.4	0.2

Intersection Summary	
HCM 6th Ctrl Delay	10.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	610	610	20	540	1430	170
Future Volume (veh/h)	610	610	20	540	1430	170
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	610	610	20	540	1430	170
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	705	627	229	2245	1608	499
Arrive On Green	0.42	0.42	0.07	0.46	0.33	0.33
Sat Flow, veh/h	1697	1510	3291	5024	5024	1510
Grp Volume(v), veh/h	610	610	20	540	1430	170
Grp Sat Flow(s),veh/h/ln	1697	1510	1646	1621	1621	1510
Q Serve(g_s), s	21.3	25.8	0.4	4.4	18.1	5.5
Cycle Q Clear(g_c), s	21.3	25.8	0.4	4.4	18.1	5.5
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	705	627	229	2245	1608	499
V/C Ratio(X)	0.87	0.97	0.09	0.24	0.89	0.34
Avail Cap(c_a), veh/h	705	627	229	2245	1646	511
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.99	0.99	0.93	0.93
Uniform Delay (d), s/veh	17.3	18.6	28.3	10.6	20.6	16.4
Incr Delay (d2), s/veh	11.0	29.1	0.2	0.3	7.3	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	22.5	0.1	1.3	6.9	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.3	47.7	28.5	10.9	27.9	18.1
LnGrp LOS	C	D	C	B	C	B
Approach Vol, veh/h	1220			560	1600	
Approach Delay, s/veh	38.0			11.5	26.9	
Approach LOS	D			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		34.0		31.0	8.5	25.5
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		30.0		27.0	4.0	22.0
Max Q Clear Time (g_c+I1), s		6.4		27.8	2.4	20.1
Green Ext Time (p_c), s		2.4		0.0	0.0	1.4

Intersection Summary				
HCM 6th Ctrl Delay			28.4	
HCM 6th LOS			C	

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	50	10	550	70	20	2010
Future Volume (veh/h)	50	10	550	70	20	2010
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	50	10	550	70	20	2010
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	64	13	786	244	1117	4204
Arrive On Green	0.05	0.05	0.16	0.16	0.66	0.86
Sat Flow, veh/h	1364	273	5024	1510	1697	5024
Grp Volume(v), veh/h	61	0	550	70	20	2010
Grp Sat Flow(s),veh/h/ln	1664	0	1621	1510	1697	1621
Q Serve(g_s), s	3.3	0.0	9.6	3.7	0.4	8.6
Cycle Q Clear(g_c), s	3.3	0.0	9.6	3.7	0.4	8.6
Prop In Lane	0.82	0.16		1.00	1.00	
Lane Grp Cap(c), veh/h	78	0	786	244	1117	4204
V/C Ratio(X)	0.78	0.00	0.70	0.29	0.02	0.48
Avail Cap(c_a), veh/h	351	0	2810	872	1117	4204
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.88	0.88	0.58	0.58
Uniform Delay (d), s/veh	42.4	0.0	35.7	33.2	5.3	1.4
Incr Delay (d2), s/veh	15.7	0.0	4.5	2.6	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	3.9	1.5	0.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	58.1	0.0	40.2	35.8	5.3	1.6
LnGrp LOS	E	A	D	D	A	A
Approach Vol, veh/h	61		620			2030
Approach Delay, s/veh	58.1		39.7			1.7
Approach LOS	E		D			A

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	63.2	18.5				81.8		8.2
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	7.0	52.0				63.0		19.0
Max Q Clear Time (g_c+I1), s	2.4	11.6				10.6		5.3
Green Ext Time (p_c), s	0.0	2.9				16.3		0.1

Intersection Summary	
HCM 6th Ctrl Delay	11.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	580	10	10	120	10	10	580	10	300	1760	10
Future Volume (veh/h)	40	580	10	10	120	10	10	580	10	300	1760	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	40	580	10	10	120	10	10	580	10	300	1760	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	443	564	705	56	158	699	255	692	265	635	1783	948
Arrive On Green	0.26	0.32	0.32	0.03	0.09	0.09	0.30	0.28	0.28	0.37	0.37	0.37
Sat Flow, veh/h	1697	1781	1510	1697	1781	1510	1697	4863	1510	1697	4863	1510
Grp Volume(v), veh/h	40	580	10	10	120	10	10	580	10	300	1760	10
Grp Sat Flow(s),veh/h/ln	1697	1781	1510	1697	1781	1510	1697	1621	1510	1697	1621	1510
Q Serve(g_s), s	2.1	38.0	0.1	0.7	7.9	0.0	0.5	13.4	0.2	16.1	43.1	0.0
Cycle Q Clear(g_c), s	2.1	38.0	0.1	0.7	7.9	0.0	0.5	13.4	0.2	16.1	43.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	443	564	705	56	158	699	255	692	265	635	1783	948
V/C Ratio(X)	0.09	1.03	0.01	0.18	0.76	0.01	0.04	0.84	0.04	0.47	0.99	0.01
Avail Cap(c_a), veh/h	443	564	705	254	727	1182	255	892	327	635	1783	948
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.98	0.98	0.98	0.99	0.99	0.99	0.87	0.87	0.87
Uniform Delay (d), s/veh	33.5	41.0	9.9	56.4	53.4	17.4	35.9	41.6	14.5	28.5	37.7	8.4
Incr Delay (d2), s/veh	0.1	45.3	0.0	1.4	7.2	0.0	0.1	11.5	0.3	0.5	17.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	23.5	0.1	0.3	3.9	0.2	0.2	5.3	0.1	6.6	19.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.6	86.3	9.9	57.9	60.6	17.4	35.9	53.1	14.8	29.0	54.8	8.4
LnGrp LOS	C	F	A	E	E	B	D	D	B	C	D	A
Approach Vol, veh/h		630			140			600			2070	
Approach Delay, s/veh		81.7			57.3			52.2			50.8	
Approach LOS		F			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	48.9	21.1	8.0	42.0	22.0	48.0	35.4	14.6				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	26.0	22.0	18.0	38.0	4.0	44.0	7.0	49.0				
Max Q Clear Time (g_c+I1), s	18.1	15.4	2.7	40.0	2.5	45.1	4.1	9.9				
Green Ext Time (p_c), s	0.8	1.6	0.0	0.0	0.0	0.0	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			57.0									
HCM 6th LOS			E									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	10	580	10	230	1530
Future Volume (veh/h)	10	10	580	10	230	1530
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	10	580	10	230	1530
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	15	15	945	293	994	4119
Arrive On Green	0.02	0.02	0.19	0.19	1.00	1.00
Sat Flow, veh/h	765	765	5024	1510	1697	5024
Grp Volume(v), veh/h	21	0	580	10	230	1530
Grp Sat Flow(s),veh/h/ln	1606	0	1621	1510	1697	1621
Q Serve(g_s), s	0.8	0.0	6.5	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.8	0.0	6.5	0.3	0.0	0.0
Prop In Lane	0.48	0.48		1.00	1.00	
Lane Grp Cap(c), veh/h	32	0	945	293	994	4119
V/C Ratio(X)	0.66	0.00	0.61	0.03	0.23	0.37
Avail Cap(c_a), veh/h	134	0	1864	579	994	4119
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.53	0.53
Uniform Delay (d), s/veh	29.2	0.0	22.1	12.9	0.0	0.0
Incr Delay (d2), s/veh	21.3	0.0	3.0	0.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.4	0.1	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.5	0.0	25.1	13.1	0.1	0.1
LnGrp LOS	D	A	C	B	A	A
Approach Vol, veh/h	21		590			1760
Approach Delay, s/veh	50.5		24.9			0.1
Approach LOS	D		C			A

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	39.2	15.7				54.8		5.2
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	20.0	23.0				47.0		5.0
Max Q Clear Time (g_c+I1), s	2.0	8.5				2.0		2.8
Green Ext Time (p_c), s	0.6	3.1				14.8		0.0

Intersection Summary	
HCM 6th Ctrl Delay	6.7
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	190	450	10	40	60	80	530	40	260	1270	10
Future Volume (veh/h)	10	190	450	10	40	60	80	530	40	260	1270	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	190	450	10	40	60	80	530	40	260	1270	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	388	490	415	17	100	85	335	1642	510	301	1580	12
Arrive On Green	0.23	0.28	0.28	0.01	0.06	0.06	0.20	0.34	0.34	0.18	0.32	0.32
Sat Flow, veh/h	1697	1781	1510	1697	1781	1510	1697	4863	1510	1697	4977	39
Grp Volume(v), veh/h	10	190	450	10	40	60	80	530	40	260	827	453
Grp Sat Flow(s),veh/h/ln	1697	1781	1510	1697	1781	1510	1697	1621	1510	1697	1621	1774
Q Serve(g_s), s	0.4	6.9	22.0	0.5	1.7	2.2	3.2	6.5	1.2	11.9	18.7	18.7
Cycle Q Clear(g_c), s	0.4	6.9	22.0	0.5	1.7	2.2	3.2	6.5	1.2	11.9	18.7	18.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	388	490	415	17	100	85	335	1642	510	301	1029	563
V/C Ratio(X)	0.03	0.39	1.08	0.59	0.40	0.71	0.24	0.32	0.08	0.86	0.80	0.80
Avail Cap(c_a), veh/h	388	490	415	85	490	415	335	1642	510	403	1175	643
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.9	23.5	29.0	39.4	36.4	18.5	27.0	19.7	12.5	32.0	25.0	25.0
Incr Delay (d2), s/veh	0.0	0.5	68.6	28.8	2.6	10.2	0.4	0.5	0.3	13.7	6.7	11.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.9	15.5	0.3	0.8	1.4	1.2	2.3	0.5	5.7	7.4	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.0	24.0	97.6	68.2	39.0	28.7	27.4	20.2	12.8	45.7	31.7	36.6
LnGrp LOS	C	C	F	E	D	C	C	C	B	D	C	D
Approach Vol, veh/h		650			110			650			1540	
Approach Delay, s/veh		75.0			36.0			20.6			35.5	
Approach LOS		E			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.2	31.0	4.8	26.0	19.8	29.4	22.3	8.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	19.0	19.0	4.0	22.0	9.0	29.0	4.0	22.0
Max Q Clear Time (g_c+I1), s	13.9	8.5	2.5	24.0	5.2	20.7	2.4	4.2
Green Ext Time (p_c), s	0.3	2.5	0.0	0.0	0.0	4.7	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	40.9
HCM 6th LOS	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1170	10	10	330	10	10
Future Volume (veh/h)	1170	10	10	330	10	10
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	1170	10	10	330	10	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	1367	610	17	1628	654	582
Arrive On Green	0.40	0.40	0.01	0.48	0.39	0.39
Sat Flow, veh/h	3474	1510	1697	3474	1697	1510
Grp Volume(v), veh/h	1170	10	10	330	10	10
Grp Sat Flow(s),veh/h/ln	1692	1510	1697	1692	1697	1510
Q Serve(g_s), s	18.9	0.2	0.4	3.4	0.2	0.2
Cycle Q Clear(g_c), s	18.9	0.2	0.4	3.4	0.2	0.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1367	610	17	1628	654	582
V/C Ratio(X)	0.86	0.02	0.58	0.20	0.02	0.02
Avail Cap(c_a), veh/h	1467	654	113	1918	654	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.48	0.48	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.3	10.7	29.6	9.0	11.4	11.4
Incr Delay (d2), s/veh	2.5	0.0	26.7	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.1	0.3	1.1	0.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.7	10.7	56.2	9.0	11.4	11.4
LnGrp LOS	B	B	E	A	B	B
Approach Vol, veh/h	1180			340	20	
Approach Delay, s/veh	18.7			10.4	11.4	
Approach LOS	B			B	B	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	27.1	4.6	28.2	32.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	18.0	4.0	26.0	34.0
Max Q Clear Time (g_c+I1), s	2.2	2.4	20.9	5.4
Green Ext Time (p_c), s	0.0	0.0	3.3	2.3

Intersection Summary	
HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	240	90	560	920	260	1470
Future Volume (veh/h)	240	90	560	920	260	1470
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	220	111	560	920	260	1470
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	337	150	2961	919	292	3992
Arrive On Green	0.10	0.10	0.61	0.61	0.17	0.82
Sat Flow, veh/h	3393	1510	5024	1510	1697	5024
Grp Volume(v), veh/h	220	111	560	920	260	1470
Grp Sat Flow(s),veh/h/ln	1697	1510	1621	1510	1697	1621
Q Serve(g_s), s	6.2	7.1	5.1	60.9	15.0	7.8
Cycle Q Clear(g_c), s	6.2	7.1	5.1	60.9	15.0	7.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	337	150	2961	919	292	3992
V/C Ratio(X)	0.65	0.74	0.19	1.00	0.89	0.37
Avail Cap(c_a), veh/h	611	272	2961	919	339	3992
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.78	0.78	0.81	0.81
Uniform Delay (d), s/veh	43.4	43.8	8.6	19.6	40.5	2.3
Incr Delay (d2), s/veh	2.1	6.9	0.1	26.4	18.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	2.9	1.6	24.0	7.5	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.5	50.7	8.8	46.0	59.3	2.5
LnGrp LOS	D	D	A	F	E	A
Approach Vol, veh/h	331		1480			1730
Approach Delay, s/veh	47.3		31.9			11.0
Approach LOS	D		C			B

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	21.2	64.9	86.1	13.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	20.0	50.0	74.0	18.0
Max Q Clear Time (g_c+I1), s	17.0	62.9	9.8	9.1
Green Ext Time (p_c), s	0.2	0.0	14.7	0.8

Intersection Summary	
HCM 6th Ctrl Delay	23.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	10	20	100	10	270	80	1170	160	630	890	190
Future Volume (veh/h)	40	10	20	100	10	270	80	1170	160	630	890	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	40	10	20	100	10	270	80	1170	160	630	890	190
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	50	65	145	123	142	1193	101	1273	678	1215	2322	1080
Arrive On Green	0.03	0.04	0.04	0.07	0.08	0.08	0.06	0.38	0.38	0.37	0.69	0.69
Sat Flow, veh/h	1697	1781	1510	1697	1781	2657	1697	3385	1510	3291	3385	1510
Grp Volume(v), veh/h	40	10	20	100	10	270	80	1170	160	630	890	190
Grp Sat Flow(s),veh/h/ln	1697	1781	1510	1697	1781	1329	1697	1692	1510	1646	1692	1510
Q Serve(g_s), s	2.6	0.6	1.1	6.4	0.6	0.8	5.1	36.3	0.0	16.4	12.3	4.5
Cycle Q Clear(g_c), s	2.6	0.6	1.1	6.4	0.6	0.8	5.1	36.3	0.0	16.4	12.3	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	50	65	145	123	142	1193	101	1273	678	1215	2322	1080
V/C Ratio(X)	0.80	0.15	0.14	0.81	0.07	0.23	0.79	0.92	0.24	0.52	0.38	0.18
Avail Cap(c_a), veh/h	108	292	337	139	324	1464	170	1323	700	1215	2322	1080
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86	0.91	0.91	0.91
Uniform Delay (d), s/veh	53.1	51.4	29.7	50.2	46.8	10.7	51.1	32.7	18.7	27.1	7.4	5.1
Incr Delay (d2), s/veh	24.6	1.1	0.4	26.6	0.2	0.1	11.3	10.7	0.7	0.4	0.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.3	0.5	3.6	0.3	1.5	2.4	15.7	2.6	6.2	3.8	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.7	52.5	30.2	76.9	47.1	10.8	62.4	43.4	19.4	27.4	7.8	5.4
LnGrp LOS	E	D	C	E	D	B	E	D	B	C	A	A
Approach Vol, veh/h		70			380			1410			1710	
Approach Delay, s/veh		60.5			29.1			41.7			14.8	
Approach LOS		E			C			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	44.6	45.4	12.0	8.0	10.5	79.5	7.2	12.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	24.0	43.0	9.0	18.0	11.0	56.0	7.0	20.0
Max Q Clear Time (g_c+I1), s	18.4	38.3	8.4	3.1	7.1	14.3	4.6	2.8
Green Ext Time (p_c), s	1.2	3.1	0.0	0.0	0.0	7.6	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	27.8
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	30	0	220	50	1180	0	0	810	200
Future Volume (veh/h)	0	0	0	30	0	220	50	1180	0	0	810	200
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1781	1781	1781	1781	0	0	1781	1781
Adj Flow Rate, veh/h				30	0	220	50	1180	0	0	810	200
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				8	8	8	8	8	0	0	8	8
Cap, veh/h				281	0	250	746	2599	0	0	999	784
Arrive On Green				0.17	0.00	0.17	0.44	0.77	0.00	0.00	0.30	0.30
Sat Flow, veh/h				1697	0	1510	1697	3474	0	0	3474	2657
Grp Volume(v), veh/h				30	0	220	50	1180	0	0	810	200
Grp Sat Flow(s),veh/h/ln				1697	0	1510	1697	1692	0	0	1692	1329
Q Serve(g_s), s				1.8	0.0	17.1	2.0	14.9	0.0	0.0	26.6	6.9
Cycle Q Clear(g_c), s				1.8	0.0	17.1	2.0	14.9	0.0	0.0	26.6	6.9
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				281	0	250	746	2599	0	0	999	784
V/C Ratio(X)				0.11	0.00	0.88	0.07	0.45	0.00	0.00	0.81	0.26
Avail Cap(c_a), veh/h				481	0	428	746	2599	0	0	1721	1351
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.67	0.67	0.00	0.00	0.92	0.92
Uniform Delay (d), s/veh				42.6	0.0	48.9	19.4	5.0	0.0	0.0	39.2	32.2
Incr Delay (d2), s/veh				0.2	0.0	10.6	0.0	0.4	0.0	0.0	6.6	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.8	0.0	7.2	0.8	3.9	0.0	0.0	11.5	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				42.7	0.0	59.6	19.4	5.3	0.0	0.0	45.8	33.0
LnGrp LOS				D	A	E	B	A	A	A	D	C
Approach Vol, veh/h					250			1230			1010	
Approach Delay, s/veh					57.6			5.9			43.3	
Approach LOS					E			A			D	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		96.2			56.8	39.4		23.8				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		78.0			13.0	61.0		34.0				
Max Q Clear Time (g_c+I1), s		16.9			4.0	28.6		19.1				
Green Ext Time (p_c), s		10.6			0.0	6.8		0.8				
Intersection Summary												
HCM 6th Ctrl Delay			26.2									
HCM 6th LOS			C									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1060	0	110	0	0	0	0	180	10	300	540	0
Future Volume (veh/h)	1060	0	110	0	0	0	0	180	10	300	540	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781				0	1781	1781	1781	1781	0
Adj Flow Rate, veh/h	1060	0	110				0	180	10	300	540	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8				0	8	8	8	8	0
Cap, veh/h	1386	0	617				0	363	20	369	1409	0
Arrive On Green	0.41	0.00	0.41				0.00	0.11	0.11	0.22	0.42	0.00
Sat Flow, veh/h	3393	0	1510				0	3350	180	1697	3474	0
Grp Volume(v), veh/h	1060	0	110				0	93	97	300	540	0
Grp Sat Flow(s),veh/h/ln	1697	0	1510				0	1692	1749	1697	1692	0
Q Serve(g_s), s	12.3	0.0	2.1				0.0	2.4	2.4	7.7	5.1	0.0
Cycle Q Clear(g_c), s	12.3	0.0	2.1				0.0	2.4	2.4	7.7	5.1	0.0
Prop In Lane	1.00		1.00				0.00		0.10	1.00		0.00
Lane Grp Cap(c), veh/h	1386	0	617				0	188	195	369	1409	0
V/C Ratio(X)	0.76	0.00	0.18				0.00	0.49	0.50	0.81	0.38	0.00
Avail Cap(c_a), veh/h	2156	0	959				0	667	690	595	2818	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.6	0.0	8.6				0.0	19.1	19.1	17.0	9.3	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.1				0.0	2.0	2.0	4.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0	0.6				0.0	0.9	0.9	2.8	1.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.5	0.0	8.7				0.0	21.1	21.1	21.5	9.4	0.0
LnGrp LOS	B	A	A				A	C	C	C	A	A
Approach Vol, veh/h		1170						190			840	
Approach Delay, s/veh		12.2						21.1			13.7	
Approach LOS		B						C			B	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	13.9	9.1		22.6		23.0						
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0						
Max Green Setting (Gmax), s	16.0	18.0		29.0		38.0						
Max Q Clear Time (g_c+I1), s	9.7	4.4		14.3		7.1						
Green Ext Time (p_c), s	0.5	0.7		4.4		3.5						

Intersection Summary			
HCM 6th Ctrl Delay			13.5
HCM 6th LOS			B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	210	40	20	10	10
Future Vol, veh/h	10	210	40	20	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	8	8	8	8	8	8
Mvmt Flow	10	210	40	20	10	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	115	15	20	0	-	0
Stage 1	15	-	-	-	-	-
Stage 2	100	-	-	-	-	-
Critical Hdwy	6.48	6.28	4.18	-	-	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	2.272	-	-	-
Pot Cap-1 Maneuver	867	1047	1558	-	-	-
Stage 1	992	-	-	-	-	-
Stage 2	909	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	844	1047	1558	-	-	-
Mov Cap-2 Maneuver	844	-	-	-	-	-
Stage 1	966	-	-	-	-	-
Stage 2	909	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	4.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1558	-	1036	-	-
HCM Lane V/C Ratio	0.026	-	0.212	-	-
HCM Control Delay (s)	7.4	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.8	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	290	770	10	30	240	10	10	170	490	10	10	10
Future Volume (veh/h)	290	770	10	30	240	10	10	170	490	10	10	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	290	770	10	30	240	10	10	170	490	10	10	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	348	1060	488	89	458	220	18	1160	558	18	1160	827
Arrive On Green	0.20	0.31	0.31	0.03	0.14	0.14	0.01	0.34	0.34	0.01	0.34	0.34
Sat Flow, veh/h	1697	3385	1510	3291	3385	1510	1697	3385	1510	1697	3385	1510
Grp Volume(v), veh/h	290	770	10	30	240	10	10	170	490	10	10	10
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1646	1692	1510	1697	1692	1510	1697	1692	1510
Q Serve(g_s), s	8.5	10.5	0.2	0.5	3.4	0.3	0.3	1.8	15.8	0.3	0.1	0.2
Cycle Q Clear(g_c), s	8.5	10.5	0.2	0.5	3.4	0.3	0.3	1.8	15.8	0.3	0.1	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	348	1060	488	89	458	220	18	1160	558	18	1160	827
V/C Ratio(X)	0.83	0.73	0.02	0.34	0.52	0.05	0.57	0.15	0.88	0.57	0.01	0.01
Avail Cap(c_a), veh/h	456	1493	682	568	1168	537	130	1168	562	130	1168	830
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.9	15.9	12.0	24.9	21.0	19.2	25.7	11.9	15.3	25.7	11.3	5.4
Incr Delay (d2), s/veh	9.9	1.1	0.0	2.2	0.9	0.1	25.9	0.1	14.6	25.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	3.6	0.1	0.2	1.3	0.1	0.2	0.6	6.6	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.8	17.0	12.0	27.1	21.9	19.2	51.6	11.9	30.0	51.6	11.3	5.4
LnGrp LOS	C	B	B	C	C	B	D	B	C	D	B	A
Approach Vol, veh/h		1070			280			670			30	
Approach Delay, s/veh		20.4			22.4			25.7			22.8	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.5	21.9	5.4	20.3	4.5	21.9	14.7	11.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	4.0	18.0	9.0	23.0	4.0	18.0	14.0	18.0				
Max Q Clear Time (g_c+I1), s	2.3	17.8	2.5	12.5	2.3	2.2	10.5	5.4				
Green Ext Time (p_c), s	0.0	0.1	0.0	3.8	0.0	0.0	0.3	1.1				
Intersection Summary												
HCM 6th Ctrl Delay			22.4									
HCM 6th LOS			C									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	120	830	120	20	10	140	500	10	70	50	20
Future Volume (veh/h)	40	120	830	120	20	10	140	500	10	70	50	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	40	120	830	120	20	10	140	500	10	70	50	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	89	1505	762	104	1594	689	274	552	568	74	528	503
Arrive On Green	0.03	0.44	0.44	0.06	0.48	0.47	0.06	0.31	0.31	0.04	0.30	0.30
Sat Flow, veh/h	3291	3385	1510	1697	3327	1438	4784	1781	1510	1697	1781	1510
Grp Volume(v), veh/h	40	120	830	120	19	11	140	500	10	70	50	20
Grp Sat Flow(s),veh/h/ln	1646	1692	1510	1697	1621	1523	1595	1781	1510	1697	1781	1510
Q Serve(g_s), s	1.4	2.3	50.7	7.0	0.4	0.4	3.2	30.7	0.5	4.7	2.3	1.0
Cycle Q Clear(g_c), s	1.4	2.3	50.7	7.0	0.4	0.4	3.2	30.7	0.5	4.7	2.3	1.0
Prop In Lane	1.00		1.00	1.00		0.94	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	89	1505	762	104	1553	729	274	552	568	74	528	503
V/C Ratio(X)	0.45	0.08	1.09	1.15	0.01	0.01	0.51	0.91	0.02	0.94	0.09	0.04
Avail Cap(c_a), veh/h	124	1505	762	104	1553	729	1469	645	647	74	528	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	18.2	28.2	53.5	15.6	15.8	52.2	37.8	22.3	54.4	29.0	25.7
Incr Delay (d2), s/veh	3.5	0.0	59.8	134.9	0.0	0.0	1.8	15.0	0.0	84.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.9	32.0	6.9	0.1	0.1	1.3	15.3	0.2	3.7	1.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.2	18.3	88.0	188.4	15.6	15.8	54.0	52.8	22.3	138.4	29.1	25.7
LnGrp LOS	E	B	F	F	B	B	D	D	C	F	C	C
Approach Vol, veh/h		990			150			650			140	
Approach Delay, s/veh		78.3			153.9			52.5			83.3	
Approach LOS		E			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	54.7	10.5	37.8	7.1	58.6	9.0	39.3
Change Period (Y+Rc), s	* 4.7	4.9	4.6	5.3	* 4.2	4.9	* 4.2	5.3
Max Green Setting (Gmax), s	* 6.3	49.8	34.4	10.0	* 4.1	52.5	* 4.8	40.0
Max Q Clear Time (g_c+I1), s	9.0	52.7	5.2	4.3	3.4	2.4	6.7	32.7
Green Ext Time (p_c), s	0.0	0.0	0.8	0.1	0.0	0.1	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	75.9
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	950	50	80	130	40	20	10	10	40	10	110
Future Volume (veh/h)	60	950	50	80	130	40	20	10	10	40	10	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	60	950	50	80	130	40	20	10	10	40	10	110
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	226	1660	87	167	1187	339	64	152	152	110	380	322
Arrive On Green	0.13	0.35	0.35	0.10	0.32	0.32	0.04	0.19	0.19	0.06	0.21	0.21
Sat Flow, veh/h	1697	4730	249	1697	3759	1072	1697	817	817	1697	1781	1510
Grp Volume(v), veh/h	60	651	349	80	111	59	20	0	20	40	10	110
Grp Sat Flow(s),veh/h/ln	1697	1621	1737	1697	1621	1588	1697	0	1634	1697	1781	1510
Q Serve(g_s), s	1.9	9.8	9.8	2.7	1.5	1.6	0.7	0.0	0.6	1.4	0.3	3.7
Cycle Q Clear(g_c), s	1.9	9.8	9.8	2.7	1.5	1.6	0.7	0.0	0.6	1.4	0.3	3.7
Prop In Lane	1.00		0.14	1.00		0.67	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	226	1138	609	167	1024	502	64	0	304	110	380	322
V/C Ratio(X)	0.27	0.57	0.57	0.48	0.11	0.12	0.31	0.00	0.07	0.36	0.03	0.34
Avail Cap(c_a), veh/h	382	2404	1288	467	2566	1257	269	0	831	297	935	792
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	15.8	15.8	25.6	14.5	14.6	28.1	0.0	20.1	26.9	18.7	20.0
Incr Delay (d2), s/veh	0.2	0.5	1.0	0.8	0.1	0.1	1.0	0.0	0.0	0.7	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.2	3.6	1.0	0.5	0.5	0.3	0.0	0.2	0.5	0.1	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.6	16.4	16.9	26.4	14.6	14.7	29.1	0.0	20.2	27.6	18.7	20.3
LnGrp LOS	C	B	B	C	B	B	C	A	C	C	B	C
Approach Vol, veh/h		1060			250			40			160	
Approach Delay, s/veh		16.9			18.4			24.6			22.0	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	25.6	6.8	17.3	12.5	23.4	8.4	15.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	16.5	44.5	9.5	31.5	13.5	47.5	10.5	30.5
Max Q Clear Time (g_c+I1), s	4.7	11.8	2.7	5.7	3.9	3.6	3.4	2.6
Green Ext Time (p_c), s	0.0	9.2	0.0	0.0	0.0	1.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	17.9
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	610	180	0	680	960	0	0	0	80	30	140
Future Volume (veh/h)	50	610	180	0	680	960	0	0	0	80	30	140
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	0	1781	1781				1781	1781	1781
Adj Flow Rate, veh/h	50	610	180	0	680	0				55	65	140
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	0	8	8				8	8	8
Cap, veh/h	202	2061	919	0	2087					292	306	370
Arrive On Green	0.06	0.61	0.61	0.00	0.43	0.00				0.17	0.17	0.17
Sat Flow, veh/h	3291	3385	1510	0	5024	1510				1697	1781	1510
Grp Volume(v), veh/h	50	610	180	0	680	0				55	65	140
Grp Sat Flow(s),veh/h/ln	1646	1692	1510	0	1621	1510				1697	1781	1510
Q Serve(g_s), s	0.5	2.9	1.8	0.0	3.1	0.0				0.9	1.1	2.6
Cycle Q Clear(g_c), s	0.5	2.9	1.8	0.0	3.1	0.0				0.9	1.1	2.6
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	202	2061	919	0	2087					292	306	370
V/C Ratio(X)	0.25	0.30	0.20	0.00	0.33					0.19	0.21	0.38
Avail Cap(c_a), veh/h	585	5011	2235	0	5759					3144	3302	2909
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	15.1	3.2	2.9	0.0	6.4	0.0				12.0	12.0	10.6
Incr Delay (d2), s/veh	0.6	0.2	0.3	0.0	0.2	0.0				0.3	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.1	0.0	0.6	0.0				0.3	0.3	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.7	3.3	3.2	0.0	6.6	0.0				12.3	12.4	11.2
LnGrp LOS	B	A	A	A	A					B	B	B
Approach Vol, veh/h		840			680	A					260	
Approach Delay, s/veh		4.1			6.6						11.7	
Approach LOS		A			A						B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		24.6		9.2	6.1	18.5
Change Period (Y+Rc), s		5.3		4.0	* 4.2	5.3
Max Green Setting (Gmax), s		48.7		62.0	* 5.8	38.7
Max Q Clear Time (g_c+I1), s		4.9		4.6	2.5	5.1
Green Ext Time (p_c), s		10.1		1.1	0.0	8.1

Intersection Summary	
HCM 6th Ctrl Delay	6.2
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	670	0	0	1030	10	610	0	2610	0	0	0
Future Volume (veh/h)	10	670	0	0	1030	10	610	0	2610	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1781	1781	0	0	1781	1781	1781	0	1781			
Adj Flow Rate, veh/h	10	670	0	0	1030	0	610	0	2610			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	8	8	0	0	8	8	8	0	8			
Cap, veh/h	31	881	0	0	1007		1140	0	1014			
Arrive On Green	0.02	0.26	0.00	0.00	0.21	0.00	0.67	0.00	0.67			
Sat Flow, veh/h	1697	3474	0	0	5024	1510	1697	0	1510			
Grp Volume(v), veh/h	10	670	0	0	1030	0	610	0	2610			
Grp Sat Flow(s),veh/h/ln	1697	1692	0	0	1621	1510	1697	0	1510			
Q Serve(g_s), s	0.7	21.0	0.0	0.0	23.8	0.0	21.2	0.0	77.2			
Cycle Q Clear(g_c), s	0.7	21.0	0.0	0.0	23.8	0.0	21.2	0.0	77.2			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	31	881	0	0	1007		1140	0	1014			
V/C Ratio(X)	0.32	0.76	0.00	0.00	1.02		0.54	0.00	2.57			
Avail Cap(c_a), veh/h	106	1031	0	0	1007		1140	0	1014			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	55.7	39.2	0.0	0.0	45.6	0.0	9.7	0.0	18.9			
Incr Delay (d2), s/veh	15.5	3.2	0.0	0.0	34.2	0.0	0.5	0.0	710.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.4	8.9	0.0	0.0	12.5	0.0	7.4	0.0	223.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.2	42.4	0.0	0.0	79.8	0.0	10.2	0.0	729.8			
LnGrp LOS	E	D	A	A	F		B	A	F			
Approach Vol, veh/h		680			1030	A		3220				
Approach Delay, s/veh		42.9			79.8			593.4				
Approach LOS		D			E			F				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		33.9			6.1	27.8		81.0				
Change Period (Y+Rc), s		5.3			* 4.2	5.3		4.0				
Max Green Setting (Gmax), s		33.7			* 7	22.5		77.0				
Max Q Clear Time (g_c+I1), s		23.0			2.7	25.8		79.2				
Green Ext Time (p_c), s		3.3			0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			410.2									
HCM 6th LOS			F									

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↑	↱	↰	↑↑↑	↱	↰	↑	↱	↰	↱	
Traffic Volume (veh/h)	20	2680	270	260	1020	30	60	10	20	20	30	40
Future Volume (veh/h)	20	2680	270	260	1020	30	60	10	20	20	30	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	20	2680	270	260	1020	30	60	10	20	20	30	40
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	58	2295	713	226	2777	862	112	267	226	58	82	109
Arrive On Green	0.03	0.47	0.47	0.13	0.57	0.57	0.07	0.15	0.15	0.03	0.12	0.12
Sat Flow, veh/h	1697	4863	1510	1697	4863	1510	1697	1781	1510	1697	692	923
Grp Volume(v), veh/h	20	2680	270	260	1020	30	60	10	20	20	0	70
Grp Sat Flow(s),veh/h/ln	1697	1621	1510	1697	1621	1510	1697	1781	1510	1697	0	1615
Q Serve(g_s), s	1.1	46.0	11.2	13.0	11.1	0.8	3.3	0.5	1.1	1.1	0.0	3.9
Cycle Q Clear(g_c), s	1.1	46.0	11.2	13.0	11.1	0.8	3.3	0.5	1.1	1.1	0.0	3.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.57
Lane Grp Cap(c), veh/h	58	2295	713	226	2777	862	112	267	226	58	0	191
V/C Ratio(X)	0.34	1.17	0.38	1.15	0.37	0.03	0.54	0.04	0.09	0.34	0.00	0.37
Avail Cap(c_a), veh/h	148	2295	713	226	2777	862	148	585	496	148	0	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.0	25.7	16.5	42.2	11.3	9.1	44.1	35.4	35.7	46.0	0.0	39.6
Incr Delay (d2), s/veh	1.3	80.5	0.5	105.8	0.1	0.0	1.5	0.1	0.2	1.3	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	32.6	3.8	11.8	3.5	0.3	1.4	0.2	0.4	0.5	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.3	106.2	17.0	148.1	11.5	9.2	45.6	35.5	35.9	47.3	0.0	40.5
LnGrp LOS	D	F	B	F	B	A	D	D	D	D	A	D
Approach Vol, veh/h		2970			1310			90			90	
Approach Delay, s/veh		97.7			38.5			42.3			42.0	
Approach LOS		F			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	51.5	11.4	16.5	8.3	61.2	8.3	19.6
Change Period (Y+Rc), s	5.0	5.5	5.0	5.0	5.0	5.5	5.0	5.0
Max Green Setting (Gmax), s	13.0	46.0	8.5	32.0	8.5	50.5	8.5	32.0
Max Q Clear Time (g_c+I1), s	15.0	48.0	5.3	5.9	3.1	13.1	3.1	3.1
Green Ext Time (p_c), s	0.0	0.0	0.0	0.3	0.0	11.8	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	78.1
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	320	880	240	10	260	10	30	40	320	270	160	70
Future Volume (veh/h)	320	880	240	10	260	10	30	40	320	270	160	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	320	880	240	10	260	10	30	40	320	270	160	70
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	359	1002	273	17	598	23	41	40	317	308	693	588
Arrive On Green	0.21	0.38	0.38	0.01	0.18	0.18	0.02	0.23	0.23	0.18	0.39	0.39
Sat Flow, veh/h	1697	2629	716	1697	3323	127	1697	171	1365	1697	1781	1510
Grp Volume(v), veh/h	320	566	554	10	132	138	30	0	360	270	160	70
Grp Sat Flow(s),veh/h/ln	1697	1692	1653	1697	1692	1759	1697	0	1536	1697	1781	1510
Q Serve(g_s), s	15.0	25.5	25.5	0.5	5.7	5.7	1.4	0.0	19.0	12.7	4.9	2.4
Cycle Q Clear(g_c), s	15.0	25.5	25.5	0.5	5.7	5.7	1.4	0.0	19.0	12.7	4.9	2.4
Prop In Lane	1.00		0.43	1.00		0.07	1.00		0.89	1.00		1.00
Lane Grp Cap(c), veh/h	359	645	630	17	304	316	41	0	356	308	693	588
V/C Ratio(X)	0.89	0.88	0.88	0.59	0.43	0.44	0.73	0.00	1.01	0.88	0.23	0.12
Avail Cap(c_a), veh/h	415	703	686	83	372	387	104	0	356	352	693	588
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	23.6	23.6	40.4	29.9	29.9	39.7	0.0	31.4	32.6	16.8	16.0
Incr Delay (d2), s/veh	19.2	11.5	11.9	29.0	1.0	0.9	21.9	0.0	50.2	19.6	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	11.4	11.2	0.3	2.3	2.4	0.8	0.0	11.6	6.7	1.9	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.6	35.1	35.5	69.4	30.8	30.8	61.6	0.0	81.6	52.2	16.9	16.1
LnGrp LOS	D	D	D	E	C	C	E	A	F	D	B	B
Approach Vol, veh/h		1440			280			390			500	
Approach Delay, s/veh		38.7			32.2			80.1			35.9	
Approach LOS		D			C			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.8	23.0	4.8	35.2	6.0	35.9	21.3	18.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	17.0	19.0	4.0	34.0	5.0	31.0	20.0	18.0
Max Q Clear Time (g_c+I1), s	14.7	21.0	2.5	27.5	3.4	6.9	17.0	7.7
Green Ext Time (p_c), s	0.2	0.0	0.0	3.7	0.0	1.0	0.3	1.0

Intersection Summary	
HCM 6th Ctrl Delay	43.6
HCM 6th LOS	D

Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations							
Traffic Volume (veh/h)	160	40	210	700	570	100	
Future Volume (veh/h)	160	40	210	700	570	100	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No		No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	
Adj Flow Rate, veh/h	160	40	210	700	570	100	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Percent Heavy Veh, %	8	8	8	8	8	8	
Cap, veh/h	211	188	2546	1136	541	2546	
Arrive On Green	0.12	0.12	0.75	0.75	0.75	0.75	
Sat Flow, veh/h	1697	1510	3474	1510	584	3474	
Grp Volume(v), veh/h	160	40	210	700	570	100	
Grp Sat Flow(s),veh/h/ln	1697	1510	1692	1510	584	1692	
Q Serve(g_s), s	5.9	1.5	1.1	13.9	47.8	0.5	
Cycle Q Clear(g_c), s	5.9	1.5	1.1	13.9	48.9	0.5	
Prop In Lane	1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	211	188	2546	1136	541	2546	
V/C Ratio(X)	0.76	0.21	0.08	0.62	1.05	0.04	
Avail Cap(c_a), veh/h	470	418	2546	1136	541	2546	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	0.69	0.69	0.49	0.49	1.00	1.00	
Uniform Delay (d), s/veh	27.5	25.6	2.1	3.7	13.5	2.1	
Incr Delay (d2), s/veh	3.8	0.4	0.0	1.2	53.9	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	2.5	0.6	0.2	2.2	16.2	0.1	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	31.3	26.0	2.2	5.0	67.4	2.1	
LnGrp LOS	C	C	A	A	F	A	
Approach Vol, veh/h	200		910			670	
Approach Delay, s/veh	30.2		4.3			57.6	
Approach LOS	C		A			E	
Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		52.9				52.9	12.1
Change Period (Y+Rc), s		4.0				4.0	4.0
Max Green Setting (Gmax), s		39.0				39.0	18.0
Max Q Clear Time (g_c+I1), s		15.9				50.9	7.9
Green Ext Time (p_c), s		4.4				0.0	0.4

Intersection Summary				
HCM 6th Ctrl Delay			27.3	
HCM 6th LOS			C	

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	870	400	50	40	50	220
Future Volume (veh/h)	870	400	50	40	50	220
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	870	400	50	40	50	220
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	1000	951	135	808	378	1058
Arrive On Green	0.59	0.59	0.04	0.24	0.11	0.11
Sat Flow, veh/h	1697	1510	3291	3474	3474	1510
Grp Volume(v), veh/h	870	400	50	40	50	220
Grp Sat Flow(s),veh/h/ln	1697	1510	1646	1692	1692	1510
Q Serve(g_s), s	20.1	6.2	0.7	0.4	0.6	2.4
Cycle Q Clear(g_c), s	20.1	6.2	0.7	0.4	0.6	2.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1000	951	135	808	378	1058
V/C Ratio(X)	0.87	0.42	0.37	0.05	0.13	0.21
Avail Cap(c_a), veh/h	1678	1555	283	1892	1310	1474
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.1	4.3	21.7	13.6	18.6	2.4
Incr Delay (d2), s/veh	2.8	0.3	1.7	0.0	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.1	0.3	0.1	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.9	4.6	23.4	13.7	18.8	2.5
LnGrp LOS	B	A	C	B	B	A
Approach Vol, veh/h	1270			90	270	
Approach Delay, s/veh	8.9			19.1	5.5	
Approach LOS	A			B	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		15.1		31.4	5.9	9.2
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		26.0		46.0	4.0	18.0
Max Q Clear Time (g_c+I1), s		2.4		22.1	2.7	4.4
Green Ext Time (p_c), s		0.1		5.3	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	8.9
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	1030	1330	10	630	60	230	270	60	260	340	120
Future Volume (veh/h)	110	1030	1330	10	630	60	230	270	60	260	340	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	110	1030	0	10	630	60	230	270	60	260	340	120
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	233	1764		169	936	556	730	628	357	734	630	395
Arrive On Green	0.14	0.36	0.00	0.05	0.28	0.25	0.15	0.19	0.19	0.15	0.19	0.16
Sat Flow, veh/h	1697	4863	1510	3291	3385	1510	4784	3385	1510	4784	3385	1510
Grp Volume(v), veh/h	110	1030	0	10	630	60	230	270	60	260	340	120
Grp Sat Flow(s),veh/h/ln	1697	1621	1510	1646	1692	1510	1595	1692	1510	1595	1692	1510
Q Serve(g_s), s	3.9	11.1	0.0	0.2	10.7	1.7	2.8	4.6	2.0	3.1	5.9	4.1
Cycle Q Clear(g_c), s	3.9	11.1	0.0	0.2	10.7	1.7	2.8	4.6	2.0	3.1	5.9	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	233	1764		169	936	556	730	628	357	734	630	395
V/C Ratio(X)	0.47	0.58		0.06	0.67	0.11	0.32	0.43	0.17	0.35	0.54	0.30
Avail Cap(c_a), veh/h	288	3081		509	2092	1071	1183	2197	1057	813	1935	977
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	16.7	0.0	29.2	20.8	13.5	24.4	23.3	19.6	24.5	23.8	19.2
Incr Delay (d2), s/veh	1.5	0.3	0.0	0.1	0.8	0.1	0.2	0.5	0.2	0.3	0.7	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	3.6	0.0	0.1	3.8	0.5	1.0	1.7	0.7	1.1	2.2	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	17.0	0.0	29.4	21.7	13.5	24.7	23.8	19.9	24.8	24.5	19.6
LnGrp LOS	C	B		C	C	B	C	C	B	C	C	B
Approach Vol, veh/h		1140	A		700			560			720	
Approach Delay, s/veh		18.0			21.1			23.7			23.8	
Approach LOS		B			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.9	16.0	7.3	27.5	13.9	16.1	12.9	21.9				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	40.0	8.0	39.0	14.0	35.0	9.0	38.0				
Max Q Clear Time (g_c+I1), s	5.9	6.6	2.2	13.1	4.8	7.9	5.9	12.7				
Green Ext Time (p_c), s	0.4	1.4	0.0	5.3	0.6	2.1	0.1	3.2				
Intersection Summary												
HCM 6th Ctrl Delay			21.0									
HCM 6th LOS			C									

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	880	1590	260	40	740	100	220	370	20	220	1480	350
Future Volume (veh/h)	880	1590	260	40	740	100	220	370	20	220	1480	350
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	880	1590	0	40	740	100	220	370	20	220	1480	350
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	343	1791		243	1643	615	314	1786	666	228	1660	672
Arrive On Green	0.10	0.37	0.00	0.07	0.34	0.34	0.10	0.37	0.37	0.07	0.34	0.34
Sat Flow, veh/h	3291	4863	1510	3291	4863	1510	3291	4863	1510	3291	4863	1510
Grp Volume(v), veh/h	880	1590	0	40	740	100	220	370	20	220	1480	350
Grp Sat Flow(s),veh/h/ln	1646	1621	1510	1646	1621	1510	1646	1621	1510	1646	1621	1510
Q Serve(g_s), s	12.0	35.4	0.0	1.3	13.7	4.8	7.5	6.0	0.9	7.7	33.2	19.3
Cycle Q Clear(g_c), s	12.0	35.4	0.0	1.3	13.7	4.8	7.5	6.0	0.9	7.7	33.2	19.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	343	1791		243	1643	615	314	1786	666	228	1660	672
V/C Ratio(X)	2.57	0.89		0.16	0.45	0.16	0.70	0.21	0.03	0.96	0.89	0.52
Avail Cap(c_a), veh/h	343	1856		314	1814	668	314	1814	674	228	1687	681
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.7	34.2	0.0	50.1	29.8	21.7	50.6	25.0	18.3	53.5	36.0	23.1
Incr Delay (d2), s/veh	714.6	5.6	0.0	0.3	0.2	0.1	6.8	0.1	0.0	49.7	6.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	38.8	14.0	0.0	0.5	5.2	1.7	3.3	2.3	0.3	4.7	13.6	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	766.3	39.8	0.0	50.4	30.0	21.8	57.3	25.0	18.3	103.2	42.3	23.8
LnGrp LOS	F	D		D	C	C	E	C	B	F	D	C
Approach Vol, veh/h		2470	A		880			610			2050	
Approach Delay, s/veh		298.6			30.0			36.5			45.7	
Approach LOS		F			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	46.5	11.0	46.4	15.0	43.0	14.0	43.4
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	9.0	42.0	6.0	41.0	10.0	41.0	9.0	38.0
Max Q Clear Time (g_c+I1), s	13.3	37.4	9.7	8.0	14.0	15.7	9.5	35.2
Green Ext Time (p_c), s	0.0	3.1	0.0	1.8	0.0	4.0	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	146.4
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	1160	120	20	160	270	40	320	20	230	1320	40
Future Volume (veh/h)	40	1160	120	20	160	270	40	320	20	230	1320	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	40	1160	120	20	160	270	40	320	20	230	1320	40
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	70	1351	603	44	650	580	70	1320	82	301	1611	49
Arrive On Green	0.04	0.40	0.40	0.03	0.38	0.38	0.04	0.28	0.28	0.09	0.33	0.33
Sat Flow, veh/h	1697	3385	1510	1697	1692	1510	1697	4682	289	3291	4850	147
Grp Volume(v), veh/h	40	1160	120	20	160	270	40	220	120	230	882	478
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1697	1692	1510	1697	1621	1729	1646	1621	1755
Q Serve(g_s), s	2.2	29.5	4.9	1.1	6.1	12.7	2.2	4.9	5.0	6.4	23.6	23.6
Cycle Q Clear(g_c), s	2.2	29.5	4.9	1.1	6.1	12.7	2.2	4.9	5.0	6.4	23.6	23.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		0.08
Lane Grp Cap(c), veh/h	70	1351	603	44	650	580	70	914	487	301	1077	583
V/C Ratio(X)	0.57	0.86	0.20	0.45	0.25	0.47	0.57	0.24	0.25	0.76	0.82	0.82
Avail Cap(c_a), veh/h	131	1722	768	108	838	747	108	1117	596	506	1409	763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.4	25.9	18.5	45.3	19.8	21.8	44.4	26.1	26.1	41.9	28.9	28.9
Incr Delay (d2), s/veh	2.7	3.7	0.2	2.7	0.1	0.2	2.7	0.1	0.3	1.5	3.0	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	11.8	1.6	0.5	2.3	4.2	0.9	1.8	2.0	2.6	9.0	10.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.1	29.6	18.7	48.0	19.8	22.0	47.1	26.2	26.4	43.4	31.9	34.4
LnGrp LOS	D	C	B	D	B	C	D	C	C	D	C	C
Approach Vol, veh/h		1320			450			380			1590	
Approach Delay, s/veh		29.2			22.4			28.5			34.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	42.7	13.1	31.6	8.4	41.2	8.4	36.3
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	6.0	48.0	14.5	32.5	7.3	46.7	6.0	41.0
Max Q Clear Time (g_c+I1), s	3.1	31.5	8.4	7.0	4.2	14.7	4.2	25.6
Green Ext Time (p_c), s	0.0	6.1	0.2	1.4	0.0	1.0	0.0	5.8

Intersection Summary	
HCM 6th Ctrl Delay	30.5
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	670	130	20	100	30	10	210	30	270	920	30
Future Volume (veh/h)	90	670	130	20	100	30	10	210	30	270	920	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	90	670	130	20	100	30	10	210	30	270	920	30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	379	759	147	29	163	47	16	285	40	777	1841	821
Arrive On Green	0.22	0.27	0.27	0.02	0.06	0.06	0.01	0.10	0.10	0.46	0.54	0.54
Sat Flow, veh/h	1697	2820	547	1697	2591	748	1697	2979	420	1697	3385	1510
Grp Volume(v), veh/h	90	402	398	20	64	66	10	118	122	270	920	30
Grp Sat Flow(s),veh/h/ln	1697	1692	1675	1697	1692	1647	1697	1692	1706	1697	1692	1510
Q Serve(g_s), s	4.4	22.7	22.8	1.2	3.7	3.9	0.6	6.8	7.0	10.3	17.0	0.3
Cycle Q Clear(g_c), s	4.4	22.7	22.8	1.2	3.7	3.9	0.6	6.8	7.0	10.3	17.0	0.3
Prop In Lane	1.00		0.33	1.00		0.45	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	379	456	451	29	107	104	16	162	163	777	1841	821
V/C Ratio(X)	0.24	0.88	0.88	0.69	0.60	0.64	0.61	0.73	0.75	0.35	0.50	0.04
Avail Cap(c_a), veh/h	379	542	536	85	423	412	68	355	358	777	1841	821
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.48	0.48	0.48	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	35.0	35.0	48.9	45.6	45.7	49.3	43.9	44.0	17.5	14.3	1.2
Incr Delay (d2), s/veh	0.2	7.4	7.6	25.5	5.3	6.3	31.1	24.7	26.3	0.3	1.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	10.0	9.9	0.7	1.7	1.8	0.4	3.8	4.0	3.8	6.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.0	42.4	42.6	74.3	50.9	52.1	80.4	68.7	70.3	17.7	15.2	1.3
LnGrp LOS	C	D	D	E	D	D	F	E	E	B	B	A
Approach Vol, veh/h		890			150			250			1220	
Approach Delay, s/veh		41.4			54.6			70.0			15.5	
Approach LOS		D			D			E			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	49.8	13.6	5.7	30.9	5.0	58.4	26.3	10.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	26.0	21.0	5.0	32.0	4.0	43.0	12.0	25.0
Max Q Clear Time (g_c+I1), s	12.3	9.0	3.2	24.8	2.6	19.0	6.4	5.9
Green Ext Time (p_c), s	0.8	0.6	0.0	2.1	0.0	4.7	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	32.4
HCM 6th LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	180	10	230	1040	30
Future Volume (veh/h)	10	180	10	230	1040	30
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	180	10	230	1040	30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	212	189	294	2285	1359	606
Arrive On Green	0.13	0.13	0.17	0.68	0.40	0.40
Sat Flow, veh/h	1697	1510	1697	3474	3474	1510
Grp Volume(v), veh/h	10	180	10	230	1040	30
Grp Sat Flow(s),veh/h/ln	1697	1510	1697	1692	1692	1510
Q Serve(g_s), s	0.2	4.7	0.2	0.9	10.6	0.2
Cycle Q Clear(g_c), s	0.2	4.7	0.2	0.9	10.6	0.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	212	189	294	2285	1359	606
V/C Ratio(X)	0.05	0.95	0.03	0.10	0.77	0.05
Avail Cap(c_a), veh/h	212	189	294	2285	1608	717
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	1.00	1.00	0.88	0.88
Uniform Delay (d), s/veh	15.4	17.4	13.7	2.3	10.3	1.5
Incr Delay (d2), s/veh	0.1	45.0	0.0	0.1	3.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	6.1	0.1	0.0	3.0	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.5	62.4	13.8	2.4	14.0	1.7
LnGrp LOS	B	E	B	A	B	A
Approach Vol, veh/h	190			240	1070	
Approach Delay, s/veh	59.9			2.8	13.7	
Approach LOS	E			A	B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		31.0		9.0	10.9	20.1
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		27.0		5.0	4.0	19.0
Max Q Clear Time (g_c+I1), s		2.9		6.7	2.2	12.6
Green Ext Time (p_c), s		1.3		0.0	0.0	3.4
Intersection Summary						
HCM 6th Ctrl Delay			17.8			
HCM 6th LOS			B			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	10	20	10	60	10	170	60	290	890	40
Future Volume (veh/h)	10	10	10	20	10	60	10	170	60	290	890	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	10	10	20	10	60	10	170	60	290	890	40
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	27	91	91	50	28	166	27	814	363	345	1448	646
Arrive On Green	0.02	0.11	0.11	0.03	0.13	0.13	0.02	0.24	0.24	0.20	0.43	0.43
Sat Flow, veh/h	1697	817	817	1697	220	1323	1697	3385	1510	1697	3385	1510
Grp Volume(v), veh/h	10	0	20	20	0	70	10	170	60	290	890	40
Grp Sat Flow(s),veh/h/ln	1697	0	1634	1697	0	1543	1697	1692	1510	1697	1692	1510
Q Serve(g_s), s	0.3	0.0	0.5	0.5	0.0	1.8	0.3	1.8	1.4	7.3	9.0	0.7
Cycle Q Clear(g_c), s	0.3	0.0	0.5	0.5	0.0	1.8	0.3	1.8	1.4	7.3	9.0	0.7
Prop In Lane	1.00		0.50	1.00		0.86	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	27	0	183	50	0	194	27	814	363	345	1448	646
V/C Ratio(X)	0.38	0.00	0.11	0.40	0.00	0.36	0.38	0.21	0.17	0.84	0.61	0.06
Avail Cap(c_a), veh/h	230	0	1254	230	0	1184	230	2169	967	345	2337	1042
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.6	0.0	17.7	21.1	0.0	17.7	21.6	13.5	13.3	17.0	9.8	7.5
Incr Delay (d2), s/veh	8.5	0.0	0.3	5.1	0.0	1.1	8.5	0.2	0.3	16.9	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.2	0.3	0.0	0.7	0.1	0.5	0.4	3.8	2.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.1	0.0	18.0	26.2	0.0	18.9	30.1	13.6	13.6	33.9	10.5	7.5
LnGrp LOS	C	A	B	C	A	B	C	B	B	C	B	A
Approach Vol, veh/h		30			90			240			1220	
Approach Delay, s/veh		22.0			20.5			14.3			15.9	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	16.5	5.3	9.6	4.7	24.8	4.7	10.2
Change Period (Y+Rc), s	4.0	* 5.8	4.0	4.6	4.0	5.8	4.0	4.6
Max Green Setting (Gmax), s	9.0	* 28	6.0	34.0	6.0	30.6	6.0	34.0
Max Q Clear Time (g_c+I1), s	9.3	3.8	2.5	2.5	2.3	11.0	2.3	3.8
Green Ext Time (p_c), s	0.0	1.6	0.0	0.1	0.0	7.9	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	16.1
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	40	290	30	20	10	20	220	90	40	870	10
Future Volume (veh/h)	10	40	290	30	20	10	20	220	90	40	870	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	40	290	30	20	10	20	220	90	40	870	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	26	49	358	65	323	161	47	1165	519	80	1306	582
Arrive On Green	0.02	0.26	0.26	0.04	0.29	0.29	0.03	0.34	0.34	0.05	0.39	0.39
Sat Flow, veh/h	1697	186	1352	1697	1120	560	1697	3385	1510	1697	3385	1510
Grp Volume(v), veh/h	10	0	330	30	0	30	20	220	90	40	870	10
Grp Sat Flow(s),veh/h/ln	1697	0	1538	1697	0	1681	1697	1692	1510	1697	1692	1510
Q Serve(g_s), s	0.4	0.0	13.4	1.2	0.0	0.9	0.8	3.0	2.8	1.5	14.2	0.3
Cycle Q Clear(g_c), s	0.4	0.0	13.4	1.2	0.0	0.9	0.8	3.0	2.8	1.5	14.2	0.3
Prop In Lane	1.00		0.88	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	26	0	407	65	0	484	47	1165	519	80	1306	582
V/C Ratio(X)	0.39	0.00	0.81	0.46	0.00	0.06	0.42	0.19	0.17	0.50	0.67	0.02
Avail Cap(c_a), veh/h	153	0	850	153	0	929	153	2445	1090	216	2647	1181
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.6	0.0	23.0	31.4	0.0	17.2	31.9	15.4	15.3	31.0	16.9	12.7
Incr Delay (d2), s/veh	9.2	0.0	3.9	5.0	0.0	0.1	5.9	0.1	0.2	4.8	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	5.0	0.5	0.0	0.3	0.4	1.0	0.9	0.7	4.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.8	0.0	26.9	36.4	0.0	17.3	37.8	15.5	15.5	35.8	17.8	12.7
LnGrp LOS	D	A	C	D	A	B	D	B	B	D	B	B
Approach Vol, veh/h		340			60			330			920	
Approach Delay, s/veh		27.3			26.9			16.8			18.5	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.6	28.8	6.6	22.8	5.9	31.5	5.0	24.3
Change Period (Y+Rc), s	5.5	5.8	4.0	5.1	4.0	5.8	4.0	5.1
Max Green Setting (Gmax), s	8.5	48.2	6.0	36.9	6.0	52.2	6.0	36.9
Max Q Clear Time (g_c+I1), s	3.5	5.0	3.2	15.4	2.8	16.2	2.4	2.9
Green Ext Time (p_c), s	0.0	2.5	0.0	2.3	0.0	9.6	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	1030	10	240	290	40	10	150	170	640	500	40
Future Volume (veh/h)	140	1030	10	240	290	40	10	150	170	640	500	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	140	1030	10	240	290	40	10	150	0	640	500	40
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	169	1076	10	273	1005	448	16	221		663	1417	113
Arrive On Green	0.10	0.31	0.31	0.08	0.30	0.30	0.01	0.07	0.00	0.39	0.45	0.45
Sat Flow, veh/h	1697	3434	33	3291	3385	1510	1697	3385	1510	1697	3175	253
Grp Volume(v), veh/h	140	508	532	240	290	40	10	150	0	640	266	274
Grp Sat Flow(s),veh/h/ln	1697	1692	1775	1646	1692	1510	1697	1692	1510	1697	1692	1736
Q Serve(g_s), s	8.8	31.9	31.9	7.8	7.1	2.1	0.6	4.7	0.0	40.0	11.2	11.2
Cycle Q Clear(g_c), s	8.8	31.9	31.9	7.8	7.1	2.1	0.6	4.7	0.0	40.0	11.2	11.2
Prop In Lane	1.00		0.02	1.00		1.00	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	169	530	556	273	1005	448	16	221		663	755	775
V/C Ratio(X)	0.83	0.96	0.96	0.88	0.29	0.09	0.61	0.68		0.97	0.35	0.35
Avail Cap(c_a), veh/h	266	531	557	273	1005	448	63	562		673	890	913
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.9	36.5	36.5	49.1	29.3	27.5	53.5	49.5	0.0	32.3	19.7	19.7
Incr Delay (d2), s/veh	11.6	28.5	27.6	26.0	0.2	0.1	32.1	3.6	0.0	26.1	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	16.4	17.1	4.1	2.8	0.7	0.4	2.0	0.0	20.0	4.2	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.5	64.9	64.1	75.1	29.4	27.6	85.6	53.2	0.0	58.4	20.0	20.0
LnGrp LOS	E	E	E	E	C	C	F	D		E	B	B
Approach Vol, veh/h		1180			570			160	A		1180	
Approach Delay, s/veh		63.9			48.5			55.2			40.8	
Approach LOS		E			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	46.3	11.1	13.0	38.0	5.0	52.4	14.8	36.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	43.0	18.0	9.0	34.0	4.0	57.0	17.0	26.0
Max Q Clear Time (g_c+I1), s	42.0	6.7	9.8	33.9	2.6	13.2	10.8	9.1
Green Ext Time (p_c), s	0.3	0.4	0.0	0.1	0.0	2.1	0.2	1.6

Intersection Summary	
HCM 6th Ctrl Delay	51.8
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	10	10	320	730	10
Future Volume (veh/h)	10	10	10	320	730	10
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	10	10	320	730	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	35	32	18	2127	1497	668
Arrive On Green	0.02	0.02	0.01	0.63	0.44	0.44
Sat Flow, veh/h	1697	1510	1697	3474	3474	1510
Grp Volume(v), veh/h	10	10	10	320	730	10
Grp Sat Flow(s),veh/h/ln	1697	1510	1697	1692	1692	1510
Q Serve(g_s), s	0.1	0.1	0.1	0.9	3.5	0.1
Cycle Q Clear(g_c), s	0.1	0.1	0.1	0.9	3.5	0.1
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	35	32	18	2127	1497	668
V/C Ratio(X)	0.28	0.32	0.55	0.15	0.49	0.01
Avail Cap(c_a), veh/h	1338	1191	297	4302	3115	1390
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.0	11.0	11.2	1.7	4.5	3.6
Incr Delay (d2), s/veh	4.3	5.6	23.1	0.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.1	0.0	0.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.3	16.6	34.4	1.8	4.8	3.6
LnGrp LOS	B	B	C	A	A	A
Approach Vol, veh/h	20			330	740	
Approach Delay, s/veh	16.0			2.8	4.8	
Approach LOS	B			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		18.3		4.5	4.2	14.1
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		29.0		18.0	4.0	21.0
Max Q Clear Time (g_c+I1), s		2.9		2.1	2.1	5.5
Green Ext Time (p_c), s		1.8		0.0	0.0	4.6

Intersection Summary	
HCM 6th Ctrl Delay	4.4
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	90	230	200	90	160	70	80	100	180	430	150
Future Volume (veh/h)	90	90	230	200	90	160	70	80	100	180	430	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	90	90	230	200	142	125	70	80	100	180	430	150
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	842	102	262	242	210	178	793	329	147	1041	583	260
Arrive On Green	0.26	0.23	0.23	0.14	0.12	0.12	0.24	0.10	0.10	0.32	0.17	0.17
Sat Flow, veh/h	3291	444	1134	1697	1781	1510	3291	3385	1510	3291	3385	1510
Grp Volume(v), veh/h	90	0	320	200	142	125	70	80	100	180	430	150
Grp Sat Flow(s),veh/h/ln	1646	0	1577	1697	1781	1510	1646	1692	1510	1646	1692	1510
Q Serve(g_s), s	1.6	0.0	14.7	8.6	5.7	6.0	1.2	1.6	4.8	3.0	9.0	6.8
Cycle Q Clear(g_c), s	1.6	0.0	14.7	8.6	5.7	6.0	1.2	1.6	4.8	3.0	9.0	6.8
Prop In Lane	1.00		0.72	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	842	0	364	242	210	178	793	329	147	1041	583	260
V/C Ratio(X)	0.11	0.00	0.88	0.83	0.68	0.70	0.09	0.24	0.68	0.17	0.74	0.58
Avail Cap(c_a), veh/h	842	0	421	362	428	362	793	812	362	1041	857	382
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.4	0.0	27.8	31.3	31.7	31.8	22.1	31.3	32.7	18.6	29.4	28.5
Incr Delay (d2), s/veh	0.1	0.0	17.0	9.5	3.8	5.0	0.0	1.8	22.7	0.1	8.1	9.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	7.1	4.1	2.6	2.4	0.4	0.7	2.7	1.0	4.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.4	0.0	44.8	40.7	35.5	36.8	22.1	33.1	55.5	18.6	37.6	37.6
LnGrp LOS	C	A	D	D	D	D	C	C	E	B	D	D
Approach Vol, veh/h		410			467			250			760	
Approach Delay, s/veh		39.7			38.1			39.0			33.1	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.7	11.3	14.7	21.3	22.1	16.9	23.2	12.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	18.0	16.0	20.0	4.0	19.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	5.0	6.8	10.6	16.7	3.2	11.0	3.6	8.0
Green Ext Time (p_c), s	0.0	0.5	0.3	0.6	0.0	1.9	0.2	0.9

Intersection Summary	
HCM 6th Ctrl Delay	36.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	10	0	140	10	110	0	0	760	90
Future Volume (veh/h)	0	0	0	10	0	140	10	110	0	0	760	90
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1781	1781	1781	1781	0	0	1781	1781
Adj Flow Rate, veh/h				10	0	0	10	110	0	0	760	90
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				8	8	8	8	8	0	0	8	8
Cap, veh/h				16	0		1064	3127	0	0	892	398
Arrive On Green				0.01	0.00	0.00	0.63	0.92	0.00	0.00	0.26	0.26
Sat Flow, veh/h				1697	0	1510	1697	3474	0	0	3474	1510
Grp Volume(v), veh/h				10	0	0	10	110	0	0	760	90
Grp Sat Flow(s),veh/h/ln				1697	0	1510	1697	1692	0	0	1692	1510
Q Serve(g_s), s				0.7	0.0	0.0	0.3	0.3	0.0	0.0	25.6	5.6
Cycle Q Clear(g_c), s				0.7	0.0	0.0	0.3	0.3	0.0	0.0	25.6	5.6
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				16	0		1064	3127	0	0	892	398
V/C Ratio(X)				0.62	0.00		0.01	0.04	0.00	0.00	0.85	0.23
Avail Cap(c_a), veh/h				438	0		1064	3127	0	0	1946	868
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.96	0.96	0.00	0.00	0.90	0.90
Uniform Delay (d), s/veh				59.2	0.0	0.0	8.4	0.4	0.0	0.0	42.0	34.6
Incr Delay (d2), s/veh				33.6	0.0	0.0	0.0	0.0	0.0	0.0	9.2	1.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.5	0.0	0.0	0.1	0.0	0.0	0.0	11.3	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				92.8	0.0	0.0	8.4	0.4	0.0	0.0	51.1	35.8
LnGrp LOS				F	A		A	A	A	A	D	D
Approach Vol, veh/h					10	A		120			850	
Approach Delay, s/veh					92.8			1.0			49.5	
Approach LOS					F			A			D	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		114.9			79.2	35.6		5.1				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		81.0			8.0	69.0		31.0				
Max Q Clear Time (g_c+I1), s		2.3			2.3	27.6		2.7				
Green Ext Time (p_c), s		0.4			0.0	4.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			44.0									
HCM 6th LOS			D									

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	30	10	0	0	0	0	40	20	700	80	0
Future Volume (veh/h)	80	30	10	0	0	0	0	40	20	700	80	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781				0	1781	1781	1781	1781	0
Adj Flow Rate, veh/h	80	30	10				0	40	20	700	80	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8				0	8	8	8	8	0
Cap, veh/h	115	87	29				0	1234	550	737	2854	0
Arrive On Green	0.07	0.07	0.07				0.00	0.36	0.36	0.43	0.84	0.00
Sat Flow, veh/h	1697	1279	426				0	3474	1510	1697	3474	0
Grp Volume(v), veh/h	80	0	40				0	40	20	700	80	0
Grp Sat Flow(s),veh/h/ln	1697	0	1705				0	1692	1510	1697	1692	0
Q Serve(g_s), s	4.2	0.0	2.0				0.0	0.7	0.8	35.8	0.3	0.0
Cycle Q Clear(g_c), s	4.2	0.0	2.0				0.0	0.7	0.8	35.8	0.3	0.0
Prop In Lane	1.00		0.25				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	115	0	116				0	1234	550	737	2854	0
V/C Ratio(X)	0.70	0.00	0.35				0.00	0.03	0.04	0.95	0.03	0.00
Avail Cap(c_a), veh/h	339	0	341				0	1234	550	792	2854	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.83	0.83	0.00
Uniform Delay (d), s/veh	41.0	0.0	40.0				0.0	18.4	18.4	24.5	1.1	0.0
Incr Delay (d2), s/veh	7.3	0.0	1.8				0.0	0.0	0.1	17.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.9				0.0	0.3	0.3	16.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.4	0.0	41.8				0.0	18.4	18.5	42.2	1.1	0.0
LnGrp LOS	D	A	D				A	B	B	D	A	A
Approach Vol, veh/h		120						60			780	
Approach Delay, s/veh		46.2						18.5			38.0	
Approach LOS		D						B			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	43.1	36.8		10.1		79.9
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	42.0	18.0		18.0		64.0
Max Q Clear Time (g_c+I1), s	37.8	2.8		6.2		2.3
Green Ext Time (p_c), s	1.3	0.1		0.3		0.3

Intersection Summary			
HCM 6th Ctrl Delay			37.8
HCM 6th LOS			D

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	40	10	10	20	20	60
Future Volume (veh/h)	40	10	10	20	20	60
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	40	10	10	20	20	60
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	84	75	18	856	418	355
Arrive On Green	0.05	0.05	0.01	0.48	0.23	0.23
Sat Flow, veh/h	1697	1510	1697	1781	1781	1510
Grp Volume(v), veh/h	40	10	10	20	20	60
Grp Sat Flow(s),veh/h/ln	1697	1510	1697	1781	1781	1510
Q Serve(g_s), s	0.4	0.1	0.1	0.1	0.1	0.5
Cycle Q Clear(g_c), s	0.4	0.1	0.1	0.1	0.1	0.5
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	84	75	18	856	418	355
V/C Ratio(X)	0.48	0.13	0.54	0.02	0.05	0.17
Avail Cap(c_a), veh/h	1794	1596	399	3034	2197	1862
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.9	7.7	8.4	2.3	5.0	5.2
Incr Delay (d2), s/veh	4.1	0.8	22.6	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.1	0.0	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.0	8.5	31.0	2.3	5.1	5.4
LnGrp LOS	B	A	C	A	A	A
Approach Vol, veh/h	50			30	80	
Approach Delay, s/veh	11.3			11.9	5.3	
Approach LOS	B			B	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		12.2		4.8	4.2	8.0
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		29.0		18.0	4.0	21.0
Max Q Clear Time (g_c+I1), s		2.1		2.4	2.1	2.5
Green Ext Time (p_c), s		0.0		0.1	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	8.4
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	20	390	20	30	20
Future Vol, veh/h	10	20	390	20	30	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	8	8	8	8	8	8
Mvmt Flow	10	20	390	20	30	20

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	480	400	0	0	410	0
Stage 1	400	-	-	-	-	-
Stage 2	80	-	-	-	-	-
Critical Hdwy	6.48	6.28	-	-	4.18	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	-	-	2.272	-
Pot Cap-1 Maneuver	534	637	-	-	1117	-
Stage 1	664	-	-	-	-	-
Stage 2	928	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	520	637	-	-	1117	-
Mov Cap-2 Maneuver	520	-	-	-	-	-
Stage 1	664	-	-	-	-	-
Stage 2	903	-	-	-	-	-

Approach	WB		NB		SB	
HCM Control Delay, s	11.4		0		5	
HCM LOS	B					

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	593	1117	-
HCM Lane V/C Ratio	-	-	0.051	0.027	-
HCM Control Delay (s)	-	-	11.4	8.3	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	600	810	70	40	30	550	280	320	10	20	10
Future Volume (veh/h)	100	600	810	70	40	30	550	280	320	10	20	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	100	600	0	70	40	30	550	280	320	10	20	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	352	709		113	125	56	1939	1092	978	16	59	363
Arrive On Green	0.21	0.21	0.00	0.03	0.04	0.04	0.98	1.00	1.00	0.01	0.03	0.03
Sat Flow, veh/h	1697	3385	1510	3291	3385	1510	3291	1781	1510	1697	1781	1510
Grp Volume(v), veh/h	100	600	0	70	40	30	550	280	320	10	20	10
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1646	1692	1510	1646	1781	1510	1697	1781	1510
Q Serve(g_s), s	6.0	20.4	0.0	2.5	1.4	2.2	0.4	0.0	0.0	0.7	1.3	0.0
Cycle Q Clear(g_c), s	6.0	20.4	0.0	2.5	1.4	2.2	0.4	0.0	0.0	0.7	1.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	352	709		113	125	56	1939	1092	978	16	59	363
V/C Ratio(X)	0.28	0.85		0.62	0.32	0.54	0.28	0.26	0.33	0.62	0.34	0.03
Avail Cap(c_a), veh/h	352	874		274	762	340	1939	1092	978	57	297	565
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.00	1.00	1.00	1.00	0.64	0.64	0.64	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.1	45.6	0.0	57.1	56.3	48.2	0.4	0.0	0.0	59.2	56.7	34.8
Incr Delay (d2), s/veh	0.3	5.0	0.0	5.4	1.5	7.9	0.1	0.4	0.6	33.6	14.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	9.1	0.0	1.1	0.6	1.0	0.1	0.1	0.2	0.5	0.8	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.4	50.6	0.0	62.5	57.8	56.1	0.4	0.4	0.6	92.8	71.4	35.0
LnGrp LOS	D	D		E	E	E	A	A	A	F	E	C
Approach Vol, veh/h		700	A		140			1150			40	
Approach Delay, s/veh		49.1			59.8			0.5			67.6	
Approach LOS		D			E			A			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	77.6	8.1	29.2	74.7	8.0	28.9	8.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	59.0	10.0	31.0	43.0	20.0	14.0	27.0
Max Q Clear Time (g_c+I1), s	2.7	2.0	4.5	22.4	2.4	3.3	8.0	4.2
Green Ext Time (p_c), s	0.0	3.1	0.1	2.7	2.2	0.1	0.1	0.3

Intersection Summary	
HCM 6th Ctrl Delay	22.7
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	30	0	520	190	630	0	0	870	40
Future Volume (veh/h)	0	0	0	30	0	520	190	630	0	0	870	40
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1781	1781	1781	1781	0	0	1781	1781
Adj Flow Rate, veh/h				30	0	0	190	630	0	0	870	40
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				8	8	8	8	8	0	0	8	8
Cap, veh/h				115	0		249	1602	0	0	2605	120
Arrive On Green				0.03	0.00	0.00	0.08	0.90	0.00	0.00	1.00	1.00
Sat Flow, veh/h				3393	0	1510	3291	1781	0	0	3384	151
Grp Volume(v), veh/h				30	0	0	190	630	0	0	447	463
Grp Sat Flow(s),veh/h/ln				1697	0	1510	1646	1781	0	0	1692	1754
Q Serve(g_s), s				1.0	0.0	0.0	6.8	6.6	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				1.0	0.0	0.0	6.8	6.6	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.09
Lane Grp Cap(c), veh/h				115	0		249	1602	0	0	1338	1387
V/C Ratio(X)				0.26	0.00		0.76	0.39	0.00	0.00	0.33	0.33
Avail Cap(c_a), veh/h				1386	0		329	1602	0	0	1338	1387
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	0.00	0.00	0.80	0.80	0.00	0.00	0.65	0.65
Uniform Delay (d), s/veh				56.5	0.0	0.0	54.4	0.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				1.7	0.0	0.0	6.9	0.6	0.0	0.0	0.4	0.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.5	0.0	0.0	3.0	0.5	0.0	0.0	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				58.2	0.0	0.0	61.4	1.5	0.0	0.0	0.4	0.4
LnGrp LOS				E	A		E	A	A	A	A	A
Approach Vol, veh/h					30	A		820			910	
Approach Delay, s/veh					58.2			15.4			0.4	
Approach LOS					E			B			A	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		111.9			13.1	98.9		8.1				
Change Period (Y+Rc), s		4.9			4.0	4.9		4.9				
Max Green Setting (Gmax), s		62.1			12.0	46.1		48.1				
Max Q Clear Time (g_c+I1), s		8.6			8.8	2.0		3.0				
Green Ext Time (p_c), s		3.0			0.3	4.4		0.2				

Intersection Summary			
HCM 6th Ctrl Delay			8.4
HCM 6th LOS			A

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	570	0	2040	0	0	0	0	240	140	850	50	0
Future Volume (veh/h)	570	0	2040	0	0	0	0	240	140	850	50	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781				0	1781	1781	1781	1781	0
Adj Flow Rate, veh/h	570	0	2040				0	240	140	850	50	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8				0	8	8	8	8	0
Cap, veh/h	825	0	722				0	423	177	480	1500	0
Arrive On Green	0.49	0.00	0.48				0.00	0.12	0.12	0.28	0.44	0.00
Sat Flow, veh/h	1697	0	1510				0	3474	1510	1697	3474	0
Grp Volume(v), veh/h	570	0	2040				0	240	140	850	50	0
Grp Sat Flow(s),veh/h/ln	1697	0	1510				0	1692	1510	1697	1692	0
Q Serve(g_s), s	29.4	0.0	54.1				0.0	7.6	10.2	32.0	0.9	0.0
Cycle Q Clear(g_c), s	29.4	0.0	54.1				0.0	7.6	10.2	32.0	0.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	825	0	722				0	423	177	480	1500	0
V/C Ratio(X)	0.69	0.00	2.83				0.00	0.57	0.79	1.77	0.03	0.00
Avail Cap(c_a), veh/h	825	0	722				0	628	268	480	1705	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	22.5	0.0	29.5				0.0	46.6	48.6	40.6	17.8	0.0
Incr Delay (d2), s/veh	2.5	0.0	825.5				0.0	1.2	8.9	355.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.8	0.0	183.9				0.0	3.2	4.2	60.4	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.0	0.0	855.0				0.0	47.8	57.5	396.1	17.8	0.0
LnGrp LOS	C	A	F				A	D	E	F	B	A
Approach Vol, veh/h		2610						380			900	
Approach Delay, s/veh		673.8						51.4			375.1	
Approach LOS		F						D			F	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	36.0	18.1		59.0		54.1
Change Period (Y+Rc), s	4.0	4.9		4.9		4.9
Max Green Setting (Gmax), s	32.0	20.1		54.1		56.1
Max Q Clear Time (g_c+I1), s	31.4	12.2		56.1		2.9
Green Ext Time (p_c), s	0.0	1.0		0.0		0.2

Intersection Summary		
HCM 6th Ctrl Delay		543.9
HCM 6th LOS		F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	860	10	10	400	10	110	80	10	110	1040	110
Future Volume (veh/h)	40	860	10	10	400	10	110	80	10	110	1040	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	40	860	10	10	400	10	110	80	10	110	1040	110
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	90	1365	16	39	1242	31	140	1098	135	134	1120	118
Arrive On Green	0.05	0.40	0.39	0.02	0.37	0.36	0.08	0.36	0.35	0.08	0.36	0.35
Sat Flow, veh/h	1697	3427	40	1697	3374	84	1697	3034	373	1697	3089	326
Grp Volume(v), veh/h	40	425	445	10	200	210	110	44	46	110	570	580
Grp Sat Flow(s),veh/h/ln	1697	1692	1774	1697	1692	1766	1697	1692	1714	1697	1692	1723
Q Serve(g_s), s	2.7	24.2	24.2	0.7	10.2	10.2	7.6	2.0	2.1	7.7	38.8	38.9
Cycle Q Clear(g_c), s	2.7	24.2	24.2	0.7	10.2	10.2	7.6	2.0	2.1	7.7	38.8	38.9
Prop In Lane	1.00		0.02	1.00		0.05	1.00		0.22	1.00		0.19
Lane Grp Cap(c), veh/h	90	674	707	39	623	650	140	613	621	134	614	625
V/C Ratio(X)	0.44	0.63	0.63	0.26	0.32	0.32	0.78	0.07	0.07	0.82	0.93	0.93
Avail Cap(c_a), veh/h	122	674	707	122	623	650	170	613	621	225	635	646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	55.1	29.0	29.0	57.6	27.2	27.2	54.0	25.1	25.2	54.4	36.7	36.8
Incr Delay (d2), s/veh	1.3	4.4	4.2	1.2	1.3	1.2	14.4	0.0	0.1	0.4	2.6	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	10.3	10.8	0.3	4.3	4.4	3.8	0.8	0.9	3.3	16.0	16.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.3	33.4	33.2	58.8	28.5	28.4	68.4	25.1	25.2	54.8	39.4	39.5
LnGrp LOS	E	C	C	E	C	C	E	C	C	D	D	D
Approach Vol, veh/h		910			420			200			1260	
Approach Delay, s/veh		34.3			29.2			48.9			40.8	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	47.4	6.8	51.8	13.9	47.5	10.4	48.2
Change Period (Y+Rc), s	4.5	5.0	4.5	4.5	4.5	5.0	4.5	4.5
Max Green Setting (Gmax), s	15.5	39.6	8.1	37.9	11.5	44.0	8.1	37.9
Max Q Clear Time (g_c+I1), s	9.7	4.1	2.7	26.2	9.6	40.9	4.7	12.2
Green Ext Time (p_c), s	0.1	0.3	0.0	2.9	0.0	1.6	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	37.5
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1220	370	40	610	10	170	80	10	10	620	140
Future Volume (veh/h)	50	1220	370	40	610	10	170	80	10	10	620	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	50	1220	370	40	610	10	170	80	10	10	620	140
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	211	1752	781	194	1734	773	257	928	414	91	758	338
Arrive On Green	0.06	0.52	0.52	0.06	0.51	0.51	0.08	0.27	0.27	0.03	0.22	0.22
Sat Flow, veh/h	3291	3385	1510	3291	3385	1510	3291	3385	1510	3291	3385	1510
Grp Volume(v), veh/h	50	1220	370	40	610	10	170	80	10	10	620	140
Grp Sat Flow(s),veh/h/ln	1646	1692	1510	1646	1692	1510	1646	1692	1510	1646	1692	1510
Q Serve(g_s), s	1.7	31.3	18.0	1.3	12.3	0.4	5.8	2.0	0.6	0.3	20.0	9.1
Cycle Q Clear(g_c), s	1.7	31.3	18.0	1.3	12.3	0.4	5.8	2.0	0.6	0.3	20.0	9.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	211	1752	781	194	1734	773	257	928	414	91	758	338
V/C Ratio(X)	0.24	0.70	0.47	0.21	0.35	0.01	0.66	0.09	0.02	0.11	0.82	0.41
Avail Cap(c_a), veh/h	258	1752	781	258	1734	773	258	1030	459	258	1030	459
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.1	20.9	17.7	51.6	16.7	13.8	51.5	31.0	30.5	54.5	42.4	38.2
Incr Delay (d2), s/veh	0.2	2.3	2.1	0.2	0.6	0.0	4.9	0.0	0.0	0.2	2.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	12.5	6.5	0.6	4.9	0.1	2.5	0.8	0.2	0.1	8.5	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.3	23.2	19.8	51.7	17.2	13.8	56.5	31.1	30.5	54.7	45.2	38.5
LnGrp LOS	D	C	B	D	B	B	E	C	C	D	D	D
Approach Vol, veh/h		1640			660			260			770	
Approach Delay, s/veh		23.3			19.3			47.7			44.1	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.3	63.0	12.5	29.2	10.9	62.4	6.7	35.0
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	8.0	46.0	8.0	33.0	8.0	46.0	8.0	33.0
Max Q Clear Time (g_c+I1), s	3.3	33.3	7.8	22.0	3.7	14.3	2.3	4.0
Green Ext Time (p_c), s	0.0	5.7	0.0	1.7	0.0	2.4	0.0	0.2

Intersection Summary		
HCM 6th Ctrl Delay		29.2
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	20	20	10	70	10	150	110	320	680	10
Future Volume (veh/h)	10	10	20	20	10	70	10	150	110	320	680	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	10	20	20	10	70	10	150	0	320	680	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	70	51	71	66	22	93	33	376		1087	2518	37
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.02	0.11	0.00	0.64	0.74	0.74
Sat Flow, veh/h	227	589	816	203	253	1063	1697	3474	0	1697	3415	50
Grp Volume(v), veh/h	40	0	0	100	0	0	10	150	0	320	337	353
Grp Sat Flow(s),veh/h/ln	1632	0	0	1518	0	0	1697	1692	0	1697	1692	1772
Q Serve(g_s), s	0.0	0.0	0.0	3.2	0.0	0.0	0.5	3.7	0.0	7.5	5.9	5.9
Cycle Q Clear(g_c), s	2.1	0.0	0.0	5.7	0.0	0.0	0.5	3.7	0.0	7.5	5.9	5.9
Prop In Lane	0.25		0.50	0.20		0.70	1.00		0.00	1.00		0.03
Lane Grp Cap(c), veh/h	192	0	0	181	0	0	33	376		1087	1248	1307
V/C Ratio(X)	0.21	0.00	0.00	0.55	0.00	0.00	0.30	0.40		0.29	0.27	0.27
Avail Cap(c_a), veh/h	468	0	0	456	0	0	160	790		1087	1248	1307
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.75	0.75	0.75
Uniform Delay (d), s/veh	38.4	0.0	0.0	40.1	0.0	0.0	43.5	37.2	0.0	7.2	3.9	3.9
Incr Delay (d2), s/veh	0.2	0.0	0.0	2.0	0.0	0.0	1.8	3.1	0.0	0.0	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	2.2	0.0	0.0	0.2	1.7	0.0	2.3	1.6	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.6	0.0	0.0	42.0	0.0	0.0	45.3	40.3	0.0	7.2	4.3	4.3
LnGrp LOS	D	A	A	D	A	A	D	D		A	A	A
Approach Vol, veh/h		40			100			160	A		1010	
Approach Delay, s/veh		38.6			42.0			40.7			5.2	
Approach LOS		D			D			D			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	62.6	15.0		12.4	6.3	71.4		12.4				
Change Period (Y+Rc), s	5.0	* 5		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	30.5	* 21		24.5	8.5	43.0		24.5				
Max Q Clear Time (g_c+I1), s	9.5	5.7		4.1	2.5	7.9		7.7				
Green Ext Time (p_c), s	0.1	0.7		0.1	0.0	4.6		0.4				

Intersection Summary			
HCM 6th Ctrl Delay			13.4
HCM 6th LOS			B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	10	20	10	10	10	30	110	20	520	840	130
Future Volume (veh/h)	40	10	20	10	10	10	30	110	20	520	840	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	40	10	20	10	10	10	30	110	20	520	840	130
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	240	13	26	242	64	114	527	1895	337	1014	1938	300
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	700	175	350	844	844	1510	552	2872	510	1200	2937	455
Grp Volume(v), veh/h	70	0	0	20	0	10	30	64	66	520	484	486
Grp Sat Flow(s),veh/h/ln	1224	0	0	1689	0	1510	552	1692	1690	1200	1692	1700
Q Serve(g_s), s	1.5	0.0	0.0	0.0	0.0	0.2	0.8	0.4	0.4	8.2	4.1	4.1
Cycle Q Clear(g_c), s	1.8	0.0	0.0	0.3	0.0	0.2	4.9	0.4	0.4	8.6	4.1	4.1
Prop In Lane	0.57		0.29	0.50		1.00	1.00		0.30	1.00		0.27
Lane Grp Cap(c), veh/h	280	0	0	306	0	114	527	1117	1115	1014	1117	1121
V/C Ratio(X)	0.25	0.00	0.00	0.07	0.00	0.09	0.06	0.06	0.06	0.51	0.43	0.43
Avail Cap(c_a), veh/h	1022	0	0	1093	0	899	784	1904	1901	1572	1904	1912
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.9	0.0	0.0	13.1	0.0	13.0	3.6	1.8	1.8	3.3	2.4	2.4
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.1	0.0	0.3	0.0	0.0	0.0	0.4	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.4	0.0	0.0	13.2	0.0	13.3	3.7	1.8	1.8	3.7	2.7	2.7
LnGrp LOS	B	A	A	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		70			30			160			1490	
Approach Delay, s/veh		14.4			13.2			2.2			3.1	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		23.9		6.3		23.9		6.3
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		34.0		18.0		34.0		18.0
Max Q Clear Time (g_c+I1), s		6.9		3.8		10.6		2.3
Green Ext Time (p_c), s		1.0		0.2		9.3		0.1

Intersection Summary	
HCM 6th Ctrl Delay	3.6
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	50	1060	60	20	190	10	180	90	10	160	570	80
Future Volume (veh/h)	50	1060	60	20	190	10	180	90	10	160	570	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	50	1060	60	20	190	10	180	90	10	160	570	80
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	61	1224	69	96	1297	68	108	671	299	157	767	342
Arrive On Green	0.04	0.38	0.38	0.06	0.40	0.40	0.06	0.20	0.20	0.09	0.23	0.23
Sat Flow, veh/h	1697	3256	184	1697	3272	171	1697	3385	1510	1697	3385	1510
Grp Volume(v), veh/h	50	551	569	20	98	102	180	90	10	160	570	80
Grp Sat Flow(s),veh/h/ln	1697	1692	1748	1697	1692	1751	1697	1692	1510	1697	1692	1510
Q Serve(g_s), s	2.1	21.2	21.2	0.8	2.6	2.6	4.5	1.5	0.4	6.5	11.0	3.0
Cycle Q Clear(g_c), s	2.1	21.2	21.2	0.8	2.6	2.6	4.5	1.5	0.4	6.5	11.0	3.0
Prop In Lane	1.00		0.11	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	61	636	657	96	671	694	108	671	299	157	767	342
V/C Ratio(X)	0.82	0.87	0.87	0.21	0.15	0.15	1.66	0.13	0.03	1.02	0.74	0.23
Avail Cap(c_a), veh/h	227	757	782	747	1277	1321	108	1515	676	157	1611	719
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.7	20.3	20.3	31.7	13.6	13.6	32.9	23.2	22.8	31.9	25.3	22.2
Incr Delay (d2), s/veh	9.4	9.1	8.9	0.4	0.1	0.1	333.9	0.1	0.0	77.6	1.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	8.9	9.1	0.3	0.9	0.9	11.8	0.6	0.1	5.9	4.3	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	29.4	29.2	32.1	13.7	13.7	366.8	23.3	22.8	109.5	26.8	22.6
LnGrp LOS	D	C	C	C	B	B	F	C	C	F	C	C
Approach Vol, veh/h		1170			220			280			810	
Approach Delay, s/veh		29.9			15.4			244.1			42.7	
Approach LOS		C			B			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	33.4	11.0	19.0	8.5	32.0	9.0	21.0
Change Period (Y+Rc), s	4.5	5.5	4.5	5.0	4.5	5.5	4.5	5.0
Max Green Setting (Gmax), s	9.4	53.1	6.5	31.5	31.0	31.5	4.5	33.5
Max Q Clear Time (g_c+I1), s	4.1	4.6	8.5	3.5	2.8	23.2	6.5	13.0
Green Ext Time (p_c), s	0.0	0.7	0.0	0.4	0.0	3.2	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	57.0
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	50	10	130	20	20	10	240	200	90	420	30
Future Volume (veh/h)	10	50	10	130	20	20	10	240	200	90	420	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	50	10	130	20	20	10	240	200	90	420	30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	35	226	45	227	220	220	35	421	337	194	1054	75
Arrive On Green	0.02	0.16	0.16	0.13	0.27	0.27	0.02	0.24	0.24	0.11	0.33	0.33
Sat Flow, veh/h	1697	1441	288	1697	817	817	1697	1788	1429	1697	3205	228
Grp Volume(v), veh/h	10	0	60	130	0	40	10	227	213	90	221	229
Grp Sat Flow(s),veh/h/ln	1697	0	1730	1697	0	1634	1697	1692	1524	1697	1692	1740
Q Serve(g_s), s	0.3	0.0	1.5	3.6	0.0	0.9	0.3	5.9	6.2	2.5	5.0	5.1
Cycle Q Clear(g_c), s	0.3	0.0	1.5	3.6	0.0	0.9	0.3	5.9	6.2	2.5	5.0	5.1
Prop In Lane	1.00		0.17	1.00		0.50	1.00		0.94	1.00		0.13
Lane Grp Cap(c), veh/h	35	0	271	227	0	441	35	399	359	194	557	573
V/C Ratio(X)	0.28	0.00	0.22	0.57	0.00	0.09	0.28	0.57	0.59	0.46	0.40	0.40
Avail Cap(c_a), veh/h	271	0	969	390	0	1030	271	812	732	288	829	853
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.1	0.0	18.4	20.3	0.0	13.7	24.1	16.9	17.0	20.7	12.9	13.0
Incr Delay (d2), s/veh	1.6	0.0	0.2	0.8	0.0	0.0	1.6	2.2	2.7	0.6	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.6	1.3	0.0	0.3	0.1	2.1	2.1	0.9	1.6	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.7	0.0	18.6	21.2	0.0	13.7	25.7	19.0	19.7	21.4	13.7	13.7
LnGrp LOS	C	A	B	C	A	B	C	B	B	C	B	B
Approach Vol, veh/h		70			170			450			540	
Approach Delay, s/veh		19.6			19.4			19.5			15.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	16.3	11.2	12.3	5.5	20.9	5.5	18.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	24.0	11.5	28.0	8.0	24.5	8.0	31.5
Max Q Clear Time (g_c+I1), s	4.5	8.2	5.6	3.5	2.3	7.1	2.3	2.9
Green Ext Time (p_c), s	0.0	3.6	0.0	0.1	0.0	3.7	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	600	60	30	60	120	20	160	40	210	250	90
Future Volume (veh/h)	160	600	60	30	60	120	20	160	40	210	250	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	160	600	60	30	60	120	20	160	40	210	250	90
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	212	854	85	173	684	305	64	684	305	255	773	271
Arrive On Green	0.13	0.27	0.27	0.05	0.20	0.20	0.04	0.20	0.20	0.15	0.31	0.31
Sat Flow, veh/h	1697	3108	310	3291	3385	1510	1697	3385	1510	1697	2457	862
Grp Volume(v), veh/h	160	326	334	30	60	120	20	160	40	210	170	170
Grp Sat Flow(s),veh/h/ln	1697	1692	1726	1646	1692	1510	1697	1692	1510	1697	1692	1626
Q Serve(g_s), s	5.4	10.3	10.3	0.5	0.9	4.1	0.7	2.3	1.3	7.1	4.5	4.7
Cycle Q Clear(g_c), s	5.4	10.3	10.3	0.5	0.9	4.1	0.7	2.3	1.3	7.1	4.5	4.7
Prop In Lane	1.00		0.18	1.00		1.00	1.00		1.00	1.00		0.53
Lane Grp Cap(c), veh/h	212	465	474	173	684	305	64	684	305	255	533	512
V/C Ratio(X)	0.75	0.70	0.70	0.17	0.09	0.39	0.31	0.23	0.13	0.82	0.32	0.33
Avail Cap(c_a), veh/h	332	1158	1180	444	2110	941	229	2127	949	432	1266	1216
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.1	19.3	19.4	26.9	19.2	20.5	27.8	19.8	19.4	24.4	15.5	15.6
Incr Delay (d2), s/veh	2.0	2.3	2.3	0.2	0.1	1.0	1.0	0.2	0.2	2.5	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	3.8	3.9	0.2	0.3	1.4	0.3	0.8	0.4	2.7	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.1	21.7	21.7	27.1	19.3	21.5	28.8	20.0	19.6	27.0	15.9	16.0
LnGrp LOS	C	C	C	C	B	C	C	C	B	C	B	B
Approach Vol, veh/h		820			210			220			550	
Approach Delay, s/veh		22.7			21.7			20.8			20.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	17.0	7.6	21.3	6.7	23.7	11.9	17.0
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	15.1	37.3	8.0	40.6	8.0	44.4	11.6	37.0
Max Q Clear Time (g_c+I1), s	9.1	4.3	2.5	12.3	2.7	6.7	7.4	6.1
Green Ext Time (p_c), s	0.1	1.0	0.0	3.4	0.0	1.7	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	21.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	30	10	50	20	60	10	130	190	120	170	70
Future Volume (veh/h)	10	30	10	50	20	60	10	130	190	120	170	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	30	10	50	20	60	10	130	190	120	170	70
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	27	152	51	110	300	254	27	371	331	194	752	298
Arrive On Green	0.02	0.12	0.12	0.07	0.17	0.17	0.02	0.22	0.22	0.11	0.32	0.32
Sat Flow, veh/h	1697	1279	426	1697	1781	1510	1697	1692	1510	1697	2368	937
Grp Volume(v), veh/h	10	0	40	50	20	60	10	130	190	120	120	120
Grp Sat Flow(s),veh/h/ln	1697	0	1705	1697	1781	1510	1697	1692	1510	1697	1692	1613
Q Serve(g_s), s	0.2	0.0	0.8	1.1	0.4	1.3	0.2	2.4	4.2	2.5	1.9	2.1
Cycle Q Clear(g_c), s	0.2	0.0	0.8	1.1	0.4	1.3	0.2	2.4	4.2	2.5	1.9	2.1
Prop In Lane	1.00		0.25	1.00		1.00	1.00		1.00	1.00		0.58
Lane Grp Cap(c), veh/h	27	0	203	110	300	254	27	371	331	194	537	512
V/C Ratio(X)	0.37	0.00	0.20	0.45	0.07	0.24	0.37	0.35	0.57	0.62	0.22	0.24
Avail Cap(c_a), veh/h	273	0	1371	273	1433	1214	273	1189	1060	446	1361	1297
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.2	0.0	14.8	16.8	13.1	13.4	18.2	12.3	13.0	15.7	9.3	9.4
Incr Delay (d2), s/veh	3.1	0.0	0.6	1.1	0.1	0.6	3.1	0.7	1.9	1.2	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.3	0.4	0.1	0.4	0.1	0.7	1.2	0.8	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.3	0.0	15.4	17.9	13.2	14.0	21.3	13.0	14.9	16.9	9.6	9.7
LnGrp LOS	C	A	B	B	B	B	C	B	B	B	A	A
Approach Vol, veh/h		50			130			330			360	
Approach Delay, s/veh		16.6			15.4			14.4			12.1	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	12.7	6.9	8.9	5.1	16.3	5.1	10.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.8	26.2	6.0	30.0	6.0	30.0	6.0	30.0
Max Q Clear Time (g_c+I1), s	4.5	6.2	3.1	2.8	2.2	4.1	2.2	3.3
Green Ext Time (p_c), s	0.0	2.0	0.0	0.2	0.0	1.5	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	13.7
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection						
Int Delay, s/veh	0.5					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	10	320	10	10	220
Future Vol, veh/h	10	10	320	10	10	220
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	8	8	8	8	8	8
Mvmt Flow	10	10	320	10	10	220

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	455	165	0	0	330	0
Stage 1	325	-	-	-	-	-
Stage 2	130	-	-	-	-	-
Critical Hdwy	6.96	7.06	-	-	4.26	-
Critical Hdwy Stg 1	5.96	-	-	-	-	-
Critical Hdwy Stg 2	5.96	-	-	-	-	-
Follow-up Hdwy	3.58	3.38	-	-	2.28	-
Pot Cap-1 Maneuver	519	832	-	-	1184	-
Stage 1	687	-	-	-	-	-
Stage 2	864	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	515	832	-	-	1184	-
Mov Cap-2 Maneuver	515	-	-	-	-	-
Stage 1	687	-	-	-	-	-
Stage 2	857	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	636	1184	-
HCM Lane V/C Ratio	-	-	0.031	0.008	-
HCM Control Delay (s)	-	-	10.8	8.1	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	1570	10	10	350	60	10	10	30	40	10	190
Future Volume (veh/h)	270	1570	10	10	350	60	10	10	30	40	10	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	270	1570	10	10	350	60	10	10	30	40	10	190
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	416	1915	12	18	1488	664	103	31	72	58	346	293
Arrive On Green	0.13	0.56	0.56	0.01	0.44	0.44	0.08	0.08	0.08	0.03	0.19	0.19
Sat Flow, veh/h	3291	3448	22	1697	3385	1510	210	390	899	1697	1781	1510
Grp Volume(v), veh/h	270	770	810	10	350	60	50	0	0	40	10	190
Grp Sat Flow(s),veh/h/ln	1646	1692	1777	1697	1692	1510	1498	0	0	1697	1781	1510
Q Serve(g_s), s	3.9	18.6	18.6	0.3	3.2	1.2	0.4	0.0	0.0	1.2	0.2	5.8
Cycle Q Clear(g_c), s	3.9	18.6	18.6	0.3	3.2	1.2	1.5	0.0	0.0	1.2	0.2	5.8
Prop In Lane	1.00		0.01	1.00		1.00	0.20		0.60	1.00		1.00
Lane Grp Cap(c), veh/h	416	940	987	18	1488	664	206	0	0	58	346	293
V/C Ratio(X)	0.65	0.82	0.82	0.57	0.24	0.09	0.24	0.00	0.00	0.69	0.03	0.65
Avail Cap(c_a), veh/h	790	1286	1351	136	2031	906	614	0	0	136	926	785
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	9.1	9.1	24.6	8.8	8.2	21.8	0.0	0.0	23.9	16.3	18.6
Incr Delay (d2), s/veh	1.7	3.1	3.0	25.7	0.1	0.1	0.6	0.0	0.0	13.7	0.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	4.5	4.7	0.2	0.8	0.3	0.5	0.0	0.0	0.7	0.1	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.5	12.2	12.1	50.3	8.8	8.2	22.4	0.0	0.0	37.6	16.4	21.0
LnGrp LOS	C	B	B	D	A	A	C	A	A	D	B	C
Approach Vol, veh/h		1850			420			50			240	
Approach Delay, s/veh		13.6			9.7			22.4			23.6	
Approach LOS		B			A			C			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	5.7	8.0	4.5	31.8		13.7	10.3	26.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s	4.0	18.0	4.0	38.0		26.0	12.0	30.0				
Max Q Clear Time (g_c+I1), s	3.2	3.5	2.3	20.6		7.8	5.9	5.2				
Green Ext Time (p_c), s	0.0	0.1	0.0	7.2		0.8	0.6	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			14.1									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1190	30	70	560	10	80	30	20	10	370	10
Future Volume (veh/h)	10	1190	30	70	560	10	80	30	20	10	370	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	1190	30	70	560	10	80	30	20	10	370	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	523	1600	40	75	697	12	101	276	184	17	405	343
Arrive On Green	0.31	0.47	0.47	0.04	0.20	0.20	0.06	0.28	0.28	0.01	0.23	0.23
Sat Flow, veh/h	1697	3373	85	1697	3402	61	1697	997	665	1697	1781	1510
Grp Volume(v), veh/h	10	597	623	70	278	292	80	0	50	10	370	10
Grp Sat Flow(s),veh/h/ln	1697	1692	1766	1697	1692	1771	1697	0	1662	1697	1781	1510
Q Serve(g_s), s	0.4	25.8	25.8	3.7	14.1	14.1	4.2	0.0	2.0	0.5	18.2	0.5
Cycle Q Clear(g_c), s	0.4	25.8	25.8	3.7	14.1	14.1	4.2	0.0	2.0	0.5	18.2	0.5
Prop In Lane	1.00		0.05	1.00		0.03	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	523	803	838	75	347	363	101	0	460	17	405	343
V/C Ratio(X)	0.02	0.74	0.74	0.93	0.80	0.80	0.79	0.00	0.11	0.60	0.91	0.03
Avail Cap(c_a), veh/h	523	803	838	75	743	777	123	0	462	75	445	377
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.97	0.97	0.97	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	19.2	19.2	42.9	34.1	34.1	41.8	0.0	24.2	44.4	33.9	27.0
Incr Delay (d2), s/veh	0.0	6.2	5.9	76.9	17.2	16.7	20.2	0.0	0.0	12.1	21.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	10.8	11.3	3.1	7.3	7.6	2.3	0.0	0.8	0.3	10.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.7	25.4	25.2	119.8	51.3	50.7	62.0	0.0	24.3	56.5	54.9	27.1
LnGrp LOS	C	C	C	F	D	D	E	A	C	E	D	C
Approach Vol, veh/h		1230			640			130			390	
Approach Delay, s/veh		25.2			58.5			47.5			54.2	
Approach LOS		C			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	32.3	22.9	9.9	25.0	8.0	47.2	5.4	29.4
Change Period (Y+Rc), s	4.5	* 4.5	4.5	4.5	4.0	4.5	4.5	4.5
Max Green Setting (Gmax), s	4.0	* 40	6.5	22.5	4.0	39.5	4.0	25.0
Max Q Clear Time (g_c+I1), s	2.4	16.1	6.2	20.2	5.7	27.8	2.5	4.0
Green Ext Time (p_c), s	0.0	2.3	0.0	0.2	0.0	4.6	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	40.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	1180	10	60	190	10	10	60	110	30	70	40
Future Volume (veh/h)	40	1180	10	60	190	10	10	60	110	30	70	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	40	1180	10	60	190	10	10	60	110	30	70	40
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	84	1511	13	111	1488	78	26	84	154	68	185	106
Arrive On Green	0.05	0.44	0.44	0.07	0.45	0.45	0.02	0.15	0.15	0.04	0.17	0.17
Sat Flow, veh/h	1697	3439	29	1697	3272	171	1697	563	1032	1697	1064	608
Grp Volume(v), veh/h	40	581	609	60	98	102	10	0	170	30	0	110
Grp Sat Flow(s),veh/h/ln	1697	1692	1776	1697	1692	1751	1697	0	1596	1697	0	1672
Q Serve(g_s), s	1.3	16.3	16.3	1.9	1.9	1.9	0.3	0.0	5.6	1.0	0.0	3.2
Cycle Q Clear(g_c), s	1.3	16.3	16.3	1.9	1.9	1.9	0.3	0.0	5.6	1.0	0.0	3.2
Prop In Lane	1.00		0.02	1.00		0.10	1.00		0.65	1.00		0.36
Lane Grp Cap(c), veh/h	84	744	780	111	770	796	26	0	238	68	0	291
V/C Ratio(X)	0.47	0.78	0.78	0.54	0.13	0.13	0.38	0.00	0.71	0.44	0.00	0.38
Avail Cap(c_a), veh/h	183	1064	1116	183	1064	1100	183	0	750	183	0	786
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.7	13.3	13.3	25.1	8.8	8.8	27.1	0.0	22.5	26.0	0.0	20.3
Incr Delay (d2), s/veh	1.5	2.8	2.6	1.5	0.1	0.1	3.4	0.0	4.8	1.7	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	5.3	5.5	0.7	0.5	0.6	0.1	0.0	2.3	0.4	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	16.0	15.9	26.7	8.8	8.8	30.4	0.0	27.2	27.7	0.0	21.3
LnGrp LOS	C	B	B	C	A	A	C	A	C	C	A	C
Approach Vol, veh/h		1230			260			180			140	
Approach Delay, s/veh		16.3			13.0			27.4			22.6	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.8	29.8	4.9	14.1	7.6	28.9	6.2	12.8
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	6.0	34.9	6.0	26.1	6.0	34.9	6.0	26.1
Max Q Clear Time (g_c+I1), s	3.3	3.9	2.3	5.2	3.9	18.3	3.0	7.6
Green Ext Time (p_c), s	0.0	0.9	0.0	0.4	0.0	6.1	0.0	0.7

Intersection Summary			
HCM 6th Ctrl Delay			17.4
HCM 6th LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	670	90	50	230	30	20	10	430	590	10	10	10
Future Volume (veh/h)	670	90	50	230	30	20	10	430	590	10	10	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	670	90	50	230	30	20	10	430	590	10	10	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	815	604	335	729	559	373	525	566	480	162	566	480
Arrive On Green	0.56	0.56	0.56	0.56	0.56	0.56	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1290	1076	598	1189	997	665	1326	1781	1510	527	1781	1510
Grp Volume(v), veh/h	670	0	140	230	0	50	10	430	590	10	10	10
Grp Sat Flow(s),veh/h/ln	1290	0	1674	1189	0	1662	1326	1781	1510	527	1781	1510
Q Serve(g_s), s	32.3	0.0	2.6	7.6	0.0	0.9	0.3	14.3	21.0	1.2	0.3	0.3
Cycle Q Clear(g_c), s	33.2	0.0	2.6	10.2	0.0	0.9	0.6	14.3	21.0	15.5	0.3	0.3
Prop In Lane	1.00		0.36	1.00		0.40	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	815	0	939	729	0	932	525	566	480	162	566	480
V/C Ratio(X)	0.82	0.00	0.15	0.32	0.00	0.05	0.02	0.76	1.23	0.06	0.02	0.02
Avail Cap(c_a), veh/h	892	0	1039	799	0	1031	525	566	480	162	566	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.1	0.0	6.9	9.4	0.0	6.6	15.7	20.3	22.5	27.2	15.5	15.5
Incr Delay (d2), s/veh	5.8	0.0	0.1	0.2	0.0	0.0	0.0	5.9	120.6	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	0.0	0.8	1.7	0.0	0.3	0.1	6.1	22.5	0.1	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.9	0.0	7.0	9.6	0.0	6.6	15.7	26.2	143.1	27.4	15.5	15.5
LnGrp LOS	B	A	A	A	A	A	B	C	F	C	B	B
Approach Vol, veh/h		810			280			1030			30	
Approach Delay, s/veh		17.6			9.1			93.1			19.5	
Approach LOS		B			A			F			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.0		41.1		25.0		41.1				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		21.0		41.0		21.0		41.0				
Max Q Clear Time (g_c+I1), s		23.0		35.2		17.5		12.2				
Green Ext Time (p_c), s		0.0		1.9		0.0		1.1				
Intersection Summary												
HCM 6th Ctrl Delay			52.7									
HCM 6th LOS			D									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	10	70	10	360	1010	0	0	220	70
Future Volume (veh/h)	0	0	0	10	70	10	360	1010	0	0	220	70
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1781	1781	1781	1781	0	0	1781	1781
Adj Flow Rate, veh/h				10	70	10	360	1010	0	0	220	70
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				8	8	8	8	8	0	0	8	8
Cap, veh/h				17	116	17	621	1128	0	0	522	442
Arrive On Green				0.09	0.09	0.09	0.19	0.63	0.00	0.00	0.29	0.29
Sat Flow, veh/h				193	1351	193	3291	1781	0	0	1781	1510
Grp Volume(v), veh/h				90	0	0	360	1010	0	0	220	70
Grp Sat Flow(s),veh/h/ln				1737	0	0	1646	1781	0	0	1781	1510
Q Serve(g_s), s				1.6	0.0	0.0	3.2	15.5	0.0	0.0	3.2	1.1
Cycle Q Clear(g_c), s				1.6	0.0	0.0	3.2	15.5	0.0	0.0	3.2	1.1
Prop In Lane				0.11		0.11	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				149	0	0	621	1128	0	0	522	442
V/C Ratio(X)				0.60	0.00	0.00	0.58	0.90	0.00	0.00	0.42	0.16
Avail Cap(c_a), veh/h				687	0	0	2247	5399	0	0	3913	3316
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				14.3	0.0	0.0	12.0	5.0	0.0	0.0	9.2	8.5
Incr Delay (d2), s/veh				1.5	0.0	0.0	0.6	1.1	0.0	0.0	0.2	0.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.5	0.0	0.0	0.9	0.3	0.0	0.0	0.8	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				15.7	0.0	0.0	12.6	6.1	0.0	0.0	9.4	8.5
LnGrp LOS				B	A	A	B	A	A	A	A	A
Approach Vol, veh/h					90			1370			290	
Approach Delay, s/veh					15.7			7.8			9.2	
Approach LOS					B			A			A	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		25.4			11.0	14.4		7.0				
Change Period (Y+Rc), s		4.9			4.9	4.9		4.2				
Max Green Setting (Gmax), s		98.1			22.1	71.1		12.8				
Max Q Clear Time (g_c+I1), s		17.5			5.2	5.2		3.6				
Green Ext Time (p_c), s		3.0			1.1	0.3		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		8.4
HCM 6th LOS		A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	960	0	1400	0	0	0	0	410	220	100	120	0
Future Volume (veh/h)	960	0	1400	0	0	0	0	410	220	100	120	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	0	1781				0	1781	1781	1781	1781	0
Adj Flow Rate, veh/h	960	0	1400				0	410	220	100	120	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	0	8				0	8	8	8	8	0
Cap, veh/h	1162	0	1034				0	553	246	71	425	0
Arrive On Green	0.69	0.00	0.69				0.00	0.16	0.16	0.04	0.24	0.00
Sat Flow, veh/h	1697	0	1510				0	3474	1510	1697	1781	0
Grp Volume(v), veh/h	960	0	1400				0	410	220	100	120	0
Grp Sat Flow(s),veh/h/ln	1697	0	1510				0	1692	1510	1697	1781	0
Q Serve(g_s), s	49.0	0.0	81.8				0.0	13.8	17.0	5.0	6.6	0.0
Cycle Q Clear(g_c), s	49.0	0.0	81.8				0.0	13.8	17.0	5.0	6.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1162	0	1034				0	553	246	71	425	0
V/C Ratio(X)	0.83	0.00	1.35				0.00	0.74	0.89	1.41	0.28	0.00
Avail Cap(c_a), veh/h	1162	0	1034				0	570	254	71	434	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.6	0.0	18.8				0.0	47.6	48.9	57.2	37.1	0.0
Incr Delay (d2), s/veh	4.7	0.0	165.5				0.0	5.5	30.4	248.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.7	0.0	71.6				0.0	6.1	8.4	7.0	2.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.3	0.0	184.3				0.0	53.0	79.3	305.2	37.6	0.0
LnGrp LOS	B	A	F				A	D	E	F	D	A
Approach Vol, veh/h		2360						630			220	
Approach Delay, s/veh		116.8						62.2			159.3	
Approach LOS		F						E			F	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	9.0	24.4	86.0	33.4
Change Period (Y+Rc), s	4.0	4.9	* 4.2	4.9
Max Green Setting (Gmax), s	5.0	20.1	* 82	29.1
Max Q Clear Time (g_c+I1), s	7.0	19.0	83.8	8.6
Green Ext Time (p_c), s	0.0	0.4	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	109.0
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	10	20	80	20	170	50	410	130	610	790	120
Future Volume (veh/h)	50	10	20	80	20	170	50	410	130	610	790	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	50	10	20	80	20	170	50	410	130	610	790	120
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	123	95	191	158	357	303	123	767	342	726	1268	566
Arrive On Green	0.07	0.18	0.18	0.09	0.20	0.20	0.07	0.23	0.23	0.22	0.37	0.37
Sat Flow, veh/h	1697	530	1060	1697	1781	1510	1697	3385	1510	3291	3385	1510
Grp Volume(v), veh/h	50	0	30	80	20	170	50	410	130	610	790	120
Grp Sat Flow(s),veh/h/ln	1697	0	1591	1697	1781	1510	1697	1692	1510	1646	1692	1510
Q Serve(g_s), s	1.9	0.0	1.0	3.0	0.6	6.7	1.9	7.1	4.8	11.7	12.6	3.6
Cycle Q Clear(g_c), s	1.9	0.0	1.0	3.0	0.6	6.7	1.9	7.1	4.8	11.7	12.6	3.6
Prop In Lane	1.00		0.67	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	123	0	286	158	357	303	123	767	342	726	1268	566
V/C Ratio(X)	0.41	0.00	0.10	0.51	0.06	0.56	0.41	0.53	0.38	0.84	0.62	0.21
Avail Cap(c_a), veh/h	205	0	817	205	915	776	233	1432	639	1069	2066	922
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	0.0	22.7	28.6	21.4	23.8	29.3	22.5	21.7	24.7	16.9	14.1
Incr Delay (d2), s/veh	0.8	0.0	0.2	0.9	0.0	0.6	0.8	0.8	1.0	2.6	0.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.4	1.2	0.2	2.3	0.7	2.6	1.7	4.4	4.3	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.1	0.0	22.8	29.5	21.4	24.4	30.1	23.3	22.6	27.3	17.6	14.3
LnGrp LOS	C	A	C	C	C	C	C	C	C	C	B	B
Approach Vol, veh/h		80			270			590			1520	
Approach Delay, s/veh		27.4			25.7			23.8			21.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.1	20.0	10.7	16.4	9.3	29.8	9.3	17.8
Change Period (Y+Rc), s	4.5	5.0	4.5	4.5	4.5	5.0	4.5	4.5
Max Green Setting (Gmax), s	21.5	28.0	8.0	34.0	9.1	40.4	8.0	34.0
Max Q Clear Time (g_c+I1), s	13.7	9.1	5.0	3.0	3.9	14.6	3.9	8.7
Green Ext Time (p_c), s	0.9	4.0	0.0	0.1	0.0	8.6	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	22.5
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	290	1480	20	70	450	130	40	160	90	530	310	60
Future Volume (veh/h)	290	1480	20	70	450	130	40	160	90	530	310	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	290	1480	20	70	450	130	40	160	90	530	310	60
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	211	1414	19	89	1158	829	69	245	131	351	951	424
Arrive On Green	0.12	0.41	0.41	0.05	0.34	0.34	0.04	0.12	0.12	0.21	0.28	0.28
Sat Flow, veh/h	1697	3419	46	1697	3385	1510	1697	2131	1138	1697	3385	1510
Grp Volume(v), veh/h	290	732	768	70	450	130	40	125	125	530	310	60
Grp Sat Flow(s),veh/h/ln	1697	1692	1773	1697	1692	1510	1697	1692	1577	1697	1692	1510
Q Serve(g_s), s	12.0	40.0	40.0	3.9	9.8	4.1	2.2	6.8	7.3	20.0	7.0	2.9
Cycle Q Clear(g_c), s	12.0	40.0	40.0	3.9	9.8	4.1	2.2	6.8	7.3	20.0	7.0	2.9
Prop In Lane	1.00		0.03	1.00		1.00	1.00		0.72	1.00		1.00
Lane Grp Cap(c), veh/h	211	700	733	89	1158	829	69	195	181	351	951	424
V/C Ratio(X)	1.38	1.05	1.05	0.78	0.39	0.16	0.58	0.64	0.69	1.51	0.33	0.14
Avail Cap(c_a), veh/h	211	700	733	105	1190	843	123	586	546	351	1627	726
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	28.4	28.4	45.3	24.1	10.8	45.6	40.9	41.1	38.4	27.5	26.0
Incr Delay (d2), s/veh	196.8	46.6	46.2	22.8	0.4	0.1	2.8	6.0	7.7	244.0	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.5	24.4	25.5	2.2	3.9	1.3	1.0	3.1	3.2	31.9	2.8	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	239.2	74.9	74.6	68.1	24.5	10.9	48.4	46.9	48.8	282.4	27.9	26.3
LnGrp LOS	F	F	F	E	C	B	D	D	D	F	C	C
Approach Vol, veh/h		1790			650			290			900	
Approach Delay, s/veh		101.4			26.5			47.9			177.6	
Approach LOS		F			C			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	16.6	10.1	45.0	9.0	32.7	17.0	38.1
Change Period (Y+Rc), s	5.0	5.5	5.0	5.0	5.0	5.5	5.0	5.0
Max Green Setting (Gmax), s	20.0	33.5	6.0	40.0	7.0	46.5	12.0	34.0
Max Q Clear Time (g_c+I1), s	22.0	9.3	5.9	42.0	4.2	9.0	14.0	11.8
Green Ext Time (p_c), s	0.0	1.8	0.0	0.0	0.0	3.2	0.0	4.7

Intersection Summary	
HCM 6th Ctrl Delay	102.6
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	1790	10	10	690	80	10	70	10	270	250	40
Future Volume (veh/h)	40	1790	10	10	690	80	10	70	10	270	250	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	40	1790	10	10	690	80	10	70	10	270	250	40
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	88	1901	848	16	1743	777	16	276	39	303	766	121
Arrive On Green	0.05	0.56	0.56	0.01	0.51	0.51	0.01	0.09	0.09	0.18	0.26	0.26
Sat Flow, veh/h	1697	3385	1510	1697	3385	1510	1697	2981	417	1697	2928	462
Grp Volume(v), veh/h	40	1790	10	10	690	80	10	39	41	270	143	147
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1697	1692	1510	1697	1692	1706	1697	1692	1698
Q Serve(g_s), s	2.5	53.1	0.3	0.6	13.4	2.9	0.6	2.3	2.4	16.8	7.4	7.6
Cycle Q Clear(g_c), s	2.5	53.1	0.3	0.6	13.4	2.9	0.6	2.3	2.4	16.8	7.4	7.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.24	1.00		0.27
Lane Grp Cap(c), veh/h	88	1901	848	16	1743	777	16	157	158	303	443	444
V/C Ratio(X)	0.46	0.94	0.01	0.61	0.40	0.10	0.61	0.25	0.26	0.89	0.32	0.33
Avail Cap(c_a), veh/h	126	1975	881	63	1834	818	63	188	190	377	502	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.7	22.0	10.4	53.3	16.0	13.4	53.3	45.5	45.5	43.3	32.2	32.2
Incr Delay (d2), s/veh	1.4	9.5	0.0	32.1	0.1	0.1	32.1	0.3	0.3	19.3	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	21.6	0.1	0.4	5.0	1.0	0.4	1.0	1.0	8.7	3.1	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.1	31.5	10.4	85.3	16.1	13.5	85.3	45.8	45.9	62.6	32.3	32.4
LnGrp LOS	D	C	B	F	B	B	F	D	D	E	C	C
Approach Vol, veh/h		1840			780			90			560	
Approach Delay, s/veh		31.9			16.7			50.2			47.0	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	65.2	5.0	32.7	10.1	60.1	23.3	14.5
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.5	4.5	4.0	4.5
Max Green Setting (Gmax), s	4.0	63.0	4.0	32.0	8.0	58.5	24.0	12.0
Max Q Clear Time (g_c+I1), s	2.6	55.1	2.6	9.6	4.5	15.4	18.8	4.4
Green Ext Time (p_c), s	0.0	5.5	0.0	1.1	0.0	3.9	0.5	0.1

Intersection Summary	
HCM 6th Ctrl Delay	31.3
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1540	10	90	640	0	10	0	300	0	0	0
Future Volume (veh/h)	0	1540	10	90	640	0	10	0	300	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	0	1540	0	90	640	0	10	0	300	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	2	1802		113	2225	0	384	0	341	0	2	0
Arrive On Green	0.00	0.53	0.00	0.07	0.66	0.00	0.23	0.00	0.23	0.00	0.00	0.00
Sat Flow, veh/h	1697	3385	1510	1697	3474	0	1697	0	1510	0	1781	0
Grp Volume(v), veh/h	0	1540	0	90	640	0	10	0	300	0	0	0
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1697	1692	0	1697	0	1510	0	1781	0
Q Serve(g_s), s	0.0	30.2	0.0	4.0	6.2	0.0	0.4	0.0	14.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	30.2	0.0	4.0	6.2	0.0	0.4	0.0	14.8	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	2	1802		113	2225	0	384	0	341	0	2	0
V/C Ratio(X)	0.00	0.85		0.79	0.29	0.00	0.03	0.00	0.88	0.00	0.00	0.00
Avail Cap(c_a), veh/h	132	2233		143	2255	0	494	0	439	0	507	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	15.5	0.0	35.5	5.6	0.0	23.3	0.0	28.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.9	0.0	16.6	0.1	0.0	0.0	0.0	15.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	11.2	0.0	2.1	1.7	0.0	0.1	0.0	6.5	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	18.4	0.0	52.1	5.7	0.0	23.3	0.0	43.9	0.0	0.0	0.0
LnGrp LOS	A	B		D	A	A	C	A	D	A	A	A
Approach Vol, veh/h		1540	A		730			310			0	
Approach Delay, s/veh		18.4			11.4			43.3			0.0	
Approach LOS		B			B			D				
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	45.7		0.0	0.0	55.3		22.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	6.5	51.0		22.0	6.0	51.5		22.5				
Max Q Clear Time (g_c+I1), s	6.0	32.2		0.0	0.0	8.2		16.8				
Green Ext Time (p_c), s	0.0	9.0		0.0	0.0	3.2		0.7				

Intersection Summary		
HCM 6th Ctrl Delay		19.4
HCM 6th LOS		B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	8.2					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	300	10	10	10	10	90
Future Vol, veh/h	300	10	10	10	10	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	8	8	8	8	8	8
Mvmt Flow	300	10	10	10	10	90

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	85	55	100	0	-	0
Stage 1	55	-	-	-	-	-
Stage 2	30	-	-	-	-	-
Critical Hdwy	6.48	6.28	4.18	-	-	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	2.272	-	-	-
Pot Cap-1 Maneuver	902	995	1456	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	977	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	896	995	1456	-	-	-
Mov Cap-2 Maneuver	896	-	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	977	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.1	3.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1456	-	899	-	-
HCM Lane V/C Ratio	0.007	-	0.345	-	-
HCM Control Delay (s)	7.5	0	11.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	1.5	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	510	80	70	70	10	10	70	80	90	530	10
Future Volume (veh/h)	10	510	80	70	70	10	10	70	80	90	530	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	10	510	80	70	70	10	10	70	80	90	530	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	17	586	92	88	659	94	17	520	440	115	609	11
Arrive On Green	0.01	0.39	0.39	0.05	0.43	0.43	0.01	0.29	0.29	0.07	0.35	0.35
Sat Flow, veh/h	1697	1503	236	1697	1524	218	1697	1781	1510	1697	1743	33
Grp Volume(v), veh/h	10	0	590	70	0	80	10	70	80	90	0	540
Grp Sat Flow(s),veh/h/ln	1697	0	1739	1697	0	1742	1697	1781	1510	1697	0	1776
Q Serve(g_s), s	0.5	0.0	25.3	3.3	0.0	2.2	0.5	2.3	3.2	4.2	0.0	22.9
Cycle Q Clear(g_c), s	0.5	0.0	25.3	3.3	0.0	2.2	0.5	2.3	3.2	4.2	0.0	22.9
Prop In Lane	1.00		0.14	1.00		0.13	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	17	0	678	88	0	753	17	520	440	115	0	621
V/C Ratio(X)	0.59	0.00	0.87	0.79	0.00	0.11	0.59	0.13	0.18	0.78	0.00	0.87
Avail Cap(c_a), veh/h	84	0	1013	147	0	1079	84	817	692	273	0	1012
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.8	0.0	22.7	37.8	0.0	13.6	39.8	21.1	21.4	37.0	0.0	24.5
Incr Delay (d2), s/veh	28.9	0.0	5.6	14.5	0.0	0.1	28.9	0.1	0.2	11.0	0.0	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	10.9	1.7	0.0	0.8	0.3	0.9	1.1	2.0	0.0	9.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.7	0.0	28.3	52.3	0.0	13.7	68.7	21.2	21.6	48.0	0.0	29.4
LnGrp LOS	E	A	C	D	A	B	E	C	C	D	A	C
Approach Vol, veh/h		600			150			160			630	
Approach Delay, s/veh		29.0			31.7			24.3			32.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	27.5	8.2	35.5	4.8	32.2	4.8	38.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	13.0	37.0	7.0	47.0	4.0	46.0	4.0	50.0
Max Q Clear Time (g_c+I1), s	6.2	5.2	5.3	27.3	2.5	24.9	2.5	4.2
Green Ext Time (p_c), s	0.1	0.6	0.0	4.2	0.0	3.3	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	30.0
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	1030	120	20	160	50	60	70	50	240	420	10
Future Volume (veh/h)	40	1030	120	20	160	50	60	70	50	240	420	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	40	1030	120	20	160	50	60	70	50	240	420	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	53	1222	545	174	1493	666	131	173	113	284	759	18
Arrive On Green	0.03	0.36	0.36	0.10	0.44	0.44	0.04	0.09	0.09	0.17	0.22	0.22
Sat Flow, veh/h	1697	3385	1510	1697	3385	1510	3291	1962	1281	1697	3379	80
Grp Volume(v), veh/h	40	1030	120	20	160	50	60	59	61	240	210	220
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1697	1692	1510	1646	1692	1551	1697	1692	1767
Q Serve(g_s), s	1.6	19.0	3.8	0.7	1.9	1.3	1.2	2.3	2.5	9.3	7.5	7.5
Cycle Q Clear(g_c), s	1.6	19.0	3.8	0.7	1.9	1.3	1.2	2.3	2.5	9.3	7.5	7.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.83	1.00		0.05
Lane Grp Cap(c), veh/h	53	1222	545	174	1493	666	131	149	137	284	380	397
V/C Ratio(X)	0.76	0.84	0.22	0.12	0.11	0.08	0.46	0.40	0.44	0.85	0.55	0.55
Avail Cap(c_a), veh/h	150	1374	613	175	1493	666	242	573	525	334	794	829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	19.9	15.1	27.7	11.1	11.0	31.9	29.3	29.4	27.4	23.3	23.3
Incr Delay (d2), s/veh	19.3	4.7	0.2	0.4	0.0	0.1	2.5	2.1	2.7	13.9	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	7.3	1.2	0.3	0.6	0.4	0.5	0.9	1.0	4.6	2.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.0	24.6	15.3	28.1	11.2	11.0	34.4	31.3	32.1	41.3	24.8	24.8
LnGrp LOS	D	C	B	C	B	B	C	C	C	D	C	C
Approach Vol, veh/h		1190			230			180			670	
Approach Delay, s/veh		24.6			12.6			32.6			30.7	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	29.4	16.0	11.0	6.1	34.9	6.7	20.3
Change Period (Y+Rc), s	4.6	4.9	4.6	* 5	4.0	* 4.9	4.0	5.0
Max Green Setting (Gmax), s	7.0	27.6	13.4	* 23	6.0	* 30	5.0	31.9
Max Q Clear Time (g_c+I1), s	2.7	21.0	11.3	4.5	3.6	3.9	3.2	9.5
Green Ext Time (p_c), s	0.0	3.5	0.1	0.4	0.0	1.0	0.0	2.0

Intersection Summary		
HCM 6th Ctrl Delay		25.8
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	490	90	50	100	20	10	130	50	70	130	30
Future Volume (veh/h)	210	490	90	50	100	20	10	130	50	70	130	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	210	490	90	50	100	20	10	130	50	70	130	30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	256	588	499	132	371	74	39	181	70	162	392	332
Arrive On Green	0.15	0.33	0.33	0.08	0.26	0.26	0.02	0.15	0.15	0.10	0.22	0.22
Sat Flow, veh/h	1697	1781	1510	1697	1441	288	1697	1225	471	1697	1781	1510
Grp Volume(v), veh/h	210	490	90	50	0	120	10	0	180	70	130	30
Grp Sat Flow(s),veh/h/ln	1697	1781	1510	1697	0	1730	1697	0	1697	1697	1781	1510
Q Serve(g_s), s	6.6	14.0	2.3	1.5	0.0	3.0	0.3	0.0	5.6	2.1	3.4	0.9
Cycle Q Clear(g_c), s	6.6	14.0	2.3	1.5	0.0	3.0	0.3	0.0	5.6	2.1	3.4	0.9
Prop In Lane	1.00		1.00	1.00		0.17	1.00		0.28	1.00		1.00
Lane Grp Cap(c), veh/h	256	588	499	132	0	445	39	0	251	162	392	332
V/C Ratio(X)	0.82	0.83	0.18	0.38	0.00	0.27	0.25	0.00	0.72	0.43	0.33	0.09
Avail Cap(c_a), veh/h	290	1061	899	247	0	986	277	0	924	308	1003	850
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.7	17.0	13.1	24.1	0.0	16.3	26.4	0.0	22.4	23.5	18.1	17.1
Incr Delay (d2), s/veh	13.7	3.2	0.2	0.7	0.0	0.3	1.2	0.0	3.8	0.7	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	5.2	0.7	0.6	0.0	1.1	0.1	0.0	2.2	0.8	1.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.4	20.2	13.3	24.8	0.0	16.6	27.7	0.0	26.2	24.2	18.6	17.2
LnGrp LOS	D	C	B	C	A	B	C	A	C	C	B	B
Approach Vol, veh/h		790			170			190			230	
Approach Delay, s/veh		23.7			19.0			26.3			20.1	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	23.2	5.9	17.1	12.9	19.2	9.9	13.1
Change Period (Y+Rc), s	4.6	5.0	4.6	5.0	4.6	5.0	4.6	5.0
Max Green Setting (Gmax), s	8.0	32.8	9.0	31.0	9.4	31.4	10.0	30.0
Max Q Clear Time (g_c+I1), s	3.5	16.0	2.3	5.4	8.6	5.0	4.1	7.6
Green Ext Time (p_c), s	0.0	2.2	0.0	0.5	0.0	0.4	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	22.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1450	10	10	500	190	10	20	10	860	10	100
Future Volume (veh/h)	20	1450	10	10	500	190	10	20	10	860	10	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	20	1450	10	10	500	190	10	20	10	860	10	100
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	29	1294	592	16	1270	1188	16	44	22	699	61	614
Arrive On Green	0.02	0.38	0.38	0.01	0.38	0.38	0.01	0.04	0.04	0.41	0.44	0.44
Sat Flow, veh/h	1697	3385	1510	1697	3385	1510	1697	1120	560	1697	139	1392
Grp Volume(v), veh/h	20	1450	10	10	500	190	10	0	30	860	0	110
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1697	1692	1510	1697	0	1681	1697	0	1531
Q Serve(g_s), s	1.2	39.0	0.4	0.6	11.0	3.1	0.6	0.0	1.8	42.0	0.0	4.4
Cycle Q Clear(g_c), s	1.2	39.0	0.4	0.6	11.0	3.1	0.6	0.0	1.8	42.0	0.0	4.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		0.91
Lane Grp Cap(c), veh/h	29	1294	592	16	1270	1188	16	0	66	699	0	676
V/C Ratio(X)	0.69	1.12	0.02	0.61	0.39	0.16	0.61	0.00	0.46	1.23	0.00	0.16
Avail Cap(c_a), veh/h	83	1294	592	67	1270	1188	67	0	313	699	0	856
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.9	31.5	19.0	50.3	23.4	2.6	50.3	0.0	47.9	30.0	0.0	17.1
Incr Delay (d2), s/veh	25.9	64.9	0.0	31.3	0.2	0.1	31.3	0.0	4.8	116.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	26.3	0.1	0.4	4.2	0.6	0.4	0.0	0.8	38.9	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.8	96.4	19.0	81.6	23.6	2.7	81.6	0.0	52.8	146.2	0.0	17.3
LnGrp LOS	E	F	B	F	C	A	F	A	D	F	A	B
Approach Vol, veh/h		1480			700			40			970	
Approach Delay, s/veh		95.6			18.7			60.0			131.5	
Approach LOS		F			B			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	46.0	8.0	5.0	43.0	5.0	49.0	5.7	42.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	42.0	19.0	4.0	39.0	4.0	57.0	5.0	38.0
Max Q Clear Time (g_c+I1), s	44.0	3.8	2.6	41.0	2.6	6.4	3.2	13.0
Green Ext Time (p_c), s	0.0	0.1	0.0	0.0	0.0	0.7	0.0	3.8

Intersection Summary	
HCM 6th Ctrl Delay	89.2
HCM 6th LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	590	1170	40	10	300	10	10	880	270	50	200	350
Future Volume (veh/h)	590	1170	40	10	300	10	10	880	270	50	200	350
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	590	1170	40	10	300	10	10	880	270	50	200	350
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	691	1661	57	82	538	240	343	1026	457	62	1328	592
Arrive On Green	0.21	0.34	0.34	0.03	0.16	0.16	0.30	0.30	0.30	0.04	0.39	0.39
Sat Flow, veh/h	3291	4829	165	3291	3385	1510	817	3385	1510	1697	3385	1510
Grp Volume(v), veh/h	590	785	425	10	300	10	10	880	270	50	200	350
Grp Sat Flow(s),veh/h/ln	1646	1621	1752	1646	1692	1510	817	1692	1510	1697	1692	1510
Q Serve(g_s), s	13.0	15.8	15.8	0.2	6.2	0.4	0.7	18.5	11.5	2.2	2.9	13.8
Cycle Q Clear(g_c), s	13.0	15.8	15.8	0.2	6.2	0.4	0.7	18.5	11.5	2.2	2.9	13.8
Prop In Lane	1.00		0.09	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	691	1115	603	82	538	240	343	1026	457	62	1328	592
V/C Ratio(X)	0.85	0.70	0.70	0.12	0.56	0.04	0.03	0.86	0.59	0.81	0.15	0.59
Avail Cap(c_a), veh/h	1004	1375	743	436	853	380	485	1615	720	112	2109	941
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	21.4	21.4	36.0	29.3	26.8	18.6	24.8	22.3	36.1	14.8	18.1
Incr Delay (d2), s/veh	3.5	0.8	1.5	0.6	0.3	0.0	0.0	1.7	0.5	21.8	0.1	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	5.4	5.9	0.1	2.3	0.1	0.1	6.9	3.8	1.2	1.0	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.2	22.2	22.9	36.6	29.6	26.9	18.6	26.4	22.8	57.9	14.9	19.1
LnGrp LOS	C	C	C	D	C	C	B	C	C	E	B	B
Approach Vol, veh/h		1800			320			1160			600	
Approach Delay, s/veh		25.6			29.7			25.5			20.9	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	32.0		35.6	21.8	18.0	6.7	28.9				
Change Period (Y+Rc), s	6.0	6.0		* 6	6.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	10.0	32.0		* 47	23.0	19.0	5.0	36.0				
Max Q Clear Time (g_c+I1), s	2.2	17.8		15.8	15.0	8.2	4.2	20.5				
Green Ext Time (p_c), s	0.0	2.8		2.4	0.8	0.6	0.0	2.4				
Intersection Summary												
HCM 6th Ctrl Delay			25.2									
HCM 6th LOS			C									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1000	1060	10	350	650	10	10	1090	920	430	100	110
Future Volume (veh/h)	1000	1060	10	350	650	10	10	1090	920	430	100	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	1000	1060	10	350	650	10	10	1090	0	430	100	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	549	790	352	219	451	201	721	1862		226	1862	
Arrive On Green	0.17	0.23	0.23	0.07	0.13	0.13	0.55	0.55	0.00	0.55	0.55	0.00
Sat Flow, veh/h	3291	3385	1510	3291	3385	1510	1233	3385	1510	493	3385	1510
Grp Volume(v), veh/h	1000	1060	10	350	650	10	10	1090	0	430	100	0
Grp Sat Flow(s),veh/h/ln	1646	1692	1510	1646	1692	1510	1233	1692	1510	493	1692	1510
Q Serve(g_s), s	20.0	28.0	0.6	8.0	16.0	0.7	0.5	25.7	0.0	40.3	1.6	0.0
Cycle Q Clear(g_c), s	20.0	28.0	0.6	8.0	16.0	0.7	2.1	25.7	0.0	66.0	1.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	549	790	352	219	451	201	721	1862		226	1862	
V/C Ratio(X)	1.82	1.34	0.03	1.60	1.44	0.05	0.01	0.59		1.91	0.05	
Avail Cap(c_a), veh/h	549	790	352	219	451	201	721	1862		226	1862	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	50.0	46.0	35.5	56.0	52.0	45.4	13.0	17.9	0.0	45.2	12.5	0.0
Incr Delay (d2), s/veh	377.4	162.4	0.1	288.2	210.4	0.2	0.0	1.1	0.0	423.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	36.7	29.1	0.2	12.0	19.7	0.3	0.1	9.5	0.0	33.4	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	427.4	208.4	35.6	344.2	262.4	45.6	13.0	19.0	0.0	468.6	12.6	0.0
LnGrp LOS	F	F	D	F	F	D	B	B		F	B	
Approach Vol, veh/h		2070			1010			1100	A		530	A
Approach Delay, s/veh		313.4			288.6			19.0			382.6	
Approach LOS		F			F			B			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.0	34.0		72.0	26.0	22.0		72.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	8.0	28.0		66.0	20.0	16.0		66.0				
Max Q Clear Time (g_c+I1), s	10.0	30.0		68.0	22.0	18.0		27.7				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		18.5				

Intersection Summary	
HCM 6th Ctrl Delay	247.1
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	960	360	100	470	330	130
Future Volume (veh/h)	960	360	100	470	330	130
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	960	360	100	470	330	130
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	1046	930	126	920	479	376
Arrive On Green	0.62	0.62	0.07	0.27	0.14	0.14
Sat Flow, veh/h	1697	1510	1697	3474	3474	2657
Grp Volume(v), veh/h	960	360	100	470	330	130
Grp Sat Flow(s),veh/h/ln	1697	1510	1697	1692	1692	1329
Q Serve(g_s), s	35.7	8.6	4.1	8.4	6.6	3.2
Cycle Q Clear(g_c), s	35.7	8.6	4.1	8.4	6.6	3.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1046	930	126	920	479	376
V/C Ratio(X)	0.92	0.39	0.79	0.51	0.69	0.35
Avail Cap(c_a), veh/h	1259	1120	143	1374	900	707
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.1	6.9	32.5	22.0	29.2	27.7
Incr Delay (d2), s/veh	9.6	0.3	23.5	0.4	1.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.3	0.1	2.4	3.0	2.6	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.7	7.2	56.0	22.4	30.9	28.2
LnGrp LOS	C	A	E	C	C	C
Approach Vol, veh/h	1320			570	460	
Approach Delay, s/veh	17.8			28.3	30.2	
Approach LOS	B			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		23.4		48.0	9.3	14.1
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		29.0		53.0	6.0	19.0
Max Q Clear Time (g_c+I1), s		10.4		37.7	6.1	8.6
Green Ext Time (p_c), s		1.9		6.3	0.0	1.5

Intersection Summary			
HCM 6th Ctrl Delay			22.7
HCM 6th LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	10	420	40	40	110	30	200	10	20	570	120
Future Volume (veh/h)	230	10	420	40	40	110	30	200	10	20	570	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	230	10	420	40	40	0	30	200	10	20	570	120
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	760	14	585	294	222		388	1013	50	561	1045	466
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.00	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1302	35	1480	237	563	1510	717	3281	163	1116	3385	1510
Grp Volume(v), veh/h	230	0	430	80	0	0	30	103	107	20	570	120
Grp Sat Flow(s),veh/h/ln	1302	0	1515	800	0	1510	717	1692	1752	1116	1692	1510
Q Serve(g_s), s	0.0	0.0	6.5	0.3	0.0	0.0	1.0	1.2	1.2	0.4	3.8	1.6
Cycle Q Clear(g_c), s	3.8	0.0	6.5	6.8	0.0	0.0	4.8	1.2	1.2	1.6	3.8	1.6
Prop In Lane	1.00		0.98	0.50		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	760	0	599	516	0		388	523	541	561	1045	466
V/C Ratio(X)	0.30	0.00	0.72	0.16	0.00		0.08	0.20	0.20	0.04	0.55	0.26
Avail Cap(c_a), veh/h	1162	0	1066	888	0		644	1128	1167	960	2255	1006
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.1	0.0	6.9	5.6	0.0	0.0	9.7	6.9	6.9	7.5	7.8	7.0
Incr Delay (d2), s/veh	0.2	0.0	1.6	0.1	0.0	0.0	0.1	0.2	0.2	0.0	0.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.9	0.2	0.0	0.0	0.1	0.2	0.2	0.0	0.6	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.3	0.0	8.5	5.7	0.0	0.0	9.8	7.1	7.1	7.5	8.2	7.3
LnGrp LOS	A	A	A	A	A		A	A	A	A	A	A
Approach Vol, veh/h		660			80	A		240			710	
Approach Delay, s/veh		7.8			5.7			7.4			8.0	
Approach LOS		A			A			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		12.3		14.7		12.3		14.7				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		18.0		19.0		18.0		19.0				
Max Q Clear Time (g_c+I1), s		6.8		8.5		5.8		8.8				
Green Ext Time (p_c), s		0.7		2.2		2.6		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			7.7									
HCM 6th LOS			A									

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	580	310	70	530	70	10	70	1160	1820	10	390	30
Future Volume (veh/h)	580	310	70	530	70	10	70	1160	1820	10	390	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	580	310	70	530	70	10	70	1160	1820	10	390	30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	1027	267	60	623	103	15	579	1526	1701	16	580	651
Arrive On Green	0.31	0.19	0.19	0.19	0.07	0.07	0.34	0.45	0.45	0.01	0.12	0.12
Sat Flow, veh/h	3291	1407	318	3291	1524	218	1697	3385	2657	1697	4863	1510
Grp Volume(v), veh/h	580	0	380	530	0	80	70	1160	1820	10	390	30
Grp Sat Flow(s),veh/h/ln	1646	0	1724	1646	0	1742	1697	1692	1329	1697	1621	1510
Q Serve(g_s), s	14.7	0.0	19.0	15.6	0.0	4.5	2.8	28.6	30.9	0.6	7.7	0.0
Cycle Q Clear(g_c), s	14.7	0.0	19.0	15.6	0.0	4.5	2.8	28.6	30.9	0.6	7.7	0.0
Prop In Lane	1.00		0.18	1.00		0.13	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1027	0	328	623	0	117	579	1526	1701	16	580	651
V/C Ratio(X)	0.56	0.00	1.16	0.85	0.00	0.68	0.12	0.76	1.07	0.61	0.67	0.05
Avail Cap(c_a), veh/h	1027	0	328	856	0	331	579	1526	1701	68	1410	909
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.00	0.79	1.00	0.00	1.00	0.41	0.41	0.41	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	0.0	40.5	39.2	0.0	45.6	22.6	22.9	9.4	49.3	42.2	16.5
Incr Delay (d2), s/veh	0.6	0.0	95.6	6.1	0.0	6.8	0.0	1.5	37.0	31.1	6.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	0.0	16.5	6.7	0.0	2.2	1.1	10.5	13.3	0.4	3.2	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.3	0.0	136.1	45.2	0.0	52.4	22.7	24.4	46.4	80.4	48.3	16.6
LnGrp LOS	C	A	F	D	A	D	C	C	F	F	D	B
Approach Vol, veh/h		960			610			3050			430	
Approach Delay, s/veh		71.6			46.2			37.5			46.8	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	49.1	22.9	23.0	38.1	15.9	35.2	10.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	35.0	26.0	19.0	10.0	29.0	26.0	19.0
Max Q Clear Time (g_c+I1), s	2.6	32.9	17.6	21.0	4.8	9.7	16.7	6.5
Green Ext Time (p_c), s	0.0	2.0	1.4	0.0	0.0	2.2	1.6	0.2

Intersection Summary			
HCM 6th Ctrl Delay			45.8
HCM 6th LOS			D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	440	0	70	0	2970	10	0	320	670
Future Volume (veh/h)	0	0	0	440	0	70	0	2970	10	0	320	670
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1781	1781	0	1781	1781	0	1781	1781
Adj Flow Rate, veh/h				440	0	70	0	2970	10	0	320	670
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				8	8	8	0	8	8	0	8	8
Cap, veh/h				653	0	194	0	3720	1155	0	2589	2033
Arrive On Green				0.13	0.00	0.13	0.00	0.76	0.76	0.00	0.76	0.76
Sat Flow, veh/h				5090	0	1510	0	5024	1510	0	3474	2657
Grp Volume(v), veh/h				440	0	70	0	2970	10	0	320	670
Grp Sat Flow(s),veh/h/ln				1697	0	1510	0	1621	1510	0	1692	1329
Q Serve(g_s), s				6.2	0.0	3.2	0.0	27.6	0.1	0.0	1.8	5.9
Cycle Q Clear(g_c), s				6.2	0.0	3.2	0.0	27.6	0.1	0.0	1.8	5.9
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				653	0	194	0	3720	1155	0	2589	2033
V/C Ratio(X)				0.67	0.00	0.36	0.00	0.80	0.01	0.00	0.12	0.33
Avail Cap(c_a), veh/h				1222	0	362	0	3720	1155	0	2589	2033
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.39	0.39	0.00	0.83	0.83
Uniform Delay (d), s/veh				31.2	0.0	29.9	0.0	5.3	2.1	0.0	2.3	2.8
Incr Delay (d2), s/veh				1.2	0.0	1.1	0.0	0.7	0.0	0.0	0.1	0.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.5	0.0	1.2	0.0	3.1	0.0	0.0	0.3	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				32.4	0.0	31.0	0.0	6.1	2.1	0.0	2.4	3.1
LnGrp LOS				C	A	C	A	A	A	A	A	A
Approach Vol, veh/h					510			2980			990	
Approach Delay, s/veh					32.2			6.0			2.9	
Approach LOS					C			A			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		61.4				61.4		13.6				
Change Period (Y+Rc), s		4.0				4.0		4.0				
Max Green Setting (Gmax), s		49.0				49.0		18.0				
Max Q Clear Time (g_c+I1), s		29.6				7.9		8.2				
Green Ext Time (p_c), s		17.8				5.4		1.4				

Intersection Summary			
HCM 6th Ctrl Delay			8.3
HCM 6th LOS			A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	600	0	20	0	0	0	0	2380	1180	60	690	0
Future Volume (veh/h)	600	0	20	0	0	0	0	2380	1180	60	690	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781				0	1781	1781	1781	1781	0
Adj Flow Rate, veh/h	600	0	20				0	2380	1180	60	690	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8				0	8	8	8	8	0
Cap, veh/h	835	0	495				0	3019	1649	74	3510	0
Arrive On Green	0.16	0.00	0.16				0.00	0.62	0.62	0.04	0.72	0.00
Sat Flow, veh/h	5090	0	3019				0	5024	2657	1697	5024	0
Grp Volume(v), veh/h	600	0	20				0	2380	1180	60	690	0
Grp Sat Flow(s),veh/h/ln	1697	0	1510				0	1621	1329	1697	1621	0
Q Serve(g_s), s	7.8	0.0	0.4				0.0	25.4	21.2	2.5	3.2	0.0
Cycle Q Clear(g_c), s	7.8	0.0	0.4				0.0	25.4	21.2	2.5	3.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	835	0	495				0	3019	1649	74	3510	0
V/C Ratio(X)	0.72	0.00	0.04				0.00	0.79	0.72	0.81	0.20	0.00
Avail Cap(c_a), veh/h	1309	0	776				0	3019	1649	97	3510	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.42	0.42	0.95	0.95	0.00
Uniform Delay (d), s/veh	27.7	0.0	24.6				0.0	9.9	9.1	33.2	3.2	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.0				0.0	0.9	1.1	29.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	0.1				0.0	5.9	4.1	1.5	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.9	0.0	24.7				0.0	10.8	10.2	62.2	3.3	0.0
LnGrp LOS	C	A	C				A	B	B	E	A	A
Approach Vol, veh/h		620						3560			750	
Approach Delay, s/veh		28.8						10.6			8.0	
Approach LOS		C						B			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	7.1	47.5		15.5		54.5
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	4.0	36.0		18.0		44.0
Max Q Clear Time (g_c+I1), s	4.5	27.4		9.8		5.2
Green Ext Time (p_c), s	0.0	8.2		1.7		5.1

Intersection Summary		
HCM 6th Ctrl Delay		12.5
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2270	40	70	640	50	1290
Future Volume (veh/h)	2270	40	70	640	50	1290
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	2270	40	70	640	50	1290
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8
Cap, veh/h	2547	45	157	2260	661	1342
Arrive On Green	0.34	0.34	0.05	0.46	0.39	0.39
Sat Flow, veh/h	7738	130	3291	5024	1697	3442
Grp Volume(v), veh/h	1771	539	70	640	50	1290
Grp Sat Flow(s),veh/h/ln	1443	1758	1646	1621	1697	1147
Q Serve(g_s), s	16.0	16.0	1.1	4.5	1.0	20.1
Cycle Q Clear(g_c), s	16.0	16.0	1.1	4.5	1.0	20.1
Prop In Lane		0.07	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1987	605	157	2260	661	1342
V/C Ratio(X)	0.89	0.89	0.45	0.28	0.08	0.96
Avail Cap(c_a), veh/h	1994	607	239	2387	661	1342
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.98	0.98	0.09	0.09
Uniform Delay (d), s/veh	17.1	17.1	25.5	9.1	10.5	16.4
Incr Delay (d2), s/veh	0.5	1.7	1.9	0.1	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	5.3	0.4	1.1	0.3	4.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.6	18.8	27.4	9.1	10.6	19.0
LnGrp LOS	B	B	C	A	B	B
Approach Vol, veh/h	2310			710	1340	
Approach Delay, s/veh	17.9			10.9	18.7	
Approach LOS	B			B	B	

Timer - Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		25.4	6.6	22.9				29.6
Change Period (Y+Rc), s		4.0	4.0	4.0				4.0
Max Green Setting (Gmax), s		20.0	4.0	19.0				27.0
Max Q Clear Time (g_c+I1), s		22.1	3.1	18.0				6.5
Green Ext Time (p_c), s		0.0	0.0	1.0				3.9

Intersection Summary	
HCM 6th Ctrl Delay	17.0
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	750	740	10	30	300	30	10	410	80	60	10	10
Future Volume (veh/h)	750	740	10	30	300	30	10	410	80	60	10	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781	1781
Adj Flow Rate, veh/h	750	740	10	30	300	30	10	410	80	60	10	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	8	8	8	8	8	8	8	8	8	8	8
Cap, veh/h	696	1700	758	37	385	172	16	378	74	63	515	768
Arrive On Green	0.41	0.50	0.50	0.02	0.11	0.11	0.01	0.26	0.26	0.04	0.29	0.29
Sat Flow, veh/h	1697	3385	1510	1697	3385	1510	1697	1448	283	1697	1781	2657
Grp Volume(v), veh/h	750	740	10	30	300	30	10	0	490	60	10	10
Grp Sat Flow(s),veh/h/ln	1697	1692	1510	1697	1692	1510	1697	0	1731	1697	1781	1329
Q Serve(g_s), s	44.0	14.9	0.4	1.9	9.2	1.9	0.6	0.0	28.0	3.8	0.4	0.3
Cycle Q Clear(g_c), s	44.0	14.9	0.4	1.9	9.2	1.9	0.6	0.0	28.0	3.8	0.4	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	696	1700	758	37	385	172	16	0	452	63	515	768
V/C Ratio(X)	1.08	0.44	0.01	0.80	0.78	0.17	0.61	0.00	1.08	0.95	0.02	0.01
Avail Cap(c_a), veh/h	696	1989	887	95	789	352	63	0	452	63	515	768
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.6	17.0	13.4	52.2	46.2	42.9	52.9	0.0	39.6	51.5	27.3	27.2
Incr Delay (d2), s/veh	56.8	0.1	0.0	31.2	1.3	0.2	32.0	0.0	66.9	94.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	27.5	5.3	0.1	1.1	3.8	0.7	0.4	0.0	20.0	3.2	0.2	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.4	17.1	13.4	83.4	47.5	43.1	84.9	0.0	106.5	145.9	27.3	27.2
LnGrp LOS	F	B	B	F	D	D	F	A	F	F	C	C
Approach Vol, veh/h		1500			360			500			80	
Approach Delay, s/veh		52.7			50.1			106.1			116.3	
Approach LOS		D			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	59.8	8.0	33.0	48.0	18.2	5.0	36.0
Change Period (Y+Rc), s	4.0	6.0	4.0	5.0	4.0	6.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	63.0	4.0	28.0	44.0	25.0	4.0	28.0
Max Q Clear Time (g_c+I1), s	3.9	16.9	5.8	30.0	46.0	11.2	2.6	2.4
Green Ext Time (p_c), s	0.0	3.3	0.0	0.0	0.0	1.0	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		65.3
HCM 6th LOS		E

LANE SUMMARY

Site: 101 [AM Peak Hour (Site Folder: General)]

Intersection 107 Eleventh & Grant Line
Site Category: (None)
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Eleventh St													
Lane 1[d]	669	3.0	985	0.679	100	14.4	LOS B	8.8	225.3	Full	1600	0.0	0.0
Lane 2	255	3.0	985	0.258	38[6]	6.2	LOS A	1.1	28.6	Full	1600	0.0	0.0
Lane 3	348	3.0	1626	0.214	31[5]	7.4	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1272	3.0		0.679		10.8	LOS B	8.8	225.3				
East: Kasson Rd													
Lane 1[d]	2283	3.0	585	3.904	100	1328.0	LOS F	552.7	14149.8	Full	1600	0.0	100.0
Approach	2283	3.0		3.904		1328.0	LOS F	552.7	14149.8				
North: Eleventh St													
Lane 1	1000	3.0	760	1.316	100	169.5	LOS F	94.3	2413.0	Full	1600	0.0	18.9
Lane 2[d]	1000	3.0	760	1.316	100	170.7	LOS F	94.3	2413.0	Full	1600	0.0	18.9
Approach	2000	3.0		1.316		170.1	LOS F	94.3	2413.0				
West: W. Grant Line Rd													
Lane 1[d]	489	3.0	341	1.435	100	244.0	LOS F	54.4	1392.7	Full	1600	0.0	1.0
Approach	489	3.0		1.435		244.0	LOS F	54.4	1392.7				
Intersection	6043	3.0		3.904		579.9	LOS F	552.7	14149.8				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Eleventh St

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	54	615	-	669	3.0	985	0.679	100	NA	NA
Lane 2	-	255	-	255	3.0	985	0.258	38[6]	NA	NA
Lane 3	-	-	348	348	3.0	1626	0.214	31[5]	NA	NA
Approach	54	870	348	1272	3.0		0.679			

East: Kasson Rd											
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1228	1043	11	2283	3.0	585	3.904	100	NA	NA
Approach	1228	1043	11	2283	3.0		3.904			

North: Eleventh St										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	11	989	-	1000	3.0	760	1.316	100	NA	NA
Lane 2	-	707	293	1000	3.0	760	1.316	100	NA	NA
Approach	11	1696	293	2000	3.0		1.316			

West: W. Grant Line Rd										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	76	402	11	489	3.0	341	1.435	100	NA	NA
Approach	76	402	11	489	3.0		1.435			

	Total	%HV	Deg.Satn (v/c)
Intersection	6043	3.0	3.904

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

5 Lane under-utilisation found by the program
6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Eleventh St Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: Kasson Rd Merge Type: **Priority**												
Exit Short Lane	2	200	0.0	8	9	3.00	2.00	280	1792	0.156	2.0	3.2
Merge Lane	1	-	100.0	Merge Lane is not Opposed				8	1800	0.005	0.0	0.0
East Exit: Kasson Rd Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	280	289	3.00	2.00	348	1532	0.227	2.4	4.2
Merge Lane	2	200	100.0	Merge Lane is not Opposed				280	1800	0.156	0.0	0.0
North Exit: Eleventh St Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
West Exit: W. Grant Line Rd Merge Type: **Priority**												
Exit Short Lane	2	200	0.0	54	56	3.00	2.00	490	1745	0.281	2.1	4.3
Merge Lane	1	-	100.0	Merge Lane is not Opposed				54	1800	0.030	0.0	0.0

LANE SUMMARY

Site: 101 [PM Peak Hour (Site Folder: General)]

Intersection 107 Eleventh & Grant Line
Site Category: (None)
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Eleventh St													
Lane 1[d]	756	3.0	785	0.963	100	46.5	LOS E	25.5	651.9	Full	1600	0.0	0.0
Lane 2	287	3.0	785	0.366	38[6]	9.0	LOS A	1.7	43.7	Full	1600	0.0	0.0
Lane 3	1000	3.0	1626	0.615	64[5]	15.1	LOS C	0.0	0.0	Full	1600	0.0	0.0
Approach	2043	3.0		0.963		25.9	LOS D	25.5	651.9				
East: Kasson Rd													
Lane 1[d]	739	3.0	461	1.603	100	304.9	LOS F	97.0	2484.2	Full	1600	0.0	20.0
Approach	739	3.0		1.603		304.9	LOS F	97.0	2484.2				
North: Eleventh St													
Lane 1	380	3.0	879	0.433	100	9.3	LOS A	2.4	61.2	Full	1600	0.0	0.0
Lane 2[d]	380	3.0	879	0.433	100	9.8	LOS A	2.4	61.2	Full	1600	0.0	0.0
Approach	761	3.0		0.433		9.5	LOS A	2.4	61.2				
West: W. Grant Line Rd													
Lane 1[d]	978	3.0	596	1.643	100	317.2	LOS F	132.6	3394.3	Full	1600	0.0	36.1
Approach	978	3.0		1.643		317.2	LOS F	132.6	3394.3				
Intersection	4522	3.0		1.643		131.7	LOS F	132.6	3394.3				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Eleventh St

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	11	745	-	756	3.0	785	0.963	100	NA	NA
Lane 2	-	287	-	287	3.0	785	0.366	38[6]	NA	NA
Lane 3	-	-	1000	1000	3.0	1626	0.615	64[5]	NA	NA
Approach	11	1033	1000	2043	3.0		0.963			

East: Kasson Rd

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

Lane 1	391	337	11	739	3.0	461	1.603	100	NA	NA
Approach	391	337	11	739	3.0		1.603			
North: Eleventh St										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	11	370	-	380	3.0	879	0.433	100	NA	NA
Lane 2	-	326	54	380	3.0	879	0.433	100	NA	NA
Approach	11	696	54	761	3.0		0.433			
West: W. Grant Line Rd										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	359	609	11	978	3.0	596	1.643	100	NA	NA
Approach	359	609	11	978	3.0		1.643			

	Total	%HV	Deg.Satn (v/c)
Intersection	4522	3.0	1.643

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

5 Lane under-utilisation found by the program
6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Eleventh St Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: Kasson Rd Merge Type: **Priority**												
Exit Short Lane	2	200	0.0	11	11	3.00	2.00	371	1789	0.207	2.0	3.6
Merge Lane	1	-	100.0	Merge Lane is not Opposed				11	1800	0.006	0.0	0.0
East Exit: Kasson Rd Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	371	382	3.00	2.00	1000	1453	0.688	2.5	11.2
Merge Lane	2	200	100.0	Merge Lane is not Opposed				371	1800	0.206	0.0	0.0
North Exit: Eleventh St Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
West Exit: W. Grant Line Rd Merge Type: **Priority**												
Exit Short Lane	2	200	0.0	11	11	3.00	2.00	265	1789	0.148	2.0	3.1
Merge Lane	1	-	100.0	Merge Lane is not Opposed				11	1800	0.006	0.0	0.0

APPENDIX G

LEVEL OF SERVICE CALCULATION WORKSHEETS WITHOUT CUT-THROUGH TRAFFIC AND PEAK SPREADING

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	564	323	178	8	167	0	0	647	656
Future Volume (veh/h)	0	0	0	564	323	178	8	167	0	0	647	656
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1678	1678	1678	1678	1678	0	0	1678	1678
Adj Flow Rate, veh/h				620	355	196	9	184	0	0	711	721
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %				15	15	15	15	15	0	0	15	15
Cap, veh/h				417	239	1008	29	1507	0	0	1846	573
Arrive On Green				0.42	0.40	0.40	0.02	0.47	0.00	0.00	0.40	0.40
Sat Flow, veh/h				1034	592	2502	1598	3272	0	0	4731	1422
Grp Volume(v), veh/h				975	0	196	9	184	0	0	711	721
Grp Sat Flow(s),veh/h/ln				1626	0	1251	1598	1594	0	0	1527	1422
Q Serve(g_s), s				35.0	0.0	4.4	0.5	2.8	0.0	0.0	9.5	35.0
Cycle Q Clear(g_c), s				35.0	0.0	4.4	0.5	2.8	0.0	0.0	9.5	35.0
Prop In Lane				0.64		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				655	0	1008	29	1507	0	0	1846	573
V/C Ratio(X)				1.49	0.00	0.19	0.31	0.12	0.00	0.00	0.39	1.26
Avail Cap(c_a), veh/h				655	0	1008	644	1507	0	0	1846	573
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				25.6	0.0	16.8	42.1	12.8	0.0	0.0	18.3	25.9
Incr Delay (d2), s/veh				227.7	0.0	0.1	2.3	0.0	0.0	0.0	0.0	130.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				53.7	0.0	1.2	0.2	0.9	0.0	0.0	3.0	31.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				253.3	0.0	16.9	44.4	12.8	0.0	0.0	18.4	156.0
LnGrp LOS				F	A	B	D	B	A	A	B	F
Approach Vol, veh/h					1171			193			1432	
Approach Delay, s/veh					213.7			14.3			87.6	
Approach LOS					F			B			F	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		46.8			6.1	40.7		40.1				
Change Period (Y+Rc), s		5.7			4.5	5.7		5.1				
Max Green Setting (Gmax), s		35.0			35.0	35.0		35.0				
Max Q Clear Time (g_c+I1), s		4.8			2.5	37.0		37.0				
Green Ext Time (p_c), s		0.7			0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			135.4									
HCM 6th LOS			F									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	0	28	0	0	0	0	127	154	0	1056	0
Future Volume (veh/h)	48	0	28	0	0	0	0	127	154	0	1056	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1678	1678	1678				0	1678	1678	0	1678	0
Adj Flow Rate, veh/h	51	0	29				0	134	162	0	1112	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	15	15	15				0	15	15	0	15	0
Cap, veh/h	415	0	185				0	1618	722	0	1618	0
Arrive On Green	0.13	0.00	0.13				0.00	0.51	0.51	0.00	0.51	0.00
Sat Flow, veh/h	3196	0	1422				0	3272	1422	0	3355	0
Grp Volume(v), veh/h	51	0	29				0	134	162	0	1112	0
Grp Sat Flow(s),veh/h/ln	1598	0	1422				0	1594	1422	0	1594	0
Q Serve(g_s), s	0.4	0.0	0.5				0.0	0.6	1.9	0.0	7.9	0.0
Cycle Q Clear(g_c), s	0.4	0.0	0.5				0.0	0.6	1.9	0.0	7.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	415	0	185				0	1618	722	0	1618	0
V/C Ratio(X)	0.12	0.00	0.16				0.00	0.08	0.22	0.00	0.69	0.00
Avail Cap(c_a), veh/h	3753	0	1670				0	3743	1670	0	3743	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	11.5	0.0	11.5				0.0	3.8	4.1	0.0	5.5	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.1				0.0	0.0	0.1	0.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.1				0.0	0.0	0.1	0.0	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.5	0.0	11.7				0.0	3.8	4.1	0.0	5.7	0.0
LnGrp LOS	B	A	B				A	A	A	A	A	A
Approach Vol, veh/h		80						296			1112	
Approach Delay, s/veh		11.6						4.0			5.7	
Approach LOS		B						A			A	

Timer - Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		20.8		9.0		20.8		
Change Period (Y+Rc), s		5.7		5.1		5.7		
Max Green Setting (Gmax), s		35.0		35.0		35.0		
Max Q Clear Time (g_c+I1), s		3.9		2.5		9.9		
Green Ext Time (p_c), s		0.7		0.0		5.3		

Intersection Summary		
HCM 6th Ctrl Delay		5.7
HCM 6th LOS		A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	2	4	294	854	14
Future Volume (veh/h)	2	2	4	294	854	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1678	1678	1678	1678	1678	1678
Adj Flow Rate, veh/h	2	2	4	323	938	15
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	15	15	15	15	15	15
Cap, veh/h	9	8	9	1278	1110	940
Arrive On Green	0.01	0.01	0.01	0.76	0.66	0.66
Sat Flow, veh/h	1598	1422	1598	1678	1678	1422
Grp Volume(v), veh/h	2	2	4	323	938	15
Grp Sat Flow(s),veh/h/ln	1598	1422	1598	1678	1678	1422
Q Serve(g_s), s	0.1	0.1	0.1	2.4	18.1	0.2
Cycle Q Clear(g_c), s	0.1	0.1	0.1	2.4	18.1	0.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	9	8	9	1278	1110	940
V/C Ratio(X)	0.23	0.26	0.46	0.25	0.85	0.02
Avail Cap(c_a), veh/h	759	675	759	1594	1594	1351
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	20.9	20.9	1.5	5.5	2.4
Incr Delay (d2), s/veh	13.0	16.8	33.7	0.1	3.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.1	0.0	3.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.8	37.6	54.6	1.6	8.5	2.4
LnGrp LOS	C	D	D	A	A	A
Approach Vol, veh/h	4			327	953	
Approach Delay, s/veh	35.7			2.2	8.4	
Approach LOS	D			A	A	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	4.2	33.6		4.2		37.9
Change Period (Y+Rc), s	4.0	5.8		4.0		5.8
Max Green Setting (Gmax), s	20.0	40.0		20.0		40.0
Max Q Clear Time (g_c+I1), s	2.1	20.1		2.1		4.4
Green Ext Time (p_c), s	0.0	7.8		0.0		2.1
Intersection Summary						
HCM 6th Ctrl Delay			6.9			
HCM 6th LOS			A			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	22	219	676	74	152	66	106	180	105	860	27
Future Volume (veh/h)	29	22	219	676	74	152	66	106	180	105	860	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1060	1589	1678	1060	1589	1324	1060	1589	1678	1060	1589	1678
Adj Flow Rate, veh/h	31	24	235	727	80	163	71	114	194	113	925	29
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	15	15	15	15	15	15	15	15	15	15	15	15
Cap, veh/h	71	471	221	611	633	529	80	724	339	144	707	332
Arrive On Green	0.07	0.16	0.16	0.31	0.40	0.40	0.08	0.24	0.24	0.07	0.23	0.23
Sat Flow, veh/h	1009	3020	1416	1958	1589	1121	1009	3020	1416	1958	3020	1416
Grp Volume(v), veh/h	31	24	235	727	80	163	71	114	194	113	925	29
Grp Sat Flow(s),veh/h/ln	1009	1510	1416	979	1589	1121	1009	1510	1416	979	1510	1416
Q Serve(g_s), s	3.8	0.9	20.0	40.0	4.1	11.5	8.9	3.8	15.5	7.3	30.0	2.1
Cycle Q Clear(g_c), s	3.8	0.9	20.0	40.0	4.1	11.5	8.9	3.8	15.5	7.3	30.0	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	71	471	221	611	633	529	80	724	339	144	707	332
V/C Ratio(X)	0.44	0.05	1.06	1.19	0.13	0.31	0.89	0.16	0.57	0.78	1.31	0.09
Avail Cap(c_a), veh/h	158	471	221	611	633	529	158	825	387	382	707	332
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.1	46.0	54.1	44.1	24.4	20.9	58.4	38.5	42.9	58.4	49.1	38.4
Incr Delay (d2), s/veh	4.2	0.0	78.2	100.9	0.1	0.3	25.9	0.1	1.5	9.0	148.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.3	11.7	17.9	1.5	3.0	2.8	1.4	5.4	1.9	25.5	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.3	46.0	132.2	145.0	24.5	21.3	84.3	38.6	44.5	67.3	197.8	38.5
LnGrp LOS	E	D	F	F	C	C	F	D	D	E	F	D
Approach Vol, veh/h		290			970			379			1067	
Approach Delay, s/veh		117.5			114.2			50.2			179.7	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.4	37.7	47.0	27.0	17.1	37.0	16.0	58.0
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	25.0	35.0	40.0	20.0	20.0	30.0	20.0	20.0
Max Q Clear Time (g_c+I1), s	9.3	17.5	42.0	22.0	10.9	32.0	5.8	13.5
Green Ext Time (p_c), s	0.3	1.1	0.0	0.0	0.1	0.0	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	131.4
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	381	1	269	2	92	0	0	958	827
Future Volume (veh/h)	0	0	0	381	1	269	2	92	0	0	958	827
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1678	1678	1678	1678	1678	0	0	1678	1678
Adj Flow Rate, veh/h				410	1	0	2	99	0	0	1030	889
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				15	15	15	15	15	0	0	15	15
Cap, veh/h				731	2		2	118	0	0	624	529
Arrive On Green				0.46	0.46	0.00	0.07	0.07	0.00	0.00	0.37	0.37
Sat Flow, veh/h				1594	4	1422	33	1643	0	0	1678	1422
Grp Volume(v), veh/h				411	0	0	101	0	0	0	1030	889
Grp Sat Flow(s),veh/h/ln				1598	0	1422	1676	0	0	0	1678	1422
Q Serve(g_s), s				31.9	0.0	0.0	10.1	0.0	0.0	0.0	63.2	63.2
Cycle Q Clear(g_c), s				31.9	0.0	0.0	10.1	0.0	0.0	0.0	63.2	63.2
Prop In Lane				1.00		1.00	0.02		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				733	0		120	0	0	0	624	529
V/C Ratio(X)				0.56	0.00		0.84	0.00	0.00	0.00	1.65	1.68
Avail Cap(c_a), veh/h				733	0		288	0	0	0	624	529
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.99	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.6	0.0	0.0	78.0	0.0	0.0	0.0	53.4	53.4
Incr Delay (d2), s/veh				3.1	0.0	0.0	5.8	0.0	0.0	0.0	300.3	315.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				13.1	0.0	0.0	4.5	0.0	0.0	0.0	77.9	68.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				36.7	0.0	0.0	83.8	0.0	0.0	0.0	353.7	368.4
LnGrp LOS				D	A		F	A	A	A	F	F
Approach Vol, veh/h					411	A		101			1919	
Approach Delay, s/veh					36.7			83.8			360.5	
Approach LOS					D			F			F	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		18.0				69.0		83.0				
Change Period (Y+Rc), s		5.8				5.8		5.1				
Max Green Setting (Gmax), s		29.2				63.2		60.9				
Max Q Clear Time (g_c+I1), s		12.1				65.2		33.9				
Green Ext Time (p_c), s		0.1				0.0		0.4				

Intersection Summary			
HCM 6th Ctrl Delay			294.3
HCM 6th LOS			F

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	2	14	0	0	0	0	12	11	108	1230	0
Future Volume (veh/h)	85	2	14	0	0	0	0	12	11	108	1230	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1678	1678	1678				0	1678	1678	1678	1678	0
Adj Flow Rate, veh/h	91	2	0				0	13	12	116	1323	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	15	15	15				0	15	15	15	15	0
Cap, veh/h	107	2					0	172	146	98	1122	0
Arrive On Green	0.07	0.07	0.00				0.00	0.10	0.10	0.73	0.73	0.00
Sat Flow, veh/h	1565	34	1422				0	1678	1422	135	1536	0
Grp Volume(v), veh/h	93	0	0				0	13	12	1439	0	0
Grp Sat Flow(s),veh/h/ln	1599	0	1422				0	1678	1422	1671	0	0
Q Serve(g_s), s	9.8	0.0	0.0				0.0	1.2	1.3	124.2	0.0	0.0
Cycle Q Clear(g_c), s	9.8	0.0	0.0				0.0	1.2	1.3	124.2	0.0	0.0
Prop In Lane	0.98		1.00				0.00		1.00	0.08		0.00
Lane Grp Cap(c), veh/h	110	0					0	172	146	1221	0	0
V/C Ratio(X)	0.85	0.00					0.00	0.08	0.08	1.18	0.00	0.00
Avail Cap(c_a), veh/h	215	0					0	172	146	1221	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	0.09	0.00	0.00
Uniform Delay (d), s/veh	78.3	0.0	0.0				0.0	69.0	69.1	22.9	0.0	0.0
Incr Delay (d2), s/veh	6.6	0.0	0.0				0.0	0.1	0.1	81.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.0	0.0				0.0	0.5	0.5	69.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.9	0.0	0.0				0.0	69.1	69.1	104.2	0.0	0.0
LnGrp LOS	F	A					A	E	E	F	A	A
Approach Vol, veh/h		93	A					25			1439	
Approach Delay, s/veh		84.9						69.1			104.2	
Approach LOS		F						E			F	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	23.2	16.8	130.0
Change Period (Y+Rc), s	5.8	5.1	5.8
Max Green Setting (Gmax), s	6.2	22.9	124.2
Max Q Clear Time (g_c+I1), s	3.3	11.8	126.2
Green Ext Time (p_c), s	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	102.5
HCM 6th LOS	F

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	60	0	0	182
Future Vol, veh/h	0	0	60	0	0	182
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	0	0	65	0	0	198
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	0	7.6	8.3
HCM LOS	-	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	60	0	182
LT Vol	0	0	0
Through Vol	60	0	182
RT Vol	0	0	0
Lane Flow Rate	65	0	198
Geometry Grp	1	1	1
Degree of Util (X)	0.076	0	0.226
Departure Headway (Hd)	4.217	4.649	4.118
Convergence, Y/N	Yes	Yes	Yes
Cap	847	0	874
Service Time	2.258	2.649	2.133
HCM Lane V/C Ratio	0.077	0	0.227
HCM Control Delay	7.6	7.6	8.3
HCM Lane LOS	A	N	A
HCM 95th-tile Q	0.2	0	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	10	11	4	6	21	52	14	43	121	18
Future Volume (veh/h)	2	0	10	11	4	6	21	52	14	43	121	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	2	0	11	12	5	7	24	59	16	49	138	20
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	5	623	278	26	666	297	49	829	370	89	908	405
Arrive On Green	0.00	0.00	0.19	0.02	0.20	0.20	0.03	0.25	0.25	0.05	0.27	0.27
Sat Flow, veh/h	1668	3328	1485	1668	3328	1485	1668	3328	1485	1668	3328	1485
Grp Volume(v), veh/h	2	0	11	12	5	7	24	59	16	49	138	20
Grp Sat Flow(s),veh/h/ln	1668	1664	1485	1668	1664	1485	1668	1664	1485	1668	1664	1485
Q Serve(g_s), s	0.0	0.0	0.2	0.3	0.0	0.1	0.5	0.5	0.3	1.1	1.2	0.4
Cycle Q Clear(g_c), s	0.0	0.0	0.2	0.3	0.0	0.1	0.5	0.5	0.3	1.1	1.2	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	5	623	278	26	666	297	49	829	370	89	908	405
V/C Ratio(X)	0.44	0.00	0.04	0.46	0.01	0.02	0.49	0.07	0.04	0.55	0.15	0.05
Avail Cap(c_a), veh/h	892	3561	1588	892	3561	1588	892	3561	1588	892	3561	1588
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.6	0.0	12.4	18.2	12.0	12.0	17.9	10.7	10.7	17.3	10.3	10.0
Incr Delay (d2), s/veh	54.0	0.0	0.1	12.0	0.0	0.0	7.3	0.0	0.0	5.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.1	0.2	0.0	0.0	0.3	0.1	0.1	0.4	0.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.7	0.0	12.5	30.3	12.0	12.0	25.2	10.8	10.7	22.5	10.4	10.1
LnGrp LOS	E	A	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		13			24			99			207	
Approach Delay, s/veh		21.8			21.1			14.2			13.2	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.6	11.7	6.0	15.1	4.1	12.2	5.1	16.0
Change Period (Y+Rc), s	4.0	* 4.7	4.0	5.8	4.0	* 4.7	4.0	5.8
Max Green Setting (Gmax), s	20.0	* 40	20.0	40.0	20.0	* 40	20.0	40.0
Max Q Clear Time (g_c+I1), s	2.3	2.2	3.1	2.5	2.0	2.1	2.5	3.2
Green Ext Time (p_c), s	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	57	19	8	497	35	15	5	10	39	9	112
Future Volume (veh/h)	55	57	19	8	497	35	15	5	10	39	9	112
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678
Adj Flow Rate, veh/h	71	73	24	10	637	45	19	6	13	50	12	144
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	15	15	15	15	15	15	15	15	15	15	15	15
Cap, veh/h	142	812	689	36	701	594	62	58	125	120	266	225
Arrive On Green	0.09	0.48	0.48	0.02	0.42	0.42	0.04	0.12	0.12	0.08	0.16	0.16
Sat Flow, veh/h	1598	1678	1422	1598	1678	1422	1598	472	1022	1598	1678	1422
Grp Volume(v), veh/h	71	73	24	10	637	45	19	0	19	50	12	144
Grp Sat Flow(s),veh/h/ln	1598	1678	1422	1598	1678	1422	1598	0	1494	1598	1678	1422
Q Serve(g_s), s	3.4	1.9	0.7	0.5	28.8	1.5	0.9	0.0	0.9	2.4	0.5	7.7
Cycle Q Clear(g_c), s	3.4	1.9	0.7	0.5	28.8	1.5	0.9	0.0	0.9	2.4	0.5	7.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		1.00
Lane Grp Cap(c), veh/h	142	812	689	36	701	594	62	0	182	120	266	225
V/C Ratio(X)	0.50	0.09	0.03	0.28	0.91	0.08	0.31	0.00	0.10	0.42	0.05	0.64
Avail Cap(c_a), veh/h	296	829	702	296	829	702	296	0	277	296	311	263
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.2	11.3	11.0	38.9	22.1	14.2	37.9	0.0	31.6	35.8	28.9	31.9
Incr Delay (d2), s/veh	2.7	0.1	0.0	4.2	13.1	0.1	2.8	0.0	0.4	2.3	0.1	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.6	0.2	0.2	12.4	0.5	0.4	0.0	0.3	1.0	0.2	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	11.3	11.0	43.1	35.2	14.2	40.6	0.0	32.0	38.1	29.0	37.0
LnGrp LOS	D	B	B	D	D	B	D	A	C	D	C	D
Approach Vol, veh/h		168			692			38			206	
Approach Delay, s/veh		22.5			34.0			36.3			36.8	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	45.7	11.6	15.4	13.7	40.4	8.6	18.3
Change Period (Y+Rc), s	6.5	6.5	5.5	5.5	6.5	6.5	5.5	5.5
Max Green Setting (Gmax), s	15.0	40.0	15.0	15.0	15.0	40.0	15.0	15.0
Max Q Clear Time (g_c+I1), s	2.5	3.9	4.4	2.9	5.4	30.8	2.9	9.7
Green Ext Time (p_c), s	0.0	0.5	0.1	0.0	0.1	3.0	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	32.8
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	498	742	23	22	39
Future Vol, veh/h	10	498	742	23	22	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	11	541	807	25	24	42

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	832	0	-	0	1383	820
Stage 1	-	-	-	-	820	-
Stage 2	-	-	-	-	563	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	796	-	-	-	158	373
Stage 1	-	-	-	-	431	-
Stage 2	-	-	-	-	568	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	796	-	-	-	155	373
Mov Cap-2 Maneuver	-	-	-	-	155	-
Stage 1	-	-	-	-	422	-
Stage 2	-	-	-	-	568	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	24.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	796	-	-	-	247
HCM Lane V/C Ratio	0.014	-	-	-	0.268
HCM Control Delay (s)	9.6	0	-	-	24.8
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	130	131	49	603	260	28
Future Volume (veh/h)	130	131	49	603	260	28
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1900	1900
Adj Flow Rate, veh/h	141	142	53	655	283	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	0	0
Cap, veh/h	233	235	151	854	400	42
Arrive On Green	0.27	0.27	0.09	0.46	0.25	0.25
Sat Flow, veh/h	848	854	1767	1856	1574	167
Grp Volume(v), veh/h	0	283	53	655	314	0
Grp Sat Flow(s),veh/h/ln	0	1702	1767	1856	1747	0
Q Serve(g_s), s	0.0	5.1	1.0	10.3	5.7	0.0
Cycle Q Clear(g_c), s	0.0	5.1	1.0	10.3	5.7	0.0
Prop In Lane		0.50	1.00		0.90	0.10
Lane Grp Cap(c), veh/h	0	468	151	854	444	0
V/C Ratio(X)	0.00	0.60	0.35	0.77	0.71	0.00
Avail Cap(c_a), veh/h	0	1918	857	2118	1993	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	11.1	15.1	7.9	11.9	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.5	1.8	2.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.5	0.3	2.4	1.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	12.6	15.6	9.7	14.4	0.0
LnGrp LOS	A	B	B	A	B	A
Approach Vol, veh/h	283			708	314	
Approach Delay, s/veh	12.6			10.1	14.4	
Approach LOS	B			B	B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		21.1		13.9	6.5	14.6
Change Period (Y+Rc), s		* 5		5.0	3.5	5.0
Max Green Setting (Gmax), s		* 40		40.0	17.0	39.5
Max Q Clear Time (g_c+I1), s		12.3		7.7	3.0	7.1
Green Ext Time (p_c), s		3.8		1.6	0.0	1.5

Intersection Summary		
HCM 6th Ctrl Delay		11.7
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	235	87	712	429	64	38	127	141	88	248	81
Future Volume (veh/h)	9	235	87	712	429	64	38	127	141	88	248	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	10	255	0	774	466	0	41	138	0	96	270	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	171	1178		798	2187		288	471		481	670	
Arrive On Green	0.05	0.23	0.00	0.23	0.43	0.00	0.08	0.13	0.00	0.14	0.19	0.00
Sat Flow, veh/h	3428	5066	1572	3428	5066	1572	3428	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	10	255	0	774	466	0	41	138	0	96	270	0
Grp Sat Flow(s),veh/h/ln	1714	1689	1572	1714	1689	1572	1714	1763	1572	1714	1763	1572
Q Serve(g_s), s	0.2	2.5	0.0	13.6	3.5	0.0	0.7	2.1	0.0	1.5	4.1	0.0
Cycle Q Clear(g_c), s	0.2	2.5	0.0	13.6	3.5	0.0	0.7	2.1	0.0	1.5	4.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	171	1178		798	2187		288	471		481	670	
V/C Ratio(X)	0.06	0.22		0.97	0.21		0.14	0.29		0.20	0.40	
Avail Cap(c_a), veh/h	967	4355		798	4355		967	820		798	820	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.4	18.8	0.0	23.0	10.8	0.0	25.7	23.7	0.0	23.0	21.5	0.0
Incr Delay (d2), s/veh	0.1	0.2	0.0	24.6	0.1	0.0	0.1	0.5	0.0	0.2	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.9	0.0	7.4	1.0	0.0	0.3	0.9	0.0	0.6	1.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.5	19.0	0.0	47.6	10.9	0.0	25.8	24.2	0.0	23.2	21.9	0.0
LnGrp LOS	C	B		D	B		C	C		C	C	
Approach Vol, veh/h		265	A		1240	A		179	A		366	A
Approach Delay, s/veh		19.3			33.8			24.5			22.3	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.5	18.1	8.5	15.5	6.4	30.2	11.9	12.1
Change Period (Y+Rc), s	6.5	6.1	5.5	6.1	5.5	6.1	5.5	6.1
Max Green Setting (Gmax), s	12.0	50.0	15.0	12.0	15.0	50.0	12.0	12.0
Max Q Clear Time (g_c+I1), s	15.6	4.5	2.7	6.1	2.2	5.5	3.5	4.1
Green Ext Time (p_c), s	0.0	2.5	0.0	0.5	0.0	4.9	0.2	0.4

Intersection Summary	
HCM 6th Ctrl Delay	29.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	46	62	348	84	436	432
Future Volume (veh/h)	46	62	348	84	436	432
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	50	67	378	91	474	470
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	632	290	1413	439	692	2089
Arrive On Green	0.18	0.18	0.28	0.28	0.20	0.59
Sat Flow, veh/h	3428	1572	5233	1572	3428	3618
Grp Volume(v), veh/h	50	67	378	91	474	470
Grp Sat Flow(s),veh/h/ln	1714	1572	1689	1572	1714	1763
Q Serve(g_s), s	0.6	2.0	3.1	2.4	6.9	3.4
Cycle Q Clear(g_c), s	0.6	2.0	3.1	2.4	6.9	3.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	632	290	1413	439	692	2089
V/C Ratio(X)	0.08	0.23	0.27	0.21	0.68	0.23
Avail Cap(c_a), veh/h	1594	731	3298	1024	1275	2098
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.2	18.7	15.1	14.8	19.9	5.2
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.2	1.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.8	1.0	0.7	2.5	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.2	18.8	15.2	15.1	21.6	5.2
LnGrp LOS	B	B	B	B	C	A
Approach Vol, veh/h	117		469			944
Approach Delay, s/veh	18.5		15.2			13.4
Approach LOS	B		B			B

Timer - Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				37.9		15.9	16.9	21.0
Change Period (Y+Rc), s				6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s				32.0		25.0	20.0	35.0
Max Q Clear Time (g_c+I1), s				5.4		4.0	8.9	5.1
Green Ext Time (p_c), s				3.5		0.2	2.0	2.7

Intersection Summary		
HCM 6th Ctrl Delay		14.4
HCM 6th LOS		B

Intersection	
Int Delay, s/veh	5.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	54	180	590	17	19	410
Future Vol, veh/h	54	180	590	17	19	410
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	320	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	59	180	590	17	19	410

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1047	599	0	0	607	0
Stage 1	599	-	-	-	-	-
Stage 2	448	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	252	500	-	-	966	-
Stage 1	547	-	-	-	-	-
Stage 2	642	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	247	500	-	-	966	-
Mov Cap-2 Maneuver	247	-	-	-	-	-
Stage 1	547	-	-	-	-	-
Stage 2	629	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.6	0	0.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	399	966	-
HCM Lane V/C Ratio	-	-	0.598	0.02	-
HCM Control Delay (s)	-	-	26.6	8.8	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	3.8	0.1	-

Intersection	
Intersection Delay, s/veh	41.3
Intersection LOS	E

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	37	76	226	393	308	214
Future Vol, veh/h	37	76	226	393	308	214
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	42	85	254	442	346	240
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	11.6	58.6	27.3
HCM LOS	B	F	D

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	37%	33%	0%
Vol Thru, %	63%	0%	59%
Vol Right, %	0%	67%	41%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	619	113	522
LT Vol	226	37	0
Through Vol	393	0	308
RT Vol	0	76	214
Lane Flow Rate	696	127	587
Geometry Grp	1	1	1
Degree of Util (X)	1.007	0.231	0.824
Departure Headway (Hd)	5.212	6.552	5.055
Convergence, Y/N	Yes	Yes	Yes
Cap	696	546	716
Service Time	3.248	4.614	3.095
HCM Lane V/C Ratio	1	0.233	0.82
HCM Control Delay	58.6	11.6	27.3
HCM Lane LOS	F	B	D
HCM 95th-tile Q	16.4	0.9	8.9

Intersection	
Int Delay, s/veh	5.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	279	349	1	85	299
Future Vol, veh/h	2	279	349	1	85	299
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	2	324	406	1	99	348

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	953	407	0	0	407	0
Stage 1	407	-	-	-	-	-
Stage 2	546	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	286	642	-	-	1146	-
Stage 1	670	-	-	-	-	-
Stage 2	578	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	255	642	-	-	1146	-
Mov Cap-2 Maneuver	255	-	-	-	-	-
Stage 1	670	-	-	-	-	-
Stage 2	516	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.5	0	1.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	635	1146	-
HCM Lane V/C Ratio	-	-	0.515	0.086	-
HCM Control Delay (s)	-	-	16.5	8.4	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	3	0.3	-

Intersection	
Int Delay, s/veh	9.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	6	0	347	0	4	8	290	9	0
Future Vol, veh/h	0	0	0	6	0	347	0	4	8	290	9	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	84	100	84	100	84	84	84	84	100
Heavy Vehicles, %	0	0	0	3	0	3	9	3	3	3	3	0
Mvmt Flow	0	0	0	7	0	413	0	5	10	345	11	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	918	716	11	711	-	10	-	0	0	15	0	0
Stage 1	701	701	-	10	-	-	-	-	-	-	-	-
Stage 2	217	15	-	701	-	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	-	6.23	-	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	-	3.327	-	-	-	2.227	-	-
Pot Cap-1 Maneuver	254	358	1076	347	0	1068	0	-	-	1596	-	-
Stage 1	433	444	-	1008	0	-	0	-	-	-	-	-
Stage 2	790	887	-	428	0	-	0	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	130	280	1076	289	-	1068	-	-	-	1596	-	-
Mov Cap-2 Maneuver	130	280	-	289	-	-	-	-	-	-	-	-
Stage 1	433	348	-	1008	-	-	-	-	-	-	-	-
Stage 2	484	887	-	335	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	11	0	7.6
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	-	1021	1596	-	-
HCM Lane V/C Ratio	-	-	-	0.412	0.216	-	-
HCM Control Delay (s)	-	-	0	11	7.9	0	-
HCM Lane LOS	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	-	-	-	2	0.8	-	-

Intersection						
Int Delay, s/veh	6.2					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	25	377	111	0	9
Future Vol, veh/h	0	25	377	111	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	28	419	123	0	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	966	5	10	0	-	0
Stage 1	5	-	-	-	-	-
Stage 2	961	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	281	1075	1603	-	-	-
Stage 1	1016	-	-	-	-	-
Stage 2	370	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	202	1075	1603	-	-	-
Mov Cap-2 Maneuver	202	-	-	-	-	-
Stage 1	731	-	-	-	-	-
Stage 2	370	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.4	6.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1603	-	1075	-	-
HCM Lane V/C Ratio	0.261	-	0.026	-	-
HCM Control Delay (s)	8	0	8.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	1.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	8	25	1	37	7	61	58	2	12	66	59
Future Vol, veh/h	15	8	25	1	37	7	61	58	2	12	66	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	180	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	7	0	12	0	3	20	5	0	0	0	0	0
Mvmt Flow	16	9	27	1	39	7	65	62	2	13	70	63

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	309	322	67	259	352	32	133	0	0	64	0	0
Stage 1	128	128	-	193	193	-	-	-	-	-	-	-
Stage 2	181	194	-	66	159	-	-	-	-	-	-	-
Critical Hdwy	7.64	6.5	7.14	7.5	6.56	7.3	4.2	-	-	4.1	-	-
Critical Hdwy Stg 1	6.64	5.5	-	6.5	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.64	5.5	-	6.5	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.57	4	3.42	3.5	4.03	3.5	2.25	-	-	2.2	-	-
Pot Cap-1 Maneuver	608	599	951	678	569	979	1428	-	-	1551	-	-
Stage 1	848	794	-	796	737	-	-	-	-	-	-	-
Stage 2	789	744	-	943	763	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	547	566	951	624	538	979	1428	-	-	1551	-	-
Mov Cap-2 Maneuver	547	566	-	624	538	-	-	-	-	-	-	-
Stage 1	809	787	-	759	703	-	-	-	-	-	-	-
Stage 2	706	710	-	899	756	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.5	11.8	3.9	0.6
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1428	-	-	707	580	1551	-	-
HCM Lane V/C Ratio	0.045	-	-	0.072	0.083	0.008	-	-
HCM Control Delay (s)	7.6	-	-	10.5	11.8	7.3	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.3	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	33	9	2	33	0	1152	31	341	8	4	20
Future Volume (veh/h)	14	33	9	2	33	0	1152	31	341	8	4	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	15	36	10	2	36	0	1252	34	371	9	4	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	64	356	159	26	493	0	1700	2043	911	23	179	152
Arrive On Green	0.02	0.10	0.10	0.01	0.10	0.00	0.50	0.58	0.58	0.01	0.10	0.10
Sat Flow, veh/h	3428	3526	1572	1767	5233	0	3428	3526	1572	1767	1856	1572
Grp Volume(v), veh/h	15	36	10	2	36	0	1252	34	371	9	4	22
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1767	1689	0	1714	1763	1572	1767	1856	1572
Q Serve(g_s), s	0.2	0.5	0.3	0.1	0.4	0.0	15.9	0.2	7.1	0.3	0.1	0.7
Cycle Q Clear(g_c), s	0.2	0.5	0.3	0.1	0.4	0.0	15.9	0.2	7.1	0.3	0.1	0.7
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	64	356	159	26	493	0	1700	2043	911	23	179	152
V/C Ratio(X)	0.24	0.10	0.06	0.08	0.07	0.00	0.74	0.02	0.41	0.39	0.02	0.14
Avail Cap(c_a), veh/h	1513	2372	1058	1118	3408	0	2538	2655	1184	619	687	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	22.4	22.3	26.6	22.5	0.0	11.0	4.9	6.3	26.9	22.4	22.7
Incr Delay (d2), s/veh	1.9	0.1	0.1	1.5	0.1	0.0	0.8	0.0	0.3	10.5	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.2	0.1	0.0	0.1	0.0	4.7	0.1	1.7	0.2	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.4	22.5	22.5	28.1	22.6	0.0	11.7	4.9	6.6	37.4	22.5	23.1
LnGrp LOS	C	C	C	C	C	A	B	A	A	D	C	C
Approach Vol, veh/h		61			38			1657			35	
Approach Delay, s/veh		24.0			22.9			10.5			26.7	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.8	9.5	31.2	9.3	5.0	9.3	4.7	35.8
Change Period (Y+Rc), s	* 4.7	4.9	4.6	5.3	* 4.2	4.9	* 4.2	5.3
Max Green Setting (Gmax), s	* 34	36.0	40.0	19.0	* 24	36.0	* 19	40.0
Max Q Clear Time (g_c+I1), s	2.1	2.5	17.9	2.7	2.2	2.4	2.3	9.1
Green Ext Time (p_c), s	0.0	0.1	8.7	0.0	0.0	0.1	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	11.5
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	226	4	6	985	37	1	0	0	4	0	28
Future Volume (veh/h)	62	226	4	6	985	37	1	0	0	4	0	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	67	246	4	7	1071	40	1	0	0	4	0	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	276	2782	45	26	2008	75	4	155	0	15	167	141
Arrive On Green	0.16	0.54	0.54	0.01	0.40	0.40	0.00	0.00	0.00	0.01	0.00	0.09
Sat Flow, veh/h	1767	5134	83	1767	5012	187	1767	1856	0	1767	1856	1572
Grp Volume(v), veh/h	67	161	89	7	721	390	1	0	0	4	0	30
Grp Sat Flow(s),veh/h/ln	1767	1689	1841	1767	1689	1822	1767	1856	0	1767	1856	1572
Q Serve(g_s), s	1.7	1.2	1.2	0.2	8.3	8.4	0.0	0.0	0.0	0.1	0.0	0.9
Cycle Q Clear(g_c), s	1.7	1.2	1.2	0.2	8.3	8.4	0.0	0.0	0.0	0.1	0.0	0.9
Prop In Lane	1.00		0.05	1.00		0.10	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	276	1830	997	26	1353	730	4	155	0	15	167	141
V/C Ratio(X)	0.24	0.09	0.09	0.27	0.53	0.53	0.26	0.00	0.00	0.26	0.00	0.21
Avail Cap(c_a), veh/h	690	2636	1437	517	2636	1422	690	543	0	517	543	460
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.0	5.6	5.6	25.0	11.7	11.7	25.5	0.0	0.0	25.2	0.0	21.6
Incr Delay (d2), s/veh	0.2	0.0	0.0	2.0	0.4	0.7	12.3	0.0	0.0	3.3	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.3	0.3	0.1	2.6	2.8	0.0	0.0	0.0	0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.1	5.7	5.7	27.0	12.1	12.4	37.8	0.0	0.0	28.6	0.0	21.9
LnGrp LOS	B	A	A	C	B	B	D	A	A	C	A	C
Approach Vol, veh/h		317			1118			1			34	
Approach Delay, s/veh		8.5			12.3			37.8			22.7	
Approach LOS		A			B			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.3	32.3	4.6	9.1	12.5	25.0	4.9	8.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.0	40.0	20.0	15.0	20.0	40.0	15.0	15.0
Max Q Clear Time (g_c+I1), s	2.2	3.2	2.0	2.9	3.7	10.4	2.1	0.0
Green Ext Time (p_c), s	0.0	1.9	0.0	0.0	0.0	10.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	11.8
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	472	54	0	463	185	0	0	0	245	123	546
Future Volume (veh/h)	107	472	54	0	463	185	0	0	0	245	123	546
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	0	1856	1856				1856	1856	1856
Adj Flow Rate, veh/h	116	513	59	0	503	0				200	226	593
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	0	3	3				3	3	3
Cap, veh/h	269	1398	623	0	1246					812	853	723
Arrive On Green	0.08	0.40	0.40	0.00	0.25	0.00				0.46	0.46	0.46
Sat Flow, veh/h	3428	3526	1572	0	5233	1572				1767	1856	1572
Grp Volume(v), veh/h	116	513	59	0	503	0				200	226	593
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	0	1689	1572				1767	1856	1572
Q Serve(g_s), s	1.8	5.7	1.3	0.0	4.6	0.0				3.8	4.2	18.2
Cycle Q Clear(g_c), s	1.8	5.7	1.3	0.0	4.6	0.0				3.8	4.2	18.2
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	269	1398	623	0	1246					812	853	723
V/C Ratio(X)	0.43	0.37	0.09	0.00	0.40					0.25	0.27	0.82
Avail Cap(c_a), veh/h	1863	2747	1225	0	3947					1291	1356	1149
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	24.4	11.8	10.5	0.0	17.5	0.0				9.2	9.2	13.0
Incr Delay (d2), s/veh	1.1	0.4	0.2	0.0	0.5	0.0				0.2	0.2	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.9	0.4	0.0	1.6	0.0				1.2	1.4	14.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.5	12.2	10.7	0.0	18.1	0.0				9.3	9.4	15.7
LnGrp LOS	C	B	B	A	B					A	A	B
Approach Vol, veh/h		688			503	A					1019	
Approach Delay, s/veh		14.3			18.1						13.0	
Approach LOS		B			B						B	

Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		26.0		29.5	8.4	17.7						
Change Period (Y+Rc), s		5.3		4.6	* 4.2	5.3						
Max Green Setting (Gmax), s		42.0		40.0	* 30	42.0						
Max Q Clear Time (g_c+I1), s		7.7		20.2	3.8	6.6						
Green Ext Time (p_c), s		6.5		4.8	0.4	5.7						

Intersection Summary			
HCM 6th Ctrl Delay			14.6
HCM 6th LOS			B

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	433	284	0	1	613	166	34	81	93	0	0	1
Future Volume (veh/h)	433	284	0	1	613	166	34	81	93	0	0	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1856	0	1856	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	471	309	0	1	666	180	37	88	101			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	3	3	0	3	3	3	3	3	3			
Cap, veh/h	605	2472	0	51	1167	310	305	0	272			
Arrive On Green	0.34	0.70	0.00	0.28	0.30	0.28	0.17	0.17	0.17			
Sat Flow, veh/h	1767	3618	0	1	3868	1027	1767	0	1572			
Grp Volume(v), veh/h	471	309	0	319	264	264	37	0	101			
Grp Sat Flow(s),veh/h/ln	1767	1763	0	1855	1537	1504	1767	0	1572			
Q Serve(g_s), s	16.9	2.0	0.0	0.0	10.2	10.6	1.2	0.0	4.0			
Cycle Q Clear(g_c), s	16.9	2.0	0.0	10.4	10.2	10.6	1.2	0.0	4.0			
Prop In Lane	1.00		0.00	0.00		0.68	1.00		1.00			
Lane Grp Cap(c), veh/h	605	2472	0	577	464	454	305	0	272			
V/C Ratio(X)	0.78	0.13	0.00	0.55	0.57	0.58	0.12	0.00	0.37			
Avail Cap(c_a), veh/h	1082	3562	0	1233	1008	986	431	0	383			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	20.8	3.5	0.0	20.8	20.8	21.3	24.7	0.0	25.8			
Incr Delay (d2), s/veh	5.9	0.0	0.0	1.2	1.6	1.7	0.2	0.0	0.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	7.1	0.4	0.0	4.3	3.5	3.6	0.5	0.0	1.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.7	3.5	0.0	22.0	22.3	22.9	24.8	0.0	26.6			
LnGrp LOS	C	A	A	C	C	C	C	A	C			
Approach Vol, veh/h		780			847			138				
Approach Delay, s/veh		17.5			22.4			26.2				
Approach LOS		B			C			C				

Timer - Assigned Phs		2			5	6		8	
Phs Duration (G+Y+Rc), s		53.5			28.2	25.3		17.1	
Change Period (Y+Rc), s		5.3			* 4.2	5.3		5.1	
Max Green Setting (Gmax), s		70.0			* 43	45.0		17.0	
Max Q Clear Time (g_c+I1), s		4.0			18.9	12.6		6.0	
Green Ext Time (p_c), s		2.2			5.1	5.8		0.3	

Intersection Summary			
HCM 6th Ctrl Delay			20.5
HCM 6th LOS			C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	489	21	32	942	24	322	23	105	116	16	72
Future Volume (veh/h)	1	489	21	32	942	24	322	23	105	116	16	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	1	532	23	35	1024	26	350	25	114	126	17	78
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	4	1390	432	99	1664	516	374	514	436	183	49	224
Arrive On Green	0.00	0.27	0.27	0.06	0.33	0.33	0.21	0.28	0.28	0.10	0.17	0.17
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	1856	1572	1767	289	1327
Grp Volume(v), veh/h	1	532	23	35	1024	26	350	25	114	126	0	95
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1856	1572	1767	0	1617
Q Serve(g_s), s	0.0	6.0	0.8	1.4	12.1	0.8	13.8	0.7	4.0	4.9	0.0	3.7
Cycle Q Clear(g_c), s	0.0	6.0	0.8	1.4	12.1	0.8	13.8	0.7	4.0	4.9	0.0	3.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.82
Lane Grp Cap(c), veh/h	4	1390	432	99	1664	516	374	514	436	183	0	273
V/C Ratio(X)	0.26	0.38	0.05	0.35	0.62	0.05	0.94	0.05	0.26	0.69	0.00	0.35
Avail Cap(c_a), veh/h	374	2499	776	374	2499	776	374	514	436	374	0	342
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.3	20.9	19.0	32.2	20.1	16.3	27.5	18.8	20.0	30.7	0.0	26.0
Incr Delay (d2), s/veh	12.4	0.2	0.1	0.8	0.5	0.1	30.5	0.0	0.3	1.7	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.2	0.3	0.6	4.2	0.3	8.6	0.3	1.4	2.1	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.7	21.1	19.0	33.0	20.6	16.3	58.0	18.8	20.3	32.4	0.0	26.6
LnGrp LOS	D	C	B	C	C	B	E	B	C	C	A	C
Approach Vol, veh/h		556			1085			489			221	
Approach Delay, s/veh		21.1			20.9			47.2			29.9	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	25.0	20.0	17.0	5.2	28.8	12.3	24.7
Change Period (Y+Rc), s	5.0	5.5	5.0	5.0	5.0	5.5	5.0	5.0
Max Green Setting (Gmax), s	15.0	35.0	15.0	15.0	15.0	35.0	15.0	15.0
Max Q Clear Time (g_c+I1), s	3.4	8.0	15.8	5.7	2.0	14.1	6.9	6.0
Green Ext Time (p_c), s	0.0	5.0	0.0	0.2	0.0	9.2	0.1	0.3

Intersection Summary	
HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	74	1	18	51	5	48
Future Vol, veh/h	74	1	18	51	5	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	82	1	20	57	6	53

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	114	49	0	0	77	0
Stage 1	49	-	-	-	-	-
Stage 2	65	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	880	1017	-	-	1515	-
Stage 1	971	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	876	1017	-	-	1515	-
Mov Cap-2 Maneuver	876	-	-	-	-	-
Stage 1	971	-	-	-	-	-
Stage 2	951	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	878	1515	-
HCM Lane V/C Ratio	-	-	0.095	0.004	-
HCM Control Delay (s)	-	-	9.5	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	180	98	79	471	102	316	150	77	37	78	69
Future Volume (veh/h)	32	180	98	79	471	102	316	150	77	37	78	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	35	196	0	86	512	111	343	163	84	40	85	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	170	1166		486	796	172	892	841	375	350	570	
Arrive On Green	0.10	0.23	0.00	0.14	0.28	0.24	0.18	0.24	0.24	0.10	0.16	0.00
Sat Flow, veh/h	1767	5066	1572	3428	2884	622	4983	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	35	196	0	86	312	311	343	163	84	40	85	0
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1714	1763	1744	1661	1763	1572	1714	1763	1572
Q Serve(g_s), s	1.0	1.7	0.0	1.2	8.7	8.8	3.4	2.1	2.4	0.6	1.2	0.0
Cycle Q Clear(g_c), s	1.0	1.7	0.0	1.2	8.7	8.8	3.4	2.1	2.4	0.6	1.2	0.0
Prop In Lane	1.00		1.00	1.00		0.36	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	170	1166		486	486	481	892	841	375	350	570	
V/C Ratio(X)	0.21	0.17		0.18	0.64	0.65	0.38	0.19	0.22	0.11	0.15	
Avail Cap(c_a), veh/h	857	4278		1663	1489	1472	2865	2977	1328	1663	2977	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.2	17.2	0.0	21.0	17.7	18.1	20.1	16.9	17.0	22.7	20.0	0.0
Incr Delay (d2), s/veh	0.6	0.1	0.0	0.2	1.4	1.5	0.3	0.1	0.3	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.6	0.0	0.4	3.2	3.2	1.2	0.7	0.8	0.2	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.8	17.2	0.0	21.2	19.2	19.6	20.4	17.0	17.3	22.8	20.2	0.0
LnGrp LOS	C	B		C	B	B	C	B	B	C	C	
Approach Vol, veh/h		231	A		709			590			125	A
Approach Delay, s/veh		18.2			19.6			19.0			21.0	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	17.3	11.9	16.8	14.0	13.0	9.3	19.4
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	25.0	45.0	25.0	45.0	30.0	45.0	25.0	45.0
Max Q Clear Time (g_c+I1), s	2.6	4.4	3.2	3.7	5.4	3.2	3.0	10.8
Green Ext Time (p_c), s	0.1	1.1	0.3	0.9	1.6	0.3	0.1	2.5

Intersection Summary		
HCM 6th Ctrl Delay		19.3
HCM 6th LOS		B

Notes

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	562	208	78	459	162	349	519	155	248	254	176
Future Volume (veh/h)	125	562	208	78	459	162	349	519	155	248	254	176
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	136	611	0	85	499	176	379	564	168	270	276	191
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	288	843		279	829	257	478	1894	845	368	1781	794
Arrive On Green	0.08	0.17	0.00	0.08	0.16	0.16	0.14	0.54	0.54	0.11	0.51	0.51
Sat Flow, veh/h	3428	5066	1572	3428	5066	1572	3428	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	136	611	0	85	499	176	379	564	168	270	276	191
Grp Sat Flow(s),veh/h/ln	1714	1689	1572	1714	1689	1572	1714	1763	1572	1714	1763	1572
Q Serve(g_s), s	4.9	14.9	0.0	3.0	11.9	13.7	13.9	11.5	7.2	9.9	5.5	8.9
Cycle Q Clear(g_c), s	4.9	14.9	0.0	3.0	11.9	13.7	13.9	11.5	7.2	9.9	5.5	8.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	843		279	829	257	478	1894	845	368	1781	794
V/C Ratio(X)	0.47	0.72		0.30	0.60	0.68	0.79	0.30	0.20	0.73	0.15	0.24
Avail Cap(c_a), veh/h	343	1715		343	1715	532	501	1894	845	369	1781	794
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	56.8	51.4	0.0	56.2	50.4	51.2	54.1	16.6	15.6	56.2	17.3	18.1
Incr Delay (d2), s/veh	1.1	1.1	0.0	0.6	0.7	3.2	8.2	0.4	0.5	8.3	0.2	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	6.2	0.0	1.3	5.0	5.5	6.5	4.6	2.6	4.7	2.2	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.9	52.5	0.0	56.9	51.1	54.4	62.4	17.0	16.1	64.5	17.4	18.8
LnGrp LOS	E	D		E	D	D	E	B	B	E	B	B
Approach Vol, veh/h		747	A		760			1111			737	
Approach Delay, s/veh		53.5			52.5			32.3			35.0	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.6	25.6	16.9	73.8	13.9	25.3	21.1	69.7
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	11.0	42.0	12.0	43.0	11.0	42.0	17.0	38.0
Max Q Clear Time (g_c+I1), s	5.0	16.9	11.9	13.5	6.9	15.7	15.9	10.9
Green Ext Time (p_c), s	0.1	2.8	0.0	3.4	0.2	3.0	0.2	2.0

Intersection Summary	
HCM 6th Ctrl Delay	42.2
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	57	39	146	131	339	39	372	33	216	201	93
Future Volume (veh/h)	95	57	39	146	131	339	39	372	33	216	201	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	103	62	42	159	142	368	42	404	36	235	218	101
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	155	841	375	202	467	417	92	597	53	373	566	253
Arrive On Green	0.09	0.24	0.24	0.11	0.27	0.27	0.05	0.18	0.18	0.11	0.24	0.24
Sat Flow, veh/h	1767	3526	1572	1767	1763	1572	1767	3275	291	3428	2368	1059
Grp Volume(v), veh/h	103	62	42	159	142	368	42	217	223	235	160	159
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1767	1763	1803	1714	1763	1665
Q Serve(g_s), s	3.0	0.7	1.1	4.7	3.4	12.0	1.2	6.1	6.2	3.5	4.1	4.3
Cycle Q Clear(g_c), s	3.0	0.7	1.1	4.7	3.4	12.0	1.2	6.1	6.2	3.5	4.1	4.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		0.64
Lane Grp Cap(c), veh/h	155	841	375	202	467	417	92	322	329	373	422	398
V/C Ratio(X)	0.66	0.07	0.11	0.79	0.30	0.88	0.46	0.67	0.68	0.63	0.38	0.40
Avail Cap(c_a), veh/h	496	990	441	496	495	441	496	990	1012	1604	990	935
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	15.8	15.9	23.0	15.7	18.8	24.6	20.4	20.4	22.8	17.0	17.1
Incr Delay (d2), s/veh	1.8	0.0	0.1	2.5	0.1	17.0	1.3	2.5	2.5	0.7	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.3	0.4	1.9	1.2	5.6	0.5	2.4	2.5	1.3	1.5	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.4	15.8	16.0	25.6	15.8	35.8	25.9	22.8	22.8	23.4	17.6	17.7
LnGrp LOS	C	B	B	C	B	D	C	C	C	C	B	B
Approach Vol, veh/h		207			669			482			554	
Approach Delay, s/veh		20.6			29.2			23.1			20.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	17.8	10.3	14.7	9.2	19.2	7.3	17.8
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	15.0	15.0	25.0	30.0	15.0	15.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	6.7	3.1	5.5	8.2	5.0	14.0	3.2	6.3
Green Ext Time (p_c), s	0.1	0.2	0.4	1.6	0.0	0.2	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	24.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	74.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	150	154	177	150	63	134	184	37	64	299	11
Future Vol, veh/h	8	150	154	177	150	63	134	184	37	64	299	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	13	0	18	0	3	2	7	11	0	2	6	0
Mvmt Flow	8	158	162	186	158	66	141	194	39	67	315	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	51	88	72.8	80.6
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	38%	3%	45%	17%
Vol Thru, %	52%	48%	38%	80%
Vol Right, %	10%	49%	16%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	355	312	390	374
LT Vol	134	8	177	64
Through Vol	184	150	150	299
RT Vol	37	154	63	11
Lane Flow Rate	374	328	411	394
Geometry Grp	1	1	1	1
Degree of Util (X)	0.976	0.864	1.039	1.01
Departure Headway (Hd)	9.695	9.784	9.388	9.524
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	377	374	390	386
Service Time	7.695	7.784	7.388	7.524
HCM Lane V/C Ratio	0.992	0.877	1.054	1.021
HCM Control Delay	72.8	51	88	80.6
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	11.1	8.2	13.2	12.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	2	23	0	142	3	168	4	60	460	19
Future Volume (veh/h)	1	0	2	23	0	142	3	168	4	60	460	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	1	0	2	25	0	154	3	183	4	65	500	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	5	0	233	65	0	287	9	916	20	138	1173	523
Arrive On Green	0.00	0.00	0.15	0.04	0.00	0.18	0.00	0.26	0.26	0.08	0.33	0.33
Sat Flow, veh/h	1767	0	1572	1767	0	1572	1767	3528	77	1767	3526	1572
Grp Volume(v), veh/h	1	0	2	25	0	154	3	91	96	65	500	21
Grp Sat Flow(s),veh/h/ln	1767	0	1572	1767	0	1572	1767	1763	1842	1767	1763	1572
Q Serve(g_s), s	0.0	0.0	0.0	0.5	0.0	3.4	0.1	1.6	1.6	1.4	4.2	0.3
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.5	0.0	3.4	0.1	1.6	1.6	1.4	4.2	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	5	0	233	65	0	287	9	458	478	138	1173	523
V/C Ratio(X)	0.22	0.00	0.01	0.39	0.00	0.54	0.34	0.20	0.20	0.47	0.43	0.04
Avail Cap(c_a), veh/h	1377	0	1225	1377	0	1225	1377	2289	2391	1377	4578	2042
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.2	0.0	14.0	18.1	0.0	14.3	19.1	11.1	11.1	17.0	10.0	8.7
Incr Delay (d2), s/veh	22.2	0.0	0.0	3.7	0.0	1.6	21.9	0.3	0.3	2.5	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.3	0.0	1.2	0.1	0.5	0.5	0.5	1.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.4	0.0	14.0	21.9	0.0	15.8	41.0	11.4	11.4	19.5	10.3	8.7
LnGrp LOS	D	A	B	C	A	B	D	B	B	B	B	A
Approach Vol, veh/h		3			179			190			586	
Approach Delay, s/veh		23.1			16.7			11.9			11.3	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	15.8	5.4	10.3	4.2	18.6	4.1	11.6
Change Period (Y+Rc), s	4.0	* 5.8	4.0	4.6	4.0	5.8	4.0	4.6
Max Green Setting (Gmax), s	30.0	* 50	30.0	30.0	30.0	50.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	3.4	3.6	2.5	2.0	2.1	6.2	2.0	5.4
Green Ext Time (p_c), s	0.1	1.5	0.0	0.0	0.0	5.0	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	12.5
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	3	49	374	4	17	7	105	9	3	595	7
Future Volume (veh/h)	0	3	49	374	4	17	7	105	9	3	595	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1589	1589	1900	1870	1900
Adj Flow Rate, veh/h	0	3	50	382	4	17	7	107	9	3	607	7
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	21	21	0	2	0
Cap, veh/h	3	7	117	443	119	507	20	1084	90	9	747	643
Arrive On Green	0.00	0.08	0.08	0.24	0.38	0.38	0.01	0.38	0.38	0.00	0.40	0.40
Sat Flow, veh/h	1810	92	1532	1810	316	1342	1810	2821	235	1810	1870	1610
Grp Volume(v), veh/h	0	0	53	382	0	21	7	57	59	3	607	7
Grp Sat Flow(s),veh/h/ln	1810	0	1624	1810	0	1658	1810	1509	1547	1810	1870	1610
Q Serve(g_s), s	0.0	0.0	2.2	14.2	0.0	0.6	0.3	1.7	1.7	0.1	20.3	0.2
Cycle Q Clear(g_c), s	0.0	0.0	2.2	14.2	0.0	0.6	0.3	1.7	1.7	0.1	20.3	0.2
Prop In Lane	1.00		0.94	1.00		0.81	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	3	0	124	443	0	626	20	580	594	9	747	643
V/C Ratio(X)	0.00	0.00	0.43	0.86	0.00	0.03	0.35	0.10	0.10	0.34	0.81	0.01
Avail Cap(c_a), veh/h	773	0	693	773	0	708	773	1074	1101	773	1331	1146
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	31.0	25.4	0.0	13.8	34.5	13.8	13.9	34.8	18.8	12.7
Incr Delay (d2), s/veh	0.0	0.0	2.3	5.1	0.0	0.0	10.5	0.1	0.1	21.4	3.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.9	6.3	0.0	0.2	0.2	0.5	0.5	0.1	8.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	33.3	30.5	0.0	13.8	45.0	14.0	14.0	56.2	21.9	12.7
LnGrp LOS	A	A	C	C	A	B	D	B	B	E	C	B
Approach Vol, veh/h		53			403			123			617	
Approach Delay, s/veh		33.3			29.6			15.7			21.9	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	32.8	21.2	10.4	4.8	33.9	0.0	31.6
Change Period (Y+Rc), s	5.5	5.8	4.0	5.1	4.0	5.8	4.0	5.1
Max Green Setting (Gmax), s	30.0	50.0	30.0	30.0	30.0	50.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	2.1	3.7	16.2	4.2	2.3	22.3	0.0	2.6
Green Ext Time (p_c), s	0.0	0.9	1.0	0.2	0.0	5.8	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	125.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	246	39	82	68	108	860
Future Vol, veh/h	246	39	82	68	108	860
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	13	51	7	41	24	1
Mvmt Flow	276	44	92	76	121	966

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1338	130	0	0	168	0
Stage 1	130	-	-	-	-	-
Stage 2	1208	-	-	-	-	-
Critical Hdwy	6.53	6.71	-	-	4.34	-
Critical Hdwy Stg 1	5.53	-	-	-	-	-
Critical Hdwy Stg 2	5.53	-	-	-	-	-
Follow-up Hdwy	3.617	3.759	-	-	2.416	-
Pot Cap-1 Maneuver	~ 160	804	-	-	1287	-
Stage 1	870	-	-	-	-	-
Stage 2	~ 269	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 128	804	-	-	1287	-
Mov Cap-2 Maneuver	~ 128	-	-	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	~ 214	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 615.7	0	0.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	145	1287	-
HCM Lane V/C Ratio	-	-	2.208	0.094	-
HCM Control Delay (s)	-	-	$ 615.7	8.1	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	26.4	0.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	159	2	117	1	124	0	0	228	678
Future Vol, veh/h	0	0	0	159	2	117	1	124	0	0	228	678
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	20	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	2	0	22	0	24	0	0	9	3
Mvmt Flow	0	0	0	183	2	134	1	143	0	0	262	779

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	797	1186	143	1041	0	-	-	-	0
Stage 1	145	145	-	-	-	-	-	-	-
Stage 2	652	1041	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.5	6.42	4.1	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4	3.498	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	356	190	854	676	-	0	0	-	-
Stage 1	882	781	-	-	-	0	0	-	-
Stage 2	518	310	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	355	0	854	676	-	-	-	-	-
Mov Cap-2 Maneuver	355	0	-	-	-	-	-	-	-
Stage 1	880	0	-	-	-	-	-	-	-
Stage 2	518	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.1	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	676	-	355	854	-	-
HCM Lane V/C Ratio	0.002	-	0.521	0.157	-	-
HCM Control Delay (s)	10.3	0	25.7	10	-	-
HCM Lane LOS	B	A	D	B	-	-
HCM 95th %tile Q(veh)	0	-	2.9	0.6	-	-

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	117	2	4	0	0	0	0	8	6	71	316	0
Future Vol, veh/h	117	2	4	0	0	0	0	8	6	71	316	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	26	50	0	0	0	0	0	0	0	28	1	0
Mvmt Flow	141	2	5	0	0	0	0	10	7	86	381	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	567	570	381				-	0	0	17	0	0
Stage 1	553	553	-				-	-	-	-	-	-
Stage 2	14	17	-				-	-	-	-	-	-
Critical Hdwy	6.66	7	6.2				-	-	-	4.38	-	-
Critical Hdwy Stg 1	5.66	6	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.66	6	-				-	-	-	-	-	-
Follow-up Hdwy	3.734	4.45	3.3				-	-	-	2.452	-	-
Pot Cap-1 Maneuver	447	372	671				0	-	-	1446	-	0
Stage 1	531	444	-				0	-	-	-	-	0
Stage 2	950	795	-				0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	413	0	671				-	-	-	1446	-	-
Mov Cap-2 Maneuver	413	0	-				-	-	-	-	-	-
Stage 1	531	0	-				-	-	-	-	-	-
Stage 2	879	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18	0	1.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	413	671	1446	-
HCM Lane V/C Ratio	-	-	0.347	0.007	0.059	-
HCM Control Delay (s)	-	-	18.3	10.4	7.6	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	1.5	0	0.2	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	8	132	14	31	251
Future Vol, veh/h	7	8	132	14	31	251
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	8	8	8	8	8	8
Mvmt Flow	8	9	147	16	34	279

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	502	155	0	0	163	0
Stage 1	155	-	-	-	-	-
Stage 2	347	-	-	-	-	-
Critical Hdwy	6.48	6.28	-	-	4.18	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	-	-	2.272	-
Pot Cap-1 Maneuver	518	875	-	-	1380	-
Stage 1	859	-	-	-	-	-
Stage 2	702	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	503	875	-	-	1380	-
Mov Cap-2 Maneuver	503	-	-	-	-	-
Stage 1	859	-	-	-	-	-
Stage 2	682	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	650	1380	-
HCM Lane V/C Ratio	-	-	0.026	0.025	-
HCM Control Delay (s)	-	-	10.7	7.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Intersection Delay, s/veh	12.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	67	32	50	26	16	43	152	199	30	226	5
Future Vol, veh/h	7	67	32	50	26	16	43	152	199	30	226	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	3	3	3	8	3	8	3	8	8	8	8	3
Mvmt Flow	8	74	36	56	29	18	48	169	221	33	251	6
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	11.6	11.4	11.3	14.2
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	7%	66%	0%	100%	0%
Vol Thru, %	0%	100%	0%	63%	34%	0%	0%	98%
Vol Right, %	0%	0%	100%	30%	0%	100%	0%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	43	152	199	106	76	16	30	231
LT Vol	43	0	0	7	50	0	30	0
Through Vol	0	152	0	67	26	0	0	226
RT Vol	0	0	199	32	0	16	0	5
Lane Flow Rate	48	169	221	118	84	18	33	257
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.089	0.295	0.342	0.224	0.176	0.031	0.065	0.462
Departure Headway (Hd)	6.698	6.278	5.57	6.85	7.491	6.363	6.994	6.473
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	534	571	643	522	477	559	511	554
Service Time	4.456	4.036	3.328	4.625	5.27	4.142	4.755	4.233
HCM Lane V/C Ratio	0.09	0.296	0.344	0.226	0.176	0.032	0.065	0.464
HCM Control Delay	10.1	11.7	11.2	11.6	11.9	9.3	10.2	14.7
HCM Lane LOS	B	B	B	B	B	A	B	B
HCM 95th-tile Q	0.3	1.2	1.5	0.9	0.6	0.1	0.2	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	729	82	219	153	158	0	0	277	48
Future Volume (veh/h)	0	0	0	729	82	219	153	158	0	0	277	48
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1856	1900	1856	1781	0	0	1781	1781
Adj Flow Rate, veh/h				792	89	238	166	172	0	0	301	52
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	3	0	3	8	0	0	8	8
Cap, veh/h				636	72	191	221	1280	0	0	585	100
Arrive On Green				0.52	0.52	0.51	0.12	0.38	0.00	0.00	0.20	0.19
Sat Flow, veh/h				1223	137	368	1767	3474	0	0	2980	494
Grp Volume(v), veh/h				1119	0	0	166	172	0	0	175	178
Grp Sat Flow(s),veh/h/ln				1728	0	0	1767	1692	0	0	1692	1693
Q Serve(g_s), s				40.9	0.0	0.0	7.1	2.6	0.0	0.0	7.2	7.4
Cycle Q Clear(g_c), s				40.9	0.0	0.0	7.1	2.6	0.0	0.0	7.2	7.4
Prop In Lane				0.71		0.21	1.00		0.00	0.00		0.29
Lane Grp Cap(c), veh/h				899	0	0	221	1280	0	0	342	342
V/C Ratio(X)				1.24	0.00	0.00	0.75	0.13	0.00	0.00	0.51	0.52
Avail Cap(c_a), veh/h				899	0	0	562	1976	0	0	988	988
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				19.0	0.0	0.0	33.2	16.0	0.0	0.0	27.9	28.1
Incr Delay (d2), s/veh				119.5	0.0	0.0	6.7	0.0	0.0	0.0	1.2	1.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				43.7	0.0	0.0	3.3	1.0	0.0	0.0	2.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				138.5	0.0	0.0	39.9	16.1	0.0	0.0	29.1	29.3
LnGrp LOS				F	A	A	D	B	A	A	C	C
Approach Vol, veh/h					1119			338			353	
Approach Delay, s/veh					138.5			27.8			29.2	
Approach LOS					F			C			C	

Timer - Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		33.7			13.8	19.9		44.9
Change Period (Y+Rc), s		4.9			4.0	4.9		4.9
Max Green Setting (Gmax), s		45.0			25.0	45.0		40.0
Max Q Clear Time (g_c+I1), s		4.6			9.1	9.4		42.9
Green Ext Time (p_c), s		0.8			0.7	1.4		0.0

Intersection Summary			
HCM 6th Ctrl Delay			96.5
HCM 6th LOS			F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	123	67	0	0	0	0	252	356	247	759	0
Future Volume (veh/h)	59	123	67	0	0	0	0	252	356	247	759	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1900				0	1856	1856	1781	1856	0
Adj Flow Rate, veh/h	64	134	73				0	274	387	268	825	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	0				0	3	3	8	3	0
Cap, veh/h	90	188	103				0	593	529	353	2200	0
Arrive On Green	0.22	0.22	0.20				0.00	0.34	0.32	0.21	0.62	0.00
Sat Flow, veh/h	413	865	471				0	1856	1572	1697	3618	0
Grp Volume(v), veh/h	271	0	0				0	274	387	268	825	0
Grp Sat Flow(s),veh/h/ln	1750	0	0				0	1763	1572	1697	1763	0
Q Serve(g_s), s	7.3	0.0	0.0				0.0	6.2	11.0	7.5	5.8	0.0
Cycle Q Clear(g_c), s	7.3	0.0	0.0				0.0	6.2	11.0	7.5	5.8	0.0
Prop In Lane	0.24		0.27				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	381	0	0				0	593	529	353	2200	0
V/C Ratio(X)	0.71	0.00	0.00				0.00	0.46	0.73	0.76	0.38	0.00
Avail Cap(c_a), veh/h	1245	0	0				0	1603	1430	840	3206	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.4	0.0	0.0				0.0	13.2	15.2	18.8	4.7	0.0
Incr Delay (d2), s/veh	2.5	0.0	0.0				0.0	0.6	2.0	4.4	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0				0.0	2.1	3.6	3.0	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.9	0.0	0.0				0.0	13.7	17.1	23.2	4.8	0.0
LnGrp LOS	C	A	A				A	B	B	C	A	A
Approach Vol, veh/h		271						661			1093	
Approach Delay, s/veh		20.9						15.7			9.3	
Approach LOS		C						B			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.5	21.0		15.0		35.5
Change Period (Y+Rc), s	4.0	4.9		4.9		4.9
Max Green Setting (Gmax), s	25.0	45.0		35.0		45.0
Max Q Clear Time (g_c+I1), s	9.5	13.0		9.3		7.8
Green Ext Time (p_c), s	1.3	3.0		1.1		4.3

Intersection Summary	
HCM 6th Ctrl Delay	12.9
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	268	81	95	316	49	67	331	79	162	417	178
Future Volume (veh/h)	123	268	81	95	316	49	67	331	79	162	417	178
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	134	291	88	103	343	53	73	360	86	176	453	193
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	167	1341	398	135	1478	226	115	483	114	204	543	229
Arrive On Green	0.09	0.50	0.50	0.08	0.48	0.48	0.06	0.17	0.16	0.12	0.22	0.22
Sat Flow, veh/h	1767	2680	795	1767	3065	469	1767	2830	668	1767	2414	1020
Grp Volume(v), veh/h	134	189	190	103	196	200	73	223	223	176	330	316
Grp Sat Flow(s),veh/h/ln	1767	1763	1712	1767	1763	1771	1767	1763	1735	1767	1763	1672
Q Serve(g_s), s	8.9	7.2	7.5	6.9	7.8	7.9	4.8	14.4	14.7	11.7	21.4	21.7
Cycle Q Clear(g_c), s	8.9	7.2	7.5	6.9	7.8	7.9	4.8	14.4	14.7	11.7	21.4	21.7
Prop In Lane	1.00		0.46	1.00		0.26	1.00		0.38	1.00		0.61
Lane Grp Cap(c), veh/h	167	882	857	135	850	854	115	301	296	204	396	376
V/C Ratio(X)	0.80	0.21	0.22	0.76	0.23	0.23	0.64	0.74	0.75	0.86	0.83	0.84
Avail Cap(c_a), veh/h	199	882	857	258	850	854	265	551	542	258	551	522
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	0.67	0.81	0.81	0.81	0.82	0.82	0.82	0.92	0.92	0.92
Uniform Delay (d), s/veh	53.2	16.8	16.9	54.4	18.1	18.2	54.7	47.3	47.6	52.2	44.3	44.8
Incr Delay (d2), s/veh	10.5	0.4	0.4	2.7	0.5	0.5	1.8	3.0	3.2	16.9	7.0	8.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	2.9	2.9	3.1	3.2	3.3	2.2	6.5	6.6	6.1	10.0	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.8	17.2	17.3	57.1	18.6	18.7	56.5	50.2	50.8	69.1	51.3	52.8
LnGrp LOS	E	B	B	E	B	B	E	D	D	E	D	D
Approach Vol, veh/h		513			499			519			822	
Approach Delay, s/veh		29.4			26.6			51.3			55.7	
Approach LOS		C			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.3	24.5	13.2	64.1	11.8	31.0	15.3	61.9
Change Period (Y+Rc), s	4.5	5.0	4.5	4.5	4.5	5.0	4.5	4.5
Max Green Setting (Gmax), s	17.5	36.5	17.0	30.5	17.5	36.5	13.0	34.5
Max Q Clear Time (g_c+I1), s	13.7	16.7	8.9	9.5	6.8	23.7	10.9	9.9
Green Ext Time (p_c), s	0.1	1.7	0.1	1.4	0.1	2.3	0.0	1.4

Intersection Summary			
HCM 6th Ctrl Delay			42.8
HCM 6th LOS			D

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	780	116	147	430	75	147	575	293	58	223	103
Future Volume (veh/h)	124	780	116	147	430	75	147	575	293	58	223	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	135	848	126	160	467	82	160	625	318	63	242	112
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	276	1675	747	279	1677	748	279	865	386	244	829	370
Arrive On Green	0.08	0.48	0.48	0.08	0.48	0.48	0.08	0.25	0.25	0.07	0.24	0.24
Sat Flow, veh/h	3428	3526	1572	3428	3526	1572	3428	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	135	848	126	160	467	82	160	625	318	63	242	112
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1714	1763	1572	1714	1763	1572	1714	1763	1572
Q Serve(g_s), s	4.1	18.3	5.0	4.9	8.8	3.2	4.9	17.9	21.0	1.9	6.2	6.5
Cycle Q Clear(g_c), s	4.1	18.3	5.0	4.9	8.8	3.2	4.9	17.9	21.0	1.9	6.2	6.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	276	1675	747	279	1677	748	279	865	386	244	829	370
V/C Ratio(X)	0.49	0.51	0.17	0.57	0.28	0.11	0.57	0.72	0.82	0.26	0.29	0.30
Avail Cap(c_a), veh/h	514	1675	747	514	1677	748	670	1074	479	514	913	407
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.53	0.53	0.53	1.00	1.00	1.00	0.82	0.82	0.82	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.4	20.0	16.5	48.7	17.4	16.0	48.7	38.1	39.3	48.3	34.5	34.6
Incr Delay (d2), s/veh	0.3	0.6	0.3	0.7	0.4	0.3	0.6	1.0	6.4	0.2	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	7.5	1.8	2.1	3.6	1.2	2.1	7.7	8.6	0.8	2.6	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.7	20.5	16.7	49.4	17.8	16.3	49.3	39.1	45.6	48.5	34.6	34.8
LnGrp LOS	D	C	B	D	B	B	D	D	D	D	C	C
Approach Vol, veh/h		1109			709			1103			417	
Approach Delay, s/veh		23.5			24.8			42.5			36.8	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	55.8	12.4	29.4	12.4	55.8	11.3	30.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	15.5	27.5	20.5	26.5	15.5	27.5	15.5	31.5
Max Q Clear Time (g_c+I1), s	6.9	20.3	6.9	8.5	6.1	10.8	3.9	23.0
Green Ext Time (p_c), s	0.2	2.4	0.3	0.8	0.2	1.8	0.1	1.9

Intersection Summary	
HCM 6th Ctrl Delay	31.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	58	0	7	33	0	40	0	970	122	52	362	12
Future Vol, veh/h	58	0	7	33	0	40	0	970	122	52	362	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	63	0	8	36	0	43	0	1054	133	57	393	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1041	1701	203	1432	1641	594	406	0	0	1187	0	0
Stage 1	514	514	-	1121	1121	-	-	-	-	-	-	-
Stage 2	527	1187	-	311	520	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	6.96	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	183	90	801	94	98	446	1142	-	-	578	-	-
Stage 1	509	531	-	218	278	-	-	-	-	-	-	-
Stage 2	500	258	-	671	528	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	153	81	801	86	88	446	1142	-	-	578	-	-
Mov Cap-2 Maneuver	153	81	-	86	88	-	-	-	-	-	-	-
Stage 1	509	478	-	218	278	-	-	-	-	-	-	-
Stage 2	451	258	-	599	476	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	41.2	50.9	0	1.5
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1142	-	-	168	154	578	-	-
HCM Lane V/C Ratio	-	-	-	0.421	0.515	0.098	-	-
HCM Control Delay (s)	0	-	-	41.2	50.9	11.9	-	-
HCM Lane LOS	A	-	-	E	F	B	-	-
HCM 95th %tile Q(veh)	0	-	-	1.9	2.5	0.3	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	247	267	80	90	289	76	163	810	134	28	308	45
Future Volume (veh/h)	247	267	80	90	289	76	163	810	134	28	308	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	268	290	87	98	314	83	177	880	146	30	335	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	318	672	198	159	444	115	222	950	424	71	649	289
Arrive On Green	0.18	0.25	0.25	0.09	0.16	0.16	0.13	0.27	0.27	0.04	0.18	0.18
Sat Flow, veh/h	1767	2686	790	1767	2768	720	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	268	188	189	98	198	199	177	880	146	30	335	49
Grp Sat Flow(s),veh/h/ln	1767	1763	1713	1767	1763	1726	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	8.2	5.0	5.2	3.0	5.9	6.1	5.4	13.5	4.2	0.9	4.8	1.5
Cycle Q Clear(g_c), s	8.2	5.0	5.2	3.0	5.9	6.1	5.4	13.5	4.2	0.9	4.8	1.5
Prop In Lane	1.00		0.46	1.00		0.42	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	318	441	429	159	283	277	222	950	424	71	649	289
V/C Ratio(X)	0.84	0.43	0.44	0.62	0.70	0.72	0.80	0.93	0.34	0.42	0.52	0.17
Avail Cap(c_a), veh/h	333	459	446	333	459	450	333	950	424	333	950	424
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	17.5	17.6	24.4	22.1	22.2	23.7	19.8	16.4	26.1	20.5	19.1
Incr Delay (d2), s/veh	15.9	0.7	0.7	1.4	3.2	3.5	4.2	14.6	0.5	1.5	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	1.8	1.8	1.2	2.4	2.4	2.3	6.7	1.4	0.4	1.8	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.0	18.2	18.3	25.9	25.3	25.7	27.9	34.4	16.9	27.6	21.1	19.4
LnGrp LOS	D	B	B	C	C	C	C	C	B	C	C	B
Approach Vol, veh/h		645			495			1203			414	
Approach Delay, s/veh		26.4			25.5			31.3			21.4	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.5	14.4	6.7	20.0	9.5	19.4	11.5	15.2				
Change Period (Y+Rc), s	4.5	5.5	4.5	5.0	4.5	5.5	4.5	5.0				
Max Green Setting (Gmax), s	10.5	14.5	10.5	15.0	10.5	14.5	10.5	15.0				
Max Q Clear Time (g_c+I1), s	10.2	8.1	2.9	15.5	5.0	7.2	7.4	6.8				
Green Ext Time (p_c), s	0.0	0.8	0.0	0.0	0.0	0.9	0.0	1.1				
Intersection Summary												
HCM 6th Ctrl Delay			27.6									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	49	137	53	64	16	55	23	993	272	14	384	30
Future Volume (veh/h)	49	137	53	64	16	55	23	993	272	14	384	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	53	149	58	70	17	60	25	1079	296	15	417	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	134	196	76	156	60	211	79	1236	336	52	1442	114
Arrive On Green	0.08	0.15	0.15	0.09	0.17	0.17	0.04	0.45	0.45	0.03	0.44	0.44
Sat Flow, veh/h	1767	1272	495	1767	359	1268	1767	2739	745	1767	3310	261
Grp Volume(v), veh/h	53	0	207	70	0	77	25	691	684	15	221	229
Grp Sat Flow(s),veh/h/ln	1767	0	1766	1767	0	1627	1767	1763	1721	1767	1763	1809
Q Serve(g_s), s	1.9	0.0	7.3	2.4	0.0	2.7	0.9	23.0	23.5	0.5	5.3	5.3
Cycle Q Clear(g_c), s	1.9	0.0	7.3	2.4	0.0	2.7	0.9	23.0	23.5	0.5	5.3	5.3
Prop In Lane	1.00		0.28	1.00		0.78	1.00		0.43	1.00		0.14
Lane Grp Cap(c), veh/h	134	0	272	156	0	271	79	795	777	52	768	788
V/C Ratio(X)	0.40	0.00	0.76	0.45	0.00	0.28	0.32	0.87	0.88	0.29	0.29	0.29
Avail Cap(c_a), veh/h	409	0	272	218	0	271	409	815	796	218	815	836
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.6	0.0	26.3	28.1	0.0	23.7	30.0	16.1	16.2	30.8	11.8	11.8
Incr Delay (d2), s/veh	0.7	0.0	10.8	0.7	0.0	0.2	0.8	10.4	11.5	1.1	0.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	3.7	1.0	0.0	1.0	0.4	9.8	9.9	0.2	1.8	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.3	0.0	37.1	28.8	0.0	23.9	30.9	26.4	27.7	32.0	12.2	12.2
LnGrp LOS	C	A	D	C	A	C	C	C	C	C	B	B
Approach Vol, veh/h		260			147			1400			465	
Approach Delay, s/veh		35.5			26.2			27.2			12.8	
Approach LOS		D			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	33.8	10.2	14.5	7.4	32.8	9.4	15.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.0	30.0	8.0	10.0	15.0	30.0	15.0	10.0
Max Q Clear Time (g_c+I1), s	2.5	25.5	4.4	9.3	2.9	7.3	3.9	4.7
Green Ext Time (p_c), s	0.0	3.8	0.0	0.0	0.0	4.1	0.0	0.1

Intersection Summary		
HCM 6th Ctrl Delay		25.1
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	230	118	216	289	293	138	552	105	173	405	95
Future Volume (veh/h)	104	230	118	216	289	293	138	552	105	173	405	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1900	1885	1826	1870	1856	1856
Adj Flow Rate, veh/h	114	253	130	237	318	322	152	607	115	190	445	104
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	1	1	2	2	2	0	1	5	2	3	3
Cap, veh/h	183	578	288	391	927	413	196	846	365	232	733	170
Arrive On Green	0.10	0.25	0.25	0.11	0.26	0.26	0.11	0.24	0.24	0.13	0.26	0.26
Sat Flow, veh/h	1795	2316	1153	3456	3554	1585	1810	3582	1547	1781	2841	659
Grp Volume(v), veh/h	114	194	189	237	318	322	152	607	115	190	275	274
Grp Sat Flow(s),veh/h/ln	1795	1791	1678	1728	1777	1585	1810	1791	1547	1781	1763	1737
Q Serve(g_s), s	4.3	6.4	6.7	4.6	5.1	13.2	5.7	10.9	4.3	7.3	9.6	9.7
Cycle Q Clear(g_c), s	4.3	6.4	6.7	4.6	5.1	13.2	5.7	10.9	4.3	7.3	9.6	9.7
Prop In Lane	1.00		0.69	1.00		1.00	1.00		1.00	1.00		0.38
Lane Grp Cap(c), veh/h	183	447	419	391	927	413	196	846	365	232	455	448
V/C Ratio(X)	0.62	0.43	0.45	0.61	0.34	0.78	0.78	0.72	0.31	0.82	0.60	0.61
Avail Cap(c_a), veh/h	384	767	718	740	1521	678	387	1533	662	381	755	743
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.2	22.1	22.2	29.6	21.0	24.0	30.4	24.6	22.1	29.7	22.8	22.9
Incr Delay (d2), s/veh	1.3	0.8	0.9	0.6	0.3	3.9	2.5	1.4	0.6	2.7	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	2.5	2.5	1.8	2.0	4.9	2.4	4.3	1.5	3.1	3.8	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.5	22.9	23.2	30.2	21.3	27.9	32.9	26.0	22.7	32.4	24.4	24.5
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		497			877			874			739	
Approach Delay, s/veh		25.0			26.1			26.8			26.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.6	21.6	12.4	22.5	12.1	23.1	11.6	23.3
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	15.0	30.0	15.0	30.0	15.0	30.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	9.3	12.9	6.6	8.7	7.7	11.7	6.3	15.2
Green Ext Time (p_c), s	0.1	3.6	0.2	1.8	0.1	2.5	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	447	26	33	37	101	260	80	219	18	79	409	220
Future Volume (veh/h)	447	26	33	37	101	260	80	219	18	79	409	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	486	28	36	40	110	283	87	238	20	86	445	239
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	357	272	349	80	394	334	119	912	76	119	614	327
Arrive On Green	0.20	0.37	0.37	0.05	0.21	0.21	0.07	0.28	0.28	0.07	0.28	0.28
Sat Flow, veh/h	1767	737	948	1767	1856	1572	1767	3294	275	1767	2222	1184
Grp Volume(v), veh/h	486	0	64	40	110	283	87	126	132	86	352	332
Grp Sat Flow(s),veh/h/ln	1767	0	1685	1767	1856	1572	1767	1763	1806	1767	1763	1642
Q Serve(g_s), s	15.0	0.0	1.9	1.6	3.7	12.8	3.6	4.2	4.2	3.5	13.4	13.6
Cycle Q Clear(g_c), s	15.0	0.0	1.9	1.6	3.7	12.8	3.6	4.2	4.2	3.5	13.4	13.6
Prop In Lane	1.00		0.56	1.00		1.00	1.00		0.15	1.00		0.72
Lane Grp Cap(c), veh/h	357	0	621	80	394	334	119	488	500	119	487	454
V/C Ratio(X)	1.36	0.00	0.10	0.50	0.28	0.85	0.73	0.26	0.26	0.73	0.72	0.73
Avail Cap(c_a), veh/h	357	0	621	357	499	423	357	949	972	357	949	884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.7	0.0	15.4	34.6	24.5	28.1	34.0	20.9	21.0	34.0	24.3	24.4
Incr Delay (d2), s/veh	180.3	0.0	0.1	1.8	0.5	13.0	3.2	0.3	0.3	3.1	2.5	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.9	0.0	0.7	0.7	1.6	5.8	1.5	1.6	1.7	1.5	5.3	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	209.9	0.0	15.5	36.4	25.0	41.1	37.2	21.3	21.3	37.1	26.8	27.1
LnGrp LOS	F	A	B	D	C	D	D	C	C	D	C	C
Approach Vol, veh/h		550			433			345			770	
Approach Delay, s/veh		187.3			36.6			25.3			28.1	
Approach LOS		F			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	25.1	7.9	31.9	9.5	25.0	19.5	20.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.0	40.0	15.0	20.0	15.0	40.0	15.0	20.0
Max Q Clear Time (g_c+I1), s	5.5	6.2	3.6	3.9	5.6	15.6	17.0	14.8
Green Ext Time (p_c), s	0.0	1.7	0.0	0.3	0.0	4.9	0.0	0.9

Intersection Summary		
HCM 6th Ctrl Delay		71.1
HCM 6th LOS		E

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	7	152	33	136	461
Future Vol, veh/h	20	7	152	33	136	461
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	22	8	169	37	151	512

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	746	103	0	0	206	0
Stage 1	188	-	-	-	-	-
Stage 2	558	-	-	-	-	-
Critical Hdwy	6.86	6.96	-	-	4.16	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	347	929	-	-	1355	-
Stage 1	822	-	-	-	-	-
Stage 2	534	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	308	929	-	-	1355	-
Mov Cap-2 Maneuver	308	-	-	-	-	-
Stage 1	822	-	-	-	-	-
Stage 2	475	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.5	0	1.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	373	1355	-
HCM Lane V/C Ratio	-	-	0.08	0.112	-
HCM Control Delay (s)	-	-	15.5	8	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.4	-

Intersection	
Intersection Delay, s/veh	41.1
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	43	96	5	14	362	109	3	35	10	295	12	203
Future Vol, veh/h	43	96	5	14	362	109	3	35	10	295	12	203
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	47	104	5	15	393	118	3	38	11	321	13	221
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.5	43	11.5	49.8
HCM LOS	B	E	B	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	30%	3%	58%
Vol Thru, %	73%	67%	75%	2%
Vol Right, %	21%	3%	22%	40%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	48	144	485	510
LT Vol	3	43	14	295
Through Vol	35	96	362	12
RT Vol	10	5	109	203
Lane Flow Rate	52	157	527	554
Geometry Grp	1	1	1	1
Degree of Util (X)	0.108	0.312	0.907	0.946
Departure Headway (Hd)	7.482	7.173	6.196	6.146
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	476	499	585	588
Service Time	5.578	5.25	4.249	4.197
HCM Lane V/C Ratio	0.109	0.315	0.901	0.942
HCM Control Delay	11.5	13.5	43	49.8
HCM Lane LOS	B	B	E	E
HCM 95th-tile Q	0.4	1.3	11	12.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	253	715	67	94	557	49	57	362	114	41	89	66
Future Volume (veh/h)	253	715	67	94	557	49	57	362	114	41	89	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	275	777	73	102	605	53	62	393	124	45	97	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	654	1686	158	128	707	62	80	301	95	58	381	323
Arrive On Green	0.37	0.52	0.52	0.07	0.22	0.22	0.05	0.22	0.22	0.03	0.21	0.21
Sat Flow, veh/h	1767	3257	306	1767	3280	287	1767	1352	427	1767	1856	1572
Grp Volume(v), veh/h	275	420	430	102	325	333	62	0	517	45	97	72
Grp Sat Flow(s),veh/h/ln	1767	1763	1800	1767	1763	1804	1767	0	1779	1767	1856	1572
Q Serve(g_s), s	12.8	16.6	16.6	6.2	19.5	19.6	3.8	0.0	24.5	2.8	4.8	4.2
Cycle Q Clear(g_c), s	12.8	16.6	16.6	6.2	19.5	19.6	3.8	0.0	24.5	2.8	4.8	4.2
Prop In Lane	1.00		0.17	1.00		0.16	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	654	912	932	128	380	389	80	0	396	58	381	323
V/C Ratio(X)	0.42	0.46	0.46	0.80	0.85	0.86	0.77	0.00	1.30	0.78	0.25	0.22
Avail Cap(c_a), veh/h	654	912	932	249	521	533	273	0	396	281	413	350
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.76	0.76	0.76	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.9	16.8	16.8	50.2	41.5	41.5	51.9	0.0	42.8	52.8	36.6	36.4
Incr Delay (d2), s/veh	0.2	1.7	1.6	3.2	16.8	16.8	5.8	0.0	154.5	8.1	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	7.0	7.1	2.9	10.2	10.4	1.8	0.0	27.6	1.4	2.2	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.0	18.5	18.5	53.5	58.3	58.3	57.7	0.0	197.3	60.9	36.8	36.5
LnGrp LOS	C	B	B	D	E	E	E	A	F	E	D	D
Approach Vol, veh/h		1125			760			579			214	
Approach Delay, s/veh		20.3			57.6			182.3			41.7	
Approach LOS		C			E			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	45.2	28.2	9.5	27.1	12.0	61.4	7.6	29.0
Change Period (Y+Rc), s	4.5	* 4.5	4.5	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	18.5	* 33	17.0	24.5	15.5	35.5	17.5	24.5
Max Q Clear Time (g_c+I1), s	14.8	21.6	5.8	6.8	8.2	18.6	4.8	26.5
Green Ext Time (p_c), s	0.2	2.2	0.1	0.3	0.1	3.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	67.7
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	267	29	29	362	120	20	415	67	16	79	61
Future Volume (veh/h)	196	267	29	29	362	120	20	415	67	16	79	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	213	290	32	32	393	130	22	451	73	17	86	66
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	259	1022	112	73	558	182	54	528	85	43	324	249
Arrive On Green	0.15	0.32	0.32	0.04	0.21	0.21	0.03	0.34	0.34	0.02	0.33	0.33
Sat Flow, veh/h	1767	3205	351	1767	2611	853	1767	1558	252	1767	974	747
Grp Volume(v), veh/h	213	158	164	32	264	259	22	0	524	17	0	152
Grp Sat Flow(s),veh/h/ln	1767	1763	1792	1767	1763	1702	1767	0	1810	1767	0	1721
Q Serve(g_s), s	7.2	4.1	4.2	1.1	8.5	8.7	0.8	0.0	16.6	0.6	0.0	4.0
Cycle Q Clear(g_c), s	7.2	4.1	4.2	1.1	8.5	8.7	0.8	0.0	16.6	0.6	0.0	4.0
Prop In Lane	1.00		0.20	1.00		0.50	1.00		0.14	1.00		0.43
Lane Grp Cap(c), veh/h	259	562	572	73	377	364	54	0	613	43	0	573
V/C Ratio(X)	0.82	0.28	0.29	0.44	0.70	0.71	0.41	0.00	0.85	0.39	0.00	0.27
Avail Cap(c_a), veh/h	431	860	875	230	860	831	431	0	883	431	0	840
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.5	15.7	15.7	28.8	22.3	22.4	29.3	0.0	18.9	29.5	0.0	15.0
Incr Delay (d2), s/veh	2.5	0.3	0.3	1.6	2.8	3.1	1.8	0.0	6.3	2.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	1.5	1.5	0.5	3.4	3.4	0.3	0.0	7.3	0.3	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.0	16.0	16.0	30.3	25.2	25.5	31.1	0.0	25.2	31.6	0.0	15.3
LnGrp LOS	C	B	B	C	C	C	C	A	C	C	A	B
Approach Vol, veh/h		535			555			546			169	
Approach Delay, s/veh		20.8			25.6			25.4			16.9	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	17.6	5.9	25.0	6.5	24.1	5.5	25.3
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	15.0	30.0	15.0	30.0	8.0	30.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	9.2	10.7	2.8	6.0	3.1	6.2	2.6	18.6
Green Ext Time (p_c), s	0.0	2.5	0.0	0.7	0.0	1.4	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	23.3
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	16	50	13	13	1	42	5	13	0	40	4
Future Vol, veh/h	2	16	50	13	13	1	42	5	13	0	40	4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	3	8	8	8	8	3	8	3	8	3	3	3
Mvmt Flow	2	18	56	14	14	1	47	6	14	0	44	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	7.6	7.7	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	70%	3%	48%	0%
Vol Thru, %	8%	24%	48%	91%
Vol Right, %	22%	74%	4%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	68	27	44
LT Vol	42	2	13	0
Through Vol	5	16	13	40
RT Vol	13	50	1	4
Lane Flow Rate	67	76	30	49
Geometry Grp	1	1	1	1
Degree of Util (X)	0.079	0.078	0.036	0.056
Departure Headway (Hd)	4.267	3.737	4.368	4.131
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	835	947	811	860
Service Time	2.317	1.808	2.442	2.188
HCM Lane V/C Ratio	0.08	0.08	0.037	0.057
HCM Control Delay	7.7	7.1	7.6	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.3	0.1	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	557	50	35	175	25	0	0	84	21
Future Volume (veh/h)	0	0	0	557	50	35	175	25	0	0	84	21
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1856	1900	1678	1781	0	0	1781	1781
Adj Flow Rate, veh/h				619	56	39	194	28	0	0	93	23
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %				0	3	0	15	8	0	0	8	8
Cap, veh/h				688	62	43	249	647	0	0	148	37
Arrive On Green				0.45	0.45	0.45	0.16	0.36	0.00	0.00	0.11	0.11
Sat Flow, veh/h				1527	138	96	1598	1781	0	0	1379	341
Grp Volume(v), veh/h				714	0	0	194	28	0	0	0	116
Grp Sat Flow(s),veh/h/ln				1762	0	0	1598	1781	0	0	0	1720
Q Serve(g_s), s				18.3	0.0	0.0	5.7	0.5	0.0	0.0	0.0	3.2
Cycle Q Clear(g_c), s				18.3	0.0	0.0	5.7	0.5	0.0	0.0	0.0	3.2
Prop In Lane				0.87		0.05	1.00		0.00	0.00		0.20
Lane Grp Cap(c), veh/h				794	0	0	249	647	0	0	0	185
V/C Ratio(X)				0.90	0.00	0.00	0.78	0.04	0.00	0.00	0.00	0.63
Avail Cap(c_a), veh/h				1260	0	0	980	910	0	0	0	879
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				12.4	0.0	0.0	19.8	10.1	0.0	0.0	0.0	20.9
Incr Delay (d2), s/veh				3.8	0.0	0.0	3.9	0.0	0.0	0.0	0.0	1.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.1	0.0	0.0	2.1	0.2	0.0	0.0	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				16.2	0.0	0.0	23.7	10.1	0.0	0.0	0.0	22.2
LnGrp LOS				B	A	A	C	B	A	A	A	C
Approach Vol, veh/h					714			222			116	
Approach Delay, s/veh					16.2			22.0			22.2	
Approach LOS					B			C			C	

Timer - Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		22.7			12.5	10.2		26.2
Change Period (Y+Rc), s		4.9			4.9	4.9		4.2
Max Green Setting (Gmax), s		25.0			30.0	25.0		35.0
Max Q Clear Time (g_c+I1), s		2.5			7.7	5.2		20.3
Green Ext Time (p_c), s		0.0			0.5	0.1		1.7

Intersection Summary			
HCM 6th Ctrl Delay			18.1
HCM 6th LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	52	285	0	0	0	0	183	422	36	615	0
Future Volume (veh/h)	17	52	285	0	0	0	0	183	422	36	615	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1900				0	1678	1678	1781	1678	0
Adj Flow Rate, veh/h	18	57	310				0	199	459	39	668	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	0				0	15	15	8	15	0
Cap, veh/h	21	67	364				0	702	595	71	905	0
Arrive On Green	0.28	0.28	0.28				0.00	0.42	0.42	0.04	0.54	0.00
Sat Flow, veh/h	76	239	1302				0	1678	1422	1697	1678	0
Grp Volume(v), veh/h	385	0	0				0	199	459	39	668	0
Grp Sat Flow(s),veh/h/ln	1617	0	0				0	1678	1422	1697	1678	0
Q Serve(g_s), s	11.3	0.0	0.0				0.0	3.9	14.0	1.1	15.3	0.0
Cycle Q Clear(g_c), s	11.3	0.0	0.0				0.0	3.9	14.0	1.1	15.3	0.0
Prop In Lane	0.05		0.81				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	452	0	0				0	702	595	71	905	0
V/C Ratio(X)	0.85	0.00	0.00				0.00	0.28	0.77	0.55	0.74	0.00
Avail Cap(c_a), veh/h	804	0	0				0	1834	1555	506	1834	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.1	0.0	0.0				0.0	9.7	12.6	23.6	8.9	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0				0.0	0.3	3.1	6.5	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0	0.0				0.0	1.1	3.7	0.5	3.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.9	0.0	0.0				0.0	10.0	15.6	30.1	10.6	0.0
LnGrp LOS	B	A	A				A	A	B	C	B	A
Approach Vol, veh/h		385						658			707	
Approach Delay, s/veh		18.9						13.9			11.6	
Approach LOS		B						B			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	6.1	25.9		18.3		32.0
Change Period (Y+Rc), s	4.0	4.9		* 4.2		4.9
Max Green Setting (Gmax), s	15.0	55.0		* 25		55.0
Max Q Clear Time (g_c+I1), s	3.1	16.0		13.3		17.3
Green Ext Time (p_c), s	0.1	5.1		0.8		5.3

Intersection Summary			
HCM 6th Ctrl Delay			14.1
HCM 6th LOS			B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	0	29	46	1	118	12	420	51	183	712	5
Future Volume (veh/h)	7	0	29	46	1	118	12	420	51	183	712	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1678	1856	1678	1856	1678	1678	1678	1678	1856
Adj Flow Rate, veh/h	8	0	32	50	1	128	13	457	55	199	774	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	15	3	15	3	15	15	15	15	3
Cap, veh/h	30	0	310	123	477	366	46	759	91	419	1191	587
Arrive On Green	0.02	0.00	0.20	0.08	0.26	0.26	0.03	0.26	0.26	0.14	0.37	0.37
Sat Flow, veh/h	1767	0	1572	1598	1856	1422	1767	2866	343	3100	3188	1572
Grp Volume(v), veh/h	8	0	32	50	1	128	13	253	259	199	774	5
Grp Sat Flow(s),veh/h/ln	1767	0	1572	1598	1856	1422	1767	1594	1616	1550	1594	1572
Q Serve(g_s), s	0.3	0.0	0.9	1.7	0.0	4.2	0.4	7.9	7.9	3.4	11.4	0.1
Cycle Q Clear(g_c), s	0.3	0.0	0.9	1.7	0.0	4.2	0.4	7.9	7.9	3.4	11.4	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	30	0	310	123	477	366	46	422	428	419	1191	587
V/C Ratio(X)	0.27	0.00	0.10	0.41	0.00	0.35	0.28	0.60	0.61	0.48	0.65	0.01
Avail Cap(c_a), veh/h	249	0	943	423	1113	853	468	703	713	820	1406	694
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	0.0	18.7	24.9	15.6	17.2	27.1	18.2	18.2	22.7	14.7	11.2
Incr Delay (d2), s/veh	1.8	0.0	0.1	0.8	0.0	0.2	1.2	2.0	2.0	0.3	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.3	0.6	0.0	1.2	0.2	2.7	2.8	1.1	3.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.3	0.0	18.8	25.7	15.6	17.4	28.3	20.2	20.2	23.0	15.7	11.2
LnGrp LOS	C	A	B	C	B	B	C	C	C	C	B	B
Approach Vol, veh/h		40			179			525			978	
Approach Delay, s/veh		20.9			19.7			20.4			17.2	
Approach LOS		C			B			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.2	20.0	8.9	15.7	6.0	26.2	5.4	19.1				
Change Period (Y+Rc), s	4.5	5.0	4.5	4.5	4.5	5.0	4.5	4.5				
Max Green Setting (Gmax), s	15.0	25.0	15.0	34.0	15.0	25.0	8.0	34.0				
Max Q Clear Time (g_c+I1), s	5.4	9.9	3.7	2.9	2.4	13.4	2.3	6.2				
Green Ext Time (p_c), s	0.2	3.5	0.0	0.1	0.0	5.1	0.0	0.1				
Intersection Summary												
HCM 6th Ctrl Delay			18.5									
HCM 6th LOS			B									

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	259	243	48	20	257	106	27	128	14	210	309	426
Future Volume (veh/h)	259	243	48	20	257	106	27	128	14	210	309	426
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1678	1870	1870	1870	1678	1678	1678	1678	1678
Adj Flow Rate, veh/h	282	264	52	22	279	115	29	139	15	228	336	463
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	15	2	2	2	15	15	15	15	15
Cap, veh/h	320	946	184	46	416	167	64	669	71	262	571	510
Arrive On Green	0.18	0.32	0.32	0.03	0.17	0.17	0.04	0.23	0.23	0.16	0.36	0.36
Sat Flow, veh/h	1781	2968	576	1598	2473	995	1781	2906	310	1598	1594	1422
Grp Volume(v), veh/h	282	156	160	22	198	196	29	75	79	228	336	463
Grp Sat Flow(s),veh/h/ln	1781	1777	1767	1598	1777	1691	1781	1594	1622	1598	1594	1422
Q Serve(g_s), s	12.3	5.2	5.4	1.1	8.3	8.6	1.3	3.0	3.1	11.1	13.6	24.6
Cycle Q Clear(g_c), s	12.3	5.2	5.4	1.1	8.3	8.6	1.3	3.0	3.1	11.1	13.6	24.6
Prop In Lane	1.00		0.33	1.00		0.59	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	320	566	563	46	299	285	64	367	373	262	571	510
V/C Ratio(X)	0.88	0.28	0.28	0.47	0.66	0.69	0.46	0.21	0.21	0.87	0.59	0.91
Avail Cap(c_a), veh/h	336	671	667	302	671	639	336	602	613	302	602	537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.8	20.2	20.3	38.0	30.9	31.1	37.5	24.7	24.7	32.4	20.7	24.2
Incr Delay (d2), s/veh	21.1	0.4	0.5	2.8	4.3	5.0	1.9	0.5	0.5	19.1	2.0	19.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	2.2	2.2	0.4	3.8	3.8	0.6	1.2	1.2	5.5	5.1	10.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.9	20.7	20.7	40.7	35.2	36.0	39.4	25.2	25.2	51.5	22.7	43.9
LnGrp LOS	D	C	C	D	D	D	D	C	C	D	C	D
Approach Vol, veh/h		598			416			183			1027	
Approach Delay, s/veh		35.9			35.9			27.4			38.7	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	23.8	7.3	30.3	7.8	34.0	19.3	18.4
Change Period (Y+Rc), s	5.0	5.5	5.0	5.0	5.0	5.5	5.0	5.0
Max Green Setting (Gmax), s	15.0	30.0	15.0	30.0	15.0	30.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	13.1	5.1	3.1	7.4	3.3	26.6	14.3	10.6
Green Ext Time (p_c), s	0.1	1.0	0.0	2.2	0.0	1.9	0.0	2.7

Intersection Summary		
HCM 6th Ctrl Delay		36.5
HCM 6th LOS		D

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	542	0	0	1074	125	5	5	5	96	0	54
Future Volume (veh/h)	18	542	0	0	1074	125	5	5	5	96	0	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1678	1856	1856	0	1678	1678	1856	1856	1856	1856	1856	1678
Adj Flow Rate, veh/h	20	589	0	0	1167	136	5	5	5	104	0	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	15	3	3	0	15	15	3	3	3	3	3	15
Cap, veh/h	62	2212	0	0	1580	705	160	142	102	412	0	266
Arrive On Green	0.04	0.63	0.00	0.00	0.50	0.50	0.19	0.19	0.19	0.19	0.00	0.19
Sat Flow, veh/h	1598	3618	0	0	3272	1422	327	759	543	1408	0	1422
Grp Volume(v), veh/h	20	589	0	0	1167	136	15	0	0	104	0	59
Grp Sat Flow(s),veh/h/ln	1598	1763	0	0	1594	1422	1630	0	0	1408	0	1422
Q Serve(g_s), s	0.6	3.6	0.0	0.0	14.1	2.6	0.0	0.0	0.0	2.7	0.0	1.7
Cycle Q Clear(g_c), s	0.6	3.6	0.0	0.0	14.1	2.6	0.3	0.0	0.0	3.1	0.0	1.7
Prop In Lane	1.00		0.00	0.00		1.00	0.33		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	62	2212	0	0	1580	705	404	0	0	412	0	266
V/C Ratio(X)	0.32	0.27	0.00	0.00	0.74	0.19	0.04	0.00	0.00	0.25	0.00	0.22
Avail Cap(c_a), veh/h	987	3631	0	0	3283	1464	915	0	0	1156	0	1025
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.7	4.0	0.0	0.0	9.7	6.8	16.2	0.0	0.0	17.3	0.0	16.7
Incr Delay (d2), s/veh	1.1	0.1	0.0	0.0	0.7	0.1	0.0	0.0	0.0	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.7	0.0	0.0	3.5	0.6	0.1	0.0	0.0	0.9	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.8	4.1	0.0	0.0	10.4	7.0	16.2	0.0	0.0	17.4	0.0	16.9
LnGrp LOS	C	A	A	A	B	A	B	A	A	B	A	B
Approach Vol, veh/h		609			1303			15			163	
Approach Delay, s/veh		4.8			10.1			16.2			17.2	
Approach LOS		A			B			B			B	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		35.0		13.6	6.4	28.6		13.6				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		50.0		35.0	30.0	50.0		25.0				
Max Q Clear Time (g_c+I1), s		5.6		5.1	2.6	16.1		2.3				
Green Ext Time (p_c), s		2.9		0.5	0.0	7.9		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			9.1									
HCM 6th LOS			A									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	321	42	203	900	0	904	0	269	0	0	0
Future Volume (veh/h)	0	321	42	203	900	0	904	0	269	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	349	0	221	978	0	983	0	292	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	3	531		269	1322	0	850	0	756	0	3	0
Arrive On Green	0.00	0.15	0.00	0.15	0.38	0.00	0.48	0.00	0.48	0.00	0.00	0.00
Sat Flow, veh/h	1767	3526	1572	1767	3618	0	1767	0	1572	0	1856	0
Grp Volume(v), veh/h	0	349	0	221	978	0	983	0	292	0	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	0	1767	0	1572	0	1856	0
Q Serve(g_s), s	0.0	5.8	0.0	7.6	15.0	0.0	30.0	0.0	7.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	5.8	0.0	7.6	15.0	0.0	30.0	0.0	7.4	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	3	531		269	1322	0	850	0	756	0	3	0
V/C Ratio(X)	0.00	0.66		0.82	0.74	0.00	1.16	0.00	0.39	0.00	0.00	0.00
Avail Cap(c_a), veh/h	566	1695		566	1695	0	850	0	756	0	892	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	25.0	0.0	25.6	16.9	0.0	16.2	0.0	10.3	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.4	0.0	2.4	1.3	0.0	83.8	0.0	0.3	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.4	0.0	3.1	5.5	0.0	29.5	0.0	2.2	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	26.4	0.0	28.0	18.2	0.0	100.0	0.0	10.7	0.0	0.0	0.0
LnGrp LOS	A	C		C	B	A	F	A	B	A	A	A
Approach Vol, veh/h		349	A		1199			1275			0	
Approach Delay, s/veh		26.4			20.0			79.6			0.0	
Approach LOS		C			B			E				
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.0	13.9		0.0	0.0	27.9		34.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	20.0	30.0		30.0	20.0	30.0		30.0				
Max Q Clear Time (g_c+I1), s	9.6	7.8		0.0	0.0	17.0		32.0				
Green Ext Time (p_c), s	0.1	1.6		0.0	0.0	4.1		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			47.7									
HCM 6th LOS			D									

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	8.1					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	60	35	104	1143	138	77
Future Vol, veh/h	60	35	104	1143	138	77
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	65	38	113	1242	150	84

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1660	192	234	0	-	0
Stage 1	192	-	-	-	-	-
Stage 2	1468	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	107	847	1328	-	-	-
Stage 1	838	-	-	-	-	-
Stage 2	210	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	78	847	1328	-	-	-
Mov Cap-2 Maneuver	78	-	-	-	-	-
Stage 1	608	-	-	-	-	-
Stage 2	210	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	123	0.7	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1328	-	117	-	-
HCM Lane V/C Ratio	0.085	-	0.883	-	-
HCM Control Delay (s)	8	0	123	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0.3	-	5.4	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	19	31	934	127	30
Future Vol, veh/h	22	19	31	934	127	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	24	21	34	1015	138	33

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1238	155	171	0	-	0
Stage 1	155	-	-	-	-	-
Stage 2	1083	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	193	888	1400	-	-	-
Stage 1	871	-	-	-	-	-
Stage 2	323	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	182	888	1400	-	-	-
Mov Cap-2 Maneuver	182	-	-	-	-	-
Stage 1	822	-	-	-	-	-
Stage 2	323	-	-	-	-	-

Approach	EB		NB		SB	
HCM Control Delay, s	19.2		0.2		0	
HCM LOS	C					

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1400	-	182	888	-	-
HCM Lane V/C Ratio	0.024	-	0.131	0.023	-	-
HCM Control Delay (s)	7.6	0	27.8	9.2	-	-
HCM Lane LOS	A	A	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	194	29	47	171	40	94	849	11	5	112	18
Future Volume (veh/h)	182	194	29	47	171	40	94	849	11	5	112	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	198	213	32	51	186	43	102	923	12	5	122	20
Peak Hour Factor	0.92	0.91	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	183	197	330	63	229	250	130	512	7	147	451	74
Arrive On Green	0.21	0.21	0.21	0.16	0.16	0.16	0.07	0.28	0.28	0.08	0.29	0.29
Sat Flow, veh/h	873	939	1572	395	1441	1572	1767	1828	24	1767	1555	255
Grp Volume(v), veh/h	411	0	32	237	0	43	102	0	935	5	0	142
Grp Sat Flow(s),veh/h/ln	1812	0	1572	1836	0	1572	1767	0	1851	1767	0	1810
Q Serve(g_s), s	15.0	0.0	1.2	8.9	0.0	1.7	4.1	0.0	20.0	0.2	0.0	4.3
Cycle Q Clear(g_c), s	15.0	0.0	1.2	8.9	0.0	1.7	4.1	0.0	20.0	0.2	0.0	4.3
Prop In Lane	0.48		1.00	0.22		1.00	1.00		0.01	1.00		0.14
Lane Grp Cap(c), veh/h	381	0	330	291	0	250	130	0	519	147	0	525
V/C Ratio(X)	1.08	0.00	0.10	0.81	0.00	0.17	0.78	0.00	1.80	0.03	0.00	0.27
Avail Cap(c_a), veh/h	381	0	330	386	0	330	248	0	519	371	0	525
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.2	0.0	22.7	29.0	0.0	26.0	32.5	0.0	25.7	30.1	0.0	19.5
Incr Delay (d2), s/veh	69.1	0.0	0.2	10.3	0.0	0.4	3.8	0.0	368.9	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.2	0.0	0.4	4.5	0.0	0.6	1.8	0.0	61.0	0.1	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	97.2	0.0	22.9	39.3	0.0	26.4	36.3	0.0	394.6	30.1	0.0	19.9
LnGrp LOS	F	A	C	D	A	C	D	A	F	C	A	B
Approach Vol, veh/h		443			280			1037			147	
Approach Delay, s/veh		91.9			37.3			359.3			20.2	
Approach LOS		F			D			F			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		19.9	10.6	25.0		15.9	9.9	25.7				
Change Period (Y+Rc), s		4.9	4.6	* 5		4.6	4.6	5.0				
Max Green Setting (Gmax), s		15.0	15.0	* 20		15.0	10.0	20.0				
Max Q Clear Time (g_c+I1), s		17.0	2.2	22.0		10.9	6.1	6.3				
Green Ext Time (p_c), s		0.0	0.0	0.0		0.5	0.0	0.4				

Intersection Summary			
HCM 6th Ctrl Delay			223.8
HCM 6th LOS			F

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	247	288	23	47	312	33	55	200	84	54	72	153
Future Volume (veh/h)	247	288	23	47	312	33	55	200	84	54	72	153
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1870	1870	1900	1870	1870	1841	1826	1826	1900	1826	1826
Adj Flow Rate, veh/h	268	313	25	51	339	36	60	217	91	59	78	166
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	2	2	0	2	2	4	5	5	0	5	5
Cap, veh/h	313	590	47	132	391	42	158	265	111	144	376	319
Arrive On Green	0.18	0.35	0.35	0.07	0.24	0.24	0.09	0.22	0.22	0.08	0.21	0.21
Sat Flow, veh/h	1711	1709	137	1810	1662	177	1753	1221	512	1810	1826	1547
Grp Volume(v), veh/h	268	0	338	51	0	375	60	0	308	59	78	166
Grp Sat Flow(s),veh/h/ln	1711	0	1846	1810	0	1839	1753	0	1734	1810	1826	1547
Q Serve(g_s), s	10.2	0.0	9.9	1.8	0.0	13.2	2.2	0.0	11.4	2.1	2.4	6.4
Cycle Q Clear(g_c), s	10.2	0.0	9.9	1.8	0.0	13.2	2.2	0.0	11.4	2.1	2.4	6.4
Prop In Lane	1.00		0.07	1.00		0.10	1.00		0.30	1.00		1.00
Lane Grp Cap(c), veh/h	313	0	637	132	0	433	158	0	376	144	376	319
V/C Ratio(X)	0.86	0.00	0.53	0.39	0.00	0.87	0.38	0.00	0.82	0.41	0.21	0.52
Avail Cap(c_a), veh/h	382	0	637	404	0	547	391	0	1031	404	543	460
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.6	0.0	17.6	29.7	0.0	24.7	28.8	0.0	25.1	29.4	22.1	23.7
Incr Delay (d2), s/veh	13.0	0.0	0.8	0.7	0.0	11.5	0.6	0.0	4.5	0.7	0.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.0	3.8	0.8	0.0	6.5	0.9	0.0	4.7	0.9	1.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.6	0.0	18.5	30.4	0.0	36.2	29.4	0.0	29.5	30.1	22.4	25.1
LnGrp LOS	D	A	B	C	A	D	C	A	C	C	C	C
Approach Vol, veh/h		606			426			368			303	
Approach Delay, s/veh		27.8			35.5			29.5			25.4	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	28.2	10.7	18.9	16.9	20.8	9.9	19.6				
Change Period (Y+Rc), s	4.6	5.0	4.6	5.0	4.6	5.0	4.6	5.0				
Max Green Setting (Gmax), s	15.0	20.0	15.0	20.0	15.0	20.0	15.0	40.0				
Max Q Clear Time (g_c+I1), s	3.8	11.9	4.2	8.4	12.2	15.2	4.1	13.4				
Green Ext Time (p_c), s	0.0	0.8	0.1	0.7	0.2	0.7	0.0	1.2				
Intersection Summary												
HCM 6th Ctrl Delay			29.7									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	369	59	287	682	31	448	29	487	20	21	21
Future Volume (veh/h)	108	369	59	287	682	31	448	29	487	20	21	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678
Adj Flow Rate, veh/h	117	401	64	312	741	34	487	32	0	22	23	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	15	15	15	15	15	15	15	15	15	15	15	15
Cap, veh/h	176	687	307	349	1031	460	508	28		325	315	
Arrive On Green	0.11	0.22	0.22	0.22	0.32	0.32	0.35	0.35	0.00	0.35	0.35	0.00
Sat Flow, veh/h	1598	3188	1422	1598	3188	1422	1203	79	1422	739	890	1422
Grp Volume(v), veh/h	117	401	64	312	741	34	519	0	0	45	0	0
Grp Sat Flow(s),veh/h/ln	1598	1594	1422	1598	1594	1422	1282	0	1422	1629	0	1422
Q Serve(g_s), s	6.0	9.6	3.1	16.1	17.4	1.4	28.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.0	9.6	3.1	16.1	17.4	1.4	30.0	0.0	0.0	1.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.94		1.00	0.49		1.00
Lane Grp Cap(c), veh/h	176	687	307	349	1031	460	536	0		640	0	
V/C Ratio(X)	0.66	0.58	0.21	0.89	0.72	0.07	0.97	0.00		0.07	0.00	
Avail Cap(c_a), veh/h	942	1880	839	377	1880	839	536	0		640	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	36.2	29.8	27.3	32.2	25.3	19.9	29.1	0.0	0.0	18.2	0.0	0.0
Incr Delay (d2), s/veh	8.8	1.7	0.7	23.8	2.0	0.1	31.5	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	3.6	1.1	7.9	6.0	0.4	14.8	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.0	31.5	28.0	56.0	27.3	20.0	60.6	0.0	0.0	18.4	0.0	0.0
LnGrp LOS	D	C	C	E	C	C	E	A		B	A	
Approach Vol, veh/h		582			1087			519	A		45	A
Approach Delay, s/veh		33.8			35.3			60.6			18.4	
Approach LOS		C			D			E			B	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	24.5	24.3	36.0	15.4	33.4	36.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	20.0	50.0	30.0	50.0	50.0	30.0
Max Q Clear Time (g_c+I1), s	18.1	11.6	3.5	8.0	19.4	32.0
Green Ext Time (p_c), s	0.4	4.7	0.3	1.0	8.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	40.5
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	51.7					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	162	26	120	883	286	117
Future Vol, veh/h	162	26	120	883	286	117
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	190	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	176	28	130	960	311	127

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1595	375	438	0	-	0
Stage 1	375	-	-	-	-	-
Stage 2	1220	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	~ 117	669	1117	-	-	-
Stage 1	693	-	-	-	-	-
Stage 2	278	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 103	669	1117	-	-	-
Mov Cap-2 Maneuver	~ 103	-	-	-	-	-
Stage 1	613	-	-	-	-	-
Stage 2	278	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 432.7	1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1117	-	117	-	-
HCM Lane V/C Ratio	0.117	-	1.747	-	-
HCM Control Delay (s)	8.6	-	$ 432.7	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0.4	-	15.8	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	26.5
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	279	18	98	3	9	29	73	132	3	34	79	166
Future Vol, veh/h	279	18	98	3	9	29	73	132	3	34	79	166
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	3	3	3	3	3	3	3	8	3	3	8	3
Mvmt Flow	399	26	140	4	13	41	104	189	4	49	113	237
Number of Lanes	0	1	1	0	1	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	2	2
HCM Control Delay	41.6	11.9	16.1	14.9
HCM LOS	E	B	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	94%	0%	25%	0%	100%	0%	0%
Vol Thru, %	0%	98%	6%	0%	75%	0%	0%	100%	0%
Vol Right, %	0%	2%	0%	100%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	73	135	297	98	12	29	34	79	166
LT Vol	73	0	279	0	3	0	34	0	0
Through Vol	0	132	18	0	9	0	0	79	0
RT Vol	0	3	0	98	0	29	0	0	166
Lane Flow Rate	104	193	424	140	17	41	49	113	237
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.249	0.436	0.916	0.256	0.043	0.094	0.113	0.25	0.472
Departure Headway (Hd)	8.586	8.143	7.768	6.583	9.013	8.163	8.402	7.976	7.172
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	418	442	467	545	396	437	426	449	500
Service Time	6.35	5.906	5.52	4.335	6.796	5.945	6.163	5.738	4.934
HCM Lane V/C Ratio	0.249	0.437	0.908	0.257	0.043	0.094	0.115	0.252	0.474
HCM Control Delay	14.2	17.1	51.5	11.6	12.2	11.8	12.2	13.4	16.2
HCM Lane LOS	B	C	F	B	B	B	B	B	C
HCM 95th-tile Q	1	2.2	10.4	1	0.1	0.3	0.4	1	2.5

Intersection						
Int Delay, s/veh	4.3					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	23	16	16	14	9
Future Vol, veh/h	4	23	16	16	14	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	4	26	18	18	16	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	75	21	26	0	-	0
Stage 1	21	-	-	-	-	-
Stage 2	54	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	926	1054	1582	-	-	-
Stage 1	999	-	-	-	-	-
Stage 2	966	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	916	1054	1582	-	-	-
Mov Cap-2 Maneuver	916	-	-	-	-	-
Stage 1	988	-	-	-	-	-
Stage 2	966	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	3.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1582	-	1031	-	-
HCM Lane V/C Ratio	0.011	-	0.029	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	36	55	28	17	1
Future Vol, veh/h	3	36	55	28	17	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	15	15	15	15	15	15
Mvmt Flow	3	40	61	31	19	1
Number of Lanes	1	1	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	7.4	8.3	7.9
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	94%
Vol Right, %	0%	0%	0%	100%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	28	3	36	18
LT Vol	55	0	3	0	0
Through Vol	0	28	0	0	17
RT Vol	0	0	0	36	1
Lane Flow Rate	61	31	3	40	20
Geometry Grp	7	7	7	7	4
Degree of Util (X)	0.091	0.042	0.005	0.048	0.026
Departure Headway (Hd)	5.342	4.841	5.557	4.355	4.666
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	671	739	648	827	761
Service Time	3.074	2.574	3.257	2.055	2.735
HCM Lane V/C Ratio	0.091	0.042	0.005	0.048	0.026
HCM Control Delay	8.6	7.8	8.3	7.3	7.9
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.3	0.1	0	0.2	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	205	39	239	473	209	17	20	11	100	11	5
Future Volume (veh/h)	19	205	39	239	473	209	17	20	11	100	11	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678
Adj Flow Rate, veh/h	21	223	42	260	514	227	18	22	12	109	12	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	15	15	15	15	15	15	15	15	15	15	15	15
Cap, veh/h	61	527	235	299	678	298	91	111	60	228	25	10
Arrive On Green	0.04	0.17	0.17	0.19	0.31	0.31	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1598	3188	1422	1598	2154	947	548	670	366	1382	152	63
Grp Volume(v), veh/h	21	223	42	260	380	361	52	0	0	126	0	0
Grp Sat Flow(s),veh/h/ln	1598	1594	1422	1598	1594	1507	1584	0	0	1597	0	0
Q Serve(g_s), s	0.9	4.6	1.8	11.5	15.6	15.7	2.1	0.0	0.0	5.2	0.0	0.0
Cycle Q Clear(g_c), s	0.9	4.6	1.8	11.5	15.6	15.7	2.1	0.0	0.0	5.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.63	0.35		0.23	0.87		0.04
Lane Grp Cap(c), veh/h	61	527	235	299	501	474	262	0	0	264	0	0
V/C Ratio(X)	0.35	0.42	0.18	0.87	0.76	0.76	0.20	0.00	0.00	0.48	0.00	0.00
Avail Cap(c_a), veh/h	880	1756	783	440	501	474	807	0	0	880	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	34.0	27.2	26.1	28.6	22.4	22.4	26.2	0.0	0.0	27.5	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.2	0.1	8.6	5.9	6.4	0.1	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.6	0.6	4.7	5.9	5.7	0.7	0.0	0.0	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.3	27.4	26.2	37.2	28.3	28.9	26.3	0.0	0.0	28.0	0.0	0.0
LnGrp LOS	D	C	C	D	C	C	C	A	A	C	A	A
Approach Vol, veh/h		286			1001			52			126	
Approach Delay, s/veh		27.8			30.8			26.3			28.0	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.6	18.0		18.0	8.8	28.8		17.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		5.0				
Max Green Setting (Gmax), s	20.0	40.0		37.0	40.0	22.0		40.0				
Max Q Clear Time (g_c+I1), s	13.5	6.6		4.1	2.9	17.7		7.2				
Green Ext Time (p_c), s	0.2	0.9		0.1	0.0	1.2		0.4				

Intersection Summary		
HCM 6th Ctrl Delay		29.8
HCM 6th LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	4	0	72	0	35	0	1033	212	45	367	0
Future Volume (vph)	0	4	0	72	0	35	0	1033	212	45	367	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			5.0		4.5	5.0	
Lane Util. Factor		1.00			1.00			0.95		1.00	0.95	
Frt		1.00			0.96			0.97		1.00	1.00	
Flt Protected		1.00			0.97			1.00		0.95	1.00	
Satd. Flow (prot)		1845			1706			3415		1752	3505	
Flt Permitted		1.00			0.80			1.00		0.95	1.00	
Satd. Flow (perm)		1845			1404			3415		1752	3505	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	4	0	78	0	38	0	1123	230	49	399	0
RTOR Reduction (vph)	0	0	0	0	103	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	4	0	0	13	0	0	1346	0	49	399	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type		NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		10.4			10.4			78.9		6.7	90.1	
Effective Green, g (s)		10.4			10.4			78.9		6.7	90.1	
Actuated g/C Ratio		0.09			0.09			0.72		0.06	0.82	
Clearance Time (s)		4.5			4.5			5.0		4.5	5.0	
Vehicle Extension (s)		2.0			2.5			3.0		1.0	3.0	
Lane Grp Cap (vph)		174			132			2449		106	2870	
v/s Ratio Prot		0.00						c0.39		c0.03	0.11	
v/s Ratio Perm					c0.01							
v/c Ratio		0.02			0.10			0.55		0.46	0.14	
Uniform Delay, d1		45.2			45.5			7.3		49.9	2.0	
Progression Factor		1.00			1.00			1.00		1.37	1.17	
Incremental Delay, d2		0.0			0.2			0.9		1.1	0.1	
Delay (s)		45.2			45.7			8.2		69.3	2.5	
Level of Service		D			D			A		E	A	
Approach Delay (s)		45.2			45.7			8.2			9.8	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	217	77	90	367	18	6
Future Volume (vph)	0	217	77	90	367	18	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0	6.0	6.0
Lane Util. Factor		0.91		1.00	0.91	1.00	1.00
Frt		0.96		1.00	1.00	1.00	0.85
Flt Protected		1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)		4333		1570	4510	1570	1404
Flt Permitted		1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)		4333		1570	4510	1570	1404
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	0	271	96	112	459	22	8
RTOR Reduction (vph)	0	58	0	0	0	0	8
Lane Group Flow (vph)	0	309	0	113	459	23	0
Heavy Vehicles (%)	15%	15%	15%	15%	15%	15%	15%
Turn Type	Prot	NA		Prot	NA	Prot	Perm
Protected Phases	5	2		1	6	8	
Permitted Phases							8
Actuated Green, G (s)		17.4		8.0	31.4	0.8	0.8
Effective Green, g (s)		17.4		8.0	31.4	0.8	0.8
Actuated g/C Ratio		0.39		0.18	0.71	0.02	0.02
Clearance Time (s)		6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)		2.0		3.0	2.0	1.0	1.0
Lane Grp Cap (vph)		1705		284	3203	28	25
v/s Ratio Prot		c0.07		c0.07	0.10	c0.01	
v/s Ratio Perm							0.00
v/c Ratio		0.18		0.40	0.14	0.82	0.01
Uniform Delay, d1		8.7		16.0	2.1	21.6	21.3
Progression Factor		1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		0.0		0.9	0.0	92.8	0.0
Delay (s)		8.8		16.9	2.1	114.4	21.3
Level of Service		A		B	A	F	C
Approach Delay (s)		8.8			5.0	90.4	
Approach LOS		A			A	F	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	44.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	205	4	301	18	271	0	0	401	34
Future Volume (veh/h)	0	0	0	205	4	301	18	271	0	0	401	34
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1678	1678	1678	1678	1678	0	0	1678	1678
Adj Flow Rate, veh/h				223	4	327	20	295	0	0	436	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				15	15	15	15	15	0	0	15	15
Cap, veh/h				360	6	574	64	1531	0	0	1462	
Arrive On Green				0.26	0.23	0.23	0.04	0.48	0.00	0.00	0.32	0.00
Sat Flow, veh/h				1571	28	2502	1598	3272	0	0	4731	1422
Grp Volume(v), veh/h				227	0	327	20	295	0	0	436	0
Grp Sat Flow(s),veh/h/ln				1599	0	1251	1598	1594	0	0	1527	1422
Q Serve(g_s), s				4.7	0.0	4.3	0.5	2.0	0.0	0.0	2.7	0.0
Cycle Q Clear(g_c), s				4.7	0.0	4.3	0.5	2.0	0.0	0.0	2.7	0.0
Prop In Lane				0.98		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				367	0	574	64	1531	0	0	1462	
V/C Ratio(X)				0.62	0.00	0.57	0.31	0.19	0.00	0.00	0.30	
Avail Cap(c_a), veh/h				1071	0	1676	709	3798	0	0	2870	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				12.4	0.0	12.7	17.3	5.5	0.0	0.0	9.5	0.0
Incr Delay (d2), s/veh				1.0	0.0	0.5	1.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.4	0.0	1.0	0.2	0.4	0.0	0.0	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				13.4	0.0	13.3	18.4	5.6	0.0	0.0	9.6	0.0
LnGrp LOS				B	A	B	B	A	A	A	A	
Approach Vol, veh/h					554			315			436	A
Approach Delay, s/veh					13.3			6.4			9.6	
Approach LOS					B			A			A	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		23.6			6.0	17.6		13.6				
Change Period (Y+Rc), s		5.7			4.5	5.7		5.1				
Max Green Setting (Gmax), s		44.3			16.5	23.3		24.9				
Max Q Clear Time (g_c+I1), s		4.0			2.5	4.7		6.7				
Green Ext Time (p_c), s		1.4			0.0	1.9		1.9				

Intersection Summary			
HCM 6th Ctrl Delay			10.4
HCM 6th LOS			B

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	1	28	0	0	0	0	177	512	0	328	0
Future Volume (veh/h)	112	1	28	0	0	0	0	177	512	0	328	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1678	1678	1678				0	1678	1678	0	1678	0
Adj Flow Rate, veh/h	125	0	31				0	197	569	0	364	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	15	15	15				0	15	15	0	15	0
Cap, veh/h	358	0	159				0	2322	1036	0	2322	0
Arrive On Green	0.11	0.00	0.11				0.00	0.73	0.73	0.00	0.73	0.00
Sat Flow, veh/h	3196	0	1422				0	3272	1422	0	3355	0
Grp Volume(v), veh/h	125	0	31				0	197	569	0	364	0
Grp Sat Flow(s),veh/h/ln	1598	0	1422				0	1594	1422	0	1594	0
Q Serve(g_s), s	2.4	0.0	1.3				0.0	1.2	12.3	0.0	2.4	0.0
Cycle Q Clear(g_c), s	2.4	0.0	1.3				0.0	1.2	12.3	0.0	2.4	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	358	0	159				0	2322	1036	0	2322	0
V/C Ratio(X)	0.35	0.00	0.19				0.00	0.08	0.55	0.00	0.16	0.00
Avail Cap(c_a), veh/h	940	0	418				0	2322	1036	0	2322	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	27.8	0.0	27.3				0.0	2.7	4.2	0.0	2.8	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.2				0.0	0.1	2.1	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.4				0.0	0.3	2.7	0.0	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.0	0.0	27.5				0.0	2.7	6.3	0.0	3.0	0.0
LnGrp LOS	C	A	C				A	A	A	A	A	A
Approach Vol, veh/h		156						766			364	
Approach Delay, s/veh		27.9						5.3			3.0	
Approach LOS		C						A			A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		55.0		12.7		55.0
Change Period (Y+Rc), s		5.7		5.1		5.7
Max Green Setting (Gmax), s		49.3		19.9		49.3
Max Q Clear Time (g_c+I1), s		14.3		4.4		4.4
Green Ext Time (p_c), s		2.1		0.0		1.7

Intersection Summary	
HCM 6th Ctrl Delay	7.4
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	3	0	656	350	2
Future Volume (veh/h)	16	3	0	656	350	2
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1678	1678	1678	1678	1678	1678
Adj Flow Rate, veh/h	18	3	0	745	398	2
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	15	15	15	15	15	15
Cap, veh/h	43	38	6	1027	1027	871
Arrive On Green	0.03	0.03	0.00	0.61	0.61	0.61
Sat Flow, veh/h	1598	1422	1598	1678	1678	1422
Grp Volume(v), veh/h	18	3	0	745	398	2
Grp Sat Flow(s),veh/h/ln	1598	1422	1598	1678	1678	1422
Q Serve(g_s), s	0.3	0.1	0.0	8.4	3.3	0.0
Cycle Q Clear(g_c), s	0.3	0.1	0.0	8.4	3.3	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	43	38	6	1027	1027	871
V/C Ratio(X)	0.42	0.08	0.00	0.73	0.39	0.00
Avail Cap(c_a), veh/h	1176	1046	1176	2469	2469	2093
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.0	12.9	0.0	3.7	2.7	2.0
Incr Delay (d2), s/veh	6.3	0.9	0.0	1.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.3	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.3	13.8	0.0	4.7	2.9	2.0
LnGrp LOS	B	B	A	A	A	A
Approach Vol, veh/h	21			745	400	
Approach Delay, s/veh	18.5			4.7	2.9	
Approach LOS	B			A	A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	0.0	22.4		4.7		22.4
Change Period (Y+Rc), s	4.0	5.8		4.0		5.8
Max Green Setting (Gmax), s	20.0	40.0		20.0		40.0
Max Q Clear Time (g_c+I1), s	0.0	5.3		2.3		10.4
Green Ext Time (p_c), s	0.0	2.7		0.0		6.2

Intersection Summary		
HCM 6th Ctrl Delay		4.3
HCM 6th LOS		A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	43	77	507	36	141	121	733	396	118	785	23
Future Volume (veh/h)	45	43	77	507	36	141	121	733	396	118	785	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1060	1589	1324	883	1589	1324	1060	1589	1324	1060	1589	1324
Adj Flow Rate, veh/h	51	48	87	570	40	158	136	824	445	133	882	26
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	15	15	15	15	15	15	15	15	15	15	15	15
Cap, veh/h	64	276	102	445	477	337	138	1094	407	162	932	347
Arrive On Green	0.06	0.09	0.09	0.27	0.30	0.30	0.14	0.36	0.36	0.08	0.31	0.31
Sat Flow, veh/h	1009	3020	1122	1631	1589	1122	1009	3020	1122	1958	3020	1122
Grp Volume(v), veh/h	51	48	87	570	40	158	136	824	445	133	882	26
Grp Sat Flow(s),veh/h/ln	1009	1510	1122	816	1589	1122	1009	1510	1122	979	1510	1122
Q Serve(g_s), s	7.3	2.2	11.2	40.0	2.7	16.8	19.7	35.1	53.1	9.8	41.8	2.4
Cycle Q Clear(g_c), s	7.3	2.2	11.2	40.0	2.7	16.8	19.7	35.1	53.1	9.8	41.8	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	64	276	102	445	477	337	138	1094	407	162	932	347
V/C Ratio(X)	0.79	0.17	0.85	1.28	0.08	0.47	0.99	0.75	1.09	0.82	0.95	0.08
Avail Cap(c_a), veh/h	138	412	153	445	509	360	138	1094	407	334	968	360
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.7	61.5	65.6	53.3	36.8	41.8	63.2	41.0	46.8	66.2	49.5	35.9
Incr Delay (d2), s/veh	19.0	0.3	23.7	142.8	0.1	1.0	73.0	3.0	72.5	9.7	17.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.8	3.8	16.8	1.0	4.7	7.9	13.5	22.5	2.7	18.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.7	61.8	89.3	196.2	36.9	42.8	136.2	44.0	119.3	75.9	66.6	36.0
LnGrp LOS	F	E	F	F	D	D	F	D	F	E	E	D
Approach Vol, veh/h		186			768			1405			1041	
Approach Delay, s/veh		81.5			156.3			76.8			67.0	
Approach LOS		F			F			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.2	60.1	47.0	20.4	27.0	52.3	16.4	51.0
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	25.0	47.0	40.0	20.0	20.0	47.0	20.0	47.0
Max Q Clear Time (g_c+I1), s	11.8	55.1	42.0	13.2	21.7	43.8	9.3	18.8
Green Ext Time (p_c), s	0.4	0.0	0.0	0.2	0.0	1.5	0.1	0.8

Intersection Summary	
HCM 6th Ctrl Delay	92.0
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	5	0	199	10	806	0	0	787	276
Future Volume (veh/h)	0	0	0	5	0	199	10	806	0	0	787	276
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1678	1678	1678	1678	1678	0	0	1678	1678
Adj Flow Rate, veh/h				5	0	0	11	848	0	0	828	291
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				15	15	15	15	15	0	0	15	15
Cap, veh/h				12	0		12	916	0	0	572	485
Arrive On Green				0.01	0.00	0.00	0.55	0.55	0.00	0.00	0.34	0.34
Sat Flow, veh/h				1598	0	1422	21	1655	0	0	1678	1422
Grp Volume(v), veh/h				5	0	0	859	0	0	0	828	291
Grp Sat Flow(s),veh/h/ln				1598	0	1422	1677	0	0	0	1678	1422
Q Serve(g_s), s				0.5	0.0	0.0	79.8	0.0	0.0	0.0	58.0	28.8
Cycle Q Clear(g_c), s				0.5	0.0	0.0	79.8	0.0	0.0	0.0	58.0	28.8
Prop In Lane				1.00		1.00	0.01		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				12	0		927	0	0	0	572	485
V/C Ratio(X)				0.42	0.00		0.93	0.00	0.00	0.00	1.45	0.60
Avail Cap(c_a), veh/h				124	0		927	0	0	0	572	485
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.09	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				84.0	0.0	0.0	34.8	0.0	0.0	0.0	56.0	46.4
Incr Delay (d2), s/veh				22.0	0.0	0.0	2.1	0.0	0.0	0.0	210.7	4.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.3	0.0	0.0	32.6	0.0	0.0	0.0	58.0	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				106.0	0.0	0.0	36.9	0.0	0.0	0.0	266.7	50.9
LnGrp LOS				F	A		D	A	A	A	F	D
Approach Vol, veh/h					5	A		859			1119	
Approach Delay, s/veh					106.0			36.9			210.6	
Approach LOS					F			D			F	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		99.8				63.8		6.4				
Change Period (Y+Rc), s		5.8				5.8		5.1				
Max Green Setting (Gmax), s		82.1				58.0		13.2				
Max Q Clear Time (g_c+I1), s		81.8				60.0		2.5				
Green Ext Time (p_c), s		0.2				0.0		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	135.1
HCM 6th LOS	F

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	4	66	0	0	0	0	730	433	741	43	0
Future Volume (veh/h)	135	4	66	0	0	0	0	730	433	741	43	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1678	1678	1678				0	1678	1678	1678	1678	0
Adj Flow Rate, veh/h	144	4	0				0	777	461	788	46	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	15	15	15				0	15	15	15	15	0
Cap, veh/h	165	5					0	713	605	561	33	0
Arrive On Green	0.11	0.11	0.00				0.00	0.43	0.43	0.37	0.37	0.00
Sat Flow, veh/h	1557	43	1422				0	1678	1422	1514	88	0
Grp Volume(v), veh/h	148	0	0				0	777	461	834	0	0
Grp Sat Flow(s),veh/h/ln	1600	0	1422				0	1678	1422	1602	0	0
Q Serve(g_s), s	15.5	0.0	0.0				0.0	72.3	46.9	63.0	0.0	0.0
Cycle Q Clear(g_c), s	15.5	0.0	0.0				0.0	72.3	46.9	63.0	0.0	0.0
Prop In Lane	0.97		1.00				0.00		1.00	0.94		0.00
Lane Grp Cap(c), veh/h	169	0					0	713	605	594	0	0
V/C Ratio(X)	0.87	0.00					0.00	1.09	0.76	1.40	0.00	0.00
Avail Cap(c_a), veh/h	303	0					0	713	605	594	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	0.09	0.00	0.00
Uniform Delay (d), s/veh	74.9	0.0	0.0				0.0	48.9	41.6	53.5	0.0	0.0
Incr Delay (d2), s/veh	15.1	0.0	0.0				0.0	60.5	8.8	183.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	0.0	0.0				0.0	42.1	18.0	55.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.0	0.0	0.0				0.0	109.4	50.4	236.6	0.0	0.0
LnGrp LOS	F	A					A	F	D	F	A	A
Approach Vol, veh/h		148	A					1238			834	
Approach Delay, s/veh		90.0						87.4			236.6	
Approach LOS		F						F			F	

Timer - Assigned Phs		2		4		6			
Phs Duration (G+Y+Rc), s		78.1		23.1		68.8			
Change Period (Y+Rc), s		5.8		5.1		5.8			
Max Green Setting (Gmax), s		58.1		32.2		63.0			
Max Q Clear Time (g_c+I1), s		74.3		17.5		65.0			
Green Ext Time (p_c), s		0.0		0.5		0.0			

Intersection Summary			
HCM 6th Ctrl Delay			143.6
HCM 6th LOS			F

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	137	0	0	53
Future Vol, veh/h	0	0	137	0	0	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	0	0	149	0	0	58
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	0	8	7.5
HCM LOS	-	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	137	0	53
LT Vol	0	0	0
Through Vol	137	0	53
RT Vol	0	0	0
Lane Flow Rate	149	0	58
Geometry Grp	1	1	1
Degree of Util (X)	0.17	0	0.067
Departure Headway (Hd)	4.113	4.526	4.18
Convergence, Y/N	Yes	Yes	Yes
Cap	874	0	855
Service Time	2.126	2.526	2.212
HCM Lane V/C Ratio	0.17	0	0.068
HCM Control Delay	8	7.5	7.5
HCM Lane LOS	A	N	A
HCM 95th-tile Q	0.6	0	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	0	30	19	0	27	4	76	14	19	28	6
Future Volume (veh/h)	34	0	30	19	0	27	4	76	14	19	28	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	50	0	44	28	0	40	6	112	21	28	41	9
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	90	367	311	56	332	281	13	779	347	56	864	385
Arrive On Green	0.05	0.00	0.21	0.03	0.00	0.19	0.01	0.23	0.23	0.03	0.26	0.26
Sat Flow, veh/h	1668	1752	1482	1668	1752	1485	1668	3328	1482	1668	3328	1482
Grp Volume(v), veh/h	50	0	44	28	0	40	6	112	21	28	41	9
Grp Sat Flow(s),veh/h/ln	1668	1752	1482	1668	1752	1485	1668	1664	1482	1668	1664	1482
Q Serve(g_s), s	1.1	0.0	0.9	0.6	0.0	0.8	0.1	1.0	0.4	0.6	0.3	0.2
Cycle Q Clear(g_c), s	1.1	0.0	0.9	0.6	0.0	0.8	0.1	1.0	0.4	0.6	0.3	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	90	367	311	56	332	281	13	779	347	56	864	385
V/C Ratio(X)	0.55	0.00	0.14	0.50	0.00	0.14	0.45	0.14	0.06	0.50	0.05	0.02
Avail Cap(c_a), veh/h	882	1852	1567	882	1852	1570	882	3519	1567	882	3519	1567
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.5	0.0	12.2	18.0	0.0	12.8	18.7	11.5	11.3	18.0	10.5	10.4
Incr Delay (d2), s/veh	5.2	0.0	0.2	6.7	0.0	0.2	21.3	0.1	0.1	6.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.3	0.3	0.0	0.2	0.1	0.3	0.1	0.3	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.7	0.0	12.4	24.6	0.0	13.0	40.0	11.6	11.3	24.6	10.5	10.5
LnGrp LOS	C	A	B	C	A	B	D	B	B	C	B	B
Approach Vol, veh/h		94			68			139			78	
Approach Delay, s/veh		17.9			17.8			12.8			15.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.3	12.6	5.3	14.7	6.0	11.9	4.3	15.6
Change Period (Y+Rc), s	4.0	* 4.7	4.0	5.8	4.0	* 4.7	4.0	5.8
Max Green Setting (Gmax), s	20.0	* 40	20.0	40.0	20.0	* 40	20.0	40.0
Max Q Clear Time (g_c+I1), s	2.6	2.9	2.6	3.0	3.1	2.8	2.1	2.3
Green Ext Time (p_c), s	0.0	0.1	0.0	0.8	0.1	0.1	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	15.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	370	26	8	69	17	20	6	15	41	2	64
Future Volume (veh/h)	92	370	26	8	69	17	20	6	15	41	2	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678
Adj Flow Rate, veh/h	110	440	31	10	82	20	24	7	18	49	2	76
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	15	15	15	15	15	15	15	15	15	15	15	15
Cap, veh/h	207	546	463	37	368	312	80	63	161	136	312	264
Arrive On Green	0.13	0.33	0.33	0.02	0.22	0.22	0.05	0.15	0.15	0.08	0.19	0.19
Sat Flow, veh/h	1598	1678	1422	1598	1678	1422	1598	416	1069	1598	1678	1422
Grp Volume(v), veh/h	110	440	31	10	82	20	24	0	25	49	2	76
Grp Sat Flow(s),veh/h/ln	1598	1678	1422	1598	1678	1422	1598	0	1485	1598	1678	1422
Q Serve(g_s), s	3.7	13.8	0.9	0.4	2.3	0.6	0.8	0.0	0.8	1.7	0.1	2.7
Cycle Q Clear(g_c), s	3.7	13.8	0.9	0.4	2.3	0.6	0.8	0.0	0.8	1.7	0.1	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.72	1.00		1.00
Lane Grp Cap(c), veh/h	207	546	463	37	368	312	80	0	224	136	312	264
V/C Ratio(X)	0.53	0.81	0.07	0.27	0.22	0.06	0.30	0.00	0.11	0.36	0.01	0.29
Avail Cap(c_a), veh/h	415	1163	986	415	1163	986	415	0	386	415	436	370
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	17.8	13.4	27.7	18.5	17.8	26.4	0.0	21.2	24.9	19.1	20.2
Incr Delay (d2), s/veh	2.1	4.0	0.1	3.9	0.4	0.1	2.1	0.0	0.3	1.6	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.9	0.3	0.2	0.8	0.2	0.3	0.0	0.3	0.7	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.6	21.8	13.5	31.6	18.9	18.0	28.5	0.0	21.5	26.5	19.2	21.0
LnGrp LOS	C	C	B	C	B	B	C	A	C	C	B	C
Approach Vol, veh/h		581			112			49			127	
Approach Delay, s/veh		22.1			19.9			24.9			23.1	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	25.3	10.4	14.2	14.0	19.1	8.4	16.2
Change Period (Y+Rc), s	6.5	6.5	5.5	5.5	6.5	6.5	5.5	5.5
Max Green Setting (Gmax), s	15.0	40.0	15.0	15.0	15.0	40.0	15.0	15.0
Max Q Clear Time (g_c+I1), s	2.4	15.8	3.7	2.8	5.7	4.3	2.8	4.7
Green Ext Time (p_c), s	0.0	2.9	0.1	0.0	0.2	0.5	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	877	922	49	26	9
Future Vol, veh/h	33	877	922	49	26	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	36	953	1002	53	28	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1055	0	-	0	2054	1029
Stage 1	-	-	-	-	1029	-
Stage 2	-	-	-	-	1025	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	656	-	-	-	60	283
Stage 1	-	-	-	-	343	-
Stage 2	-	-	-	-	345	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	656	-	-	-	53	283
Mov Cap-2 Maneuver	-	-	-	-	53	-
Stage 1	-	-	-	-	303	-
Stage 2	-	-	-	-	345	-

Approach	EB		WB		SB	
HCM Control Delay, s	0.4		0		113.8	
HCM LOS					F	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	656	-	-	-	67
HCM Lane V/C Ratio	0.055	-	-	-	0.568
HCM Control Delay (s)	10.8	0	-	-	113.8
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	366	260	34	288	329	95
Future Volume (veh/h)	366	260	34	288	329	95
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1900	1900
Adj Flow Rate, veh/h	398	283	37	313	358	103
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	0	0
Cap, veh/h	444	316	87	1002	420	121
Arrive On Green	0.44	0.44	0.05	0.54	0.32	0.32
Sat Flow, veh/h	1009	717	1767	1856	1333	383
Grp Volume(v), veh/h	0	681	37	313	462	0
Grp Sat Flow(s),veh/h/ln	0	1726	1767	1856	1720	0
Q Serve(g_s), s	0.0	25.2	1.4	6.5	17.4	0.0
Cycle Q Clear(g_c), s	0.0	25.2	1.4	6.5	17.4	0.0
Prop In Lane		0.42	1.00		0.77	0.22
Lane Grp Cap(c), veh/h	0	760	87	1002	542	0
V/C Ratio(X)	0.00	0.90	0.42	0.31	0.85	0.00
Avail Cap(c_a), veh/h	0	986	434	1073	995	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	17.9	31.9	8.8	22.2	0.0
Incr Delay (d2), s/veh	0.0	9.2	1.2	0.2	4.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.3	0.6	2.1	6.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	27.1	33.1	9.0	26.8	0.0
LnGrp LOS	A	C	C	A	C	A
Approach Vol, veh/h	681			350	462	
Approach Delay, s/veh	27.1			11.6	26.8	
Approach LOS	C			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		42.4		26.8	6.9	35.5
Change Period (Y+Rc), s		* 5		5.0	3.5	5.0
Max Green Setting (Gmax), s		* 40		40.0	17.0	39.5
Max Q Clear Time (g_c+I1), s		8.5		19.4	3.4	27.2
Green Ext Time (p_c), s		1.5		2.4	0.0	3.2

Intersection Summary		
HCM 6th Ctrl Delay		23.4
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	820	156	167	299	100	42	253	778	89	176	28
Future Volume (veh/h)	131	820	156	167	299	100	42	253	778	89	176	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	142	891	0	182	325	0	46	275	0	97	191	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	401	1815		413	1911		288	515		458	689	
Arrive On Green	0.12	0.36	0.00	0.12	0.38	0.00	0.08	0.15	0.00	0.13	0.20	0.00
Sat Flow, veh/h	3428	5066	1572	3428	5066	1572	3428	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	142	891	0	182	325	0	46	275	0	97	191	0
Grp Sat Flow(s),veh/h/ln	1714	1689	1572	1714	1689	1572	1714	1763	1572	1714	1763	1572
Q Serve(g_s), s	2.5	9.0	0.0	3.2	2.8	0.0	0.8	4.7	0.0	1.6	3.0	0.0
Cycle Q Clear(g_c), s	2.5	9.0	0.0	3.2	2.8	0.0	0.8	4.7	0.0	1.6	3.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	401	1815		413	1911		288	515		458	689	
V/C Ratio(X)	0.35	0.49		0.44	0.17		0.16	0.53		0.21	0.28	
Avail Cap(c_a), veh/h	897	4036		739	4036		897	760		739	760	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.6	16.3	0.0	26.7	13.6	0.0	27.8	25.9	0.0	25.3	22.4	0.0
Incr Delay (d2), s/veh	0.2	0.4	0.0	0.3	0.1	0.0	0.1	1.2	0.0	0.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.0	0.0	1.2	0.9	0.0	0.3	1.9	0.0	0.6	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.8	16.8	0.0	27.0	13.6	0.0	27.9	27.1	0.0	25.5	22.6	0.0
LnGrp LOS	C	B		C	B		C	C		C	C	
Approach Vol, veh/h		1033	A		507	A		321	A		288	A
Approach Delay, s/veh		18.2			18.4			27.2			23.6	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.3	27.4	8.9	16.8	11.0	28.7	12.1	13.6				
Change Period (Y+Rc), s	6.5	6.1	5.5	6.1	5.5	6.1	5.5	6.1				
Max Green Setting (Gmax), s	12.0	50.0	15.0	12.0	15.0	50.0	12.0	12.0				
Max Q Clear Time (g_c+I1), s	5.2	11.0	2.8	5.0	4.5	4.8	3.6	6.7				
Green Ext Time (p_c), s	0.2	10.4	0.0	0.4	0.2	3.3	0.2	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			20.3									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	108	385	363	19	115	384
Future Volume (veh/h)	108	385	363	19	115	384
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	117	418	395	21	125	417
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1022	469	1240	385	559	1784
Arrive On Green	0.30	0.30	0.24	0.24	0.16	0.51
Sat Flow, veh/h	3428	1572	5233	1572	3428	3618
Grp Volume(v), veh/h	117	418	395	21	125	417
Grp Sat Flow(s),veh/h/ln	1714	1572	1689	1572	1714	1763
Q Serve(g_s), s	1.5	15.6	3.9	0.6	1.9	4.1
Cycle Q Clear(g_c), s	1.5	15.6	3.9	0.6	1.9	4.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	1022	469	1240	385	559	1784
V/C Ratio(X)	0.11	0.89	0.32	0.05	0.22	0.23
Avail Cap(c_a), veh/h	1399	642	2894	898	1119	1841
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.6	20.6	18.9	17.7	22.3	8.5
Incr Delay (d2), s/veh	0.0	9.5	0.1	0.1	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	13.3	1.3	0.2	0.7	1.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.6	30.0	19.1	17.8	22.5	8.6
LnGrp LOS	B	C	B	B	C	A
Approach Vol, veh/h	535		416			542
Approach Delay, s/veh	26.9		19.0			11.8
Approach LOS	C		B			B

Timer - Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				37.0		24.3	16.0	21.0
Change Period (Y+Rc), s				6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s				32.0		25.0	20.0	35.0
Max Q Clear Time (g_c+I1), s				6.1		17.6	3.9	5.9
Green Ext Time (p_c), s				3.0		0.7	0.5	2.6

Intersection Summary		
HCM 6th Ctrl Delay		19.2
HCM 6th LOS		B

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	64	312	46	134	432
Future Vol, veh/h	38	64	312	46	134	432
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	320	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	41	64	312	46	134	432

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1035	335	0	0	358	0
Stage 1	335	-	-	-	-	-
Stage 2	700	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	256	705	-	-	1195	-
Stage 1	722	-	-	-	-	-
Stage 2	491	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	227	705	-	-	1195	-
Mov Cap-2 Maneuver	227	-	-	-	-	-
Stage 1	722	-	-	-	-	-
Stage 2	436	-	-	-	-	-

Approach	WB		NB		SB	
HCM Control Delay, s	17.8		0		2	
HCM LOS	C					

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	386	1195	-
HCM Lane V/C Ratio	-	-	0.273	0.112	-
HCM Control Delay (s)	-	-	17.8	8.4	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.1	0.4	-

Intersection	
Intersection Delay, s/veh	17
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	164	302	73	194	199	20
Future Vol, veh/h	164	302	73	194	199	20
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	180	332	80	213	219	22
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	20.8	14.1	12.5
HCM LOS	C	B	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	27%	35%	0%
Vol Thru, %	73%	0%	91%
Vol Right, %	0%	65%	9%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	267	466	219
LT Vol	73	164	0
Through Vol	194	0	199
RT Vol	0	302	20
Lane Flow Rate	293	512	241
Geometry Grp	1	1	1
Degree of Util (X)	0.474	0.729	0.388
Departure Headway (Hd)	5.814	5.123	5.798
Convergence, Y/N	Yes	Yes	Yes
Cap	616	702	618
Service Time	3.872	3.17	3.859
HCM Lane V/C Ratio	0.476	0.729	0.39
HCM Control Delay	14.1	20.8	12.5
HCM Lane LOS	B	C	B
HCM 95th-tile Q	2.5	6.4	1.8

Intersection						
Int Delay, s/veh	2.4					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	48	195	0	155	349
Future Vol, veh/h	5	48	195	0	155	349
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	53	217	0	172	388

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	949	217	0	0	217	0
Stage 1	217	-	-	-	-	-
Stage 2	732	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	289	823	-	-	1353	-
Stage 1	819	-	-	-	-	-
Stage 2	476	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	242	823	-	-	1353	-
Mov Cap-2 Maneuver	242	-	-	-	-	-
Stage 1	819	-	-	-	-	-
Stage 2	399	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	2.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	671	1353	-
HCM Lane V/C Ratio	-	-	0.088	0.127	-
HCM Control Delay (s)	-	-	10.9	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.4	-

Intersection												
Int Delay, s/veh	7.9											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	4	0	178	0	8	24	344	12	0
Future Vol, veh/h	0	0	0	4	0	178	0	8	24	344	12	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	4	0	200	0	9	27	387	13	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	910	823	13	810	810	23	-	0	0	36	0	0
Stage 1	787	787	-	23	23	-	-	-	-	-	-	-
Stage 2	123	36	-	787	787	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	255	309	1067	298	314	1054	0	-	-	1575	-	0
Stage 1	385	403	-	995	876	-	0	-	-	-	-	0
Stage 2	881	865	-	385	403	-	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	167	232	1067	241	236	1054	-	-	-	1575	-	-
Mov Cap-2 Maneuver	167	232	-	241	236	-	-	-	-	-	-	-
Stage 1	385	303	-	995	876	-	-	-	-	-	-	-
Stage 2	714	865	-	290	303	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.6	0	7.8
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	981	1575	-
HCM Lane V/C Ratio	-	-	-	0.208	0.245	-
HCM Control Delay (s)	-	-	0	9.6	8	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	-	0.8	1	-

Intersection						
Int Delay, s/veh	3.9					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	56	108	146	119	0
Future Vol, veh/h	29	56	108	146	119	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	32	62	120	162	132	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	534	132	132	0	-	0
Stage 1	132	-	-	-	-	-
Stage 2	402	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	505	915	1447	-	-	-
Stage 1	892	-	-	-	-	-
Stage 2	673	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	459	915	1447	-	-	-
Mov Cap-2 Maneuver	459	-	-	-	-	-
Stage 1	811	-	-	-	-	-
Stage 2	673	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.1	3.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1447	-	683	-	-
HCM Lane V/C Ratio	0.083	-	0.138	-	-
HCM Control Delay (s)	7.7	0	11.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.5	-	-

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	67	25	43	3	24	13	56	191	4	20	102	32
Future Vol, veh/h	67	25	43	3	24	13	56	191	4	20	102	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	180	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	7	0	12	0	3	20	5	0	0	0	0	0
Mvmt Flow	71	27	46	3	26	14	60	203	4	21	109	34

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	403	495	72	435	510	104	143	0	0	207	0	0
Stage 1	168	168	-	325	325	-	-	-	-	-	-	-
Stage 2	235	327	-	110	185	-	-	-	-	-	-	-
Critical Hdwy	7.64	6.5	7.14	7.5	6.56	7.3	4.2	-	-	4.1	-	-
Critical Hdwy Stg 1	6.64	5.5	-	6.5	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.64	5.5	-	6.5	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.57	4	3.42	3.5	4.03	3.5	2.25	-	-	2.2	-	-
Pot Cap-1 Maneuver	520	479	944	510	463	876	1416	-	-	1376	-	-
Stage 1	803	763	-	667	645	-	-	-	-	-	-	-
Stage 2	733	651	-	889	743	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	467	451	944	443	436	876	1416	-	-	1376	-	-
Mov Cap-2 Maneuver	467	451	-	443	436	-	-	-	-	-	-	-
Stage 1	769	750	-	639	618	-	-	-	-	-	-	-
Stage 2	662	624	-	802	730	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.8	12.5	1.7	1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1416	-	-	552	522	1376	-	-
HCM Lane V/C Ratio	0.042	-	-	0.26	0.082	0.015	-	-
HCM Control Delay (s)	7.7	-	-	13.8	12.5	7.7	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1	0.3	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	294	33	13	277	9	730	116	89	21	12	101
Future Volume (veh/h)	130	294	33	13	277	9	730	116	89	21	12	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	141	320	36	14	301	10	793	126	97	23	13	110
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	274	655	292	49	671	22	1188	1604	715	45	248	210
Arrive On Green	0.08	0.19	0.19	0.03	0.13	0.12	0.35	0.45	0.45	0.03	0.13	0.13
Sat Flow, veh/h	3428	3526	1572	1767	5037	166	3428	3526	1572	1767	1856	1572
Grp Volume(v), veh/h	141	320	36	14	201	110	793	126	97	23	13	110
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1767	1689	1826	1714	1763	1572	1767	1856	1572
Q Serve(g_s), s	2.1	4.2	1.0	0.4	2.9	2.9	10.3	1.1	1.9	0.7	0.3	3.4
Cycle Q Clear(g_c), s	2.1	4.2	1.0	0.4	2.9	2.9	10.3	1.1	1.9	0.7	0.3	3.4
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	274	655	292	49	450	243	1188	1604	715	45	248	210
V/C Ratio(X)	0.51	0.49	0.12	0.29	0.45	0.45	0.67	0.08	0.14	0.51	0.05	0.52
Avail Cap(c_a), veh/h	1588	2490	1111	1174	2386	1290	2665	2787	1243	650	721	611
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.1	19.0	17.7	24.9	20.9	20.9	14.5	8.1	8.3	25.1	19.7	21.1
Incr Delay (d2), s/veh	1.5	0.5	0.2	3.9	0.6	1.2	0.8	0.0	0.1	8.6	0.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.6	0.3	0.2	1.1	1.2	3.4	0.3	0.5	0.4	0.1	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.5	19.6	17.9	28.8	21.5	22.1	15.3	8.1	8.4	33.7	19.8	23.1
LnGrp LOS	C	B	B	C	C	C	B	A	A	C	B	C
Approach Vol, veh/h		497			325			1016			146	
Approach Delay, s/veh		20.8			22.0			13.7			24.5	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.4	13.7	22.1	11.0	8.2	11.0	5.3	27.8
Change Period (Y+Rc), s	* 4.7	4.9	4.6	5.3	* 4.2	4.9	* 4.2	5.3
Max Green Setting (Gmax), s	* 34	36.0	40.0	19.0	* 24	36.0	* 19	40.0
Max Q Clear Time (g_c+I1), s	2.4	6.2	12.3	5.4	4.1	4.9	2.7	3.9
Green Ext Time (p_c), s	0.0	1.4	5.2	0.3	0.5	1.2	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	17.7
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	422	50	71	937	116	20	3	7	55	8	113
Future Volume (veh/h)	230	422	50	71	937	116	20	3	7	55	8	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	250	459	54	77	1018	126	22	3	8	60	9	123
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	293	1975	229	153	1598	197	70	71	190	137	366	310
Arrive On Green	0.17	0.43	0.43	0.09	0.35	0.35	0.04	0.16	0.16	0.08	0.20	0.20
Sat Flow, veh/h	1767	4604	533	1767	4567	564	1767	447	1193	1767	1856	1572
Grp Volume(v), veh/h	250	335	178	77	752	392	22	0	11	60	9	123
Grp Sat Flow(s),veh/h/ln	1767	1689	1760	1767	1689	1754	1767	0	1641	1767	1856	1572
Q Serve(g_s), s	10.0	4.6	4.7	3.0	13.5	13.6	0.9	0.0	0.4	2.4	0.3	5.0
Cycle Q Clear(g_c), s	10.0	4.6	4.7	3.0	13.5	13.6	0.9	0.0	0.4	2.4	0.3	5.0
Prop In Lane	1.00		0.30	1.00		0.32	1.00		0.73	1.00		1.00
Lane Grp Cap(c), veh/h	293	1449	755	153	1182	614	70	0	261	137	366	310
V/C Ratio(X)	0.85	0.23	0.24	0.50	0.64	0.64	0.32	0.00	0.04	0.44	0.02	0.40
Avail Cap(c_a), veh/h	486	1859	968	365	1859	965	486	0	339	365	383	325
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.4	13.2	13.2	31.7	19.8	19.8	33.9	0.0	25.9	32.0	23.5	25.4
Incr Delay (d2), s/veh	3.6	0.1	0.2	0.9	0.7	1.3	0.9	0.0	0.0	0.8	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	1.6	1.7	1.3	5.0	5.3	0.4	0.0	0.2	1.0	0.1	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.0	13.2	13.4	32.6	20.5	21.1	34.9	0.0	25.9	32.8	23.6	25.7
LnGrp LOS	C	B	B	C	C	C	C	A	C	C	C	C
Approach Vol, veh/h		763			1221			33			192	
Approach Delay, s/veh		19.8			21.4			31.9			27.8	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	35.7	7.4	18.8	16.6	29.9	10.1	16.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.0	40.0	20.0	15.0	20.0	40.0	15.0	15.0
Max Q Clear Time (g_c+I1), s	5.0	6.7	2.9	7.0	12.0	15.6	4.4	2.4
Green Ext Time (p_c), s	0.0	4.2	0.0	0.0	0.1	9.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	21.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	1069	46	0	844	422	0	0	0	561	96	541
Future Volume (veh/h)	280	1069	46	0	844	422	0	0	0	561	96	541
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	0	1856	1856				1856	1856	1856
Adj Flow Rate, veh/h	304	1162	50	0	917	0				684	0	588
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	0	3	3				3	3	3
Cap, veh/h	429	1706	761	0	1582					1495	0	665
Arrive On Green	0.13	0.48	0.48	0.00	0.31	0.00				0.42	0.00	0.42
Sat Flow, veh/h	3428	3526	1572	0	5233	1572				3534	0	1572
Grp Volume(v), veh/h	304	1162	50	0	917	0				684	0	588
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	0	1689	1572				1767	0	1572
Q Serve(g_s), s	7.3	21.8	1.5	0.0	13.1	0.0				11.9	0.0	29.6
Cycle Q Clear(g_c), s	7.3	21.8	1.5	0.0	13.1	0.0				11.9	0.0	29.6
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	429	1706	761	0	1582					1495	0	665
V/C Ratio(X)	0.71	0.68	0.07	0.00	0.58					0.46	0.00	0.88
Avail Cap(c_a), veh/h	1205	1776	792	0	2552					1670	0	743
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	36.1	17.1	11.8	0.0	24.8	0.0				17.7	0.0	22.9
Incr Delay (d2), s/veh	2.2	1.5	0.1	0.0	0.8	0.0				0.2	0.0	11.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	8.1	0.5	0.0	5.0	0.0				4.6	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.2	18.6	11.9	0.0	25.7	0.0				18.0	0.0	34.3
LnGrp LOS	D	B	B	A	C					B	A	C
Approach Vol, veh/h		1516			917	A					1272	
Approach Delay, s/veh		22.3			25.7						25.7	
Approach LOS		C			C						C	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		45.6		40.3	14.8	30.8						
Change Period (Y+Rc), s		5.3		4.6	* 4.2	5.3						
Max Green Setting (Gmax), s		42.0		40.0	* 30	42.0						
Max Q Clear Time (g_c+I1), s		23.8		31.6	9.3	15.1						
Green Ext Time (p_c), s		11.3		4.1	1.3	10.5						
Intersection Summary												
HCM 6th Ctrl Delay			24.2									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	634	996	0	4	1110	184	156	129	435	0	0	0
Future Volume (veh/h)	634	996	0	4	1110	184	156	129	435	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1856	0	1856	1856	1856	1856	1856	1856			
Adj Flow Rate, veh/h	689	1083	0	4	1207	200	170	140	473			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	3	3	0	3	3	3	3	3	3			
Cap, veh/h	673	2715	0	33	1502	248	268	0	238			
Arrive On Green	0.38	0.77	0.00	0.34	0.35	0.34	0.15	0.15	0.15			
Sat Flow, veh/h	1767	3618	0	3	4242	701	1767	0	1572			
Grp Volume(v), veh/h	689	1083	0	527	438	446	170	0	473			
Grp Sat Flow(s),veh/h/ln	1767	1763	0	1847	1537	1562	1767	0	1572			
Q Serve(g_s), s	43.2	11.6	0.0	0.0	29.2	29.3	10.2	0.0	17.2			
Cycle Q Clear(g_c), s	43.2	11.6	0.0	29.5	29.2	29.3	10.2	0.0	17.2			
Prop In Lane	1.00		0.00	0.01		0.45	1.00		1.00			
Lane Grp Cap(c), veh/h	673	2715	0	665	544	553	268	0	238			
V/C Ratio(X)	1.02	0.40	0.00	0.79	0.81	0.81	0.63	0.00	1.98			
Avail Cap(c_a), veh/h	673	2715	0	763	627	637	268	0	238			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	35.1	4.3	0.0	33.2	33.1	33.4	45.2	0.0	48.1			
Incr Delay (d2), s/veh	41.0	0.1	0.0	5.6	7.4	7.3	4.8	0.0	457.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	25.2	3.1	0.0	13.9	11.5	11.8	4.8	0.0	37.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.1	4.5	0.0	38.8	40.5	40.7	50.0	0.0	506.0			
LnGrp LOS	F	A	A	D	D	D	D	A	F			
Approach Vol, veh/h		1772			1411			643				
Approach Delay, s/veh		32.3			39.9			385.4				
Approach LOS		C			D			F				

Timer - Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		91.4			47.2	44.2		22.1
Change Period (Y+Rc), s		5.3			* 4.2	5.3		5.1
Max Green Setting (Gmax), s		70.0			* 43	45.0		17.0
Max Q Clear Time (g_c+I1), s		13.6			45.2	31.5		19.2
Green Ext Time (p_c), s		10.3			0.0	7.4		0.0

Intersection Summary			
HCM 6th Ctrl Delay			94.5
HCM 6th LOS			F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	1437	130	64	645	92	91	0	86	77	31	16
Future Volume (veh/h)	21	1437	130	64	645	92	91	0	86	77	31	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	23	1562	141	70	701	100	99	0	93	84	34	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	71	2091	649	142	2293	712	160	293	248	152	179	89
Arrive On Green	0.04	0.41	0.41	0.08	0.45	0.45	0.09	0.00	0.16	0.09	0.15	0.15
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	1856	1572	1767	1167	584
Grp Volume(v), veh/h	23	1562	141	70	701	100	99	0	93	84	0	51
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1856	1572	1767	0	1751
Q Serve(g_s), s	1.0	20.4	4.5	3.0	6.8	2.9	4.2	0.0	4.1	3.6	0.0	2.0
Cycle Q Clear(g_c), s	1.0	20.4	4.5	3.0	6.8	2.9	4.2	0.0	4.1	3.6	0.0	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	71	2091	649	142	2293	712	160	293	248	152	0	268
V/C Ratio(X)	0.32	0.75	0.22	0.49	0.31	0.14	0.62	0.00	0.38	0.55	0.00	0.19
Avail Cap(c_a), veh/h	341	2278	707	341	2293	712	341	358	303	341	0	337
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.3	19.4	14.7	34.3	13.5	12.5	34.1	0.0	29.4	34.1	0.0	28.8
Incr Delay (d2), s/veh	1.0	1.4	0.2	1.0	0.1	0.1	1.4	0.0	0.9	1.2	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	7.2	1.5	1.2	2.3	1.0	1.8	0.0	1.6	1.5	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.3	20.8	15.0	35.3	13.6	12.6	35.5	0.0	30.3	35.3	0.0	29.0
LnGrp LOS	D	C	B	D	B	B	D	A	C	D	A	C
Approach Vol, veh/h		1726			871			192			135	
Approach Delay, s/veh		20.6			15.3			33.0			32.9	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	37.6	12.1	16.9	8.1	40.7	11.7	17.3
Change Period (Y+Rc), s	5.0	5.5	5.0	5.0	5.0	5.5	5.0	5.0
Max Green Setting (Gmax), s	15.0	35.0	15.0	15.0	15.0	35.0	15.0	15.0
Max Q Clear Time (g_c+I1), s	3.0	22.4	6.2	4.0	3.0	8.8	5.6	6.1
Green Ext Time (p_c), s	0.0	9.7	0.0	0.1	0.0	7.2	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	65	2	86	93	3	28
Future Vol, veh/h	65	2	86	93	3	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	72	2	96	103	3	31

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	185	148	0	0	199	0
Stage 1	148	-	-	-	-	-
Stage 2	37	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	802	896	-	-	1367	-
Stage 1	877	-	-	-	-	-
Stage 2	983	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	800	896	-	-	1367	-
Mov Cap-2 Maneuver	800	-	-	-	-	-
Stage 1	877	-	-	-	-	-
Stage 2	981	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	0.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	803	1367	-
HCM Lane V/C Ratio	-	-	0.093	0.002	-
HCM Control Delay (s)	-	-	9.9	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	679	538	168	568	115	467	276	127	121	288	115
Future Volume (veh/h)	110	679	538	168	568	115	467	276	127	121	288	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	120	738	0	183	617	125	508	300	138	132	313	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	234	1443		482	856	173	918	737	329	463	564	
Arrive On Green	0.13	0.28	0.00	0.14	0.29	0.26	0.18	0.21	0.21	0.14	0.16	0.00
Sat Flow, veh/h	1767	5066	1572	3428	2921	591	4983	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	120	738	0	183	372	370	508	300	138	132	313	0
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1714	1763	1749	1661	1763	1572	1714	1763	1572
Q Serve(g_s), s	4.4	8.5	0.0	3.4	13.1	13.2	6.4	5.1	5.3	2.4	5.7	0.0
Cycle Q Clear(g_c), s	4.4	8.5	0.0	3.4	13.1	13.2	6.4	5.1	5.3	2.4	5.7	0.0
Prop In Lane	1.00		1.00	1.00		0.34	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	234	1443		482	516	512	918	737	329	463	564	
V/C Ratio(X)	0.51	0.51		0.38	0.72	0.72	0.55	0.41	0.42	0.29	0.56	
Avail Cap(c_a), veh/h	687	3429		1333	1193	1184	2297	2387	1065	1333	2387	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.0	20.8	0.0	27.1	22.0	22.3	25.7	23.7	23.8	27.0	26.9	0.0
Incr Delay (d2), s/veh	1.7	0.3	0.0	0.5	1.9	1.9	0.5	0.4	0.9	0.3	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	3.0	0.0	1.3	5.1	5.2	2.4	2.0	1.9	1.0	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.7	21.1	0.0	27.6	23.9	24.3	26.3	24.1	24.7	27.3	27.7	0.0
LnGrp LOS	C	C		C	C	C	C	C	C	C	C	
Approach Vol, veh/h		858	A		925			946			445	A
Approach Delay, s/veh		22.3			24.8			25.3			27.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	18.5	13.8	23.8	16.8	15.1	13.2	24.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	25.0	45.0	25.0	45.0	30.0	45.0	25.0	45.0
Max Q Clear Time (g_c+I1), s	4.4	7.3	5.4	10.5	8.4	7.7	6.4	15.2
Green Ext Time (p_c), s	0.5	1.9	0.7	3.7	2.4	1.4	0.3	3.1

Intersection Summary	
HCM 6th Ctrl Delay	24.7
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	272	869	548	233	528	259	192	565	139	402	667	144
Future Volume (veh/h)	272	869	548	233	528	259	192	565	139	402	667	144
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	296	945	0	253	574	282	209	614	151	437	725	157
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	343	1204		343	1204	374	319	1576	703	369	1627	726
Arrive On Green	0.10	0.24	0.00	0.10	0.24	0.24	0.09	0.45	0.45	0.11	0.46	0.46
Sat Flow, veh/h	3428	5066	1572	3428	5066	1572	3428	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	296	945	0	253	574	282	209	614	151	437	725	157
Grp Sat Flow(s),veh/h/ln	1714	1689	1572	1714	1689	1572	1714	1763	1572	1714	1763	1572
Q Serve(g_s), s	11.1	22.7	0.0	9.3	12.7	21.7	7.7	15.2	7.6	14.0	18.1	7.8
Cycle Q Clear(g_c), s	11.1	22.7	0.0	9.3	12.7	21.7	7.7	15.2	7.6	14.0	18.1	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	343	1204		343	1204	374	319	1576	703	369	1627	726
V/C Ratio(X)	0.86	0.78		0.74	0.48	0.75	0.65	0.39	0.21	1.18	0.45	0.22
Avail Cap(c_a), veh/h	343	1715		343	1715	532	501	1576	703	369	1627	726
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.81	0.81	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	57.6	46.4	0.0	56.8	42.6	46.0	56.9	24.1	22.0	58.0	23.7	20.9
Incr Delay (d2), s/veh	16.6	1.3	0.0	8.1	0.3	3.8	2.3	0.7	0.7	105.3	0.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	9.4	0.0	4.3	5.2	8.7	3.4	6.3	2.9	11.4	7.5	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.3	47.7	0.0	65.0	42.9	49.8	59.2	24.8	22.7	163.3	24.5	21.6
LnGrp LOS	E	D		E	D	D	E	C	C	F	C	C
Approach Vol, veh/h		1241	A		1109			974			1319	
Approach Delay, s/veh		54.1			49.7			31.9			70.2	
Approach LOS		D			D			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	34.9	17.0	62.1	16.0	34.9	15.1	64.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	11.0	42.0	12.0	43.0	11.0	42.0	17.0	38.0
Max Q Clear Time (g_c+I1), s	13.1	24.7	16.0	17.2	13.1	23.7	9.7	20.1
Green Ext Time (p_c), s	0.0	4.2	0.0	3.5	0.0	3.7	0.5	3.9

Intersection Summary	
HCM 6th Ctrl Delay	52.9
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	112	35	122	107	302	17	361	113	416	670	72
Future Volume (veh/h)	97	112	35	122	107	302	17	361	113	416	670	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	105	122	38	133	116	328	18	392	123	452	728	78
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	144	778	347	170	415	370	46	539	167	586	1120	120
Arrive On Green	0.08	0.22	0.22	0.10	0.24	0.24	0.03	0.20	0.20	0.17	0.35	0.35
Sat Flow, veh/h	1767	3526	1572	1767	1763	1572	1767	2649	821	3428	3212	344
Grp Volume(v), veh/h	105	122	38	133	116	328	18	259	256	452	399	407
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1767	1763	1708	1714	1763	1794
Q Serve(g_s), s	3.6	1.7	1.2	4.5	3.3	12.4	0.6	8.5	8.6	7.7	11.7	11.8
Cycle Q Clear(g_c), s	3.6	1.7	1.2	4.5	3.3	12.4	0.6	8.5	8.6	7.7	11.7	11.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.48	1.00		0.19
Lane Grp Cap(c), veh/h	144	778	347	170	415	370	46	359	348	586	615	625
V/C Ratio(X)	0.73	0.16	0.11	0.78	0.28	0.89	0.39	0.72	0.74	0.77	0.65	0.65
Avail Cap(c_a), veh/h	431	859	383	431	430	383	431	859	833	1393	859	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	19.4	19.1	27.2	19.3	22.7	29.5	22.9	22.9	24.4	16.9	16.9
Incr Delay (d2), s/veh	2.7	0.1	0.1	3.0	0.1	20.0	2.0	2.8	3.0	0.8	1.2	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.7	0.4	1.9	1.2	6.1	0.3	3.4	3.4	2.9	4.2	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.3	19.4	19.3	30.2	19.4	42.7	31.5	25.6	26.0	25.2	18.0	18.0
LnGrp LOS	C	B	B	C	B	D	C	C	C	C	B	B
Approach Vol, veh/h		265			577			533			1258	
Approach Delay, s/veh		23.7			35.1			26.0			20.6	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	18.6	15.0	17.5	9.5	19.5	6.1	26.5
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	15.0	15.0	25.0	30.0	15.0	15.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	6.5	3.7	9.7	10.6	5.6	14.4	2.6	13.8
Green Ext Time (p_c), s	0.1	0.4	0.8	1.9	0.0	0.1	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	25.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	81.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	35	282	99	58	157	77	82	254	65	132	201	28
Future Vol, veh/h	35	282	99	58	157	77	82	254	65	132	201	28
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	13	0	18	0	3	2	7	11	0	2	6	0
Mvmt Flow	37	297	104	61	165	81	86	267	68	139	212	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	107.3	42.2	94.2	68.2
HCM LOS	F	E	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	8%	20%	37%
Vol Thru, %	63%	68%	54%	56%
Vol Right, %	16%	24%	26%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	401	416	292	361
LT Vol	82	35	58	132
Through Vol	254	282	157	201
RT Vol	65	99	77	28
Lane Flow Rate	422	438	307	380
Geometry Grp	1	1	1	1
Degree of Util (X)	1.059	1.102	0.794	0.956
Departure Headway (Hd)	9.465	9.378	9.98	9.72
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	388	390	366	376
Service Time	7.465	7.378	7.98	7.72
HCM Lane V/C Ratio	1.088	1.123	0.839	1.011
HCM Control Delay	94.2	107.3	42.2	68.2
HCM Lane LOS	F	F	E	F
HCM 95th-tile Q	13.8	15.3	6.7	10.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	0	1	4	0	97	0	287	13	92	222	3
Future Volume (veh/h)	8	0	1	4	0	97	0	287	13	92	222	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	9	0	1	4	0	105	0	312	14	100	241	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	25	0	212	12	0	200	5	914	41	183	1677	748
Arrive On Green	0.01	0.00	0.13	0.01	0.00	0.13	0.00	0.27	0.27	0.10	0.48	0.48
Sat Flow, veh/h	1767	0	1572	1767	0	1572	1767	3437	154	1767	3526	1572
Grp Volume(v), veh/h	9	0	1	4	0	105	0	160	166	100	241	3
Grp Sat Flow(s),veh/h/ln	1767	0	1572	1767	0	1572	1767	1763	1828	1767	1763	1572
Q Serve(g_s), s	0.2	0.0	0.0	0.1	0.0	2.3	0.0	2.7	2.8	2.0	1.4	0.0
Cycle Q Clear(g_c), s	0.2	0.0	0.0	0.1	0.0	2.3	0.0	2.7	2.8	2.0	1.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	25	0	212	12	0	200	5	469	486	183	1677	748
V/C Ratio(X)	0.36	0.00	0.00	0.35	0.00	0.53	0.00	0.34	0.34	0.55	0.14	0.00
Avail Cap(c_a), veh/h	1410	0	1254	1410	0	1254	1410	2344	2430	1410	4687	2091
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.4	0.0	14.1	18.6	0.0	15.4	0.0	11.1	11.1	16.0	5.5	5.2
Incr Delay (d2), s/veh	8.3	0.0	0.0	16.9	0.0	2.1	0.0	0.6	0.6	2.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.1	0.0	0.8	0.0	0.8	0.8	0.7	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.6	0.0	14.1	35.5	0.0	17.5	0.0	11.8	11.7	18.6	5.6	5.2
LnGrp LOS	C	A	B	D	A	B	A	B	B	B	A	A
Approach Vol, veh/h		10			109			326			344	
Approach Delay, s/veh		25.4			18.1			11.7			9.4	
Approach LOS		C			B			B			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.9	15.8	4.2	9.7	0.0	23.7	4.5	9.4
Change Period (Y+Rc), s	4.0	* 5.8	4.0	4.6	4.0	5.8	4.0	4.6
Max Green Setting (Gmax), s	30.0	* 50	30.0	30.0	30.0	50.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	4.0	4.8	2.1	2.0	0.0	3.4	2.2	4.3
Green Ext Time (p_c), s	0.2	2.7	0.0	0.0	0.0	2.2	0.0	0.6

Intersection Summary		
HCM 6th Ctrl Delay		11.8
HCM 6th LOS		B

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	5	9	25	7	46	30	270	92	55	160	2
Future Volume (veh/h)	3	5	9	25	7	46	30	270	92	55	160	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1589	1589	1900	1870	1900
Adj Flow Rate, veh/h	3	5	9	26	7	47	31	276	94	56	163	2
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	21	21	0	2	0
Cap, veh/h	9	59	106	69	28	186	80	581	194	127	612	527
Arrive On Green	0.00	0.10	0.10	0.04	0.13	0.13	0.04	0.26	0.26	0.07	0.33	0.33
Sat Flow, veh/h	1810	608	1095	1810	213	1430	1810	2224	741	1810	1870	1610
Grp Volume(v), veh/h	3	0	14	26	0	54	31	185	185	56	163	2
Grp Sat Flow(s),veh/h/ln	1810	0	1703	1810	0	1643	1810	1509	1455	1810	1870	1610
Q Serve(g_s), s	0.1	0.0	0.3	0.5	0.0	1.1	0.6	4.0	4.1	1.1	2.5	0.0
Cycle Q Clear(g_c), s	0.1	0.0	0.3	0.5	0.0	1.1	0.6	4.0	4.1	1.1	2.5	0.0
Prop In Lane	1.00		0.64	1.00		0.87	1.00		0.51	1.00		1.00
Lane Grp Cap(c), veh/h	9	0	165	69	0	213	80	395	381	127	612	527
V/C Ratio(X)	0.34	0.00	0.08	0.38	0.00	0.25	0.39	0.47	0.49	0.44	0.27	0.00
Avail Cap(c_a), veh/h	1419	0	1336	1419	0	1288	1419	1973	1903	1419	2445	2105
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.0	0.0	15.7	18.0	0.0	15.0	17.8	11.9	11.9	17.1	9.5	8.7
Incr Delay (d2), s/veh	20.7	0.0	0.2	3.4	0.0	0.6	3.1	1.2	1.4	2.4	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.1	0.3	0.0	0.4	0.3	1.0	1.0	0.4	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.7	0.0	15.9	21.4	0.0	15.6	20.9	13.1	13.3	19.4	9.8	8.7
LnGrp LOS	D	A	B	C	A	B	C	B	B	B	A	A
Approach Vol, veh/h		17			80			401			221	
Approach Delay, s/veh		20.1			17.5			13.8			12.2	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	15.8	5.4	8.8	5.7	18.3	4.2	10.1
Change Period (Y+Rc), s	5.5	5.8	4.0	5.1	4.0	5.8	4.0	5.1
Max Green Setting (Gmax), s	30.0	50.0	30.0	30.0	30.0	50.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	3.1	6.1	2.5	2.3	2.6	4.5	2.1	3.1
Green Ext Time (p_c), s	0.1	3.2	0.0	0.0	0.0	1.3	0.0	0.2

Intersection Summary		
HCM 6th Ctrl Delay		13.9
HCM 6th LOS		B

Notes
User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	5.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	103	69	323	281	62	132
Future Vol, veh/h	103	69	323	281	62	132
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	13	51	7	41	24	1
Mvmt Flow	116	78	363	316	70	148

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	809	521	0	0	679	0
Stage 1	521	-	-	-	-	-
Stage 2	288	-	-	-	-	-
Critical Hdwy	6.53	6.71	-	-	4.34	-
Critical Hdwy Stg 1	5.53	-	-	-	-	-
Critical Hdwy Stg 2	5.53	-	-	-	-	-
Follow-up Hdwy	3.617	3.759	-	-	2.416	-
Pot Cap-1 Maneuver	335	470	-	-	818	-
Stage 1	574	-	-	-	-	-
Stage 2	736	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	304	470	-	-	818	-
Mov Cap-2 Maneuver	304	-	-	-	-	-
Stage 1	574	-	-	-	-	-
Stage 2	668	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.7	0	3.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	354	818	-
HCM Lane V/C Ratio	-	-	0.546	0.085	-
HCM Control Delay (s)	-	-	26.7	9.8	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	3.1	0.3	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	7	2	64	10	443	0	0	113	148
Future Vol, veh/h	0	0	0	7	2	64	10	443	0	0	113	148
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	20	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	2	0	22	0	24	0	0	9	3
Mvmt Flow	0	0	0	8	2	74	11	509	0	0	130	170

Major/Minor				Minor1			Major1			Major2		
Conflicting Flow All				746	831	509	300	0	-	-	-	0
Stage 1				531	531	-	-	-	-	-	-	-
Stage 2				215	300	-	-	-	-	-	-	-
Critical Hdwy				6.42	6.5	6.42	4.1	-	-	-	-	-
Critical Hdwy Stg 1				5.42	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2				5.42	5.5	-	-	-	-	-	-	-
Follow-up Hdwy				3.518	4	3.498	2.2	-	-	-	-	-
Pot Cap-1 Maneuver				381	307	526	1273	-	0	0	-	-
Stage 1				590	529	-	-	-	0	0	-	-
Stage 2				821	669	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver				376	0	526	1273	-	-	-	-	-
Mov Cap-2 Maneuver				376	0	-	-	-	-	-	-	-
Stage 1				583	0	-	-	-	-	-	-	-
Stage 2				821	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.2	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1273	-	376	526	-	-
HCM Lane V/C Ratio	0.009	-	0.028	0.14	-	-
HCM Control Delay (s)	7.9	0	14.8	13	-	-
HCM Lane LOS	A	A	B	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	0.5	-	-

Intersection	
Int Delay, s/veh	31.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	234	5	3	0	0	0	0	219	474	103	17	0
Future Vol, veh/h	234	5	3	0	0	0	0	219	474	103	17	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	26	50	0	0	0	0	0	0	0	28	1	0
Mvmt Flow	282	6	4	0	0	0	0	264	571	124	20	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	818	1103	20				-	0	0	835	0	0
Stage 1	268	268	-				-	-	-	-	-	-
Stage 2	550	835	-				-	-	-	-	-	-
Critical Hdwy	6.66	7	6.2				-	-	-	4.38	-	-
Critical Hdwy Stg 1	5.66	6	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.66	6	-				-	-	-	-	-	-
Follow-up Hdwy	3.734	4.45	3.3				-	-	-	2.452	-	-
Pot Cap-1 Maneuver	315	174	1064				0	-	-	697	-	0
Stage 1	725	608	-				0	-	-	-	-	0
Stage 2	533	323	-				0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	~ 258	0	1064				-	-	-	697	-	-
Mov Cap-2 Maneuver	~ 258	0	-				-	-	-	-	-	-
Stage 1	725	0	-				-	-	-	-	-	-
Stage 2	437	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	131.3	0	9.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	258	1064	697	-
HCM Lane V/C Ratio	-	-	1.116	0.003	0.178	-
HCM Control Delay (s)	-	-	132.8	8.4	11.3	0
HCM Lane LOS	-	-	F	A	B	A
HCM 95th %tile Q(veh)	-	-	12.4	0	0.6	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection						
Int Delay, s/veh	2.9					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	89	563	19	42	89
Future Vol, veh/h	27	89	563	19	42	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	8	8	8	8	8	8
Mvmt Flow	30	99	626	21	47	99

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	830	637	0	0	647	0
Stage 1	637	-	-	-	-	-
Stage 2	193	-	-	-	-	-
Critical Hdwy	6.48	6.28	-	-	4.18	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	-	-	2.272	-
Pot Cap-1 Maneuver	332	467	-	-	911	-
Stage 1	516	-	-	-	-	-
Stage 2	826	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	314	467	-	-	911	-
Mov Cap-2 Maneuver	314	-	-	-	-	-
Stage 1	516	-	-	-	-	-
Stage 2	781	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.4	0	2.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	419	911	-
HCM Lane V/C Ratio	-	-	0.308	0.051	-
HCM Control Delay (s)	-	-	17.4	9.2	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.3	0.2	-

Intersection	
Intersection Delay, s/veh	70.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	161	107	180	78	57	60	476	167	8	126	8
Future Vol, veh/h	22	161	107	180	78	57	60	476	167	8	126	8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	3	3	3	8	3	8	3	8	8	8	8	3
Mvmt Flow	24	179	119	200	87	63	67	529	186	9	140	9
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	38.8	32.6	110	19.9
HCM LOS	E	D	F	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	8%	70%	0%	100%	0%
Vol Thru, %	0%	100%	0%	56%	30%	0%	0%	94%
Vol Right, %	0%	0%	100%	37%	0%	100%	0%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	476	167	290	258	57	8	134
LT Vol	60	0	0	22	180	0	8	0
Through Vol	0	476	0	161	78	0	0	126
RT Vol	0	0	167	107	0	57	0	8
Lane Flow Rate	67	529	186	322	287	63	9	149
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.165	1.246	0.4	0.786	0.747	0.145	0.026	0.406
Departure Headway (Hd)	8.911	8.482	7.758	9.33	9.962	8.788	11.052	10.478
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	401	428	462	390	367	410	326	345
Service Time	6.689	6.259	5.535	7.03	7.662	6.488	8.752	8.178
HCM Lane V/C Ratio	0.167	1.236	0.403	0.826	0.782	0.154	0.028	0.432
HCM Control Delay	13.5	155.3	15.7	38.8	36.9	13	14	20.2
HCM Lane LOS	B	F	C	E	E	B	B	C
HCM 95th-tile Q	0.6	21.9	1.9	6.7	5.9	0.5	0.1	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	455	80	90	249	602	0	0	389	70
Future Volume (veh/h)	0	0	0	455	80	90	249	602	0	0	389	70
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1856	1900	1856	1781	0	0	1781	1781
Adj Flow Rate, veh/h				495	87	98	271	654	0	0	423	76
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	3	0	3	8	0	0	8	8
Cap, veh/h				563	99	111	333	1528	0	0	604	108
Arrive On Green				0.44	0.44	0.43	0.19	0.45	0.00	0.00	0.21	0.20
Sat Flow, veh/h				1271	223	252	1767	3474	0	0	2959	512
Grp Volume(v), veh/h				680	0	0	271	654	0	0	248	251
Grp Sat Flow(s),veh/h/ln				1747	0	0	1767	1692	0	0	1692	1689
Q Serve(g_s), s				26.9	0.0	0.0	11.1	9.9	0.0	0.0	10.3	10.4
Cycle Q Clear(g_c), s				26.9	0.0	0.0	11.1	9.9	0.0	0.0	10.3	10.4
Prop In Lane				0.73		0.14	1.00		0.00	0.00		0.30
Lane Grp Cap(c), veh/h				773	0	0	333	1528	0	0	356	355
V/C Ratio(X)				0.88	0.00	0.00	0.81	0.43	0.00	0.00	0.70	0.71
Avail Cap(c_a), veh/h				945	0	0	585	2056	0	0	1028	1026
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				19.3	0.0	0.0	29.4	14.1	0.0	0.0	27.6	27.8
Incr Delay (d2), s/veh				8.9	0.0	0.0	6.4	0.2	0.0	0.0	2.5	2.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				11.5	0.0	0.0	5.0	3.4	0.0	0.0	4.2	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				28.2	0.0	0.0	35.8	14.3	0.0	0.0	30.1	30.4
LnGrp LOS				C	A	A	D	B	A	A	C	C
Approach Vol, veh/h					680			925			499	
Approach Delay, s/veh					28.2			20.6			30.2	
Approach LOS					C			C			C	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		38.1			18.2	19.9		37.4				
Change Period (Y+Rc), s		4.9			4.0	4.9		4.9				
Max Green Setting (Gmax), s		45.0			25.0	45.0		40.0				
Max Q Clear Time (g_c+I1), s		11.9			13.1	12.4		28.9				
Green Ext Time (p_c), s		3.2			1.1	2.1		3.7				

Intersection Summary			
HCM 6th Ctrl Delay			25.3
HCM 6th LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	391	248	197	0	0	0	0	460	412	273	571	0
Future Volume (veh/h)	391	248	197	0	0	0	0	460	412	273	571	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1900				0	1856	1856	1781	1856	0
Adj Flow Rate, veh/h	425	270	214				0	500	448	297	621	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	0				0	3	3	8	3	0
Cap, veh/h	286	182	144				0	588	525	335	2010	0
Arrive On Green	0.35	0.35	0.34				0.00	0.33	0.32	0.20	0.57	0.00
Sat Flow, veh/h	814	517	410				0	1856	1572	1697	3618	0
Grp Volume(v), veh/h	909	0	0				0	500	448	297	621	0
Grp Sat Flow(s),veh/h/ln	1741	0	0				0	1763	1572	1697	1763	0
Q Serve(g_s), s	35.9	0.0	0.0				0.0	26.9	27.2	17.4	9.4	0.0
Cycle Q Clear(g_c), s	35.9	0.0	0.0				0.0	26.9	27.2	17.4	9.4	0.0
Prop In Lane	0.47		0.24				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	612	0	0				0	588	525	335	2010	0
V/C Ratio(X)	1.49	0.00	0.00				0.00	0.85	0.85	0.89	0.31	0.00
Avail Cap(c_a), veh/h	612	0	0				0	792	707	415	2010	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	33.2	0.0	0.0				0.0	31.7	32.2	39.9	11.5	0.0
Incr Delay (d2), s/veh	227.0	0.0	0.0				0.0	6.7	7.7	18.4	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	53.1	0.0	0.0				0.0	12.1	11.1	8.8	3.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	260.2	0.0	0.0				0.0	38.3	39.8	58.3	11.5	0.0
LnGrp LOS	F	A	A				A	D	D	E	B	A
Approach Vol, veh/h		909						948			918	
Approach Delay, s/veh		260.2						39.0			26.7	
Approach LOS		F						D			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	24.2	38.1		39.9		62.2
Change Period (Y+Rc), s	4.0	4.9		4.9		4.9
Max Green Setting (Gmax), s	25.0	45.0		35.0		45.0
Max Q Clear Time (g_c+I1), s	19.4	29.2		37.9		11.4
Green Ext Time (p_c), s	0.8	4.0		0.0		3.0

Intersection Summary			
HCM 6th Ctrl Delay			107.4
HCM 6th LOS			F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	595	162	120	438	107	231	665	217	151	466	92
Future Volume (veh/h)	201	595	162	120	438	107	231	665	217	151	466	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	218	647	176	130	476	116	251	723	236	164	507	100
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	255	1060	288	166	948	230	286	677	221	194	622	122
Arrive On Green	0.14	0.39	0.38	0.09	0.34	0.33	0.16	0.26	0.25	0.11	0.21	0.20
Sat Flow, veh/h	1767	2740	744	1767	2814	681	1767	2612	853	1767	2938	577
Grp Volume(v), veh/h	218	416	407	130	297	295	251	488	471	164	303	304
Grp Sat Flow(s),veh/h/ln	1767	1763	1722	1767	1763	1733	1767	1763	1702	1767	1763	1752
Q Serve(g_s), s	13.2	20.8	20.9	7.9	14.8	15.0	15.3	28.5	28.5	10.0	18.0	18.2
Cycle Q Clear(g_c), s	13.2	20.8	20.9	7.9	14.8	15.0	15.3	28.5	28.5	10.0	18.0	18.2
Prop In Lane	1.00		0.43	1.00		0.39	1.00		0.50	1.00		0.33
Lane Grp Cap(c), veh/h	255	682	666	166	594	584	286	457	441	194	373	371
V/C Ratio(X)	0.86	0.61	0.61	0.78	0.50	0.51	0.88	1.07	1.07	0.85	0.81	0.82
Avail Cap(c_a), veh/h	297	682	666	297	594	584	289	457	441	281	457	454
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	0.67	0.78	0.78	0.78	0.82	0.82	0.82	0.96	0.96	0.96
Uniform Delay (d), s/veh	46.0	27.1	27.2	48.7	29.1	29.2	45.1	40.7	41.0	48.0	41.3	41.5
Incr Delay (d2), s/veh	12.1	2.7	2.8	2.4	2.3	2.4	20.6	57.7	58.3	9.9	8.6	9.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	8.9	8.8	3.5	6.4	6.4	8.2	19.3	18.8	4.9	8.6	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.1	29.8	30.0	51.1	31.4	31.7	65.7	98.4	99.3	58.0	49.8	50.6
LnGrp LOS	E	C	C	D	C	C	E	F	F	E	D	D
Approach Vol, veh/h		1041			722			1210			771	
Approach Delay, s/veh		35.8			35.1			92.0			51.9	
Approach LOS		D			D			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.6	32.5	14.4	46.6	21.8	27.3	19.9	41.1
Change Period (Y+Rc), s	4.5	5.0	4.5	4.5	4.5	5.0	4.5	4.5
Max Green Setting (Gmax), s	17.5	27.5	18.0	28.5	17.5	27.5	18.0	18.0
Max Q Clear Time (g_c+I1), s	12.0	30.5	9.9	22.9	17.3	20.2	15.2	17.0
Green Ext Time (p_c), s	0.1	0.0	0.1	1.8	0.0	1.5	0.1	0.3

Intersection Summary	
HCM 6th Ctrl Delay	57.1
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	231	738	269	359	771	152	231	543	173	139	637	183
Future Volume (veh/h)	231	738	269	359	771	152	231	543	173	139	637	183
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	251	802	292	390	838	165	251	590	188	151	692	199
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	350	1416	632	487	1556	694	340	875	390	278	811	362
Arrive On Green	0.10	0.40	0.40	0.14	0.44	0.44	0.20	0.50	0.50	0.08	0.23	0.23
Sat Flow, veh/h	3428	3526	1572	3428	3526	1572	3428	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	251	802	292	390	838	165	251	590	188	151	692	199
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1714	1763	1572	1714	1763	1572	1714	1763	1572
Q Serve(g_s), s	7.8	19.4	15.0	12.1	19.2	7.2	7.6	13.9	8.7	4.7	20.7	12.3
Cycle Q Clear(g_c), s	7.8	19.4	15.0	12.1	19.2	7.2	7.6	13.9	8.7	4.7	20.7	12.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	350	1416	632	487	1556	694	340	875	390	278	811	362
V/C Ratio(X)	0.72	0.57	0.46	0.80	0.54	0.24	0.74	0.67	0.48	0.54	0.85	0.55
Avail Cap(c_a), veh/h	608	1416	632	608	1556	694	530	875	390	530	849	379
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.53	0.53	0.53	1.00	1.00	1.00	0.76	0.76	0.76	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	25.5	24.2	45.7	22.5	19.2	42.7	24.4	23.0	48.6	40.6	37.3
Incr Delay (d2), s/veh	0.5	0.9	1.3	4.8	1.3	0.8	0.9	1.3	0.3	0.6	7.6	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	8.2	5.7	5.5	8.1	2.7	3.0	4.6	2.7	2.0	9.7	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.4	26.4	25.5	50.5	23.9	20.0	43.6	25.6	23.3	49.2	48.2	38.1
LnGrp LOS	D	C	C	D	C	B	D	C	C	D	D	D
Approach Vol, veh/h		1345			1393			1029			1042	
Approach Delay, s/veh		30.3			30.9			29.6			46.4	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.1	47.7	14.4	28.8	14.7	52.1	12.4	30.8
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	18.5	31.0	16.0	24.5	18.5	31.0	16.0	24.5
Max Q Clear Time (g_c+I1), s	14.1	21.4	9.6	22.7	9.8	21.2	6.7	15.9
Green Ext Time (p_c), s	0.5	3.2	0.4	0.6	0.4	3.0	0.2	1.6

Intersection Summary	
HCM 6th Ctrl Delay	33.8
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	26.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	0	13	90	0	75	21	710	80	29	1038	121
Future Vol, veh/h	40	0	13	90	0	75	21	710	80	29	1038	121
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	43	0	14	98	0	82	23	772	87	32	1128	132

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1690	2163	630	1490	2186	430	1260	0	0	859	0	0
Stage 1	1258	1258	-	862	862	-	-	-	-	-	-	-
Stage 2	432	905	-	628	1324	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	6.96	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	60	46	422	~ 85	45	571	542	-	-	772	-	-
Stage 1	179	239	-	314	368	-	-	-	-	-	-	-
Stage 2	569	351	-	435	222	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	48	42	422	~ 77	41	571	542	-	-	772	-	-
Mov Cap-2 Maneuver	48	42	-	~ 77	41	-	-	-	-	-	-	-
Stage 1	171	229	-	301	353	-	-	-	-	-	-	-
Stage 2	467	336	-	403	213	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	210.4	289.2	0.3	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	542	-	-	61	127	772	-	-
HCM Lane V/C Ratio	0.042	-	-	0.944	1.412	0.041	-	-
HCM Control Delay (s)	11.9	-	-	210.4	289.2	9.9	-	-
HCM Lane LOS	B	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	4.4	12.1	0.1	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	202	325	131	163	334	72	151	517	60	78	827	205
Future Volume (veh/h)	202	325	131	163	334	72	151	517	60	78	827	205
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	220	353	142	177	363	78	164	562	65	85	899	223
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	266	462	183	230	483	103	205	1013	452	133	868	387
Arrive On Green	0.15	0.19	0.19	0.13	0.17	0.17	0.12	0.29	0.29	0.08	0.25	0.25
Sat Flow, veh/h	1767	2467	976	1767	2893	615	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	220	251	244	177	220	221	164	562	65	85	899	223
Grp Sat Flow(s),veh/h/ln	1767	1763	1680	1767	1763	1745	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	7.4	8.2	8.4	5.9	7.2	7.4	5.5	8.2	1.9	2.8	15.0	7.6
Cycle Q Clear(g_c), s	7.4	8.2	8.4	5.9	7.2	7.4	5.5	8.2	1.9	2.8	15.0	7.6
Prop In Lane	1.00		0.58	1.00		0.35	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	266	330	315	230	295	292	205	1013	452	133	868	387
V/C Ratio(X)	0.83	0.76	0.78	0.77	0.75	0.76	0.80	0.55	0.14	0.64	1.04	0.58
Avail Cap(c_a), veh/h	305	420	400	305	420	415	305	1013	452	305	868	387
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.1	23.5	23.5	25.6	24.1	24.2	26.2	18.4	16.1	27.4	23.0	20.2
Incr Delay (d2), s/veh	13.6	6.0	7.3	5.7	4.4	5.0	5.0	0.7	0.1	1.9	40.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	3.6	3.6	2.6	3.1	3.1	2.4	3.1	0.6	1.2	10.4	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.7	29.5	30.8	31.3	28.5	29.2	31.2	19.1	16.3	29.3	63.1	22.3
LnGrp LOS	D	C	C	C	C	C	C	B	B	C	F	C
Approach Vol, veh/h		715			618			791			1207	
Approach Delay, s/veh		32.8			29.5			21.4			53.2	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	15.7	9.1	22.5	12.4	16.9	11.6	20.0
Change Period (Y+Rc), s	4.5	5.5	4.5	5.0	4.5	5.5	4.5	5.0
Max Green Setting (Gmax), s	10.5	14.5	10.5	15.0	10.5	14.5	10.5	15.0
Max Q Clear Time (g_c+I1), s	9.4	9.4	4.8	10.2	7.9	10.4	7.5	17.0
Green Ext Time (p_c), s	0.0	0.8	0.0	1.3	0.0	0.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	36.8
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	60	39	306	105	115	39	612	117	45	825	82
Future Volume (veh/h)	45	60	39	306	105	115	39	612	117	45	825	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	49	65	42	333	114	125	42	665	127	49	897	89
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	128	163	105	219	166	182	116	1097	209	128	1225	122
Arrive On Green	0.07	0.15	0.15	0.12	0.21	0.21	0.07	0.37	0.37	0.07	0.38	0.38
Sat Flow, veh/h	1767	1053	680	1767	809	887	1767	2953	563	1767	3239	321
Grp Volume(v), veh/h	49	0	107	333	0	239	42	397	395	49	488	498
Grp Sat Flow(s),veh/h/ln	1767	0	1733	1767	0	1696	1767	1763	1754	1767	1763	1798
Q Serve(g_s), s	1.7	0.0	3.6	8.0	0.0	8.4	1.5	11.8	11.8	1.7	15.4	15.4
Cycle Q Clear(g_c), s	1.7	0.0	3.6	8.0	0.0	8.4	1.5	11.8	11.8	1.7	15.4	15.4
Prop In Lane	1.00		0.39	1.00		0.52	1.00		0.32	1.00		0.18
Lane Grp Cap(c), veh/h	128	0	268	219	0	349	116	654	651	128	667	680
V/C Ratio(X)	0.38	0.00	0.40	1.52	0.00	0.69	0.36	0.61	0.61	0.38	0.73	0.73
Avail Cap(c_a), veh/h	410	0	268	219	0	349	410	817	813	219	817	834
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.6	0.0	24.6	28.3	0.0	23.8	28.9	16.5	16.5	28.6	17.3	17.3
Incr Delay (d2), s/veh	0.7	0.0	0.4	257.7	0.0	4.6	0.7	1.6	1.6	0.7	3.5	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.4	18.8	0.0	3.6	0.6	4.4	4.3	0.7	6.0	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.3	0.0	25.0	286.0	0.0	28.3	29.6	18.1	18.1	29.3	20.8	20.8
LnGrp LOS	C	A	C	F	A	C	C	B	B	C	C	C
Approach Vol, veh/h		156			572			834			1035	
Approach Delay, s/veh		26.4			178.3			18.6			21.2	
Approach LOS		C			F			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	28.5	12.5	14.5	8.7	29.0	9.2	17.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.0	30.0	8.0	10.0	15.0	30.0	15.0	10.0
Max Q Clear Time (g_c+I1), s	3.7	13.8	10.0	5.6	3.5	17.4	3.7	10.4
Green Ext Time (p_c), s	0.0	6.7	0.0	0.1	0.0	7.1	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		55.3
HCM 6th LOS		E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	293	70	170	202	142	130	578	111	184	309	67
Future Volume (veh/h)	135	293	70	170	202	142	130	578	111	184	309	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1900	1885	1826	1870	1856	1856
Adj Flow Rate, veh/h	148	322	77	187	222	156	143	635	122	202	340	74
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	1	1	2	2	2	0	1	5	2	3	3
Cap, veh/h	209	542	128	418	686	306	209	907	392	247	798	172
Arrive On Green	0.12	0.19	0.19	0.12	0.19	0.19	0.12	0.25	0.25	0.14	0.28	0.28
Sat Flow, veh/h	1795	2876	678	3456	3554	1585	1810	3582	1547	1781	2886	621
Grp Volume(v), veh/h	148	199	200	187	222	156	143	635	122	202	206	208
Grp Sat Flow(s),veh/h/ln	1795	1791	1763	1728	1777	1585	1810	1791	1547	1781	1763	1744
Q Serve(g_s), s	5.1	6.5	6.6	3.2	3.4	5.6	4.8	10.2	4.1	7.0	6.1	6.2
Cycle Q Clear(g_c), s	5.1	6.5	6.6	3.2	3.4	5.6	4.8	10.2	4.1	7.0	6.1	6.2
Prop In Lane	1.00		0.38	1.00		1.00	1.00		1.00	1.00		0.36
Lane Grp Cap(c), veh/h	209	337	332	418	686	306	209	907	392	247	488	482
V/C Ratio(X)	0.71	0.59	0.60	0.45	0.32	0.51	0.68	0.70	0.31	0.82	0.42	0.43
Avail Cap(c_a), veh/h	423	844	831	814	1674	747	426	1687	729	420	830	821
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	23.6	23.7	26.0	22.1	23.0	27.0	21.6	19.3	26.6	18.9	18.9
Incr Delay (d2), s/veh	1.6	2.0	2.1	0.3	0.3	1.6	1.5	1.2	0.5	2.5	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	2.6	2.7	1.2	1.3	2.0	2.0	3.9	1.4	2.9	2.3	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.7	25.6	25.8	26.3	22.4	24.6	28.5	22.8	19.8	29.1	19.6	19.7
LnGrp LOS	C	C	C	C	C	C	C	C	B	C	B	B
Approach Vol, veh/h		547			565			900			616	
Approach Delay, s/veh		26.5			24.3			23.3			22.7	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	21.1	12.2	17.0	11.9	22.6	11.9	17.3				
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0				
Max Green Setting (Gmax), s	15.0	30.0	15.0	30.0	15.0	30.0	15.0	30.0				
Max Q Clear Time (g_c+I1), s	9.0	12.2	5.2	8.6	6.8	8.2	7.1	7.6				
Green Ext Time (p_c), s	0.1	3.9	0.1	1.8	0.1	1.9	0.1	1.9				
Intersection Summary												
HCM 6th Ctrl Delay			24.0									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	258	86	34	16	56	151	47	332	80	281	219	329
Future Volume (veh/h)	258	86	34	16	56	151	47	332	80	281	219	329
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	280	93	37	17	61	164	51	361	87	305	238	358
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	325	381	152	43	264	224	98	558	133	350	599	535
Arrive On Green	0.18	0.30	0.30	0.02	0.14	0.14	0.06	0.20	0.20	0.20	0.34	0.34
Sat Flow, veh/h	1767	1263	502	1767	1856	1572	1767	2825	673	1767	1763	1572
Grp Volume(v), veh/h	280	0	130	17	61	164	51	224	224	305	238	358
Grp Sat Flow(s),veh/h/ln	1767	0	1765	1767	1856	1572	1767	1763	1734	1767	1763	1572
Q Serve(g_s), s	10.0	0.0	3.6	0.6	1.9	6.5	1.8	7.6	7.7	10.8	6.7	12.6
Cycle Q Clear(g_c), s	10.0	0.0	3.6	0.6	1.9	6.5	1.8	7.6	7.7	10.8	6.7	12.6
Prop In Lane	1.00		0.28	1.00		1.00	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	325	0	533	43	264	224	98	348	343	350	599	535
V/C Ratio(X)	0.86	0.00	0.24	0.39	0.23	0.73	0.52	0.64	0.65	0.87	0.40	0.67
Avail Cap(c_a), veh/h	409	0	545	409	573	485	409	1088	1071	409	1088	971
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.6	0.0	17.0	31.1	24.6	26.6	29.7	23.9	23.9	25.2	16.3	18.3
Incr Delay (d2), s/veh	12.0	0.0	0.3	2.2	0.5	5.5	1.6	2.4	2.5	14.8	0.5	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.0	1.4	0.3	0.8	0.3	0.7	3.0	3.0	5.4	2.4	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.6	0.0	17.3	33.3	25.2	32.1	31.3	26.3	26.5	40.0	16.8	20.0
LnGrp LOS	D	A	B	C	C	C	C	C	C	D	B	C
Approach Vol, veh/h		410			242			499			901	
Approach Delay, s/veh		31.2			30.4			26.9			25.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.3	17.3	6.1	24.1	8.1	26.5	16.4	13.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.0	40.0	15.0	20.0	15.0	40.0	15.0	20.0
Max Q Clear Time (g_c+I1), s	12.8	9.7	2.6	5.6	3.8	14.6	12.0	8.5
Green Ext Time (p_c), s	0.0	3.1	0.0	0.6	0.0	4.4	0.1	0.8

Intersection Summary		
HCM 6th Ctrl Delay		27.7
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	27	421	42	3	194
Future Vol, veh/h	15	27	421	42	3	194
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	17	30	468	47	3	216

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	606	258	0	0	515	0
Stage 1	492	-	-	-	-	-
Stage 2	114	-	-	-	-	-
Critical Hdwy	6.86	6.96	-	-	4.16	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	426	738	-	-	1040	-
Stage 1	577	-	-	-	-	-
Stage 2	895	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	425	738	-	-	1040	-
Mov Cap-2 Maneuver	425	-	-	-	-	-
Stage 1	577	-	-	-	-	-
Stage 2	892	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	584	1040	-
HCM Lane V/C Ratio	-	-	0.08	0.003	-
HCM Control Delay (s)	-	-	11.7	8.5	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Intersection Delay, s/veh	27.6
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	272	285	10	7	48	116	6	39	21	133	36	52
Future Vol, veh/h	272	285	10	7	48	116	6	39	21	133	36	52
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	296	310	11	8	52	126	7	42	23	145	39	57
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	40	10.8	10.6	13.7
HCM LOS	E	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	48%	4%	60%
Vol Thru, %	59%	50%	28%	16%
Vol Right, %	32%	2%	68%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	66	567	171	221
LT Vol	6	272	7	133
Through Vol	39	285	48	36
RT Vol	21	10	116	52
Lane Flow Rate	72	616	186	240
Geometry Grp	1	1	1	1
Degree of Util (X)	0.132	0.914	0.285	0.416
Departure Headway (Hd)	6.613	5.336	5.523	6.23
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	545	678	645	574
Service Time	4.613	3.395	3.609	4.313
HCM Lane V/C Ratio	0.132	0.909	0.288	0.418
HCM Control Delay	10.6	40	10.8	13.7
HCM Lane LOS	B	E	B	B
HCM 95th-tile Q	0.5	12	1.2	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	751	88	165	892	97	119	237	71	115	264	160
Future Volume (veh/h)	201	751	88	165	892	97	119	237	71	115	264	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	218	816	96	179	970	105	129	258	77	125	287	174
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	454	1366	161	208	919	99	158	283	85	153	379	321
Arrive On Green	0.26	0.43	0.43	0.12	0.29	0.29	0.09	0.21	0.21	0.09	0.20	0.20
Sat Flow, veh/h	1767	3177	374	1767	3209	347	1767	1372	410	1767	1856	1572
Grp Volume(v), veh/h	218	453	459	179	533	542	129	0	335	125	287	174
Grp Sat Flow(s),veh/h/ln	1767	1763	1788	1767	1763	1793	1767	0	1782	1767	1856	1572
Q Serve(g_s), s	11.5	21.7	21.7	10.9	31.5	31.5	7.9	0.0	20.2	7.6	16.0	10.9
Cycle Q Clear(g_c), s	11.5	21.7	21.7	10.9	31.5	31.5	7.9	0.0	20.2	7.6	16.0	10.9
Prop In Lane	1.00		0.21	1.00		0.19	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	454	758	769	208	505	513	158	0	368	153	379	321
V/C Ratio(X)	0.48	0.60	0.60	0.86	1.06	1.06	0.82	0.00	0.91	0.82	0.76	0.54
Avail Cap(c_a), veh/h	454	758	769	249	505	513	257	0	478	257	498	422
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.99	0.99	0.99	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.7	24.1	24.1	47.6	39.3	39.3	49.2	0.0	42.7	49.4	41.2	39.2
Incr Delay (d2), s/veh	0.3	3.5	3.4	19.3	55.3	55.1	4.1	0.0	16.1	4.0	3.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	9.6	9.7	5.9	21.1	21.5	3.6	0.0	10.5	3.5	7.6	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.9	27.5	27.5	66.9	94.6	94.3	53.3	0.0	58.7	53.3	44.4	39.7
LnGrp LOS	C	C	C	E	F	F	D	A	E	D	D	D
Approach Vol, veh/h		1130			1254			464			586	
Approach Delay, s/veh		28.9			90.5			57.2			44.9	
Approach LOS		C			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	32.8	36.0	14.3	26.9	17.0	51.8	14.0	27.2
Change Period (Y+Rc), s	4.5	* 4.5	4.5	4.5	4.0	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.5	* 32	16.0	29.5	15.5	31.0	16.0	29.5
Max Q Clear Time (g_c+I1), s	13.5	33.5	9.9	18.0	12.9	23.7	9.6	22.2
Green Ext Time (p_c), s	0.1	0.0	0.1	0.9	0.1	2.5	0.1	0.5

Intersection Summary	
HCM 6th Ctrl Delay	58.0
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	303	45	74	311	58	63	176	95	189	381	193
Future Volume (veh/h)	115	303	45	74	311	58	63	176	95	189	381	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	125	329	49	80	338	63	68	191	103	205	414	210
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	159	577	85	128	504	93	118	369	199	250	465	236
Arrive On Green	0.09	0.19	0.19	0.07	0.17	0.17	0.07	0.33	0.33	0.14	0.40	0.40
Sat Flow, veh/h	1767	3082	455	1767	2972	548	1767	1134	612	1767	1161	589
Grp Volume(v), veh/h	125	187	191	80	199	202	68	0	294	205	0	624
Grp Sat Flow(s),veh/h/ln	1767	1763	1774	1767	1763	1757	1767	0	1745	1767	0	1750
Q Serve(g_s), s	4.3	6.0	6.1	2.7	6.6	6.7	2.3	0.0	8.5	7.0	0.0	20.7
Cycle Q Clear(g_c), s	4.3	6.0	6.1	2.7	6.6	6.7	2.3	0.0	8.5	7.0	0.0	20.7
Prop In Lane	1.00		0.26	1.00		0.31	1.00		0.35	1.00		0.34
Lane Grp Cap(c), veh/h	159	330	332	128	299	298	118	0	568	250	0	700
V/C Ratio(X)	0.78	0.57	0.58	0.63	0.67	0.68	0.58	0.00	0.52	0.82	0.00	0.89
Avail Cap(c_a), veh/h	426	851	856	227	851	848	426	0	842	426	0	844
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.7	23.0	23.0	28.0	24.2	24.2	28.2	0.0	17.0	25.9	0.0	17.4
Incr Delay (d2), s/veh	3.2	1.8	1.9	1.9	3.1	3.3	1.7	0.0	0.9	2.5	0.0	10.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	2.4	2.5	1.1	2.7	2.8	1.0	0.0	3.2	2.9	0.0	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	24.8	24.9	29.9	27.2	27.5	29.8	0.0	17.9	28.4	0.0	28.0
LnGrp LOS	C	C	C	C	C	C	C	A	B	C	A	C
Approach Vol, veh/h		503			481			362			829	
Approach Delay, s/veh		26.3			27.8			20.1			28.1	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	15.0	8.1	29.4	8.5	16.1	12.8	24.7				
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5				
Max Green Setting (Gmax), s	15.0	30.0	15.0	30.0	8.0	30.0	15.0	30.0				
Max Q Clear Time (g_c+I1), s	6.3	8.7	4.3	22.7	4.7	8.1	9.0	10.5				
Green Ext Time (p_c), s	0.0	1.8	0.0	2.2	0.0	1.7	0.1	1.4				
Intersection Summary												
HCM 6th Ctrl Delay			26.3									
HCM 6th LOS			C									

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	7	38	119	14	24	1	76	12	32	1	28	2
Future Vol, veh/h	7	38	119	14	24	1	76	12	32	1	28	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	3	8	8	8	8	3	8	3	8	3	3	3
Mvmt Flow	8	42	132	16	27	1	84	13	36	1	31	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	8	8.5	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	63%	4%	36%	3%
Vol Thru, %	10%	23%	62%	90%
Vol Right, %	27%	73%	3%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	120	164	39	31
LT Vol	76	7	14	1
Through Vol	12	38	24	28
RT Vol	32	119	1	2
Lane Flow Rate	133	182	43	34
Geometry Grp	1	1	1	1
Degree of Util (X)	0.168	0.201	0.056	0.044
Departure Headway (Hd)	4.526	3.973	4.674	4.558
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	795	906	768	787
Service Time	2.541	1.985	2.691	2.575
HCM Lane V/C Ratio	0.167	0.201	0.056	0.043
HCM Control Delay	8.5	8	8	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.7	0.2	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	314	25	51	358	73	0	0	146	15
Future Volume (veh/h)	0	0	0	314	25	51	358	73	0	0	146	15
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1856	1900	1678	1781	0	0	1781	1781
Adj Flow Rate, veh/h				349	28	57	398	81	0	0	162	17
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %				0	3	0	15	8	0	0	8	8
Cap, veh/h				410	33	67	470	944	0	0	222	23
Arrive On Green				0.29	0.29	0.29	0.29	0.53	0.00	0.00	0.14	0.14
Sat Flow, veh/h				1403	113	229	1598	1781	0	0	1585	166
Grp Volume(v), veh/h				434	0	0	398	81	0	0	0	179
Grp Sat Flow(s),veh/h/ln				1744	0	0	1598	1781	0	0	0	1751
Q Serve(g_s), s				12.0	0.0	0.0	12.0	1.1	0.0	0.0	0.0	5.0
Cycle Q Clear(g_c), s				12.0	0.0	0.0	12.0	1.1	0.0	0.0	0.0	5.0
Prop In Lane				0.80		0.13	1.00		0.00	0.00		0.09
Lane Grp Cap(c), veh/h				510	0	0	470	944	0	0	0	245
V/C Ratio(X)				0.85	0.00	0.00	0.85	0.09	0.00	0.00	0.00	0.73
Avail Cap(c_a), veh/h				1194	0	0	937	944	0	0	0	856
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				17.1	0.0	0.0	17.0	5.9	0.0	0.0	0.0	21.1
Incr Delay (d2), s/veh				1.6	0.0	0.0	3.2	0.0	0.0	0.0	0.0	1.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.2	0.0	0.0	4.0	0.3	0.0	0.0	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				18.6	0.0	0.0	20.2	5.9	0.0	0.0	0.0	22.6
LnGrp LOS				B	A	A	C	A	A	A	A	C
Approach Vol, veh/h					434			479			179	
Approach Delay, s/veh					18.6			17.8			22.6	
Approach LOS					B			B			C	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		32.0			19.9	12.1		19.1				
Change Period (Y+Rc), s		4.9			4.9	4.9		4.2				
Max Green Setting (Gmax), s		25.0			30.0	25.0		35.0				
Max Q Clear Time (g_c+I1), s		3.1			14.0	7.0		14.0				
Green Ext Time (p_c), s		0.1			1.1	0.1		1.0				
Intersection Summary												
HCM 6th Ctrl Delay			18.9									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	159	293	0	0	0	0	370	681	82	378	0
Future Volume (veh/h)	61	159	293	0	0	0	0	370	681	82	378	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1900				0	1678	1678	1781	1678	0
Adj Flow Rate, veh/h	66	173	318				0	402	740	89	411	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	0				0	15	15	8	15	0
Cap, veh/h	51	133	244				0	914	774	113	1094	0
Arrive On Green	0.25	0.25	0.25				0.00	0.54	0.54	0.07	0.65	0.00
Sat Flow, veh/h	198	520	956				0	1678	1422	1697	1678	0
Grp Volume(v), veh/h	557	0	0				0	402	740	89	411	0
Grp Sat Flow(s),veh/h/ln	1674	0	0				0	1678	1422	1697	1678	0
Q Serve(g_s), s	25.0	0.0	0.0				0.0	14.1	48.5	5.1	11.1	0.0
Cycle Q Clear(g_c), s	25.0	0.0	0.0				0.0	14.1	48.5	5.1	11.1	0.0
Prop In Lane	0.12		0.57				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	427	0	0				0	914	774	113	1094	0
V/C Ratio(X)	1.31	0.00	0.00				0.00	0.44	0.96	0.78	0.38	0.00
Avail Cap(c_a), veh/h	427	0	0				0	941	797	259	1094	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.5	0.0	0.0				0.0	13.4	21.2	45.1	7.9	0.0
Incr Delay (d2), s/veh	153.6	0.0	0.0				0.0	0.5	21.6	11.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	28.0	0.0	0.0				0.0	4.9	18.6	2.4	3.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	190.2	0.0	0.0				0.0	13.8	42.8	56.2	8.2	0.0
LnGrp LOS	F	A	A				A	B	D	E	A	A
Approach Vol, veh/h		557						1142			500	
Approach Delay, s/veh		190.2						32.6			16.7	
Approach LOS		F						C			B	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	10.6	58.3		29.2		68.9						
Change Period (Y+Rc), s	4.0	4.9		* 4.2		4.9						
Max Green Setting (Gmax), s	15.0	55.0		* 25		55.0						
Max Q Clear Time (g_c+I1), s	17.1	50.5		27.0		13.1						
Green Ext Time (p_c), s	0.1	2.9		0.0		2.8						
Intersection Summary												
HCM 6th Ctrl Delay			68.9									
HCM 6th LOS			E									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	1	13	95	5	211	41	718	203	202	450	19
Future Volume (veh/h)	6	1	13	95	5	211	41	718	203	202	450	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1678	1856	1678	1856	1678	1678	1678	1678	1856
Adj Flow Rate, veh/h	7	1	14	103	5	229	45	780	221	220	489	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	15	3	15	3	15	15	15	15	3
Cap, veh/h	26	18	254	159	475	364	118	860	244	351	1266	625
Arrive On Green	0.01	0.17	0.17	0.10	0.26	0.26	0.07	0.35	0.35	0.11	0.40	0.40
Sat Flow, veh/h	1767	106	1483	1598	1856	1422	1767	2452	695	3100	3188	1572
Grp Volume(v), veh/h	7	0	15	103	5	229	45	507	494	220	489	21
Grp Sat Flow(s),veh/h/ln	1767	0	1589	1598	1856	1422	1767	1594	1553	1550	1594	1572
Q Serve(g_s), s	0.3	0.0	0.6	4.3	0.1	9.9	1.7	21.1	21.1	4.7	7.6	0.6
Cycle Q Clear(g_c), s	0.3	0.0	0.6	4.3	0.1	9.9	1.7	21.1	21.1	4.7	7.6	0.6
Prop In Lane	1.00		0.93	1.00		1.00	1.00		0.45	1.00		1.00
Lane Grp Cap(c), veh/h	26	0	272	159	475	364	118	559	545	351	1266	625
V/C Ratio(X)	0.27	0.00	0.06	0.65	0.01	0.63	0.38	0.91	0.91	0.63	0.39	0.03
Avail Cap(c_a), veh/h	203	0	776	344	906	694	381	572	557	668	1266	625
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	0.0	24.1	30.2	19.3	23.0	31.1	21.5	21.5	29.5	14.9	12.8
Incr Delay (d2), s/veh	2.1	0.0	0.1	1.7	0.0	0.7	0.8	18.4	18.8	0.7	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	1.6	0.1	3.1	0.7	9.7	9.5	1.7	2.4	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.0	0.0	24.2	31.9	19.3	23.7	31.9	39.9	40.3	30.2	15.2	12.9
LnGrp LOS	D	A	C	C	B	C	C	D	D	C	B	B
Approach Vol, veh/h		22			337			1046			730	
Approach Delay, s/veh		28.0			26.1			39.8			19.7	
Approach LOS		C			C			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	29.4	11.4	16.4	9.1	32.7	5.5	22.3
Change Period (Y+Rc), s	4.5	5.0	4.5	4.5	4.5	5.0	4.5	4.5
Max Green Setting (Gmax), s	15.0	25.0	15.0	34.0	15.0	25.0	8.0	34.0
Max Q Clear Time (g_c+I1), s	6.7	23.1	6.3	2.6	3.7	9.6	2.3	11.9
Green Ext Time (p_c), s	0.3	1.3	0.0	0.0	0.0	3.7	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	30.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	397	380	59	20	244	144	44	415	32	138	183	242
Future Volume (veh/h)	397	380	59	20	244	144	44	415	32	138	183	242
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1678	1870	1870	1870	1678	1678	1678	1678	1678
Adj Flow Rate, veh/h	432	413	64	22	265	157	48	451	35	150	199	263
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	15	2	2	2	15	15	15	15	15
Cap, veh/h	366	1117	172	47	404	232	91	639	49	183	440	393
Arrive On Green	0.21	0.36	0.36	0.03	0.19	0.19	0.05	0.21	0.21	0.11	0.28	0.28
Sat Flow, veh/h	1781	3087	475	1598	2175	1248	1781	2998	232	1598	1594	1422
Grp Volume(v), veh/h	432	237	240	22	215	207	48	239	247	150	199	263
Grp Sat Flow(s),veh/h/ln	1781	1777	1785	1598	1777	1646	1781	1594	1636	1598	1594	1422
Q Serve(g_s), s	15.0	7.1	7.2	1.0	8.2	8.5	1.9	10.1	10.2	6.7	7.5	12.0
Cycle Q Clear(g_c), s	15.0	7.1	7.2	1.0	8.2	8.5	1.9	10.1	10.2	6.7	7.5	12.0
Prop In Lane	1.00		0.27	1.00		0.76	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	366	643	646	47	330	305	91	340	349	183	440	393
V/C Ratio(X)	1.18	0.37	0.37	0.47	0.65	0.68	0.53	0.70	0.71	0.82	0.45	0.67
Avail Cap(c_a), veh/h	366	731	734	329	731	677	366	656	673	329	656	585
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.0	17.1	17.2	34.8	27.5	27.7	33.7	26.6	26.6	31.6	21.8	23.4
Incr Delay (d2), s/veh	105.2	0.6	0.6	2.6	3.7	4.5	1.7	4.5	4.5	3.5	1.2	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.8	2.8	2.9	0.4	3.7	3.6	0.8	4.1	4.2	2.7	2.8	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	134.2	17.7	17.8	37.4	31.2	32.1	35.5	31.1	31.1	35.0	23.1	26.8
LnGrp LOS	F	B	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		909			444			534			612	
Approach Delay, s/veh		73.1			31.9			31.5			27.6	
Approach LOS		E			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	21.0	7.2	31.4	8.7	25.6	20.0	18.5
Change Period (Y+Rc), s	5.0	5.5	5.0	5.0	5.0	5.5	5.0	5.0
Max Green Setting (Gmax), s	15.0	30.0	15.0	30.0	15.0	30.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	17.0	12.2	3.0	9.2	3.9	14.0	17.0	10.5
Green Ext Time (p_c), s	0.1	3.3	0.0	3.4	0.0	3.2	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	45.7
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	821	0	0	446	92	0	0	0	169	0	129
Future Volume (veh/h)	133	821	0	0	446	92	0	0	0	169	0	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1678	1856	1856	0	1678	1678	1856	1856	1856	1856	1856	1678
Adj Flow Rate, veh/h	145	892	0	0	485	100	0	0	0	184	0	140
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	15	3	3	0	15	15	3	3	3	3	3	15
Cap, veh/h	174	2640	0	0	1891	843	0	292	0	297	0	224
Arrive On Green	0.11	0.75	0.00	0.00	0.59	0.59	0.00	0.00	0.00	0.16	0.00	0.16
Sat Flow, veh/h	1598	3618	0	0	3272	1422	0	1856	0	1406	0	1422
Grp Volume(v), veh/h	145	892	0	0	485	100	0	0	0	184	0	140
Grp Sat Flow(s),veh/h/ln	1598	1763	0	0	1594	1422	0	1856	0	1406	0	1422
Q Serve(g_s), s	8.5	8.2	0.0	0.0	7.0	3.0	0.0	0.0	0.0	12.2	0.0	8.8
Cycle Q Clear(g_c), s	8.5	8.2	0.0	0.0	7.0	3.0	0.0	0.0	0.0	12.2	0.0	8.8
Prop In Lane	1.00		0.00	0.00		1.00	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	174	2640	0	0	1891	843	0	292	0	297	0	224
V/C Ratio(X)	0.84	0.34	0.00	0.00	0.26	0.12	0.00	0.00	0.00	0.62	0.00	0.63
Avail Cap(c_a), veh/h	258	2640	0	0	1891	843	0	551	0	492	0	422
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.9	4.1	0.0	0.0	9.4	8.5	0.0	0.0	0.0	39.2	0.0	37.8
Incr Delay (d2), s/veh	9.1	0.3	0.0	0.0	0.3	0.3	0.0	0.0	0.0	0.8	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	2.3	0.0	0.0	2.3	0.9	0.0	0.0	0.0	4.3	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.0	4.4	0.0	0.0	9.7	8.8	0.0	0.0	0.0	40.0	0.0	38.9
LnGrp LOS	D	A	A	A	A	A	A	A	A	D	A	D
Approach Vol, veh/h		1037			585			0			324	
Approach Delay, s/veh		10.9			9.5			0.0			39.5	
Approach LOS		B			A						D	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		76.4		19.6	14.9	61.4		19.6				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		58.5		28.5	15.5	38.5		28.5				
Max Q Clear Time (g_c+I1), s		10.2		14.2	10.5	9.0		0.0				
Green Ext Time (p_c), s		4.8		1.0	0.1	2.8		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	15.3
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	864	355	202	388	0	122	0	280	0	0	0
Future Volume (veh/h)	0	864	355	202	388	0	122	0	280	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	939	0	220	422	0	133	0	304	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	3	1238		272	2067	0	444	0	395	0	3	0
Arrive On Green	0.00	0.35	0.00	0.15	0.59	0.00	0.25	0.00	0.25	0.00	0.00	0.00
Sat Flow, veh/h	1767	3526	1572	1767	3618	0	1767	0	1572	0	1856	0
Grp Volume(v), veh/h	0	939	0	220	422	0	133	0	304	0	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	0	1767	0	1572	0	1856	0
Q Serve(g_s), s	0.0	13.0	0.0	6.7	3.1	0.0	3.4	0.0	9.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	13.0	0.0	6.7	3.1	0.0	3.4	0.0	9.9	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	3	1238		272	2067	0	444	0	395	0	3	0
V/C Ratio(X)	0.00	0.76		0.81	0.20	0.00	0.30	0.00	0.77	0.00	0.00	0.00
Avail Cap(c_a), veh/h	639	1911		639	2067	0	958	0	852	0	1006	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	15.9	0.0	22.6	5.4	0.0	16.8	0.0	19.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	0.0	2.2	0.0	0.0	0.4	0.0	3.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.9	0.0	2.7	0.8	0.0	1.3	0.0	3.5	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	16.9	0.0	24.8	5.4	0.0	17.2	0.0	22.4	0.0	0.0	0.0
LnGrp LOS	A	B		C	A	A	B	A	C	A	A	A
Approach Vol, veh/h		939	A		642			437			0	
Approach Delay, s/veh		16.9			12.1			20.8			0.0	
Approach LOS		B			B			C				

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	23.9		0.0	0.0	36.9		18.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	20.0	30.0		30.0	20.0	30.0		30.0				
Max Q Clear Time (g_c+I1), s	8.7	15.0		0.0	0.0	5.1		11.9				
Green Ext Time (p_c), s	0.1	4.4		0.0	0.0	1.9		2.0				

Intersection Summary			
HCM 6th Ctrl Delay			16.2
HCM 6th LOS			B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	8.2					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	71	143	104	329	505	82
Future Vol, veh/h	71	143	104	329	505	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	77	155	113	358	549	89

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1178	594	638	0	-	0
Stage 1	594	-	-	-	-	-
Stage 2	584	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	210	503	941	-	-	-
Stage 1	550	-	-	-	-	-
Stage 2	555	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	179	503	941	-	-	-
Mov Cap-2 Maneuver	179	-	-	-	-	-
Stage 1	468	-	-	-	-	-
Stage 2	555	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	43.1	2.2	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	941	-	314	-	-
HCM Lane V/C Ratio	0.12	-	0.741	-	-
HCM Control Delay (s)	9.3	0	43.1	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0.4	-	5.5	-	-

Intersection						
Int Delay, s/veh	1					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	59	15	323	454	101
Future Vol, veh/h	5	59	15	323	454	101
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	5	64	16	351	493	110

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	931	548	603	0	-	0
Stage 1	548	-	-	-	-	-
Stage 2	383	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	295	534	970	-	-	-
Stage 1	577	-	-	-	-	-
Stage 2	687	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	289	534	970	-	-	-
Mov Cap-2 Maneuver	289	-	-	-	-	-
Stage 1	565	-	-	-	-	-
Stage 2	687	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.1	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	970	-	289	534	-	-
HCM Lane V/C Ratio	0.017	-	0.019	0.12	-	-
HCM Control Delay (s)	8.8	0	17.7	12.7	-	-
HCM Lane LOS	A	A	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	0.4	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	147	225	60	255	64	87	274	39	14	503	53
Future Volume (veh/h)	66	147	225	60	255	64	87	274	39	14	503	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	72	162	245	65	277	70	95	298	42	15	547	58
Peak Hour Factor	0.92	0.91	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	104	234	291	72	307	325	124	419	59	146	454	48
Arrive On Green	0.19	0.19	0.19	0.21	0.21	0.21	0.07	0.26	0.26	0.08	0.28	0.28
Sat Flow, veh/h	562	1265	1572	349	1489	1572	1767	1591	224	1767	1649	175
Grp Volume(v), veh/h	234	0	245	342	0	70	95	0	340	15	0	605
Grp Sat Flow(s),veh/h/ln	1827	0	1572	1838	0	1572	1767	0	1815	1767	0	1824
Q Serve(g_s), s	8.7	0.0	10.9	13.2	0.0	2.7	3.8	0.0	12.3	0.6	0.0	20.0
Cycle Q Clear(g_c), s	8.7	0.0	10.9	13.2	0.0	2.7	3.8	0.0	12.3	0.6	0.0	20.0
Prop In Lane	0.31		1.00	0.19		1.00	1.00		0.12	1.00		0.10
Lane Grp Cap(c), veh/h	338	0	291	379	0	325	124	0	477	146	0	502
V/C Ratio(X)	0.69	0.00	0.84	0.90	0.00	0.22	0.76	0.00	0.71	0.10	0.00	1.21
Avail Cap(c_a), veh/h	377	0	325	379	0	325	243	0	500	365	0	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.7	0.0	28.6	28.1	0.0	24.0	33.2	0.0	24.3	30.8	0.0	26.3
Incr Delay (d2), s/veh	5.0	0.0	16.9	24.1	0.0	0.4	3.6	0.0	4.7	0.1	0.0	110.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	5.2	7.9	0.0	1.0	1.7	0.0	5.5	0.2	0.0	23.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.7	0.0	45.5	52.2	0.0	24.4	36.8	0.0	29.0	31.0	0.0	136.4
LnGrp LOS	C	A	D	D	A	C	D	A	C	C	A	F
Approach Vol, veh/h		479			412			435			620	
Approach Delay, s/veh		39.2			47.4			30.7			133.8	
Approach LOS		D			D			C			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		18.4	10.6	24.1		19.6	9.7	25.0				
Change Period (Y+Rc), s		4.9	4.6	* 5		4.6	4.6	5.0				
Max Green Setting (Gmax), s		15.0	15.0	* 20		15.0	10.0	20.0				
Max Q Clear Time (g_c+I1), s		12.9	2.6	14.3		15.2	5.8	22.0				
Green Ext Time (p_c), s		0.5	0.0	0.8		0.0	0.0	0.0				

Intersection Summary		
HCM 6th Ctrl Delay		69.2
HCM 6th LOS		E

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	194	320	55	63	260	69	39	105	46	70	158	227
Future Volume (veh/h)	194	320	55	63	260	69	39	105	46	70	158	227
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1870	1870	1900	1870	1870	1841	1826	1826	1900	1826	1826
Adj Flow Rate, veh/h	211	348	60	68	283	75	42	114	50	76	172	247
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	2	2	0	2	2	4	5	5	0	5	5
Cap, veh/h	260	463	80	166	338	90	134	222	97	176	375	318
Arrive On Green	0.15	0.30	0.30	0.09	0.24	0.24	0.08	0.18	0.18	0.10	0.21	0.21
Sat Flow, veh/h	1711	1554	268	1810	1425	378	1753	1203	528	1810	1826	1547
Grp Volume(v), veh/h	211	0	408	68	0	358	42	0	164	76	172	247
Grp Sat Flow(s),veh/h/ln	1711	0	1822	1810	0	1802	1753	0	1731	1810	1826	1547
Q Serve(g_s), s	7.0	0.0	11.8	2.1	0.0	11.0	1.3	0.0	5.0	2.3	4.8	8.8
Cycle Q Clear(g_c), s	7.0	0.0	11.8	2.1	0.0	11.0	1.3	0.0	5.0	2.3	4.8	8.8
Prop In Lane	1.00		0.15	1.00		0.21	1.00		0.30	1.00		1.00
Lane Grp Cap(c), veh/h	260	0	543	166	0	428	134	0	319	176	375	318
V/C Ratio(X)	0.81	0.00	0.75	0.41	0.00	0.84	0.31	0.00	0.51	0.43	0.46	0.78
Avail Cap(c_a), veh/h	440	0	625	465	0	618	451	0	1187	465	626	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	18.5	25.0	0.0	21.2	25.5	0.0	21.4	24.8	20.3	21.9
Incr Delay (d2), s/veh	2.3	0.0	4.4	0.6	0.0	6.8	0.5	0.0	1.3	0.6	0.9	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	4.9	0.8	0.0	4.8	0.5	0.0	1.9	0.9	1.9	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.2	0.0	23.0	25.6	0.0	27.9	26.0	0.0	22.7	25.4	21.2	26.0
LnGrp LOS	C	A	C	C	A	C	C	A	C	C	C	C
Approach Vol, veh/h		619			426			206			495	
Approach Delay, s/veh		24.1			27.6			23.4			24.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	22.4	9.0	17.0	13.5	18.8	10.3	15.8
Change Period (Y+Rc), s	4.6	5.0	4.6	5.0	4.6	5.0	4.6	5.0
Max Green Setting (Gmax), s	15.0	20.0	15.0	20.0	15.0	20.0	15.0	40.0
Max Q Clear Time (g_c+I1), s	4.1	13.8	3.3	10.8	9.0	13.0	4.3	7.0
Green Ext Time (p_c), s	0.1	0.9	0.0	1.2	0.2	0.8	0.1	0.6

Intersection Summary		
HCM 6th Ctrl Delay		24.9
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	767	148	392	421	37	62	43	414	34	27	54
Future Volume (veh/h)	62	767	148	392	421	37	62	43	414	34	27	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678
Adj Flow Rate, veh/h	67	834	161	426	458	40	67	47	0	37	29	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	15	15	15	15	15	15	15	15	15	15	15	15
Cap, veh/h	157	1231	549	410	1736	774	168	90		161	103	
Arrive On Green	0.10	0.39	0.39	0.26	0.54	0.54	0.13	0.13	0.00	0.13	0.13	0.00
Sat Flow, veh/h	1598	3188	1422	1598	3188	1422	749	714	1422	708	819	1422
Grp Volume(v), veh/h	67	834	161	426	458	40	114	0	0	66	0	0
Grp Sat Flow(s),veh/h/ln	1598	1594	1422	1598	1594	1422	1464	0	1422	1527	0	1422
Q Serve(g_s), s	3.1	16.9	6.1	20.0	5.9	1.0	2.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.1	16.9	6.1	20.0	5.9	1.0	5.5	0.0	0.0	2.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.59		1.00	0.56		1.00
Lane Grp Cap(c), veh/h	157	1231	549	410	1736	774	258	0		264	0	
V/C Ratio(X)	0.43	0.68	0.29	1.04	0.26	0.05	0.44	0.00		0.25	0.00	
Avail Cap(c_a), veh/h	1026	2047	913	410	2047	913	618	0		624	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	33.0	19.9	16.5	28.9	9.4	8.3	32.0	0.0	0.0	31.0	0.0	0.0
Incr Delay (d2), s/veh	3.9	1.4	0.6	54.6	0.2	0.1	4.3	0.0	0.0	1.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	5.7	1.9	12.9	1.6	0.3	2.2	0.0	0.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.9	21.3	17.2	83.5	9.6	8.4	36.3	0.0	0.0	32.7	0.0	0.0
LnGrp LOS	D	C	B	F	A	A	D	A		C	A	
Approach Vol, veh/h		1062			924			114	A		66	A
Approach Delay, s/veh		21.6			43.6			36.3			32.7	
Approach LOS		C			D			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	26.0	36.1		15.8	13.7	48.4		15.8
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	20.0	50.0		30.0	50.0	50.0		30.0
Max Q Clear Time (g_c+I1), s	22.0	18.9		4.8	5.1	7.9		7.5
Green Ext Time (p_c), s	0.0	11.1		0.5	0.5	5.0		1.0

Intersection Summary	
HCM 6th Ctrl Delay	32.1
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	79.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	133	68	168	673	544	201
Future Vol, veh/h	133	68	168	673	544	201
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	190	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	145	74	183	732	591	218

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1798	700	809	0	-	0
Stage 1	700	-	-	-	-	-
Stage 2	1098	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	~ 87	438	812	-	-	-
Stage 1	491	-	-	-	-	-
Stage 2	318	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 67	438	812	-	-	-
Mov Cap-2 Maneuver	~ 67	-	-	-	-	-
Stage 1	381	-	-	-	-	-
Stage 2	318	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 700.2	2.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	812	-	94	-	-
HCM Lane V/C Ratio	0.225	-	2.324	-	-
HCM Control Delay (s)	10.7	-	$ 700.2	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.9	-	19.7	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	17.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	184	3	98	34	31	107	101	116	2	13	108	144
Future Vol, veh/h	184	3	98	34	31	107	101	116	2	13	108	144
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	3	3	3	3	3	3	3	8	3	3	8	3
Mvmt Flow	263	4	140	49	44	153	144	166	3	19	154	206
Number of Lanes	0	1	1	0	1	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	2	2
HCM Control Delay	21.3	14.5	16.7	15.8
HCM LOS	C	B	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	98%	0%	52%	0%	100%	0%	0%
Vol Thru, %	0%	98%	2%	0%	48%	0%	0%	100%	0%
Vol Right, %	0%	2%	0%	100%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	101	118	187	98	65	107	13	108	144
LT Vol	101	0	184	0	34	0	13	0	0
Through Vol	0	116	3	0	31	0	0	108	0
RT Vol	0	2	0	98	0	107	0	0	144
Lane Flow Rate	144	169	267	140	93	153	19	154	206
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.358	0.398	0.641	0.288	0.23	0.337	0.046	0.361	0.436
Departure Headway (Hd)	8.94	8.5	8.637	7.418	8.915	7.927	8.858	8.431	7.623
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	403	423	419	486	403	454	406	429	473
Service Time	6.692	6.251	6.355	5.137	6.667	5.679	6.578	6.151	5.343
HCM Lane V/C Ratio	0.357	0.4	0.637	0.288	0.231	0.337	0.047	0.359	0.436
HCM Control Delay	16.6	16.8	25.6	13.1	14.3	14.7	12	15.8	16.1
HCM Lane LOS	C	C	D	B	B	B	B	C	C
HCM 95th-tile Q	1.6	1.9	4.3	1.2	0.9	1.5	0.1	1.6	2.2

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	29	46	30	6	10
Future Vol, veh/h	11	29	46	30	6	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	12	32	51	33	7	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	148	13	18	0	-	0
Stage 1	13	-	-	-	-	-
Stage 2	135	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	842	1064	1592	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	889	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	814	1064	1592	-	-	-
Mov Cap-2 Maneuver	814	-	-	-	-	-
Stage 1	974	-	-	-	-	-
Stage 2	889	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	4.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1592	-	981	-	-
HCM Lane V/C Ratio	0.032	-	0.045	-	-
HCM Control Delay (s)	7.3	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	58	48	20	25	7
Future Vol, veh/h	2	58	48	20	25	7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	15	15	15	15	15	15
Mvmt Flow	2	64	53	22	28	8
Number of Lanes	1	1	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	7.4	8.4	7.9
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	78%
Vol Right, %	0%	0%	0%	100%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	48	20	2	58	32
LT Vol	48	0	2	0	0
Through Vol	0	20	0	0	25
RT Vol	0	0	0	58	7
Lane Flow Rate	53	22	2	64	36
Geometry Grp	7	7	7	7	4
Degree of Util (X)	0.08	0.03	0.003	0.078	0.045
Departure Headway (Hd)	5.39	4.889	5.55	4.348	4.596
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	662	729	649	829	770
Service Time	3.141	2.64	3.25	2.048	2.675
HCM Lane V/C Ratio	0.08	0.03	0.003	0.077	0.047
HCM Control Delay	8.6	7.8	8.3	7.4	7.9
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.3	0.1	0	0.3	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	541	8	143	400	52	13	4	253	208	3	2
Future Volume (veh/h)	5	541	8	143	400	52	13	4	253	208	3	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678
Adj Flow Rate, veh/h	5	588	9	155	435	57	14	4	275	226	3	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	15	15	15	15	15	15	15	15	15	15	15	15
Cap, veh/h	17	714	319	186	935	122	16	5	312	268	4	2
Arrive On Green	0.01	0.22	0.22	0.12	0.33	0.33	0.23	0.23	0.23	0.17	0.17	0.17
Sat Flow, veh/h	1598	3188	1422	1598	2835	370	68	20	1344	1563	21	14
Grp Volume(v), veh/h	5	588	9	155	243	249	293	0	0	231	0	0
Grp Sat Flow(s),veh/h/ln	1598	1594	1422	1598	1594	1611	1432	0	0	1597	0	0
Q Serve(g_s), s	0.3	15.8	0.4	8.5	10.8	11.0	17.7	0.0	0.0	12.6	0.0	0.0
Cycle Q Clear(g_c), s	0.3	15.8	0.4	8.5	10.8	11.0	17.7	0.0	0.0	12.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.23	0.05		0.94	0.98		0.01
Lane Grp Cap(c), veh/h	17	714	319	186	526	531	333	0	0	274	0	0
V/C Ratio(X)	0.30	0.82	0.03	0.84	0.46	0.47	0.88	0.00	0.00	0.84	0.00	0.00
Avail Cap(c_a), veh/h	712	1420	633	356	526	531	590	0	0	712	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	44.1	33.1	27.2	38.8	23.8	23.8	33.3	0.0	0.0	36.0	0.0	0.0
Incr Delay (d2), s/veh	3.7	0.9	0.0	3.7	0.2	0.2	3.0	0.0	0.0	2.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	5.8	0.1	3.4	3.8	3.9	6.2	0.0	0.0	4.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.8	34.1	27.2	42.6	24.0	24.1	36.3	0.0	0.0	38.8	0.0	0.0
LnGrp LOS	D	C	C	D	C	C	D	A	A	D	A	A
Approach Vol, veh/h		602			647			293			231	
Approach Delay, s/veh		34.1			28.5			36.3			38.8	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.4	26.1		26.9	6.9	35.6		20.4				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		5.0				
Max Green Setting (Gmax), s	20.0	40.0		37.0	40.0	22.0		40.0				
Max Q Clear Time (g_c+I1), s	10.5	17.8		19.7	2.3	13.0		14.6				
Green Ext Time (p_c), s	0.1	2.4		1.1	0.0	1.2		0.8				
Intersection Summary												
HCM 6th Ctrl Delay			33.0									
HCM 6th LOS			C									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	5	15	207	8	117	4	817	110	67	1094	4
Future Volume (vph)	0	5	15	207	8	117	4	817	110	67	1094	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	5.0		4.5	5.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.90			0.95		1.00	0.98		1.00	1.00	
Flt Protected		1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1655			1704		1752	3442		1752	3503	
Flt Permitted		1.00			0.80		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1655			1402		1752	3442		1752	3503	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	5	16	225	9	127	4	888	120	73	1189	4
RTOR Reduction (vph)	0	14	0	0	18	0	0	8	0	0	0	0
Lane Group Flow (vph)	0	7	0	0	343	0	4	1000	0	73	1193	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type		NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		14.5			35.1		1.6	44.7		16.2	59.3	
Effective Green, g (s)		14.5			35.1		1.6	44.7		16.2	59.3	
Actuated g/C Ratio		0.13			0.32		0.01	0.41		0.15	0.54	
Clearance Time (s)		4.5			4.5		4.5	5.0		4.5	5.0	
Vehicle Extension (s)		2.0			2.5		1.0	3.0		1.0	3.0	
Lane Grp Cap (vph)		218			447		25	1398		258	1888	
v/s Ratio Prot		0.00					0.00	c0.29		0.04	c0.34	
v/s Ratio Perm					c0.24							
v/c Ratio		0.03			0.77		0.16	0.72		0.28	0.63	
Uniform Delay, d1		41.6			33.8		53.5	27.3		41.7	17.7	
Progression Factor		1.00			1.00		1.00	1.00		1.58	2.25	
Incremental Delay, d2		0.0			7.4		1.1	3.2		0.2	1.2	
Delay (s)		41.7			41.1		54.6	30.5		65.9	41.1	
Level of Service		D			D		D	C		E	D	
Approach Delay (s)		41.7			41.1			30.6			42.5	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	37.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	477	39	68	307	96	37
Future Volume (vph)	0	477	39	68	307	96	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0	6.0	6.0
Lane Util. Factor		0.91		1.00	0.91	1.00	1.00
Frt		0.99		1.00	1.00	1.00	0.85
Flt Protected		1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)		4459		1570	4510	1570	1404
Flt Permitted		1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)		4459		1570	4510	1570	1404
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	0	596	49	85	384	120	46
RTOR Reduction (vph)	0	13	0	0	0	0	41
Lane Group Flow (vph)	0	632	0	85	384	120	5
Heavy Vehicles (%)	15%	15%	15%	15%	15%	15%	15%
Turn Type	Prot	NA		Prot	NA	Prot	Perm
Protected Phases	5	2		1	6	8	
Permitted Phases							8
Actuated Green, G (s)		15.5		5.5	27.0	5.2	5.2
Effective Green, g (s)		15.5		5.5	27.0	5.2	5.2
Actuated g/C Ratio		0.35		0.12	0.61	0.12	0.12
Clearance Time (s)		6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)		2.0		3.0	2.0	1.0	1.0
Lane Grp Cap (vph)		1563		195	2754	184	165
v/s Ratio Prot		c0.14		c0.05	0.09	c0.08	
v/s Ratio Perm							0.00
v/c Ratio		0.40		0.44	0.14	0.65	0.03
Uniform Delay, d1		10.9		17.9	3.7	18.6	17.3
Progression Factor		1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		0.1		1.6	0.0	6.2	0.0
Delay (s)		10.9		19.5	3.7	24.8	17.3
Level of Service		B		B	A	C	B
Approach Delay (s)		10.9			6.5	22.7	
Approach LOS		B			A	C	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	44.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	43.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1020	0	217	0	755	74	0	971	1240
Future Volume (veh/h)	0	0	0	1020	0	217	0	755	74	0	971	1240
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1678	1678	1678	0	1678	1678	0	1678	1678
Adj Flow Rate, veh/h				1020	0	0	0	755	0	0	971	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				15	15	15	0	15	15	0	15	15
Cap, veh/h				1324	0		0	1866		0	3378	
Arrive On Green				0.28	0.00	0.00	0.00	0.19	0.00	0.00	0.59	0.00
Sat Flow, veh/h				4793	0	2844	0	3272	2502	0	6006	1422
Grp Volume(v), veh/h				1020	0	0	0	755	0	0	971	0
Grp Sat Flow(s),veh/h/ln				1598	0	1422	0	1594	1251	0	1443	1422
Q Serve(g_s), s				13.7	0.0	0.0	0.0	14.5	0.0	0.0	5.9	0.0
Cycle Q Clear(g_c), s				13.7	0.0	0.0	0.0	14.5	0.0	0.0	5.9	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				1324	0		0	1866		0	3378	
V/C Ratio(X)				0.77	0.00		0.00	0.40		0.00	0.29	
Avail Cap(c_a), veh/h				2191	0		0	1866		0	3378	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	0.91	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				23.3	0.0	0.0	0.0	17.6	0.0	0.0	7.2	0.0
Incr Delay (d2), s/veh				0.6	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.6	0.0	0.0	0.0	6.1	0.0	0.0	1.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				23.9	0.0	0.0	0.0	18.2	0.0	0.0	7.3	0.0
LnGrp LOS				C	A		A	B		A	A	
Approach Vol, veh/h					1020	A		755	A		971	A
Approach Delay, s/veh					23.9			18.2			7.3	
Approach LOS					C			B			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		46.7				46.7		23.3				
Change Period (Y+Rc), s		5.7				5.7		5.1				
Max Green Setting (Gmax), s		28.3				28.3		30.9				
Max Q Clear Time (g_c+I1), s		16.5				7.9		15.7				
Green Ext Time (p_c), s		2.6				4.2		2.5				

Intersection Summary			
HCM 6th Ctrl Delay			16.4
HCM 6th LOS			B

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	485	0	294	0	0	0	0	346	385	0	1837	155
Future Volume (veh/h)	485	0	294	0	0	0	0	346	385	0	1837	155
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1678	1678	1678				0	1678	1678	0	1678	1678
Adj Flow Rate, veh/h	576	0	196				0	346	0	0	1837	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	15	15	15				0	15	15	0	15	15
Cap, veh/h	657	0	292				0	2932		0	2932	
Arrive On Green	0.21	0.00	0.21				0.00	0.64	0.00	0.00	0.64	0.00
Sat Flow, veh/h	3196	0	1422				0	4731	2502	0	4731	1422
Grp Volume(v), veh/h	576	0	196				0	346	0	0	1837	0
Grp Sat Flow(s),veh/h/ln	1598	0	1422				0	1527	1251	0	1527	1422
Q Serve(g_s), s	12.2	0.0	8.9				0.0	2.1	0.0	0.0	16.9	0.0
Cycle Q Clear(g_c), s	12.2	0.0	8.9				0.0	2.1	0.0	0.0	16.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	657	0	292				0	2932		0	2932	
V/C Ratio(X)	0.88	0.00	0.67				0.00	0.12		0.00	0.63	
Avail Cap(c_a), veh/h	1000	0	445				0	2932		0	2932	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.87	0.00
Uniform Delay (d), s/veh	26.9	0.0	25.6				0.0	4.9	0.0	0.0	7.6	0.0
Incr Delay (d2), s/veh	4.0	0.0	1.0				0.0	0.1	0.0	0.0	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	2.9				0.0	0.5	0.0	0.0	3.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	0.0	26.6				0.0	5.0	0.0	0.0	8.5	0.0
LnGrp LOS	C	A	C				A	A		A	A	
Approach Vol, veh/h		772						346	A		1837	A
Approach Delay, s/veh		29.8						5.0			8.5	
Approach LOS		C						A			A	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		50.5		19.5		50.5						
Change Period (Y+Rc), s		5.7		5.1		5.7						
Max Green Setting (Gmax), s		37.3		21.9		37.3						
Max Q Clear Time (g_c+I1), s		4.1		14.2		18.9						
Green Ext Time (p_c), s		1.4		0.2		8.9						
Intersection Summary												
HCM 6th Ctrl Delay			13.6									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	21	25	25	333	290	25	398	25	400	1341	20
Future Volume (veh/h)	25	21	25	25	333	290	25	398	25	400	1341	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1678	1870	1678	1870	1678	1678	1678	1678	1870
Adj Flow Rate, veh/h	25	21	25	25	333	290	25	398	25	400	1341	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	15	2	15	2	15	15	15	15	2
Cap, veh/h	39	102	91	359	925	370	76	1030	460	511	1486	739
Arrive On Green	0.02	0.06	0.06	0.22	0.26	0.26	0.02	0.32	0.32	0.16	0.47	0.47
Sat Flow, veh/h	1781	1777	1585	1598	3554	1422	3456	3188	1422	3100	3188	1585
Grp Volume(v), veh/h	25	21	25	25	333	290	25	398	25	400	1341	20
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1598	1777	1422	1728	1594	1422	1550	1594	1585
Q Serve(g_s), s	1.0	0.8	1.1	0.9	5.3	13.2	0.5	6.7	0.4	8.6	27.0	0.4
Cycle Q Clear(g_c), s	1.0	0.8	1.1	0.9	5.3	13.2	0.5	6.7	0.4	8.6	27.0	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	39	102	91	359	925	370	76	1030	460	511	1486	739
V/C Ratio(X)	0.64	0.21	0.27	0.07	0.36	0.78	0.33	0.39	0.05	0.78	0.90	0.03
Avail Cap(c_a), veh/h	128	459	410	413	1581	633	198	1030	460	801	1556	774
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.8	31.3	31.4	21.3	21.0	23.9	33.6	18.2	4.0	27.9	17.1	5.6
Incr Delay (d2), s/veh	15.9	1.0	1.6	0.1	0.2	3.7	2.5	0.2	0.0	2.7	7.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.4	0.4	0.3	2.1	4.5	0.2	2.2	0.3	3.1	9.4	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.7	32.3	33.1	21.3	21.3	27.6	36.0	18.5	4.1	30.6	24.7	5.6
LnGrp LOS	D	C	C	C	C	C	D	B	A	C	C	A
Approach Vol, veh/h		71			648			448			1761	
Approach Delay, s/veh		38.7			24.1			18.6			25.8	
Approach LOS		D			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.5	26.5	19.7	8.0	5.5	36.5	5.5	22.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	18.0	20.0	18.0	18.0	4.0	34.0	5.0	31.0
Max Q Clear Time (g_c+I1), s	10.6	8.7	2.9	3.1	2.5	29.0	3.0	15.2
Green Ext Time (p_c), s	0.9	1.8	0.0	0.1	0.0	3.5	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	24.6
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	33	29	485	25	20	143	394	189	319	1002	20
Future Volume (veh/h)	20	33	29	485	25	20	143	394	189	319	1002	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678
Adj Flow Rate, veh/h	20	33	29	485	25	20	143	394	189	319	1002	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	15	15	15	15	15	15	15	15	15	15	15	15
Cap, veh/h	293	91	77	586	101	85	175	625	279	910	1211	540
Arrive On Green	0.18	0.05	0.05	0.19	0.06	0.06	0.11	0.20	0.20	0.29	0.38	0.38
Sat Flow, veh/h	1598	1678	1422	3100	1678	1422	1598	3188	1422	3100	3188	1422
Grp Volume(v), veh/h	20	33	29	485	25	20	143	394	189	319	1002	20
Grp Sat Flow(s),veh/h/ln	1598	1678	1422	1550	1678	1422	1598	1594	1422	1550	1594	1422
Q Serve(g_s), s	0.7	1.3	0.7	10.0	0.9	0.9	5.8	7.6	8.2	5.4	18.9	0.3
Cycle Q Clear(g_c), s	0.7	1.3	0.7	10.0	0.9	0.9	5.8	7.6	8.2	5.4	18.9	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	293	91	77	586	101	85	175	625	279	910	1211	540
V/C Ratio(X)	0.07	0.36	0.38	0.83	0.25	0.23	0.82	0.63	0.68	0.35	0.83	0.04
Avail Cap(c_a), veh/h	293	453	384	698	705	598	216	1397	623	910	1445	644
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.5	30.4	9.6	26.0	29.9	29.9	29.0	24.6	24.8	18.5	18.7	2.7
Incr Delay (d2), s/veh	0.1	2.4	3.0	7.1	1.3	1.4	17.6	1.1	2.9	0.2	3.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.6	0.5	3.9	0.4	0.3	2.9	2.6	2.7	1.7	6.4	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.6	32.8	12.6	33.0	31.1	31.2	46.6	25.6	27.7	18.8	22.2	2.8
LnGrp LOS	C	C	B	C	C	C	D	C	C	B	C	A
Approach Vol, veh/h		82			530			726			1341	
Approach Delay, s/veh		23.2			32.9			30.3			21.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.3	31.1	16.6	7.6	23.6	18.9	16.2	8.0
Change Period (Y+Rc), s	4.0	5.8	4.0	4.0	4.0	5.8	4.0	4.0
Max Green Setting (Gmax), s	9.0	30.2	15.0	18.0	10.0	29.2	5.0	28.0
Max Q Clear Time (g_c+I1), s	7.8	20.9	12.0	3.3	7.4	10.2	2.7	2.9
Green Ext Time (p_c), s	0.0	4.4	0.6	0.2	0.3	2.8	0.0	0.1

Intersection Summary			
HCM 6th Ctrl Delay			26.0
HCM 6th LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	20	219	698	42	162	130	398	546	109	1221	25
Future Volume (veh/h)	32	20	219	698	42	162	130	398	546	109	1221	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1060	1589	1324	883	1589	1324	1060	1589	1324	1060	1589	1324
Adj Flow Rate, veh/h	32	20	219	698	42	162	130	398	546	109	1221	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	15	15	15	15	15	15	15	15	15	15	15	15
Cap, veh/h	61	302	311	308	505	434	89	1098	1092	134	1040	455
Arrive On Green	0.06	0.19	0.19	0.19	0.32	0.32	0.09	0.36	0.36	0.07	0.34	0.34
Sat Flow, veh/h	1009	1589	1122	1631	1589	1122	1009	3020	1976	1958	3020	1122
Grp Volume(v), veh/h	32	20	219	698	42	162	130	398	546	109	1221	25
Grp Sat Flow(s),veh/h/ln	1009	1589	1122	816	1589	1122	1009	1510	988	979	1510	1122
Q Serve(g_s), s	4.6	1.5	25.9	28.0	2.7	15.3	13.0	14.3	25.3	8.1	51.0	2.0
Cycle Q Clear(g_c), s	4.6	1.5	25.9	28.0	2.7	15.3	13.0	14.3	25.3	8.1	51.0	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	61	302	311	308	505	434	89	1098	1092	134	1040	455
V/C Ratio(X)	0.52	0.07	0.70	2.26	0.08	0.37	1.47	0.36	0.50	0.81	1.17	0.05
Avail Cap(c_a), veh/h	68	322	326	308	515	441	89	1098	1092	185	1040	455
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.5	49.2	48.0	60.0	35.4	32.6	67.5	34.5	20.5	68.1	48.5	26.8
Incr Delay (d2), s/veh	6.7	0.1	6.3	578.6	0.1	0.5	261.7	0.2	0.4	17.3	88.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.6	7.7	30.5	1.1	4.2	9.7	5.2	5.7	2.3	31.4	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.2	49.3	54.4	638.6	35.4	33.1	329.2	34.7	20.8	85.4	137.2	26.8
LnGrp LOS	E	D	D	F	D	C	F	C	C	F	F	C
Approach Vol, veh/h		271			902			1074			1355	
Approach Delay, s/veh		56.3			501.8			63.3			131.0	
Approach LOS		E			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.1	60.9	35.0	35.1	20.0	58.0	16.0	54.1
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	14.0	50.0	28.0	30.0	13.0	51.0	10.0	48.0
Max Q Clear Time (g_c+I1), s	10.1	27.3	30.0	27.9	15.0	53.0	6.6	17.3
Green Ext Time (p_c), s	0.1	4.7	0.0	0.2	0.0	0.0	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	198.1
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

6: SB Mountain House Parkway & NB Mountain House Parkway Performance by movement

Movement	EBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.9	3.9	4.8
Total Del/Veh (s)	18.7	13.3	14.0
Vehicles Entered	171	1058	1229
Vehicles Exited	169	1057	1226
Hourly Exit Rate	169	1057	1226
Input Volume	181	1051	1232
% of Volume	93	101	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

603: I-580 WB Off Ramp & NB Mountain House Parkway Performance by movement

Movement	EBL	NBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.2	2.4	2.6
Total Del/Veh (s)	4.0	9.7	8.8
Vehicles Entered	169	879	1048
Vehicles Exited	170	882	1052
Hourly Exit Rate	170	882	1052
Input Volume	181	893	1074
% of Volume	94	99	98
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

607: SB Mountain House Parkway & I-580 WB Off Ramp Performance by movement

Movement	WBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	5.7	1.9	7.6
Total Del/Veh (s)	25.5	6.4	14.7
Vehicles Entered	803	1057	1860
Vehicles Exited	800	1055	1855
Hourly Exit Rate	800	1055	1855
Input Volume	794	1051	1845
% of Volume	101	100	101
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Zone Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	
Total Delay (hr)	15.0
Total Del/Veh (s)	13.0
Vehicles Entered	4151
Vehicles Exited	4151
Hourly Exit Rate	4151
Input Volume	4151
% of Volume	100
Denied Entry Before	0
Denied Entry After	0

7: NB Mountain House Parkway & SB Mountain House Parkway Performance by movement

Movement	WBT	NBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	4.5	0.1	4.5
Total Del/Veh (s)	12.4	10.4	12.4
Vehicles Entered	1287	19	1306
Vehicles Exited	1290	19	1309
Hourly Exit Rate	1290	19	1309
Input Volume	1259	25	1284
% of Volume	102	76	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

701: NB Mountain House Parkway & I-580 EB Off Ramp Performance by movement

Movement	EBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.3	0.1	0.4
Total Del/Veh (s)	6.7	11.2	7.2
Vehicles Entered	180	19	199
Vehicles Exited	181	19	200
Hourly Exit Rate	181	19	200
Input Volume	181	25	206
% of Volume	100	76	97
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

705: SB Mountain House Parkway & I-580 EB Off Ramp Performance by movement

Movement	WBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	2.5	0.1	2.6
Total Del/Veh (s)	6.9	16.6	7.1
Vehicles Entered	1290	25	1315
Vehicles Exited	1285	25	1310
Hourly Exit Rate	1285	25	1310
Input Volume	1259	25	1284
% of Volume	102	100	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Zone Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	
Total Delay (hr)	7.5
Total Del/Veh (s)	9.7
Vehicles Entered	2774
Vehicles Exited	2774
Hourly Exit Rate	2774
Input Volume	2774
% of Volume	100
Denied Entry Before	0
Denied Entry After	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	396	25	300	459	25	21	32	232	25	266	169
Future Volume (veh/h)	25	396	25	300	459	25	21	32	232	25	266	169
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	25	396	25	300	459	25	21	32	232	25	266	169
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	40	667	298	298	862	47	34	553	469	40	320	203
Arrive On Green	0.02	0.20	0.20	0.09	0.27	0.27	0.02	0.32	0.32	0.02	0.32	0.32
Sat Flow, veh/h	1668	3328	1485	3237	3210	174	1668	1752	1485	1668	1001	636
Grp Volume(v), veh/h	25	396	25	300	237	247	21	32	232	25	0	435
Grp Sat Flow(s),veh/h/ln	1668	1664	1485	1618	1664	1720	1668	1752	1485	1668	0	1637
Q Serve(g_s), s	0.6	4.7	0.6	4.0	5.3	5.3	0.5	0.6	5.5	0.6	0.0	10.7
Cycle Q Clear(g_c), s	0.6	4.7	0.6	4.0	5.3	5.3	0.5	0.6	5.5	0.6	0.0	10.7
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	40	667	298	298	447	462	34	553	469	40	0	523
V/C Ratio(X)	0.63	0.59	0.08	1.01	0.53	0.53	0.61	0.06	0.49	0.63	0.00	0.83
Avail Cap(c_a), veh/h	153	1377	614	298	689	712	153	725	614	153	0	678
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.0	15.8	14.1	19.7	13.6	13.6	21.1	10.4	12.1	21.0	0.0	13.7
Incr Delay (d2), s/veh	14.9	0.8	0.1	54.2	1.0	1.0	16.2	0.0	0.8	14.9	0.0	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.6	0.2	3.6	1.8	1.8	0.3	0.2	1.6	0.4	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.9	16.6	14.3	73.9	14.6	14.5	37.4	10.4	12.9	35.9	0.0	20.6
LnGrp LOS	D	B	B	F	B	B	D	B	B	D	A	C
Approach Vol, veh/h		446			784			285			460	
Approach Delay, s/veh		17.6			37.3			14.4			21.4	
Approach LOS		B			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	17.7	8.0	12.7	4.9	17.9	5.0	15.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	18.0	4.0	18.0	4.0	18.0	4.0	18.0
Max Q Clear Time (g_c+I1), s	2.6	7.5	6.0	6.7	2.5	12.7	2.6	7.3
Green Ext Time (p_c), s	0.0	0.6	0.0	2.0	0.0	1.2	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	25.8
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	382	134	180	239	137	150	175	78	146	285	161
Future Volume (veh/h)	25	382	134	180	239	137	150	175	78	146	285	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	25	382	134	180	239	137	150	175	78	146	285	161
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	49	658	293	225	1011	451	189	669	298	184	659	294
Arrive On Green	0.03	0.20	0.20	0.14	0.30	0.30	0.11	0.20	0.20	0.11	0.20	0.20
Sat Flow, veh/h	1668	3328	1482	1668	3328	1485	1668	3328	1482	1668	3328	1482
Grp Volume(v), veh/h	25	382	134	180	239	137	150	175	78	146	285	161
Grp Sat Flow(s),veh/h/ln	1668	1664	1482	1668	1664	1485	1668	1664	1482	1668	1664	1482
Q Serve(g_s), s	0.8	5.4	4.1	5.4	2.8	3.7	4.6	2.3	2.3	4.4	3.9	5.1
Cycle Q Clear(g_c), s	0.8	5.4	4.1	5.4	2.8	3.7	4.6	2.3	2.3	4.4	3.9	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	49	658	293	225	1011	451	189	669	298	184	659	294
V/C Ratio(X)	0.51	0.58	0.46	0.80	0.24	0.30	0.80	0.26	0.26	0.79	0.43	0.55
Avail Cap(c_a), veh/h	161	2018	899	353	2402	1072	289	1922	856	289	1922	856
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.9	18.9	18.4	21.8	13.6	13.9	22.5	17.5	17.5	22.5	18.3	18.7
Incr Delay (d2), s/veh	8.2	0.8	1.1	6.8	0.1	0.4	8.4	0.2	0.5	7.8	0.4	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.8	1.3	2.2	0.8	1.0	2.0	0.8	0.7	1.9	1.3	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.0	19.7	19.5	28.6	13.7	14.3	30.8	17.7	18.0	30.4	18.7	20.3
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	C
Approach Vol, veh/h		541			556			403			592	
Approach Delay, s/veh		20.3			18.7			22.6			22.0	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	15.0	9.7	16.2	5.5	20.5	9.9	16.1
Change Period (Y+Rc), s	4.0	* 4.7	4.0	5.8	4.0	* 4.7	4.0	5.8
Max Green Setting (Gmax), s	11.0	* 32	9.0	30.0	5.0	* 38	9.0	30.0
Max Q Clear Time (g_c+I1), s	7.4	7.4	6.4	4.3	2.8	5.7	6.6	7.1
Green Ext Time (p_c), s	0.1	2.7	0.1	1.2	0.0	1.9	0.1	2.1

Intersection Summary		
HCM 6th Ctrl Delay		20.8
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	321	176	65	471	105	121	120	63	75	320	204
Future Volume (veh/h)	178	321	176	65	471	105	121	120	63	75	320	204
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678
Adj Flow Rate, veh/h	178	321	176	65	471	105	121	120	63	75	320	204
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	15	15	15	15	15	15	15	15	15	15	15	15
Cap, veh/h	198	787	351	141	673	300	173	534	264	150	409	346
Arrive On Green	0.12	0.25	0.25	0.09	0.21	0.21	0.11	0.26	0.26	0.09	0.24	0.24
Sat Flow, veh/h	1598	3188	1422	1598	3188	1422	1598	2064	1023	1598	1678	1422
Grp Volume(v), veh/h	178	321	176	65	471	105	121	91	92	75	320	204
Grp Sat Flow(s),veh/h/ln	1598	1594	1422	1598	1594	1422	1598	1594	1494	1598	1678	1422
Q Serve(g_s), s	8.4	6.5	8.2	3.0	10.5	4.8	5.6	3.4	3.7	3.4	13.7	9.7
Cycle Q Clear(g_c), s	8.4	6.5	8.2	3.0	10.5	4.8	5.6	3.4	3.7	3.4	13.7	9.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.69	1.00		1.00
Lane Grp Cap(c), veh/h	198	787	351	141	673	300	173	412	386	150	409	346
V/C Ratio(X)	0.90	0.41	0.50	0.46	0.70	0.35	0.70	0.22	0.24	0.50	0.78	0.59
Avail Cap(c_a), veh/h	198	1343	599	223	1393	621	188	657	616	238	744	630
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.1	24.2	24.8	33.2	28.0	25.8	33.0	22.4	22.5	33.0	27.1	25.6
Incr Delay (d2), s/veh	37.4	0.5	1.6	2.4	1.9	1.0	9.9	0.4	0.4	2.6	4.7	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	2.3	2.7	1.2	3.8	1.6	2.5	1.2	1.2	1.3	5.5	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.5	24.7	26.4	35.6	29.9	26.8	42.9	22.7	22.9	35.6	31.8	27.9
LnGrp LOS	E	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		675			641			304			599	
Approach Delay, s/veh		37.2			30.0			30.8			30.9	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	25.4	12.7	25.3	16.0	22.7	13.8	24.2
Change Period (Y+Rc), s	6.5	6.5	5.5	5.5	6.5	6.5	5.5	5.5
Max Green Setting (Gmax), s	10.7	32.3	11.4	31.6	9.5	33.5	9.0	34.0
Max Q Clear Time (g_c+I1), s	5.0	10.2	5.4	5.7	10.4	12.5	7.6	15.7
Green Ext Time (p_c), s	0.1	3.2	0.1	1.0	0.0	3.7	0.0	3.0

Intersection Summary		
HCM 6th Ctrl Delay		32.5
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	575	25	502	603	70	25	125	229	20	192	154
Future Volume (veh/h)	50	575	25	502	603	70	25	125	229	20	192	154
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	50	575	25	502	603	70	25	125	229	20	192	154
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	73	878	392	639	1389	620	42	376	319	35	368	312
Arrive On Green	0.04	0.25	0.25	0.18	0.39	0.39	0.02	0.20	0.20	0.02	0.20	0.20
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	50	575	25	502	603	70	25	125	229	20	192	154
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	1.3	6.7	0.6	6.4	5.7	1.3	0.6	2.6	6.2	0.5	4.2	4.0
Cycle Q Clear(g_c), s	1.3	6.7	0.6	6.4	5.7	1.3	0.6	2.6	6.2	0.5	4.2	4.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	73	878	392	639	1389	620	42	376	319	35	368	312
V/C Ratio(X)	0.68	0.65	0.06	0.79	0.43	0.11	0.59	0.33	0.72	0.57	0.52	0.49
Avail Cap(c_a), veh/h	232	1389	620	675	1621	723	155	731	620	155	731	620
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.8	15.6	13.3	17.9	10.3	8.9	22.3	15.8	17.2	22.4	16.6	16.5
Incr Delay (d2), s/veh	10.7	0.8	0.1	5.8	0.2	0.1	12.4	0.5	3.0	13.9	1.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.4	0.2	2.7	1.8	0.4	0.4	1.0	2.2	0.3	1.7	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.5	16.4	13.3	23.7	10.5	9.0	34.7	16.3	20.2	36.3	17.7	17.7
LnGrp LOS	C	B	B	C	B	A	C	B	C	D	B	B
Approach Vol, veh/h		650			1175			379			366	
Approach Delay, s/veh		17.5			16.1			19.9			18.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.9	13.3	12.5	15.4	5.1	13.1	5.9	22.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	18.0	9.0	18.0	4.0	18.0	6.0	21.0
Max Q Clear Time (g_c+I1), s	2.5	8.2	8.4	8.7	2.6	6.2	3.3	7.7
Green Ext Time (p_c), s	0.0	1.0	0.1	2.7	0.0	1.2	0.0	3.6

Intersection Summary			
HCM 6th Ctrl Delay			17.4
HCM 6th LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	350	25	25	376	31	31	42	25	55	26	166
Future Volume (veh/h)	25	350	25	25	376	31	31	42	25	55	26	166
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	350	25	25	376	31	31	42	25	55	26	166
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	519	37	44	513	42	53	602	510	444	327	277
Arrive On Green	0.02	0.30	0.30	0.02	0.30	0.30	0.03	0.32	0.32	0.17	0.17	0.17
Sat Flow, veh/h	1781	1725	123	1781	1705	141	1781	1870	1585	1334	1870	1585
Grp Volume(v), veh/h	25	0	375	25	0	407	31	42	25	55	26	166
Grp Sat Flow(s),veh/h/ln	1781	0	1848	1781	0	1845	1781	1870	1585	1334	1870	1585
Q Serve(g_s), s	0.5	0.0	6.1	0.5	0.0	6.7	0.6	0.5	0.4	1.2	0.4	3.3
Cycle Q Clear(g_c), s	0.5	0.0	6.1	0.5	0.0	6.7	0.6	0.5	0.4	1.2	0.4	3.3
Prop In Lane	1.00		0.07	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	44	0	556	44	0	555	53	602	510	444	327	277
V/C Ratio(X)	0.57	0.00	0.67	0.57	0.00	0.73	0.58	0.07	0.05	0.12	0.08	0.60
Avail Cap(c_a), veh/h	209	0	977	209	0	975	209	1428	1210	917	989	838
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.4	0.0	10.4	16.4	0.0	10.7	16.3	8.0	8.0	12.1	11.8	13.0
Incr Delay (d2), s/veh	11.0	0.0	1.4	11.0	0.0	1.9	9.7	0.0	0.0	0.1	0.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.7	0.3	0.0	1.9	0.3	0.2	0.1	0.3	0.1	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.4	0.0	11.9	27.4	0.0	12.6	26.0	8.1	8.0	12.2	11.9	15.0
LnGrp LOS	C	A	B	C	A	B	C	A	A	B	B	B
Approach Vol, veh/h		400			432			98			247	
Approach Delay, s/veh		12.8			13.4			13.7			14.1	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		15.0	4.8	14.2	5.0	9.9	4.8	14.2
Change Period (Y+Rc), s		4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s		26.0	4.0	18.0	4.0	18.0	4.0	18.0
Max Q Clear Time (g_c+I1), s		2.5	2.5	8.1	2.6	5.3	2.5	8.7
Green Ext Time (p_c), s		0.2	0.0	1.4	0.0	0.7	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	541	407	71	25	25
Future Volume (veh/h)	20	541	407	71	25	25
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	541	407	71	25	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	37	1039	599	105	264	235
Arrive On Green	0.02	0.56	0.39	0.39	0.15	0.15
Sat Flow, veh/h	1781	1870	1551	271	1781	1585
Grp Volume(v), veh/h	20	541	0	478	25	25
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1822	1781	1585
Q Serve(g_s), s	0.3	4.9	0.0	5.9	0.3	0.4
Cycle Q Clear(g_c), s	0.3	4.9	0.0	5.9	0.3	0.4
Prop In Lane	1.00			0.15	1.00	1.00
Lane Grp Cap(c), veh/h	37	1039	0	704	264	235
V/C Ratio(X)	0.54	0.52	0.00	0.68	0.09	0.11
Avail Cap(c_a), veh/h	264	2010	0	1418	1188	1057
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.1	3.8	0.0	6.9	9.9	9.9
Incr Delay (d2), s/veh	11.9	0.4	0.0	1.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.4	0.0	1.3	0.1	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.0	4.2	0.0	8.0	10.1	10.1
LnGrp LOS	C	A	A	A	B	B
Approach Vol, veh/h		561	478		50	
Approach Delay, s/veh		4.9	8.0		10.1	
Approach LOS		A	A		B	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	19.0	8.0	4.6	14.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	29.0	18.0	4.0	21.0
Max Q Clear Time (g_c+I1), s	6.9	2.4	2.3	7.9
Green Ext Time (p_c), s	3.6	0.1	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	6.5
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	409	361	25	25	493	214	25	198	25	25	160	658
Future Volume (veh/h)	409	361	25	25	493	214	25	198	25	25	160	658
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	409	361	25	25	493	214	25	198	25	25	160	658
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	545	1189	82	42	775	346	42	766	95	137	550	933
Arrive On Green	0.16	0.35	0.35	0.02	0.22	0.22	0.02	0.24	0.24	0.08	0.29	0.29
Sat Flow, veh/h	3456	3373	233	1781	3554	1585	1781	3179	396	1781	1870	3170
Grp Volume(v), veh/h	409	189	197	25	493	214	25	110	113	25	160	658
Grp Sat Flow(s),veh/h/ln	1728	1777	1828	1781	1777	1585	1781	1777	1799	1781	1870	1585
Q Serve(g_s), s	5.9	4.0	4.1	0.7	6.6	6.4	0.7	2.6	2.7	0.7	3.4	9.6
Cycle Q Clear(g_c), s	5.9	4.0	4.1	0.7	6.6	6.4	0.7	2.6	2.7	0.7	3.4	9.6
Prop In Lane	1.00		0.13	1.00		1.00	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	545	626	645	42	775	346	42	428	433	137	550	933
V/C Ratio(X)	0.75	0.30	0.30	0.60	0.64	0.62	0.60	0.26	0.26	0.18	0.29	0.71
Avail Cap(c_a), veh/h	662	783	806	171	1226	547	171	613	620	614	1111	1883
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.0	12.2	12.3	25.2	18.5	18.4	25.2	16.0	16.0	22.6	14.2	16.4
Incr Delay (d2), s/veh	3.9	0.3	0.3	13.2	0.9	1.8	13.2	0.3	0.3	0.6	0.3	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	1.4	1.5	0.4	2.5	2.3	0.4	1.0	1.0	0.3	1.3	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.9	12.5	12.5	38.5	19.4	20.2	38.5	16.3	16.4	23.2	14.5	17.4
LnGrp LOS	C	B	B	D	B	C	D	B	B	C	B	B
Approach Vol, veh/h		795			732			248			843	
Approach Delay, s/veh		18.9			20.3			18.6			17.0	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	16.6	5.2	22.4	5.2	19.4	12.2	15.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	18.0	18.0	5.0	23.0	5.0	31.0	10.0	18.0
Max Q Clear Time (g_c+I1), s	2.7	4.7	2.7	6.1	2.7	11.6	7.9	8.6
Green Ext Time (p_c), s	0.0	1.0	0.0	2.0	0.0	3.7	0.3	2.8

Intersection Summary	
HCM 6th Ctrl Delay	18.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	283	20	20	165	400	20	25	25	154	25	548
Future Volume (veh/h)	107	283	20	20	165	400	20	25	25	154	25	548
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	283	20	20	165	400	20	25	25	154	25	548
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	1066	75	34	997	445	34	243	243	214	721	611
Arrive On Green	0.05	0.32	0.32	0.02	0.28	0.28	0.02	0.28	0.28	0.12	0.39	0.39
Sat Flow, veh/h	3456	3368	237	1781	3554	1585	1781	858	858	1781	1870	1585
Grp Volume(v), veh/h	107	149	154	20	165	400	20	0	50	154	25	548
Grp Sat Flow(s),veh/h/ln	1728	1777	1828	1781	1777	1585	1781	0	1716	1781	1870	1585
Q Serve(g_s), s	1.9	3.8	3.9	0.7	2.2	14.9	0.7	0.0	1.3	5.1	0.5	19.9
Cycle Q Clear(g_c), s	1.9	3.8	3.9	0.7	2.2	14.9	0.7	0.0	1.3	5.1	0.5	19.9
Prop In Lane	1.00		0.13	1.00		1.00	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	189	562	578	34	997	445	34	0	487	214	721	611
V/C Ratio(X)	0.57	0.26	0.27	0.60	0.17	0.90	0.60	0.00	0.10	0.72	0.03	0.90
Avail Cap(c_a), veh/h	281	562	578	116	1042	465	116	0	503	522	975	826
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.3	15.7	15.7	29.9	16.7	21.3	29.9	0.0	16.2	26.0	11.8	17.7
Incr Delay (d2), s/veh	2.7	0.2	0.2	15.8	0.1	19.7	15.8	0.0	0.1	4.5	0.0	10.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.5	1.5	0.4	0.8	7.5	0.4	0.0	0.5	2.3	0.2	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.0	15.9	15.9	45.7	16.7	40.9	45.7	0.0	16.3	30.5	11.8	27.7
LnGrp LOS	C	B	B	D	B	D	D	A	B	C	B	C
Approach Vol, veh/h		410			585			70			727	
Approach Delay, s/veh		19.8			34.3			24.7			27.8	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	21.4	5.2	23.4	5.2	27.7	7.4	21.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	18.0	18.0	4.0	19.0	4.0	32.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	7.1	3.3	2.7	5.9	2.7	21.9	3.9	16.9
Green Ext Time (p_c), s	0.3	0.1	0.0	1.4	0.0	1.7	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	28.0
HCM 6th LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	20	166	311	20	197	369
Future Volume (veh/h)	20	166	311	20	197	369
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	166	311	20	197	369
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	256	228	510	432	254	1051
Arrive On Green	0.14	0.14	0.27	0.27	0.14	0.56
Sat Flow, veh/h	1781	1585	1870	1585	1781	1870
Grp Volume(v), veh/h	20	166	311	20	197	369
Grp Sat Flow(s),veh/h/ln	1781	1585	1870	1585	1781	1870
Q Serve(g_s), s	0.3	2.7	3.9	0.3	2.9	2.9
Cycle Q Clear(g_c), s	0.3	2.7	3.9	0.3	2.9	2.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	256	228	510	432	254	1051
V/C Ratio(X)	0.08	0.73	0.61	0.05	0.78	0.35
Avail Cap(c_a), veh/h	1179	1049	1238	1049	459	1995
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.1	11.1	8.6	7.3	11.2	3.2
Incr Delay (d2), s/veh	0.1	4.4	1.2	0.0	5.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.9	1.1	0.1	1.2	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.2	15.6	9.8	7.3	16.3	3.4
LnGrp LOS	B	B	A	A	B	A
Approach Vol, veh/h	186		331			566
Approach Delay, s/veh	15.0		9.7			7.9
Approach LOS	B		A			A

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	7.9	11.4				19.3		7.9
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	7.0	18.0				29.0		18.0
Max Q Clear Time (g_c+I1), s	4.9	5.9				4.9		4.7
Green Ext Time (p_c), s	0.1	1.5				2.3		0.4

Intersection Summary		
HCM 6th Ctrl Delay		9.7
HCM 6th LOS		A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	388	107	25	250	450	381
Future Volume (veh/h)	388	107	25	250	450	381
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	388	107	25	250	450	381
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	509	453	44	926	675	572
Arrive On Green	0.29	0.29	0.02	0.49	0.36	0.36
Sat Flow, veh/h	1781	1585	1781	1870	1870	1585
Grp Volume(v), veh/h	388	107	25	250	450	381
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1585
Q Serve(g_s), s	7.3	1.9	0.5	2.8	7.4	7.4
Cycle Q Clear(g_c), s	7.3	1.9	0.5	2.8	7.4	7.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	509	453	44	926	675	572
V/C Ratio(X)	0.76	0.24	0.57	0.27	0.67	0.67
Avail Cap(c_a), veh/h	975	868	195	1639	1229	1041
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.9	10.0	17.6	5.4	9.8	9.8
Incr Delay (d2), s/veh	2.4	0.3	11.2	0.2	1.1	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.3	0.7	2.4	2.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.3	10.2	28.9	5.5	11.0	11.2
LnGrp LOS	B	B	C	A	B	B
Approach Vol, veh/h	495			275	831	
Approach Delay, s/veh	13.4			7.7	11.1	
Approach LOS	B			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		22.1		14.4	4.9	17.2
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		32.0		20.0	4.0	24.0
Max Q Clear Time (g_c+I1), s		4.8		9.3	2.5	9.4
Green Ext Time (p_c), s		1.5		1.3	0.0	3.8

Intersection Summary			
HCM 6th Ctrl Delay			11.2
HCM 6th LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	25	51	20	80	20	76	229	25	20	400	25
Future Volume (veh/h)	26	25	51	20	80	20	76	229	25	20	400	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	25	51	20	80	20	76	229	25	20	400	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	60	123	36	150	38	109	652	552	36	575	487
Arrive On Green	0.03	0.11	0.11	0.02	0.10	0.10	0.06	0.35	0.35	0.02	0.31	0.31
Sat Flow, veh/h	1781	549	1120	1781	1444	361	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	26	0	76	20	0	100	76	229	25	20	400	25
Grp Sat Flow(s),veh/h/ln	1781	0	1669	1781	0	1805	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.5	0.0	1.4	0.4	0.0	1.7	1.3	2.9	0.3	0.4	6.0	0.4
Cycle Q Clear(g_c), s	0.5	0.0	1.4	0.4	0.0	1.7	1.3	2.9	0.3	0.4	6.0	0.4
Prop In Lane	1.00		0.67	1.00		0.20	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	46	0	183	36	0	188	109	652	552	36	575	487
V/C Ratio(X)	0.57	0.00	0.42	0.55	0.00	0.53	0.69	0.35	0.05	0.55	0.70	0.05
Avail Cap(c_a), veh/h	223	0	941	223	0	1018	223	1055	894	223	1055	894
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.4	0.0	13.3	15.5	0.0	13.6	14.7	7.7	6.9	15.5	9.7	7.8
Incr Delay (d2), s/veh	10.5	0.0	1.5	12.4	0.0	2.3	7.7	0.3	0.0	12.4	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.5	0.2	0.0	0.7	0.7	0.8	0.1	0.2	1.9	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.8	0.0	14.8	27.9	0.0	15.9	22.3	8.0	6.9	27.9	11.3	7.8
LnGrp LOS	C	A	B	C	A	B	C	A	A	C	B	A
Approach Vol, veh/h		102			120			330			445	
Approach Delay, s/veh		17.6			17.9			11.3			11.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.6	15.1	4.6	7.5	6.0	13.8	4.8	7.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	18.0	4.0	18.0	4.0	18.0	4.0	18.0
Max Q Clear Time (g_c+I1), s	2.4	4.9	2.4	3.4	3.3	8.0	2.5	3.7
Green Ext Time (p_c), s	0.0	1.1	0.0	0.3	0.0	1.8	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	13.0
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	524	102	125	750	350	23	59	139	219	156	25
Future Volume (veh/h)	20	524	102	125	750	350	23	59	139	219	156	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	524	102	125	750	350	23	59	139	219	156	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	33	640	542	273	891	755	224	188	159	267	233	197
Arrive On Green	0.02	0.34	0.34	0.15	0.48	0.48	0.13	0.10	0.10	0.15	0.12	0.12
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	20	524	102	125	750	350	23	59	139	219	156	25
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.7	16.1	2.8	4.0	22.1	4.4	0.7	1.8	3.7	7.5	5.0	0.9
Cycle Q Clear(g_c), s	0.7	16.1	2.8	4.0	22.1	4.4	0.7	1.8	3.7	7.5	5.0	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	33	640	542	273	891	755	224	188	159	267	233	197
V/C Ratio(X)	0.60	0.82	0.19	0.46	0.84	0.46	0.10	0.31	0.87	0.82	0.67	0.13
Avail Cap(c_a), veh/h	113	1010	856	273	1159	982	224	565	478	340	773	655
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.6	18.9	14.6	24.3	14.4	2.5	24.4	26.3	13.2	25.9	26.3	24.5
Incr Delay (d2), s/veh	16.0	3.0	0.2	1.2	4.5	0.4	0.2	0.9	13.6	11.8	3.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.8	1.0	1.7	9.0	2.4	0.3	0.8	2.5	3.9	2.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.6	21.9	14.7	25.5	18.9	2.9	24.6	27.2	26.8	37.8	29.6	24.8
LnGrp LOS	D	C	B	C	B	A	C	C	C	D	C	C
Approach Vol, veh/h		646			1225			221			400	
Approach Delay, s/veh		21.6			15.0			26.7			33.8	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	10.3	13.7	25.5	11.9	11.8	5.2	34.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	12.0	19.0	9.0	34.0	5.0	26.0	4.0	39.0
Max Q Clear Time (g_c+I1), s	9.5	5.7	6.0	18.1	2.7	7.0	2.7	24.1
Green Ext Time (p_c), s	0.2	0.6	0.1	3.4	0.0	0.8	0.0	5.9

Intersection Summary	
HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	20	20	25	20	111	20	25	20	235	93	25
Future Volume (veh/h)	20	20	20	25	20	111	20	25	20	235	93	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	20	20	25	20	111	20	25	20	235	93	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	463	243	206	476	243	206	37	324	274	316	617	523
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.02	0.17	0.17	0.18	0.33	0.33
Sat Flow, veh/h	1259	1870	1585	1367	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	20	20	20	25	20	111	20	25	20	235	93	25
Grp Sat Flow(s),veh/h/ln	1259	1870	1585	1367	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.3	0.2	0.3	0.4	0.2	1.5	0.3	0.3	0.2	2.9	0.8	0.2
Cycle Q Clear(g_c), s	0.5	0.2	0.3	0.6	0.2	1.5	0.3	0.3	0.2	2.9	0.8	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	463	243	206	476	243	206	37	324	274	316	617	523
V/C Ratio(X)	0.04	0.08	0.10	0.05	0.08	0.54	0.54	0.08	0.07	0.74	0.15	0.05
Avail Cap(c_a), veh/h	1281	1457	1235	1364	1457	1235	308	1457	1235	925	2105	1784
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.1	8.8	8.9	9.1	8.8	9.4	11.2	8.0	8.0	9.0	5.5	5.3
Incr Delay (d2), s/veh	0.0	0.1	0.2	0.0	0.1	2.2	11.6	0.1	0.1	3.4	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.1	0.1	0.1	0.4	0.2	0.1	0.1	0.9	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.1	9.0	9.1	9.1	9.0	11.6	22.8	8.1	8.1	12.4	5.6	5.3
LnGrp LOS	A	A	A	A	A	B	C	A	A	B	A	A
Approach Vol, veh/h		60			156			65			353	
Approach Delay, s/veh		9.1			10.9			12.6			10.1	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.1	8.0		7.0	4.5	11.6		7.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	12.0	18.0		18.0	4.0	26.0		18.0
Max Q Clear Time (g_c+I1), s	4.9	2.3		2.5	2.3	2.8		3.5
Green Ext Time (p_c), s	0.4	0.1		0.1	0.0	0.5		0.4

Intersection Summary		
HCM 6th Ctrl Delay		10.5
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	25	21	334	20	20	83	25	25	20	106	20
Future Volume (veh/h)	20	25	21	334	20	20	83	25	25	20	106	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	25	21	334	20	20	83	25	25	20	106	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	36	142	120	430	555	471	115	321	272	36	238	202
Arrive On Green	0.02	0.08	0.08	0.24	0.30	0.30	0.06	0.17	0.17	0.02	0.13	0.13
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	20	25	21	334	20	20	83	25	25	20	106	20
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.4	0.4	0.4	5.7	0.2	0.3	1.5	0.4	0.4	0.4	1.7	0.4
Cycle Q Clear(g_c), s	0.4	0.4	0.4	5.7	0.2	0.3	1.5	0.4	0.4	0.4	1.7	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	36	142	120	430	555	471	115	321	272	36	238	202
V/C Ratio(X)	0.55	0.18	0.18	0.78	0.04	0.04	0.72	0.08	0.09	0.55	0.45	0.10
Avail Cap(c_a), veh/h	219	1032	875	765	1606	1361	219	1032	875	219	1032	875
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.8	14.1	14.1	11.5	8.1	8.2	15.0	11.3	11.4	15.8	13.2	12.6
Incr Delay (d2), s/veh	12.5	0.6	0.7	3.0	0.0	0.0	8.1	0.1	0.1	12.5	1.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.1	2.0	0.1	0.1	0.7	0.1	0.1	0.2	0.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.3	14.7	14.8	14.6	8.2	8.2	23.0	11.4	11.5	28.3	14.5	12.8
LnGrp LOS	C	B	B	B	A	A	C	B	B	C	B	B
Approach Vol, veh/h		66			374			133			146	
Approach Delay, s/veh		18.9			13.9			18.7			16.1	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.7	9.6	11.9	6.5	6.1	8.2	4.7	13.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	18.0	14.0	18.0	4.0	18.0	4.0	28.0
Max Q Clear Time (g_c+I1), s	2.4	2.4	7.7	2.4	3.5	3.7	2.4	2.3
Green Ext Time (p_c), s	0.0	0.1	0.6	0.1	0.0	0.4	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	15.7
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1491	0	91	0	25	1825	0	25	446
Future Volume (veh/h)	0	0	0	1491	0	91	0	25	1825	0	25	446
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				1491	0	0	0	25	1825	0	25	446
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Cap, veh/h				1952	0		0	1850	2471	0	2658	825
Arrive On Green				0.37	0.00	0.00	0.00	0.52	0.52	0.00	0.52	0.52
Sat Flow, veh/h				5344	0	1585	0	3647	2790	0	5274	1585
Grp Volume(v), veh/h				1491	0	0	0	25	1825	0	25	446
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1777	1395	0	1702	1585
Q Serve(g_s), s				17.2	0.0	0.0	0.0	0.2	15.1	0.0	0.2	13.1
Cycle Q Clear(g_c), s				17.2	0.0	0.0	0.0	0.2	15.1	0.0	0.2	13.1
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				1952	0		0	1850	2471	0	2658	825
V/C Ratio(X)				0.76	0.00		0.00	0.01	0.74	0.00	0.01	0.54
Avail Cap(c_a), veh/h				2825	0		0	1850	2471	0	2658	825
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	0.57	0.57	0.00	0.88	0.88
Uniform Delay (d), s/veh				19.6	0.0	0.0	0.0	8.1	1.3	0.0	8.1	11.2
Incr Delay (d2), s/veh				0.8	0.0	0.0	0.0	0.0	1.2	0.0	0.0	2.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.7	0.0	0.0	0.0	0.1	0.4	0.0	0.1	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				20.3	0.0	0.0	0.0	8.1	2.5	0.0	8.1	13.4
LnGrp LOS				C	A		A	A	A	A	A	B
Approach Vol, veh/h					1491	A		1850			471	
Approach Delay, s/veh					20.3			2.6			13.2	
Approach LOS					C			A			B	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		40.4				40.4		29.6				
Change Period (Y+Rc), s		4.0				4.0		4.0				
Max Green Setting (Gmax), s		25.0				25.0		37.0				
Max Q Clear Time (g_c+I1), s		17.1				15.1		19.2				
Green Ext Time (p_c), s		5.4				1.3		6.4				

Intersection Summary			
HCM 6th Ctrl Delay			10.8
HCM 6th LOS			B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	0	580	0	0	0	0	1826	714	0	1554	20
Future Volume (veh/h)	25	0	580	0	0	0	0	1826	714	0	1554	20
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	25	0	0				0	1826	714	0	1554	20
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	2
Cap, veh/h	39	0					0	4410	2409	0	4410	1369
Arrive On Green	0.02	0.00	0.00				0.00	0.86	0.86	0.00	0.29	0.29
Sat Flow, veh/h	1781	0	1585				0	5274	2790	0	5274	1585
Grp Volume(v), veh/h	25	0	0				0	1826	714	0	1554	20
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1395	0	1702	1585
Q Serve(g_s), s	1.0	0.0	0.0				0.0	5.3	3.3	0.0	16.9	0.6
Cycle Q Clear(g_c), s	1.0	0.0	0.0				0.0	5.3	3.3	0.0	16.9	0.6
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	39	0					0	4410	2409	0	4410	1369
V/C Ratio(X)	0.64	0.00					0.00	0.41	0.30	0.00	0.35	0.01
Avail Cap(c_a), veh/h	789	0					0	4410	2409	0	4410	1369
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	0.33	0.33
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.68	0.68	0.00	0.92	0.92
Uniform Delay (d), s/veh	34.0	0.0	0.0				0.0	1.0	0.9	0.0	9.5	3.6
Incr Delay (d2), s/veh	15.9	0.0	0.0				0.0	0.2	0.2	0.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0				0.0	0.1	0.1	0.0	6.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.9	0.0	0.0				0.0	1.2	1.1	0.0	9.7	3.7
LnGrp LOS	D	A					A	A	A	A	A	A
Approach Vol, veh/h		25	A					2540			1574	
Approach Delay, s/veh		49.9						1.2			9.6	
Approach LOS		D						A			A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		64.5		5.5		64.5
Change Period (Y+Rc), s		4.0		4.0		4.0
Max Green Setting (Gmax), s		31.0		31.0		31.0
Max Q Clear Time (g_c+I1), s		7.3		3.0		18.9
Green Ext Time (p_c), s		18.3		0.1		8.2

Intersection Summary	
HCM 6th Ctrl Delay	4.7
HCM 6th LOS	A

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	857	25	25	20	25	59	20	1700	100	25	792	1341
Future Volume (veh/h)	857	25	25	20	25	59	20	1700	100	25	792	1341
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	857	25	0	20	25	0	20	1700	100	25	792	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	933	107		750	547		144	1746	430	39	1085	
Arrive On Green	0.19	0.06	0.00	0.42	0.29	0.00	0.08	0.27	0.27	0.03	0.28	0.00
Sat Flow, veh/h	5023	1870	1585	1781	1870	1585	1781	6434	1585	1781	5106	2790
Grp Volume(v), veh/h	857	25	0	20	25	0	20	1700	100	25	792	0
Grp Sat Flow(s),veh/h/ln	1674	1870	1585	1781	1870	1585	1781	1609	1585	1781	1702	1395
Q Serve(g_s), s	11.7	0.9	0.0	0.5	0.7	0.0	0.7	18.3	0.9	1.0	9.8	0.0
Cycle Q Clear(g_c), s	11.7	0.9	0.0	0.5	0.7	0.0	0.7	18.3	0.9	1.0	9.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	933	107		750	547		144	1746	430	39	1085	
V/C Ratio(X)	0.92	0.23		0.03	0.05		0.14	0.97	0.23	0.64	0.73	
Avail Cap(c_a), veh/h	933	721		750	547		144	1746	430	102	1386	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.94	0.94	0.94	0.64	0.64	0.00
Uniform Delay (d), s/veh	28.0	31.5	0.0	11.9	17.8	0.0	29.9	25.3	1.4	33.7	23.3	0.0
Incr Delay (d2), s/veh	13.8	5.1	0.0	0.0	0.0	0.0	0.4	15.1	0.3	10.5	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	0.5	0.0	0.2	0.3	0.0	0.3	8.3	1.2	0.5	3.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.8	36.6	0.0	11.9	17.8	0.0	30.3	40.3	1.7	44.2	24.2	0.0
LnGrp LOS	D	D		B	B		C	D	A	D	C	
Approach Vol, veh/h		882	A		45	A		1820			817	A
Approach Delay, s/veh		41.6			15.2			38.1			24.8	
Approach LOS		D			B			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.5	8.0	9.7	18.9	17.0	24.5	5.5	23.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	27.0	4.0	19.0	13.0	18.0	4.0	19.0
Max Q Clear Time (g_c+I1), s	12.5	2.9	2.7	11.8	13.7	2.7	3.0	20.3
Green Ext Time (p_c), s	0.0	0.1	0.0	3.1	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	35.6
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	378	444	381	1400	435	83
Future Volume (veh/h)	378	444	381	1400	435	83
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	378	444	381	1400	435	83
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3088	959	506	3891	1411	445
Arrive On Green	1.00	1.00	0.60	0.60	0.28	0.28
Sat Flow, veh/h	5274	1585	666	6696	5023	1585
Grp Volume(v), veh/h	378	444	381	1400	435	83
Grp Sat Flow(s),veh/h/ln	1702	1585	666	1609	1674	1585
Q Serve(g_s), s	0.0	0.0	37.0	7.7	4.8	2.8
Cycle Q Clear(g_c), s	0.0	0.0	37.0	7.7	4.8	2.8
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	3088	959	506	3891	1411	445
V/C Ratio(X)	0.12	0.46	0.75	0.36	0.31	0.19
Avail Cap(c_a), veh/h	3137	974	512	3952	1411	445
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.83	0.83	0.85	0.85
Uniform Delay (d), s/veh	0.0	0.0	12.8	7.0	19.8	19.1
Incr Delay (d2), s/veh	0.0	0.3	5.2	0.0	0.5	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.1	4.4	1.9	1.8	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.3	18.0	7.0	20.3	19.9
LnGrp LOS	A	A	B	A	C	B
Approach Vol, veh/h	822			1781	518	
Approach Delay, s/veh	0.2			9.4	20.2	
Approach LOS	A			A	C	

Timer - Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		23.7		46.3				46.3
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		19.0		43.0				43.0
Max Q Clear Time (g_c+I1), s		6.8		2.0				39.0
Green Ext Time (p_c), s		1.6		4.2				3.3

Intersection Summary	
HCM 6th Ctrl Delay	8.8
HCM 6th LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	146	737	25	515	842	20
Future Volume (veh/h)	146	737	25	515	842	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	146	737	25	515	842	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	488	1225	41	658	912	811
Arrive On Green	0.26	0.26	0.02	0.35	0.51	0.51
Sat Flow, veh/h	1870	1585	1781	1870	1781	1585
Grp Volume(v), veh/h	146	737	25	515	842	20
Grp Sat Flow(s),veh/h/ln	1870	1585	1781	1870	1781	1585
Q Serve(g_s), s	3.7	11.6	0.8	14.5	25.7	0.4
Cycle Q Clear(g_c), s	3.7	11.6	0.8	14.5	25.7	0.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	488	1225	41	658	912	811
V/C Ratio(X)	0.30	0.60	0.62	0.78	0.92	0.02
Avail Cap(c_a), veh/h	573	1297	121	828	1092	972
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.4	2.8	28.4	17.0	13.3	7.1
Incr Delay (d2), s/veh	0.3	0.7	14.1	3.8	11.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	10.1	0.5	6.2	11.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.7	3.5	42.6	20.9	24.8	7.1
LnGrp LOS	B	A	D	C	C	A
Approach Vol, veh/h	883			540	862	
Approach Delay, s/veh	5.9			21.9	24.3	
Approach LOS	A			C	C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		34.1	5.3	19.3				24.7
Change Period (Y+Rc), s		4.0	4.0	4.0				4.0
Max Green Setting (Gmax), s		36.0	4.0	18.0				26.0
Max Q Clear Time (g_c+I1), s		27.7	2.8	13.6				16.5
Green Ext Time (p_c), s		2.3	0.0	1.7				2.3

Intersection Summary		
HCM 6th Ctrl Delay		16.6
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	118	25	20	376	20	17	20	20	25	20	138
Future Volume (veh/h)	25	118	25	20	376	20	17	20	20	25	20	138
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	118	25	20	376	20	17	20	20	25	20	138
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	552	468	36	543	460	31	141	141	44	35	243
Arrive On Green	0.02	0.29	0.29	0.02	0.29	0.29	0.02	0.16	0.16	0.02	0.17	0.17
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	858	858	1781	205	1412
Grp Volume(v), veh/h	25	118	25	20	376	20	17	0	40	25	0	158
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	0	1716	1781	0	1616
Q Serve(g_s), s	0.4	1.5	0.4	0.4	5.8	0.3	0.3	0.0	0.6	0.4	0.0	2.9
Cycle Q Clear(g_c), s	0.4	1.5	0.4	0.4	5.8	0.3	0.3	0.0	0.6	0.4	0.0	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		0.87
Lane Grp Cap(c), veh/h	44	552	468	36	543	460	31	0	282	44	0	278
V/C Ratio(X)	0.56	0.21	0.05	0.55	0.69	0.04	0.54	0.00	0.14	0.56	0.00	0.57
Avail Cap(c_a), veh/h	221	1042	883	221	1042	883	221	0	956	221	0	901
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.6	8.6	8.2	15.7	10.2	8.2	15.7	0.0	11.5	15.6	0.0	12.3
Incr Delay (d2), s/veh	10.8	0.2	0.0	12.5	1.6	0.0	14.0	0.0	0.2	10.8	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.5	0.1	0.2	1.9	0.1	0.2	0.0	0.2	0.3	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.3	8.8	8.2	28.1	11.8	8.3	29.7	0.0	11.8	26.3	0.0	14.1
LnGrp LOS	C	A	A	C	B	A	C	A	B	C	A	B
Approach Vol, veh/h		168			416			57			183	
Approach Delay, s/veh		11.3			12.4			17.1			15.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.8	9.3	4.7	13.5	4.6	9.6	4.8	13.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	18.0	4.0	18.0	4.0	18.0	4.0	18.0
Max Q Clear Time (g_c+I1), s	2.4	2.6	2.4	3.5	2.3	4.9	2.4	7.8
Green Ext Time (p_c), s	0.0	0.1	0.0	0.5	0.0	0.7	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	894	971	23	58	58
Future Volume (veh/h)	25	894	971	23	58	58
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	25	894	971	23	58	58
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	474	1766	1766	788	294	262
Arrive On Green	0.50	0.50	0.50	0.50	0.17	0.17
Sat Flow, veh/h	562	3618	3618	1572	1767	1572
Grp Volume(v), veh/h	25	894	971	23	58	58
Grp Sat Flow(s),veh/h/ln	562	1763	1763	1572	1767	1572
Q Serve(g_s), s	0.8	4.1	4.6	0.2	0.7	0.8
Cycle Q Clear(g_c), s	5.3	4.1	4.6	0.2	0.7	0.8
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	474	1766	1766	788	294	262
V/C Ratio(X)	0.05	0.51	0.55	0.03	0.20	0.22
Avail Cap(c_a), veh/h	637	2786	2786	1243	1323	1177
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.0	4.0	4.1	3.0	8.6	8.7
Incr Delay (d2), s/veh	0.0	0.2	0.3	0.0	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.1	0.0	0.2	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.0	4.2	4.4	3.1	9.0	9.1
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h		919	994		116	
Approach Delay, s/veh		4.3	4.4		9.0	
Approach LOS		A	A		A	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	16.0	8.0	16.0
Change Period (Y+Rc), s	4.0	4.0	4.0
Max Green Setting (Gmax), s	19.0	18.0	19.0
Max Q Clear Time (g_c+I1), s	7.3	2.8	6.6
Green Ext Time (p_c), s	4.7	0.2	5.2

Intersection Summary	
HCM 6th Ctrl Delay	4.6
HCM 6th LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	225	225	41	878	354	20
Future Volume (veh/h)	225	225	41	878	354	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	225	225	41	878	354	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	755	640	112	1005	448	398
Arrive On Green	0.41	0.41	0.06	0.54	0.25	0.25
Sat Flow, veh/h	1856	1572	1767	1856	1767	1572
Grp Volume(v), veh/h	225	225	41	878	354	20
Grp Sat Flow(s),veh/h/ln	1856	1572	1767	1856	1767	1572
Q Serve(g_s), s	4.0	4.8	1.1	20.1	9.1	0.5
Cycle Q Clear(g_c), s	4.0	4.8	1.1	20.1	9.1	0.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	755	640	112	1005	448	398
V/C Ratio(X)	0.30	0.35	0.37	0.87	0.79	0.05
Avail Cap(c_a), veh/h	939	796	210	1311	760	677
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.8	10.0	21.9	9.7	17.0	13.8
Incr Delay (d2), s/veh	0.3	0.4	0.7	5.7	3.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.3	0.4	6.4	3.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.0	10.4	22.7	15.5	20.8	13.8
LnGrp LOS	B	B	C	B	C	B
Approach Vol, veh/h	450			919	374	
Approach Delay, s/veh	10.2			15.8	20.5	
Approach LOS	B			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		31.5		17.4	6.6	24.9
Change Period (Y+Rc), s		* 5		5.0	3.5	5.0
Max Green Setting (Gmax), s		* 35		21.0	5.8	24.7
Max Q Clear Time (g_c+I1), s		22.1		11.1	3.1	6.8
Green Ext Time (p_c), s		4.4		1.3	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	15.3
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	439	0	152	1300	25	324	43	29	25	99	134
Future Volume (veh/h)	26	439	0	152	1300	25	324	43	29	25	99	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	26	439	0	152	1300	0	324	43	0	25	99	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	228	1855		404	2192		534	699		263	420	
Arrive On Green	0.07	0.37	0.00	0.12	0.43	0.00	0.16	0.20	0.00	0.08	0.12	0.00
Sat Flow, veh/h	3428	5066	1572	3428	5066	1572	3428	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	26	439	0	152	1300	0	324	43	0	25	99	0
Grp Sat Flow(s),veh/h/ln	1714	1689	1572	1714	1689	1572	1714	1763	1572	1714	1763	1572
Q Serve(g_s), s	0.5	3.9	0.0	2.7	12.8	0.0	5.8	0.6	0.0	0.4	1.7	0.0
Cycle Q Clear(g_c), s	0.5	3.9	0.0	2.7	12.8	0.0	5.8	0.6	0.0	0.4	1.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	228	1855		404	2192		534	699		263	420	
V/C Ratio(X)	0.11	0.24		0.38	0.59		0.61	0.06		0.10	0.24	
Avail Cap(c_a), veh/h	424	2704		424	2782		732	2474		528	2264	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.8	14.4	0.0	26.7	14.2	0.0	25.8	21.3	0.0	28.2	26.2	0.0
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.2	0.6	0.0	0.4	0.1	0.0	0.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.3	0.0	1.0	4.0	0.0	2.2	0.3	0.0	0.2	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.9	14.6	0.0	26.9	14.7	0.0	26.2	21.4	0.0	28.3	26.5	0.0
LnGrp LOS	C	B		C	B		C	C		C	C	
Approach Vol, veh/h		465	A		1452	A		367	A		124	A
Approach Delay, s/veh		15.4			16.0			25.6			26.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.1	28.0	13.6	11.8	7.8	32.4	8.4	17.0
Change Period (Y+Rc), s	6.5	6.1	5.5	6.1	5.5	6.1	5.5	6.1
Max Green Setting (Gmax), s	6.0	32.9	11.9	40.0	6.0	33.9	8.0	43.9
Max Q Clear Time (g_c+I1), s	4.7	5.9	7.8	3.7	2.5	14.8	2.4	2.6
Green Ext Time (p_c), s	0.0	4.1	0.4	0.4	0.0	11.4	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	17.9
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	130	238	33	204	9	380	379	11	1	84	158
Future Volume (veh/h)	25	130	238	33	204	9	380	379	11	1	84	158
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	25	130	238	33	204	9	380	379	11	1	84	158
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	459	342	289	549	390	331	545	1017	316	459	888	697
Arrive On Green	0.13	0.18	0.18	0.16	0.21	0.21	0.11	0.20	0.20	0.13	0.25	0.25
Sat Flow, veh/h	3428	1856	1572	3428	1856	1572	4983	5066	1572	3428	3526	2768
Grp Volume(v), veh/h	25	130	238	33	204	9	380	379	11	1	84	158
Grp Sat Flow(s),veh/h/ln	1714	1856	1572	1714	1856	1572	1661	1689	1572	1714	1763	1384
Q Serve(g_s), s	0.5	4.6	10.9	0.6	7.3	0.3	5.5	4.8	0.4	0.0	1.4	3.4
Cycle Q Clear(g_c), s	0.5	4.6	10.9	0.6	7.3	0.3	5.5	4.8	0.4	0.0	1.4	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	459	342	289	549	390	331	545	1017	316	459	888	697
V/C Ratio(X)	0.05	0.38	0.82	0.06	0.52	0.03	0.70	0.37	0.03	0.00	0.09	0.23
Avail Cap(c_a), veh/h	459	497	421	1147	820	695	867	2238	695	459	1510	1185
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	26.7	29.3	26.6	26.2	23.4	32.1	25.8	24.0	28.0	21.4	22.2
Incr Delay (d2), s/veh	0.1	0.7	8.3	0.0	0.4	0.0	1.6	0.2	0.0	0.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.0	4.4	0.2	3.1	0.1	2.1	1.8	0.1	0.0	0.5	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.3	27.4	37.6	26.6	26.6	23.4	33.7	26.0	24.1	28.0	21.5	22.4
LnGrp LOS	C	C	D	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		393			246			770			243	
Approach Delay, s/veh		33.7			26.5			29.8			22.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	19.8	12.2	24.8	16.0	21.7	16.0	21.0
Change Period (Y+Rc), s	6.0	* 6	4.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	25.0	* 20	13.0	32.0	10.0	33.0	10.0	33.0
Max Q Clear Time (g_c+I1), s	12.6	12.9	7.5	5.4	2.5	9.3	2.0	6.8
Green Ext Time (p_c), s	0.0	0.9	0.7	1.3	0.0	0.7	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	29.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	53	25	99	355	208	192	263	57	70	184	25
Future Volume (veh/h)	20	53	25	99	355	208	192	263	57	70	184	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	53	25	99	355	208	192	263	57	70	184	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	36	431	365	124	523	443	247	743	332	99	448	200
Arrive On Green	0.02	0.23	0.23	0.07	0.28	0.28	0.14	0.21	0.21	0.06	0.13	0.13
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	20	53	25	99	355	208	192	263	57	70	184	25
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.4	0.8	0.5	2.0	6.2	4.0	3.8	2.3	1.1	1.4	1.8	0.5
Cycle Q Clear(g_c), s	0.4	0.8	0.5	2.0	6.2	4.0	3.8	2.3	1.1	1.4	1.8	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	36	431	365	124	523	443	247	743	332	99	448	200
V/C Ratio(X)	0.56	0.12	0.07	0.80	0.68	0.47	0.78	0.35	0.17	0.71	0.41	0.13
Avail Cap(c_a), veh/h	194	916	777	194	916	777	388	2031	906	291	1838	820
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.8	11.2	11.1	16.8	11.8	11.0	15.3	12.4	11.9	17.1	14.8	14.3
Incr Delay (d2), s/veh	12.9	0.1	0.1	12.0	1.6	0.8	5.2	0.3	0.2	8.9	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.3	0.1	1.1	2.2	1.2	1.6	0.8	0.3	0.7	0.6	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.7	11.3	11.1	28.8	13.3	11.7	20.5	12.7	12.2	25.9	15.4	14.5
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		98			662			512			279	
Approach Delay, s/veh		15.2			15.1			15.6			18.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	11.7	6.6	12.5	9.1	8.6	4.7	14.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	21.0	4.0	18.0	8.0	19.0	4.0	18.0
Max Q Clear Time (g_c+I1), s	3.4	4.3	4.0	2.8	5.8	3.8	2.4	8.2
Green Ext Time (p_c), s	0.0	1.6	0.0	0.2	0.1	0.9	0.0	2.1

Intersection Summary			
HCM 6th Ctrl Delay			15.8
HCM 6th LOS			B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	225	28	483	28	25	282
Future Volume (veh/h)	225	28	483	28	25	282
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	225	28	483	28	25	282
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	335	298	1315	587	638	1315
Arrive On Green	0.19	0.19	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1781	1585	3647	1585	889	3647
Grp Volume(v), veh/h	225	28	483	28	25	282
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	889	1777
Q Serve(g_s), s	2.1	0.3	1.8	0.2	0.4	1.0
Cycle Q Clear(g_c), s	2.1	0.3	1.8	0.2	2.2	1.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	335	298	1315	587	638	1315
V/C Ratio(X)	0.67	0.09	0.37	0.05	0.04	0.21
Avail Cap(c_a), veh/h	1770	1575	3728	1663	1242	3728
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.8	6.1	4.2	3.7	5.0	3.9
Incr Delay (d2), s/veh	2.3	0.1	0.2	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.2	6.2	4.3	3.7	5.0	4.0
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	253		511			307
Approach Delay, s/veh	8.8		4.3			4.1
Approach LOS	A		A			A

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	10.7	10.7	7.4
Change Period (Y+Rc), s	4.0	4.0	4.0
Max Green Setting (Gmax), s	19.0	19.0	18.0
Max Q Clear Time (g_c+I1), s	3.8	4.2	4.1
Green Ext Time (p_c), s	2.9	1.5	0.6

Intersection Summary	
HCM 6th Ctrl Delay	5.3
HCM 6th LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	100	166	734	21	25	420
Future Volume (veh/h)	100	166	734	21	25	420
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	100	166	734	21	25	420
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	245	218	920	410	759	2635
Arrive On Green	0.14	0.14	0.52	0.52	0.43	0.75
Sat Flow, veh/h	1767	1572	3618	1572	1767	3618
Grp Volume(v), veh/h	100	166	734	21	25	420
Grp Sat Flow(s),veh/h/ln	1767	1572	1763	1572	1767	1763
Q Serve(g_s), s	3.6	7.1	11.9	0.5	0.6	2.4
Cycle Q Clear(g_c), s	3.6	7.1	11.9	0.5	0.6	2.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	245	218	920	410	759	2635
V/C Ratio(X)	0.41	0.76	0.80	0.05	0.03	0.16
Avail Cap(c_a), veh/h	530	472	1561	696	759	2635
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.99	0.99	0.97	0.97
Uniform Delay (d), s/veh	27.5	29.0	15.2	12.5	11.6	2.5
Incr Delay (d2), s/veh	1.1	5.5	7.1	0.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	2.9	3.9	0.2	0.2	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.6	34.5	22.3	12.7	11.6	2.7
LnGrp LOS	C	C	C	B	B	A
Approach Vol, veh/h	266		755			445
Approach Delay, s/veh	32.3		22.1			3.2
Approach LOS	C		C			A

Timer - Assigned Phs	1	2			6		8
Phs Duration (G+Y+Rc), s	34.0	22.3			56.3		13.7
Change Period (Y+Rc), s	4.0	4.0			4.0		4.0
Max Green Setting (Gmax), s	6.0	31.0			41.0		21.0
Max Q Clear Time (g_c+I1), s	2.6	13.9			4.4		9.1
Green Ext Time (p_c), s	0.0	4.3			2.7		0.6

Intersection Summary		
HCM 6th Ctrl Delay		18.2
HCM 6th LOS		B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	34	82	264	558	396	176
Future Volume (veh/h)	34	82	264	558	396	176
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	82	264	558	396	176
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	132	118	308	2884	2065	921
Arrive On Green	0.07	0.07	0.35	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	34	82	264	558	396	176
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	1.3	3.5	9.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.3	3.5	9.6	0.0	0.0	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	132	118	308	2884	2065	921
V/C Ratio(X)	0.26	0.70	0.86	0.19	0.19	0.19
Avail Cap(c_a), veh/h	458	408	483	2884	2065	921
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.94	0.94	0.99	0.99
Uniform Delay (d), s/veh	30.6	31.6	22.1	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.0	7.2	8.3	0.1	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.3	3.7	0.1	0.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.6	38.8	30.4	0.1	0.2	0.5
LnGrp LOS	C	D	C	A	A	A
Approach Vol, veh/h	116			822	572	
Approach Delay, s/veh	36.7			9.9	0.3	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		60.8		9.2	16.1	44.7
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		44.0		18.0	19.0	21.0
Max Q Clear Time (g_c+I1), s		2.0		5.5	11.6	2.0
Green Ext Time (p_c), s		2.5		0.3	0.6	2.3

Intersection Summary			
HCM 6th Ctrl Delay			8.3
HCM 6th LOS			A

Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	36	282	537	22	64	459		
Future Volume (veh/h)	36	282	537	22	64	459		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach	No		No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870		
Adj Flow Rate, veh/h	36	282	537	22	64	459		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	377	336	2395	1068	627	2395		
Arrive On Green	0.21	0.21	0.67	0.67	1.00	1.00		
Sat Flow, veh/h	1781	1585	3647	1585	850	3647		
Grp Volume(v), veh/h	36	282	537	22	64	459		
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	850	1777		
Q Serve(g_s), s	1.1	11.9	4.1	0.3	0.5	0.0		
Cycle Q Clear(g_c), s	1.1	11.9	4.1	0.3	4.6	0.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	377	336	2395	1068	627	2395		
V/C Ratio(X)	0.10	0.84	0.22	0.02	0.10	0.19		
Avail Cap(c_a), veh/h	789	702	2395	1068	627	2395		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.98	0.98	0.98	0.98		
Uniform Delay (d), s/veh	22.2	26.5	4.4	3.8	0.2	0.0		
Incr Delay (d2), s/veh	0.1	5.6	0.2	0.0	0.3	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.4	4.6	1.0	0.1	0.1	0.1		
Unsig. Movement Delay, s/veh								
LnGrp Delay(d),s/veh	22.3	32.1	4.6	3.8	0.5	0.2		
LnGrp LOS	C	C	A	A	A	A		
Approach Vol, veh/h	318		559			523		
Approach Delay, s/veh	31.0		4.6			0.2		
Approach LOS	C		A			A		
Timer - Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		51.2				51.2		18.8
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		31.0				31.0		31.0
Max Q Clear Time (g_c+I1), s		6.1				6.6		13.9
Green Ext Time (p_c), s		3.4				3.2		0.9

Intersection Summary		
HCM 6th Ctrl Delay		8.9
HCM 6th LOS		A

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	43	20	142	145	65	25	444	20	25	212	20
Future Volume (veh/h)	20	43	20	142	145	65	25	444	20	25	212	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	43	20	142	145	65	25	444	20	25	212	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	36	214	181	254	443	375	44	801	357	44	801	357
Arrive On Green	0.02	0.11	0.11	0.14	0.24	0.24	0.02	0.23	0.23	0.02	0.23	0.23
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	20	43	20	142	145	65	25	444	20	25	212	20
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.4	0.7	0.4	2.4	2.1	1.1	0.5	3.6	0.3	0.5	1.6	0.3
Cycle Q Clear(g_c), s	0.4	0.7	0.4	2.4	2.1	1.1	0.5	3.6	0.3	0.5	1.6	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	36	214	181	254	443	375	44	801	357	44	801	357
V/C Ratio(X)	0.55	0.20	0.11	0.56	0.33	0.17	0.56	0.55	0.06	0.56	0.26	0.06
Avail Cap(c_a), veh/h	219	1037	879	988	1844	1563	274	1971	879	274	1971	879
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.8	13.0	12.9	13.0	10.3	9.9	15.7	11.1	9.9	15.7	10.4	9.9
Incr Delay (d2), s/veh	12.5	0.5	0.3	1.9	0.4	0.2	10.8	0.6	0.1	10.8	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.3	0.1	0.9	0.7	0.3	0.3	1.1	0.1	0.3	0.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.2	13.5	13.2	14.9	10.7	10.1	26.4	11.7	9.9	26.4	10.5	9.9
LnGrp LOS	C	B	B	B	B	B	C	B	A	C	B	A
Approach Vol, veh/h		83			352			489			257	
Approach Delay, s/veh		17.0			12.3			12.4			12.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.8	11.3	8.6	7.7	4.8	11.3	4.7	11.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	18.0	18.0	18.0	5.0	18.0	4.0	32.0
Max Q Clear Time (g_c+I1), s	2.5	5.6	4.4	2.7	2.5	3.6	2.4	4.1
Green Ext Time (p_c), s	0.0	1.7	0.4	0.2	0.0	0.8	0.0	1.1

Intersection Summary			
HCM 6th Ctrl Delay			12.6
HCM 6th LOS			B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	82	25	429	25	20	314
Future Volume (veh/h)	82	25	429	25	20	314
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	25	429	25	20	314
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	159	141	1071	478	37	1843
Arrive On Green	0.09	0.09	0.30	0.30	0.02	0.52
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	82	25	429	25	20	314
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	0.9	0.3	2.0	0.2	0.2	1.0
Cycle Q Clear(g_c), s	0.9	0.3	2.0	0.2	0.2	1.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	159	141	1071	478	37	1843
V/C Ratio(X)	0.52	0.18	0.40	0.05	0.53	0.17
Avail Cap(c_a), veh/h	524	466	3137	1399	349	4531
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.9	8.6	5.7	5.1	9.9	2.6
Incr Delay (d2), s/veh	2.6	0.6	0.2	0.0	11.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.1	0.1	0.0	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.5	9.2	5.9	5.1	21.2	2.6
LnGrp LOS	B	A	A	A	C	A
Approach Vol, veh/h	107		454			334
Approach Delay, s/veh	10.9		5.9			3.7
Approach LOS	B		A			A

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	4.4	10.1				14.6		5.8
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	4.0	18.0				26.0		6.0
Max Q Clear Time (g_c+I1), s	2.2	4.0				3.0		2.9
Green Ext Time (p_c), s	0.0	2.2				1.8		0.1

Intersection Summary	
HCM 6th Ctrl Delay	5.7
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	25	69	129	80	25	234	412	28	25	387	20
Future Volume (veh/h)	20	25	69	129	80	25	234	412	28	25	387	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	25	69	129	80	25	234	412	28	25	387	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	36	182	154	165	318	269	302	1240	553	44	724	323
Arrive On Green	0.02	0.10	0.10	0.09	0.17	0.17	0.17	0.35	0.35	0.02	0.20	0.20
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	20	25	69	129	80	25	234	412	28	25	387	20
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.4	0.4	1.5	2.6	1.4	0.5	4.6	3.1	0.4	0.5	3.6	0.4
Cycle Q Clear(g_c), s	0.4	0.4	1.5	2.6	1.4	0.5	4.6	3.1	0.4	0.5	3.6	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	36	182	154	165	318	269	302	1240	553	44	724	323
V/C Ratio(X)	0.56	0.14	0.45	0.78	0.25	0.09	0.77	0.33	0.05	0.57	0.53	0.06
Avail Cap(c_a), veh/h	194	919	779	292	1021	865	535	2521	1125	194	1843	822
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.8	15.1	15.6	16.3	13.2	12.8	14.5	8.8	7.9	17.7	13.0	11.8
Incr Delay (d2), s/veh	12.9	0.3	2.0	7.9	0.4	0.1	4.2	0.2	0.0	11.3	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.2	0.5	1.2	0.5	0.2	1.7	0.7	0.1	0.3	1.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.7	15.5	17.6	24.1	13.6	13.0	18.8	8.9	7.9	28.9	13.7	11.8
LnGrp LOS	C	B	B	C	B	B	B	A	A	C	B	B
Approach Vol, veh/h		114			234			674			432	
Approach Delay, s/veh		19.4			19.4			12.3			14.5	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.9	16.8	7.4	7.6	10.2	11.5	4.7	10.2				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	4.0	26.0	6.0	18.0	11.0	19.0	4.0	20.0				
Max Q Clear Time (g_c+I1), s	2.5	5.1	4.6	3.5	6.6	5.6	2.4	3.4				
Green Ext Time (p_c), s	0.0	2.4	0.0	0.2	0.3	1.9	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			14.6									
HCM 6th LOS			B									

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	245	114	153	481	20	20
Future Volume (veh/h)	245	114	153	481	20	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	245	114	153	481	20	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	426	190	196	1019	1067	949
Arrive On Green	0.12	0.12	0.11	0.29	0.60	0.60
Sat Flow, veh/h	3647	1585	1781	3647	1781	1585
Grp Volume(v), veh/h	245	114	153	481	20	20
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777	1781	1585
Q Serve(g_s), s	4.6	4.8	5.9	7.8	0.3	0.4
Cycle Q Clear(g_c), s	4.6	4.8	5.9	7.8	0.3	0.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	426	190	196	1019	1067	949
V/C Ratio(X)	0.58	0.60	0.78	0.47	0.02	0.02
Avail Cap(c_a), veh/h	1066	476	433	2132	1067	949
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.1	29.2	30.3	20.6	5.7	5.7
Incr Delay (d2), s/veh	1.1	2.8	6.7	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	1.9	2.8	3.1	0.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.3	32.0	37.0	20.9	5.7	5.7
LnGrp LOS	C	C	D	C	A	A
Approach Vol, veh/h	359			634	40	
Approach Delay, s/veh	30.8			24.8	5.7	
Approach LOS	C			C	A	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	45.9	11.7	12.4	24.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	20.0	17.0	21.0	42.0
Max Q Clear Time (g_c+I1), s	2.4	7.9	6.8	9.8
Green Ext Time (p_c), s	0.1	0.2	1.6	3.5

Intersection Summary	
HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	433	21	653	226	128	658		
Future Volume (veh/h)	433	21	653	226	128	658		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach	No		No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870		
Adj Flow Rate, veh/h	433	21	653	226	128	658		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	491	437	871	389	548	2167		
Arrive On Green	0.28	0.28	0.08	0.08	0.31	0.61		
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647		
Grp Volume(v), veh/h	433	21	653	226	128	658		
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777		
Q Serve(g_s), s	16.3	0.7	12.6	9.6	3.8	6.2		
Cycle Q Clear(g_c), s	16.3	0.7	12.6	9.6	3.8	6.2		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	491	437	871	389	548	2167		
V/C Ratio(X)	0.88	0.05	0.75	0.58	0.23	0.30		
Avail Cap(c_a), veh/h	687	611	1066	476	548	2167		
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00		
Upstream Filter(I)	0.94	0.94	0.91	0.91	0.91	0.91		
Uniform Delay (d), s/veh	24.3	18.6	30.1	28.7	18.1	6.5		
Incr Delay (d2), s/veh	9.2	0.0	5.4	5.7	0.2	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	7.7	0.2	6.3	4.3	1.4	1.7		
Unsig. Movement Delay, s/veh								
LnGrp Delay(d),s/veh	33.4	18.6	35.4	34.4	18.3	6.9		
LnGrp LOS	C	B	D	C	B	A		
Approach Vol, veh/h	454		879			786		
Approach Delay, s/veh	32.7		35.2			8.7		
Approach LOS	C		D			A		
Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	25.5	21.2				46.7		23.3
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	10.0	21.0				35.0		27.0
Max Q Clear Time (g_c+I1), s	5.8	14.6				8.2		18.3
Green Ext Time (p_c), s	0.1	2.6				4.3		1.0

Intersection Summary		
HCM 6th Ctrl Delay		24.8
HCM 6th LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	25	175	224	25	113	44	736	95	106	1003	25
Future Volume (veh/h)	43	25	175	224	25	113	44	736	95	106	1003	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	25	175	224	25	113	44	736	95	106	1003	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	58	175	148	254	382	569	414	1721	768	175	1075	480
Arrive On Green	0.03	0.09	0.09	0.14	0.20	0.20	0.23	0.48	0.48	0.10	0.61	0.61
Sat Flow, veh/h	1781	1870	1585	1781	1870	2790	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	43	25	175	224	25	113	44	736	95	106	1003	25
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1395	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	1.7	0.9	4.0	8.6	0.8	2.4	1.4	9.4	2.3	2.1	17.9	0.4
Cycle Q Clear(g_c), s	1.7	0.9	4.0	8.6	0.8	2.4	1.4	9.4	2.3	2.1	17.9	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	58	175	148	254	382	569	414	1721	768	175	1075	480
V/C Ratio(X)	0.75	0.14	1.18	0.88	0.07	0.20	0.11	0.43	0.12	0.61	0.93	0.05
Avail Cap(c_a), veh/h	127	481	408	254	615	917	414	1721	768	197	1117	498
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	33.6	29.1	12.1	29.4	22.5	23.1	21.1	11.7	9.9	30.8	13.2	6.1
Incr Delay (d2), s/veh	17.2	0.4	95.3	27.8	0.1	0.2	0.1	0.8	0.3	3.6	13.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.4	6.2	5.5	0.3	0.8	0.5	3.2	0.8	0.9	5.4	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	29.5	107.4	57.3	22.5	23.3	21.3	12.5	10.2	34.4	26.8	6.2
LnGrp LOS	D	C	F	E	C	C	C	B	B	C	C	A
Approach Vol, veh/h		243			362			875			1134	
Approach Delay, s/veh		89.4			44.3			12.7			27.1	
Approach LOS		F			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	37.9	14.0	10.6	20.3	25.2	6.3	18.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	22.0	10.0	18.0	4.0	22.0	5.0	23.0
Max Q Clear Time (g_c+I1), s	4.1	11.4	10.6	6.0	3.4	19.9	3.7	4.4
Green Ext Time (p_c), s	0.0	3.6	0.0	0.5	0.0	1.3	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	30.4
HCM 6th LOS	C

Intersection						
Int Delay, s/veh	3.2					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	25	50	111	20	25
Future Vol, veh/h	20	25	50	111	20	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	20	25	50	111	20	25

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	244	33	45	0	-	0
Stage 1	33	-	-	-	-	-
Stage 2	211	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	742	1038	1557	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	822	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	717	1038	1557	-	-	-
Mov Cap-2 Maneuver	717	-	-	-	-	-
Stage 1	953	-	-	-	-	-
Stage 2	822	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	2.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1557	-	866	-	-
HCM Lane V/C Ratio	0.032	-	0.052	-	-
HCM Control Delay (s)	7.4	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	15.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	25	36	37	304	44	68	46	25	25	100	27
Future Vol, veh/h	25	25	36	37	304	44	68	46	25	25	100	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	180	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	7	0	12	0	3	20	5	0	0	0	0	0
Mvmt Flow	25	25	36	37	304	44	68	46	25	25	100	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	475	371	64	308	372	36	127	0	0	71	0	0
Stage 1	164	164	-	195	195	-	-	-	-	-	-	-
Stage 2	311	207	-	113	177	-	-	-	-	-	-	-
Critical Hdwy	7.64	6.5	7.14	7.5	6.56	7.3	4.2	-	-	4.1	-	-
Critical Hdwy Stg 1	6.64	5.5	-	6.5	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.64	5.5	-	6.5	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.57	4	3.42	3.5	4.03	3.5	2.25	-	-	2.2	-	-
Pot Cap-1 Maneuver	461	562	956	627	554	973	1435	-	-	1542	-	-
Stage 1	807	766	-	794	736	-	-	-	-	-	-	-
Stage 2	660	734	-	886	749	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	225	527	956	554	519	973	1435	-	-	1542	-	-
Mov Cap-2 Maneuver	225	527	-	554	519	-	-	-	-	-	-	-
Stage 1	769	753	-	757	701	-	-	-	-	-	-	-
Stage 2	340	700	-	810	736	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.2	25.2	3.7	1.2
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1435	-	-	438	552	1542	-	-
HCM Lane V/C Ratio	0.047	-	-	0.196	0.697	0.016	-	-
HCM Control Delay (s)	7.6	-	-	15.2	25.2	7.4	0	-
HCM Lane LOS	A	-	-	C	D	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.7	5.5	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	25	40	82	80	20	1150	256	354	25	104	34
Future Volume (veh/h)	30	25	40	82	80	20	1150	256	354	25	104	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	30	25	40	82	80	20	1150	256	354	25	104	34
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	52	389	173	124	620	145	1533	1866	832	46	200	170
Arrive On Green	0.03	0.11	0.11	0.07	0.15	0.14	0.45	0.53	0.53	0.03	0.11	0.11
Sat Flow, veh/h	1767	3526	1572	1767	4103	958	3428	3526	1572	1767	1856	1572
Grp Volume(v), veh/h	30	25	40	82	65	35	1150	256	354	25	104	34
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1689	1683	1714	1763	1572	1767	1856	1572
Q Serve(g_s), s	1.0	0.4	1.4	2.7	1.0	1.1	16.9	2.2	8.3	0.8	3.2	1.2
Cycle Q Clear(g_c), s	1.0	0.4	1.4	2.7	1.0	1.1	16.9	2.2	8.3	0.8	3.2	1.2
Prop In Lane	1.00		1.00	1.00		0.57	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	52	389	173	124	510	254	1533	1866	832	46	200	170
V/C Ratio(X)	0.58	0.06	0.23	0.66	0.13	0.14	0.75	0.14	0.43	0.54	0.52	0.20
Avail Cap(c_a), veh/h	184	2929	1306	184	2806	1398	2265	2411	1075	175	227	192
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.0	24.1	24.6	27.4	22.2	22.5	13.9	7.2	8.7	29.1	25.5	24.6
Incr Delay (d2), s/veh	9.6	0.1	0.6	7.0	0.1	0.2	1.0	0.0	0.3	9.7	2.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.2	0.5	1.3	0.4	0.4	5.6	0.7	2.3	0.4	1.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.7	24.2	25.2	34.4	22.3	22.7	14.9	7.3	9.0	38.8	27.6	25.2
LnGrp LOS	D	C	C	C	C	C	B	A	A	D	C	C
Approach Vol, veh/h		95			182			1760			163	
Approach Delay, s/veh		29.2			27.9			12.6			28.8	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	10.7	31.1	10.5	5.8	13.1	5.6	36.0				
Change Period (Y+Rc), s	* 4.7	4.9	4.6	5.3	* 4.2	4.9	* 4.2	5.3				
Max Green Setting (Gmax), s	* 5.6	49.4	39.4	6.1	* 6.1	49.4	* 5.8	40.1				
Max Q Clear Time (g_c+I1), s	4.7	3.4	18.9	5.2	3.0	3.1	2.8	10.3				
Green Ext Time (p_c), s	0.0	0.2	7.6	0.0	0.0	0.4	0.0	2.9				
Intersection Summary												
HCM 6th Ctrl Delay			15.8									
HCM 6th LOS			B									

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	154	92	25	1200	56	25	20	20	85	20	269
Future Volume (veh/h)	47	154	92	25	1200	56	25	20	20	85	20	269
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	47	154	92	25	1200	56	25	20	20	85	20	269
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	211	1396	650	78	1678	78	78	152	152	168	425	360
Arrive On Green	0.12	0.41	0.41	0.04	0.34	0.34	0.04	0.18	0.18	0.09	0.23	0.23
Sat Flow, veh/h	1767	3377	1572	1767	4960	231	1767	851	851	1767	1856	1572
Grp Volume(v), veh/h	47	154	92	25	817	439	25	0	40	85	20	269
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1814	1767	0	1702	1767	1856	1572
Q Serve(g_s), s	1.6	1.9	2.4	0.9	14.1	14.2	0.9	0.0	1.3	3.1	0.6	10.7
Cycle Q Clear(g_c), s	1.6	1.9	2.4	0.9	14.1	14.2	0.9	0.0	1.3	3.1	0.6	10.7
Prop In Lane	1.00		1.00	1.00		0.13	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	211	1396	650	78	1143	614	78	0	304	168	425	360
V/C Ratio(X)	0.22	0.11	0.14	0.32	0.71	0.72	0.32	0.00	0.13	0.51	0.05	0.75
Avail Cap(c_a), veh/h	211	1396	650	211	1355	728	211	0	737	214	806	683
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.7	12.1	12.2	31.0	19.3	19.4	31.0	0.0	23.1	28.8	20.1	24.0
Incr Delay (d2), s/veh	0.2	0.0	0.1	0.9	1.6	3.0	0.9	0.0	0.1	0.9	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.6	0.8	0.4	5.2	5.8	0.4	0.0	0.5	1.3	0.2	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.9	12.1	12.4	31.9	21.0	22.3	31.9	0.0	23.2	29.7	20.1	25.2
LnGrp LOS	C	B	B	C	C	C	C	A	C	C	C	C
Approach Vol, veh/h		293			1281			65			374	
Approach Delay, s/veh		14.6			21.6			26.6			25.9	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	32.2	7.5	19.9	12.5	27.2	10.9	16.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.0	26.9	8.0	29.1	8.0	26.9	8.1	29.0
Max Q Clear Time (g_c+I1), s	2.9	4.4	2.9	12.7	3.6	16.2	5.1	3.3
Green Ext Time (p_c), s	0.0	1.7	0.0	0.1	0.0	6.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	21.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	741	167	0	655	166	0	0	0	600	193	600
Future Volume (veh/h)	129	741	167	0	655	166	0	0	0	600	193	600
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	0	1856	1856				1856	1856	1856
Adj Flow Rate, veh/h	129	741	167	0	655	0				396	478	600
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	0	3	3				3	3	3
Cap, veh/h	169	2131	661	0	1341					812	852	722
Arrive On Green	0.10	0.42	0.42	0.00	0.26	0.00				0.46	0.46	0.46
Sat Flow, veh/h	1767	5066	1572	0	5233	1572				1767	1856	1572
Grp Volume(v), veh/h	129	741	167	0	655	0				396	478	600
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	0	1689	1572				1767	1856	1572
Q Serve(g_s), s	4.7	6.6	4.6	0.0	7.3	0.0				10.4	12.5	22.2
Cycle Q Clear(g_c), s	4.7	6.6	4.6	0.0	7.3	0.0				10.4	12.5	22.2
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	169	2131	661	0	1341					812	852	722
V/C Ratio(X)	0.76	0.35	0.25	0.00	0.49					0.49	0.56	0.83
Avail Cap(c_a), veh/h	239	3756	1166	0	2768					997	1047	888
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	29.4	13.1	12.5	0.0	20.7	0.0				12.6	13.1	15.7
Incr Delay (d2), s/veh	8.8	0.2	0.5	0.0	0.7	0.0				0.5	0.6	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	2.2	1.5	0.0	2.7	0.0				3.6	4.6	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.1	13.3	13.0	0.0	21.4	0.0				13.0	13.7	21.4
LnGrp LOS	D	B	B	A	C					B	B	C
Approach Vol, veh/h		1037			655	A					1474	
Approach Delay, s/veh		16.4			21.4						16.6	
Approach LOS		B			C						B	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	32.0	34.6	10.4	21.6
Change Period (Y+Rc), s	5.3	4.6	* 4.2	5.3
Max Green Setting (Gmax), s	48.1	37.0	* 8.8	35.1
Max Q Clear Time (g_c+I1), s	8.6	24.2	6.7	9.3
Green Ext Time (p_c), s	11.7	5.8	0.1	7.1

Intersection Summary	
HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	516	800	0	747	47	210	0	90	0	0	0
Future Volume (veh/h)	0	516	800	0	747	47	210	0	90	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1856	1856	1856	0	1856			
Adj Flow Rate, veh/h	0	516	0	0	747	0	210	0	0			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	0	3	3	0	3	3	3	0	3			
Cap, veh/h	0	2255		0	3240		223	0				
Arrive On Green	0.00	0.64	0.00	0.00	0.64	0.00	0.13	0.00	0.00			
Sat Flow, veh/h	0	3618	1572	0	5233	1572	1767	0	1572			
Grp Volume(v), veh/h	0	516	0	0	747	0	210	0	0			
Grp Sat Flow(s),veh/h/ln	0	1763	1572	0	1689	1572	1767	0	1572			
Q Serve(g_s), s	0.0	2.1	0.0	0.0	2.1	0.0	3.9	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	2.1	0.0	0.0	2.1	0.0	3.9	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2255		0	3240		223	0				
V/C Ratio(X)	0.00	0.23		0.00	0.23		0.94	0.00				
Avail Cap(c_a), veh/h	0	2954		0	4244		223	0				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	2.5	0.0	0.0	2.5	0.0	14.4	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.1	0.0	44.3	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	2.6	0.0	0.0	2.6	0.0	58.7	0.0	0.0			
LnGrp LOS	A	A		A	A		E	A				
Approach Vol, veh/h		516	A		747	A		210	A			
Approach Delay, s/veh		2.6			2.6			58.7				
Approach LOS		A			A			E				

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		25.3				25.3		8.0				
Change Period (Y+Rc), s		5.3				5.3		4.0				
Max Green Setting (Gmax), s		26.6				26.6		4.0				
Max Q Clear Time (g_c+I1), s		4.1				4.1		5.9				
Green Ext Time (p_c), s		3.4				5.3		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		10.6
HCM 6th LOS		B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	483	28	58	1296	25	362	22	121	113	21	71
Future Volume (veh/h)	25	483	28	58	1296	25	362	22	121	113	21	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	25	483	28	58	1296	25	362	22	121	113	21	71
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	75	1494	464	128	1645	511	399	527	447	163	56	189
Arrive On Green	0.04	0.29	0.29	0.07	0.32	0.32	0.23	0.28	0.28	0.09	0.15	0.15
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	1856	1572	1767	372	1257
Grp Volume(v), veh/h	25	483	28	58	1296	25	362	22	121	113	0	92
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1856	1572	1767	0	1629
Q Serve(g_s), s	1.1	5.9	1.0	2.5	18.6	0.9	15.9	0.7	4.8	5.0	0.0	4.1
Cycle Q Clear(g_c), s	1.1	5.9	1.0	2.5	18.6	0.9	15.9	0.7	4.8	5.0	0.0	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.77
Lane Grp Cap(c), veh/h	75	1494	464	128	1645	511	399	527	447	163	0	245
V/C Ratio(X)	0.33	0.32	0.06	0.45	0.79	0.05	0.91	0.04	0.27	0.70	0.00	0.38
Avail Cap(c_a), veh/h	188	1775	551	188	1775	551	464	913	773	303	0	652
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.1	22.0	20.2	35.5	24.5	18.5	30.1	20.7	22.2	35.2	0.0	30.6
Incr Delay (d2), s/veh	0.9	0.2	0.1	0.9	2.5	0.1	18.1	0.0	0.3	2.0	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.2	0.4	1.1	7.0	0.3	8.4	0.3	1.7	2.2	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.1	22.1	20.3	36.5	27.0	18.6	48.2	20.8	22.5	37.2	0.0	31.3
LnGrp LOS	D	C	C	D	C	B	D	C	C	D	A	C
Approach Vol, veh/h		536			1379			505			205	
Approach Delay, s/veh		22.8			27.2			40.9			34.5	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	29.1	23.1	17.0	8.4	31.4	12.3	27.7
Change Period (Y+Rc), s	5.0	5.5	5.0	5.0	5.0	5.5	5.0	5.0
Max Green Setting (Gmax), s	8.5	28.0	21.0	32.0	8.5	28.0	13.7	39.3
Max Q Clear Time (g_c+I1), s	4.5	7.9	17.9	6.1	3.1	20.6	7.0	6.8
Green Ext Time (p_c), s	0.0	4.1	0.1	0.4	0.0	5.4	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	29.5
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	141	25	25	510	25	25	25	25	25	25	50
Future Volume (veh/h)	25	141	25	25	510	25	25	25	25	25	25	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	141	25	25	510	25	25	25	25	25	25	50
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	45	987	440	45	987	440	45	115	115	45	75	150
Arrive On Green	0.03	0.28	0.28	0.03	0.28	0.28	0.03	0.13	0.13	0.03	0.13	0.13
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	858	858	1781	557	1113
Grp Volume(v), veh/h	25	141	25	25	510	25	25	0	50	25	0	75
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1716	1781	0	1670
Q Serve(g_s), s	0.4	0.9	0.3	0.4	3.6	0.3	0.4	0.0	0.8	0.4	0.0	1.2
Cycle Q Clear(g_c), s	0.4	0.9	0.3	0.4	3.6	0.3	0.4	0.0	0.8	0.4	0.0	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		0.67
Lane Grp Cap(c), veh/h	45	987	440	45	987	440	45	0	231	45	0	225
V/C Ratio(X)	0.56	0.14	0.06	0.56	0.52	0.06	0.56	0.00	0.22	0.56	0.00	0.33
Avail Cap(c_a), veh/h	239	2150	959	239	2150	959	239	0	1038	239	0	1010
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.3	8.1	7.9	14.3	9.1	7.9	14.3	0.0	11.5	14.3	0.0	11.7
Incr Delay (d2), s/veh	10.5	0.1	0.1	10.5	0.4	0.1	10.5	0.0	0.5	10.5	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.2	0.1	0.3	0.9	0.1	0.3	0.0	0.2	0.3	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.8	8.1	7.9	24.8	9.5	7.9	24.8	0.0	11.9	24.8	0.0	12.5
LnGrp LOS	C	A	A	C	A	A	C	A	B	C	A	B
Approach Vol, veh/h		191			560			75			100	
Approach Delay, s/veh		10.3			10.1			16.2			15.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.7	8.0	4.7	12.3	4.7	8.0	4.7	12.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	18.0	4.0	18.0	4.0	18.0	4.0	18.0
Max Q Clear Time (g_c+I1), s	2.4	2.8	2.4	2.9	2.4	3.2	2.4	5.6
Green Ext Time (p_c), s	0.0	0.1	0.0	0.7	0.0	0.2	0.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	11.2
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	204	25	25	55	25	47
Future Vol, veh/h	204	25	25	55	25	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	204	25	25	55	25	47

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	150	53	0	0	80	0
Stage 1	53	-	-	-	-	-
Stage 2	97	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	840	1012	-	-	1512	-
Stage 1	967	-	-	-	-	-
Stage 2	924	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	826	1012	-	-	1512	-
Mov Cap-2 Maneuver	826	-	-	-	-	-
Stage 1	967	-	-	-	-	-
Stage 2	908	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	2.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	843	1512	-
HCM Lane V/C Ratio	-	-	0.272	0.017	-
HCM Control Delay (s)	-	-	10.9	7.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.1	0.1	-

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	76	22	154	36	78	346
Future Vol, veh/h	76	22	154	36	78	346
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	100	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	76	22	154	36	78	346

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	422	78	424	0	-	0
Stage 1	78	-	-	-	-	-
Stage 2	344	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	588	983	1135	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	718	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	508	983	1135	-	-	-
Mov Cap-2 Maneuver	508	-	-	-	-	-
Stage 1	816	-	-	-	-	-
Stage 2	718	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1135	-	508	983	-	-
HCM Lane V/C Ratio	0.136	-	0.15	0.022	-	-
HCM Control Delay (s)	8.7	-	13.3	8.7	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.5	-	0.5	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	187	105	71	505	118	332	167	69	38	80	86
Future Volume (veh/h)	45	187	105	71	505	118	332	167	69	38	80	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	45	187	105	71	505	118	332	167	69	38	80	86
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	189	884	694	231	779	181	878	834	372	339	562	195
Arrive On Green	0.11	0.25	0.25	0.13	0.27	0.24	0.18	0.24	0.24	0.10	0.16	0.12
Sat Flow, veh/h	1767	3526	2768	1767	2839	660	4983	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	45	187	105	71	313	310	332	167	69	38	80	86
Grp Sat Flow(s),veh/h/ln	1767	1763	1384	1767	1763	1737	1661	1763	1572	1714	1763	1572
Q Serve(g_s), s	1.3	2.4	1.7	2.1	8.8	9.0	3.3	2.1	2.0	0.6	1.1	2.9
Cycle Q Clear(g_c), s	1.3	2.4	1.7	2.1	8.8	9.0	3.3	2.1	2.0	0.6	1.1	2.9
Prop In Lane	1.00		1.00	1.00		0.38	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	189	884	694	231	483	476	878	834	372	339	562	195
V/C Ratio(X)	0.24	0.21	0.15	0.31	0.65	0.65	0.38	0.20	0.19	0.11	0.14	0.44
Avail Cap(c_a), veh/h	313	2558	2008	313	1279	1260	1147	2683	1197	607	2496	1057
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.1	16.7	16.5	22.3	18.1	18.5	20.5	17.3	17.2	23.2	20.4	22.9
Incr Delay (d2), s/veh	0.6	0.1	0.1	0.7	1.5	1.5	0.3	0.1	0.2	0.1	0.1	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.8	0.5	0.8	3.3	3.3	1.2	0.8	0.6	0.2	0.4	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.8	16.9	16.6	23.0	19.5	20.0	20.8	17.4	17.5	23.3	20.5	24.5
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	C	C
Approach Vol, veh/h		337			694			568			204	
Approach Delay, s/veh		17.7			20.1			19.4			22.7	
Approach LOS		B			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	17.4	11.4	18.2	14.0	13.0	10.1	19.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	8.0	41.0	8.0	39.0	11.0	38.0	8.0	39.0
Max Q Clear Time (g_c+I1), s	2.6	4.1	4.1	4.4	5.3	4.9	3.3	11.0
Green Ext Time (p_c), s	0.0	1.0	0.0	1.3	0.7	0.7	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	19.7
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	564	200	71	650	176	436	481	128	273	269	301
Future Volume (veh/h)	149	564	200	71	650	176	436	481	128	273	269	301
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	149	564	0	71	650	176	436	481	128	273	269	301
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	497	1248		417	1130	351	603	1601	497	424	1337	415
Arrive On Green	0.14	0.25	0.00	0.12	0.22	0.22	0.18	0.32	0.32	0.12	0.26	0.26
Sat Flow, veh/h	3428	5066	1572	3428	5066	1572	3428	5066	1572	3428	5066	1572
Grp Volume(v), veh/h	149	564	0	71	650	176	436	481	128	273	269	301
Grp Sat Flow(s),veh/h/ln	1714	1689	1572	1714	1689	1572	1714	1689	1572	1714	1689	1572
Q Serve(g_s), s	2.8	6.9	0.0	1.4	8.3	7.1	8.7	5.2	4.4	5.5	3.0	12.7
Cycle Q Clear(g_c), s	2.8	6.9	0.0	1.4	8.3	7.1	8.7	5.2	4.4	5.5	3.0	12.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	497	1248		417	1130	351	603	1601	497	424	1337	415
V/C Ratio(X)	0.30	0.45		0.17	0.58	0.50	0.72	0.30	0.26	0.64	0.20	0.73
Avail Cap(c_a), veh/h	518	2991		518	2991	928	612	2991	928	424	2713	842
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	23.3	0.0	28.7	25.2	24.8	28.3	18.8	18.5	30.4	20.8	24.4
Incr Delay (d2), s/veh	0.3	0.3	0.0	0.2	0.5	1.1	4.2	0.1	0.3	4.6	0.1	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.5	0.0	0.5	3.1	2.6	3.7	1.9	1.5	2.4	1.1	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.2	23.5	0.0	28.9	25.7	25.9	32.5	18.9	18.8	35.0	20.9	26.8
LnGrp LOS	C	C		C	C	C	C	B	B	D	C	C
Approach Vol, veh/h		713	A		897			1045			843	
Approach Delay, s/veh		24.5			26.0			24.6			27.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	21.9	12.0	27.0	13.6	20.2	15.8	23.2
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	9.0	41.0	7.0	41.0	9.0	41.0	11.0	37.0
Max Q Clear Time (g_c+I1), s	3.4	8.9	7.5	7.2	4.8	10.3	10.7	14.7
Green Ext Time (p_c), s	0.1	2.6	0.0	2.9	0.2	3.9	0.1	2.5

Intersection Summary	
HCM 6th Ctrl Delay	25.6
HCM 6th LOS	C

Notes
User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	80	48	193	312	408	72	334	38	204	167	140
Future Volume (veh/h)	107	80	48	193	312	408	72	334	38	204	167	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	107	80	48	193	312	408	72	334	38	204	167	140
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	154	916	409	240	544	485	128	508	57	354	357	280
Arrive On Green	0.09	0.26	0.26	0.14	0.31	0.31	0.07	0.16	0.16	0.10	0.19	0.19
Sat Flow, veh/h	1767	3526	1572	1767	1763	1572	1767	3193	361	3428	1878	1475
Grp Volume(v), veh/h	107	80	48	193	312	408	72	183	189	204	156	151
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1767	1763	1791	1714	1763	1590
Q Serve(g_s), s	3.3	1.0	1.3	5.9	8.3	13.5	2.2	5.4	5.5	3.2	4.4	4.7
Cycle Q Clear(g_c), s	3.3	1.0	1.3	5.9	8.3	13.5	2.2	5.4	5.5	3.2	4.4	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.20	1.00		0.93
Lane Grp Cap(c), veh/h	154	916	409	240	544	485	128	280	285	354	335	302
V/C Ratio(X)	0.69	0.09	0.12	0.80	0.57	0.84	0.56	0.65	0.66	0.58	0.47	0.50
Avail Cap(c_a), veh/h	254	2283	1018	413	1300	1160	191	1100	1118	759	1300	1173
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.7	15.6	15.7	23.3	16.1	17.9	24.9	21.9	22.0	23.8	20.0	20.2
Incr Delay (d2), s/veh	2.1	0.0	0.1	2.4	0.4	1.5	1.4	2.6	2.6	0.6	1.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.3	0.4	2.3	2.8	4.3	0.9	2.2	2.2	1.2	1.7	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.7	15.6	15.8	25.7	16.5	19.5	26.4	24.5	24.6	24.3	21.0	21.4
LnGrp LOS	C	B	B	C	B	B	C	C	C	C	C	C
Approach Vol, veh/h		235			913			444			511	
Approach Delay, s/veh		20.7			19.8			24.9			22.5	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.1	19.5	10.2	13.8	9.4	22.2	8.5	15.6
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	13.0	36.0	12.3	34.7	8.0	41.0	6.0	41.0
Max Q Clear Time (g_c+I1), s	7.9	3.3	5.2	7.5	5.3	15.5	4.2	6.7
Green Ext Time (p_c), s	0.1	0.5	0.2	1.4	0.0	1.7	0.0	1.2

Intersection Summary		
HCM 6th Ctrl Delay		21.6
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	149	151	231	192	98	120	199	36	72	334	14
Future Volume (veh/h)	12	149	151	231	192	98	120	199	36	72	334	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1707	1900	1633	1900	1856	1870	1796	1737	1900	1870	1811	1900
Adj Flow Rate, veh/h	12	149	151	231	192	98	120	199	36	72	334	14
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	13	0	18	0	3	2	7	11	0	2	6	0
Cap, veh/h	20	296	260	294	719	352	150	569	101	99	590	276
Arrive On Green	0.01	0.16	0.16	0.16	0.31	0.31	0.09	0.20	0.20	0.06	0.17	0.17
Sat Flow, veh/h	1626	1805	1589	1810	2294	1122	1711	2800	498	1781	3441	1610
Grp Volume(v), veh/h	12	149	151	231	146	144	120	116	119	72	334	14
Grp Sat Flow(s),veh/h/ln	1626	1805	1589	1810	1763	1653	1711	1650	1647	1781	1721	1610
Q Serve(g_s), s	0.3	2.9	3.4	4.7	2.4	2.5	2.7	2.3	2.4	1.5	3.4	0.3
Cycle Q Clear(g_c), s	0.3	2.9	3.4	4.7	2.4	2.5	2.7	2.3	2.4	1.5	3.4	0.3
Prop In Lane	1.00		1.00	1.00		0.68	1.00		0.30	1.00		1.00
Lane Grp Cap(c), veh/h	20	296	260	294	553	519	150	335	335	99	590	276
V/C Ratio(X)	0.59	0.50	0.58	0.79	0.26	0.28	0.80	0.35	0.36	0.72	0.57	0.05
Avail Cap(c_a), veh/h	169	843	742	375	1006	944	222	770	769	231	1607	752
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	14.7	14.9	15.5	9.9	10.0	17.3	13.2	13.2	17.9	14.7	13.4
Incr Delay (d2), s/veh	24.3	1.3	2.0	8.2	0.3	0.3	12.0	0.6	0.6	9.6	0.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.1	1.1	2.2	0.7	0.7	1.3	0.7	0.7	0.8	1.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.2	16.0	16.9	23.7	10.2	10.2	29.2	13.8	13.8	27.5	15.5	13.4
LnGrp LOS	D	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		312			521			355			420	
Approach Delay, s/veh		17.5			16.2			19.0			17.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.1	11.8	10.3	10.3	7.4	10.6	4.5	16.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	18.0	8.0	18.0	5.0	18.0	4.0	22.0
Max Q Clear Time (g_c+I1), s	3.5	4.4	6.7	5.4	4.7	5.4	2.3	4.5
Green Ext Time (p_c), s	0.0	0.6	0.1	0.9	0.0	1.2	0.0	1.0

Intersection Summary		
HCM 6th Ctrl Delay		17.4
HCM 6th LOS		B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	25	25	208	383	25
Future Volume (veh/h)	25	25	25	208	383	25
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	25	25	208	383	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	87	77	46	1893	1057	471
Arrive On Green	0.05	0.05	0.03	0.53	0.30	0.30
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	25	25	25	208	383	25
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	0.3	0.3	0.3	0.6	1.6	0.2
Cycle Q Clear(g_c), s	0.3	0.3	0.3	0.6	1.6	0.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	87	77	46	1893	1057	471
V/C Ratio(X)	0.29	0.32	0.54	0.11	0.36	0.05
Avail Cap(c_a), veh/h	373	332	373	5206	3719	1659
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.8	8.8	9.2	2.2	5.3	4.8
Incr Delay (d2), s/veh	1.8	2.4	9.4	0.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.2	0.0	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.6	11.2	18.6	2.2	5.5	4.8
LnGrp LOS	B	B	B	A	A	A
Approach Vol, veh/h	50			233	408	
Approach Delay, s/veh	10.9			4.0	5.5	
Approach LOS	B			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		14.2		4.9	4.5	9.7
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		28.0		4.0	4.0	20.0
Max Q Clear Time (g_c+I1), s		2.6		2.3	2.3	3.6
Green Ext Time (p_c), s		1.1		0.0	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	5.4
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	20	25	84	20	157	25	153	25	72	546	15
Future Volume (veh/h)	25	20	25	84	20	157	25	153	25	72	546	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1870	1856	1856	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	25	20	25	84	20	157	25	153	25	72	546	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	2	3	3	2	3	3	3	3	3	3
Cap, veh/h	64	117	146	157	38	296	64	854	381	143	1011	451
Arrive On Green	0.04	0.16	0.16	0.09	0.21	0.21	0.04	0.24	0.24	0.08	0.29	0.29
Sat Flow, veh/h	1767	750	937	1767	181	1419	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	25	0	45	84	0	177	25	153	25	72	546	15
Grp Sat Flow(s),veh/h/ln	1767	0	1687	1767	0	1600	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	0.6	0.0	1.0	1.9	0.0	4.2	0.6	1.5	0.5	1.7	5.6	0.3
Cycle Q Clear(g_c), s	0.6	0.0	1.0	1.9	0.0	4.2	0.6	1.5	0.5	1.7	5.6	0.3
Prop In Lane	1.00		0.56	1.00		0.89	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	64	0	263	157	0	333	64	854	381	143	1011	451
V/C Ratio(X)	0.39	0.00	0.17	0.54	0.00	0.53	0.39	0.18	0.07	0.50	0.54	0.03
Avail Cap(c_a), veh/h	249	0	1348	332	0	1354	249	2354	1050	291	2371	1057
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.0	0.0	15.6	18.5	0.0	15.0	20.0	12.8	12.4	18.7	12.8	10.9
Incr Delay (d2), s/veh	3.9	0.0	0.3	2.8	0.0	1.3	3.9	0.1	0.1	2.7	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.4	0.8	0.0	1.4	0.3	0.4	0.2	0.7	1.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.9	0.0	15.9	21.4	0.0	16.3	23.9	12.9	12.5	21.5	13.4	11.0
LnGrp LOS	C	A	B	C	A	B	C	B	B	C	B	B
Approach Vol, veh/h		70			261			203			633	
Approach Delay, s/veh		18.8			17.9			14.2			14.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	16.1	7.8	11.2	5.5	18.0	5.5	13.5
Change Period (Y+Rc), s	4.0	* 5.8	4.0	4.6	4.0	5.8	4.0	4.6
Max Green Setting (Gmax), s	7.0	* 28	8.0	34.0	6.0	28.6	6.0	36.0
Max Q Clear Time (g_c+I1), s	3.7	3.5	3.9	3.0	2.6	7.6	2.6	6.2
Green Ext Time (p_c), s	0.0	1.3	0.1	0.2	0.0	4.6	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	15.4
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	25	67	482	25	25	25	110	20	25	727	25
Future Volume (veh/h)	20	25	67	482	25	25	25	110	20	25	727	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1589	1900	1900	1870	1900
Adj Flow Rate, veh/h	20	25	67	523	0	0	25	110	20	25	727	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	0	0	0	0	21	0	0	2	0
Cap, veh/h	52	48	129	670	497	0	63	895	477	63	1152	522
Arrive On Green	0.03	0.11	0.11	0.19	0.00	0.00	0.03	0.30	0.30	0.03	0.32	0.32
Sat Flow, veh/h	1810	456	1223	3619	1900	0	1810	3019	1610	1810	3554	1610
Grp Volume(v), veh/h	20	0	92	523	0	0	25	110	20	25	727	25
Grp Sat Flow(s),veh/h/ln	1810	0	1680	1810	1900	0	1810	1509	1610	1810	1777	1610
Q Serve(g_s), s	0.6	0.0	2.8	7.4	0.0	0.0	0.7	1.4	0.5	0.7	9.4	0.6
Cycle Q Clear(g_c), s	0.6	0.0	2.8	7.4	0.0	0.0	0.7	1.4	0.5	0.7	9.4	0.6
Prop In Lane	1.00		0.73	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	52	0	177	670	497	0	63	895	477	63	1152	522
V/C Ratio(X)	0.38	0.00	0.52	0.78	0.00	0.00	0.40	0.12	0.04	0.40	0.63	0.05
Avail Cap(c_a), veh/h	201	0	1028	805	1374	0	201	1601	854	201	1983	899
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	0.0	22.8	20.9	0.0	0.0	25.5	13.9	13.5	25.5	15.5	12.5
Incr Delay (d2), s/veh	4.6	0.0	2.3	4.1	0.0	0.0	4.0	0.1	0.1	4.0	0.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.2	3.2	0.0	0.0	0.3	0.4	0.2	0.3	3.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.3	0.0	25.2	25.1	0.0	0.0	29.5	13.9	13.6	29.5	16.3	12.6
LnGrp LOS	C	A	C	C	A	A	C	B	B	C	B	B
Approach Vol, veh/h		112			523			155			777	
Approach Delay, s/veh		26.1			25.1			16.4			16.6	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	21.8	14.0	10.8	5.9	23.3	5.6	19.2
Change Period (Y+Rc), s	5.5	5.8	4.0	5.1	4.0	5.8	4.0	5.1
Max Green Setting (Gmax), s	6.0	28.6	12.0	33.0	6.0	30.1	6.0	39.0
Max Q Clear Time (g_c+I1), s	2.7	3.4	9.4	4.8	2.7	11.4	2.6	0.0
Green Ext Time (p_c), s	0.0	0.9	0.6	0.5	0.0	6.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	20.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	164	20	452	494	115	35	111	202	25	515	311
Future Volume (veh/h)	80	164	20	452	494	115	35	111	202	25	515	311
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1707	1870	1144	1870	1796	1292	1544	1885	1870
Adj Flow Rate, veh/h	80	164	20	452	494	115	35	111	202	25	515	311
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	13	2	51	2	7	41	24	1	2
Cap, veh/h	101	406	49	580	729	169	56	1068	343	35	656	395
Arrive On Green	0.06	0.13	0.13	0.18	0.25	0.25	0.03	0.31	0.31	0.02	0.31	0.31
Sat Flow, veh/h	1781	3194	384	3155	2865	663	1781	3413	1095	1471	2149	1294
Grp Volume(v), veh/h	80	90	94	452	305	304	35	111	202	25	429	397
Grp Sat Flow(s),veh/h/ln	1781	1777	1801	1577	1777	1751	1781	1706	1095	1471	1791	1652
Q Serve(g_s), s	2.0	2.1	2.2	6.2	7.0	7.1	0.9	1.0	7.1	0.8	9.9	10.0
Cycle Q Clear(g_c), s	2.0	2.1	2.2	6.2	7.0	7.1	0.9	1.0	7.1	0.8	9.9	10.0
Prop In Lane	1.00		0.21	1.00		0.38	1.00		1.00	1.00		0.78
Lane Grp Cap(c), veh/h	101	226	229	580	452	445	56	1068	343	35	547	505
V/C Ratio(X)	0.79	0.40	0.41	0.78	0.68	0.68	0.63	0.10	0.59	0.71	0.78	0.79
Avail Cap(c_a), veh/h	274	704	713	625	782	771	157	1352	434	129	709	654
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.2	18.2	18.3	17.7	15.3	15.3	21.7	11.1	13.1	22.0	14.4	14.4
Incr Delay (d2), s/veh	12.9	1.1	1.2	5.8	1.8	1.8	10.9	0.0	1.6	23.4	4.4	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.8	0.8	2.2	2.3	2.3	0.5	0.3	1.4	0.4	3.6	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.1	19.4	19.4	23.5	17.0	17.1	32.6	11.1	14.8	45.4	18.8	19.2
LnGrp LOS	C	B	B	C	B	B	C	B	B	D	B	B
Approach Vol, veh/h		264			1061			348			851	
Approach Delay, s/veh		23.9			19.8			15.4			19.8	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	18.2	12.4	9.8	5.4	17.9	6.6	15.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	18.0	9.0	18.0	4.0	18.0	7.0	20.0
Max Q Clear Time (g_c+I1), s	2.8	9.1	8.2	4.2	2.9	12.0	4.0	9.1
Green Ext Time (p_c), s	0.0	0.8	0.2	0.6	0.0	1.9	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	19.6
HCM 6th LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	59	140	72	254	991	29
Future Volume (veh/h)	59	140	72	254	991	29
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	140	72	254	991	29
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	237	211	104	2216	1576	703
Arrive On Green	0.13	0.13	0.06	0.62	0.44	0.44
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	59	140	72	254	991	29
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	1.0	2.8	1.3	1.0	7.1	0.3
Cycle Q Clear(g_c), s	1.0	2.8	1.3	1.0	7.1	0.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	237	211	104	2216	1576	703
V/C Ratio(X)	0.25	0.66	0.69	0.11	0.63	0.04
Avail Cap(c_a), veh/h	974	867	216	3130	2267	1011
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.8	13.6	15.2	2.5	7.1	5.2
Incr Delay (d2), s/veh	0.5	3.5	7.8	0.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.2	0.6	0.0	1.6	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.3	17.1	23.0	2.5	7.5	5.2
LnGrp LOS	B	B	C	A	A	A
Approach Vol, veh/h	199			326	1020	
Approach Delay, s/veh	16.0			7.1	7.4	
Approach LOS	B			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		24.5		8.4	5.9	18.6
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		29.0		18.0	4.0	21.0
Max Q Clear Time (g_c+I1), s		3.0		4.8	3.3	9.1
Green Ext Time (p_c), s		1.4		0.5	0.0	5.5

Intersection Summary			
HCM 6th Ctrl Delay			8.4
HCM 6th LOS			A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	20	307	113	26	80	108	213	129	112	977	47
Future Volume (veh/h)	68	20	307	113	26	80	108	213	129	112	977	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	20	307	113	66	53	108	213	129	112	977	47
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	907	25	381	147	137	116	193	1209	539	195	1211	540
Arrive On Green	0.26	0.25	0.25	0.08	0.07	0.07	0.06	0.34	0.34	0.06	0.34	0.34
Sat Flow, veh/h	3456	98	1502	1781	1870	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	68	0	327	113	66	53	108	213	129	112	977	47
Grp Sat Flow(s),veh/h/ln	1728	0	1600	1781	1870	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	0.9	0.0	11.5	3.7	2.0	1.5	1.8	2.5	2.4	1.9	15.0	1.2
Cycle Q Clear(g_c), s	0.9	0.0	11.5	3.7	2.0	1.5	1.8	2.5	2.4	1.9	15.0	1.2
Prop In Lane	1.00		0.94	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	907	0	405	147	137	116	193	1209	539	195	1211	540
V/C Ratio(X)	0.07	0.00	0.81	0.77	0.48	0.46	0.56	0.18	0.24	0.57	0.81	0.09
Avail Cap(c_a), veh/h	1040	0	669	328	563	477	231	1307	583	347	1426	636
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.6	0.0	21.0	26.9	26.6	16.8	27.5	13.9	6.4	27.5	17.9	13.4
Incr Delay (d2), s/veh	0.0	0.0	3.8	8.2	2.6	2.8	2.5	0.1	0.2	2.6	3.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	4.4	1.8	1.0	0.8	0.7	0.8	1.2	0.8	5.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.6	0.0	24.8	35.0	29.2	19.5	30.1	13.9	6.6	30.2	21.0	13.5
LnGrp LOS	B	A	C	D	C	B	C	B	A	C	C	B
Approach Vol, veh/h		395			232			450			1136	
Approach Delay, s/veh		23.4			29.8			15.7			21.6	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	24.3	8.9	19.2	7.3	24.4	19.7	8.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	22.0	11.0	25.0	4.0	24.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	3.9	4.5	5.7	13.5	3.8	17.0	2.9	4.0
Green Ext Time (p_c), s	0.1	1.4	0.1	1.7	0.0	3.4	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	21.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	266	0	52	61	374	0	0	121	1383
Future Volume (veh/h)	0	0	0	266	0	52	61	374	0	0	121	1383
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1900	1574	1900	1544	0	0	1767	1856
Adj Flow Rate, veh/h				266	0	0	61	374	0	0	121	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	0	22	0	24	0	0	9	3
Cap, veh/h				299	0		1184	1165	0	0	202	
Arrive On Green				0.17	0.00	0.00	0.65	0.75	0.00	0.00	0.06	0.00
Sat Flow, veh/h				1810	0	1334	1810	1544	0	0	3445	1572
Grp Volume(v), veh/h				266	0	0	61	374	0	0	121	0
Grp Sat Flow(s),veh/h/ln				1810	0	1334	1810	1544	0	0	1678	1572
Q Serve(g_s), s				14.4	0.0	0.0	1.2	7.8	0.0	0.0	3.5	0.0
Cycle Q Clear(g_c), s				14.4	0.0	0.0	1.2	7.8	0.0	0.0	3.5	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				299	0		1184	1165	0	0	202	
V/C Ratio(X)				0.89	0.00		0.05	0.32	0.00	0.00	0.60	
Avail Cap(c_a), veh/h				326	0		1184	1165	0	0	2215	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.97	0.97	0.00	0.00	0.68	0.00
Uniform Delay (d), s/veh				40.8	0.0	0.0	6.2	4.0	0.0	0.0	45.8	0.0
Incr Delay (d2), s/veh				23.3	0.0	0.0	0.0	0.7	0.0	0.0	8.7	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.2	0.0	0.0	0.4	1.7	0.0	0.0	1.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				64.2	0.0	0.0	6.2	4.7	0.0	0.0	54.5	0.0
LnGrp LOS				E	A		A	A	A	A	D	
Approach Vol, veh/h					266	A		435			121	A
Approach Delay, s/veh					64.2			4.9			54.5	
Approach LOS					E			A			D	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		79.5			69.5	10.0		20.5				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		74.0			4.0	66.0		18.0				
Max Q Clear Time (g_c+I1), s		9.8			3.2	5.5		16.4				
Green Ext Time (p_c), s		1.4			0.0	0.5		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			31.4									
HCM 6th LOS			C									

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	0	25	0	0	0	0	292	44	34	353	0
Future Volume (veh/h)	159	0	25	0	0	0	0	292	44	34	353	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1515	1159	1900				0	1900	1900	1485	1885	0
Adj Flow Rate, veh/h	159	0	25				0	292	44	34	353	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	26	50	0				0	0	0	28	1	0
Cap, veh/h	201	0	137				0	2390	1066	39	1408	0
Arrive On Green	0.14	0.00	0.14				0.00	0.66	0.66	0.03	0.75	0.00
Sat Flow, veh/h	1443	0	982				0	3705	1610	1414	1885	0
Grp Volume(v), veh/h	159	0	25				0	292	44	34	353	0
Grp Sat Flow(s),veh/h/ln	1443	0	982				0	1805	1610	1414	1885	0
Q Serve(g_s), s	7.5	0.0	1.6				0.0	2.1	0.7	1.7	4.1	0.0
Cycle Q Clear(g_c), s	7.5	0.0	1.6				0.0	2.1	0.7	1.7	4.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	201	0	137				0	2390	1066	39	1408	0
V/C Ratio(X)	0.79	0.00	0.18				0.00	0.12	0.04	0.87	0.25	0.00
Avail Cap(c_a), veh/h	474	0	323				0	2390	1066	202	1408	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.2	0.0	26.6				0.0	4.4	4.1	33.9	2.8	0.0
Incr Delay (d2), s/veh	6.9	0.0	0.6				0.0	0.1	0.1	39.6	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.4				0.0	0.5	0.1	1.0	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.1	0.0	27.3				0.0	4.5	4.2	73.5	3.2	0.0
LnGrp LOS	D	A	C				A	A	A	E	A	A
Approach Vol, veh/h		184						336			387	
Approach Delay, s/veh		34.9						4.4			9.4	
Approach LOS		C						A			A	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	5.9	50.3		13.7		56.3						
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0						
Max Green Setting (Gmax), s	10.0	25.0		23.0		39.0						
Max Q Clear Time (g_c+I1), s	3.7	4.1		9.5		6.1						
Green Ext Time (p_c), s	0.0	1.3		0.5		1.3						
Intersection Summary												
HCM 6th Ctrl Delay			12.7									
HCM 6th LOS			B									

Intersection						
Int Delay, s/veh	1.3					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	25	132	22	23	316
Future Vol, veh/h	25	25	132	22	23	316
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	8	8	8	8	8	8
Mvmt Flow	25	25	132	22	23	316

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	505	143	0	0	154	0
Stage 1	143	-	-	-	-	-
Stage 2	362	-	-	-	-	-
Critical Hdwy	6.48	6.28	-	-	4.18	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	-	-	2.272	-
Pot Cap-1 Maneuver	516	889	-	-	1391	-
Stage 1	870	-	-	-	-	-
Stage 2	691	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	506	889	-	-	1391	-
Mov Cap-2 Maneuver	506	-	-	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	677	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	645	1391	-
HCM Lane V/C Ratio	-	-	0.078	0.017	-
HCM Control Delay (s)	-	-	11.1	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	65	36	34	72	25	263	161	257	33	259	26
Future Volume (veh/h)	25	65	36	34	72	25	263	161	257	33	259	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1781	1856	1781	1856	1781	1781	1781	1781	1856
Adj Flow Rate, veh/h	25	65	36	34	72	25	263	161	257	33	259	26
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	8	3	8	3	8	8	8	8	3
Cap, veh/h	39	148	125	47	112	39	830	1078	962	46	310	31
Arrive On Green	0.02	0.08	0.08	0.03	0.09	0.09	0.78	1.00	1.00	0.03	0.19	0.19
Sat Flow, veh/h	1767	1856	1572	1697	1316	457	1767	1692	1510	1697	1593	160
Grp Volume(v), veh/h	25	65	36	34	0	97	263	161	257	33	0	285
Grp Sat Flow(s),veh/h/ln	1767	1856	1572	1697	0	1773	1767	1692	1510	1697	0	1753
Q Serve(g_s), s	1.0	2.3	0.6	1.4	0.0	3.7	3.0	0.0	0.0	1.4	0.0	10.9
Cycle Q Clear(g_c), s	1.0	2.3	0.6	1.4	0.0	3.7	3.0	0.0	0.0	1.4	0.0	10.9
Prop In Lane	1.00		1.00	1.00		0.26	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	39	148	125	47	0	151	830	1078	962	46	0	341
V/C Ratio(X)	0.64	0.44	0.29	0.72	0.00	0.64	0.32	0.15	0.27	0.72	0.00	0.84
Avail Cap(c_a), veh/h	101	477	404	97	0	456	830	1078	962	121	0	451
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.89	0.89	0.89	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.0	30.7	4.1	33.8	0.0	31.0	4.3	0.0	0.0	33.8	0.0	27.1
Incr Delay (d2), s/veh	16.4	2.1	1.2	19.0	0.0	4.5	0.2	0.3	0.6	18.8	0.0	20.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.1	0.6	0.8	0.0	1.7	0.9	0.1	0.2	0.8	0.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.3	32.8	5.3	52.7	0.0	35.5	4.5	0.3	0.6	52.6	0.0	48.0
LnGrp LOS	D	C	A	D	A	D	A	A	A	D	A	D
Approach Vol, veh/h		126			131			681			318	
Approach Delay, s/veh		28.4			39.9			2.0			48.5	
Approach LOS		C			D			A			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	48.6	5.9	9.6	36.9	17.6	5.5	10.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	27.0	4.0	18.0	14.0	18.0	4.0	18.0
Max Q Clear Time (g_c+I1), s	3.4	2.0	3.4	4.3	5.0	12.9	3.0	5.7
Green Ext Time (p_c), s	0.0	2.8	0.0	0.3	0.5	0.7	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	701	0	449	120	216	0	0	305	67
Future Volume (veh/h)	0	0	0	701	0	449	120	216	0	0	305	67
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	1856	1781	1856	1781	0	0	1781	1781
Adj Flow Rate, veh/h				701	0	449	120	216	0	0	305	67
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				3	3	8	3	8	0	0	8	8
Cap, veh/h				1318	0	544	245	914	0	0	1063	230
Arrive On Green				0.37	0.00	0.36	0.14	1.00	0.00	0.00	0.77	0.74
Sat Flow, veh/h				3534	0	1510	3428	1781	0	0	2856	599
Grp Volume(v), veh/h				701	0	449	120	216	0	0	185	187
Grp Sat Flow(s),veh/h/ln				1767	0	1510	1714	1781	0	0	1692	1674
Q Serve(g_s), s				10.9	0.0	19.0	2.3	0.0	0.0	0.0	2.3	2.4
Cycle Q Clear(g_c), s				10.9	0.0	19.0	2.3	0.0	0.0	0.0	2.3	2.4
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.36
Lane Grp Cap(c), veh/h				1318	0	544	245	914	0	0	650	643
V/C Ratio(X)				0.53	0.00	0.83	0.49	0.24	0.00	0.00	0.28	0.29
Avail Cap(c_a), veh/h				1464	0	606	245	914	0	0	650	643
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	0.00	1.00	0.95	0.95	0.00	0.00	0.96	0.96
Uniform Delay (d), s/veh				17.2	0.0	20.4	28.8	0.0	0.0	0.0	5.3	5.5
Incr Delay (d2), s/veh				0.5	0.0	9.0	1.9	0.6	0.0	0.0	1.1	1.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.0	0.0	7.3	0.9	0.1	0.0	0.0	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				17.6	0.0	29.4	30.7	0.6	0.0	0.0	6.3	6.6
LnGrp LOS				B	A	C	C	A	A	A	A	A
Approach Vol, veh/h					1150			336			372	
Approach Delay, s/veh					22.2			11.4			6.4	
Approach LOS					C			B			A	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		39.9			9.0	30.9		30.1				
Change Period (Y+Rc), s		4.9			4.0	4.9		4.9				
Max Green Setting (Gmax), s		32.1			5.0	23.1		28.1				
Max Q Clear Time (g_c+I1), s		2.0			4.3	4.4		21.0				
Green Ext Time (p_c), s		0.8			0.0	1.4		4.2				
Intersection Summary												
HCM 6th Ctrl Delay			17.1									
HCM 6th LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	0	70	0	0	0	0	251	357	246	761	0
Future Volume (veh/h)	62	0	70	0	0	0	0	251	357	246	761	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	1856	1856				0	1856	1856	1781	1856	0
Adj Flow Rate, veh/h	62	0	70				0	251	357	246	761	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	3	3				0	3	3	8	3	0
Cap, veh/h	149	0	112				0	464	414	795	2826	0
Arrive On Green	0.08	0.00	0.07				0.00	0.26	0.25	0.31	0.54	0.00
Sat Flow, veh/h	1767	0	1572				0	1856	1572	1697	3618	0
Grp Volume(v), veh/h	62	0	70				0	251	357	246	761	0
Grp Sat Flow(s),veh/h/ln	1767	0	1572				0	1763	1572	1697	1763	0
Q Serve(g_s), s	2.3	0.0	3.0				0.0	8.6	15.2	7.7	8.2	0.0
Cycle Q Clear(g_c), s	2.3	0.0	3.0				0.0	8.6	15.2	7.7	8.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	149	0	112				0	464	414	795	2826	0
V/C Ratio(X)	0.42	0.00	0.63				0.00	0.54	0.86	0.31	0.27	0.00
Avail Cap(c_a), veh/h	528	0	449				0	481	429	795	2826	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.67	0.67	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.86	0.86	0.90	0.90	0.00
Uniform Delay (d), s/veh	30.4	0.0	31.6				0.0	22.2	25.0	15.4	5.1	0.0
Incr Delay (d2), s/veh	1.9	0.0	5.6				0.0	3.9	18.2	0.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	1.3				0.0	3.8	7.4	2.9	1.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.3	0.0	37.2				0.0	26.0	43.2	15.7	5.3	0.0
LnGrp LOS	C	A	D				A	C	D	B	A	A
Approach Vol, veh/h		132						608			1007	
Approach Delay, s/veh		34.9						36.1			7.8	
Approach LOS		C						D			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	37.7	22.4		9.9		60.1
Change Period (Y+Rc), s	4.9	* 4.9		4.9		4.9
Max Green Setting (Gmax), s	18.0	* 18		20.0		40.2
Max Q Clear Time (g_c+I1), s	9.7	17.2		5.0		10.2
Green Ext Time (p_c), s	0.8	0.3		0.4		3.8

Intersection Summary		
HCM 6th Ctrl Delay		19.7
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	268	81	95	316	49	67	331	79	162	417	178
Future Volume (veh/h)	123	268	81	95	316	49	67	331	79	162	417	178
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	123	268	81	95	316	49	67	331	79	162	417	178
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	240	565	167	218	607	93	184	616	145	242	627	265
Arrive On Green	0.14	0.21	0.20	0.12	0.20	0.19	0.10	0.22	0.20	0.14	0.26	0.24
Sat Flow, veh/h	1767	2682	794	1767	3064	470	1767	2832	667	1767	2415	1020
Grp Volume(v), veh/h	123	174	175	95	180	185	67	204	206	162	303	292
Grp Sat Flow(s),veh/h/ln	1767	1763	1713	1767	1763	1771	1767	1763	1736	1767	1763	1672
Q Serve(g_s), s	3.4	4.6	4.8	2.6	4.8	4.9	1.9	5.4	5.6	4.6	8.1	8.3
Cycle Q Clear(g_c), s	3.4	4.6	4.8	2.6	4.8	4.9	1.9	5.4	5.6	4.6	8.1	8.3
Prop In Lane	1.00		0.46	1.00		0.27	1.00		0.38	1.00		0.61
Lane Grp Cap(c), veh/h	240	372	361	218	349	351	184	383	377	242	458	434
V/C Ratio(X)	0.51	0.47	0.48	0.44	0.52	0.53	0.36	0.53	0.55	0.67	0.66	0.67
Avail Cap(c_a), veh/h	284	1082	1051	284	1082	1087	314	1098	1081	317	1118	1061
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.3	18.3	18.5	21.5	19.0	19.1	22.1	18.3	18.6	21.7	17.5	17.9
Incr Delay (d2), s/veh	0.6	0.9	1.0	0.5	1.2	1.2	0.4	1.2	1.2	1.5	1.6	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.7	1.7	1.0	1.8	1.9	0.7	2.1	2.1	1.8	3.1	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.9	19.2	19.5	22.0	20.1	20.3	22.5	19.5	19.8	23.2	19.2	19.7
LnGrp LOS	C	B	B	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		472			460			477			757	
Approach Delay, s/veh		20.0			20.6			20.1			20.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	15.5	10.5	15.2	9.5	17.8	11.2	14.5
Change Period (Y+Rc), s	4.5	5.0	4.5	4.5	4.5	5.0	4.5	4.5
Max Green Setting (Gmax), s	9.5	32.0	8.0	32.0	8.9	32.6	8.0	32.0
Max Q Clear Time (g_c+I1), s	6.6	7.6	4.6	6.8	3.9	10.3	5.4	6.9
Green Ext Time (p_c), s	0.1	1.6	0.0	1.3	0.0	2.4	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	20.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	790	122	153	576	80	190	564	285	56	210	127
Future Volume (veh/h)	130	790	122	153	576	80	190	564	285	56	210	127
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	130	790	122	153	576	80	190	564	285	56	210	127
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	426	1095	488	439	1108	494	451	911	406	317	773	345
Arrive On Green	0.12	0.31	0.31	0.13	0.31	0.31	0.13	0.26	0.26	0.09	0.22	0.22
Sat Flow, veh/h	3428	3526	1572	3428	3526	1572	3428	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	130	790	122	153	576	80	190	564	285	56	210	127
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1714	1763	1572	1714	1763	1572	1714	1763	1572
Q Serve(g_s), s	2.3	13.2	3.9	2.7	8.9	2.4	3.4	9.4	10.9	1.0	3.3	4.6
Cycle Q Clear(g_c), s	2.3	13.2	3.9	2.7	8.9	2.4	3.4	9.4	10.9	1.0	3.3	4.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	426	1095	488	439	1108	494	451	911	406	317	773	345
V/C Ratio(X)	0.30	0.72	0.25	0.35	0.52	0.16	0.42	0.62	0.70	0.18	0.27	0.37
Avail Cap(c_a), veh/h	464	1907	851	469	1912	853	562	1955	872	464	1854	827
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	20.4	17.1	26.5	18.7	16.5	26.6	21.8	22.4	27.9	21.6	22.1
Incr Delay (d2), s/veh	0.1	0.7	0.2	0.2	0.3	0.1	0.2	0.3	0.8	0.1	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	5.1	1.3	1.1	3.4	0.8	1.3	3.6	3.8	0.4	1.3	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.7	21.1	17.3	26.7	19.0	16.6	26.8	22.0	23.2	28.0	21.6	22.3
LnGrp LOS	C	C	B	C	B	B	C	C	C	C	C	C
Approach Vol, veh/h		1042			809			1039			393	
Approach Delay, s/veh		21.3			20.2			23.2			22.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	24.2	12.3	18.1	11.8	24.4	9.7	20.7
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	8.1	34.0	9.9	33.0	8.0	34.1	8.0	34.9
Max Q Clear Time (g_c+I1), s	4.7	15.2	5.4	6.6	4.3	10.9	3.0	12.9
Green Ext Time (p_c), s	0.1	3.4	0.2	0.8	0.1	2.4	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	21.8
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	25	25	76	20	35	20	1033	216	42	384	20
Future Volume (veh/h)	20	25	25	76	20	35	20	1033	216	42	384	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	20	25	25	76	20	35	20	1033	0	42	384	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	148	134	98	248	67	68	70	1522		129	1625	84
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.04	0.43	0.00	0.07	0.48	0.48
Sat Flow, veh/h	259	804	591	716	404	408	1767	3618	0	1767	3409	177
Grp Volume(v), veh/h	70	0	0	131	0	0	20	1033	0	42	198	206
Grp Sat Flow(s),veh/h/ln	1654	0	0	1529	0	0	1767	1763	0	1767	1763	1824
Q Serve(g_s), s	0.0	0.0	0.0	1.7	0.0	0.0	0.5	10.4	0.0	1.0	2.9	2.9
Cycle Q Clear(g_c), s	1.5	0.0	0.0	3.3	0.0	0.0	0.5	10.4	0.0	1.0	2.9	2.9
Prop In Lane	0.29		0.36	0.58		0.27	1.00		0.00	1.00		0.10
Lane Grp Cap(c), veh/h	380	0	0	383	0	0	70	1522		129	840	869
V/C Ratio(X)	0.18	0.00	0.00	0.34	0.00	0.00	0.29	0.68		0.33	0.24	0.24
Avail Cap(c_a), veh/h	982	0	0	940	0	0	325	2306		325	1153	1193
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.0	0.0	0.0	16.6	0.0	0.0	20.6	10.1	0.0	19.4	6.8	6.8
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.4	0.0	0.0	0.8	0.5	0.0	0.5	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	1.1	0.0	0.0	0.2	2.9	0.0	0.4	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.0	0.0	0.0	17.0	0.0	0.0	21.4	10.6	0.0	19.9	6.9	6.9
LnGrp LOS	B	A	A	B	A	A	C	B		B	A	A
Approach Vol, veh/h		70			131			1053	A		446	
Approach Delay, s/veh		16.0			17.0			10.8			8.2	
Approach LOS		B			B			B			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.2	24.0		11.8	6.2	26.0		11.8
Change Period (Y+Rc), s	5.0	* 5		4.5	4.5	5.0		4.5
Max Green Setting (Gmax), s	8.1	* 29		24.1	8.1	28.8		24.1
Max Q Clear Time (g_c+I1), s	3.0	12.4		3.5	2.5	4.9		5.3
Green Ext Time (p_c), s	0.0	6.6		0.2	0.0	2.3		0.5

Intersection Summary			
HCM 6th Ctrl Delay			10.8
HCM 6th LOS			B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	59	20	25	40	20	48	20	971	121	55	359	12
Future Vol, veh/h	59	20	25	40	20	48	20	971	121	55	359	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	59	20	25	40	20	48	20	971	121	55	359	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1011	1607	186	1372	1553	546	371	0	0	1092	0	0
Stage 1	475	475	-	1072	1072	-	-	-	-	-	-	-
Stage 2	536	1132	-	300	481	-	-	-	-	-	-	-
Critical Hdwy	5	5	5	5	5	5	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	395	207	909	276	218	645	1177	-	-	629	-	-
Stage 1	537	553	-	234	293	-	-	-	-	-	-	-
Stage 2	494	274	-	681	550	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	311	186	909	227	196	645	1177	-	-	629	-	-
Mov Cap-2 Maneuver	311	186	-	227	196	-	-	-	-	-	-	-
Stage 1	528	505	-	230	288	-	-	-	-	-	-	-
Stage 2	418	269	-	580	502	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.6	23	0.1	1.5
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1177	-	-	320	306	629	-	-
HCM Lane V/C Ratio	0.017	-	-	0.325	0.353	0.087	-	-
HCM Control Delay (s)	8.1	-	-	21.6	23	11.3	-	-
HCM Lane LOS	A	-	-	C	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.4	1.5	0.3	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	248	292	79	103	431	92	208	794	149	36	297	63
Future Volume (veh/h)	248	292	79	103	431	92	208	794	149	36	297	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	248	292	79	103	431	92	208	794	149	36	297	63
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	295	772	205	155	582	123	172	1044	466	77	855	382
Arrive On Green	0.17	0.28	0.28	0.09	0.20	0.20	0.10	0.30	0.30	0.04	0.24	0.24
Sat Flow, veh/h	1767	2754	732	1767	2895	613	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	248	185	186	103	261	262	208	794	149	36	297	63
Grp Sat Flow(s),veh/h/ln	1767	1763	1724	1767	1763	1745	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	9.1	5.6	5.8	3.8	9.3	9.4	6.5	13.7	4.9	1.3	4.7	2.1
Cycle Q Clear(g_c), s	9.1	5.6	5.8	3.8	9.3	9.4	6.5	13.7	4.9	1.3	4.7	2.1
Prop In Lane	1.00		0.42	1.00		0.35	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	295	494	483	155	354	351	172	1044	466	77	855	382
V/C Ratio(X)	0.84	0.37	0.38	0.67	0.74	0.75	1.21	0.76	0.32	0.47	0.35	0.17
Avail Cap(c_a), veh/h	720	845	826	821	945	936	172	1663	742	159	1637	730
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.9	19.3	19.4	29.5	25.0	25.1	30.1	21.3	18.3	31.2	20.9	19.9
Incr Delay (d2), s/veh	2.5	0.5	0.5	1.8	3.0	3.2	135.9	1.2	0.4	1.6	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	2.1	2.2	1.6	3.8	3.8	9.1	5.3	1.7	0.6	1.8	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.4	19.8	19.9	31.4	28.0	28.3	166.0	22.5	18.7	32.8	21.1	20.1
LnGrp LOS	C	B	B	C	C	C	F	C	B	C	C	C
Approach Vol, veh/h		619			626			1151			396	
Approach Delay, s/veh		23.7			28.7			47.9			22.0	
Approach LOS		C			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.6	18.9	7.4	24.8	10.3	24.2	11.0	21.2				
Change Period (Y+Rc), s	4.5	5.5	4.5	5.0	4.5	5.5	4.5	5.0				
Max Green Setting (Gmax), s	27.2	35.8	6.0	31.5	31.0	32.0	6.5	31.0				
Max Q Clear Time (g_c+I1), s	11.1	11.4	3.3	15.7	5.8	7.8	8.5	6.7				
Green Ext Time (p_c), s	0.2	2.0	0.0	4.1	0.1	1.4	0.0	1.5				
Intersection Summary												
HCM 6th Ctrl Delay			34.6									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

Future 2042
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	131	62	93	25	67	27	983	278	25	392	24
Future Volume (veh/h)	47	131	62	93	25	67	27	983	278	25	392	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	47	131	62	93	25	67	27	983	278	25	392	24
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	121	169	80	168	75	202	82	1258	354	78	1554	95
Arrive On Green	0.07	0.14	0.14	0.10	0.17	0.17	0.05	0.46	0.46	0.04	0.46	0.46
Sat Flow, veh/h	1767	1191	563	1767	446	1195	1767	2716	765	1767	3375	206
Grp Volume(v), veh/h	47	0	193	93	0	92	27	637	624	25	204	212
Grp Sat Flow(s),veh/h/ln	1767	0	1754	1767	0	1640	1767	1763	1718	1767	1763	1818
Q Serve(g_s), s	1.8	0.0	7.5	3.5	0.0	3.5	1.0	21.4	21.6	1.0	5.0	5.0
Cycle Q Clear(g_c), s	1.8	0.0	7.5	3.5	0.0	3.5	1.0	21.4	21.6	1.0	5.0	5.0
Prop In Lane	1.00		0.32	1.00		0.73	1.00		0.45	1.00		0.11
Lane Grp Cap(c), veh/h	121	0	249	168	0	277	82	817	796	78	812	838
V/C Ratio(X)	0.39	0.00	0.78	0.55	0.00	0.33	0.33	0.78	0.78	0.32	0.25	0.25
Avail Cap(c_a), veh/h	203	0	715	218	0	683	203	914	891	203	914	943
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	0.0	29.1	30.4	0.0	25.8	32.5	15.9	15.9	32.6	11.6	11.6
Incr Delay (d2), s/veh	0.8	0.0	2.0	1.1	0.0	0.3	0.8	4.6	4.9	0.9	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	3.1	1.5	0.0	1.3	0.4	8.2	8.1	0.4	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.1	0.0	31.1	31.5	0.0	26.0	33.3	20.5	20.8	33.5	11.9	11.9
LnGrp LOS	C	A	C	C	A	C	C	C	C	C	B	B
Approach Vol, veh/h		240			185			1288			441	
Approach Delay, s/veh		31.3			28.8			20.9			13.1	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	37.1	11.2	14.5	7.8	36.9	9.3	16.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.1	36.5	8.7	28.7	8.1	36.5	8.1	29.3
Max Q Clear Time (g_c+I1), s	3.0	23.6	5.5	9.5	3.0	7.0	3.8	5.5
Green Ext Time (p_c), s	0.0	9.0	0.0	0.4	0.0	4.1	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	21.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	222	139	258	277	269	155	584	121	167	470	91
Future Volume (veh/h)	96	222	139	258	277	269	155	584	121	167	470	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1900	1885	1826	1870	1856	1900
Adj Flow Rate, veh/h	96	222	139	258	277	269	155	584	121	167	470	91
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	2	2	2	0	1	5	2	3	0
Cap, veh/h	185	459	276	432	837	373	214	866	374	213	718	138
Arrive On Green	0.10	0.21	0.21	0.12	0.24	0.24	0.12	0.24	0.24	0.12	0.24	0.24
Sat Flow, veh/h	1795	2151	1292	3456	3554	1585	1810	3582	1547	1781	2949	568
Grp Volume(v), veh/h	96	183	178	258	277	269	155	584	121	167	280	281
Grp Sat Flow(s),veh/h/ln	1795	1791	1653	1728	1777	1585	1810	1791	1547	1781	1763	1753
Q Serve(g_s), s	3.2	5.7	6.0	4.5	4.1	9.9	5.2	9.4	4.1	5.8	9.0	9.1
Cycle Q Clear(g_c), s	3.2	5.7	6.0	4.5	4.1	9.9	5.2	9.4	4.1	5.8	9.0	9.1
Prop In Lane	1.00		0.78	1.00		1.00	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	185	382	353	432	837	373	214	866	374	213	429	427
V/C Ratio(X)	0.52	0.48	0.50	0.60	0.33	0.72	0.73	0.67	0.32	0.78	0.65	0.66
Avail Cap(c_a), veh/h	227	1047	966	437	2077	926	243	2121	916	239	1044	1038
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.9	21.8	21.9	26.2	20.1	22.3	26.9	21.7	19.7	27.1	21.5	21.6
Incr Delay (d2), s/veh	0.8	1.1	1.3	1.5	0.3	3.2	7.0	1.1	0.6	12.1	2.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	2.3	2.2	1.8	1.5	3.6	2.4	3.5	1.4	3.0	3.6	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.7	22.9	23.3	27.7	20.4	25.5	34.0	22.9	20.3	39.2	23.6	23.7
LnGrp LOS	C	C	C	C	C	C	C	C	C	D	C	C
Approach Vol, veh/h		457			804			860			728	
Approach Delay, s/veh		24.1			24.4			24.5			27.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.1	20.3	12.4	18.5	12.0	20.4	11.0	19.9
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	8.5	37.5	8.0	37.0	8.5	37.5	8.0	37.0
Max Q Clear Time (g_c+I1), s	7.8	11.4	6.5	8.0	7.2	11.1	5.2	11.9
Green Ext Time (p_c), s	0.0	4.0	0.1	1.8	0.0	2.8	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	25.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	435	36	35	42	95	276	96	297	34	122	489	221
Future Volume (veh/h)	435	36	35	42	95	276	96	297	34	122	489	221
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	435	36	35	42	95	276	96	297	34	122	489	221
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	423	350	340	80	392	332	122	795	90	141	614	276
Arrive On Green	0.24	0.41	0.41	0.05	0.21	0.21	0.07	0.25	0.25	0.08	0.26	0.26
Sat Flow, veh/h	1767	864	840	1767	1856	1572	1767	3191	362	1767	2364	1063
Grp Volume(v), veh/h	435	0	71	42	95	276	96	163	168	122	364	346
Grp Sat Flow(s),veh/h/ln	1767	0	1704	1767	1856	1572	1767	1763	1790	1767	1763	1664
Q Serve(g_s), s	19.5	0.0	2.1	1.9	3.5	13.7	4.4	6.2	6.3	5.6	15.7	15.8
Cycle Q Clear(g_c), s	19.5	0.0	2.1	1.9	3.5	13.7	4.4	6.2	6.3	5.6	15.7	15.8
Prop In Lane	1.00		0.49	1.00		1.00	1.00		0.20	1.00		0.64
Lane Grp Cap(c), veh/h	423	0	691	80	392	332	122	439	446	141	458	432
V/C Ratio(X)	1.03	0.00	0.10	0.53	0.24	0.83	0.79	0.37	0.38	0.87	0.79	0.80
Avail Cap(c_a), veh/h	423	0	874	145	660	559	130	584	593	141	595	561
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.0	0.0	15.0	38.1	26.7	30.8	37.3	25.3	25.4	37.1	28.1	28.2
Incr Delay (d2), s/veh	51.4	0.0	0.1	2.0	0.4	6.4	22.7	0.6	0.6	38.1	6.1	6.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.0	0.0	0.8	0.9	1.5	5.6	2.5	2.5	2.6	3.8	6.8	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.4	0.0	15.1	40.1	27.1	37.2	60.0	26.0	26.0	75.2	34.2	34.9
LnGrp LOS	F	A	B	D	C	D	E	C	C	E	C	C
Approach Vol, veh/h		506			413			427			832	
Approach Delay, s/veh		73.0			35.2			33.6			40.5	
Approach LOS		E			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	24.8	8.2	37.5	10.1	25.7	24.0	21.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	27.0	6.7	41.8	6.0	27.5	19.5	29.0
Max Q Clear Time (g_c+I1), s	7.6	8.3	3.9	4.1	6.4	17.8	21.5	15.7
Green Ext Time (p_c), s	0.0	1.9	0.0	0.5	0.0	3.3	0.0	1.5

Intersection Summary		
HCM 6th Ctrl Delay		45.7
HCM 6th LOS		D

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	25	260	44	125	554
Future Vol, veh/h	21	25	260	44	125	554
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	21	25	260	44	125	554

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	809	152	0	0	304	0
Stage 1	282	-	-	-	-	-
Stage 2	527	-	-	-	-	-
Critical Hdwy	6.86	6.96	-	-	4.16	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	316	864	-	-	1246	-
Stage 1	738	-	-	-	-	-
Stage 2	554	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	284	864	-	-	1246	-
Mov Cap-2 Maneuver	284	-	-	-	-	-
Stage 1	738	-	-	-	-	-
Stage 2	499	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	1.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	284	864	1246	-
HCM Lane V/C Ratio	-	-	0.074	0.029	0.1	-
HCM Control Delay (s)	-	-	18.7	9.3	8.2	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	0.3	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	146	269	25	25	726	122	25	36	25	238	25	355
Future Volume (veh/h)	146	269	25	25	726	122	25	36	25	238	25	355
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	146	269	25	25	726	122	25	36	25	238	25	355
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	728	1314	121	606	1216	204	364	348	242	653	36	506
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1251	3263	301	1077	3020	507	995	1020	708	1331	105	1484
Grp Volume(v), veh/h	146	144	150	25	424	424	25	0	61	238	0	380
Grp Sat Flow(s),veh/h/ln	625	1763	1801	1077	1763	1764	995	0	1728	1331	0	1588
Q Serve(g_s), s	3.2	1.7	1.7	0.5	5.9	5.9	0.7	0.0	0.8	4.6	0.0	6.5
Cycle Q Clear(g_c), s	9.2	1.7	1.7	2.2	5.9	5.9	7.2	0.0	0.8	5.4	0.0	6.5
Prop In Lane	1.00		0.17	1.00		0.29	1.00		0.41	1.00		0.93
Lane Grp Cap(c), veh/h	728	710	725	606	710	710	364	0	590	653	0	542
V/C Ratio(X)	0.20	0.20	0.21	0.04	0.60	0.60	0.07	0.00	0.10	0.36	0.00	0.70
Avail Cap(c_a), veh/h	945	1016	1038	793	1016	1017	630	0	1051	1008	0	966
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.9	6.1	6.1	6.8	7.3	7.3	12.0	0.0	7.0	8.9	0.0	8.9
Incr Delay (d2), s/veh	0.1	0.1	0.1	0.0	0.8	0.8	0.1	0.0	0.1	0.3	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.3	0.3	0.1	1.1	1.1	0.1	0.0	0.2	0.9	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.1	6.2	6.2	6.8	8.1	8.1	12.1	0.0	7.1	9.2	0.0	10.6
LnGrp LOS	B	A	A	A	A	A	B	A	A	A	A	B
Approach Vol, veh/h		440			873			86			618	
Approach Delay, s/veh		7.8			8.1			8.6			10.0	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		14.7		16.6		14.7		16.6				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		19.0		18.0		19.0		18.0				
Max Q Clear Time (g_c+I1), s		9.2		11.2		8.5		7.9				
Green Ext Time (p_c), s		0.2		1.4		2.2		2.7				

Intersection Summary			
HCM 6th Ctrl Delay			8.7
HCM 6th LOS			A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	251	714	85	124	640	55	64	358	117	39	97	63
Future Volume (veh/h)	251	714	85	124	640	55	64	358	117	39	97	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	251	714	85	124	640	55	64	358	117	39	97	63
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	297	1054	125	158	809	69	81	397	130	54	521	441
Arrive On Green	0.17	0.33	0.33	0.09	0.25	0.25	0.05	0.30	0.30	0.03	0.28	0.28
Sat Flow, veh/h	1767	3173	377	1767	3286	282	1767	1339	438	1767	1856	1572
Grp Volume(v), veh/h	251	396	403	124	343	352	64	0	475	39	97	63
Grp Sat Flow(s),veh/h/ln	1767	1763	1788	1767	1763	1805	1767	0	1777	1767	1856	1572
Q Serve(g_s), s	9.6	13.5	13.5	4.8	12.7	12.7	2.5	0.0	17.8	1.5	2.8	2.1
Cycle Q Clear(g_c), s	9.6	13.5	13.5	4.8	12.7	12.7	2.5	0.0	17.8	1.5	2.8	2.1
Prop In Lane	1.00		0.21	1.00		0.16	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	297	585	594	158	434	444	81	0	526	54	521	441
V/C Ratio(X)	0.85	0.68	0.68	0.79	0.79	0.79	0.79	0.00	0.90	0.72	0.19	0.14
Avail Cap(c_a), veh/h	382	835	847	229	683	699	206	0	678	104	601	509
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.0	20.0	20.0	31.0	24.5	24.5	32.8	0.0	23.5	33.4	19.0	18.7
Incr Delay (d2), s/veh	10.7	1.4	1.4	6.2	3.3	3.3	6.1	0.0	11.3	6.7	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	5.3	5.4	2.2	5.4	5.5	1.2	0.0	8.6	0.7	1.1	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.7	21.4	21.4	37.2	27.8	27.8	38.9	0.0	34.8	40.1	19.0	18.8
LnGrp LOS	D	C	C	D	C	C	D	A	C	D	B	B
Approach Vol, veh/h		1050			819			539			199	
Approach Delay, s/veh		25.5			29.2			35.3			23.1	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.2	21.6	7.7	24.0	10.2	27.6	6.6	25.1
Change Period (Y+Rc), s	4.5	* 4.5	4.5	4.5	4.0	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.0	* 27	8.1	22.5	9.0	32.9	4.1	26.5
Max Q Clear Time (g_c+I1), s	11.6	14.7	4.5	4.8	6.8	15.5	3.5	19.8
Green Ext Time (p_c), s	0.2	2.4	0.0	0.3	0.0	3.3	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	28.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	302	34	34	476	127	30	411	80	20	72	71
Future Volume (veh/h)	193	302	34	34	476	127	30	411	80	20	72	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	193	302	34	34	476	127	30	411	80	20	72	71
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	213	1005	112	77	654	173	70	484	94	50	265	262
Arrive On Green	0.12	0.31	0.31	0.04	0.24	0.24	0.04	0.32	0.32	0.03	0.31	0.31
Sat Flow, veh/h	1767	3197	357	1767	2756	731	1767	1509	294	1767	858	846
Grp Volume(v), veh/h	193	165	171	34	303	300	30	0	491	20	0	143
Grp Sat Flow(s),veh/h/ln	1767	1763	1791	1767	1763	1724	1767	0	1803	1767	0	1703
Q Serve(g_s), s	6.3	4.1	4.2	1.1	9.2	9.3	1.0	0.0	14.8	0.6	0.0	3.7
Cycle Q Clear(g_c), s	6.3	4.1	4.2	1.1	9.2	9.3	1.0	0.0	14.8	0.6	0.0	3.7
Prop In Lane	1.00		0.20	1.00		0.42	1.00		0.16	1.00		0.50
Lane Grp Cap(c), veh/h	213	554	563	77	419	409	70	0	578	50	0	527
V/C Ratio(X)	0.91	0.30	0.30	0.44	0.72	0.73	0.43	0.00	0.85	0.40	0.00	0.27
Avail Cap(c_a), veh/h	213	759	771	183	729	713	183	0	807	183	0	763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.2	15.1	15.1	27.1	20.4	20.4	27.2	0.0	18.4	27.7	0.0	15.1
Incr Delay (d2), s/veh	36.2	0.4	0.4	1.5	2.9	3.1	1.5	0.0	6.7	1.9	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	1.5	1.5	0.4	3.6	3.6	0.4	0.0	6.5	0.3	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.4	15.4	15.4	28.5	23.3	23.5	28.8	0.0	25.1	29.6	0.0	15.4
LnGrp LOS	E	B	B	C	C	C	C	A	C	C	A	B
Approach Vol, veh/h		529			637			521			163	
Approach Delay, s/veh		32.2			23.7			25.3			17.2	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	18.3	6.3	22.5	6.5	22.8	5.7	23.1
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	7.0	24.0	6.0	26.0	6.0	25.0	6.0	26.0
Max Q Clear Time (g_c+I1), s	8.3	11.3	3.0	5.7	3.1	6.2	2.6	16.8
Green Ext Time (p_c), s	0.0	2.5	0.0	0.6	0.0	1.4	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	26.0
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	25	53	25	25	25	25	29	25	106	20	266	29
Future Vol, veh/h	25	53	25	25	25	25	29	25	106	20	266	29
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	3	8	8	8	8	3	8	3	8	3	3	3
Mvmt Flow	25	53	25	25	25	25	29	25	106	20	266	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.9	8.8	8.7	10.6
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	24%	33%	6%
Vol Thru, %	16%	51%	33%	84%
Vol Right, %	66%	24%	33%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	160	103	75	315
LT Vol	29	25	25	20
Through Vol	25	53	25	266
RT Vol	106	25	25	29
Lane Flow Rate	160	103	75	315
Geometry Grp	1	1	1	1
Degree of Util (X)	0.199	0.144	0.107	0.397
Departure Headway (Hd)	4.485	5.032	5.122	4.538
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	797	709	695	791
Service Time	2.534	3.092	3.185	2.58
HCM Lane V/C Ratio	0.201	0.145	0.108	0.398
HCM Control Delay	8.7	8.9	8.8	10.6
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	0.7	0.5	0.4	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	791	0	82	232	56	0	0	283	78
Future Volume (veh/h)	0	0	0	791	0	82	232	56	0	0	283	78
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1678	1856	1781	1678	1781	0	0	1781	1781
Adj Flow Rate, veh/h				791	0	82	232	56	0	0	283	78
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				15	3	8	15	8	0	0	8	8
Cap, veh/h				743	0	77	335	728	0	0	315	87
Arrive On Green				0.47	0.00	0.47	0.11	0.41	0.00	0.00	0.23	0.23
Sat Flow, veh/h				1583	0	164	3100	1781	0	0	1344	370
Grp Volume(v), veh/h				873	0	0	232	56	0	0	0	361
Grp Sat Flow(s),veh/h/ln				1747	0	0	1550	1781	0	0	0	1715
Q Serve(g_s), s				35.0	0.0	0.0	5.4	1.4	0.0	0.0	0.0	15.2
Cycle Q Clear(g_c), s				35.0	0.0	0.0	5.4	1.4	0.0	0.0	0.0	15.2
Prop In Lane				0.91		0.09	1.00		0.00	0.00		0.22
Lane Grp Cap(c), veh/h				820	0	0	335	728	0	0	0	402
V/C Ratio(X)				1.06	0.00	0.00	0.69	0.08	0.00	0.00	0.00	0.90
Avail Cap(c_a), veh/h				820	0	0	1247	728	0	0	0	575
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				19.8	0.0	0.0	32.0	13.5	0.0	0.0	0.0	27.7
Incr Delay (d2), s/veh				50.1	0.0	0.0	1.9	0.0	0.0	0.0	0.0	10.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				23.6	0.0	0.0	2.0	0.5	0.0	0.0	0.0	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				69.8	0.0	0.0	34.0	13.5	0.0	0.0	0.0	37.8
LnGrp LOS				F	A	A	C	B	A	A	A	D
Approach Vol, veh/h					873			288			361	
Approach Delay, s/veh					69.8			30.0			37.8	
Approach LOS					E			C			D	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		35.4			13.0	22.4		39.2				
Change Period (Y+Rc), s		4.9			4.9	4.9		4.2				
Max Green Setting (Gmax), s		25.0			30.0	25.0		35.0				
Max Q Clear Time (g_c+I1), s		3.4			7.4	17.2		37.0				
Green Ext Time (p_c), s		0.1			0.8	0.3		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			54.7									
HCM 6th LOS			D									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	0	315	0	0	0	0	204	400	126	957	0
Future Volume (veh/h)	52	0	315	0	0	0	0	204	400	126	957	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	1856	1678				0	1678	1678	1781	1678	0
Adj Flow Rate, veh/h	52	0	315				0	204	400	126	957	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	3	15				0	15	15	8	15	0
Cap, veh/h	61	0	371				0	1198	534	164	1756	0
Arrive On Green	0.27	0.00	0.27				0.00	0.38	0.38	0.10	0.55	0.00
Sat Flow, veh/h	226	0	1371				0	3272	1422	1697	3272	0
Grp Volume(v), veh/h	367	0	0				0	204	400	126	957	0
Grp Sat Flow(s),veh/h/ln	1597	0	0				0	1594	1422	1697	1594	0
Q Serve(g_s), s	11.1	0.0	0.0				0.0	2.2	12.5	3.7	9.8	0.0
Cycle Q Clear(g_c), s	11.1	0.0	0.0				0.0	2.2	12.5	3.7	9.8	0.0
Prop In Lane	0.14		0.86				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	432	0	0				0	1198	534	164	1756	0
V/C Ratio(X)	0.85	0.00	0.00				0.00	0.17	0.75	0.77	0.54	0.00
Avail Cap(c_a), veh/h	783	0	0				0	3438	1534	499	3438	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.6	0.0	0.0				0.0	10.6	13.8	22.5	7.3	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0				0.0	0.1	3.0	7.3	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0	0.0				0.0	0.6	3.5	1.6	2.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.4	0.0	0.0				0.0	10.7	16.8	29.7	7.7	0.0
LnGrp LOS	B	A	A				A	B	B	C	A	A
Approach Vol, veh/h		367						604			1083	
Approach Delay, s/veh		19.4						14.8			10.3	
Approach LOS		B						B			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	8.9	24.1		18.0		33.0
Change Period (Y+Rc), s	4.0	4.9		* 4.2		4.9
Max Green Setting (Gmax), s	15.0	55.0		* 25		55.0
Max Q Clear Time (g_c+I1), s	5.7	14.5		13.1		11.8
Green Ext Time (p_c), s	0.2	4.7		0.8		8.5

Intersection Summary	
HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	20	34	43	25	123	25	413	64	268	900	25
Future Volume (veh/h)	25	20	34	43	25	123	25	413	64	268	900	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1678	1856	1678	1856	1678	1678	1678	1678	1856
Adj Flow Rate, veh/h	25	20	34	43	25	123	25	413	64	268	900	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	15	3	15	3	15	15	15	15	3
Cap, veh/h	80	119	203	109	401	307	80	841	129	404	1239	611
Arrive On Green	0.05	0.19	0.19	0.07	0.22	0.22	0.05	0.30	0.30	0.13	0.39	0.39
Sat Flow, veh/h	1767	617	1049	1598	1856	1422	1767	2769	426	3100	3188	1572
Grp Volume(v), veh/h	25	0	54	43	25	123	25	237	240	268	900	25
Grp Sat Flow(s),veh/h/ln	1767	0	1667	1598	1856	1422	1767	1594	1601	1550	1594	1572
Q Serve(g_s), s	0.8	0.0	1.6	1.6	0.7	4.5	0.8	7.4	7.5	5.0	14.6	0.6
Cycle Q Clear(g_c), s	0.8	0.0	1.6	1.6	0.7	4.5	0.8	7.4	7.5	5.0	14.6	0.6
Prop In Lane	1.00		0.63	1.00		1.00	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	80	0	322	109	401	307	80	484	486	404	1239	611
V/C Ratio(X)	0.31	0.00	0.17	0.40	0.06	0.40	0.31	0.49	0.49	0.66	0.73	0.04
Avail Cap(c_a), veh/h	233	0	933	211	1039	796	233	761	765	536	1654	816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.1	0.0	20.4	27.1	18.9	20.4	28.1	17.3	17.3	25.1	15.8	11.5
Incr Delay (d2), s/veh	0.8	0.0	0.2	0.9	0.0	0.3	0.8	1.1	1.1	0.7	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.6	0.6	0.3	1.4	0.3	2.5	2.5	1.7	4.6	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.9	0.0	20.7	28.0	18.9	20.7	28.9	18.4	18.4	25.8	17.2	11.6
LnGrp LOS	C	A	C	C	B	C	C	B	B	C	B	B
Approach Vol, veh/h		79			191			502			1193	
Approach Delay, s/veh		23.3			22.1			18.9			19.0	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	23.4	8.6	16.2	7.3	28.6	7.3	17.6
Change Period (Y+Rc), s	4.5	5.0	4.5	4.5	4.5	5.0	4.5	4.5
Max Green Setting (Gmax), s	10.5	29.0	8.0	34.0	8.0	31.5	8.0	34.0
Max Q Clear Time (g_c+I1), s	7.0	9.5	3.6	3.6	2.8	16.6	2.8	6.5
Green Ext Time (p_c), s	0.2	3.6	0.0	0.3	0.0	7.0	0.0	0.1

Intersection Summary		
HCM 6th Ctrl Delay		19.5
HCM 6th LOS		B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	237	250	63	27	277	100	39	160	22	198	348	399
Future Volume (veh/h)	237	250	63	27	277	100	39	160	22	198	348	399
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1678	1870	1678	1870	1678	1678	1678	1678	1870
Adj Flow Rate, veh/h	237	250	63	27	277	100	39	160	22	198	348	399
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	15	2	15	2	15	15	15	15	2
Cap, veh/h	279	751	186	56	513	205	81	736	100	234	576	514
Arrive On Green	0.16	0.27	0.27	0.03	0.14	0.14	0.05	0.26	0.26	0.15	0.36	0.36
Sat Flow, veh/h	1781	2824	698	1598	3554	1422	1781	2821	382	1598	1594	1422
Grp Volume(v), veh/h	237	155	158	27	277	100	39	89	93	198	348	399
Grp Sat Flow(s),veh/h/ln	1781	1777	1745	1598	1777	1422	1781	1594	1609	1598	1594	1422
Q Serve(g_s), s	9.1	4.9	5.1	1.2	5.1	4.5	1.5	3.1	3.2	8.5	12.5	17.5
Cycle Q Clear(g_c), s	9.1	4.9	5.1	1.2	5.1	4.5	1.5	3.1	3.2	8.5	12.5	17.5
Prop In Lane	1.00		0.40	1.00		1.00	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	279	473	464	56	513	205	81	416	420	234	576	514
V/C Ratio(X)	0.85	0.33	0.34	0.48	0.54	0.49	0.48	0.21	0.22	0.85	0.60	0.78
Avail Cap(c_a), veh/h	304	987	969	137	1670	668	152	760	767	250	874	779
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.8	20.7	20.8	33.3	27.9	27.7	32.7	20.3	20.4	29.2	18.3	19.9
Incr Delay (d2), s/veh	17.2	0.7	0.7	2.4	1.5	3.1	1.6	0.4	0.5	20.3	1.7	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	2.0	2.1	0.5	2.2	1.7	0.7	1.1	1.2	4.4	4.5	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.0	21.4	21.5	35.7	29.4	30.7	34.3	20.8	20.8	49.5	20.1	24.4
LnGrp LOS	D	C	C	D	C	C	C	C	C	D	C	C
Approach Vol, veh/h		550			404			221			945	
Approach Delay, s/veh		32.0			30.1			23.2			28.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.3	23.8	7.5	23.7	8.2	30.9	16.0	15.1
Change Period (Y+Rc), s	5.0	5.5	5.0	5.0	5.0	5.5	5.0	5.0
Max Green Setting (Gmax), s	11.0	33.5	6.0	39.0	6.0	38.5	12.0	33.0
Max Q Clear Time (g_c+I1), s	10.5	5.2	3.2	7.1	3.5	19.5	11.1	7.1
Green Ext Time (p_c), s	0.0	1.3	0.0	2.4	0.0	5.9	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	29.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	522	25	20	1054	135	162	526	126	103	25	77
Future Volume (veh/h)	72	522	25	20	1054	135	162	526	126	103	25	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1678	1856	1856	1856	1678	1678	1856	1856	1856	1678	1856	1678
Adj Flow Rate, veh/h	72	522	25	20	1054	135	162	526	126	103	25	77
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	15	3	3	3	15	15	3	3	3	15	3	15
Cap, veh/h	132	1564	698	32	1187	530	164	653	156	130	387	345
Arrive On Green	0.08	0.44	0.44	0.02	0.37	0.37	0.09	0.23	0.23	0.08	0.22	0.22
Sat Flow, veh/h	1598	3526	1572	1767	3188	1422	1767	2824	673	1598	1763	1572
Grp Volume(v), veh/h	72	522	25	20	1054	135	162	327	325	103	25	77
Grp Sat Flow(s),veh/h/ln	1598	1763	1572	1767	1594	1422	1767	1763	1734	1598	1763	1572
Q Serve(g_s), s	3.3	7.3	0.7	0.8	23.4	5.0	6.9	13.2	13.3	4.8	0.8	3.0
Cycle Q Clear(g_c), s	3.3	7.3	0.7	0.8	23.4	5.0	6.9	13.2	13.3	4.8	0.8	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	132	1564	698	32	1187	530	164	408	401	130	387	345
V/C Ratio(X)	0.55	0.33	0.04	0.62	0.89	0.25	0.99	0.80	0.81	0.79	0.06	0.22
Avail Cap(c_a), veh/h	170	1591	710	117	1291	576	164	608	599	276	749	668
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	13.7	11.8	36.7	22.2	16.4	34.1	27.3	27.4	34.0	23.3	24.1
Incr Delay (d2), s/veh	1.3	0.1	0.0	18.1	7.4	0.3	66.1	2.6	2.9	10.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	2.6	0.2	0.5	9.1	1.6	5.9	5.6	5.6	2.2	0.3	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	13.8	11.9	54.8	29.6	16.6	100.2	30.0	30.3	44.4	23.3	24.2
LnGrp LOS	C	B	B	D	C	B	F	C	C	D	C	C
Approach Vol, veh/h		619			1209			814			205	
Approach Delay, s/veh		16.1			28.6			44.1			34.2	
Approach LOS		B			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.4	37.9	11.0	21.0	10.7	32.6	10.1	21.9
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.5	4.5	4.0	4.5
Max Green Setting (Gmax), s	5.0	34.0	7.0	32.0	8.0	30.5	13.0	26.0
Max Q Clear Time (g_c+I1), s	2.8	9.3	8.9	5.0	5.3	25.4	6.8	15.3
Green Ext Time (p_c), s	0.0	2.5	0.0	0.4	0.0	2.7	0.1	2.1

Intersection Summary	
HCM 6th Ctrl Delay	30.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑↱			↰↑	↱		✥	
Traffic Volume (veh/h)	5	322	43	202	906	5	200	5	268	5	5	5
Future Volume (veh/h)	5	322	43	202	906	5	200	5	268	5	5	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	5	322	0	202	906	5	200	5	268	5	5	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	194	1061		249	1194	7	357	9	325	13	13	13
Arrive On Green	0.11	0.30	0.00	0.14	0.33	0.33	0.21	0.21	0.21	0.02	0.02	0.02
Sat Flow, veh/h	1767	3526	1572	1767	3595	20	1726	43	1572	574	574	574
Grp Volume(v), veh/h	5	322	0	202	444	467	205	0	268	15	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1852	1769	0	1572	1723	0	0
Q Serve(g_s), s	0.1	3.8	0.0	6.1	12.3	12.3	5.7	0.0	8.9	0.5	0.0	0.0
Cycle Q Clear(g_c), s	0.1	3.8	0.0	6.1	12.3	12.3	5.7	0.0	8.9	0.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.98		1.00	0.33		0.33
Lane Grp Cap(c), veh/h	194	1061		249	585	615	366	0	325	39	0	0
V/C Ratio(X)	0.03	0.30		0.81	0.76	0.76	0.56	0.00	0.82	0.39	0.00	0.00
Avail Cap(c_a), veh/h	194	2191		275	1176	1236	404	0	359	693	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.7	14.7	0.0	22.8	16.3	16.3	19.5	0.0	20.7	26.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	13.8	2.1	2.0	1.4	0.0	13.3	6.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.4	0.0	3.2	4.5	4.7	2.2	0.0	4.1	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	14.9	0.0	36.6	18.4	18.3	20.9	0.0	34.1	32.7	0.0	0.0
LnGrp LOS	C	B		D	B	B	C	A	C	C	A	A
Approach Vol, veh/h		327	A		1113			473			15	
Approach Delay, s/veh		15.0			21.6			28.4			32.7	
Approach LOS		B			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.2	21.0		5.7	10.5	22.7		15.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	8.5	34.0		22.0	6.0	36.5		12.5				
Max Q Clear Time (g_c+I1), s	8.1	5.8		2.5	2.1	14.3		10.9				
Green Ext Time (p_c), s	0.0	1.5		0.0	0.0	3.9		0.4				

Intersection Summary		
HCM 6th Ctrl Delay		22.2
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	60	5	5	5	5	77
Future Vol, veh/h	60	5	5	5	5	77
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	60	5	5	5	5	77

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	59	44	82	0	-	0
Stage 1	44	-	-	-	-	-
Stage 2	15	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	945	1023	1509	-	-	-
Stage 1	976	-	-	-	-	-
Stage 2	1005	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	942	1023	1509	-	-	-
Mov Cap-2 Maneuver	942	-	-	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	1005	-	-	-	-	-

Approach	EB		NB		SB	
HCM Control Delay, s	9.1		3.7		0	
HCM LOS	A					

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1509	-	948	-	-
HCM Lane V/C Ratio	0.003	-	0.069	-	-
HCM Control Delay (s)	7.4	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	74	24	23	41	25	35	50	900	25	122	33
Future Volume (veh/h)	30	74	24	23	41	25	35	50	900	25	122	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1870	1856	1870	1870	1870	1856	1856	1870	1870	1856	1856
Adj Flow Rate, veh/h	30	74	24	23	41	25	35	50	900	25	122	33
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	2	3	2	2	2	3	3	2	2	3	3
Cap, veh/h	50	133	43	40	101	61	57	840	753	43	625	169
Arrive On Green	0.03	0.10	0.10	0.02	0.09	0.09	0.03	0.45	0.45	0.02	0.44	0.44
Sat Flow, veh/h	1767	1353	439	1781	1088	663	1767	1856	1585	1781	1407	380
Grp Volume(v), veh/h	30	0	98	23	0	66	35	50	900	25	0	155
Grp Sat Flow(s),veh/h/ln	1767	0	1791	1781	0	1751	1767	1856	1585	1781	0	1787
Q Serve(g_s), s	0.7	0.0	2.1	0.5	0.0	1.4	0.8	0.6	18.0	0.6	0.0	2.1
Cycle Q Clear(g_c), s	0.7	0.0	2.1	0.5	0.0	1.4	0.8	0.6	18.0	0.6	0.0	2.1
Prop In Lane	1.00		0.24	1.00		0.38	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	50	0	176	40	0	162	57	840	753	43	0	794
V/C Ratio(X)	0.60	0.00	0.56	0.57	0.00	0.41	0.61	0.06	1.20	0.58	0.00	0.20
Avail Cap(c_a), veh/h	178	0	811	179	0	792	178	840	753	179	0	809
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.1	0.0	17.1	19.3	0.0	17.0	19.0	6.1	10.4	19.2	0.0	6.7
Incr Delay (d2), s/veh	10.9	0.0	2.7	12.2	0.0	1.6	10.3	0.0	100.6	11.6	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.9	0.3	0.0	0.6	0.4	0.1	25.2	0.3	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.0	0.0	19.8	31.4	0.0	18.7	29.3	6.2	111.1	30.8	0.0	6.8
LnGrp LOS	C	A	B	C	A	B	C	A	F	C	A	A
Approach Vol, veh/h		128			89			985			180	
Approach Delay, s/veh		22.2			22.0			102.8			10.2	
Approach LOS		C			C			F			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	22.0	4.9	7.9	5.3	21.7	5.1	7.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	18.0	4.0	18.0	4.0	18.0	4.0	18.0
Max Q Clear Time (g_c+I1), s	2.6	20.0	2.5	4.1	2.8	4.1	2.7	3.4
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	0.6	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	78.1
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	231	191	45	38	198	29	155	811	25	25	106	28
Future Volume (veh/h)	231	191	45	38	198	29	155	811	25	25	106	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	231	191	45	38	198	29	155	811	25	25	106	28
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	283	372	316	196	255	37	196	1016	31	167	527	447
Arrive On Green	0.16	0.20	0.20	0.11	0.16	0.16	0.11	0.29	0.29	0.09	0.28	0.28
Sat Flow, veh/h	1767	1856	1572	1767	1582	232	1767	3491	108	1767	1856	1572
Grp Volume(v), veh/h	231	191	45	38	0	227	155	409	427	25	106	28
Grp Sat Flow(s),veh/h/ln	1767	1856	1572	1767	0	1814	1767	1763	1836	1767	1856	1572
Q Serve(g_s), s	8.0	5.8	1.5	1.2	0.0	7.6	5.4	13.5	13.5	0.8	2.7	0.8
Cycle Q Clear(g_c), s	8.0	5.8	1.5	1.2	0.0	7.6	5.4	13.5	13.5	0.8	2.7	0.8
Prop In Lane	1.00		1.00	1.00		0.13	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	283	372	316	196	0	292	196	513	535	167	527	447
V/C Ratio(X)	0.82	0.51	0.14	0.19	0.00	0.78	0.79	0.80	0.80	0.15	0.20	0.06
Avail Cap(c_a), veh/h	392	703	595	196	0	511	280	673	701	168	606	513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.6	22.5	20.8	25.5	0.0	25.4	27.3	20.7	20.7	26.2	17.2	16.5
Incr Delay (d2), s/veh	9.1	1.3	0.2	0.6	0.0	5.3	9.4	5.5	5.3	0.2	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	2.4	0.5	0.5	0.0	3.4	2.6	5.6	5.8	0.3	1.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.8	23.8	21.0	26.1	0.0	30.7	36.7	26.2	26.0	26.4	17.4	16.5
LnGrp LOS	C	C	C	C	A	C	D	C	C	C	B	B
Approach Vol, veh/h		467			265			991			159	
Approach Delay, s/veh		28.9			30.0			27.7			18.6	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	17.6	10.6	23.4	14.1	15.1	11.0	22.9
Change Period (Y+Rc), s	4.6	4.9	4.6	* 5	4.0	* 4.9	4.0	5.0
Max Green Setting (Gmax), s	7.0	23.9	6.0	* 24	14.0	* 18	10.0	20.6
Max Q Clear Time (g_c+I1), s	3.2	7.8	2.8	15.5	10.0	9.6	7.4	4.7
Green Ext Time (p_c), s	0.0	0.9	0.0	2.8	0.3	0.6	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	27.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	246	291	21	57	360	48	50	203	87	63	70	146
Future Volume (veh/h)	246	291	21	57	360	48	50	203	87	63	70	146
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1870	1900	1900	1870	1900	1841	1826	1900	1900	1826	1826
Adj Flow Rate, veh/h	246	291	21	57	360	48	50	203	87	63	70	146
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	7	2	0	0	2	0	4	5	0	0	5	5
Cap, veh/h	250	571	41	144	427	57	145	251	107	152	380	322
Arrive On Green	0.15	0.33	0.33	0.08	0.26	0.26	0.08	0.21	0.21	0.08	0.21	0.21
Sat Flow, veh/h	1711	1724	124	1810	1616	215	1753	1213	520	1810	1826	1547
Grp Volume(v), veh/h	246	0	312	57	0	408	50	0	290	63	70	146
Grp Sat Flow(s),veh/h/ln	1711	0	1848	1810	0	1832	1753	0	1732	1810	1826	1547
Q Serve(g_s), s	9.2	0.0	8.7	1.9	0.0	13.5	1.7	0.0	10.2	2.1	2.0	5.3
Cycle Q Clear(g_c), s	9.2	0.0	8.7	1.9	0.0	13.5	1.7	0.0	10.2	2.1	2.0	5.3
Prop In Lane	1.00		0.07	1.00		0.12	1.00		0.30	1.00		1.00
Lane Grp Cap(c), veh/h	250	0	612	144	0	484	145	0	358	152	380	322
V/C Ratio(X)	0.98	0.00	0.51	0.40	0.00	0.84	0.34	0.00	0.81	0.41	0.18	0.45
Avail Cap(c_a), veh/h	250	0	926	242	0	895	246	0	836	253	881	747
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.3	0.0	17.3	28.1	0.0	22.4	27.8	0.0	24.3	27.9	21.0	22.3
Incr Delay (d2), s/veh	51.8	0.0	0.7	0.7	0.0	4.1	0.5	0.0	4.4	0.7	0.2	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	0.0	3.3	0.8	0.0	5.7	0.7	0.0	4.2	0.9	0.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.2	0.0	18.0	28.8	0.0	26.5	28.4	0.0	28.7	28.6	21.2	23.3
LnGrp LOS	E	A	B	C	A	C	C	A	C	C	C	C
Approach Vol, veh/h		558			465			340			279	
Approach Delay, s/veh		44.9			26.7			28.6			23.9	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	26.3	9.9	18.4	14.0	22.0	10.0	18.3
Change Period (Y+Rc), s	4.6	5.0	4.6	5.0	4.6	5.0	4.6	5.0
Max Green Setting (Gmax), s	8.6	32.2	9.0	31.0	9.4	31.4	9.0	31.0
Max Q Clear Time (g_c+I1), s	3.9	10.7	3.7	7.3	11.2	15.5	4.1	12.2
Green Ext Time (p_c), s	0.0	1.1	0.0	0.8	0.0	1.4	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	32.8
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	468	20	20	900	147	20	20	20	45	20	25
Future Volume (veh/h)	25	468	20	20	900	147	20	20	20	45	20	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	468	20	20	900	147	20	20	20	45	20	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	39	1097	489	33	1084	483	33	353	353	59	322	402
Arrive On Green	0.02	0.31	0.31	0.02	0.41	0.41	0.02	0.41	0.41	0.03	0.43	0.43
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	858	858	1781	756	945
Grp Volume(v), veh/h	25	468	20	20	900	147	20	0	40	45	0	45
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1716	1781	0	1700
Q Serve(g_s), s	1.0	7.3	0.6	0.8	15.9	3.5	0.8	0.0	1.0	1.8	0.0	1.1
Cycle Q Clear(g_c), s	1.0	7.3	0.6	0.8	15.9	3.5	0.8	0.0	1.0	1.8	0.0	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		0.56
Lane Grp Cap(c), veh/h	39	1097	489	33	1084	483	33	0	705	59	0	724
V/C Ratio(X)	0.64	0.43	0.04	0.61	0.83	0.30	0.61	0.00	0.06	0.76	0.00	0.06
Avail Cap(c_a), veh/h	102	1269	566	102	1269	566	102	0	705	153	0	724
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	0.77	0.77	0.77	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.0	19.3	16.9	33.9	19.2	9.8	34.1	0.0	12.4	33.6	0.0	11.8
Incr Delay (d2), s/veh	14.5	0.2	0.0	13.3	3.3	0.3	16.9	0.0	0.2	17.7	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.7	0.2	0.4	5.4	1.4	0.5	0.0	0.4	1.0	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.4	19.5	17.0	47.2	22.4	10.1	51.0	0.0	12.6	51.2	0.0	12.0
LnGrp LOS	D	B	B	D	C	B	D	A	B	D	A	B
Approach Vol, veh/h		513			1067			60			90	
Approach Delay, s/veh		20.8			21.2			25.4			31.6	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.3	32.8	5.3	25.6	5.3	33.8	5.5	25.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	6.0	19.0	4.0	25.0	4.0	21.0	4.0	25.0				
Max Q Clear Time (g_c+I1), s	3.8	3.0	2.8	9.3	2.8	3.1	3.0	17.9				
Green Ext Time (p_c), s	0.0	0.1	0.0	2.5	0.0	0.1	0.0	3.5				
Intersection Summary												
HCM 6th Ctrl Delay			21.8									
HCM 6th LOS			C									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	325	25	20	500	20	40	340	20	20	550	350
Future Volume (veh/h)	147	325	25	20	500	20	40	340	20	20	550	350
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1678	1678	1678	1678	1870	1678	1870	1678	1870	1870	1870
Adj Flow Rate, veh/h	147	325	25	20	500	20	40	340	20	20	550	350
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	15	15	15	15	2	15	2	15	2	2	2
Cap, veh/h	233	963	430	77	686	27	241	812	325	34	1140	508
Arrive On Green	0.13	0.30	0.30	0.05	0.22	0.22	0.23	0.23	0.23	0.02	0.32	0.32
Sat Flow, veh/h	1781	3188	1422	1598	3124	125	555	3554	1422	1781	3554	1585
Grp Volume(v), veh/h	147	325	25	20	255	265	40	340	20	20	550	350
Grp Sat Flow(s),veh/h/ln	1781	1594	1422	1598	1594	1655	555	1777	1422	1781	1777	1585
Q Serve(g_s), s	4.3	4.3	0.7	0.7	8.1	8.1	3.4	4.5	0.6	0.6	6.8	10.5
Cycle Q Clear(g_c), s	4.3	4.3	0.7	0.7	8.1	8.1	5.2	4.5	0.6	0.6	6.8	10.5
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	233	963	430	77	350	363	241	812	325	34	1140	508
V/C Ratio(X)	0.63	0.34	0.06	0.26	0.73	0.73	0.17	0.42	0.06	0.59	0.48	0.69
Avail Cap(c_a), veh/h	521	1866	832	292	758	787	479	2340	936	163	3055	1362
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.5	14.8	13.6	25.1	19.8	19.8	19.0	18.0	16.5	26.6	14.9	16.2
Incr Delay (d2), s/veh	1.1	0.1	0.0	1.8	1.1	1.1	0.1	0.1	0.0	14.9	0.3	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.3	0.2	0.3	2.6	2.7	0.4	1.6	0.2	0.4	2.2	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.6	14.9	13.6	26.9	20.9	20.9	19.1	18.1	16.5	41.5	15.2	17.9
LnGrp LOS	C	B	B	C	C	C	B	B	B	D	B	B
Approach Vol, veh/h		497			540			400			920	
Approach Delay, s/veh		17.4			21.1			18.1			16.8	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.6	22.5		23.5	13.1	18.0	5.0	18.5
Change Period (Y+Rc), s	6.0	6.0		* 6	6.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	10.0	32.0		* 47	16.0	26.0	5.0	36.0
Max Q Clear Time (g_c+I1), s	2.7	6.3		12.5	6.3	10.1	2.6	7.2
Green Ext Time (p_c), s	0.0	0.8		5.0	0.1	0.9	0.0	1.0

Intersection Summary		
HCM 6th Ctrl Delay		18.2
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	287	224	46	328	584	128	418	428	497	155	199	149
Future Volume (veh/h)	287	224	46	328	584	128	418	428	497	155	199	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678
Adj Flow Rate, veh/h	287	224	46	328	584	128	418	428	497	155	199	149
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	15	15	15	15	15	15	15	15	15	15	15	15
Cap, veh/h	304	527	235	398	624	278	438	1195	533	185	691	308
Arrive On Green	0.10	0.17	0.17	0.13	0.20	0.20	0.27	0.37	0.37	0.12	0.22	0.22
Sat Flow, veh/h	3100	3188	1422	3100	3188	1422	1598	3188	1422	1598	3188	1422
Grp Volume(v), veh/h	287	224	46	328	584	128	418	428	497	155	199	149
Grp Sat Flow(s),veh/h/ln	1550	1594	1422	1550	1594	1422	1598	1594	1422	1598	1594	1422
Q Serve(g_s), s	9.4	6.4	2.9	10.5	18.4	8.1	26.3	9.9	34.3	9.7	5.3	9.4
Cycle Q Clear(g_c), s	9.4	6.4	2.9	10.5	18.4	8.1	26.3	9.9	34.3	9.7	5.3	9.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	304	527	235	398	624	278	438	1195	533	185	691	308
V/C Ratio(X)	0.95	0.43	0.20	0.82	0.94	0.46	0.95	0.36	0.93	0.84	0.29	0.48
Avail Cap(c_a), veh/h	304	527	235	455	624	278	438	1217	543	297	936	418
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.8	38.3	36.8	43.4	40.4	36.3	36.4	23.0	30.7	44.2	33.4	35.0
Incr Delay (d2), s/veh	38.0	1.2	0.9	12.7	22.1	2.5	31.5	0.7	24.7	10.9	0.8	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	2.5	1.0	4.5	8.6	2.9	13.5	3.6	14.5	4.3	2.1	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.8	39.4	37.6	56.1	62.5	38.8	67.9	23.7	55.4	55.1	34.2	39.2
LnGrp LOS	F	D	D	E	E	D	E	C	E	E	C	D
Approach Vol, veh/h		557			1040			1343			503	
Approach Delay, s/veh		62.2			57.6			49.2			42.1	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.1	22.9	32.0	28.1	16.0	26.0	15.8	44.3
Change Period (Y+Rc), s	6.0	6.0	4.0	6.0	6.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	15.0	15.0	28.0	30.0	10.0	20.0	19.0	39.0
Max Q Clear Time (g_c+I1), s	12.5	8.4	28.3	11.4	11.4	20.4	11.7	36.3
Green Ext Time (p_c), s	0.6	1.1	0.0	3.7	0.0	0.0	0.3	2.0

Intersection Summary	
HCM 6th Ctrl Delay	52.8
HCM 6th LOS	D

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	166	24	86	942	460	157
Future Volume (veh/h)	166	24	86	942	460	157
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	166	24	86	942	460	157
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	247	220	129	1852	1005	448
Arrive On Green	0.14	0.14	0.07	0.53	0.28	0.28
Sat Flow, veh/h	1767	1572	1767	3618	3618	1572
Grp Volume(v), veh/h	166	24	86	942	460	157
Grp Sat Flow(s),veh/h/ln	1767	1572	1767	1763	1763	1572
Q Serve(g_s), s	2.1	0.3	1.1	4.1	2.6	1.9
Cycle Q Clear(g_c), s	2.1	0.3	1.1	4.1	2.6	1.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	247	220	129	1852	1005	448
V/C Ratio(X)	0.67	0.11	0.67	0.51	0.46	0.35
Avail Cap(c_a), veh/h	1332	1185	518	4280	2657	1185
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.8	9.0	10.8	3.7	7.0	6.8
Incr Delay (d2), s/veh	3.1	0.2	5.9	0.2	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.3	0.4	0.1	0.4	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.9	9.2	16.7	3.9	7.4	7.3
LnGrp LOS	B	A	B	A	A	A
Approach Vol, veh/h	190			1028	617	
Approach Delay, s/veh	12.4			5.0	7.3	
Approach LOS	B			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		16.5		7.3	5.7	10.8
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		29.0		18.0	7.0	18.0
Max Q Clear Time (g_c+I1), s		6.1		4.1	3.1	4.6
Green Ext Time (p_c), s		4.5		0.5	0.1	2.2

Intersection Summary			
HCM 6th Ctrl Delay			6.5
HCM 6th LOS			A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	287	25	126	25	25	32	80	227	25	41	229	245
Future Volume (veh/h)	287	25	126	25	25	32	80	227	25	41	229	245
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1781	1856	1856	1781	1856
Adj Flow Rate, veh/h	287	25	126	25	25	0	80	227	25	41	229	245
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	8	3	3	8	3
Cap, veh/h	768	83	421	418	324		531	504	55	560	569	502
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.00	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1375	267	1346	542	1036	1572	913	1577	174	1119	1781	1572
Grp Volume(v), veh/h	287	0	151	50	0	0	80	0	252	41	229	245
Grp Sat Flow(s),veh/h/ln	1375	0	1613	1578	0	1572	913	0	1750	1119	1781	1572
Q Serve(g_s), s	3.4	0.0	1.5	0.0	0.0	0.0	1.6	0.0	2.5	0.7	2.2	2.7
Cycle Q Clear(g_c), s	3.8	0.0	1.5	0.4	0.0	0.0	3.8	0.0	2.5	3.1	2.2	2.7
Prop In Lane	1.00		0.83	0.50		1.00	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	768	0	504	742	0		531	0	559	560	569	502
V/C Ratio(X)	0.37	0.00	0.30	0.07	0.00		0.15	0.00	0.45	0.07	0.40	0.49
Avail Cap(c_a), veh/h	1477	0	1335	1502	0		1037	0	1529	1181	1557	1374
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.4	0.0	5.7	5.3	0.0	0.0	7.3	0.0	5.9	7.1	5.8	6.0
Incr Delay (d2), s/veh	0.3	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.6	0.1	0.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.2	0.1	0.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.7	0.0	6.0	5.3	0.0	0.0	7.4	0.0	6.5	7.2	6.2	6.7
LnGrp LOS	A	A	A	A	A		A	A	A	A	A	A
Approach Vol, veh/h		438			50	A		332			515	
Approach Delay, s/veh		6.5			5.3			6.7			6.5	
Approach LOS		A			A			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		10.9		10.8		10.9		10.8				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		19.0		18.0		19.0		18.0				
Max Q Clear Time (g_c+I1), s		5.8		5.8		5.1		2.4				
Green Ext Time (p_c), s		1.1		1.4		1.8		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			6.5									
HCM 6th LOS			A									
Notes												

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	25	65	656	153	20	155	150	186	20	779	82
Future Volume (veh/h)	25	25	65	656	153	20	155	150	186	20	779	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1870	1856	1870	1870	1870	1856	1856	1870	1870	1856	1856
Adj Flow Rate, veh/h	25	25	65	656	153	20	155	150	186	20	779	82
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	2	3	2	2	2	3	3	2	2	3	3
Cap, veh/h	271	44	115	846	424	55	175	1139	901	35	1233	383
Arrive On Green	0.08	0.10	0.10	0.24	0.26	0.26	0.10	0.32	0.32	0.02	0.24	0.24
Sat Flow, veh/h	3428	460	1195	3456	1620	212	1767	3526	2790	1781	5066	1572
Grp Volume(v), veh/h	25	0	90	656	0	173	155	150	186	20	779	82
Grp Sat Flow(s),veh/h/ln	1714	0	1655	1728	0	1832	1767	1763	1395	1781	1689	1572
Q Serve(g_s), s	0.3	0.0	2.6	8.9	0.0	3.9	4.4	1.5	2.4	0.6	6.9	2.1
Cycle Q Clear(g_c), s	0.3	0.0	2.6	8.9	0.0	3.9	4.4	1.5	2.4	0.6	6.9	2.1
Prop In Lane	1.00		0.72	1.00		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	271	0	159	846	0	479	175	1139	901	35	1233	383
V/C Ratio(X)	0.09	0.00	0.57	0.78	0.00	0.36	0.89	0.13	0.21	0.58	0.63	0.21
Avail Cap(c_a), veh/h	1221	0	622	1163	0	653	175	1326	1049	141	1805	560
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.6	0.0	21.8	17.8	0.0	15.2	22.5	12.1	12.4	24.6	17.1	15.3
Incr Delay (d2), s/veh	0.1	0.0	3.1	2.3	0.0	0.5	37.9	0.1	0.1	14.4	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.0	3.4	0.0	1.5	3.3	0.5	0.7	0.3	2.2	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.7	0.0	25.0	20.1	0.0	15.7	60.3	12.1	12.5	39.0	17.6	15.5
LnGrp LOS	C	A	C	C	A	B	E	B	B	D	B	B
Approach Vol, veh/h		115			829			491			881	
Approach Delay, s/veh		24.3			19.1			27.5			17.9	
Approach LOS		C			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	20.3	16.4	8.9	9.0	16.3	8.0	17.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	19.0	17.0	19.0	5.0	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	2.6	4.4	10.9	4.6	6.4	8.9	2.3	5.9
Green Ext Time (p_c), s	0.0	1.3	1.4	0.3	0.0	3.4	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	688	0	154	0	336	78	0	270	1228
Future Volume (veh/h)	0	0	0	688	0	154	0	336	78	0	270	1228
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				688	0	154	0	336	78	0	270	1228
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Cap, veh/h				999	0	296	0	3568	1108	0	2483	1949
Arrive On Green				0.19	0.00	0.19	0.00	1.00	1.00	0.00	0.70	0.70
Sat Flow, veh/h				5344	0	1585	0	5274	1585	0	3647	2790
Grp Volume(v), veh/h				688	0	154	0	336	78	0	270	1228
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1702	1585	0	1777	1395
Q Serve(g_s), s				8.4	0.0	6.1	0.0	0.0	0.0	0.0	1.7	16.6
Cycle Q Clear(g_c), s				8.4	0.0	6.1	0.0	0.0	0.0	0.0	1.7	16.6
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				999	0	296	0	3568	1108	0	2483	1949
V/C Ratio(X)				0.69	0.00	0.52	0.00	0.09	0.07	0.00	0.11	0.63
Avail Cap(c_a), veh/h				1680	0	498	0	3568	1108	0	2483	1949
HCM Platoon Ratio				1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.73	0.73
Uniform Delay (d), s/veh				26.6	0.0	25.6	0.0	0.0	0.0	0.0	3.4	5.7
Incr Delay (d2), s/veh				0.9	0.0	1.4	0.0	0.1	0.1	0.0	0.1	1.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.5	0.0	2.3	0.0	0.0	0.0	0.0	0.4	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				27.4	0.0	27.0	0.0	0.1	0.1	0.0	3.5	6.8
LnGrp LOS				C	A	C	A	A	A	A	A	A
Approach Vol, veh/h					842			414			1498	
Approach Delay, s/veh					27.3			0.1			6.2	
Approach LOS					C			A			A	

Timer - Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		52.9				52.9		17.1
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		40.0				40.0		22.0
Max Q Clear Time (g_c+I1), s		2.0				18.6		10.4
Green Ext Time (p_c), s		2.3				7.8		2.7

Intersection Summary	
HCM 6th Ctrl Delay	11.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	254	0	120	0	0	0	0	161	457	64	894	0
Future Volume (veh/h)	254	0	120	0	0	0	0	161	457	64	894	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	254	0	120				0	161	457	64	894	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	489	0	290				0	1107	605	927	4056	0
Arrive On Green	0.09	0.00	0.09				0.00	0.22	0.22	0.17	0.26	0.00
Sat Flow, veh/h	5344	0	3170				0	5274	2790	1781	5274	0
Grp Volume(v), veh/h	254	0	120				0	161	457	64	894	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1395	1781	1702	0
Q Serve(g_s), s	3.2	0.0	2.5				0.0	1.8	10.7	2.1	9.6	0.0
Cycle Q Clear(g_c), s	3.2	0.0	2.5				0.0	1.8	10.7	2.1	9.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	489	0	290				0	1107	605	927	4056	0
V/C Ratio(X)	0.52	0.00	0.41				0.00	0.15	0.76	0.07	0.22	0.00
Avail Cap(c_a), veh/h	1527	0	906				0	2042	1116	927	4056	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.93	0.93	0.93	0.93	0.00
Uniform Delay (d), s/veh	30.3	0.0	30.0				0.0	22.2	25.7	14.8	8.9	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.9				0.0	0.3	8.0	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	1.0				0.0	0.7	3.8	0.7	1.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.2	0.0	31.0				0.0	22.4	33.7	14.8	9.0	0.0
LnGrp LOS	C	A	C				A	C	C	B	A	A
Approach Vol, veh/h		374						618			958	
Approach Delay, s/veh		31.1						30.7			9.4	
Approach LOS		C						C			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.4	19.2		10.4		59.6
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	10.0	28.0		20.0		42.0
Max Q Clear Time (g_c+I1), s	4.1	12.7		5.2		11.6
Green Ext Time (p_c), s	0.0	2.4		1.2		6.7

Intersection Summary	
HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	561	25	96	1000	25	70
Future Volume (veh/h)	561	25	96	1000	25	70
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	561	25	96	1000	25	70
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1456	64	168	1526	1045	2121
Arrive On Green	0.19	0.19	0.05	0.30	0.59	0.59
Sat Flow, veh/h	7895	331	3456	5274	1781	3614
Grp Volume(v), veh/h	449	137	96	1000	25	70
Grp Sat Flow(s),veh/h/ln	1515	1811	1728	1702	1781	1205
Q Serve(g_s), s	4.5	4.6	1.9	12.0	0.4	0.6
Cycle Q Clear(g_c), s	4.5	4.6	1.9	12.0	0.4	0.6
Prop In Lane		0.18	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1170	350	168	1526	1045	2121
V/C Ratio(X)	0.38	0.39	0.57	0.66	0.02	0.03
Avail Cap(c_a), veh/h	2078	621	543	2845	1045	2121
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.96	0.96	0.98	0.98
Uniform Delay (d), s/veh	24.6	24.6	32.6	21.4	6.1	6.1
Incr Delay (d2), s/veh	0.2	0.7	2.9	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.9	0.8	4.2	0.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.8	25.3	35.5	21.9	6.1	6.1
LnGrp LOS	C	C	D	C	A	A
Approach Vol, veh/h	586			1096	95	
Approach Delay, s/veh	24.9			23.1	6.1	
Approach LOS	C			C	A	

Timer - Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		45.1	7.4	17.5				24.9
Change Period (Y+Rc), s		4.0	4.0	4.0				4.0
Max Green Setting (Gmax), s		23.0	11.0	24.0				39.0
Max Q Clear Time (g_c+I1), s		2.6	3.9	6.6				14.0
Green Ext Time (p_c), s		0.3	0.1	3.2				7.0

Intersection Summary			
HCM 6th Ctrl Delay			22.8
HCM 6th LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	300	48	226	487	206	25	21	25	118	25	25
Future Volume (veh/h)	24	300	48	226	487	206	25	21	25	118	25	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678
Adj Flow Rate, veh/h	24	300	48	226	487	206	25	21	25	118	25	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	15	15	15	15	15	15	15	15	15	15	15	15
Cap, veh/h	36	722	322	181	1011	451	37	158	188	121	467	396
Arrive On Green	0.02	0.23	0.23	0.11	0.32	0.32	0.02	0.23	0.23	0.08	0.28	0.28
Sat Flow, veh/h	1598	3188	1422	1598	3188	1422	1598	698	831	1598	1678	1422
Grp Volume(v), veh/h	24	300	48	226	487	206	25	0	46	118	25	25
Grp Sat Flow(s),veh/h/ln	1598	1594	1422	1598	1594	1422	1598	0	1528	1598	1678	1422
Q Serve(g_s), s	0.8	4.3	1.4	6.0	6.5	6.1	0.8	0.0	1.3	3.9	0.6	0.7
Cycle Q Clear(g_c), s	0.8	4.3	1.4	6.0	6.5	6.1	0.8	0.0	1.3	3.9	0.6	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.54	1.00		1.00
Lane Grp Cap(c), veh/h	36	722	322	181	1011	451	37	0	346	121	467	396
V/C Ratio(X)	0.67	0.42	0.15	1.25	0.48	0.46	0.67	0.00	0.13	0.98	0.05	0.06
Avail Cap(c_a), veh/h	181	2285	1019	181	2285	1019	121	0	519	121	570	483
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	17.5	16.4	23.5	14.6	14.4	25.7	0.0	16.4	24.5	14.0	14.0
Incr Delay (d2), s/veh	19.4	0.1	0.1	149.6	0.1	0.3	19.1	0.0	0.1	75.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.3	0.4	9.5	1.9	1.6	0.5	0.0	0.4	3.8	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.1	17.6	16.5	173.1	14.7	14.7	44.8	0.0	16.4	99.5	14.0	14.1
LnGrp LOS	D	B	B	F	B	B	D	A	B	F	B	B
Approach Vol, veh/h		372			919			71			168	
Approach Delay, s/veh		19.3			53.7			26.4			74.0	
Approach LOS		B			D			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	18.0	8.0	17.0	5.2	22.8	5.2	19.8
Change Period (Y+Rc), s	4.0	6.0	4.0	5.0	4.0	6.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	38.0	4.0	18.0	6.0	38.0	4.0	18.0
Max Q Clear Time (g_c+I1), s	8.0	6.3	5.9	3.3	2.8	8.5	2.8	2.7
Green Ext Time (p_c), s	0.0	1.2	0.0	0.1	0.0	2.3	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	46.3
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	268	0	371	0	1166	410	0	807	344
Future Volume (veh/h)	0	0	0	268	0	371	0	1166	410	0	807	344
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1678	1678	1678	0	1678	1678	0	1678	1678
Adj Flow Rate, veh/h				268	0	0	0	1166	0	0	807	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				15	15	15	0	15	15	0	15	15
Cap, veh/h				854	0		0	2001		0	3624	
Arrive On Green				0.18	0.00	0.00	0.00	0.21	0.00	0.00	0.63	0.00
Sat Flow, veh/h				4793	0	2844	0	3272	2502	0	6006	1422
Grp Volume(v), veh/h				268	0	0	0	1166	0	0	807	0
Grp Sat Flow(s),veh/h/ln				1598	0	1422	0	1594	1251	0	1443	1422
Q Serve(g_s), s				2.4	0.0	0.0	0.0	16.5	0.0	0.0	3.0	0.0
Cycle Q Clear(g_c), s				2.4	0.0	0.0	0.0	16.5	0.0	0.0	3.0	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				854	0		0	2001		0	3624	
V/C Ratio(X)				0.31	0.00		0.00	0.58		0.00	0.22	
Avail Cap(c_a), veh/h				1246	0		0	2001		0	3624	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	0.77	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				17.9	0.0	0.0	0.0	13.9	0.0	0.0	4.0	0.0
Incr Delay (d2), s/veh				0.1	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.7	0.0	0.0	0.0	6.8	0.0	0.0	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				18.0	0.0	0.0	0.0	14.9	0.0	0.0	4.0	0.0
LnGrp LOS				B	A		A	B		A	A	
Approach Vol, veh/h					268	A		1166	A		807	A
Approach Delay, s/veh					18.0			14.9			4.0	
Approach LOS					B			B			A	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		37.1				37.1		12.9				
Change Period (Y+Rc), s		5.7				5.7		5.1				
Max Green Setting (Gmax), s		27.3				27.3		11.9				
Max Q Clear Time (g_c+I1), s		18.5				5.0		4.4				
Green Ext Time (p_c), s		3.6				3.5		0.4				

Intersection Summary		
HCM 6th Ctrl Delay		11.3
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1014	0	259	0	0	0	0	564	1258	0	799	20
Future Volume (veh/h)	1014	0	259	0	0	0	0	564	1258	0	799	20
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1678	1678	1678				0	1678	1678	0	1678	1678
Adj Flow Rate, veh/h	1095	0	173				0	564	0	0	799	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	15	15	15				0	15	15	0	15	15
Cap, veh/h	1186	0	527				0	1892		0	1892	
Arrive On Green	0.37	0.00	0.37				0.00	0.41	0.00	0.00	0.41	0.00
Sat Flow, veh/h	3196	0	1422				0	4731	2502	0	4731	1422
Grp Volume(v), veh/h	1095	0	173				0	564	0	0	799	0
Grp Sat Flow(s),veh/h/ln	1598	0	1422				0	1527	1251	0	1527	1422
Q Serve(g_s), s	16.4	0.0	4.4				0.0	4.1	0.0	0.0	6.2	0.0
Cycle Q Clear(g_c), s	16.4	0.0	4.4				0.0	4.1	0.0	0.0	6.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	1186	0	527				0	1892		0	1892	
V/C Ratio(X)	0.92	0.00	0.33				0.00	0.30		0.00	0.42	
Avail Cap(c_a), veh/h	1272	0	566				0	1892		0	1892	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.98	0.00
Uniform Delay (d), s/veh	15.0	0.0	11.3				0.0	9.8	0.0	0.0	10.4	0.0
Incr Delay (d2), s/veh	10.5	0.0	0.1				0.0	0.4	0.0	0.0	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	0.0	1.2				0.0	1.1	0.0	0.0	1.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.5	0.0	11.4				0.0	10.2	0.0	0.0	11.1	0.0
LnGrp LOS	C	A	B				A	B		A	B	
Approach Vol, veh/h		1268						564	A		799	A
Approach Delay, s/veh		23.6						10.2			11.1	
Approach LOS		C						B			B	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		26.4		23.6		26.4						
Change Period (Y+Rc), s		5.7		5.1		5.7						
Max Green Setting (Gmax), s		19.3		19.9		19.3						
Max Q Clear Time (g_c+I1), s		6.1		18.4		8.2						
Green Ext Time (p_c), s		2.0		0.2		2.7						
Intersection Summary												
HCM 6th Ctrl Delay			16.9									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	70	25	21	59	251	25	882	25	261	637	20
Future Volume (veh/h)	25	70	25	21	59	251	25	882	25	261	637	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1678	1870	1678	1870	1678	1678	1678	1678	1870
Adj Flow Rate, veh/h	25	70	25	21	59	251	25	882	25	261	637	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	15	2	15	2	15	15	15	15	2
Cap, veh/h	38	147	50	80	303	684	1560	948	494	1228	772	418
Arrive On Green	0.02	0.06	0.06	0.05	0.09	0.09	0.45	0.30	0.30	0.40	0.24	0.24
Sat Flow, veh/h	1781	2602	885	1598	3554	1422	3456	3188	1422	3100	3188	1585
Grp Volume(v), veh/h	25	47	48	21	59	251	25	882	25	261	637	20
Grp Sat Flow(s),veh/h/ln	1781	1777	1711	1598	1777	1422	1728	1594	1422	1550	1594	1585
Q Serve(g_s), s	1.1	2.0	2.2	1.0	1.2	1.2	0.3	21.5	0.0	4.4	15.1	0.1
Cycle Q Clear(g_c), s	1.1	2.0	2.2	1.0	1.2	1.2	0.3	21.5	0.0	4.4	15.1	0.1
Prop In Lane	1.00		0.52	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	38	100	97	80	303	684	1560	948	494	1228	772	418
V/C Ratio(X)	0.66	0.47	0.50	0.26	0.20	0.37	0.02	0.93	0.05	0.21	0.82	0.05
Avail Cap(c_a), veh/h	111	400	385	360	1377	1114	1560	956	498	1228	956	509
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.98	0.98	0.98	0.86	0.86	0.86	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	36.6	36.6	36.6	34.0	6.1	12.1	27.3	17.3	15.9	28.7	10.9
Incr Delay (d2), s/veh	17.7	3.3	4.0	1.7	0.3	0.3	0.0	14.8	0.2	0.1	9.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.0	1.0	0.4	0.5	1.5	0.1	9.3	0.3	1.4	6.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.6	39.9	40.6	38.3	34.3	6.4	12.1	42.1	17.5	16.0	38.5	11.1
LnGrp LOS	E	D	D	D	C	A	B	D	B	B	D	B
Approach Vol, veh/h		120			331			932			918	
Approach Delay, s/veh		43.7			13.4			40.6			31.5	
Approach LOS		D			B			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	35.7	27.8	8.0	8.5	40.1	23.4	5.7	10.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	24.0	18.0	18.0	4.0	24.0	5.0	31.0
Max Q Clear Time (g_c+I1), s	6.4	23.5	3.0	4.2	2.3	17.1	3.1	3.2
Green Ext Time (p_c), s	0.0	0.3	0.0	0.3	0.0	2.2	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	33.2
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	66	106	159	22	20	127	865	83	100	607	20
Future Volume (veh/h)	20	66	106	159	22	20	127	865	83	100	607	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678
Adj Flow Rate, veh/h	20	66	106	159	22	20	127	865	83	100	607	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	15	15	15	15	15	15	15	15	15	15	15	15
Cap, veh/h	154	127	108	230	89	76	156	1040	464	813	1642	732
Arrive On Green	0.10	0.08	0.08	0.07	0.05	0.05	0.10	0.33	0.33	0.26	0.52	0.52
Sat Flow, veh/h	1598	1678	1422	3100	1678	1422	1598	3188	1422	3100	3188	1422
Grp Volume(v), veh/h	20	66	106	159	22	20	127	865	83	100	607	20
Grp Sat Flow(s),veh/h/ln	1598	1678	1422	1550	1678	1422	1598	1594	1422	1550	1594	1422
Q Serve(g_s), s	0.9	2.8	3.2	3.8	0.9	0.8	5.8	18.8	3.1	1.8	8.6	0.5
Cycle Q Clear(g_c), s	0.9	2.8	3.2	3.8	0.9	0.8	5.8	18.8	3.1	1.8	8.6	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	154	127	108	230	89	76	156	1040	464	813	1642	732
V/C Ratio(X)	0.13	0.52	0.98	0.69	0.25	0.26	0.81	0.83	0.18	0.12	0.37	0.03
Avail Cap(c_a), veh/h	154	403	341	248	425	360	192	1241	554	813	1642	732
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	31.0	33.3	11.4	33.9	34.1	21.0	33.2	23.4	18.1	21.1	10.9	8.9
Incr Delay (d2), s/veh	0.4	3.2	36.3	7.3	1.4	1.8	19.4	7.7	0.8	0.1	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.3	2.8	1.6	0.4	0.4	2.9	7.3	1.0	0.6	2.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.4	36.6	47.7	41.2	35.5	22.8	52.6	31.1	18.9	21.1	11.5	9.0
LnGrp LOS	C	D	D	D	D	C	D	C	B	C	B	A
Approach Vol, veh/h		192			201			1075			727	
Approach Delay, s/veh		42.2			38.8			32.7			12.8	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.3	44.4	9.6	9.7	25.5	30.3	11.2	8.0
Change Period (Y+Rc), s	4.0	5.8	4.0	4.0	5.8	* 5.8	4.0	4.0
Max Green Setting (Gmax), s	9.0	24.2	6.0	18.0	4.0	* 29	5.0	19.0
Max Q Clear Time (g_c+I1), s	7.8	10.6	5.8	5.2	3.8	20.8	2.9	2.9
Green Ext Time (p_c), s	0.0	3.2	0.0	0.5	0.0	3.7	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	27.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	36	90	693	35	148	124	835	415	107	1012	22
Future Volume (veh/h)	42	36	90	693	35	148	124	835	415	107	1012	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1060	1589	1324	883	1589	1324	1060	1589	1324	1060	1589	1324
Adj Flow Rate, veh/h	42	36	90	693	35	148	124	835	415	107	1012	22
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	15	15	15	15	15	15	15	15	15	15	15	15
Cap, veh/h	66	138	212	416	439	386	103	1168	1268	133	1064	469
Arrive On Green	0.07	0.09	0.09	0.25	0.28	0.28	0.10	0.39	0.39	0.07	0.35	0.35
Sat Flow, veh/h	1009	1589	1122	1631	1589	1122	1009	3020	1976	1958	3020	1122
Grp Volume(v), veh/h	42	36	90	693	35	148	124	835	415	107	1012	22
Grp Sat Flow(s),veh/h/ln	1009	1589	1122	816	1589	1122	1009	1510	988	979	1510	1122
Q Serve(g_s), s	5.6	2.9	9.7	35.0	2.2	13.7	14.0	32.2	13.1	7.4	44.8	1.6
Cycle Q Clear(g_c), s	5.6	2.9	9.7	35.0	2.2	13.7	14.0	32.2	13.1	7.4	44.8	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	66	138	212	416	439	386	103	1168	1268	133	1064	469
V/C Ratio(X)	0.63	0.26	0.43	1.67	0.08	0.38	1.20	0.72	0.33	0.81	0.95	0.05
Avail Cap(c_a), veh/h	74	266	303	416	556	469	103	1168	1268	171	1100	482
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.5	58.6	49.1	51.1	36.8	34.0	61.6	35.7	11.2	63.1	43.3	23.7
Incr Delay (d2), s/veh	14.3	1.0	1.4	310.1	0.1	0.6	153.8	2.1	0.1	19.0	16.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	1.2	2.8	24.9	0.9	3.7	7.9	11.8	2.7	2.2	18.5	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.8	59.6	50.5	361.2	36.9	34.7	215.4	37.8	11.3	82.1	59.7	23.7
LnGrp LOS	E	E	D	F	D	C	F	D	B	F	E	C
Approach Vol, veh/h		168			876			1374			1141	
Approach Delay, s/veh		59.0			293.1			45.8			61.1	
Approach LOS		E			F			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.3	60.1	42.0	18.9	21.0	55.4	16.0	44.9
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	12.0	52.0	35.0	23.0	14.0	50.0	10.0	48.0
Max Q Clear Time (g_c+I1), s	9.4	34.2	37.0	11.7	16.0	46.8	7.6	15.7
Green Ext Time (p_c), s	0.1	5.9	0.0	0.3	0.0	1.6	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	112.2
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

6: SB Mountain House Parkway & NB Mountain House Parkway Performance by movement

Movement	EBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.4	1.8	2.2
Total Del/Veh (s)	7.9	9.6	9.3
Vehicles Entered	181	678	859
Vehicles Exited	180	678	858
Hourly Exit Rate	180	678	858
Input Volume	181	679	860
% of Volume	99	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

603: I-580 WB Off Ramp & NB Mountain House Parkway Performance by movement

Movement	EBL	NBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.2	2.5	2.7
Total Del/Veh (s)	4.2	9.9	9.0
Vehicles Entered	180	891	1071
Vehicles Exited	179	895	1074
Hourly Exit Rate	179	895	1074
Input Volume	181	893	1074
% of Volume	99	100	100
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

607: SB Mountain House Parkway & I-580 WB Off Ramp Performance by movement

Movement	WBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	2.4	1.4	3.8
Total Del/Veh (s)	12.4	7.2	9.8
Vehicles Entered	693	678	1371
Vehicles Exited	695	677	1372
Hourly Exit Rate	695	677	1372
Input Volume	672	679	1351
% of Volume	103	100	102
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Zone Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	
Total Delay (hr)	8.7
Total Del/Veh (s)	9.5
Vehicles Entered	3285
Vehicles Exited	3285
Hourly Exit Rate	3285
Input Volume	3285
% of Volume	100
Denied Entry Before	0
Denied Entry After	0

7: NB Mountain House Parkway & SB Mountain House Parkway Performance by movement

Movement	WBT	NBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	4.4	0.0	4.4
Total Del/Veh (s)	11.9	9.0	11.9
Vehicles Entered	1303	20	1323
Vehicles Exited	1310	20	1330
Hourly Exit Rate	1310	20	1330
Input Volume	1259	25	1284
% of Volume	104	80	104
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

701: NB Mountain House Parkway & I-580 EB Off Ramp Performance by movement

Movement	EBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.2	0.0	0.2
Total Del/Veh (s)	6.9	4.0	6.4
Vehicles Entered	84	20	104
Vehicles Exited	83	20	103
Hourly Exit Rate	83	20	103
Input Volume	91	25	116
% of Volume	91	80	89
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

705: SB Mountain House Parkway & I-580 EB Off Ramp Performance by movement

Movement	WBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	4.7	0.0	4.8
Total Del/Veh (s)	12.9	8.0	12.9
Vehicles Entered	1310	21	1331
Vehicles Exited	1319	21	1340
Hourly Exit Rate	1319	21	1340
Input Volume	1259	25	1284
% of Volume	105	84	104
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Zone Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	
Total Delay (hr)	9.4
Total Del/Veh (s)	12.6
Vehicles Entered	2684
Vehicles Exited	2684
Hourly Exit Rate	2684
Input Volume	2684
% of Volume	100
Denied Entry Before	0
Denied Entry After	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	398	25	317	137	27	25	259	323	25	23	25
Future Volume (veh/h)	96	398	25	317	137	27	25	259	323	25	23	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	96	398	25	317	137	27	25	259	323	25	23	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	337	713	318	340	326	63	259	413	350	41	81	88
Arrive On Green	0.20	0.21	0.21	0.11	0.12	0.12	0.16	0.24	0.24	0.02	0.11	0.11
Sat Flow, veh/h	1668	3328	1485	3237	2783	536	1668	1752	1485	1668	767	834
Grp Volume(v), veh/h	96	398	25	317	81	83	25	259	323	25	0	48
Grp Sat Flow(s),veh/h/ln	1668	1664	1485	1618	1664	1655	1668	1752	1485	1668	0	1602
Q Serve(g_s), s	1.9	4.1	0.5	3.7	1.7	1.8	0.5	5.0	4.7	0.6	0.0	1.1
Cycle Q Clear(g_c), s	1.9	4.1	0.5	3.7	1.7	1.8	0.5	5.0	4.7	0.6	0.0	1.1
Prop In Lane	1.00		1.00	1.00		0.32	1.00		1.00	1.00		0.52
Lane Grp Cap(c), veh/h	337	713	318	340	195	194	259	413	350	41	0	168
V/C Ratio(X)	0.28	0.56	0.08	0.93	0.41	0.43	0.10	0.63	0.92	0.61	0.00	0.29
Avail Cap(c_a), veh/h	337	1574	702	340	787	783	259	829	702	175	0	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.9	13.3	12.0	16.9	15.6	15.6	13.8	13.0	4.9	18.4	0.0	15.7
Incr Delay (d2), s/veh	0.5	0.7	0.1	31.7	1.4	1.5	0.2	1.6	10.2	14.0	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.3	0.1	2.7	0.6	0.6	0.1	1.5	2.8	0.3	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.3	14.0	12.1	48.6	17.0	17.1	13.9	14.6	15.1	32.4	0.0	16.6
LnGrp LOS	B	B	B	D	B	B	B	B	B	C	A	B
Approach Vol, veh/h		519			481			607			73	
Approach Delay, s/veh		13.8			37.9			14.8			22.0	
Approach LOS		B			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.9	13.0	8.0	12.2	9.9	8.0	11.7	8.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	18.0	4.0	18.0	4.0	18.0	4.0	18.0
Max Q Clear Time (g_c+I1), s	2.6	7.0	5.7	6.1	2.5	3.1	3.9	3.8
Green Ext Time (p_c), s	0.0	1.9	0.0	2.1	0.0	0.1	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	21.4
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	20	140	73	20	49	29	130	277	184	56	22
Future Volume (veh/h)	75	20	140	73	20	49	29	130	277	184	56	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	75	20	140	73	20	49	29	130	277	184	56	22
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	110	495	220	108	540	241	56	709	316	229	1180	526
Arrive On Green	0.07	0.15	0.15	0.06	0.16	0.16	0.03	0.21	0.21	0.14	0.35	0.35
Sat Flow, veh/h	1668	3328	1482	1668	3328	1485	1668	3328	1482	1668	3328	1483
Grp Volume(v), veh/h	75	20	140	73	20	49	29	130	277	184	56	22
Grp Sat Flow(s),veh/h/ln	1668	1664	1482	1668	1664	1485	1668	1664	1482	1668	1664	1483
Q Serve(g_s), s	2.1	0.2	4.3	2.1	0.2	1.4	0.8	1.5	5.7	5.1	0.5	0.3
Cycle Q Clear(g_c), s	2.1	0.2	4.3	2.1	0.2	1.4	0.8	1.5	5.7	5.1	0.5	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	110	495	220	108	540	241	56	709	316	229	1180	526
V/C Ratio(X)	0.68	0.04	0.64	0.68	0.04	0.20	0.52	0.18	0.88	0.80	0.05	0.04
Avail Cap(c_a), veh/h	173	2246	1000	346	2592	1156	208	2073	923	312	2281	1016
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.0	17.6	19.3	22.0	17.0	17.5	22.9	15.5	7.9	20.1	10.2	3.2
Incr Delay (d2), s/veh	7.3	0.0	3.0	7.2	0.0	0.4	7.3	0.1	7.7	10.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.1	1.4	0.9	0.1	0.4	0.4	0.5	2.8	2.3	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.3	17.6	22.3	29.2	17.0	17.9	30.2	15.6	15.6	30.4	10.2	3.2
LnGrp LOS	C	B	C	C	B	B	C	B	B	C	B	A
Approach Vol, veh/h		235			142			436			262	
Approach Delay, s/veh		24.1			23.6			16.6			23.8	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	11.9	12.4	16.1	7.2	12.5	5.6	22.9
Change Period (Y+Rc), s	* 4.7	* 4.7	5.8	* 5.8	4.0	* 4.7	4.0	5.8
Max Green Setting (Gmax), s	* 10	* 33	9.0	* 30	5.0	* 38	6.0	33.0
Max Q Clear Time (g_c+I1), s	4.1	6.3	7.1	7.7	4.1	3.4	2.8	2.5
Green Ext Time (p_c), s	0.1	0.5	0.1	1.6	0.0	0.2	0.0	0.3

Intersection Summary		
HCM 6th Ctrl Delay		20.9
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	215	128	73	25	48	52	164	151	233	98	94
Future Volume (veh/h)	145	215	128	73	25	48	52	164	151	233	98	94
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678
Adj Flow Rate, veh/h	145	215	128	73	25	48	52	164	151	233	98	94
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	15	15	15	15	15	15	15	15	15	15	15	15
Cap, veh/h	202	661	295	160	578	258	134	245	211	286	413	350
Arrive On Green	0.13	0.21	0.21	0.10	0.18	0.18	0.08	0.15	0.15	0.18	0.25	0.25
Sat Flow, veh/h	1598	3188	1422	1598	3188	1422	1598	1625	1396	1598	1678	1422
Grp Volume(v), veh/h	145	215	128	73	25	48	52	161	154	233	98	94
Grp Sat Flow(s),veh/h/ln	1598	1594	1422	1598	1594	1422	1598	1594	1427	1598	1678	1422
Q Serve(g_s), s	5.8	3.8	5.2	2.9	0.4	1.9	2.0	6.3	6.8	9.3	3.1	3.5
Cycle Q Clear(g_c), s	5.8	3.8	5.2	2.9	0.4	1.9	2.0	6.3	6.8	9.3	3.1	3.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Lane Grp Cap(c), veh/h	202	661	295	160	578	258	134	241	215	286	413	350
V/C Ratio(X)	0.72	0.33	0.43	0.45	0.04	0.19	0.39	0.67	0.72	0.82	0.24	0.27
Avail Cap(c_a), veh/h	229	1531	683	270	1613	719	217	388	347	649	861	730
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	22.3	22.9	28.1	22.4	23.0	28.7	26.5	26.8	26.1	20.0	20.1
Incr Delay (d2), s/veh	9.0	0.4	1.4	2.0	0.0	0.5	1.8	4.5	6.2	5.6	0.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	1.3	1.7	1.1	0.1	0.6	0.8	2.5	2.5	3.6	1.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.7	22.7	24.3	30.1	22.4	23.5	30.6	31.0	33.0	31.8	20.4	20.7
LnGrp LOS	D	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		488			146			367			425	
Approach Delay, s/veh		27.3			26.6			31.8			26.7	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.1	20.2	17.3	15.5	14.9	18.5	11.0	21.8				
Change Period (Y+Rc), s	6.5	6.5	5.5	5.5	6.5	6.5	5.5	5.5				
Max Green Setting (Gmax), s	11.2	31.8	26.9	16.1	9.5	33.5	9.0	34.0				
Max Q Clear Time (g_c+I1), s	14.9	7.2	11.3	8.8	7.8	3.9	4.0	5.5				
Green Ext Time (p_c), s	0.1	2.1	0.7	1.0	0.1	0.4	0.0	1.1				
Intersection Summary												
HCM 6th Ctrl Delay			28.2									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	690	33	128	462	20	25	106	458	20	25	20
Future Volume (veh/h)	119	690	33	128	462	20	25	106	458	20	25	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	119	690	33	128	462	20	25	106	458	20	25	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	960	428	229	913	407	42	609	516	35	601	510
Arrive On Green	0.08	0.27	0.27	0.07	0.26	0.26	0.02	0.33	0.33	0.02	0.32	0.32
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	119	690	33	128	462	20	25	106	458	20	25	20
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	3.3	8.8	0.8	1.8	5.6	0.5	0.7	2.0	13.8	0.6	0.5	0.4
Cycle Q Clear(g_c), s	3.3	8.8	0.8	1.8	5.6	0.5	0.7	2.0	13.8	0.6	0.5	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	142	960	428	229	913	407	42	609	516	35	601	510
V/C Ratio(X)	0.84	0.72	0.08	0.56	0.51	0.05	0.60	0.17	0.89	0.58	0.04	0.04
Avail Cap(c_a), veh/h	142	1274	568	275	1274	568	142	670	568	142	670	568
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.8	16.6	13.7	22.7	15.9	14.0	24.3	12.1	16.1	24.4	11.7	11.7
Incr Delay (d2), s/veh	33.7	1.3	0.1	2.1	0.4	0.0	12.9	0.1	14.8	14.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	3.3	0.3	0.7	2.0	0.2	0.4	0.8	6.3	0.4	0.2	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.5	17.9	13.7	24.9	16.4	14.1	37.2	12.2	30.9	38.8	11.7	11.7
LnGrp LOS	E	B	B	C	B	B	D	B	C	D	B	B
Approach Vol, veh/h		842			610			589			65	
Approach Delay, s/veh		23.2			18.1			27.8			20.1	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	20.4	7.3	17.6	5.2	20.2	8.0	16.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	18.0	4.0	18.0	4.0	18.0	4.0	18.0
Max Q Clear Time (g_c+I1), s	2.6	15.8	3.8	10.8	2.7	2.5	5.3	7.6
Green Ext Time (p_c), s	0.0	0.6	0.0	2.7	0.0	0.1	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	22.9
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	389	21	20	228	56	25	25	20	57	25	20
Future Volume (veh/h)	147	389	21	20	228	56	25	25	20	57	25	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	389	21	20	228	56	25	25	20	57	25	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	186	568	31	36	347	85	44	519	440	399	236	200
Arrive On Green	0.10	0.32	0.32	0.02	0.24	0.24	0.02	0.28	0.28	0.13	0.13	0.13
Sat Flow, veh/h	1781	1758	95	1781	1450	356	1781	1870	1585	1361	1870	1585
Grp Volume(v), veh/h	147	0	410	20	0	284	25	25	20	57	25	20
Grp Sat Flow(s),veh/h/ln	1781	0	1853	1781	0	1806	1781	1870	1585	1361	1870	1585
Q Serve(g_s), s	2.6	0.0	6.1	0.4	0.0	4.5	0.4	0.3	0.3	1.2	0.4	0.4
Cycle Q Clear(g_c), s	2.6	0.0	6.1	0.4	0.0	4.5	0.4	0.3	0.3	1.2	0.4	0.4
Prop In Lane	1.00		0.05	1.00		0.20	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	186	0	599	36	0	432	44	519	440	399	236	200
V/C Ratio(X)	0.79	0.00	0.68	0.55	0.00	0.66	0.56	0.05	0.05	0.14	0.11	0.10
Avail Cap(c_a), veh/h	225	0	1053	225	0	1026	225	1535	1301	1001	1063	901
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.8	0.0	9.3	15.4	0.0	10.9	15.3	8.4	8.4	12.6	12.3	12.2
Incr Delay (d2), s/veh	14.5	0.0	1.4	12.4	0.0	1.7	10.7	0.0	0.0	0.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	1.5	0.2	0.0	1.3	0.3	0.1	0.1	0.3	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.4	0.0	10.7	27.8	0.0	12.6	26.0	8.4	8.4	12.8	12.4	12.5
LnGrp LOS	C	A	B	C	A	B	C	A	A	B	B	B
Approach Vol, veh/h		557			304			70			102	
Approach Delay, s/veh		15.4			13.6			14.7			12.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	4.6	14.2	4.8	8.0	7.3	11.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	26.0	4.0	18.0	4.0	18.0	4.0	18.0
Max Q Clear Time (g_c+I1), s	2.3	2.4	8.1	2.4	3.2	4.6	6.5
Green Ext Time (p_c), s	0.1	0.0	1.6	0.0	0.2	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	380	130	27	36	20
Future Volume (veh/h)	20	380	130	27	36	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	380	130	27	36	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	37	773	295	61	349	310
Arrive On Green	0.02	0.41	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	1870	1502	312	1781	1585
Grp Volume(v), veh/h	20	380	0	157	36	20
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1814	1781	1585
Q Serve(g_s), s	0.2	3.1	0.0	1.6	0.3	0.2
Cycle Q Clear(g_c), s	0.2	3.1	0.0	1.6	0.3	0.2
Prop In Lane	1.00			0.17	1.00	1.00
Lane Grp Cap(c), veh/h	37	773	0	356	349	310
V/C Ratio(X)	0.53	0.49	0.00	0.44	0.10	0.06
Avail Cap(c_a), veh/h	349	2379	0	1597	1830	1628
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.9	4.4	0.0	7.2	6.7	6.7
Incr Delay (d2), s/veh	11.3	0.5	0.0	0.9	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.3	0.0	0.4	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.2	4.9	0.0	8.1	6.9	6.8
LnGrp LOS	C	A	A	A	A	A
Approach Vol, veh/h		400	157		56	
Approach Delay, s/veh		5.7	8.1		6.8	
Approach LOS		A	A		A	

Timer - Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				12.4		8.0	4.4	8.0
Change Period (Y+Rc), s				4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s				26.0		21.0	4.0	18.0
Max Q Clear Time (g_c+I1), s				5.1		2.3	2.2	3.6
Green Ext Time (p_c), s				2.3		0.1	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	6.4
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1010	268	25	25	234	40	25	210	25	246	194	435
Future Volume (veh/h)	1010	268	25	25	234	40	25	210	25	246	194	435
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1010	268	25	25	234	40	25	210	25	246	194	435
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1124	1378	128	41	414	185	41	363	43	310	494	838
Arrive On Green	0.33	0.42	0.42	0.02	0.12	0.12	0.02	0.11	0.11	0.17	0.26	0.26
Sat Flow, veh/h	3456	3288	304	1781	3554	1585	1781	3203	377	1781	1870	3170
Grp Volume(v), veh/h	1010	144	149	25	234	40	25	115	120	246	194	435
Grp Sat Flow(s),veh/h/ln	1728	1777	1816	1781	1777	1585	1781	1777	1803	1781	1870	1585
Q Serve(g_s), s	16.4	3.0	3.1	0.8	3.7	1.4	0.8	3.6	3.7	7.8	5.0	6.9
Cycle Q Clear(g_c), s	16.4	3.0	3.1	0.8	3.7	1.4	0.8	3.6	3.7	7.8	5.0	6.9
Prop In Lane	1.00		0.17	1.00		1.00	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	1124	745	761	41	414	185	41	201	204	310	494	838
V/C Ratio(X)	0.90	0.19	0.20	0.62	0.57	0.22	0.62	0.57	0.59	0.79	0.39	0.52
Avail Cap(c_a), veh/h	1171	993	1015	151	1084	483	151	542	550	543	982	1665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.0	10.8	10.9	28.6	24.7	23.6	28.6	24.8	24.9	23.4	17.8	18.5
Incr Delay (d2), s/veh	9.3	0.1	0.1	14.2	1.2	0.6	14.2	2.6	2.6	4.6	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	1.1	1.1	0.5	1.5	0.5	0.5	1.6	1.6	3.4	2.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.2	11.0	11.0	42.8	25.9	24.2	42.8	27.4	27.5	28.0	18.3	19.0
LnGrp LOS	C	B	B	D	C	C	D	C	C	C	B	B
Approach Vol, veh/h		1303			299			260			875	
Approach Delay, s/veh		24.4			27.1			28.9			21.4	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.3	10.7	5.3	28.7	5.3	19.6	23.2	10.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	18.0	18.0	5.0	33.0	5.0	31.0	20.0	18.0
Max Q Clear Time (g_c+I1), s	9.8	5.7	2.8	5.1	2.8	8.9	18.4	5.7
Green Ext Time (p_c), s	0.4	1.0	0.0	1.7	0.0	2.9	0.8	1.2

Intersection Summary	
HCM 6th Ctrl Delay	24.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	392	133	20	25	118	202	20	25	20	341	25	147
Future Volume (veh/h)	392	133	20	25	118	202	20	25	20	341	25	147
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	392	133	20	25	118	202	20	25	20	341	25	147
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	547	985	145	42	649	289	35	81	65	422	564	478
Arrive On Green	0.16	0.32	0.32	0.02	0.18	0.18	0.02	0.08	0.08	0.24	0.30	0.30
Sat Flow, veh/h	3456	3106	459	1781	3554	1585	1781	962	770	1781	1870	1585
Grp Volume(v), veh/h	392	75	78	25	118	202	20	0	45	341	25	147
Grp Sat Flow(s),veh/h/ln	1728	1777	1788	1781	1777	1585	1781	0	1732	1781	1870	1585
Q Serve(g_s), s	5.1	1.4	1.5	0.7	1.3	5.7	0.5	0.0	1.2	8.6	0.4	1.8
Cycle Q Clear(g_c), s	5.1	1.4	1.5	0.7	1.3	5.7	0.5	0.0	1.2	8.6	0.4	1.8
Prop In Lane	1.00		0.26	1.00		1.00	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	547	564	567	42	649	289	35	0	146	422	564	478
V/C Ratio(X)	0.72	0.13	0.14	0.59	0.18	0.70	0.57	0.00	0.31	0.81	0.04	0.31
Avail Cap(c_a), veh/h	730	863	869	188	1351	603	151	0	658	677	1264	1071
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	11.5	11.5	22.9	16.4	18.1	23.0	0.0	20.4	17.1	11.7	3.6
Incr Delay (d2), s/veh	2.2	0.1	0.1	12.6	0.1	3.0	14.1	0.0	1.2	3.8	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.5	0.5	0.4	0.5	2.1	0.3	0.0	0.5	3.5	0.2	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.2	11.6	11.6	35.4	16.5	21.2	37.1	0.0	21.5	20.9	11.7	4.0
LnGrp LOS	C	B	B	D	B	C	D	A	C	C	B	A
Approach Vol, veh/h		545			345			65			513	
Approach Delay, s/veh		18.5			20.6			26.3			15.6	
Approach LOS		B			C			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.2	8.0	5.1	19.0	4.9	18.3	11.5	12.6				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	18.0	18.0	5.0	23.0	4.0	32.0	10.0	18.0				
Max Q Clear Time (g_c+I1), s	10.6	3.2	2.7	3.5	2.5	3.8	7.1	7.7				
Green Ext Time (p_c), s	0.7	0.1	0.0	0.7	0.0	0.6	0.4	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			18.3									
HCM 6th LOS			B									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	120	20	123	298
Future Volume (veh/h)	0	0	120	20	123	298
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	120	20	123	298
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	13	12	555	470	195	1315
Arrive On Green	0.00	0.00	0.30	0.30	0.11	0.70
Sat Flow, veh/h	1781	1585	1870	1585	1781	1870
Grp Volume(v), veh/h	0	0	120	20	123	298
Grp Sat Flow(s),veh/h/ln	1781	1585	1870	1585	1781	1870
Q Serve(g_s), s	0.0	0.0	0.6	0.1	0.9	0.8
Cycle Q Clear(g_c), s	0.0	0.0	0.6	0.1	0.9	0.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	13	12	555	470	195	1315
V/C Ratio(X)	0.00	0.00	0.22	0.04	0.63	0.23
Avail Cap(c_a), veh/h	2379	2117	2498	2117	925	4025
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	3.6	3.4	5.7	0.7
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.0	3.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.0	3.8	3.4	9.1	0.8
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	0		140			421
Approach Delay, s/veh	0.0		3.7			3.2
Approach LOS			A			A

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	5.5	8.0				13.5		0.0
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	7.0	18.0				29.0		18.0
Max Q Clear Time (g_c+I1), s	2.9	2.6				2.8		0.0
Green Ext Time (p_c), s	0.1	0.5				1.8		0.0

Intersection Summary		
HCM 6th Ctrl Delay		3.3
HCM 6th LOS		A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	485	36	73	91	25	343
Future Volume (veh/h)	485	36	73	91	25	343
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	485	36	73	91	25	343
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	597	532	102	835	523	444
Arrive On Green	0.34	0.34	0.06	0.45	0.28	0.28
Sat Flow, veh/h	1781	1585	1781	1870	1870	1585
Grp Volume(v), veh/h	485	36	73	91	25	343
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1585
Q Serve(g_s), s	9.1	0.6	1.5	1.0	0.4	7.3
Cycle Q Clear(g_c), s	9.1	0.6	1.5	1.0	0.4	7.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	597	532	102	835	523	444
V/C Ratio(X)	0.81	0.07	0.72	0.11	0.05	0.77
Avail Cap(c_a), veh/h	972	865	194	1378	970	822
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.1	8.3	17.0	5.9	9.6	12.1
Incr Delay (d2), s/veh	2.7	0.1	9.0	0.1	0.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	0.8	0.3	0.1	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.8	8.3	26.0	6.0	9.7	15.0
LnGrp LOS	B	A	C	A	A	B
Approach Vol, veh/h	521			164	368	
Approach Delay, s/veh	13.5			14.9	14.7	
Approach LOS	B			B	B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		20.4		16.3	6.1	14.3
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		27.0		20.0	4.0	19.0
Max Q Clear Time (g_c+I1), s		3.0		11.1	3.5	9.3
Green Ext Time (p_c), s		0.4		1.2	0.0	1.0
Intersection Summary						
HCM 6th Ctrl Delay			14.1			
HCM 6th LOS			B			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	25	35	20	25	20	37	86	20	20	37	20
Future Volume (veh/h)	78	25	35	20	25	20	37	86	20	20	37	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	25	35	20	25	20	37	86	20	20	37	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	98	137	37	89	72	65	330	279	37	301	255
Arrive On Green	0.07	0.14	0.14	0.02	0.09	0.09	0.04	0.18	0.18	0.02	0.16	0.16
Sat Flow, veh/h	1781	705	987	1781	962	770	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	78	0	60	20	0	45	37	86	20	20	37	20
Grp Sat Flow(s),veh/h/ln	1781	0	1693	1781	0	1732	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	1.1	0.0	0.8	0.3	0.0	0.6	0.5	1.0	0.3	0.3	0.4	0.3
Cycle Q Clear(g_c), s	1.1	0.0	0.8	0.3	0.0	0.6	0.5	1.0	0.3	0.3	0.4	0.3
Prop In Lane	1.00		0.58	1.00		0.44	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	119	0	236	37	0	161	65	330	279	37	301	255
V/C Ratio(X)	0.65	0.00	0.25	0.54	0.00	0.28	0.57	0.26	0.07	0.54	0.12	0.08
Avail Cap(c_a), veh/h	286	0	1224	286	0	1253	286	1353	1147	286	1353	1147
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.3	0.0	9.6	12.1	0.0	10.5	11.8	8.8	8.6	12.1	8.9	8.9
Incr Delay (d2), s/veh	5.9	0.0	0.6	11.7	0.0	0.9	7.8	0.4	0.1	11.7	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.2	0.2	0.0	0.2	0.3	0.3	0.1	0.2	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.3	0.0	10.1	23.8	0.0	11.4	19.6	9.3	8.7	23.8	9.1	9.0
LnGrp LOS	B	A	B	C	A	B	B	A	A	C	A	A
Approach Vol, veh/h		138			65			143			77	
Approach Delay, s/veh		14.2			15.2			11.8			12.9	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.5	8.4	4.5	7.5	4.9	8.0	5.7	6.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	18.0	4.0	18.0	4.0	18.0	4.0	18.0
Max Q Clear Time (g_c+I1), s	2.3	3.0	2.3	2.8	2.5	2.4	3.1	2.6
Green Ext Time (p_c), s	0.0	0.4	0.0	0.2	0.0	0.1	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	13.3
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	501	71	65	248	239	94	134	117	279	86	20
Future Volume (veh/h)	20	501	71	65	248	239	94	134	117	279	86	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	501	71	65	248	239	94	134	117	279	86	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	309	608	515	84	372	315	121	236	200	340	466	395
Arrive On Green	0.17	0.33	0.33	0.05	0.20	0.20	0.07	0.13	0.13	0.19	0.25	0.25
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	20	501	71	65	248	239	94	134	117	279	86	20
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.5	12.7	1.6	1.9	6.3	4.2	2.7	3.5	3.6	7.7	1.9	0.3
Cycle Q Clear(g_c), s	0.5	12.7	1.6	1.9	6.3	4.2	2.7	3.5	3.6	7.7	1.9	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	309	608	515	84	372	315	121	236	200	340	466	395
V/C Ratio(X)	0.06	0.82	0.14	0.78	0.67	0.76	0.78	0.57	0.58	0.82	0.18	0.05
Avail Cap(c_a), veh/h	309	799	677	138	799	677	311	727	616	450	872	739
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.8	16.0	12.3	24.3	19.0	6.3	23.6	21.2	21.2	20.0	15.2	4.7
Incr Delay (d2), s/veh	0.1	5.4	0.1	14.1	2.1	3.7	10.1	2.1	2.7	8.8	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	5.5	0.5	1.1	2.7	2.5	1.4	1.5	1.4	3.7	0.7	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.9	21.4	12.4	38.4	21.1	10.0	33.7	23.3	23.9	28.8	15.4	4.7
LnGrp LOS	B	C	B	D	C	B	C	C	C	C	B	A
Approach Vol, veh/h		592			552			345			385	
Approach Delay, s/veh		20.2			18.3			26.3			24.6	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	10.5	6.4	20.7	7.5	16.8	12.9	14.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	13.0	20.0	4.0	22.0	9.0	24.0	4.0	22.0
Max Q Clear Time (g_c+I1), s	9.7	5.6	3.9	14.7	4.7	3.9	2.5	8.3
Green Ext Time (p_c), s	0.3	0.9	0.0	2.0	0.1	0.4	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	21.7
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	20	20	20	20	227	20	109	20	199	24	20
Future Volume (veh/h)	20	20	20	20	20	227	20	109	20	199	24	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	20	20	20	20	227	20	109	20	199	24	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	523	403	342	571	403	342	37	299	254	257	530	449
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.02	0.16	0.16	0.14	0.28	0.28
Sat Flow, veh/h	1133	1870	1585	1367	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	20	20	20	20	20	227	20	109	20	199	24	20
Grp Sat Flow(s),veh/h/ln	1133	1870	1585	1367	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.4	0.2	0.3	0.3	0.2	3.3	0.3	1.3	0.3	2.7	0.2	0.2
Cycle Q Clear(g_c), s	0.6	0.2	0.3	0.5	0.2	3.3	0.3	1.3	0.3	2.7	0.2	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	523	403	342	571	403	342	37	299	254	257	530	449
V/C Ratio(X)	0.04	0.05	0.06	0.04	0.05	0.66	0.54	0.36	0.08	0.77	0.05	0.04
Avail Cap(c_a), veh/h	1095	1347	1142	1261	1347	1142	285	1347	1142	499	1572	1332
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.0	7.8	7.8	8.0	7.8	9.0	12.1	9.4	8.9	10.3	6.5	6.5
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.0	0.1	2.2	11.7	0.7	0.1	5.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.1	0.1	0.1	0.9	0.2	0.4	0.1	1.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.0	7.8	7.9	8.0	7.8	11.2	23.9	10.1	9.1	15.3	6.5	6.5
LnGrp LOS	A	A	A	A	A	B	C	B	A	B	A	A
Approach Vol, veh/h		60			267			149			243	
Approach Delay, s/veh		7.9			10.7			11.8			13.7	
Approach LOS		A			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	8.0		9.4	4.5	11.1		9.4				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	7.0	18.0		18.0	4.0	21.0		18.0				
Max Q Clear Time (g_c+I1), s	4.7	3.3		2.6	2.3	2.2		5.3				
Green Ext Time (p_c), s	0.1	0.5		0.1	0.0	0.1		0.7				
Intersection Summary												
HCM 6th Ctrl Delay			11.7									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	25	25	20	25	20	25	112	32	20	24	20
Future Volume (veh/h)	20	25	25	20	25	20	25	112	32	20	24	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	25	25	20	25	20	25	112	32	20	24	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	169	143	37	169	143	46	332	281	37	323	274
Arrive On Green	0.02	0.09	0.09	0.02	0.09	0.09	0.03	0.18	0.18	0.02	0.17	0.17
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	20	25	25	20	25	20	25	112	32	20	24	20
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.2	0.4	0.3	0.2	0.2
Cycle Q Clear(g_c), s	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.2	0.4	0.3	0.2	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	37	169	143	37	169	143	46	332	281	37	323	274
V/C Ratio(X)	0.54	0.15	0.17	0.54	0.15	0.14	0.55	0.34	0.11	0.54	0.07	0.07
Avail Cap(c_a), veh/h	308	1453	1231	308	1453	1231	308	1453	1231	308	1453	1231
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.2	9.7	9.7	11.2	9.7	9.7	11.2	8.3	8.0	11.2	8.0	8.0
Incr Delay (d2), s/veh	11.6	0.4	0.6	11.6	0.4	0.4	9.8	0.6	0.2	11.6	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.3	0.1	0.2	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.8	10.1	10.3	22.8	10.1	10.2	21.0	8.9	8.2	22.8	8.1	8.1
LnGrp LOS	C	B	B	C	B	B	C	A	A	C	A	A
Approach Vol, veh/h		70			65			169			64	
Approach Delay, s/veh		13.8			14.0			10.6			12.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.5	8.1	4.5	6.1	4.6	8.0	4.5	6.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	18.0	4.0	18.0	4.0	18.0	4.0	18.0
Max Q Clear Time (g_c+I1), s	2.3	3.2	2.3	2.3	2.3	2.2	2.3	2.3
Green Ext Time (p_c), s	0.0	0.5	0.0	0.1	0.0	0.1	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	760	0	25	0	147	760	0	25	25
Future Volume (veh/h)	0	0	0	760	0	25	0	147	760	0	25	25
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				760	0	0	0	147	760	0	25	25
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Cap, veh/h				1177	0		0	2202	2343	0	3165	982
Arrive On Green				0.22	0.00	0.00	0.00	0.20	0.20	0.00	0.62	0.62
Sat Flow, veh/h				5344	0	1585	0	3647	2790	0	5274	1585
Grp Volume(v), veh/h				760	0	0	0	147	760	0	25	25
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1777	1395	0	1702	1585
Q Serve(g_s), s				6.5	0.0	0.0	0.0	1.7	5.0	0.0	0.1	0.3
Cycle Q Clear(g_c), s				6.5	0.0	0.0	0.0	1.7	5.0	0.0	0.1	0.3
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				1177	0		0	2202	2343	0	3165	982
V/C Ratio(X)				0.65	0.00		0.00	0.07	0.32	0.00	0.01	0.03
Avail Cap(c_a), veh/h				2244	0		0	2202	2343	0	3165	982
HCM Platoon Ratio				1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	0.50	0.50	0.00	1.00	1.00
Uniform Delay (d), s/veh				17.7	0.0	0.0	0.0	8.2	2.2	0.0	3.6	3.7
Incr Delay (d2), s/veh				0.6	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.4	0.0	0.0	0.0	0.4	0.1	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				18.3	0.0	0.0	0.0	8.3	2.4	0.0	3.6	3.7
LnGrp LOS				B	A		A	A	A	A	A	A
Approach Vol, veh/h					760	A		907			50	
Approach Delay, s/veh					18.3			3.3			3.7	
Approach LOS					B			A			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		35.0				35.0		15.0				
Change Period (Y+Rc), s		4.0				4.0		4.0				
Max Green Setting (Gmax), s		21.0				21.0		21.0				
Max Q Clear Time (g_c+I1), s		7.0				2.3		8.5				
Green Ext Time (p_c), s		3.8				0.1		2.5				

Intersection Summary		
HCM 6th Ctrl Delay		10.0
HCM 6th LOS		A

Notes
User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	0	1673	0	0	0	0	854	1878	0	770	20
Future Volume (veh/h)	60	0	1673	0	0	0	0	854	1878	0	770	20
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	60	0	0				0	854	1878	0	770	20
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	2
Cap, veh/h	82	0					0	4462	2438	0	4462	1385
Arrive On Green	0.05	0.00	0.00				0.00	0.87	0.87	0.00	0.29	0.29
Sat Flow, veh/h	1781	0	1585				0	5274	2790	0	5274	1585
Grp Volume(v), veh/h	60	0	0				0	854	1878	0	770	20
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1395	0	1702	1585
Q Serve(g_s), s	3.3	0.0	0.0				0.0	2.5	26.0	0.0	11.3	0.9
Cycle Q Clear(g_c), s	3.3	0.0	0.0				0.0	2.5	26.0	0.0	11.3	0.9
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	82	0					0	4462	2438	0	4462	1385
V/C Ratio(X)	0.73	0.00					0.00	0.19	0.77	0.00	0.17	0.01
Avail Cap(c_a), veh/h	1265	0					0	4462	2438	0	4462	1385
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	0.33	0.33
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.58	0.58	0.00	0.98	0.98
Uniform Delay (d), s/veh	47.1	0.0	0.0				0.0	1.0	2.4	0.0	8.5	4.8
Incr Delay (d2), s/veh	11.7	0.0	0.0				0.0	0.1	1.4	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0				0.0	0.2	2.3	0.0	5.2	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.8	0.0	0.0				0.0	1.0	3.8	0.0	8.6	4.8
LnGrp LOS	E	A					A	A	A	A	A	A
Approach Vol, veh/h		60	A					2732			790	
Approach Delay, s/veh		58.8						3.0			8.5	
Approach LOS		E						A			A	

Timer - Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		91.4		8.6		91.4		
Change Period (Y+Rc), s		4.0		4.0		4.0		
Max Green Setting (Gmax), s		21.0		71.0		21.0		
Max Q Clear Time (g_c+I1), s		28.0		5.3		13.3		
Green Ext Time (p_c), s		0.0		0.4		3.2		

Intersection Summary	
HCM 6th Ctrl Delay	5.1
HCM 6th LOS	A

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1688	25	20	20	25	25	25	1003	20	136	1918	899
Future Volume (veh/h)	1688	25	20	20	25	25	25	1003	20	136	1918	899
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1688	25	0	20	25	0	25	1003	20	136	1918	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1866	68		662	68		35	2266	558	166	2176	
Arrive On Green	0.37	0.04	0.00	0.37	0.04	0.00	0.02	0.35	0.35	0.09	0.43	0.00
Sat Flow, veh/h	5023	1870	1585	1781	1870	1585	1781	6434	1585	1781	5106	2790
Grp Volume(v), veh/h	1688	25	0	20	25	0	25	1003	20	136	1918	0
Grp Sat Flow(s),veh/h/ln	1674	1870	1585	1781	1870	1585	1781	1609	1585	1781	1702	1395
Q Serve(g_s), s	34.8	1.4	0.0	0.8	1.4	0.0	1.5	13.1	0.3	8.2	37.7	0.0
Cycle Q Clear(g_c), s	34.8	1.4	0.0	0.8	1.4	0.0	1.5	13.1	0.3	8.2	37.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1866	68		662	68		35	2266	558	166	2176	
V/C Ratio(X)	0.90	0.37		0.03	0.37		0.72	0.44	0.04	0.82	0.88	
Avail Cap(c_a), veh/h	1976	975		662	325		65	2266	558	293	2242	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.5	51.4	0.0	21.8	51.4	0.0	53.3	27.2	2.3	48.6	28.8	0.0
Incr Delay (d2), s/veh	6.2	3.2	0.0	0.0	3.2	0.0	24.3	0.1	0.0	9.4	4.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.8	0.7	0.0	0.3	0.7	0.0	0.9	5.0	0.3	4.1	15.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.7	54.6	0.0	21.9	54.6	0.0	77.6	27.3	2.3	58.0	33.2	0.0
LnGrp LOS	D	D		C	D		E	C	A	E	C	
Approach Vol, veh/h		1713	A		45	A		1048			2054	A
Approach Delay, s/veh		38.9			40.1			28.0			34.9	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	44.6	8.0	6.1	50.6	44.6	8.0	14.2	42.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	57.0	4.0	48.0	43.0	19.0	18.0	34.0
Max Q Clear Time (g_c+I1), s	2.8	3.4	3.5	39.7	36.8	3.4	10.2	15.1
Green Ext Time (p_c), s	0.0	0.1	0.0	6.8	3.8	0.0	0.2	7.1

Intersection Summary	
HCM 6th Ctrl Delay	34.9
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1423	515	161	478	529	183
Future Volume (veh/h)	1423	515	161	478	529	183
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1423	515	161	478	529	183
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3730	1158	241	4701	810	256
Arrive On Green	0.73	0.73	0.73	0.73	0.16	0.16
Sat Flow, veh/h	5274	1585	229	6696	5023	1585
Grp Volume(v), veh/h	1423	515	161	478	529	183
Grp Sat Flow(s),veh/h/ln	1702	1585	229	1609	1674	1585
Q Serve(g_s), s	7.7	9.6	46.3	1.6	7.3	8.1
Cycle Q Clear(g_c), s	7.7	9.6	54.0	1.6	7.3	8.1
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	3730	1158	241	4701	810	256
V/C Ratio(X)	0.38	0.44	0.67	0.10	0.65	0.72
Avail Cap(c_a), veh/h	3730	1158	241	4701	1223	386
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	3.7	4.0	16.3	2.9	29.1	29.4
Incr Delay (d2), s/veh	0.1	0.3	6.9	0.0	0.9	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.6	2.7	0.3	2.9	3.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	3.8	4.2	23.3	2.9	30.0	33.1
LnGrp LOS	A	A	C	A	C	C
Approach Vol, veh/h	1938			639	712	
Approach Delay, s/veh	3.9			8.0	30.8	
Approach LOS	A			A	C	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	15.9	58.0	58.0
Change Period (Y+Rc), s	4.0	4.0	4.0
Max Green Setting (Gmax), s	18.0	54.0	54.0
Max Q Clear Time (g_c+I1), s	10.1	11.6	56.0
Green Ext Time (p_c), s	1.8	16.8	0.0

Intersection Summary	
HCM 6th Ctrl Delay	10.5
HCM 6th LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	347	552	20	432	121	20
Future Volume (veh/h)	347	552	20	432	121	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	347	552	20	432	121	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	855	725	36	1134	243	216
Arrive On Green	0.46	0.46	0.02	0.61	0.14	0.14
Sat Flow, veh/h	1870	1585	1781	1870	1781	1585
Grp Volume(v), veh/h	347	552	20	432	121	20
Grp Sat Flow(s),veh/h/ln	1870	1585	1781	1870	1781	1585
Q Serve(g_s), s	3.8	9.0	0.3	3.7	2.0	0.3
Cycle Q Clear(g_c), s	3.8	9.0	0.3	3.7	2.0	0.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	855	725	36	1134	243	216
V/C Ratio(X)	0.41	0.76	0.55	0.38	0.50	0.09
Avail Cap(c_a), veh/h	1263	1070	229	1744	1031	917
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.6	7.0	15.1	3.1	12.4	11.7
Incr Delay (d2), s/veh	0.3	1.9	12.3	0.2	1.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.9	0.2	0.4	0.7	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	5.9	8.9	27.4	3.3	14.0	11.9
LnGrp LOS	A	A	C	A	B	B
Approach Vol, veh/h	899			452	141	
Approach Delay, s/veh	7.8			4.4	13.7	
Approach LOS	A			A	B	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	8.2	4.6	18.2	22.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	18.0	4.0	21.0	29.0
Max Q Clear Time (g_c+I1), s	4.0	2.3	11.0	5.7
Green Ext Time (p_c), s	0.3	0.0	3.2	2.8

Intersection Summary	
HCM 6th Ctrl Delay	7.3
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	279	50	20	413	20	25	20	20	20	20	25
Future Volume (veh/h)	25	279	50	20	413	20	25	20	20	20	20	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	279	50	20	413	20	25	20	20	20	20	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	599	507	36	590	500	44	113	113	36	96	120
Arrive On Green	0.02	0.32	0.32	0.02	0.32	0.32	0.02	0.13	0.13	0.02	0.13	0.13
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	858	858	1781	756	945
Grp Volume(v), veh/h	25	279	50	20	413	20	25	0	40	20	0	45
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	0	1716	1781	0	1700
Q Serve(g_s), s	0.4	3.8	0.7	0.4	6.1	0.3	0.4	0.0	0.7	0.4	0.0	0.7
Cycle Q Clear(g_c), s	0.4	3.8	0.7	0.4	6.1	0.3	0.4	0.0	0.7	0.4	0.0	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		0.56
Lane Grp Cap(c), veh/h	44	599	507	36	590	500	44	0	226	36	0	216
V/C Ratio(X)	0.56	0.47	0.10	0.55	0.70	0.04	0.56	0.00	0.18	0.55	0.00	0.21
Avail Cap(c_a), veh/h	226	1068	905	226	1068	905	226	0	980	226	0	971
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.2	8.6	7.5	15.3	9.5	7.5	15.2	0.0	12.2	15.3	0.0	12.3
Incr Delay (d2), s/veh	10.7	0.6	0.1	12.4	1.5	0.0	10.7	0.0	0.4	12.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.1	0.2	0.2	1.9	0.1	0.3	0.0	0.2	0.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	9.1	7.6	27.7	11.0	7.5	25.9	0.0	12.5	27.7	0.0	12.8
LnGrp LOS	C	A	A	C	B	A	C	A	B	C	A	B
Approach Vol, veh/h		354			453			65			65	
Approach Delay, s/veh		10.1			11.6			17.7			17.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.6	8.1	4.6	14.1	4.8	8.0	4.8	13.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	18.0	4.0	18.0	4.0	18.0	4.0	18.0
Max Q Clear Time (g_c+I1), s	2.4	2.7	2.4	5.8	2.4	2.7	2.4	8.1
Green Ext Time (p_c), s	0.0	0.1	0.0	1.4	0.0	0.1	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	11.8
HCM 6th LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	1307	1023	45	43	25
Future Volume (veh/h)	39	1307	1023	45	43	25
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	39	1307	1023	45	43	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	467	2080	2080	928	242	215
Arrive On Green	0.59	0.59	0.59	0.59	0.14	0.14
Sat Flow, veh/h	524	3618	3618	1572	1767	1572
Grp Volume(v), veh/h	39	1307	1023	45	43	25
Grp Sat Flow(s),veh/h/ln	524	1763	1763	1572	1767	1572
Q Serve(g_s), s	1.4	7.1	4.9	0.4	0.6	0.4
Cycle Q Clear(g_c), s	6.3	7.1	4.9	0.4	0.6	0.4
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	467	2080	2080	928	242	215
V/C Ratio(X)	0.08	0.63	0.49	0.05	0.18	0.12
Avail Cap(c_a), veh/h	588	2891	2891	1289	1087	967
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.3	3.9	3.5	2.5	11.2	11.1
Incr Delay (d2), s/veh	0.1	0.3	0.2	0.0	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.1	0.0	0.2	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	5.4	4.2	3.6	2.6	11.5	11.3
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h		1346	1068		68	
Approach Delay, s/veh		4.3	3.6		11.5	
Approach LOS		A	A		B	

Timer - Assigned Phs	4	6	8
Phs Duration (G+Y+Rc), s	21.3	8.0	21.3
Change Period (Y+Rc), s	4.0	4.0	4.0
Max Green Setting (Gmax), s	24.0	18.0	24.0
Max Q Clear Time (g_c+I1), s	9.1	2.6	6.9
Green Ext Time (p_c), s	8.2	0.1	6.6

Intersection Summary	
HCM 6th Ctrl Delay	4.2
HCM 6th LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	504	322	29	380	438	84
Future Volume (veh/h)	504	322	29	380	438	84
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	504	322	29	380	438	84
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	646	547	111	898	542	482
Arrive On Green	0.35	0.35	0.06	0.48	0.31	0.31
Sat Flow, veh/h	1856	1572	1767	1856	1767	1572
Grp Volume(v), veh/h	504	322	29	380	438	84
Grp Sat Flow(s),veh/h/ln	1856	1572	1767	1856	1767	1572
Q Serve(g_s), s	11.6	8.0	0.7	6.3	10.9	1.9
Cycle Q Clear(g_c), s	11.6	8.0	0.7	6.3	10.9	1.9
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	646	547	111	898	542	482
V/C Ratio(X)	0.78	0.59	0.26	0.42	0.81	0.17
Avail Cap(c_a), veh/h	875	741	111	1147	778	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.9	12.8	21.3	8.0	15.3	12.1
Incr Delay (d2), s/veh	3.6	1.2	0.5	0.4	4.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	2.3	0.3	1.8	4.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.5	14.0	21.8	8.4	20.0	12.3
LnGrp LOS	B	B	C	A	B	B
Approach Vol, veh/h	826			409	522	
Approach Delay, s/veh	16.1			9.3	18.7	
Approach LOS	B			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		28.1		19.6	6.5	21.6
Change Period (Y+Rc), s		* 5		5.0	3.5	5.0
Max Green Setting (Gmax), s		* 30		21.0	3.0	22.5
Max Q Clear Time (g_c+I1), s		8.3		12.9	2.7	13.6
Green Ext Time (p_c), s		1.8		1.7	0.0	3.0

Intersection Summary			
HCM 6th Ctrl Delay			15.3
HCM 6th LOS			B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	981	373	50	605	25	20	125	122	25	77	34
Future Volume (veh/h)	104	981	373	50	605	25	20	125	122	25	77	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	104	981	0	50	605	0	20	125	0	25	77	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	422	2019		327	1968		227	497		286	558	
Arrive On Green	0.12	0.40	0.00	0.10	0.39	0.00	0.07	0.14	0.00	0.08	0.16	0.00
Sat Flow, veh/h	3428	5066	1572	3428	5066	1572	3428	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	104	981	0	50	605	0	20	125	0	25	77	0
Grp Sat Flow(s),veh/h/ln	1714	1689	1572	1714	1689	1572	1714	1763	1572	1714	1763	1572
Q Serve(g_s), s	1.5	8.1	0.0	0.8	4.7	0.0	0.3	1.8	0.0	0.4	1.1	0.0
Cycle Q Clear(g_c), s	1.5	8.1	0.0	0.8	4.7	0.0	0.3	1.8	0.0	0.4	1.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	422	2019		327	1968		227	497		286	558	
V/C Ratio(X)	0.25	0.49		0.15	0.31		0.09	0.25		0.09	0.14	
Avail Cap(c_a), veh/h	526	3467		526	3557		526	2645		617	2740	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	22.2	12.6	0.0	23.3	11.9	0.0	24.6	21.5	0.0	23.7	20.3	0.0
Incr Delay (d2), s/veh	0.1	0.4	0.0	0.1	0.2	0.0	0.1	0.4	0.0	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.4	0.0	0.3	1.4	0.0	0.1	0.7	0.0	0.1	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.4	13.0	0.0	23.4	12.1	0.0	24.7	21.8	0.0	23.9	20.4	0.0
LnGrp LOS	C	B		C	B		C	C		C	C	
Approach Vol, veh/h		1085	A		655	A		145	A		102	A
Approach Delay, s/veh		13.9			13.0			22.2			21.3	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	26.4	7.1	12.9	10.3	25.8	8.1	11.9
Change Period (Y+Rc), s	6.5	6.1	5.5	6.1	5.5	6.1	5.5	6.1
Max Green Setting (Gmax), s	6.5	36.3	6.5	41.5	6.5	37.3	8.0	40.0
Max Q Clear Time (g_c+I1), s	2.8	10.1	2.3	3.1	3.5	6.7	2.4	3.8
Green Ext Time (p_c), s	0.0	10.2	0.0	0.3	0.0	6.2	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	14.6
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	222	445	329	40	290	228	555	106	136	772	22
Future Volume (veh/h)	54	222	445	329	40	290	228	555	106	136	772	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	54	222	445	329	40	290	228	555	106	136	772	22
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	397	472	400	476	515	436	349	1082	336	397	995	781
Arrive On Green	0.12	0.25	0.25	0.14	0.28	0.28	0.07	0.21	0.21	0.12	0.28	0.28
Sat Flow, veh/h	3428	1856	1572	3428	1856	1572	4983	5066	1572	3428	3526	2768
Grp Volume(v), veh/h	54	222	445	329	40	290	228	555	106	136	772	22
Grp Sat Flow(s),veh/h/ln	1714	1856	1572	1714	1856	1572	1661	1689	1572	1714	1763	1384
Q Serve(g_s), s	1.2	8.8	22.0	7.9	1.4	14.1	3.9	8.4	4.9	3.2	17.4	0.5
Cycle Q Clear(g_c), s	1.2	8.8	22.0	7.9	1.4	14.1	3.9	8.4	4.9	3.2	17.4	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	397	472	400	476	515	436	349	1082	336	397	995	781
V/C Ratio(X)	0.14	0.47	1.11	0.69	0.08	0.66	0.65	0.51	0.32	0.34	0.78	0.03
Avail Cap(c_a), veh/h	397	472	400	991	751	637	519	1816	564	397	1386	1088
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.4	27.3	32.2	35.5	23.1	27.7	39.2	30.0	28.7	35.2	28.5	22.4
Incr Delay (d2), s/veh	0.2	0.7	79.0	0.7	0.0	0.7	2.1	0.4	0.5	0.7	2.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.8	16.5	3.2	0.6	5.0	1.6	3.2	1.8	1.3	7.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.6	28.0	111.2	36.1	23.1	28.3	41.3	30.4	29.2	35.9	30.6	22.5
LnGrp LOS	C	C	F	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		721			659			889			930	
Approach Delay, s/veh		79.9			31.9			33.0			31.2	
Approach LOS		E			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	28.0	10.1	30.4	16.0	30.0	16.0	24.5
Change Period (Y+Rc), s	6.0	* 6	4.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	25.0	* 22	9.0	34.0	10.0	35.0	10.0	31.0
Max Q Clear Time (g_c+I1), s	19.9	24.0	5.9	19.4	3.2	16.1	5.2	10.4
Green Ext Time (p_c), s	0.5	0.0	0.2	5.0	0.1	0.6	0.2	3.7

Intersection Summary	
HCM 6th Ctrl Delay	42.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	294	150	134	65	95	25	333	116	247	296	20
Future Volume (veh/h)	25	294	150	134	65	95	25	333	116	247	296	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	294	150	134	65	95	25	333	116	247	296	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	42	412	349	171	548	464	42	611	272	307	1140	508
Arrive On Green	0.02	0.22	0.22	0.10	0.29	0.29	0.02	0.17	0.17	0.17	0.32	0.32
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	25	294	150	134	65	95	25	333	116	247	296	20
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.7	6.9	3.8	3.5	1.2	2.1	0.7	4.0	3.1	6.3	2.9	0.4
Cycle Q Clear(g_c), s	0.7	6.9	3.8	3.5	1.2	2.1	0.7	4.0	3.1	6.3	2.9	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	42	412	349	171	548	464	42	611	272	307	1140	508
V/C Ratio(X)	0.59	0.71	0.43	0.78	0.12	0.20	0.59	0.55	0.43	0.80	0.26	0.04
Avail Cap(c_a), veh/h	151	714	605	227	793	672	151	1431	638	415	1959	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.8	17.0	15.8	20.8	12.2	12.5	22.8	17.8	17.5	18.8	11.9	11.0
Incr Delay (d2), s/veh	12.5	2.3	0.8	12.1	0.1	0.2	12.5	0.8	1.1	8.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.8	1.3	1.9	0.4	0.7	0.4	1.5	1.1	2.8	0.9	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.3	19.3	16.7	32.9	12.3	12.8	35.3	18.6	18.5	26.8	12.0	11.1
LnGrp LOS	D	B	B	C	B	B	D	B	B	C	B	B
Approach Vol, veh/h		469			294			474			563	
Approach Delay, s/veh		19.3			21.8			19.5			18.4	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.1	12.1	8.5	14.4	5.1	19.1	5.1	17.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	11.0	19.0	6.0	18.0	4.0	26.0	4.0	20.0
Max Q Clear Time (g_c+I1), s	8.3	6.0	5.5	8.9	2.7	4.9	2.7	4.1
Green Ext Time (p_c), s	0.2	2.1	0.0	1.5	0.0	1.7	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	48	25	438	159	82	516
Future Volume (veh/h)	48	25	438	159	82	516
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	25	438	159	82	516
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	123	109	1609	718	739	1609
Arrive On Green	0.07	0.07	0.45	0.45	0.45	0.45
Sat Flow, veh/h	1781	1585	3647	1585	821	3647
Grp Volume(v), veh/h	48	25	438	159	82	516
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	821	1777
Q Serve(g_s), s	0.4	0.2	1.3	1.0	1.2	1.6
Cycle Q Clear(g_c), s	0.4	0.2	1.3	1.0	2.4	1.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	123	109	1609	718	739	1609
V/C Ratio(X)	0.39	0.23	0.27	0.22	0.11	0.32
Avail Cap(c_a), veh/h	1917	1706	4037	1801	1300	4037
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.5	7.4	2.9	2.8	3.6	2.9
Incr Delay (d2), s/veh	2.0	1.1	0.1	0.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.5	8.4	2.9	2.9	3.7	3.0
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	73		597			598
Approach Delay, s/veh	9.1		2.9			3.1
Approach LOS	A		A			A

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	11.6	11.6	5.2
Change Period (Y+Rc), s	4.0	4.0	4.0
Max Green Setting (Gmax), s	19.0	19.0	18.0
Max Q Clear Time (g_c+I1), s	3.3	4.4	2.4
Green Ext Time (p_c), s	3.1	3.1	0.1

Intersection Summary	
HCM 6th Ctrl Delay	3.4
HCM 6th LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	46	58	465	68	112	551
Future Volume (veh/h)	46	58	465	68	112	551
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	46	58	465	68	112	551
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	98	87	597	266	1158	3049
Arrive On Green	0.06	0.06	0.34	0.34	0.66	0.86
Sat Flow, veh/h	1767	1572	3618	1572	1767	3618
Grp Volume(v), veh/h	46	58	465	68	112	551
Grp Sat Flow(s),veh/h/ln	1767	1572	1763	1572	1767	1763
Q Serve(g_s), s	2.5	3.6	11.8	3.1	2.3	2.5
Cycle Q Clear(g_c), s	2.5	3.6	11.8	3.1	2.3	2.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	98	87	597	266	1158	3049
V/C Ratio(X)	0.47	0.67	0.78	0.26	0.10	0.18
Avail Cap(c_a), veh/h	406	362	1410	629	1158	3049
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.96	0.96	0.99	0.99
Uniform Delay (d), s/veh	45.8	46.3	31.4	28.5	6.3	1.1
Incr Delay (d2), s/veh	3.5	8.5	9.3	2.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.6	4.8	1.3	0.7	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	49.3	54.9	40.7	30.7	6.4	1.2
LnGrp LOS	D	D	D	C	A	A
Approach Vol, veh/h	104		533			663
Approach Delay, s/veh	52.4		39.5			2.1
Approach LOS	D		D			A

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	69.6	20.9				90.5		9.5
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	25.0	40.0				69.0		23.0
Max Q Clear Time (g_c+I1), s	4.3	13.8				4.5		5.6
Green Ext Time (p_c), s	0.2	3.1				3.7		0.2

Intersection Summary	
HCM 6th Ctrl Delay	21.4
HCM 6th LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	198	269	67	342	324	27
Future Volume (veh/h)	198	269	67	342	324	27
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	198	269	67	342	324	27
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	359	319	992	2554	433	193
Arrive On Green	0.20	0.20	0.56	0.72	0.12	0.12
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	198	269	67	342	324	27
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	10.0	16.3	1.7	3.0	8.8	1.5
Cycle Q Clear(g_c), s	10.0	16.3	1.7	3.0	8.8	1.5
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	359	319	992	2554	433	193
V/C Ratio(X)	0.55	0.84	0.07	0.13	0.75	0.14
Avail Cap(c_a), veh/h	695	618	992	2554	1137	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.99	0.99
Uniform Delay (d), s/veh	35.9	38.4	10.2	4.4	42.4	39.2
Incr Delay (d2), s/veh	1.3	6.0	0.0	0.1	11.1	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	14.0	0.6	0.8	4.4	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.2	44.4	10.2	4.5	53.6	40.7
LnGrp LOS	D	D	B	A	D	D
Approach Vol, veh/h	467			409	351	
Approach Delay, s/veh	41.4			5.4	52.6	
Approach LOS	D			A	D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		75.9		24.1	59.7	16.2
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		53.0		39.0	17.0	32.0
Max Q Clear Time (g_c+I1), s		5.0		18.3	3.7	10.8
Green Ext Time (p_c), s		1.5		1.8	0.1	1.4
Intersection Summary						
HCM 6th Ctrl Delay			32.6			
HCM 6th LOS			C			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	39	25	371	20	155	493
Future Volume (veh/h)	39	25	371	20	155	493
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	25	371	20	155	493
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	109	97	1678	748	828	1678
Arrive On Green	0.06	0.06	0.47	0.47	0.47	0.47
Sat Flow, veh/h	1781	1585	3647	1585	993	3647
Grp Volume(v), veh/h	39	25	371	20	155	493
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	993	1777
Q Serve(g_s), s	0.4	0.3	1.1	0.1	1.9	1.5
Cycle Q Clear(g_c), s	0.4	0.3	1.1	0.1	2.9	1.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	109	97	1678	748	828	1678
V/C Ratio(X)	0.36	0.26	0.22	0.03	0.19	0.29
Avail Cap(c_a), veh/h	1870	1664	3938	1756	1459	3938
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.7	7.7	2.7	2.4	3.5	2.8
Incr Delay (d2), s/veh	2.0	1.4	0.1	0.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.7	9.1	2.7	2.4	3.6	2.9
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	64		391			648
Approach Delay, s/veh	9.4		2.7			3.1
Approach LOS	A		A			A

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	12.1	12.1	5.1
Change Period (Y+Rc), s	4.0	4.0	4.0
Max Green Setting (Gmax), s	19.0	19.0	18.0
Max Q Clear Time (g_c+I1), s	3.1	4.9	2.4
Green Ext Time (p_c), s	2.0	3.2	0.1

Intersection Summary	
HCM 6th Ctrl Delay	3.3
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	63	54	20	36	25	25	399	25	77	450	25
Future Volume (veh/h)	25	63	54	20	36	25	25	399	25	77	450	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	63	54	20	36	25	25	399	25	77	450	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	45	203	172	139	302	256	45	775	346	112	910	406
Arrive On Green	0.03	0.11	0.11	0.08	0.16	0.16	0.03	0.22	0.22	0.06	0.26	0.26
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	25	63	54	20	36	25	25	399	25	77	450	25
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.4	0.9	0.9	0.3	0.5	0.4	0.4	3.0	0.4	1.3	3.2	0.4
Cycle Q Clear(g_c), s	0.4	0.9	0.9	0.3	0.5	0.4	0.4	3.0	0.4	1.3	3.2	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	45	203	172	139	302	256	45	775	346	112	910	406
V/C Ratio(X)	0.56	0.31	0.31	0.14	0.12	0.10	0.56	0.51	0.07	0.69	0.49	0.06
Avail Cap(c_a), veh/h	296	1120	949	1066	1928	1634	296	2127	949	296	2127	949
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.5	12.4	12.4	12.9	10.8	10.7	14.5	10.4	9.3	13.8	9.5	8.5
Incr Delay (d2), s/veh	10.5	0.9	1.0	0.5	0.2	0.2	10.5	0.5	0.1	7.2	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.3	0.3	0.1	0.2	0.1	0.3	0.9	0.1	0.6	0.9	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.0	13.2	13.4	13.4	10.9	10.9	25.0	10.9	9.4	21.0	9.9	8.5
LnGrp LOS	C	B	B	B	B	B	C	B	A	C	A	A
Approach Vol, veh/h		142			81			449			552	
Approach Delay, s/veh		15.4			11.5			11.6			11.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	10.6	6.3	7.3	4.8	11.7	4.8	8.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	18.0	18.0	18.0	5.0	18.0	5.0	31.0
Max Q Clear Time (g_c+I1), s	3.3	5.0	2.3	2.9	2.4	5.2	2.4	2.5
Green Ext Time (p_c), s	0.0	1.6	0.0	0.4	0.0	1.8	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	11.9
HCM 6th LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	21	20	378	102	20	506
Future Volume (veh/h)	21	20	378	102	20	506
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	20	378	102	20	506
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	73	65	1092	487	38	1914
Arrive On Green	0.04	0.04	0.31	0.31	0.02	0.54
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	21	20	378	102	20	506
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	0.2	0.2	1.6	0.9	0.2	1.5
Cycle Q Clear(g_c), s	0.2	0.2	1.6	0.9	0.2	1.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	73	65	1092	487	38	1914
V/C Ratio(X)	0.29	0.31	0.35	0.21	0.53	0.26
Avail Cap(c_a), veh/h	374	333	3735	1666	374	5229
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.9	8.9	5.1	4.9	9.2	2.4
Incr Delay (d2), s/veh	2.1	2.6	0.2	0.2	11.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.0	0.1	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.0	11.5	5.3	5.1	20.4	2.4
LnGrp LOS	B	B	A	A	C	A
Approach Vol, veh/h	41		480			526
Approach Delay, s/veh	11.2		5.3			3.1
Approach LOS	B		A			A

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	4.4	9.8				14.2		4.8
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	4.0	20.0				28.0		4.0
Max Q Clear Time (g_c+I1), s	2.2	3.6				3.5		2.2
Green Ext Time (p_c), s	0.0	2.3				3.1		0.0

Intersection Summary		
HCM 6th Ctrl Delay		4.4
HCM 6th LOS		A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	55	245	39	22	25	98	459	132	46	481	20
Future Volume (veh/h)	20	55	245	39	22	25	98	459	132	46	481	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	55	245	39	22	25	98	459	132	46	481	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	36	404	342	64	433	367	123	943	421	73	842	376
Arrive On Green	0.02	0.22	0.22	0.04	0.23	0.23	0.07	0.27	0.27	0.04	0.24	0.24
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	20	55	245	39	22	25	98	459	132	46	481	20
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.4	0.9	5.2	0.8	0.3	0.4	2.0	3.9	2.4	0.9	4.3	0.4
Cycle Q Clear(g_c), s	0.4	0.9	5.2	0.8	0.3	0.4	2.0	3.9	2.4	0.9	4.3	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	36	404	342	64	433	367	123	943	421	73	842	376
V/C Ratio(X)	0.56	0.14	0.72	0.61	0.05	0.07	0.79	0.49	0.31	0.63	0.57	0.05
Avail Cap(c_a), veh/h	197	930	788	197	930	788	197	1767	788	197	1767	788
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.6	11.5	13.2	17.2	10.8	10.9	16.6	11.2	10.7	17.1	12.2	10.7
Incr Delay (d2), s/veh	12.9	0.2	2.8	9.1	0.0	0.1	10.9	0.4	0.4	8.7	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.3	1.7	0.4	0.1	0.1	1.0	1.1	0.7	0.5	1.2	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.4	11.6	16.0	26.3	10.9	10.9	27.5	11.6	11.1	25.8	12.8	10.7
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		320			86			689			547	
Approach Delay, s/veh		16.1			17.9			13.8			13.8	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.5	13.6	5.3	11.8	6.5	12.6	4.7	12.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	4.0	18.0	4.0	18.0	4.0	18.0	4.0	18.0				
Max Q Clear Time (g_c+I1), s	2.9	5.9	2.8	7.2	4.0	6.3	2.4	2.4				
Green Ext Time (p_c), s	0.0	2.5	0.0	0.8	0.0	2.3	0.0	0.1				
Intersection Summary												
HCM 6th Ctrl Delay			14.5									
HCM 6th LOS			B									

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	761	53	20	424	96	90
Future Volume (veh/h)	761	53	20	424	96	90
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	761	53	20	424	96	90
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1410	629	37	2001	259	231
Arrive On Green	0.40	0.40	0.02	0.56	0.15	0.15
Sat Flow, veh/h	3647	1585	1781	3647	1781	1585
Grp Volume(v), veh/h	761	53	20	424	96	90
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777	1781	1585
Q Serve(g_s), s	4.5	0.6	0.3	1.6	1.3	1.4
Cycle Q Clear(g_c), s	4.5	0.6	0.3	1.6	1.3	1.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1410	629	37	2001	259	231
V/C Ratio(X)	0.54	0.08	0.54	0.21	0.37	0.39
Avail Cap(c_a), veh/h	2458	1096	259	3493	1297	1154
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.4	5.2	13.3	3.0	10.6	10.6
Incr Delay (d2), s/veh	0.3	0.1	12.0	0.1	0.9	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.1	0.2	0.1	0.4	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.7	5.2	25.3	3.0	11.5	11.7
LnGrp LOS	A	A	C	A	B	B
Approach Vol, veh/h	814			444	186	
Approach Delay, s/veh	6.6			4.0	11.6	
Approach LOS	A			A	B	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	8.0	4.6	14.9	19.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	20.0	4.0	19.0	27.0
Max Q Clear Time (g_c+I1), s	3.4	2.3	6.5	3.6
Green Ext Time (p_c), s	0.5	0.0	4.4	2.8

Intersection Summary	
HCM 6th Ctrl Delay	6.4
HCM 6th LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	432	81	763	693	33	704
Future Volume (veh/h)	432	81	763	693	33	704
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	432	81	763	693	33	704
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	517	460	1510	674	53	1918
Arrive On Green	0.29	0.29	0.42	0.42	0.03	0.54
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	432	81	763	693	33	704
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	10.7	1.8	7.4	20.0	0.9	5.4
Cycle Q Clear(g_c), s	10.7	1.8	7.4	20.0	0.9	5.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	517	460	1510	674	53	1918
V/C Ratio(X)	0.84	0.18	0.51	1.03	0.62	0.37
Avail Cap(c_a), veh/h	719	640	1510	674	151	2114
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.6	12.5	9.9	13.5	22.6	6.2
Incr Delay (d2), s/veh	6.1	0.2	0.3	42.3	11.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.6	2.0	12.5	0.5	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.8	12.7	10.2	55.8	33.9	6.3
LnGrp LOS	C	B	B	F	C	A
Approach Vol, veh/h	513		1456			737
Approach Delay, s/veh	20.3		31.9			7.6
Approach LOS	C		C			A

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	5.4	24.0				29.4		17.7
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	4.0	20.0				28.0		19.0
Max Q Clear Time (g_c+I1), s	2.9	22.0				7.4		12.7
Green Ext Time (p_c), s	0.0	0.0				4.3		1.0
Intersection Summary								
HCM 6th Ctrl Delay			23.1					
HCM 6th LOS			C					

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	25	60	169	32	154	198	1204	220	139	975	40
Future Volume (veh/h)	23	25	60	169	32	154	198	1204	220	139	975	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	25	60	169	32	154	198	1204	220	139	975	40
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	38	142	120	213	326	486	247	1571	701	230	1316	587
Arrive On Green	0.02	0.08	0.08	0.12	0.17	0.17	0.14	0.44	0.44	0.07	0.37	0.37
Sat Flow, veh/h	1781	1870	1585	1781	1870	2790	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	23	25	60	169	32	154	198	1204	220	139	975	40
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1395	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	0.7	0.7	2.0	5.0	0.8	2.6	5.8	15.5	4.9	2.1	12.9	0.9
Cycle Q Clear(g_c), s	0.7	0.7	2.0	5.0	0.8	2.6	5.8	15.5	4.9	2.1	12.9	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	38	142	120	213	326	486	247	1571	701	230	1316	587
V/C Ratio(X)	0.60	0.18	0.50	0.79	0.10	0.32	0.80	0.77	0.31	0.60	0.74	0.07
Avail Cap(c_a), veh/h	132	622	527	263	760	1133	296	1903	849	255	1575	703
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.3	23.4	24.0	23.2	18.8	19.5	22.6	12.7	9.8	24.6	14.8	11.0
Incr Delay (d2), s/veh	13.9	0.6	3.2	12.4	0.1	0.4	12.5	1.6	0.3	3.3	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.3	0.8	2.7	0.3	0.8	2.9	4.7	1.5	0.9	4.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.2	24.0	27.2	35.6	18.9	19.9	35.2	14.3	10.0	27.9	16.3	11.1
LnGrp LOS	D	C	C	D	B	B	D	B	B	C	B	B
Approach Vol, veh/h		108			355			1622			1154	
Approach Delay, s/veh		29.2			27.3			16.3			17.6	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	27.9	10.5	8.1	11.5	24.1	5.2	13.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	29.0	8.0	18.0	9.0	24.0	4.0	22.0
Max Q Clear Time (g_c+I1), s	4.1	17.5	7.0	4.0	7.8	14.9	2.7	4.6
Green Ext Time (p_c), s	0.0	6.5	0.0	0.2	0.1	4.2	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	18.4
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	56	57	77	119	20
Future Vol, veh/h	29	56	57	77	119	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	29	56	57	77	119	20

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	320	129	139	0	-	0
Stage 1	129	-	-	-	-	-
Stage 2	191	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	671	918	1438	-	-	-
Stage 1	894	-	-	-	-	-
Stage 2	839	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	643	918	1438	-	-	-
Mov Cap-2 Maneuver	643	-	-	-	-	-
Stage 1	857	-	-	-	-	-
Stage 2	839	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	3.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1438	-	801	-	-
HCM Lane V/C Ratio	0.04	-	0.106	-	-
HCM Control Delay (s)	7.6	0	10	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Intersection	
Int Delay, s/veh	15.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	106	144	74	25	34	25	102	156	25	50	73	45
Future Vol, veh/h	106	144	74	25	34	25	102	156	25	50	73	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	180	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	7	0	12	0	3	20	5	0	0	0	0	0
Mvmt Flow	106	144	74	25	34	25	102	156	25	50	73	45

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	495	581	59	582	591	91	118	0	0	181	0	0
Stage 1	196	196	-	373	373	-	-	-	-	-	-	-
Stage 2	299	385	-	209	218	-	-	-	-	-	-	-
Critical Hdwy	7.64	6.5	7.14	7.5	6.56	7.3	4.2	-	-	4.1	-	-
Critical Hdwy Stg 1	6.64	5.5	-	6.5	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.64	5.5	-	6.5	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.57	4	3.42	3.5	4.03	3.5	2.25	-	-	2.2	-	-
Pot Cap-1 Maneuver	446	428	963	401	416	894	1446	-	-	1407	-	-
Stage 1	773	742	-	625	614	-	-	-	-	-	-	-
Stage 2	671	614	-	779	719	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	371	383	963	242	372	894	1446	-	-	1407	-	-
Mov Cap-2 Maneuver	371	383	-	242	372	-	-	-	-	-	-	-
Stage 1	718	714	-	581	570	-	-	-	-	-	-	-
Stage 2	570	570	-	552	692	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	33	17.3	2.8	2.3
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1446	-	-	439	377	1407	-	-
HCM Lane V/C Ratio	0.071	-	-	0.738	0.223	0.036	-	-
HCM Control Delay (s)	7.7	-	-	33	17.3	7.7	0.1	-
HCM Lane LOS	A	-	-	D	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	6	0.8	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	262	43	24	269	25	696	188	104	38	29	143
Future Volume (veh/h)	165	262	43	24	269	25	696	188	104	38	29	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	165	262	43	24	269	25	696	188	104	38	29	143
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	215	504	225	201	596	54	1009	1487	663	63	279	237
Arrive On Green	0.12	0.14	0.14	0.11	0.13	0.11	0.29	0.42	0.42	0.04	0.15	0.15
Sat Flow, veh/h	1767	3526	1572	1767	4724	431	3428	3526	1572	1767	1856	1572
Grp Volume(v), veh/h	165	262	43	24	191	103	696	188	104	38	29	143
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1689	1778	1714	1763	1572	1767	1856	1572
Q Serve(g_s), s	5.1	3.8	1.3	0.7	2.9	3.0	10.1	1.8	1.1	1.2	0.8	4.8
Cycle Q Clear(g_c), s	5.1	3.8	1.3	0.7	2.9	3.0	10.1	1.8	1.1	1.2	0.8	4.8
Prop In Lane	1.00		1.00	1.00		0.24	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	215	504	225	201	426	224	1009	1487	663	63	279	237
V/C Ratio(X)	0.77	0.52	0.19	0.12	0.45	0.46	0.69	0.13	0.16	0.61	0.10	0.60
Avail Cap(c_a), veh/h	284	3317	1479	201	2990	1574	1772	2604	1162	133	551	467
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.8	22.2	21.1	22.3	22.6	22.8	17.5	9.9	2.3	26.6	20.5	22.2
Incr Delay (d2), s/veh	8.7	0.8	0.4	0.3	0.7	1.3	1.0	0.0	0.1	9.1	0.2	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	1.5	0.5	0.3	1.1	1.2	3.6	0.6	0.6	0.6	0.3	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.5	22.9	21.5	22.6	23.3	24.1	18.5	9.9	2.4	35.7	20.7	24.7
LnGrp LOS	C	C	C	C	C	C	B	A	A	D	C	C
Approach Vol, veh/h		470			318			988			210	
Approach Delay, s/veh		26.2			23.5			15.2			26.1	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	12.0	21.1	12.4	11.3	11.0	6.0	27.6
Change Period (Y+Rc), s	4.7	* 4.9	5.3	* 5.3	4.7	* 4.9	* 4.2	5.3
Max Green Setting (Gmax), s	5.2	* 52	28.3	* 15	8.8	* 49	* 4	40.0
Max Q Clear Time (g_c+I1), s	2.7	5.8	12.1	6.8	7.1	5.0	3.2	3.8
Green Ext Time (p_c), s	0.0	1.2	3.8	0.4	0.1	1.1	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	364	113	181	827	140	102	21	42	78	29	141
Future Volume (veh/h)	239	364	113	181	827	140	102	21	42	78	29	141
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	239	364	113	181	827	140	102	21	42	78	29	141
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	270	567	168	846	2060	347	133	69	137	125	223	189
Arrive On Green	0.15	0.15	0.15	0.48	0.47	0.47	0.08	0.12	0.12	0.07	0.12	0.12
Sat Flow, veh/h	1767	3875	1150	1767	4366	734	1767	552	1104	1767	1856	1572
Grp Volume(v), veh/h	239	315	162	181	639	328	102	0	63	78	29	141
Grp Sat Flow(s),veh/h/ln	1767	1689	1649	1767	1689	1723	1767	0	1657	1767	1856	1572
Q Serve(g_s), s	13.2	8.8	9.3	6.0	12.3	12.4	5.7	0.0	3.5	4.3	1.4	8.7
Cycle Q Clear(g_c), s	13.2	8.8	9.3	6.0	12.3	12.4	5.7	0.0	3.5	4.3	1.4	8.7
Prop In Lane	1.00		0.70	1.00		0.43	1.00		0.67	1.00		1.00
Lane Grp Cap(c), veh/h	270	494	241	846	1594	813	133	0	206	125	223	189
V/C Ratio(X)	0.88	0.64	0.67	0.21	0.40	0.40	0.77	0.00	0.31	0.62	0.13	0.75
Avail Cap(c_a), veh/h	316	1013	495	846	1594	813	157	0	495	141	538	456
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	40.2	40.4	15.2	17.2	17.2	45.4	0.0	39.8	45.2	39.3	42.5
Incr Delay (d2), s/veh	17.8	5.3	12.0	0.0	0.8	1.5	13.9	0.0	0.3	4.1	0.1	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	3.9	4.5	2.3	4.7	5.0	3.0	0.0	1.4	2.0	0.6	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.3	45.5	52.4	15.2	17.9	18.7	59.2	0.0	40.2	49.2	39.4	44.8
LnGrp LOS	E	D	D	B	B	B	E	A	D	D	D	D
Approach Vol, veh/h		716			1148			165			248	
Approach Delay, s/veh		51.7			17.7			52.0			45.5	
Approach LOS		D			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	52.3	19.1	12.0	16.5	19.8	51.7	11.6	16.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	14.1	30.0	8.9	29.0	17.9	26.2	8.0	29.9				
Max Q Clear Time (g_c+I1), s	8.0	11.3	7.7	10.7	15.2	14.4	6.3	5.5				
Green Ext Time (p_c), s	0.0	3.3	0.0	0.1	0.0	5.5	0.0	0.1				
Intersection Summary												
HCM 6th Ctrl Delay			33.9									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	363	1377	144	0	1005	363	0	0	0	441	174	583
Future Volume (veh/h)	363	1377	144	0	1005	363	0	0	0	441	174	583
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	0	1856	1856				1856	1856	1856
Adj Flow Rate, veh/h	363	1377	144	0	1005	0				308	361	583
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	0	3	3				3	3	3
Cap, veh/h	247	2756	855	0	1844					664	698	591
Arrive On Green	0.14	0.54	0.54	0.00	0.36	0.00				0.38	0.38	0.38
Sat Flow, veh/h	1767	5066	1572	0	5233	1572				1767	1856	1572
Grp Volume(v), veh/h	363	1377	144	0	1005	0				308	361	583
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	0	1689	1572				1767	1856	1572
Q Serve(g_s), s	14.0	17.0	4.6	0.0	15.7	0.0				13.2	15.1	36.8
Cycle Q Clear(g_c), s	14.0	17.0	4.6	0.0	15.7	0.0				13.2	15.1	36.8
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	247	2756	855	0	1844					664	698	591
V/C Ratio(X)	1.47	0.50	0.17	0.00	0.55					0.46	0.52	0.99
Avail Cap(c_a), veh/h	247	2756	855	0	1844					664	698	591
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.90	0.00				0.89	0.89	0.89
Uniform Delay (d), s/veh	43.0	14.3	11.4	0.0	25.2	0.0				23.6	24.2	30.9
Incr Delay (d2), s/veh	231.0	0.7	0.4	0.0	1.0	0.0				0.4	0.6	31.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.8	6.0	1.6	0.0	6.2	0.0				5.4	6.5	31.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	274.0	14.9	11.9	0.0	26.3	0.0				24.0	24.8	62.2
LnGrp LOS	F	B	B	A	C					C	C	E
Approach Vol, veh/h		1884			1005	A					1252	
Approach Delay, s/veh		64.6			26.3						42.0	
Approach LOS		E			C						D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		58.4		41.6	18.0	40.4
Change Period (Y+Rc), s		5.3		4.6	* 4.2	5.3
Max Green Setting (Gmax), s		53.1		37.0	* 14	35.1
Max Q Clear Time (g_c+I1), s		19.0		38.8	16.0	17.7
Green Ext Time (p_c), s		20.6		0.0	0.0	9.1

Intersection Summary			
HCM 6th Ctrl Delay			48.5
HCM 6th LOS			D

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1029	733	0	1153	148	215	0	402	0	0	0
Future Volume (veh/h)	0	1029	733	0	1153	148	215	0	402	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1856	1856	1856	0	1856			
Adj Flow Rate, veh/h	0	1029	0	0	1153	0	215	0	0			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	0	3	3	0	3	3	3	0	3			
Cap, veh/h	0	2123		0	3051		313	0				
Arrive On Green	0.00	0.60	0.00	0.00	0.60	0.00	0.18	0.00	0.00			
Sat Flow, veh/h	0	3618	1572	0	5233	1572	1767	0	1572			
Grp Volume(v), veh/h	0	1029	0	0	1153	0	215	0	0			
Grp Sat Flow(s),veh/h/ln	0	1763	1572	0	1689	1572	1767	0	1572			
Q Serve(g_s), s	0.0	5.8	0.0	0.0	4.1	0.0	4.0	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	5.8	0.0	0.0	4.1	0.0	4.0	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2123		0	3051		313	0				
V/C Ratio(X)	0.00	0.48		0.00	0.38		0.69	0.00				
Avail Cap(c_a), veh/h	0	2781		0	3996		1964	0				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	4.0	0.0	0.0	3.6	0.0	13.6	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.1	0.0	2.7	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.5	0.0	0.0	0.3	0.0	1.5	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	4.2	0.0	0.0	3.7	0.0	16.3	0.0	0.0			
LnGrp LOS	A	A		A	A		B	A				
Approach Vol, veh/h		1029	A		1153	A		215	A			
Approach Delay, s/veh		4.2			3.7			16.3				
Approach LOS		A			A			B				

Timer - Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		25.3				25.3		10.1
Change Period (Y+Rc), s		5.3				5.3		4.0
Max Green Setting (Gmax), s		26.6				26.6		39.1
Max Q Clear Time (g_c+I1), s		7.8				6.1		6.0
Green Ext Time (p_c), s		7.1				8.3		0.9

Intersection Summary	
HCM 6th Ctrl Delay	5.1
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	1704	151	79	634	91	103	20	116	78	33	25
Future Volume (veh/h)	22	1704	151	79	634	91	103	20	116	78	33	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	22	1704	151	79	634	91	103	20	116	78	33	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	69	1995	619	151	2229	692	165	308	261	150	154	117
Arrive On Green	0.04	0.39	0.39	0.09	0.44	0.44	0.09	0.17	0.17	0.09	0.16	0.16
Sat Flow, veh/h	1767	5066	1572	1767	5066	1572	1767	1856	1572	1767	980	742
Grp Volume(v), veh/h	22	1704	151	79	634	91	103	20	116	78	0	58
Grp Sat Flow(s),veh/h/ln	1767	1689	1572	1767	1689	1572	1767	1856	1572	1767	0	1722
Q Serve(g_s), s	0.9	23.3	4.9	3.3	6.1	2.6	4.3	0.7	5.0	3.2	0.0	2.2
Cycle Q Clear(g_c), s	0.9	23.3	4.9	3.3	6.1	2.6	4.3	0.7	5.0	3.2	0.0	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.43
Lane Grp Cap(c), veh/h	69	1995	619	151	2229	692	165	308	261	150	0	271
V/C Ratio(X)	0.32	0.85	0.24	0.52	0.28	0.13	0.62	0.06	0.44	0.52	0.00	0.21
Avail Cap(c_a), veh/h	198	2035	632	198	2229	692	198	782	663	198	0	726
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.5	21.0	15.4	33.2	13.6	12.6	33.1	26.7	28.5	33.3	0.0	27.9
Incr Delay (d2), s/veh	1.0	3.9	0.3	1.0	0.1	0.1	2.1	0.1	1.2	1.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	8.6	1.7	1.3	2.0	0.9	1.8	0.3	1.9	1.4	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.5	24.9	15.7	34.3	13.7	12.8	35.3	26.8	29.7	34.3	0.0	28.2
LnGrp LOS	D	C	B	C	B	B	D	C	C	C	A	C
Approach Vol, veh/h		1877			804			239			136	
Approach Delay, s/veh		24.3			15.6			31.9			31.7	
Approach LOS		C			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	35.4	12.1	17.0	8.0	38.9	11.5	17.6				
Change Period (Y+Rc), s	5.0	5.5	5.0	5.0	5.0	5.5	5.0	5.0				
Max Green Setting (Gmax), s	8.5	30.5	8.5	32.0	8.5	30.5	8.5	32.0				
Max Q Clear Time (g_c+I1), s	5.3	25.3	6.3	4.2	2.9	8.1	5.2	7.0				
Green Ext Time (p_c), s	0.0	4.6	0.0	0.2	0.0	6.1	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			22.9									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	374	54	25	237	25	25	25	47	33	30	29
Future Volume (veh/h)	114	374	54	25	237	25	25	25	47	33	30	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	114	374	54	25	237	25	25	25	47	33	30	29
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	149	831	371	45	623	278	45	82	155	58	130	126
Arrive On Green	0.08	0.23	0.23	0.03	0.18	0.18	0.03	0.14	0.14	0.03	0.15	0.15
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	581	1093	1781	874	845
Grp Volume(v), veh/h	114	374	54	25	237	25	25	0	72	33	0	59
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1674	1781	0	1718
Q Serve(g_s), s	1.8	2.5	0.8	0.4	1.7	0.4	0.4	0.0	1.1	0.5	0.0	0.9
Cycle Q Clear(g_c), s	1.8	2.5	0.8	0.4	1.7	0.4	0.4	0.0	1.1	0.5	0.0	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.65	1.00		0.49
Lane Grp Cap(c), veh/h	149	831	371	45	623	278	45	0	237	58	0	256
V/C Ratio(X)	0.76	0.45	0.15	0.56	0.38	0.09	0.56	0.00	0.30	0.57	0.00	0.23
Avail Cap(c_a), veh/h	252	2266	1011	252	2266	1011	252	0	1067	252	0	1096
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.7	9.3	8.6	13.6	10.3	9.8	13.6	0.0	10.9	13.5	0.0	10.6
Incr Delay (d2), s/veh	7.9	0.4	0.2	10.3	0.4	0.1	10.3	0.0	0.7	8.7	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.7	0.2	0.2	0.5	0.1	0.2	0.0	0.3	0.3	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	9.6	8.8	23.9	10.7	9.9	23.9	0.0	11.6	22.2	0.0	11.0
LnGrp LOS	C	A	A	C	B	A	C	A	B	C	A	B
Approach Vol, veh/h		542			287			97			92	
Approach Delay, s/veh		11.8			11.8			14.8			15.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.9	8.0	4.7	10.6	4.7	8.2	6.4	8.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	18.0	4.0	18.0	4.0	18.0	4.0	18.0
Max Q Clear Time (g_c+I1), s	2.5	3.1	2.4	4.5	2.4	2.9	3.8	3.7
Green Ext Time (p_c), s	0.0	0.2	0.0	2.1	0.0	0.2	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B

Intersection						
Int Delay, s/veh	3.4					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	94	25	126	136	25	41
Future Vol, veh/h	94	25	126	136	25	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	94	25	126	136	25	41

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	285	194	0	0	262	0
Stage 1	194	-	-	-	-	-
Stage 2	91	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	703	845	-	-	1296	-
Stage 1	836	-	-	-	-	-
Stage 2	930	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	689	845	-	-	1296	-
Mov Cap-2 Maneuver	689	-	-	-	-	-
Stage 1	836	-	-	-	-	-
Stage 2	911	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	717	1296	-
HCM Lane V/C Ratio	-	-	0.166	0.019	-
HCM Control Delay (s)	-	-	11	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	242	74	40	82	25	109
Future Vol, veh/h	242	74	40	82	25	109
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	100	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	242	74	40	82	25	109

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	187	25	134	0	-	0
Stage 1	25	-	-	-	-	-
Stage 2	162	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	802	1051	1451	-	-	-
Stage 1	998	-	-	-	-	-
Stage 2	867	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	780	1051	1451	-	-	-
Mov Cap-2 Maneuver	780	-	-	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	867	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11	2.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1451	-	780	1051	-	-
HCM Lane V/C Ratio	0.028	-	0.31	0.07	-	-
HCM Control Delay (s)	7.6	-	11.7	8.7	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	1.3	0.2	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	676	538	167	569	122	464	285	128	123	289	117
Future Volume (veh/h)	122	676	538	167	569	122	464	285	128	123	289	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	122	676	538	167	569	122	464	285	128	123	289	117
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	233	1109	871	255	944	202	775	638	284	453	555	203
Arrive On Green	0.13	0.31	0.31	0.14	0.33	0.30	0.16	0.18	0.18	0.13	0.16	0.13
Sat Flow, veh/h	1767	3526	2768	1767	2889	618	4983	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	122	676	538	167	346	345	464	285	128	123	289	117
Grp Sat Flow(s),veh/h/ln	1767	1763	1384	1767	1763	1744	1661	1763	1572	1714	1763	1572
Q Serve(g_s), s	4.5	11.4	11.6	6.3	11.5	11.7	6.1	5.1	5.1	2.3	5.3	4.9
Cycle Q Clear(g_c), s	4.5	11.4	11.6	6.3	11.5	11.7	6.1	5.1	5.1	2.3	5.3	4.9
Prop In Lane	1.00		1.00	1.00		0.35	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	233	1109	871	255	576	570	775	638	284	453	555	203
V/C Ratio(X)	0.52	0.61	0.62	0.66	0.60	0.60	0.60	0.45	0.45	0.27	0.52	0.58
Avail Cap(c_a), veh/h	378	2061	1618	353	1005	995	995	1960	874	489	1759	740
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.4	20.4	20.5	28.4	19.8	20.1	27.6	25.6	25.6	27.4	27.1	28.7
Incr Delay (d2), s/veh	1.8	0.5	0.7	2.8	1.0	1.0	0.7	0.5	1.1	0.3	0.8	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	4.3	3.4	2.7	4.4	4.4	2.3	2.0	1.8	0.9	2.1	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.2	20.9	21.2	31.2	20.8	21.2	28.3	26.1	26.7	27.7	27.9	31.3
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		1336			858			877			529	
Approach Delay, s/veh		21.9			23.0			27.4			28.6	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	16.7	14.1	26.1	14.9	15.0	13.3	26.9				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	8.0	37.0	12.0	39.0	12.0	33.0	13.0	38.0				
Max Q Clear Time (g_c+I1), s	4.3	7.1	8.3	13.6	8.1	7.3	6.5	13.7				
Green Ext Time (p_c), s	0.1	1.8	0.2	6.5	0.8	1.8	0.2	2.8				
Intersection Summary												
HCM 6th Ctrl Delay			24.5									
HCM 6th LOS			C									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	334	1045	633	220	542	258	198	562	137	409	649	156
Future Volume (veh/h)	334	1045	633	220	542	258	198	562	137	409	649	156
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	334	1045	0	220	542	258	198	562	137	409	649	156
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	532	1571		527	1563	485	388	1069	332	436	1141	354
Arrive On Green	0.16	0.31	0.00	0.15	0.31	0.31	0.11	0.21	0.21	0.13	0.23	0.23
Sat Flow, veh/h	3428	5066	1572	3428	5066	1572	3428	5066	1572	3428	5066	1572
Grp Volume(v), veh/h	334	1045	0	220	542	258	198	562	137	409	649	156
Grp Sat Flow(s),veh/h/ln	1714	1689	1572	1714	1689	1572	1714	1689	1572	1714	1689	1572
Q Serve(g_s), s	6.5	12.7	0.0	4.1	5.9	9.6	3.8	7.0	5.3	8.4	8.1	6.0
Cycle Q Clear(g_c), s	6.5	12.7	0.0	4.1	5.9	9.6	3.8	7.0	5.3	8.4	8.1	6.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	532	1571		527	1563	485	388	1069	332	436	1141	354
V/C Ratio(X)	0.63	0.67		0.42	0.35	0.53	0.51	0.53	0.41	0.94	0.57	0.44
Avail Cap(c_a), veh/h	533	3079		533	3079	956	582	3079	956	436	2864	889
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.0	21.2	0.0	27.1	18.9	20.2	29.5	24.8	24.1	30.6	24.4	23.6
Incr Delay (d2), s/veh	2.3	0.5	0.0	0.5	0.1	0.9	1.0	0.4	0.8	28.7	0.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	4.5	0.0	1.6	2.0	3.3	1.5	2.6	1.9	4.9	3.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.3	21.7	0.0	27.6	19.1	21.1	30.6	25.2	24.9	59.3	24.8	24.4
LnGrp LOS	C	C		C	B	C	C	C	C	E	C	C
Approach Vol, veh/h		1379	A		1020			897			1214	
Approach Delay, s/veh		23.8			21.4			26.3			36.4	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.9	25.9	12.0	18.9	14.0	25.8	11.0	19.9
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	9.0	41.0	7.0	41.0	9.0	41.0	10.0	38.0
Max Q Clear Time (g_c+I1), s	10.1	14.7	10.4	9.0	8.5	11.6	5.8	10.1
Green Ext Time (p_c), s	0.2	5.3	0.0	3.3	0.1	3.7	0.3	3.9

Intersection Summary	
HCM 6th Ctrl Delay	27.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	257	74	125	157	259	28	330	134	429	630	99
Future Volume (veh/h)	173	257	74	125	157	259	28	330	134	429	630	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	173	257	74	125	157	259	28	330	134	429	630	99
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	215	836	373	160	363	324	66	469	187	556	964	151
Arrive On Green	0.12	0.24	0.24	0.09	0.21	0.21	0.04	0.19	0.19	0.16	0.32	0.32
Sat Flow, veh/h	1767	3526	1572	1767	1763	1572	1767	2461	981	3428	3053	479
Grp Volume(v), veh/h	173	257	74	125	157	259	28	235	229	429	363	366
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1767	1763	1679	1714	1763	1769
Q Serve(g_s), s	5.7	3.6	2.2	4.1	4.6	9.3	0.9	7.4	7.6	7.1	10.6	10.6
Cycle Q Clear(g_c), s	5.7	3.6	2.2	4.1	4.6	9.3	0.9	7.4	7.6	7.1	10.6	10.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.58	1.00		0.27
Lane Grp Cap(c), veh/h	215	836	373	160	363	324	66	336	320	556	557	559
V/C Ratio(X)	0.81	0.31	0.20	0.78	0.43	0.80	0.42	0.70	0.72	0.77	0.65	0.65
Avail Cap(c_a), veh/h	223	2211	986	348	1230	1097	178	913	869	934	1215	1220
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.4	18.7	18.2	26.5	20.6	22.5	28.0	22.5	22.6	23.9	17.5	17.6
Incr Delay (d2), s/veh	17.1	0.2	0.3	3.1	0.3	1.7	1.6	2.6	3.0	0.9	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	1.3	0.7	1.7	1.7	3.2	0.4	3.0	2.9	2.6	3.8	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.5	18.9	18.4	29.6	20.9	24.2	29.6	25.1	25.6	24.7	18.8	18.9
LnGrp LOS	D	B	B	C	C	C	C	C	C	C	B	B
Approach Vol, veh/h		504			541			492			1158	
Approach Delay, s/veh		26.9			24.5			25.6			21.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	19.1	14.2	16.3	11.7	17.2	6.7	23.8
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	11.7	37.3	16.2	30.8	7.5	41.5	6.0	41.0
Max Q Clear Time (g_c+I1), s	6.1	5.6	9.1	9.6	7.7	11.3	2.9	12.6
Green Ext Time (p_c), s	0.0	1.5	0.5	1.7	0.0	0.9	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	23.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	288	93	57	156	79	86	263	74	159	219	33
Future Volume (veh/h)	35	288	93	57	156	79	86	263	74	159	219	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1707	1900	1633	1900	1856	1870	1796	1737	1900	1870	1811	1900
Adj Flow Rate, veh/h	35	288	93	57	156	79	86	263	74	159	219	33
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	13	0	18	0	3	2	7	11	0	2	6	0
Cap, veh/h	54	515	163	88	478	231	111	466	129	202	794	371
Arrive On Green	0.03	0.19	0.19	0.05	0.21	0.21	0.07	0.18	0.18	0.11	0.23	0.23
Sat Flow, veh/h	1626	2689	850	1810	2306	1112	1711	2556	705	1781	3441	1610
Grp Volume(v), veh/h	35	191	190	57	117	118	86	168	169	159	219	33
Grp Sat Flow(s),veh/h/ln	1626	1805	1734	1810	1763	1655	1711	1650	1610	1781	1721	1610
Q Serve(g_s), s	0.7	3.3	3.4	1.1	2.0	2.1	1.7	3.2	3.3	3.0	1.8	0.6
Cycle Q Clear(g_c), s	0.7	3.3	3.4	1.1	2.0	2.1	1.7	3.2	3.3	3.0	1.8	0.6
Prop In Lane	1.00		0.49	1.00		0.67	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	54	346	332	88	365	343	111	301	294	202	794	371
V/C Ratio(X)	0.65	0.55	0.57	0.65	0.32	0.34	0.77	0.56	0.58	0.79	0.28	0.09
Avail Cap(c_a), veh/h	189	942	905	210	920	864	198	861	840	207	1796	840
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.5	12.6	12.7	16.1	11.6	11.7	15.9	12.8	12.9	14.9	10.9	10.4
Incr Delay (d2), s/veh	12.5	1.4	1.5	7.7	0.5	0.6	10.7	1.6	1.8	17.8	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.1	1.1	0.5	0.6	0.6	0.8	0.9	1.0	1.9	0.5	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	14.0	14.2	23.8	12.1	12.3	26.6	14.4	14.7	32.7	11.1	10.5
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		416			292			423			411	
Approach Delay, s/veh		15.4			14.4			17.0			19.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.9	10.3	5.7	10.6	6.2	12.0	5.1	11.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	18.0	4.0	18.0	4.0	18.0	4.0	18.0
Max Q Clear Time (g_c+I1), s	5.0	5.3	3.1	5.4	3.7	3.8	2.7	4.1
Green Ext Time (p_c), s	0.0	1.0	0.0	1.2	0.0	0.8	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	25	25	380	211	25
Future Volume (veh/h)	25	25	25	380	211	25
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	25	25	380	211	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	88	78	47	1736	821	366
Arrive On Green	0.05	0.05	0.03	0.49	0.23	0.23
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	25	25	25	380	211	25
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	0.2	0.3	0.2	1.1	0.8	0.2
Cycle Q Clear(g_c), s	0.2	0.3	0.2	1.1	0.8	0.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	88	78	47	1736	821	366
V/C Ratio(X)	0.28	0.32	0.54	0.22	0.26	0.07
Avail Cap(c_a), veh/h	412	366	412	5749	4106	1832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.9	7.9	8.3	2.5	5.4	5.2
Incr Delay (d2), s/veh	1.7	2.3	9.2	0.1	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.7	10.3	17.6	2.6	5.6	5.3
LnGrp LOS	A	B	B	A	A	A
Approach Vol, veh/h	50			405	236	
Approach Delay, s/veh	10.0			3.5	5.6	
Approach LOS	A			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		12.5		4.9	4.5	8.0
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		28.0		4.0	4.0	20.0
Max Q Clear Time (g_c+I1), s		3.1		2.3	2.2	2.8
Green Ext Time (p_c), s		2.2		0.0	0.0	1.1

Intersection Summary			
HCM 6th Ctrl Delay			4.7
HCM 6th LOS			A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	20	25	40	20	94	20	341	103	81	236	25
Future Volume (veh/h)	25	20	25	40	20	94	20	341	103	81	236	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1870	1856	1856	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	25	20	25	40	20	94	20	341	103	81	236	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	2	3	3	2	3	3	3	3	3	3
Cap, veh/h	53	52	65	87	27	126	1019	2258	1007	104	369	165
Arrive On Green	0.03	0.07	0.07	0.05	0.09	0.09	0.77	0.85	0.85	0.06	0.10	0.10
Sat Flow, veh/h	1767	750	937	1767	283	1332	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	25	0	45	40	0	114	20	341	103	81	236	25
Grp Sat Flow(s),veh/h/ln	1767	0	1687	1767	0	1616	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	1.4	0.0	2.6	2.2	0.0	6.9	0.3	1.6	0.6	4.5	6.4	1.2
Cycle Q Clear(g_c), s	1.4	0.0	2.6	2.2	0.0	6.9	0.3	1.6	0.6	4.5	6.4	1.2
Prop In Lane	1.00		0.56	1.00		0.82	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	53	0	117	87	0	153	1019	2258	1007	104	369	165
V/C Ratio(X)	0.47	0.00	0.38	0.46	0.00	0.74	0.02	0.15	0.10	0.78	0.64	0.15
Avail Cap(c_a), veh/h	106	0	574	106	0	549	1019	2258	1007	177	1255	560
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.7	0.0	44.5	46.2	0.0	44.1	5.0	2.8	1.0	46.4	43.0	29.9
Incr Delay (d2), s/veh	6.4	0.0	2.0	3.7	0.0	6.9	0.0	0.1	0.2	11.9	8.2	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.1	1.1	0.0	3.1	0.1	0.5	0.4	2.3	3.1	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.1	0.0	46.5	50.0	0.0	51.0	5.0	2.9	1.2	58.3	51.2	31.9
LnGrp LOS	D	A	D	D	A	D	A	A	A	E	D	C
Approach Vol, veh/h		70			154			464			342	
Approach Delay, s/veh		49.2			50.7			2.6			51.5	
Approach LOS		D			D			A			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	69.0	9.5	11.6	62.6	16.3	7.0	14.1
Change Period (Y+Rc), s	4.0	5.0	4.6	* 4.6	5.0	* 5.8	4.0	4.6
Max Green Setting (Gmax), s	10.0	32.4	6.0	* 34	6.0	* 36	6.0	34.0
Max Q Clear Time (g_c+I1), s	6.5	3.6	4.2	4.6	2.3	8.4	3.4	8.9
Green Ext Time (p_c), s	0.0	3.5	0.0	0.2	0.0	2.1	0.0	0.7

Intersection Summary		
HCM 6th Ctrl Delay		29.2
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	25	23	33	25	49	40	401	164	62	191	25
Future Volume (veh/h)	25	25	23	33	25	49	40	401	164	62	191	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1589	1900	1900	1870	1900
Adj Flow Rate, veh/h	25	25	23	33	25	49	40	401	164	62	191	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	0	0	0	0	21	0	0	2	0
Cap, veh/h	65	63	58	65	40	78	1070	528	282	934	355	161
Arrive On Green	0.04	0.07	0.07	0.04	0.07	0.07	1.00	0.35	0.35	0.17	0.03	0.03
Sat Flow, veh/h	1810	911	838	1810	574	1124	1810	3019	1610	1810	3554	1610
Grp Volume(v), veh/h	25	0	48	33	0	74	40	401	164	62	191	25
Grp Sat Flow(s),veh/h/ln	1810	0	1749	1810	0	1698	1810	1509	1610	1810	1777	1610
Q Serve(g_s), s	1.4	0.0	2.6	1.8	0.0	4.2	0.0	11.8	8.3	2.9	5.3	1.5
Cycle Q Clear(g_c), s	1.4	0.0	2.6	1.8	0.0	4.2	0.0	11.8	8.3	2.9	5.3	1.5
Prop In Lane	1.00		0.48	1.00		0.66	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	65	0	120	65	0	117	1070	528	282	934	355	161
V/C Ratio(X)	0.39	0.00	0.40	0.51	0.00	0.63	0.04	0.76	0.58	0.07	0.54	0.16
Avail Cap(c_a), veh/h	109	0	612	109	0	594	1070	897	478	934	1212	549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.1	0.0	44.6	47.3	0.0	45.3	0.0	30.7	29.5	21.3	46.1	44.2
Incr Delay (d2), s/veh	3.7	0.0	2.1	6.0	0.0	5.5	0.0	8.5	7.3	0.0	5.7	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.2	0.9	0.0	1.9	0.0	4.0	3.4	1.1	2.6	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.9	0.0	46.7	53.3	0.0	50.8	0.0	39.1	36.8	21.3	51.8	46.3
LnGrp LOS	D	A	D	D	A	D	A	D	D	C	D	D
Approach Vol, veh/h		73			107			605			278	
Approach Delay, s/veh		48.1			51.6			35.9			44.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	57.1	23.3	7.6	12.0	64.6	15.8	7.6	12.0
Change Period (Y+Rc), s	5.5	5.8	4.0	5.1	5.5	* 5.8	4.0	5.1
Max Green Setting (Gmax), s	8.9	29.7	6.0	35.0	6.0	* 34	6.0	35.0
Max Q Clear Time (g_c+I1), s	4.9	13.8	3.8	4.6	2.0	7.3	3.4	6.2
Green Ext Time (p_c), s	0.0	3.7	0.0	0.2	0.0	1.6	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	40.6
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	275	464	20	182	291	25	40	531	605	49	118	133
Future Volume (veh/h)	275	464	20	182	291	25	40	531	605	49	118	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1707	1870	1144	1870	1796	1292	1544	1885	1870
Adj Flow Rate, veh/h	275	464	20	182	291	25	40	531	605	49	118	133
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	13	2	51	2	7	41	24	1	2
Cap, veh/h	316	726	31	278	398	34	54	1046	432	269	822	733
Arrive On Green	0.18	0.21	0.21	0.09	0.12	0.12	0.03	0.31	0.31	0.18	0.46	0.46
Sat Flow, veh/h	1781	3471	149	3155	3314	283	1781	3413	1095	1471	1791	1598
Grp Volume(v), veh/h	275	237	247	182	155	161	40	531	605	49	118	133
Grp Sat Flow(s),veh/h/ln	1781	1777	1843	1577	1777	1819	1781	1706	1095	1471	1791	1598
Q Serve(g_s), s	11.3	9.1	9.2	4.2	6.3	6.4	1.7	9.6	17.8	2.1	2.9	3.7
Cycle Q Clear(g_c), s	11.3	9.1	9.2	4.2	6.3	6.4	1.7	9.6	17.8	2.1	2.9	3.7
Prop In Lane	1.00		0.08	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	316	372	386	278	214	219	54	1046	432	269	822	733
V/C Ratio(X)	0.87	0.64	0.64	0.65	0.73	0.74	0.74	0.51	1.40	0.18	0.14	0.18
Avail Cap(c_a), veh/h	333	372	386	883	308	315	95	1229	491	269	822	733
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.99	0.99	0.99	0.91	0.91	0.91	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	27.1	27.1	33.1	31.8	31.8	36.1	21.4	11.0	25.9	11.7	12.0
Incr Delay (d2), s/veh	20.7	3.6	3.5	2.6	4.7	5.0	16.8	1.6	192.3	0.3	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	3.8	4.0	1.6	2.7	2.9	0.9	3.6	25.8	0.7	1.1	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	30.7	30.6	35.7	36.5	36.9	52.9	23.0	203.3	26.2	12.1	12.5
LnGrp LOS	D	C	C	D	D	D	D	C	F	C	B	B
Approach Vol, veh/h		759			498			1176			300	
Approach Delay, s/veh		37.9			36.3			116.7			14.6	
Approach LOS		D			D			F			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.7	27.0	10.6	19.7	6.3	38.4	17.3	13.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	5.0	27.0	21.0	6.0	4.0	28.0	14.0	13.0				
Max Q Clear Time (g_c+I1), s	4.1	19.8	6.2	11.2	3.7	5.7	13.3	8.4				
Green Ext Time (p_c), s	0.0	3.2	0.6	0.0	0.0	0.9	0.1	0.6				

Intersection Summary			
HCM 6th Ctrl Delay			69.0
HCM 6th LOS			E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	68	98	51	1055	238	62
Future Volume (veh/h)	68	98	51	1055	238	62
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	98	51	1055	238	62
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	198	176	85	1987	1231	549
Arrive On Green	0.11	0.11	0.05	0.56	0.35	0.35
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	68	98	51	1055	238	62
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	0.9	1.4	0.7	4.5	1.1	0.6
Cycle Q Clear(g_c), s	0.9	1.4	0.7	4.5	1.1	0.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	198	176	85	1987	1231	549
V/C Ratio(X)	0.34	0.56	0.60	0.53	0.19	0.11
Avail Cap(c_a), veh/h	1322	1176	367	4248	2930	1307
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.0	10.2	11.3	3.4	5.6	5.4
Incr Delay (d2), s/veh	1.0	2.7	6.5	0.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.4	0.3	0.1	0.2	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.0	13.0	17.8	3.6	5.6	5.5
LnGrp LOS	B	B	B	A	A	A
Approach Vol, veh/h	166			1106	300	
Approach Delay, s/veh	12.2			4.2	5.6	
Approach LOS	B			A	A	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		17.6		6.7	5.2	12.4
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		29.0		18.0	5.0	20.0
Max Q Clear Time (g_c+I1), s		6.5		3.4	2.7	3.1
Green Ext Time (p_c), s		7.1		0.4	0.0	1.5
Intersection Summary						
HCM 6th Ctrl Delay			5.3			
HCM 6th LOS			A			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	34	42	120	51	131	351	963	125	110	158	67
Future Volume (veh/h)	68	34	42	120	51	131	351	963	125	110	158	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	34	42	120	111	91	351	963	125	110	158	67
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	140	51	63	150	206	175	2129	1195	533	1220	260	116
Arrive On Green	0.04	0.07	0.07	0.08	0.11	0.11	0.20	0.11	0.11	0.35	0.07	0.07
Sat Flow, veh/h	3456	761	940	1781	1870	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	68	0	76	120	111	91	351	963	125	110	158	67
Grp Sat Flow(s),veh/h/ln	1728	0	1701	1781	1870	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	1.9	0.0	4.4	6.6	5.6	2.8	8.4	26.5	5.4	2.1	4.3	3.6
Cycle Q Clear(g_c), s	1.9	0.0	4.4	6.6	5.6	2.8	8.4	26.5	5.4	2.1	4.3	3.6
Prop In Lane	1.00		0.55	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	140	0	113	150	206	175	2129	1195	533	1220	260	116
V/C Ratio(X)	0.49	0.00	0.67	0.80	0.54	0.52	0.16	0.81	0.23	0.09	0.61	0.58
Avail Cap(c_a), veh/h	622	0	391	232	337	285	2129	1457	650	1220	1137	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.24	0.24	0.24	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	0.0	45.6	45.0	42.1	11.1	18.6	41.3	18.5	21.6	44.9	33.9
Incr Delay (d2), s/veh	2.6	0.0	6.7	10.6	2.2	2.4	0.0	1.5	0.2	0.0	10.1	19.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	2.1	3.4	2.7	2.2	3.2	12.6	2.9	0.8	2.2	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.6	0.0	52.3	55.6	44.3	13.5	18.6	42.7	18.8	21.6	55.0	53.1
LnGrp LOS	D	A	D	E	D	B	B	D	B	C	E	D
Approach Vol, veh/h		144			322			1439			335	
Approach Delay, s/veh		51.0			39.8			34.8			43.7	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	39.3	37.6	12.4	10.7	65.6	11.3	8.1	15.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	7.0	41.0	13.0	23.0	16.0	32.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	4.1	28.5	8.6	6.4	10.4	6.3	3.9	7.6
Green Ext Time (p_c), s	0.1	5.2	0.1	0.3	0.6	1.0	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	37.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	28	0	32	102	1237	0	0	214	140
Future Volume (veh/h)	0	0	0	28	0	32	102	1237	0	0	214	140
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1900	1574	1900	1544	0	0	1767	1856
Adj Flow Rate, veh/h				28	0	0	102	1237	0	0	214	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	0	22	0	24	0	0	9	3
Cap, veh/h				39	0		130	1387	0	0	2641	
Arrive On Green				0.02	0.00	0.00	0.10	1.00	0.00	0.00	1.00	0.00
Sat Flow, veh/h				1810	0	1334	1810	1544	0	0	3445	1572
Grp Volume(v), veh/h				28	0	0	102	1237	0	0	214	0
Grp Sat Flow(s),veh/h/ln				1810	0	1334	1810	1544	0	0	1678	1572
Q Serve(g_s), s				1.5	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				1.5	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				39	0		130	1387	0	0	2641	
V/C Ratio(X)				0.72	0.00		0.79	0.89	0.00	0.00	0.08	
Avail Cap(c_a), veh/h				326	0		217	1387	0	0	2641	
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	0.00	0.00	0.17	0.17	0.00	0.00	0.96	0.00
Uniform Delay (d), s/veh				48.6	0.0	0.0	44.5	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				21.4	0.0	0.0	1.9	1.8	0.0	0.0	0.1	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.9	0.0	0.0	2.4	0.7	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				70.0	0.0	0.0	46.3	1.8	0.0	0.0	0.1	0.0
LnGrp LOS				E	A		D	A	A	A	A	
Approach Vol, veh/h					28	A		1339			214	A
Approach Delay, s/veh					70.0			5.1			0.1	
Approach LOS					E			A			A	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		93.8			11.2	82.7		6.2				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		74.0			12.0	58.0		18.0				
Max Q Clear Time (g_c+I1), s		2.0			7.5	2.0		3.5				
Green Ext Time (p_c), s		10.1			0.1	0.9		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			5.6
HCM 6th LOS			A

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	984	0	78	0	0	0	0	367	588	98	128	0
Future Volume (veh/h)	984	0	78	0	0	0	0	367	588	98	128	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1515	1159	1900				0	1900	1900	1485	1885	0
Adj Flow Rate, veh/h	984	0	78				0	367	588	98	128	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	26	50	0				0	0	0	28	1	0
Cap, veh/h	909	0	619				0	650	290	99	547	0
Arrive On Green	0.63	0.00	0.63				0.00	0.18	0.18	0.02	0.10	0.00
Sat Flow, veh/h	1443	0	982				0	3705	1610	1414	1885	0
Grp Volume(v), veh/h	984	0	78				0	367	588	98	128	0
Grp Sat Flow(s),veh/h/ln	1443	0	982				0	1805	1610	1414	1885	0
Q Serve(g_s), s	63.0	0.0	3.2				0.0	9.3	18.0	6.9	6.3	0.0
Cycle Q Clear(g_c), s	63.0	0.0	3.2				0.0	9.3	18.0	6.9	6.3	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	909	0	619				0	650	290	99	547	0
V/C Ratio(X)	1.08	0.00	0.13				0.00	0.56	2.03	0.99	0.23	0.00
Avail Cap(c_a), veh/h	909	0	619				0	650	290	99	547	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.5	0.0	7.4				0.0	37.4	41.0	48.8	34.9	0.0
Incr Delay (d2), s/veh	54.8	0.0	0.1				0.0	3.5	474.9	87.0	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	31.4	0.0	0.6				0.0	4.2	44.9	4.8	3.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.3	0.0	7.5				0.0	41.0	515.9	135.8	35.9	0.0
LnGrp LOS	F	A	A				A	D	F	F	D	A
Approach Vol, veh/h		1062						955			226	
Approach Delay, s/veh		68.5						333.4			79.3	
Approach LOS		E						F			E	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.0	22.0		67.0		33.0
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	7.0	18.0		63.0		29.0
Max Q Clear Time (g_c+I1), s	8.9	20.0		65.0		8.3
Green Ext Time (p_c), s	0.0	0.0		0.0		0.3

Intersection Summary	
HCM 6th Ctrl Delay	182.4
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	86	611	27	38	93
Future Vol, veh/h	30	86	611	27	38	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	8	8	8	8	8	8
Mvmt Flow	30	86	611	27	38	93

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	794	625	0	0	638	0
Stage 1	625	-	-	-	-	-
Stage 2	169	-	-	-	-	-
Critical Hdwy	6.48	6.28	-	-	4.18	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	-	-	2.272	-
Pot Cap-1 Maneuver	349	474	-	-	918	-
Stage 1	522	-	-	-	-	-
Stage 2	846	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	334	474	-	-	918	-
Mov Cap-2 Maneuver	334	-	-	-	-	-
Stage 1	522	-	-	-	-	-
Stage 2	809	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.5	0	2.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	428	918	-
HCM Lane V/C Ratio	-	-	0.271	0.041	-
HCM Control Delay (s)	-	-	16.5	9.1	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.1	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	147	240	350	74	50	79	528	183	25	152	25
Future Volume (veh/h)	23	147	240	350	74	50	79	528	183	25	152	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1781	1856	1781	1856	1781	1781	1781	1781	1856
Adj Flow Rate, veh/h	23	147	240	350	74	50	79	528	183	25	152	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	8	3	8	3	8	8	8	8	3
Cap, veh/h	33	318	269	387	393	266	555	1038	358	34	188	31
Arrive On Green	0.02	0.17	0.17	0.23	0.38	0.38	0.63	0.84	0.84	0.02	0.13	0.13
Sat Flow, veh/h	1767	1856	1572	1697	1032	698	1767	2469	852	1697	1492	245
Grp Volume(v), veh/h	23	147	240	350	0	124	79	361	350	25	0	177
Grp Sat Flow(s),veh/h/ln	1767	1856	1572	1697	0	1730	1767	1692	1628	1697	0	1737
Q Serve(g_s), s	1.3	7.1	14.9	20.1	0.0	4.8	1.8	5.9	6.0	1.5	0.0	9.9
Cycle Q Clear(g_c), s	1.3	7.1	14.9	20.1	0.0	4.8	1.8	5.9	6.0	1.5	0.0	9.9
Prop In Lane	1.00		1.00	1.00		0.40	1.00		0.52	1.00		0.14
Lane Grp Cap(c), veh/h	33	318	269	387	0	659	555	711	684	34	0	219
V/C Ratio(X)	0.69	0.46	0.89	0.90	0.00	0.19	0.14	0.51	0.51	0.74	0.00	0.81
Avail Cap(c_a), veh/h	88	334	283	526	0	761	555	711	684	68	0	434
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.88	0.88	0.88	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.8	37.3	40.5	37.5	0.0	20.7	13.1	5.1	5.1	48.7	0.0	42.5
Incr Delay (d2), s/veh	22.3	1.0	26.9	15.3	0.0	0.1	0.1	2.3	2.4	26.1	0.0	26.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.3	7.8	9.9	0.0	2.0	0.7	1.8	1.8	0.9	0.0	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.1	38.3	67.4	52.8	0.0	20.8	13.2	7.4	7.5	74.9	0.0	69.0
LnGrp LOS	E	D	E	D	A	C	B	A	A	E	A	E
Approach Vol, veh/h		410			474			790			202	
Approach Delay, s/veh		57.2			44.4			8.0			69.7	
Approach LOS		E			D			A			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	46.0	26.8	21.1	35.4	16.6	5.9	42.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	31.0	31.0	18.0	10.0	25.0	5.0	44.0
Max Q Clear Time (g_c+I1), s	3.5	8.0	22.1	16.9	3.8	11.9	3.3	6.8
Green Ext Time (p_c), s	0.0	4.8	0.8	0.2	0.1	0.7	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	34.6
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	387	0	122	279	637	0	0	499	155
Future Volume (veh/h)	0	0	0	387	0	122	279	637	0	0	499	155
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	1856	1781	1856	1781	0	0	1781	1781
Adj Flow Rate, veh/h				387	0	122	279	637	0	0	499	155
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				3	3	8	3	8	0	0	8	8
Cap, veh/h				574	0	232	1634	1350	0	0	591	183
Arrive On Green				0.16	0.00	0.15	0.95	1.00	0.00	0.00	0.46	0.45
Sat Flow, veh/h				3534	0	1510	3428	1781	0	0	2635	786
Grp Volume(v), veh/h				387	0	122	279	637	0	0	331	323
Grp Sat Flow(s),veh/h/ln				1767	0	1510	1714	1781	0	0	1692	1640
Q Serve(g_s), s				10.3	0.0	7.4	0.5	0.0	0.0	0.0	17.2	17.5
Cycle Q Clear(g_c), s				10.3	0.0	7.4	0.5	0.0	0.0	0.0	17.2	17.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.48
Lane Grp Cap(c), veh/h				574	0	232	1634	1350	0	0	393	381
V/C Ratio(X)				0.67	0.00	0.53	0.17	0.47	0.00	0.00	0.84	0.85
Avail Cap(c_a), veh/h				1025	0	424	1634	1350	0	0	728	705
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00	2.00
Upstream Filter(I)				1.00	0.00	1.00	0.69	0.69	0.00	0.00	0.74	0.74
Uniform Delay (d), s/veh				39.4	0.0	39.0	1.2	0.0	0.0	0.0	25.2	25.7
Incr Delay (d2), s/veh				2.0	0.0	2.6	0.0	0.8	0.0	0.0	14.9	15.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.5	0.0	2.9	0.2	0.3	0.0	0.0	6.6	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				41.4	0.0	41.6	1.3	0.8	0.0	0.0	40.1	41.6
LnGrp LOS				D	A	D	A	A	A	A	D	D
Approach Vol, veh/h					509			916			654	
Approach Delay, s/veh					41.4			1.0			40.8	
Approach LOS					D			A			D	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		79.8			52.5	27.2		20.2				
Change Period (Y+Rc), s		4.9			4.9	* 4.9		4.9				
Max Green Setting (Gmax), s		62.1			16.0	* 42		28.1				
Max Q Clear Time (g_c+I1), s		2.0			2.5	19.5		12.3				
Green Ext Time (p_c), s		3.1			1.3	2.8		3.0				
Intersection Summary												
HCM 6th Ctrl Delay			23.4									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	424	0	189	0	0	0	0	493	403	286	580	0
Future Volume (veh/h)	424	0	189	0	0	0	0	493	403	286	580	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	1856	1856				0	1856	1856	1781	1856	0
Adj Flow Rate, veh/h	424	0	189				0	493	403	286	580	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	3	3				0	3	3	8	3	0
Cap, veh/h	487	0	419				0	758	619	327	2272	0
Arrive On Green	0.28	0.00	0.27				0.00	0.41	0.40	0.06	0.21	0.00
Sat Flow, veh/h	1767	0	1572				0	1935	1505	1697	3618	0
Grp Volume(v), veh/h	424	0	189				0	472	424	286	580	0
Grp Sat Flow(s),veh/h/ln	1767	0	1572				0	1763	1585	1697	1763	0
Q Serve(g_s), s	22.9	0.0	10.0				0.0	21.5	21.7	16.7	13.7	0.0
Cycle Q Clear(g_c), s	22.9	0.0	10.0				0.0	21.5	21.7	16.7	13.7	0.0
Prop In Lane	1.00		1.00				0.00		0.95	1.00		0.00
Lane Grp Cap(c), veh/h	487	0	419				0	725	652	327	2272	0
V/C Ratio(X)	0.87	0.00	0.45				0.00	0.65	0.65	0.87	0.26	0.00
Avail Cap(c_a), veh/h	601	0	520				0	725	652	390	2272	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.47	0.47	0.91	0.91	0.00
Uniform Delay (d), s/veh	34.5	0.0	30.6				0.0	23.6	24.0	45.6	19.4	0.0
Incr Delay (d2), s/veh	11.3	0.0	0.8				0.0	2.1	2.4	16.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.0	0.0	3.8				0.0	9.0	8.2	9.1	6.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.8	0.0	31.3				0.0	25.8	26.4	62.2	19.6	0.0
LnGrp LOS	D	A	C				A	C	C	E	B	A
Approach Vol, veh/h		613						896			866	
Approach Delay, s/veh		41.3						26.1			33.7	
Approach LOS		D						C			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	23.3	45.2		31.5		68.5
Change Period (Y+Rc), s	4.0	4.9		4.9		4.9
Max Green Setting (Gmax), s	23.0	30.1		33.1		57.1
Max Q Clear Time (g_c+I1), s	18.7	23.7		24.9		15.7
Green Ext Time (p_c), s	0.6	2.3		1.8		2.8

Intersection Summary			
HCM 6th Ctrl Delay			32.8
HCM 6th LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	595	162	120	438	107	231	665	217	151	466	92
Future Volume (veh/h)	201	595	162	120	438	107	231	665	217	151	466	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	201	595	162	120	438	107	231	665	217	151	466	92
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	249	742	202	177	647	157	281	820	267	188	786	154
Arrive On Green	0.14	0.27	0.26	0.10	0.23	0.22	0.16	0.31	0.30	0.11	0.27	0.25
Sat Flow, veh/h	1767	2740	744	1767	2814	682	1767	2613	852	1767	2938	577
Grp Volume(v), veh/h	201	382	375	120	273	272	231	449	433	151	278	280
Grp Sat Flow(s),veh/h/ln	1767	1763	1722	1767	1763	1733	1767	1763	1702	1767	1763	1752
Q Serve(g_s), s	8.7	16.0	16.0	5.2	11.2	11.3	10.0	18.5	18.6	6.6	10.9	11.0
Cycle Q Clear(g_c), s	8.7	16.0	16.0	5.2	11.2	11.3	10.0	18.5	18.6	6.6	10.9	11.0
Prop In Lane	1.00		0.43	1.00		0.39	1.00		0.50	1.00		0.33
Lane Grp Cap(c), veh/h	249	477	466	177	405	399	281	553	534	188	472	469
V/C Ratio(X)	0.81	0.80	0.80	0.68	0.67	0.68	0.82	0.81	0.81	0.80	0.59	0.60
Avail Cap(c_a), veh/h	291	781	763	246	736	724	335	765	739	295	736	732
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.9	26.8	27.0	34.3	27.7	27.9	32.2	24.9	25.2	34.5	25.2	25.4
Incr Delay (d2), s/veh	11.4	3.2	3.3	1.7	2.0	2.1	11.2	4.6	4.8	3.8	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	6.6	6.5	2.2	4.6	4.6	5.0	7.9	7.7	2.9	4.4	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.3	30.0	30.2	36.0	29.7	29.9	43.4	29.6	30.0	38.3	26.3	26.6
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		958			665			1113			709	
Approach Delay, s/veh		33.1			30.9			32.6			29.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	28.8	11.9	25.4	16.5	25.1	15.2	22.2
Change Period (Y+Rc), s	4.5	5.0	4.5	4.5	4.5	5.0	4.5	4.5
Max Green Setting (Gmax), s	13.2	33.3	10.5	34.5	14.5	32.0	12.5	32.5
Max Q Clear Time (g_c+I1), s	10.6	20.6	7.2	18.0	12.0	13.0	10.7	13.3
Green Ext Time (p_c), s	0.1	3.2	0.1	2.9	0.1	2.1	0.1	2.0

Intersection Summary		
HCM 6th Ctrl Delay		31.7
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	842	272	364	774	158	229	533	196	157	630	182
Future Volume (veh/h)	235	842	272	364	774	158	229	533	196	157	630	182
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	235	842	272	364	774	158	229	533	196	157	630	182
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	378	1101	491	480	1249	557	378	899	401	370	847	378
Arrive On Green	0.11	0.31	0.31	0.14	0.35	0.35	0.11	0.25	0.25	0.11	0.24	0.24
Sat Flow, veh/h	3428	3526	1572	3428	3526	1572	3428	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	235	842	272	364	774	158	229	533	196	157	630	182
Grp Sat Flow(s),veh/h/ln	1714	1763	1572	1714	1763	1572	1714	1763	1572	1714	1763	1572
Q Serve(g_s), s	5.3	17.5	11.7	8.3	14.7	5.9	5.2	10.8	5.3	3.5	13.4	5.5
Cycle Q Clear(g_c), s	5.3	17.5	11.7	8.3	14.7	5.9	5.2	10.8	5.3	3.5	13.4	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	378	1101	491	480	1249	557	378	899	401	370	847	378
V/C Ratio(X)	0.62	0.76	0.55	0.76	0.62	0.28	0.61	0.59	0.49	0.42	0.74	0.48
Avail Cap(c_a), veh/h	418	1524	680	502	1611	718	380	1520	678	380	1520	678
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.5	25.2	23.2	33.6	21.7	18.8	34.4	26.6	9.7	33.9	28.5	12.1
Incr Delay (d2), s/veh	1.5	1.3	0.7	5.5	0.4	0.2	1.9	0.2	0.3	0.3	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	7.2	4.2	3.7	5.9	2.0	2.2	4.3	2.9	1.4	5.4	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.0	26.5	23.9	39.1	22.1	19.0	36.4	26.8	10.0	34.1	29.0	12.5
LnGrp LOS	D	C	C	D	C	B	D	C	B	C	C	B
Approach Vol, veh/h		1349			1296			958			969	
Approach Delay, s/veh		27.7			26.5			25.7			26.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.9	28.9	13.5	23.0	12.5	32.3	12.3	24.2
Change Period (Y+Rc), s	5.5	* 5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	10.9	* 33	8.0	* 33	8.9	35.1	8.0	33.0
Max Q Clear Time (g_c+I1), s	10.3	19.5	7.2	15.4	7.3	16.7	5.5	12.8
Green Ext Time (p_c), s	0.1	3.8	0.1	2.1	0.1	3.5	0.1	1.9

Intersection Summary	
HCM 6th Ctrl Delay	26.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	25	25	219	25	109	25	839	116	58	1000	25
Future Volume (veh/h)	20	25	25	219	25	109	25	839	116	58	1000	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	20	25	25	219	25	109	25	839	0	58	1000	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	185	218	173	369	42	132	83	1172		156	1350	34
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.05	0.33	0.00	0.09	0.38	0.38
Sat Flow, veh/h	321	755	598	871	147	455	1767	3618	0	1767	3515	88
Grp Volume(v), veh/h	70	0	0	353	0	0	25	839	0	58	502	523
Grp Sat Flow(s),veh/h/ln	1674	0	0	1472	0	0	1767	1763	0	1767	1763	1840
Q Serve(g_s), s	0.0	0.0	0.0	9.6	0.0	0.0	0.7	10.4	0.0	1.5	12.3	12.3
Cycle Q Clear(g_c), s	1.5	0.0	0.0	11.1	0.0	0.0	0.7	10.4	0.0	1.5	12.3	12.3
Prop In Lane	0.29		0.36	0.62		0.31	1.00		0.00	1.00		0.05
Lane Grp Cap(c), veh/h	577	0	0	543	0	0	83	1172		156	677	706
V/C Ratio(X)	0.12	0.00	0.00	0.65	0.00	0.00	0.30	0.72		0.37	0.74	0.74
Avail Cap(c_a), veh/h	885	0	0	830	0	0	282	1648		286	828	864
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.2	0.0	0.0	16.4	0.0	0.0	23.1	14.6	0.0	21.5	13.3	13.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.0	0.0	0.0	0.7	0.9	0.0	0.5	2.8	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	3.4	0.0	0.0	0.3	3.5	0.0	0.6	4.4	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.2	0.0	0.0	17.4	0.0	0.0	23.8	15.5	0.0	22.0	16.1	16.0
LnGrp LOS	B	A	A	B	A	A	C	B		C	B	B
Approach Vol, veh/h		70			353			864	A		1083	
Approach Delay, s/veh		13.2			17.4			15.8			16.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	21.6		19.0	6.8	24.2		19.0				
Change Period (Y+Rc), s	5.0	* 5		4.5	4.5	5.0		4.5				
Max Green Setting (Gmax), s	8.1	* 23		24.5	8.0	23.5		24.5				
Max Q Clear Time (g_c+I1), s	3.5	12.4		3.5	2.7	14.3		13.1				
Green Ext Time (p_c), s	0.0	4.2		0.2	0.0	4.3		1.4				

Intersection Summary		
HCM 6th Ctrl Delay		16.2
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	20	25	90	20	75	21	710	80	29	1038	121
Future Vol, veh/h	40	20	25	90	20	75	21	710	80	29	1038	121
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	40	20	25	90	20	75	21	710	80	29	1038	121

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1564	1989	580	1379	2009	395	1159	0	0	790	0	0
Stage 1	1157	1157	-	792	792	-	-	-	-	-	-	-
Stage 2	407	832	-	587	1217	-	-	-	-	-	-	-
Critical Hdwy	5	5	5	5	5	5	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	227	141	624	274	138	746	593	-	-	819	-	-
Stage 1	207	267	-	346	396	-	-	-	-	-	-	-
Stage 2	589	380	-	460	250	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	170	131	624	220	128	746	593	-	-	819	-	-
Mov Cap-2 Maneuver	170	131	-	220	128	-	-	-	-	-	-	-
Stage 1	200	258	-	334	382	-	-	-	-	-	-	-
Stage 2	484	367	-	393	241	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	35.9	40.4	0.3	0.2
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	593	-	-	199	278	819	-	-
HCM Lane V/C Ratio	0.035	-	-	0.427	0.665	0.035	-	-
HCM Control Delay (s)	11.3	-	-	35.9	40.4	9.6	-	-
HCM Lane LOS	B	-	-	E	E	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2	4.3	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	246	447	170	184	372	80	157	501	70	87	818	206
Future Volume (veh/h)	246	447	170	184	372	80	157	501	70	87	818	206
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	246	447	170	184	372	80	157	501	70	87	818	206
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	288	565	213	228	555	118	173	1143	510	117	1030	460
Arrive On Green	0.16	0.23	0.23	0.13	0.19	0.19	0.10	0.32	0.32	0.07	0.29	0.29
Sat Flow, veh/h	1767	2504	944	1767	2892	615	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	246	314	303	184	225	227	157	501	70	87	818	206
Grp Sat Flow(s),veh/h/ln	1767	1763	1686	1767	1763	1745	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	10.4	12.8	13.0	7.7	9.1	9.2	6.7	8.6	2.4	3.7	16.4	8.2
Cycle Q Clear(g_c), s	10.4	12.8	13.0	7.7	9.1	9.2	6.7	8.6	2.4	3.7	16.4	8.2
Prop In Lane	1.00		0.56	1.00		0.35	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	398	381	228	338	335	173	1143	510	117	1030	460
V/C Ratio(X)	0.85	0.79	0.80	0.81	0.67	0.68	0.91	0.44	0.14	0.75	0.79	0.45
Avail Cap(c_a), veh/h	624	726	694	716	818	810	173	1456	649	148	1405	627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.1	27.9	28.0	32.4	28.6	28.7	34.2	20.4	18.3	35.1	25.0	22.1
Incr Delay (d2), s/veh	2.8	3.5	3.9	2.6	2.3	2.4	41.8	0.3	0.1	10.1	2.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	5.4	5.3	3.3	3.8	3.8	4.8	3.3	0.8	1.9	6.7	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	31.4	31.8	34.9	30.9	31.1	75.9	20.6	18.4	45.2	27.2	22.7
LnGrp LOS	C	C	C	C	C	C	E	C	B	D	C	C
Approach Vol, veh/h		863			636			728			1111	
Approach Delay, s/veh		32.3			32.1			32.3			27.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	20.2	9.6	29.8	14.4	22.8	12.0	27.4
Change Period (Y+Rc), s	4.5	5.5	4.5	5.0	4.5	5.5	4.5	5.0
Max Green Setting (Gmax), s	27.0	35.5	6.4	31.6	31.0	31.5	7.5	30.5
Max Q Clear Time (g_c+I1), s	12.4	11.2	5.7	10.6	9.7	15.0	8.7	18.4
Green Ext Time (p_c), s	0.2	1.7	0.0	2.5	0.1	2.3	0.0	4.0

Intersection Summary	
HCM 6th Ctrl Delay	30.8
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	68	37	311	104	117	43	614	145	57	822	80
Future Volume (veh/h)	41	68	37	311	104	117	43	614	145	57	822	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	41	68	37	311	104	117	43	614	145	57	822	80
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	113	171	93	335	221	249	117	868	205	139	1035	101
Arrive On Green	0.06	0.15	0.15	0.19	0.28	0.28	0.07	0.31	0.31	0.08	0.32	0.32
Sat Flow, veh/h	1767	1130	615	1767	797	897	1767	2831	667	1767	3246	316
Grp Volume(v), veh/h	41	0	105	311	0	221	43	382	377	57	446	456
Grp Sat Flow(s),veh/h/ln	1767	0	1745	1767	0	1694	1767	1763	1735	1767	1763	1799
Q Serve(g_s), s	1.5	0.0	3.6	11.4	0.0	7.1	1.5	12.6	12.7	2.0	15.2	15.2
Cycle Q Clear(g_c), s	1.5	0.0	3.6	11.4	0.0	7.1	1.5	12.6	12.7	2.0	15.2	15.2
Prop In Lane	1.00		0.35	1.00		0.53	1.00		0.38	1.00		0.18
Lane Grp Cap(c), veh/h	113	0	265	335	0	470	117	540	532	139	562	574
V/C Ratio(X)	0.36	0.00	0.40	0.93	0.00	0.47	0.37	0.71	0.71	0.41	0.79	0.79
Avail Cap(c_a), veh/h	215	0	742	335	0	836	215	629	619	215	629	642
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	0.0	25.2	26.2	0.0	19.8	29.4	20.2	20.2	28.9	20.4	20.4
Incr Delay (d2), s/veh	0.7	0.0	0.4	30.6	0.0	0.3	0.7	3.9	4.1	0.7	7.3	7.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.4	7.4	0.0	2.7	0.6	5.1	5.1	0.8	6.6	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.2	0.0	25.6	56.8	0.0	20.0	30.1	24.2	24.3	29.6	27.7	27.6
LnGrp LOS	C	A	C	E	A	C	C	C	C	C	C	C
Approach Vol, veh/h		146			532			802			959	
Approach Delay, s/veh		26.9			41.5			24.5			27.8	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	24.7	17.0	14.5	8.9	25.5	8.7	22.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.0	23.5	12.5	28.0	8.0	23.5	8.0	32.5				
Max Q Clear Time (g_c+I1), s	4.0	14.7	13.4	5.6	3.5	17.2	3.5	9.1				
Green Ext Time (p_c), s	0.0	4.3	0.0	0.2	0.0	3.8	0.0	0.5				

Intersection Summary		
HCM 6th Ctrl Delay		29.7
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	290	95	220	180	116	172	671	155	154	351	55
Future Volume (veh/h)	115	290	95	220	180	116	172	671	155	154	351	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1900	1885	1826	1870	1856	1900
Adj Flow Rate, veh/h	115	290	95	220	180	116	172	671	155	154	351	55
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	2	2	2	0	1	5	2	3	0
Cap, veh/h	196	502	161	425	719	320	216	978	423	209	828	129
Arrive On Green	0.11	0.19	0.19	0.12	0.20	0.20	0.12	0.27	0.27	0.12	0.27	0.27
Sat Flow, veh/h	1795	2666	856	3456	3554	1585	1810	3582	1547	1781	3058	475
Grp Volume(v), veh/h	115	193	192	220	180	116	172	671	155	154	201	205
Grp Sat Flow(s),veh/h/ln	1795	1791	1731	1728	1777	1585	1810	1791	1547	1781	1763	1770
Q Serve(g_s), s	3.9	6.2	6.5	3.8	2.7	4.0	5.9	10.7	5.2	5.3	6.0	6.1
Cycle Q Clear(g_c), s	3.9	6.2	6.5	3.8	2.7	4.0	5.9	10.7	5.2	5.3	6.0	6.1
Prop In Lane	1.00		0.49	1.00		1.00	1.00		1.00	1.00		0.27
Lane Grp Cap(c), veh/h	196	337	326	425	719	320	216	978	423	209	477	479
V/C Ratio(X)	0.59	0.57	0.59	0.52	0.25	0.36	0.79	0.69	0.37	0.74	0.42	0.43
Avail Cap(c_a), veh/h	225	1040	1005	434	2064	920	241	2108	911	238	1038	1042
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.0	23.5	23.6	26.2	21.4	21.9	27.3	20.7	18.7	27.2	19.1	19.2
Incr Delay (d2), s/veh	1.3	1.8	2.0	0.4	0.2	0.8	13.3	1.0	0.6	8.0	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	2.6	2.6	1.5	1.0	1.4	3.1	4.0	1.7	2.5	2.3	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.3	25.4	25.7	26.6	21.6	22.7	40.6	21.8	19.3	35.1	19.8	19.9
LnGrp LOS	C	C	C	C	C	C	D	C	B	D	B	B
Approach Vol, veh/h		500			516			998			560	
Approach Delay, s/veh		26.1			24.0			24.6			24.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	22.4	12.3	17.0	12.1	22.3	11.5	17.9
Change Period (Y+Rc), s	4.5	5.0	4.5	5.0	4.5	5.0	4.5	5.0
Max Green Setting (Gmax), s	8.5	37.5	8.0	37.0	8.5	37.5	8.0	37.0
Max Q Clear Time (g_c+I1), s	7.3	12.7	5.8	8.5	7.9	8.1	5.9	6.0
Green Ext Time (p_c), s	0.0	4.7	0.1	1.9	0.0	2.0	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	24.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	268	79	51	31	63	200	57	472	100	278	351	313
Future Volume (veh/h)	268	79	51	31	63	200	57	472	100	278	351	313
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	268	79	51	31	63	200	57	472	100	278	351	313
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	309	318	205	68	308	261	101	652	137	319	619	544
Arrive On Green	0.17	0.30	0.30	0.04	0.17	0.17	0.06	0.23	0.23	0.18	0.35	0.35
Sat Flow, veh/h	1767	1053	680	1767	1856	1572	1767	2898	610	1767	1777	1561
Grp Volume(v), veh/h	268	0	130	31	63	200	57	286	286	278	348	316
Grp Sat Flow(s),veh/h/ln	1767	0	1733	1767	1856	1572	1767	1763	1746	1767	1763	1575
Q Serve(g_s), s	10.5	0.0	4.0	1.2	2.1	8.6	2.2	10.6	10.8	10.9	11.4	11.6
Cycle Q Clear(g_c), s	10.5	0.0	4.0	1.2	2.1	8.6	2.2	10.6	10.8	10.9	11.4	11.6
Prop In Lane	1.00		0.39	1.00		1.00	1.00		0.35	1.00		0.99
Lane Grp Cap(c), veh/h	309	0	523	68	308	261	101	397	393	319	615	549
V/C Ratio(X)	0.87	0.00	0.25	0.45	0.20	0.77	0.57	0.72	0.73	0.87	0.57	0.58
Avail Cap(c_a), veh/h	311	0	865	152	758	643	222	671	664	336	785	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.5	0.0	18.7	33.4	25.6	28.3	32.6	25.4	25.5	28.3	18.8	18.8
Incr Delay (d2), s/veh	21.0	0.0	0.3	1.7	0.4	5.6	1.8	3.0	3.1	19.5	1.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	1.6	0.5	0.9	3.5	0.9	4.3	4.3	5.9	4.2	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.5	0.0	19.0	35.1	25.9	33.9	34.4	28.4	28.6	47.7	19.8	20.0
LnGrp LOS	D	A	B	D	C	C	C	C	C	D	B	B
Approach Vol, veh/h		398			294			629			942	
Approach Delay, s/veh		39.5			32.3			29.0			28.1	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.3	20.5	7.2	25.9	8.5	29.2	16.9	16.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	27.0	6.1	35.4	8.9	31.6	12.5	29.0
Max Q Clear Time (g_c+I1), s	12.9	12.8	3.2	6.0	4.2	13.6	12.5	10.6
Green Ext Time (p_c), s	0.0	3.2	0.0	0.9	0.0	4.4	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	30.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	23	589	41	25	362
Future Vol, veh/h	25	23	589	41	25	362
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	25	23	589	41	25	362

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	841	315	0	0	630	0
Stage 1	610	-	-	-	-	-
Stage 2	231	-	-	-	-	-
Critical Hdwy	6.86	6.96	-	-	4.16	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	302	678	-	-	942	-
Stage 1	502	-	-	-	-	-
Stage 2	782	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	294	678	-	-	942	-
Mov Cap-2 Maneuver	294	-	-	-	-	-
Stage 1	502	-	-	-	-	-
Stage 2	761	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.6	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	294	678	942	-
HCM Lane V/C Ratio	-	-	0.085	0.034	0.027	-
HCM Control Delay (s)	-	-	18.4	10.5	8.9	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	470	655	22	25	235	109	25	28	23	145	28	219
Future Volume (veh/h)	470	655	22	25	235	109	25	28	23	145	28	219
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	470	655	22	25	235	109	25	28	23	145	28	219
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	1303	1594	53	508	1083	486	393	242	199	571	47	365
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1995	3480	117	756	2365	1062	1124	942	774	1343	181	1419
Grp Volume(v), veh/h	470	332	345	25	173	171	25	0	51	145	0	247
Grp Sat Flow(s),veh/h/ln	998	1763	1835	756	1763	1664	1124	0	1716	1343	0	1600
Q Serve(g_s), s	5.2	3.5	3.5	0.6	1.7	1.7	0.6	0.0	0.6	2.6	0.0	3.8
Cycle Q Clear(g_c), s	7.0	3.5	3.5	4.2	1.7	1.7	4.4	0.0	0.6	3.2	0.0	3.8
Prop In Lane	1.00		0.06	1.00		0.64	1.00		0.45	1.00		0.89
Lane Grp Cap(c), veh/h	1303	807	840	508	807	762	393	0	441	571	0	412
V/C Ratio(X)	0.36	0.41	0.41	0.05	0.21	0.22	0.06	0.00	0.12	0.25	0.00	0.60
Avail Cap(c_a), veh/h	1668	1130	1176	646	1130	1067	865	0	1161	1135	0	1083
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.7	5.1	5.1	6.5	4.6	4.6	11.1	0.0	8.0	9.2	0.0	9.2
Incr Delay (d2), s/veh	0.2	0.3	0.3	0.0	0.1	0.1	0.1	0.0	0.1	0.2	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.3	0.4	0.0	0.2	0.2	0.1	0.0	0.2	0.5	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.9	5.4	5.4	6.5	4.7	4.7	11.1	0.0	8.1	9.5	0.0	10.6
LnGrp LOS	A	A	A	A	A	A	B	A	A	A	A	B
Approach Vol, veh/h		1147			369			76			392	
Approach Delay, s/veh		6.0			4.8			9.1			10.2	
Approach LOS		A			A			A			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		11.2		16.9		11.2		16.9				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		19.0		18.0		19.0		18.0				
Max Q Clear Time (g_c+I1), s		6.4		9.0		5.8		6.2				
Green Ext Time (p_c), s		0.2		3.9		1.4		1.1				
Intersection Summary												
HCM 6th Ctrl Delay			6.7									
HCM 6th LOS			A									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	816	100	174	890	90	143	258	86	114	270	156
Future Volume (veh/h)	196	816	100	174	890	90	143	258	86	114	270	156
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	196	816	100	174	890	90	143	258	86	114	270	156
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	235	1092	134	212	1053	106	178	293	98	145	373	316
Arrive On Green	0.13	0.35	0.35	0.12	0.33	0.33	0.10	0.22	0.22	0.08	0.20	0.20
Sat Flow, veh/h	1767	3161	387	1767	3233	327	1767	1332	444	1767	1856	1572
Grp Volume(v), veh/h	196	455	461	174	485	495	143	0	344	114	270	156
Grp Sat Flow(s),veh/h/ln	1767	1763	1786	1767	1763	1797	1767	0	1776	1767	1856	1572
Q Serve(g_s), s	8.1	17.1	17.1	7.2	19.3	19.3	6.0	0.0	14.1	4.8	10.2	6.6
Cycle Q Clear(g_c), s	8.1	17.1	17.1	7.2	19.3	19.3	6.0	0.0	14.1	4.8	10.2	6.6
Prop In Lane	1.00		0.22	1.00		0.18	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	235	609	617	212	574	585	178	0	390	145	373	316
V/C Ratio(X)	0.83	0.75	0.75	0.82	0.85	0.85	0.80	0.00	0.88	0.79	0.72	0.49
Avail Cap(c_a), veh/h	259	750	760	235	727	741	223	0	515	204	518	439
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.8	21.7	21.7	32.3	23.6	23.6	33.1	0.0	28.4	33.9	28.1	26.6
Incr Delay (d2), s/veh	17.3	3.3	3.2	16.9	7.4	7.3	12.2	0.0	11.0	7.9	1.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	7.2	7.3	4.0	8.7	8.8	3.1	0.0	6.9	2.3	4.5	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.1	25.0	24.9	49.2	31.0	30.9	45.2	0.0	39.4	41.7	29.6	27.1
LnGrp LOS	D	C	C	D	C	C	D	A	D	D	C	C
Approach Vol, veh/h		1112			1154			487			540	
Approach Delay, s/veh		29.2			33.7			41.1			31.4	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.5	29.0	12.1	19.6	13.0	30.5	10.7	21.0
Change Period (Y+Rc), s	4.5	* 4.5	4.5	4.5	4.0	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.0	* 31	9.5	21.0	10.0	32.0	8.7	21.8
Max Q Clear Time (g_c+I1), s	10.1	21.3	8.0	12.2	9.2	19.1	6.8	16.1
Green Ext Time (p_c), s	0.0	3.2	0.0	0.7	0.0	3.4	0.0	0.4

Intersection Summary		
HCM 6th Ctrl Delay		32.9
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	397	56	84	355	61	69	164	108	204	364	195
Future Volume (veh/h)	127	397	56	84	355	61	69	164	108	204	364	195
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	127	397	56	84	355	61	69	164	108	204	364	195
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	161	591	83	136	530	90	123	309	203	250	418	224
Arrive On Green	0.09	0.19	0.19	0.08	0.18	0.18	0.07	0.30	0.30	0.14	0.37	0.37
Sat Flow, veh/h	1767	3105	435	1767	3013	513	1767	1044	688	1767	1137	609
Grp Volume(v), veh/h	127	224	229	84	206	210	69	0	272	204	0	559
Grp Sat Flow(s),veh/h/ln	1767	1763	1777	1767	1763	1763	1767	0	1732	1767	0	1746
Q Serve(g_s), s	4.0	6.8	6.9	2.7	6.3	6.4	2.2	0.0	7.6	6.4	0.0	17.1
Cycle Q Clear(g_c), s	4.0	6.8	6.9	2.7	6.3	6.4	2.2	0.0	7.6	6.4	0.0	17.1
Prop In Lane	1.00		0.24	1.00		0.29	1.00		0.40	1.00		0.35
Lane Grp Cap(c), veh/h	161	335	338	136	310	310	123	0	512	250	0	642
V/C Ratio(X)	0.79	0.67	0.68	0.62	0.66	0.68	0.56	0.00	0.53	0.82	0.00	0.87
Avail Cap(c_a), veh/h	184	735	741	184	735	735	184	0	692	307	0	819
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.6	21.6	21.7	25.7	22.1	22.2	25.9	0.0	16.9	24.0	0.0	16.9
Incr Delay (d2), s/veh	15.2	2.8	2.8	1.7	2.9	3.1	1.5	0.0	1.0	10.8	0.0	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	2.7	2.8	1.1	2.6	2.6	0.9	0.0	2.9	3.3	0.0	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.8	24.4	24.5	27.4	25.1	25.3	27.4	0.0	18.0	34.8	0.0	25.7
LnGrp LOS	D	C	C	C	C	C	C	A	B	C	A	C
Approach Vol, veh/h		580			500			341			763	
Approach Delay, s/veh		28.0			25.5			19.9			28.1	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	14.6	8.0	25.7	8.4	15.5	12.1	21.5
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5
Max Green Setting (Gmax), s	6.0	24.0	6.0	27.0	6.0	24.0	10.0	23.0
Max Q Clear Time (g_c+I1), s	6.0	8.4	4.2	19.1	4.7	8.9	8.4	9.6
Green Ext Time (p_c), s	0.0	1.7	0.0	2.0	0.0	1.9	0.0	1.1

Intersection Summary			
HCM 6th Ctrl Delay			26.2
HCM 6th LOS			C

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	21	38	104	35	49	25	52	35	32	25	27	25
Future Vol, veh/h	21	38	104	35	49	25	52	35	32	25	27	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	3	8	8	8	8	3	8	3	8	3	3	3
Mvmt Flow	21	38	104	35	49	25	52	35	32	25	27	25
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.2	8.4	8.5	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	44%	13%	32%	32%
Vol Thru, %	29%	23%	45%	35%
Vol Right, %	27%	64%	23%	32%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	119	163	109	77
LT Vol	52	21	35	25
Through Vol	35	38	49	27
RT Vol	32	104	25	25
Lane Flow Rate	119	163	109	77
Geometry Grp	1	1	1	1
Degree of Util (X)	0.154	0.189	0.139	0.098
Departure Headway (Hd)	4.658	4.184	4.601	4.57
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	770	857	779	784
Service Time	2.685	2.209	2.627	2.599
HCM Lane V/C Ratio	0.155	0.19	0.14	0.098
HCM Control Delay	8.5	8.2	8.4	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.7	0.5	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	312	0	69	436	55	0	0	148	39
Future Volume (veh/h)	0	0	0	312	0	69	436	55	0	0	148	39
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1678	1856	1781	1678	1781	0	0	1781	1781
Adj Flow Rate, veh/h				312	0	69	436	55	0	0	148	39
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				15	3	8	15	8	0	0	8	8
Cap, veh/h				387	0	86	669	885	0	0	214	56
Arrive On Green				0.27	0.00	0.27	0.22	0.50	0.00	0.00	0.16	0.16
Sat Flow, veh/h				1415	0	313	3100	1781	0	0	1359	358
Grp Volume(v), veh/h				381	0	0	436	55	0	0	0	187
Grp Sat Flow(s),veh/h/ln				1728	0	0	1550	1781	0	0	0	1717
Q Serve(g_s), s				8.1	0.0	0.0	5.1	0.6	0.0	0.0	0.0	4.1
Cycle Q Clear(g_c), s				8.1	0.0	0.0	5.1	0.6	0.0	0.0	0.0	4.1
Prop In Lane				0.82		0.18	1.00		0.00	0.00		0.21
Lane Grp Cap(c), veh/h				473	0	0	669	885	0	0	0	271
V/C Ratio(X)				0.81	0.00	0.00	0.65	0.06	0.00	0.00	0.00	0.69
Avail Cap(c_a), veh/h				1525	0	0	2344	1123	0	0	0	1082
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				13.4	0.0	0.0	14.2	5.2	0.0	0.0	0.0	15.8
Incr Delay (d2), s/veh				1.2	0.0	0.0	0.8	0.0	0.0	0.0	0.0	1.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.6	0.0	0.0	1.4	0.1	0.0	0.0	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				14.7	0.0	0.0	15.0	5.2	0.0	0.0	0.0	17.0
LnGrp LOS				B	A	A	B	A	A	A	A	B
Approach Vol, veh/h					381			491			187	
Approach Delay, s/veh					14.7			13.9			17.0	
Approach LOS					B			B			B	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		24.6			13.5	11.1		15.1				
Change Period (Y+Rc), s		4.9			4.9	4.9		4.2				
Max Green Setting (Gmax), s		25.0			30.0	25.0		35.0				
Max Q Clear Time (g_c+I1), s		2.6			7.1	6.1		10.1				
Green Ext Time (p_c), s		0.1			1.5	0.2		0.9				
Intersection Summary												
HCM 6th Ctrl Delay			14.7									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	0	374	0	0	0	0	406	726	87	374	0
Future Volume (veh/h)	88	0	374	0	0	0	0	406	726	87	374	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	1856	1678				0	1678	1678	1781	1678	0
Adj Flow Rate, veh/h	88	0	374				0	406	726	87	374	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	8	3	15				0	15	15	8	15	0
Cap, veh/h	79	0	336				0	1725	769	111	2066	0
Arrive On Green	0.26	0.00	0.26				0.00	0.54	0.54	0.07	0.65	0.00
Sat Flow, veh/h	306	0	1300				0	3272	1422	1697	3272	0
Grp Volume(v), veh/h	462	0	0				0	406	726	87	374	0
Grp Sat Flow(s),veh/h/ln	1606	0	0				0	1594	1422	1697	1594	0
Q Serve(g_s), s	25.0	0.0	0.0				0.0	6.5	46.4	4.9	4.5	0.0
Cycle Q Clear(g_c), s	25.0	0.0	0.0				0.0	6.5	46.4	4.9	4.5	0.0
Prop In Lane	0.19		0.81				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	415	0	0				0	1725	769	111	2066	0
V/C Ratio(X)	1.11	0.00	0.00				0.00	0.24	0.94	0.78	0.18	0.00
Avail Cap(c_a), veh/h	415	0	0				0	1810	807	263	2066	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.9	0.0	0.0				0.0	11.7	20.8	44.6	6.8	0.0
Incr Delay (d2), s/veh	79.1	0.0	0.0				0.0	0.1	19.2	11.3	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.5	0.0	0.0				0.0	2.1	17.5	2.3	1.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	115.0	0.0	0.0				0.0	11.8	40.0	55.9	6.9	0.0
LnGrp LOS	F	A	A				A	B	D	E	A	A
Approach Vol, veh/h		462						1132			461	
Approach Delay, s/veh		115.0						29.9			16.1	
Approach LOS		F						C			B	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	10.3	57.3	29.2	67.7
Change Period (Y+Rc), s	4.0	4.9	* 4.2	4.9
Max Green Setting (Gmax), s	15.0	55.0	* 25	55.0
Max Q Clear Time (g_c+I1), s	6.9	48.4	27.0	6.5
Green Ext Time (p_c), s	0.1	4.1	0.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	45.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	25	25	124	25	305	38	703	244	246	416	25
Future Volume (veh/h)	25	25	25	124	25	305	38	703	244	246	416	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1678	1856	1678	1856	1678	1678	1678	1678	1856
Adj Flow Rate, veh/h	25	25	25	124	25	305	38	703	244	246	416	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	15	3	15	3	15	15	15	15	3
Cap, veh/h	77	155	155	159	442	338	103	840	292	332	1309	646
Arrive On Green	0.04	0.18	0.18	0.10	0.24	0.24	0.06	0.36	0.36	0.11	0.41	0.41
Sat Flow, veh/h	1767	851	851	1598	1856	1422	1767	2321	806	3100	3188	1572
Grp Volume(v), veh/h	25	0	50	124	25	305	38	483	464	246	416	25
Grp Sat Flow(s),veh/h/ln	1767	0	1702	1598	1856	1422	1767	1594	1533	1550	1594	1572
Q Serve(g_s), s	1.0	0.0	1.8	5.6	0.8	15.4	1.5	20.6	20.6	5.7	6.6	0.7
Cycle Q Clear(g_c), s	1.0	0.0	1.8	5.6	0.8	15.4	1.5	20.6	20.6	5.7	6.6	0.7
Prop In Lane	1.00		0.50	1.00		1.00	1.00		0.53	1.00		1.00
Lane Grp Cap(c), veh/h	77	0	310	159	442	338	103	577	555	332	1309	646
V/C Ratio(X)	0.33	0.00	0.16	0.78	0.06	0.90	0.37	0.84	0.84	0.74	0.32	0.04
Avail Cap(c_a), veh/h	191	0	780	185	866	663	191	647	622	368	1328	655
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.4	0.0	25.6	32.6	21.8	27.4	33.6	21.7	21.7	32.1	14.8	13.1
Incr Delay (d2), s/veh	0.9	0.0	0.2	13.8	0.0	3.6	0.8	9.2	9.6	5.8	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.8	2.7	0.3	5.2	0.6	8.3	8.0	2.3	2.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.3	0.0	25.8	46.4	21.8	31.0	34.4	30.9	31.2	37.9	15.0	13.1
LnGrp LOS	D	A	C	D	C	C	C	C	C	D	B	B
Approach Vol, veh/h		75			454			985			687	
Approach Delay, s/veh		29.0			34.7			31.2			23.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	31.9	11.9	18.0	8.8	35.5	7.7	22.2
Change Period (Y+Rc), s	4.5	5.0	4.5	4.5	4.5	5.0	4.5	4.5
Max Green Setting (Gmax), s	8.8	30.1	8.6	34.0	8.0	30.9	8.0	34.6
Max Q Clear Time (g_c+I1), s	7.7	22.6	7.6	3.8	3.5	8.6	3.0	17.4
Green Ext Time (p_c), s	0.1	4.3	0.0	0.2	0.0	3.7	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	29.3
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	384	387	86	27	254	138	52	434	38	125	227	225
Future Volume (veh/h)	384	387	86	27	254	138	52	434	38	125	227	225
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1678	1870	1678	1870	1678	1678	1678	1678	1870
Adj Flow Rate, veh/h	384	387	86	27	254	138	52	434	38	125	227	225
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	15	2	15	2	15	15	15	15	2
Cap, veh/h	428	1066	234	56	577	231	96	631	55	154	406	362
Arrive On Green	0.24	0.37	0.37	0.03	0.16	0.16	0.05	0.21	0.21	0.10	0.25	0.25
Sat Flow, veh/h	1781	2895	637	1598	3554	1422	1781	2966	259	1598	1594	1422
Grp Volume(v), veh/h	384	236	237	27	254	138	52	232	240	125	227	225
Grp Sat Flow(s),veh/h/ln	1781	1777	1756	1598	1777	1422	1781	1594	1631	1598	1594	1422
Q Serve(g_s), s	14.8	6.9	7.0	1.2	4.6	6.4	2.0	9.6	9.6	5.5	8.8	10.0
Cycle Q Clear(g_c), s	14.8	6.9	7.0	1.2	4.6	6.4	2.0	9.6	9.6	5.5	8.8	10.0
Prop In Lane	1.00		0.36	1.00		1.00	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	428	654	646	56	577	231	96	339	347	154	406	362
V/C Ratio(X)	0.90	0.36	0.37	0.48	0.44	0.60	0.54	0.69	0.69	0.81	0.56	0.62
Avail Cap(c_a), veh/h	601	1274	1259	135	1649	660	225	751	768	202	751	670
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.1	16.4	16.4	33.7	26.9	27.6	32.8	25.8	25.8	31.5	23.0	23.5
Incr Delay (d2), s/veh	10.0	0.6	0.6	2.4	0.9	4.2	1.7	4.2	4.2	13.1	2.1	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	2.7	2.7	0.5	1.9	0.3	0.9	3.8	4.0	2.6	3.4	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.2	17.0	17.0	36.1	27.8	31.8	34.5	30.0	30.0	44.7	25.1	26.4
LnGrp LOS	D	B	B	D	C	C	C	C	C	D	C	C
Approach Vol, veh/h		857			419			524			577	
Approach Delay, s/veh		25.6			29.6			30.4			29.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	20.6	7.5	31.2	8.9	23.6	22.1	16.5
Change Period (Y+Rc), s	5.0	5.5	5.0	5.0	5.0	5.5	5.0	5.0
Max Green Setting (Gmax), s	9.0	33.5	6.0	51.0	9.0	33.5	24.0	33.0
Max Q Clear Time (g_c+I1), s	7.5	11.6	3.2	9.0	4.0	12.0	16.8	8.4
Green Ext Time (p_c), s	0.0	3.5	0.0	4.0	0.0	3.5	0.3	3.1

Intersection Summary	
HCM 6th Ctrl Delay	28.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	773	310	150	264	94	114	172	50	217	159	161
Future Volume (veh/h)	131	773	310	150	264	94	114	172	50	217	159	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1678	1856	1856	1856	1678	1678	1856	1856	1856	1678	1856	1678
Adj Flow Rate, veh/h	131	773	310	150	264	94	114	172	50	217	159	161
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	15	3	3	3	15	15	3	3	3	15	3	15
Cap, veh/h	189	1054	470	147	815	363	118	451	127	270	474	423
Arrive On Green	0.12	0.30	0.30	0.08	0.26	0.26	0.07	0.17	0.17	0.17	0.27	0.27
Sat Flow, veh/h	1598	3526	1572	1767	3188	1422	1767	2714	766	1598	1763	1572
Grp Volume(v), veh/h	131	773	310	150	264	94	114	110	112	217	159	161
Grp Sat Flow(s),veh/h/ln	1598	1763	1572	1767	1594	1422	1767	1763	1718	1598	1763	1572
Q Serve(g_s), s	4.7	11.8	10.4	5.0	4.0	3.2	3.9	3.3	3.5	7.9	4.4	5.0
Cycle Q Clear(g_c), s	4.7	11.8	10.4	5.0	4.0	3.2	3.9	3.3	3.5	7.9	4.4	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.45	1.00		1.00
Lane Grp Cap(c), veh/h	189	1054	470	147	815	363	118	293	286	270	474	423
V/C Ratio(X)	0.69	0.73	0.66	1.02	0.32	0.26	0.97	0.38	0.39	0.80	0.34	0.38
Avail Cap(c_a), veh/h	276	1582	706	147	1118	499	118	469	457	531	938	836
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.5	18.9	18.4	27.6	18.2	17.8	28.0	22.3	22.4	24.0	17.7	17.9
Incr Delay (d2), s/veh	1.7	1.0	1.6	80.0	0.2	0.4	73.4	0.3	0.3	5.5	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	4.4	3.6	5.2	1.4	1.0	3.9	1.3	1.3	3.2	1.7	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	19.9	20.0	107.5	18.4	18.2	101.4	22.6	22.7	29.5	17.8	18.1
LnGrp LOS	C	B	C	F	B	B	F	C	C	C	B	B
Approach Vol, veh/h		1214			508			336			537	
Approach Delay, s/veh		20.7			44.7			49.4			22.6	
Approach LOS		C			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	22.5	8.0	20.7	11.6	19.9	14.2	14.5
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.5	4.5	4.0	4.5
Max Green Setting (Gmax), s	5.0	27.0	4.0	32.0	10.4	21.1	20.0	16.0
Max Q Clear Time (g_c+I1), s	7.0	13.8	5.9	7.0	6.7	6.0	9.9	5.5
Green Ext Time (p_c), s	0.0	4.1	0.0	1.4	0.1	1.4	0.6	0.6

Intersection Summary	
HCM 6th Ctrl Delay	29.5
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1164	55	52	488	5	122	5	280	5	5	5
Future Volume (veh/h)	5	1164	55	52	488	5	122	5	280	5	5	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	5	1164	0	52	488	5	122	5	280	5	5	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	174	1452		102	1326	14	362	15	335	13	13	13
Arrive On Green	0.10	0.41	0.00	0.06	0.37	0.37	0.21	0.21	0.21	0.02	0.02	0.02
Sat Flow, veh/h	1767	3526	1572	1767	3575	37	1701	70	1572	574	574	574
Grp Volume(v), veh/h	5	1164	0	52	241	252	127	0	280	15	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1849	1771	0	1572	1723	0	0
Q Serve(g_s), s	0.2	17.7	0.0	1.7	6.1	6.1	3.7	0.0	10.4	0.5	0.0	0.0
Cycle Q Clear(g_c), s	0.2	17.7	0.0	1.7	6.1	6.1	3.7	0.0	10.4	0.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.96		1.00	0.33		0.33
Lane Grp Cap(c), veh/h	174	1452		102	654	686	377	0	335	38	0	0
V/C Ratio(X)	0.03	0.80		0.51	0.37	0.37	0.34	0.00	0.84	0.39	0.00	0.00
Avail Cap(c_a), veh/h	174	1938		174	969	1016	450	0	400	622	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.8	15.7	0.0	27.9	14.0	14.0	20.3	0.0	23.0	29.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.8	0.0	1.5	0.3	0.3	0.5	0.0	12.4	6.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	6.7	0.0	0.7	2.2	2.3	1.5	0.0	4.6	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.9	17.6	0.0	29.3	14.3	14.3	20.8	0.0	35.4	35.9	0.0	0.0
LnGrp LOS	C	B		C	B	B	C	A	D	D	A	A
Approach Vol, veh/h		1169	A		545			407			15	
Approach Delay, s/veh		17.6			15.7			30.8			35.9	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.0	29.6		5.8	10.5	27.1		17.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	6.0	33.5		22.0	6.0	33.5		15.5
Max Q Clear Time (g_c+I1), s	3.7	19.7		2.5	2.2	8.1		12.4
Green Ext Time (p_c), s	0.0	5.4		0.0	0.0	1.9		0.6

Intersection Summary		
HCM 6th Ctrl Delay		19.8
HCM 6th LOS		B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	6.2					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	191	23	54	79	25	112
Future Vol, veh/h	191	23	54	79	25	112
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	191	23	54	79	25	112

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	268	81	137	0	-	0
Stage 1	81	-	-	-	-	-
Stage 2	187	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	719	976	1441	-	-	-
Stage 1	940	-	-	-	-	-
Stage 2	843	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	691	976	1441	-	-	-
Mov Cap-2 Maneuver	691	-	-	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	843	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.2	3.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1441	-	713	-	-
HCM Lane V/C Ratio	0.037	-	0.3	-	-
HCM Control Delay (s)	7.6	0	12.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1.3	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	41	72	377	86	53	25	46	338	25	118	64
Future Volume (veh/h)	25	41	72	377	86	53	25	46	338	25	118	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1870	1856	1870	1870	1870	1856	1856	1870	1870	1856	1856
Adj Flow Rate, veh/h	25	41	72	377	86	53	25	46	338	25	118	64
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	2	3	2	2	2	3	3	2	2	3	3
Cap, veh/h	42	69	122	447	369	227	42	485	415	42	296	161
Arrive On Green	0.02	0.11	0.11	0.25	0.34	0.34	0.02	0.26	0.26	0.02	0.26	0.26
Sat Flow, veh/h	1767	609	1069	1781	1083	667	1767	1856	1585	1781	1131	614
Grp Volume(v), veh/h	25	0	113	377	0	139	25	46	338	25	0	182
Grp Sat Flow(s),veh/h/ln	1767	0	1678	1781	0	1750	1767	1856	1585	1781	0	1745
Q Serve(g_s), s	0.6	0.0	2.9	9.2	0.0	2.6	0.6	0.9	9.2	0.6	0.0	3.9
Cycle Q Clear(g_c), s	0.6	0.0	2.9	9.2	0.0	2.6	0.6	0.9	9.2	0.6	0.0	3.9
Prop In Lane	1.00		0.64	1.00		0.38	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	42	0	191	447	0	597	42	485	415	42	0	457
V/C Ratio(X)	0.59	0.00	0.59	0.84	0.00	0.23	0.59	0.09	0.82	0.59	0.00	0.40
Avail Cap(c_a), veh/h	155	0	661	545	0	1072	155	730	624	156	0	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.1	0.0	19.2	16.3	0.0	10.8	22.1	12.8	15.8	22.1	0.0	13.9
Incr Delay (d2), s/veh	12.7	0.0	2.9	9.9	0.0	0.2	12.7	0.1	5.1	12.4	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.2	4.4	0.0	0.9	0.4	0.3	3.4	0.4	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.8	0.0	22.1	26.1	0.0	11.0	34.8	12.9	20.9	34.5	0.0	14.5
LnGrp LOS	C	A	C	C	A	B	C	B	C	C	A	B
Approach Vol, veh/h		138			516			409			207	
Approach Delay, s/veh		24.4			22.1			20.9			16.9	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	16.0	15.5	9.2	5.1	16.0	5.1	19.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	18.0	14.0	18.0	4.0	18.0	4.0	28.0
Max Q Clear Time (g_c+I1), s	2.6	11.2	11.2	4.9	2.6	5.9	2.6	4.6
Green Ext Time (p_c), s	0.0	0.8	0.4	0.4	0.0	0.7	0.0	0.7

Intersection Summary			
HCM 6th Ctrl Delay			21.1
HCM 6th LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	155	279	53	268	59	101	265	34	25	483	69
Future Volume (veh/h)	94	155	279	53	268	59	101	265	34	25	483	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	94	155	279	53	268	59	101	265	34	25	483	69
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	121	415	351	194	404	89	130	859	109	166	563	477
Arrive On Green	0.07	0.22	0.22	0.11	0.27	0.27	0.07	0.27	0.27	0.09	0.30	0.30
Sat Flow, veh/h	1767	1856	1572	1767	1473	324	1767	3147	400	1767	1856	1572
Grp Volume(v), veh/h	94	155	279	53	0	327	101	147	152	25	483	69
Grp Sat Flow(s),veh/h/ln	1767	1856	1572	1767	0	1797	1767	1763	1784	1767	1856	1572
Q Serve(g_s), s	3.3	4.5	10.7	1.8	0.0	10.3	3.6	4.2	4.3	0.8	15.6	2.0
Cycle Q Clear(g_c), s	3.3	4.5	10.7	1.8	0.0	10.3	3.6	4.2	4.3	0.8	15.6	2.0
Prop In Lane	1.00		1.00	1.00		0.18	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	121	415	351	194	0	493	130	481	487	166	563	477
V/C Ratio(X)	0.78	0.37	0.79	0.27	0.00	0.66	0.78	0.31	0.31	0.15	0.86	0.14
Avail Cap(c_a), veh/h	194	655	555	194	0	660	194	705	713	166	728	617
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.2	21.0	23.4	26.0	0.0	20.5	29.0	18.4	18.4	26.5	20.9	16.2
Incr Delay (d2), s/veh	10.3	0.7	5.0	0.9	0.0	1.9	11.0	0.4	0.4	0.2	8.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	1.8	4.0	0.7	0.0	4.1	1.8	1.6	1.6	0.3	7.2	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.5	21.7	28.3	27.0	0.0	22.4	40.0	18.8	18.8	26.7	29.5	16.4
LnGrp LOS	D	C	C	C	A	C	D	B	B	C	C	B
Approach Vol, veh/h		528			380			400			577	
Approach Delay, s/veh		28.4			23.0			24.2			27.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	19.1	10.6	22.4	8.4	22.4	8.7	24.3
Change Period (Y+Rc), s	4.6	4.9	4.6	* 5	4.0	* 4.9	4.0	5.0
Max Green Setting (Gmax), s	7.0	22.5	6.0	* 26	7.0	* 23	7.0	25.0
Max Q Clear Time (g_c+I1), s	3.8	12.7	2.8	6.3	5.3	12.3	5.6	17.6
Green Ext Time (p_c), s	0.0	1.6	0.0	1.3	0.0	1.2	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	368	54	67	262	75	39	103	55	89	155	225
Future Volume (veh/h)	190	368	54	67	262	75	39	103	55	89	155	225
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1870	1900	1900	1870	1900	1841	1826	1900	1900	1826	1826
Adj Flow Rate, veh/h	190	368	54	67	262	75	39	103	55	89	155	225
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	7	2	0	0	2	0	4	5	0	0	5	5
Cap, veh/h	235	448	66	169	332	95	129	185	99	196	365	309
Arrive On Green	0.14	0.28	0.28	0.09	0.24	0.24	0.07	0.16	0.16	0.11	0.20	0.20
Sat Flow, veh/h	1711	1594	234	1810	1398	400	1753	1120	598	1810	1826	1547
Grp Volume(v), veh/h	190	0	422	67	0	337	39	0	158	89	155	225
Grp Sat Flow(s),veh/h/ln	1711	0	1828	1810	0	1798	1753	0	1718	1810	1826	1547
Q Serve(g_s), s	5.9	0.0	11.8	1.9	0.0	9.6	1.1	0.0	4.6	2.5	4.1	7.4
Cycle Q Clear(g_c), s	5.9	0.0	11.8	1.9	0.0	9.6	1.1	0.0	4.6	2.5	4.1	7.4
Prop In Lane	1.00		0.13	1.00		0.22	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	235	0	514	169	0	427	129	0	283	196	365	309
V/C Ratio(X)	0.81	0.00	0.82	0.40	0.00	0.79	0.30	0.00	0.56	0.45	0.42	0.73
Avail Cap(c_a), veh/h	295	0	1096	269	0	1035	289	0	932	345	1037	879
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.8	0.0	18.3	23.3	0.0	19.5	23.9	0.0	21.0	22.8	19.1	20.4
Incr Delay (d2), s/veh	10.0	0.0	3.3	0.6	0.0	3.3	0.5	0.0	1.7	0.6	0.8	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	4.6	0.7	0.0	3.8	0.4	0.0	1.8	1.0	1.6	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.9	0.0	21.7	23.8	0.0	22.8	24.4	0.0	22.7	23.4	19.9	23.7
LnGrp LOS	C	A	C	C	A	C	C	A	C	C	B	C
Approach Vol, veh/h		612			404			197			469	
Approach Delay, s/veh		25.1			23.0			23.0			22.4	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	20.3	8.6	15.9	12.1	18.0	10.5	14.0
Change Period (Y+Rc), s	4.6	5.0	4.6	5.0	4.6	5.0	4.6	5.0
Max Green Setting (Gmax), s	8.1	32.7	9.0	31.0	9.4	31.4	10.4	29.6
Max Q Clear Time (g_c+I1), s	3.9	13.8	3.1	9.4	7.9	11.6	4.5	6.6
Green Ext Time (p_c), s	0.0	1.6	0.0	1.5	0.1	1.2	0.1	0.5

Intersection Summary		
HCM 6th Ctrl Delay		23.6
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	748	20	20	359	52	20	20	20	125	20	25
Future Volume (veh/h)	25	748	20	20	359	52	20	20	20	125	20	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	748	20	20	359	52	20	20	20	125	20	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	925	413	30	506	226	30	407	407	156	412	515
Arrive On Green	0.13	0.26	0.26	0.01	0.05	0.05	0.02	0.47	0.47	0.09	0.55	0.55
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	858	858	1781	756	945
Grp Volume(v), veh/h	25	748	20	20	359	52	20	0	40	125	0	45
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1716	1781	0	1700
Q Serve(g_s), s	1.2	19.7	0.9	1.1	10.0	2.5	1.1	0.0	1.3	6.9	0.0	1.2
Cycle Q Clear(g_c), s	1.2	19.7	0.9	1.1	10.0	2.5	1.1	0.0	1.3	6.9	0.0	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		0.56
Lane Grp Cap(c), veh/h	240	925	413	30	506	226	30	0	815	156	0	928
V/C Ratio(X)	0.10	0.81	0.05	0.66	0.71	0.23	0.66	0.00	0.05	0.80	0.00	0.05
Avail Cap(c_a), veh/h	240	1350	602	125	1350	602	125	0	815	303	0	928
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.74	0.95	0.95	0.95	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.9	34.6	27.7	49.4	45.6	27.4	48.9	0.0	14.1	44.7	0.0	10.6
Incr Delay (d2), s/veh	0.1	1.8	0.0	20.7	1.8	0.5	21.6	0.0	0.1	9.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	8.3	0.3	0.7	4.7	1.2	0.7	0.0	0.5	3.4	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.1	36.4	27.7	70.1	47.4	27.9	70.5	0.0	14.2	53.8	0.0	10.7
LnGrp LOS	D	D	C	E	D	C	E	A	B	D	A	B
Approach Vol, veh/h		793			431			60			170	
Approach Delay, s/veh		36.3			46.1			33.0			42.4	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	51.5	5.7	30.0	5.7	58.5	17.5	18.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	17.0	22.0	7.0	38.0	7.0	32.0	7.0	38.0
Max Q Clear Time (g_c+I1), s	8.9	3.3	3.1	21.7	3.1	3.2	3.2	12.0
Green Ext Time (p_c), s	0.2	0.1	0.0	4.3	0.0	0.2	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	39.7
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	68	69	20	123	20	25	484	20	20	256	125
Future Volume (veh/h)	270	68	69	20	123	20	25	484	20	20	256	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1678	1678	1678	1678	1870	1678	1870	1678	1870	1870	1870
Adj Flow Rate, veh/h	270	68	69	20	123	20	25	484	20	20	256	125
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	15	15	15	15	2	15	2	15	2	2	2
Cap, veh/h	327	1096	489	76	573	91	312	739	296	34	1053	470
Arrive On Green	0.18	0.34	0.34	0.05	0.21	0.21	0.21	0.21	0.21	0.02	0.30	0.30
Sat Flow, veh/h	1781	3188	1422	1598	2754	439	899	3554	1422	1781	3554	1585
Grp Volume(v), veh/h	270	68	69	20	70	73	25	484	20	20	256	125
Grp Sat Flow(s),veh/h/ln	1781	1594	1422	1598	1594	1599	899	1777	1422	1781	1777	1585
Q Serve(g_s), s	8.4	0.8	1.9	0.7	2.1	2.2	1.3	7.2	0.7	0.6	3.2	3.5
Cycle Q Clear(g_c), s	8.4	0.8	1.9	0.7	2.1	2.2	1.3	7.2	0.7	0.6	3.2	3.5
Prop In Lane	1.00		1.00	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	327	1096	489	76	332	333	312	739	296	34	1053	470
V/C Ratio(X)	0.83	0.06	0.14	0.26	0.21	0.22	0.08	0.65	0.07	0.59	0.24	0.27
Avail Cap(c_a), veh/h	772	1824	813	277	497	499	686	2218	887	124	2834	1264
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.7	12.7	13.0	26.5	18.9	19.0	18.6	20.9	18.3	28.1	15.4	15.5
Incr Delay (d2), s/veh	2.0	0.0	0.0	1.8	0.1	0.1	0.0	0.4	0.0	15.3	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.2	0.5	0.3	0.7	0.7	0.2	2.7	0.2	0.4	1.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.7	12.7	13.1	28.3	19.0	19.1	18.6	21.3	18.4	43.4	15.5	15.8
LnGrp LOS	C	B	B	C	B	B	B	C	B	D	B	B
Approach Vol, veh/h		407			163			529			401	
Approach Delay, s/veh		20.7			20.2			21.1			17.0	
Approach LOS		C			C			C			B	
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	25.8		23.1	16.6	18.0	5.1	18.0				
Change Period (Y+Rc), s	6.0	6.0		* 6	6.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	10.0	33.0		* 46	25.0	18.0	4.0	36.0				
Max Q Clear Time (g_c+I1), s	2.7	3.9		5.5	10.4	4.2	2.6	9.2				
Green Ext Time (p_c), s	0.0	0.3		2.0	0.3	0.2	0.0	1.2				
Intersection Summary												
HCM 6th Ctrl Delay			19.8									
HCM 6th LOS			B									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	276	621	107	363	297	213	44	229	408	186	132	196
Future Volume (veh/h)	276	621	107	363	297	213	44	229	408	186	132	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678
Adj Flow Rate, veh/h	276	621	107	363	297	213	44	229	408	186	132	196
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	15	15	15	15	15	15	15	15	15	15	15	15
Cap, veh/h	398	615	274	359	575	256	52	861	384	221	1198	534
Arrive On Green	0.13	0.19	0.19	0.12	0.18	0.18	0.03	0.27	0.27	0.14	0.38	0.38
Sat Flow, veh/h	3100	3188	1422	3100	3188	1422	1598	3188	1422	1598	3188	1422
Grp Volume(v), veh/h	276	621	107	363	297	213	44	229	408	186	132	196
Grp Sat Flow(s),veh/h/ln	1550	1594	1422	1550	1594	1422	1598	1594	1422	1598	1594	1422
Q Serve(g_s), s	6.6	15.0	5.1	9.0	6.5	11.2	2.1	4.4	21.0	8.8	2.1	7.8
Cycle Q Clear(g_c), s	6.6	15.0	5.1	9.0	6.5	11.2	2.1	4.4	21.0	8.8	2.1	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	398	615	274	359	575	256	52	861	384	221	1198	534
V/C Ratio(X)	0.69	1.01	0.39	1.01	0.52	0.83	0.85	0.27	1.06	0.84	0.11	0.37
Avail Cap(c_a), veh/h	399	615	274	359	575	256	82	861	384	267	1230	548
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	31.4	27.4	34.4	28.8	30.7	37.4	22.3	28.4	32.7	15.8	17.6
Incr Delay (d2), s/veh	6.6	38.8	1.9	50.5	1.6	21.9	34.3	0.6	63.5	18.0	0.1	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	8.6	1.7	5.6	2.4	5.1	1.3	1.6	13.2	4.4	0.7	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.0	70.2	29.3	84.9	30.4	52.6	71.8	22.9	91.9	50.7	15.9	19.1
LnGrp LOS	D	F	C	F	C	D	E	C	F	D	B	B
Approach Vol, veh/h		1004			873			681			514	
Approach Delay, s/veh		57.3			58.5			67.4			29.7	
Approach LOS		E			E			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	21.0	6.5	35.2	16.0	20.0	14.8	27.0
Change Period (Y+Rc), s	6.0	6.0	4.0	6.0	6.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	9.0	15.0	4.0	30.0	10.0	14.0	13.0	21.0
Max Q Clear Time (g_c+I1), s	11.0	17.0	4.1	9.8	8.6	13.2	10.8	23.0
Green Ext Time (p_c), s	0.0	0.0	0.0	3.6	0.3	0.3	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	55.2
HCM 6th LOS	E

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	142	66	169	807	595	200
Future Volume (veh/h)	142	66	169	807	595	200
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	142	66	169	807	595	200
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	239	213	218	2041	1103	492
Arrive On Green	0.14	0.14	0.12	0.58	0.31	0.31
Sat Flow, veh/h	1767	1572	1767	3618	3618	1572
Grp Volume(v), veh/h	142	66	169	807	595	200
Grp Sat Flow(s),veh/h/ln	1767	1572	1767	1763	1763	1572
Q Serve(g_s), s	2.1	1.1	2.6	3.5	3.9	2.8
Cycle Q Clear(g_c), s	2.1	1.1	2.6	3.5	3.9	2.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	239	213	218	2041	1103	492
V/C Ratio(X)	0.59	0.31	0.78	0.40	0.54	0.41
Avail Cap(c_a), veh/h	1136	1011	442	3652	2267	1011
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.4	10.9	11.9	3.2	7.9	7.6
Incr Delay (d2), s/veh	2.4	0.8	5.9	0.1	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.0	1.0	0.0	0.7	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.7	11.7	17.8	3.3	8.4	8.1
LnGrp LOS	B	B	B	A	A	A
Approach Vol, veh/h	208			976	795	
Approach Delay, s/veh	13.1			5.8	8.3	
Approach LOS	B			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		20.2		7.8	7.4	12.8
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		29.0		18.0	7.0	18.0
Max Q Clear Time (g_c+I1), s		5.5		4.1	4.6	5.9
Green Ext Time (p_c), s		3.7		0.6	0.1	2.9

Intersection Summary			
HCM 6th Ctrl Delay			7.6
HCM 6th LOS			A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	287	25	119	33	20	131	73	178	25	25	226	183
Future Volume (veh/h)	287	25	119	33	20	131	73	178	25	25	226	183
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1781	1856	1856	1781	1856
Adj Flow Rate, veh/h	287	25	119	33	20	0	73	178	25	25	226	183
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	3	3	3	3	8	3	3	8	3
Cap, veh/h	796	85	404	491	229		551	469	66	604	547	483
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.00	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1381	280	1335	681	758	1572	969	1528	215	1170	1781	1572
Grp Volume(v), veh/h	287	0	144	53	0	0	73	0	203	25	226	183
Grp Sat Flow(s),veh/h/ln	1381	0	1615	1439	0	1572	969	0	1743	1170	1781	1572
Q Serve(g_s), s	1.8	0.0	1.4	0.0	0.0	0.0	1.3	0.0	1.9	0.4	2.1	1.9
Cycle Q Clear(g_c), s	3.3	0.0	1.4	1.4	0.0	0.0	3.4	0.0	1.9	2.2	2.1	1.9
Prop In Lane	1.00		0.83	0.62		1.00	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	796	0	489	721	0		551	0	535	604	547	483
V/C Ratio(X)	0.36	0.00	0.29	0.07	0.00		0.13	0.00	0.38	0.04	0.41	0.38
Avail Cap(c_a), veh/h	1590	0	1418	1533	0		1151	0	1615	1328	1651	1457
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.0	0.0	5.5	5.1	0.0	0.0	7.0	0.0	5.6	6.4	5.6	5.6
Incr Delay (d2), s/veh	0.3	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.4	0.0	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.2	0.0	0.2	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.3	0.0	5.8	5.2	0.0	0.0	7.1	0.0	6.0	6.5	6.1	6.1
LnGrp LOS	A	A	A	A	A		A	A	A	A	A	A
Approach Vol, veh/h		431			53	A		276			434	
Approach Delay, s/veh		6.1			5.2			6.3			6.1	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		10.3		10.2		10.3		10.2				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		19.0		18.0		19.0		18.0				
Max Q Clear Time (g_c+I1), s		5.4		5.3		4.2		3.4				
Green Ext Time (p_c), s		0.9		1.4		1.5		0.1				

Intersection Summary			
HCM 6th Ctrl Delay			6.1
HCM 6th LOS			A

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	69	206	241	25	20	75	834	663	20	246	25
Future Volume (veh/h)	68	69	206	241	25	20	75	834	663	20	246	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1870	1856	1870	1870	1870	1856	1856	1870	1870	1856	1856
Adj Flow Rate, veh/h	68	69	206	241	25	20	75	834	663	20	246	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	2	3	2	2	2	3	3	2	2	3	3
Cap, veh/h	805	79	234	317	45	36	842	1909	1510	30	415	129
Arrive On Green	0.23	0.19	0.19	0.09	0.05	0.05	0.95	1.00	1.00	0.02	0.08	0.08
Sat Flow, veh/h	3428	414	1235	3456	962	770	1767	3526	2790	1781	5066	1572
Grp Volume(v), veh/h	68	0	275	241	0	45	75	834	663	20	246	25
Grp Sat Flow(s),veh/h/ln	1714	0	1648	1728	0	1732	1767	1763	1395	1781	1689	1572
Q Serve(g_s), s	1.5	0.0	16.2	6.8	0.0	2.5	0.2	0.0	0.0	1.1	4.7	1.5
Cycle Q Clear(g_c), s	1.5	0.0	16.2	6.8	0.0	2.5	0.2	0.0	0.0	1.1	4.7	1.5
Prop In Lane	1.00		0.75	1.00		0.44	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	805	0	313	317	0	81	842	1909	1510	30	415	129
V/C Ratio(X)	0.08	0.00	0.88	0.76	0.00	0.56	0.09	0.44	0.44	0.66	0.59	0.19
Avail Cap(c_a), veh/h	805	0	396	484	0	346	842	1909	1510	89	1824	566
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.9	0.0	39.4	44.4	0.0	46.7	1.2	0.0	0.0	48.9	44.3	42.8
Incr Delay (d2), s/veh	0.0	0.0	16.7	3.8	0.0	5.9	0.0	0.7	0.9	21.6	6.1	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	7.9	3.1	0.0	1.2	0.1	0.2	0.2	0.7	2.1	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.9	0.0	56.1	48.1	0.0	52.5	1.3	0.7	0.9	70.5	50.4	46.1
LnGrp LOS	C	A	E	D	A	D	A	A	A	E	D	D
Approach Vol, veh/h		343			286			1572			291	
Approach Delay, s/veh		50.9			48.8			0.8			51.4	
Approach LOS		D			D			A			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	58.1	13.2	23.0	51.7	12.2	27.5	8.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	41.0	14.0	24.0	10.0	36.0	18.0	20.0
Max Q Clear Time (g_c+I1), s	3.1	2.0	8.8	18.2	2.2	6.7	3.5	4.5
Green Ext Time (p_c), s	0.0	10.0	0.4	0.8	0.1	1.5	0.1	0.1

Intersection Summary	
HCM 6th Ctrl Delay	19.1
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	329	0	76	22	1460	20	0	302	391
Future Volume (veh/h)	0	0	0	329	0	76	22	1460	20	0	302	391
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				329	0	76	22	1460	20	0	302	391
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	2	2	2	2	2	0	2	2
Cap, veh/h				498	0	148	68	4031	1311	0	2939	2307
Arrive On Green				0.09	0.00	0.09	1.00	1.00	1.00	0.00	1.00	1.00
Sat Flow, veh/h				5344	0	1585	37	4875	1585	0	3647	2790
Grp Volume(v), veh/h				329	0	76	548	934	20	0	302	391
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1815	1549	1585	0	1777	1395
Q Serve(g_s), s				5.9	0.0	4.6	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s				5.9	0.0	4.6	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane				1.00		1.00	0.04		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				498	0	148	1538	2561	1311	0	2939	2307
V/C Ratio(X)				0.66	0.00	0.51	0.36	0.36	0.02	0.00	0.10	0.17
Avail Cap(c_a), veh/h				1336	0	396	1538	2561	1311	0	2939	2307
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.67	1.67
Upstream Filter(I)				1.00	0.00	1.00	0.90	0.90	0.90	0.00	0.95	0.95
Uniform Delay (d), s/veh				43.8	0.0	43.2	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh				1.5	0.0	2.8	0.6	0.4	0.0	0.0	0.1	0.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.7	0.0	1.9	0.2	0.1	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				45.3	0.0	46.0	0.6	0.4	0.0	0.0	0.1	0.2
LnGrp LOS				D	A	D	A	A	A	A	A	A
Approach Vol, veh/h					405			1502			693	
Approach Delay, s/veh					45.4			0.4			0.1	
Approach LOS					D			A			A	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		86.7				86.7		13.3				
Change Period (Y+Rc), s		4.0				4.0		4.0				
Max Green Setting (Gmax), s		67.0				67.0		25.0				
Max Q Clear Time (g_c+I1), s		2.0				2.0		7.9				
Green Ext Time (p_c), s		13.1				3.7		1.4				
Intersection Summary												
HCM 6th Ctrl Delay			7.4									
HCM 6th LOS			A									

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1305	0	106	0	0	0	0	171	867	185	445	0
Future Volume (veh/h)	1305	0	106	0	0	0	0	171	867	185	445	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	1305	0	106				0	171	867	185	445	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	1610	0	955				0	2316	1265	223	3159	0
Arrive On Green	0.30	0.00	0.30				0.00	0.45	0.45	0.04	0.20	0.00
Sat Flow, veh/h	5344	0	3170				0	5274	2790	1781	5274	0
Grp Volume(v), veh/h	1305	0	106				0	171	867	185	445	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1395	1781	1702	0
Q Serve(g_s), s	22.6	0.0	2.4				0.0	1.9	24.6	10.3	7.1	0.0
Cycle Q Clear(g_c), s	22.6	0.0	2.4				0.0	1.9	24.6	10.3	7.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1610	0	955				0	2316	1265	223	3159	0
V/C Ratio(X)	0.81	0.00	0.11				0.00	0.07	0.69	0.83	0.14	0.00
Avail Cap(c_a), veh/h	2138	0	1268				0	2316	1265	356	3159	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.85	0.85	0.97	0.97	0.00
Uniform Delay (d), s/veh	32.3	0.0	25.3				0.0	15.4	21.7	46.9	18.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.1				0.0	0.1	2.6	8.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	0.0	0.9				0.0	0.7	7.6	5.3	2.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.1	0.0	25.3				0.0	15.5	24.2	55.4	18.1	0.0
LnGrp LOS	C	A	C				A	B	C	E	B	A
Approach Vol, veh/h		1411						1038			630	
Approach Delay, s/veh		33.5						22.8			29.0	
Approach LOS		C						C			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	16.5	49.4		34.1		65.9
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	20.0	28.0		40.0		52.0
Max Q Clear Time (g_c+I1), s	12.3	26.6		24.6		9.1
Green Ext Time (p_c), s	0.3	0.7		5.5		3.1

Intersection Summary		
HCM 6th Ctrl Delay		29.0
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	747	58	122	535	25	174
Future Volume (veh/h)	747	58	122	535	25	174
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	747	58	122	535	25	174
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1232	94	189	1347	1169	2371
Arrive On Green	0.17	0.17	0.11	0.53	0.66	0.66
Sat Flow, veh/h	7632	554	3456	5274	1781	3614
Grp Volume(v), veh/h	620	185	122	535	25	174
Grp Sat Flow(s),veh/h/ln	1515	1771	1728	1702	1781	1205
Q Serve(g_s), s	9.5	9.7	3.4	6.3	0.5	1.7
Cycle Q Clear(g_c), s	9.5	9.7	3.4	6.3	0.5	1.7
Prop In Lane		0.31	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1026	300	189	1347	1169	2371
V/C Ratio(X)	0.60	0.62	0.65	0.40	0.02	0.07
Avail Cap(c_a), veh/h	2303	673	657	3115	1169	2371
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.60	0.60	0.99	0.99	0.90	0.90
Uniform Delay (d), s/veh	38.4	38.5	43.6	18.9	6.0	6.2
Incr Delay (d2), s/veh	0.3	1.3	3.7	0.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	4.1	1.4	2.1	0.2	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.8	39.8	47.3	19.1	6.0	6.3
LnGrp LOS	D	D	D	B	A	A
Approach Vol, veh/h	805			657	199	
Approach Delay, s/veh	39.0			24.3	6.2	
Approach LOS	D			C	A	

Timer - Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		69.6	9.5	20.9				30.4
Change Period (Y+Rc), s		4.0	4.0	4.0				4.0
Max Green Setting (Gmax), s		31.0	19.0	38.0				61.0
Max Q Clear Time (g_c+I1), s		3.7	5.4	11.7				8.3
Green Ext Time (p_c), s		0.7	0.3	5.2				3.7

Intersection Summary			
HCM 6th Ctrl Delay			29.3
HCM 6th LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	523	20	121	372	105	26	21	230	284	25	25
Future Volume (veh/h)	24	523	20	121	372	105	26	21	230	284	25	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678	1678
Adj Flow Rate, veh/h	24	523	20	121	372	105	26	21	230	284	25	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	15	15	15	15	15	15	15	15	15	15	15	15
Cap, veh/h	34	688	307	144	907	405	37	25	270	325	646	547
Arrive On Green	0.02	0.22	0.22	0.09	0.28	0.28	0.02	0.20	0.20	0.20	0.38	0.38
Sat Flow, veh/h	1598	3188	1422	1598	3188	1422	1598	120	1320	1598	1678	1422
Grp Volume(v), veh/h	24	523	20	121	372	105	26	0	251	284	25	25
Grp Sat Flow(s),veh/h/ln	1598	1594	1422	1598	1594	1422	1598	0	1440	1598	1678	1422
Q Serve(g_s), s	1.0	10.2	0.7	5.0	6.3	3.8	1.1	0.0	11.2	11.4	0.6	0.7
Cycle Q Clear(g_c), s	1.0	10.2	0.7	5.0	6.3	3.8	1.1	0.0	11.2	11.4	0.6	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.92	1.00		1.00
Lane Grp Cap(c), veh/h	34	688	307	144	907	405	37	0	294	325	646	547
V/C Ratio(X)	0.70	0.76	0.07	0.84	0.41	0.26	0.71	0.00	0.85	0.87	0.04	0.05
Avail Cap(c_a), veh/h	144	1775	792	144	1775	792	144	0	390	361	682	578
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.3	24.4	20.7	29.7	19.2	18.4	32.2	0.0	25.5	25.6	12.8	12.8
Incr Delay (d2), s/veh	22.3	0.7	0.0	33.2	0.1	0.1	22.1	0.0	10.5	19.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.5	0.2	3.1	2.0	1.1	0.6	0.0	4.4	5.6	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.6	25.1	20.8	62.9	19.4	18.5	54.4	0.0	35.9	44.8	12.8	12.8
LnGrp LOS	D	C	C	E	B	B	D	A	D	D	B	B
Approach Vol, veh/h		567			598			277			334	
Approach Delay, s/veh		26.2			28.0			37.7			40.0	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	20.3	17.5	18.6	5.4	24.9	5.5	30.6
Change Period (Y+Rc), s	4.0	6.0	4.0	5.0	4.0	6.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	37.0	15.0	18.0	6.0	37.0	6.0	27.0
Max Q Clear Time (g_c+I1), s	7.0	12.2	13.4	13.2	3.0	8.3	3.1	2.7
Green Ext Time (p_c), s	0.0	2.1	0.1	0.4	0.0	1.6	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	31.2
HCM 6th LOS	C

LANE SUMMARY

Site: 101 [Intersection 107 - Grant Line/Kasson & Eleventh_AM]

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Eleventh St													
Lane 1[d]	750	3.0	1092	0.687	100	13.6	LOS B	9.9	253.0	Full	1600	0.0	0.0
Lane 2	285	3.0	1092	0.261	38[6]	5.8	LOS A	1.2	30.4	Full	1600	0.0	0.0
Lane 3	28	3.0	1626	0.017	3[5]	0.0	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1063	3.0		0.687		11.2	LOS B	9.9	253.0				
East: Kasson Rd													
Lane 1[d]	268	3.0	509	0.528	100	17.4	LOS C	2.7	68.4	Full	1600	0.0	0.0
Approach	268	3.0		0.528		17.4	LOS C	2.7	68.4				
North: Eleventh St													
Lane 1	829	3.0	955	0.868	100	26.9	LOS D	21.6	552.8	Full	1600	0.0	0.0
Lane 2[d]	829	3.0	955	0.868	100	26.9	LOS D	21.6	552.8	Full	1600	0.0	0.0
Approach	1658	3.0		0.868		26.9	LOS D	21.6	552.8				
West: W. Grant Line Rd													
Lane 1[d]	261	3.0	514	0.508	100	16.5	LOS C	2.5	64.2	Full	1600	0.0	0.0
Approach	261	3.0		0.508		16.5	LOS C	2.5	64.2				
Intersection	3250	3.0		0.868		20.1	LOS C	21.6	552.8				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

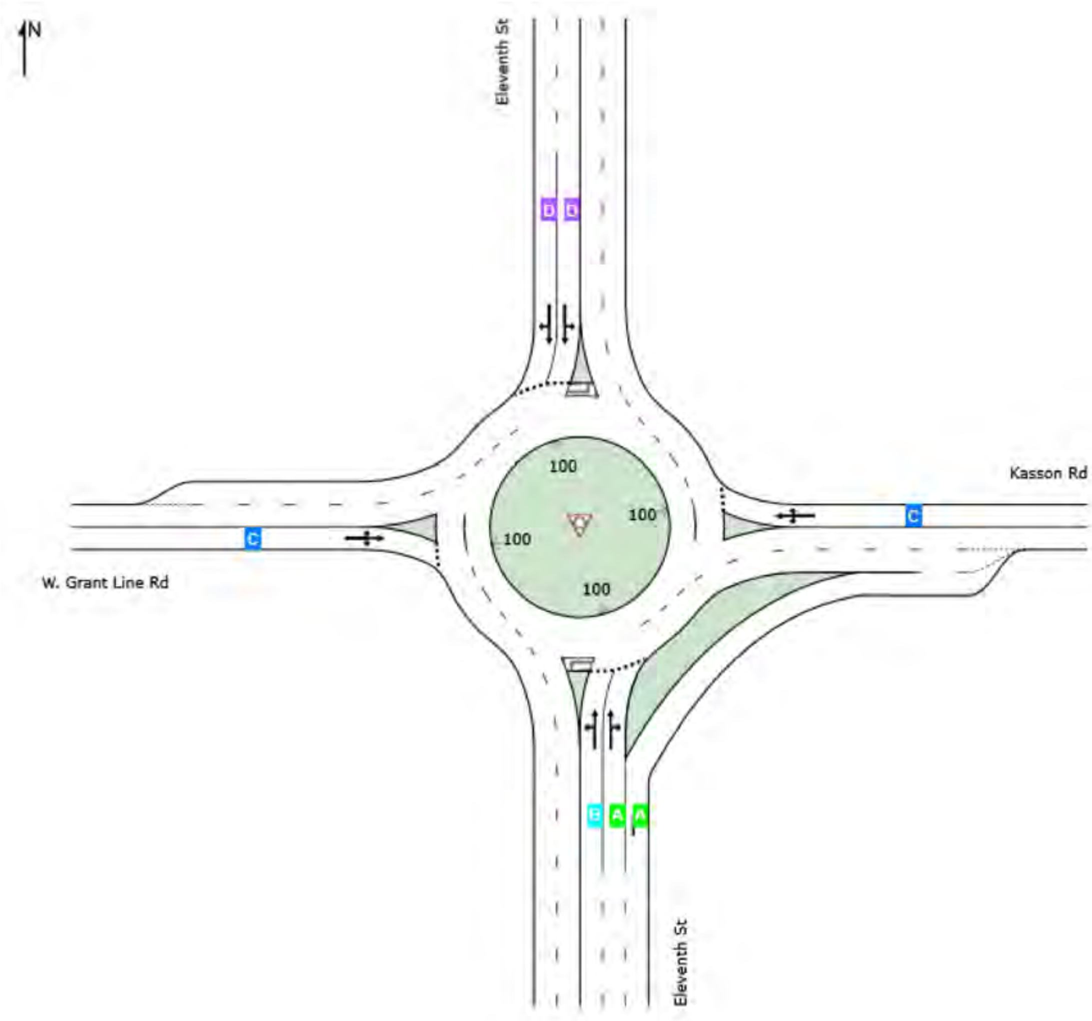
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 101 [Intersection 107 - Grant Line/Kasson & Eleventh_AM]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	B	C	D	C	C



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 101 [Intersection 107 - Grant Line/Kasson & Eleventh_AM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Eleventh St												
3	L2	124	3.0	0.687	13.6	LOS B	9.9	253.0	0.71	0.76	1.09	30.9
8	T1	911	3.0	0.687	11.2	LOS B	9.9	253.0	0.62	0.61	0.88	31.9
18	R2	28	3.0	0.017	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	37.1
Approach		1063	3.0	0.687	11.2	LOS B	9.9	253.0	0.61	0.61	0.88	31.9
East: Kasson Rd												
1	L2	66	3.0	0.528	17.4	LOS C	2.7	68.4	0.78	0.92	1.27	29.2
6	T1	201	3.0	0.528	17.4	LOS C	2.7	68.4	0.78	0.92	1.27	29.1
16	R2	1	3.0	0.528	17.4	LOS C	2.7	68.4	0.78	0.92	1.27	28.4
Approach		268	3.0	0.528	17.4	LOS C	2.7	68.4	0.78	0.92	1.27	29.2
North: Eleventh St												
7	L2	1	3.0	0.868	26.9	LOS D	21.6	552.8	1.00	1.59	2.51	26.4
4	T1	1060	3.0	0.868	26.9	LOS D	21.6	552.8	1.00	1.59	2.51	26.3
14	R2	597	3.0	0.868	26.9	LOS D	21.6	552.8	1.00	1.59	2.51	25.6
Approach		1658	3.0	0.868	26.9	LOS D	21.6	552.8	1.00	1.59	2.51	26.1
West: W. Grant Line Rd												
5	L2	104	3.0	0.508	16.5	LOS C	2.5	64.2	0.77	0.90	1.22	29.2
2	T1	143	3.0	0.508	16.5	LOS C	2.5	64.2	0.77	0.90	1.22	29.1
12	R2	13	3.0	0.508	16.5	LOS C	2.5	64.2	0.77	0.90	1.22	28.4
Approach		261	3.0	0.508	16.5	LOS C	2.5	64.2	0.77	0.90	1.22	29.1
All Vehicles		3250	3.0	0.868	20.1	LOS C	21.6	552.8	0.84	1.16	1.77	28.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

LANE SUMMARY

Site: 101 [Intersection 107 - Grant Line/Kasson & Eleventh_PM]

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	Demand Flows HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	95% Back of Queue Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Eleventh St													
Lane 1[d]	920	3.0	864	1.065	100	70.8	LOS F	48.8	1249.7	Full	1600	0.0	0.0
Lane 2	350	3.0	864	0.405	38[6]	9.0	LOS A	2.1	53.2	Full	1600	0.0	0.0
Lane 3	132	3.0	1626	0.081	8[5]	0.0	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1401	3.0		1.065		48.7	LOS E	48.8	1249.7				
East: Kasson Rd													
Lane 1[d]	143	3.0	358	0.400	100	18.6	LOS C	1.5	39.3	Full	1600	0.0	0.0
Approach	143	3.0		0.400		18.6	LOS C	1.5	39.3				
North: Eleventh St													
Lane 1	711	3.0	1102	0.646	100	12.3	LOS B	7.6	194.4	Full	1600	0.0	0.0
Lane 2[d]	711	3.0	1102	0.646	100	12.3	LOS B	7.6	194.4	Full	1600	0.0	0.0
Approach	1423	3.0		0.646		12.3	LOS B	7.6	194.4				
West: W. Grant Line Rd													
Lane 1[d]	971	3.0	573	1.695	100	338.5	LOS F	136.9	3504.9	Full	1600	0.0	38.4
Approach	971	3.0		1.695		338.5	LOS F	136.9	3504.9				
Intersection	3938	3.0		1.695		105.9	LOS F	136.9	3504.9				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

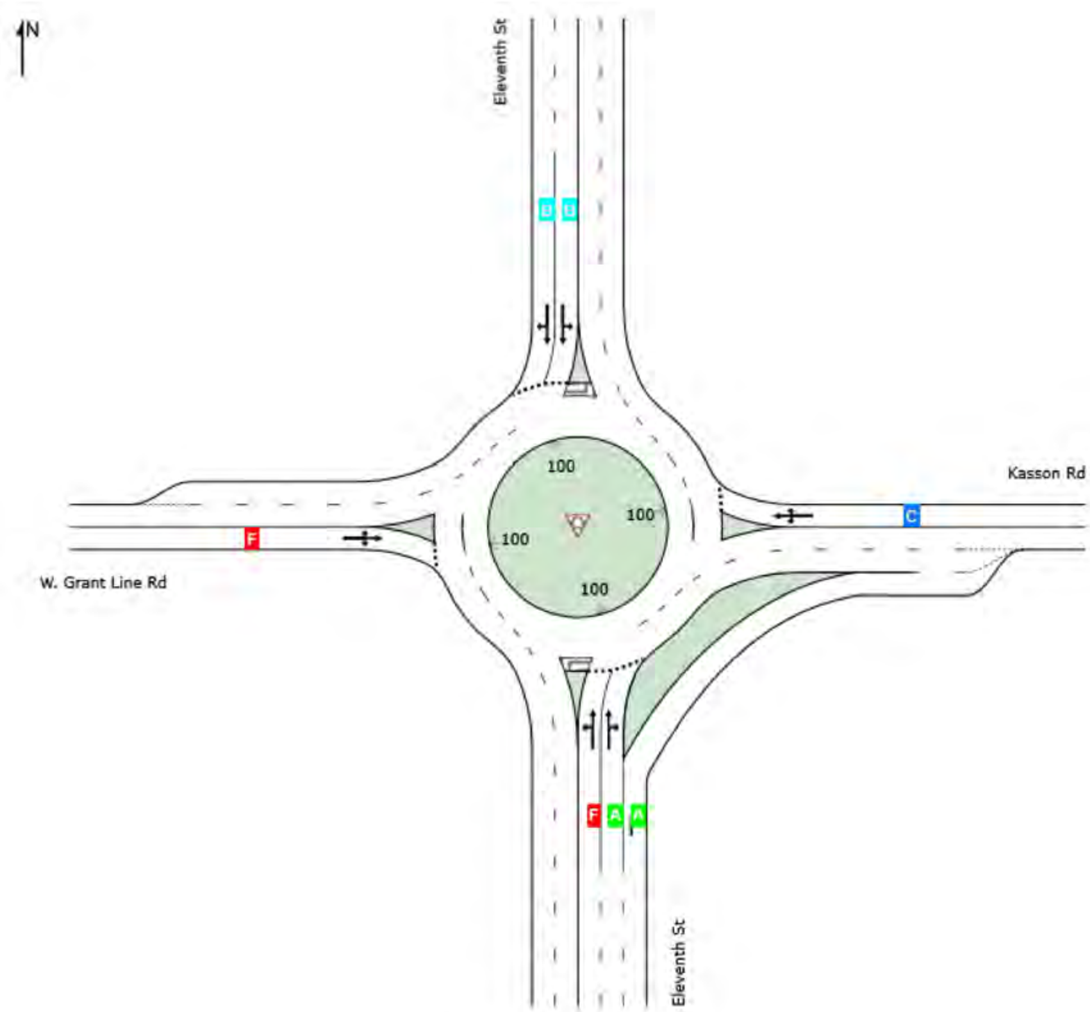
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 101 [Intersection 107 - Grant Line/Kasson & Eleventh_PM]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	E	C	B	F	F



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 101 [Intersection 107 - Grant Line/Kasson & Eleventh_PM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Eleventh St												
3	L2	105	3.0	1.065	70.8	LOS F	48.8	1249.7	1.00	2.66	5.41	17.5
8	T1	1164	3.0	1.065	52.2	LOS F	48.8	1249.7	0.89	2.05	3.99	20.3
18	R2	132	3.0	0.081	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	37.1
Approach		1401	3.0	1.065	48.7	LOS E	48.8	1249.7	0.81	1.91	3.72	20.9
East: Kasson Rd												
1	L2	29	3.0	0.400	18.6	LOS C	1.5	39.3	0.83	0.91	1.15	28.8
6	T1	113	3.0	0.400	18.6	LOS C	1.5	39.3	0.83	0.91	1.15	28.8
16	R2	1	3.0	0.400	18.6	LOS C	1.5	39.3	0.83	0.91	1.15	28.0
Approach		143	3.0	0.400	18.6	LOS C	1.5	39.3	0.83	0.91	1.15	28.8
North: Eleventh St												
7	L2	1	3.0	0.646	12.3	LOS B	7.6	194.4	0.66	0.64	0.90	31.8
4	T1	973	3.0	0.646	12.3	LOS B	7.6	194.4	0.66	0.64	0.90	31.7
14	R2	449	3.0	0.646	12.3	LOS B	7.6	194.4	0.66	0.64	0.90	30.7
Approach		1423	3.0	0.646	12.3	LOS B	7.6	194.4	0.66	0.64	0.90	31.4
West: W. Grant Line Rd												
5	L2	577	3.0	1.695	338.5	LOS F	136.9	3504.9	1.00	5.94	17.66	5.8
2	T1	259	3.0	1.695	338.5	LOS F	136.9	3504.9	1.00	5.94	17.66	5.7
12	R2	135	3.0	1.695	338.5	LOS F	136.9	3504.9	1.00	5.94	17.66	5.7
Approach		971	3.0	1.695	338.5	LOS F	136.9	3504.9	1.00	5.94	17.66	5.7
All Vehicles		3938	3.0	1.695	105.9	LOS F	136.9	3504.9	0.80	2.41	6.05	13.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

LANE SUMMARY

Site: 101 [AM Peak Hour (Site Folder: General)]

Int 12 Promontory Pkwy and Pavillion Pkwy
Site Category: (None)
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total	HV]	Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% BACK OF QUEUE [Veh	Dist]	Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	veh/h	%	veh/h	v/c	%	sec			ft		ft	%	%
South: Pavillion Pkwy													
Lane 1[d]	129	3.0	924	0.140	100	5.2	LOS A	0.5	14.0	Full	1600	0.0	0.0
Lane 2	35	3.0	924	0.038	27[5]	4.2	LOS A	0.1	3.5	Short	200	0.0	NA
Approach	164	3.0		0.140		5.0	LOS A	0.5	14.0				
East: Promontory Pkwy													
Lane 1[d]	812	3.0	999	0.812	100	21.1	LOS C	19.6	501.2	Full	1600	0.0	0.0
Approach	812	3.0		0.812		21.1	LOS C	19.6	501.2				
North: Pavillion Pkwy													
Lane 1[d]	411	3.0	644	0.638	100	18.1	LOS C	4.8	122.0	Full	1600	0.0	0.0
Lane 2	341	3.0	1626	0.210	33[5]	0.1	LOS A	0.0	0.0	Short	200	0.0	NA
Approach	752	3.0		0.638		9.9	LOS A	4.8	122.0				
West: Promontory Pkwy													
Lane 1[d]	432	3.0	630	0.686	100	20.7	LOS C	6.1	155.4	Full	1600	0.0	0.0
Approach	432	3.0		0.686		20.7	LOS C	6.1	155.4				
Intersection	2160	3.0		0.812		15.9	LOS C	19.6	501.2				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Pavillion Pkwy

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	25	104	-	129	3.0	924	0.140	100	NA	NA
Lane 2	-	-	35	35	3.0	924	0.038	27[5]	0.0	1
Approach	25	104	35	164	3.0		0.140			

East: Promontory Pkwy

Mov. From E	L2	T1	R2	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane

To Exit:	S	W	N			veh/h	v/c	%	%	No.
Lane 1	307	480	25	812	3.0	999	0.812	100	NA	NA
Approach	307	480	25	812	3.0		0.812			

North: Pavillion Pkwy

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	20	391	-	411	3.0	644	0.638	100	NA	NA
Lane 2	-	-	341	341	3.0	1626	0.210	33 [5]	0.0	1
Approach	20	391	341	752	3.0		0.638			

West: Promontory Pkwy

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	150	257	25	432	3.0	630	0.686	100	NA	NA
Approach	150	257	25	432	3.0		0.686			

	Total	%HV	Deg.Satn (v/c)
Intersection	2160	3.0	0.812

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

5 Lane under-utilisation found by the program

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Pavillion Pkwy Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Promontory Pkwy Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Pavillion Pkwy Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Promontory Pkwy Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

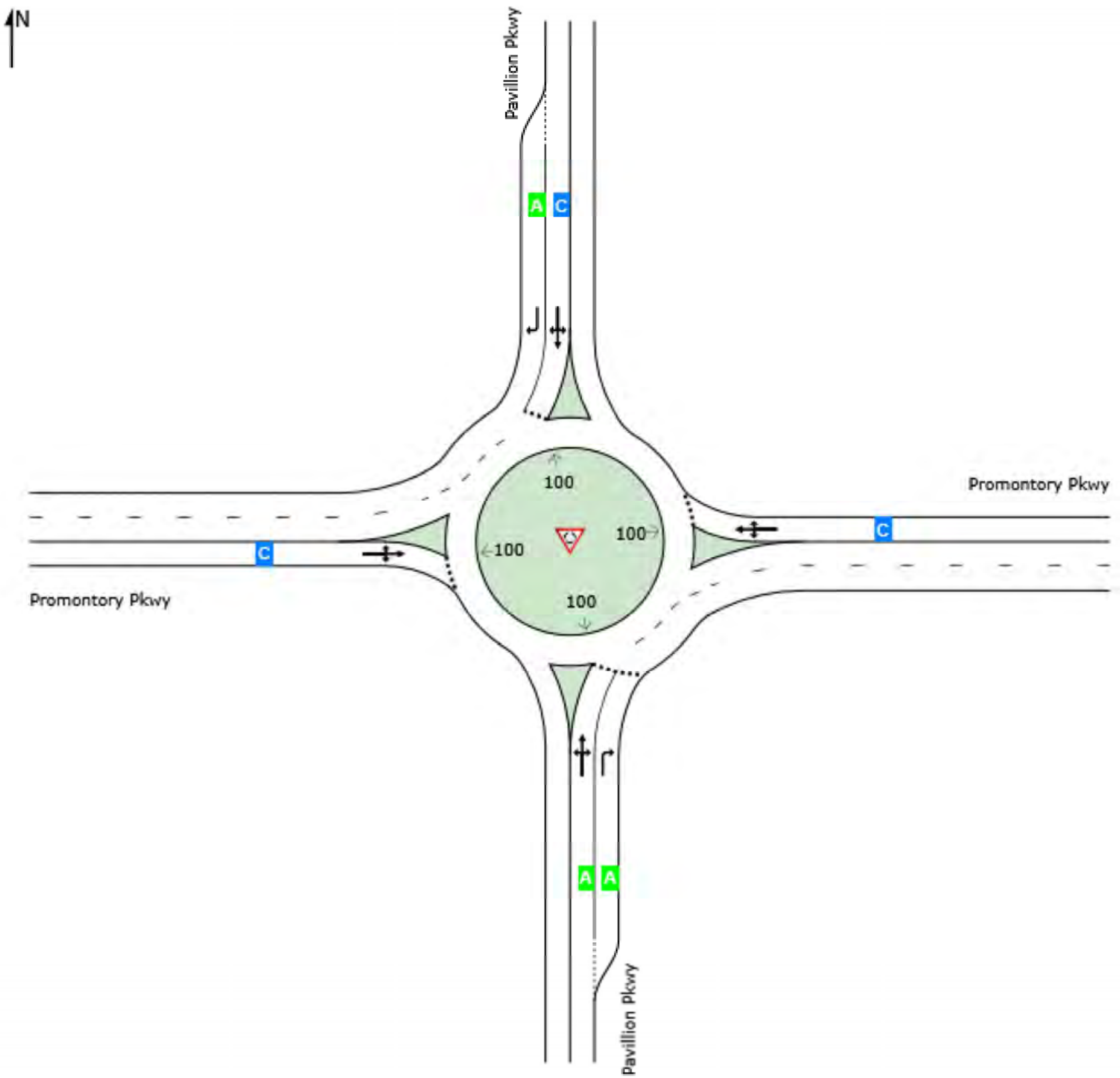
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 101 [AM Peak Hour (Site Folder: General)]

Int 12 Promontory Pkwy and Pavillion Pkwy
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	C	A	C	C



MOVEMENT SUMMARY

Site: 101 [AM Peak Hour (Site Folder: General)]

Int 12 Promontory Pkwy and Pavillion Pkwy
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Pavillion Pkwy														
3	L2	25	3.0	25	3.0	0.140	5.2	LOS A	0.5	14.0	0.48	0.40	0.48	34.7
8	T1	104	3.0	104	3.0	0.140	5.2	LOS A	0.5	14.0	0.48	0.40	0.48	34.6
18	R2	35	3.0	35	3.0	0.038	4.2	LOS A	0.1	3.5	0.45	0.33	0.45	34.4
Approach		164	3.0	164	3.0	0.140	5.0	LOS A	0.5	14.0	0.47	0.38	0.47	34.6
East: Promontory Pkwy														
1	L2	307	3.0	307	3.0	0.812	21.1	LOS C	19.6	501.2	0.94	1.25	1.90	27.7
6	T1	480	3.0	480	3.0	0.812	21.1	LOS C	19.6	501.2	0.94	1.25	1.90	27.6
16	R2	25	3.0	25	3.0	0.812	21.1	LOS C	19.6	501.2	0.94	1.25	1.90	26.9
Approach		812	3.0	812	3.0	0.812	21.1	LOS C	19.6	501.2	0.94	1.25	1.90	27.6
North: Pavillion Pkwy														
7	L2	20	3.0	20	3.0	0.638	18.1	LOS C	4.8	122.0	0.80	1.02	1.48	29.3
4	T1	391	3.0	391	3.0	0.638	18.1	LOS C	4.8	122.0	0.80	1.02	1.48	29.3
14	R2	341	3.0	341	3.0	0.210	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.8
Approach		752	3.0	752	3.0	0.638	9.9	LOS A	4.8	122.0	0.44	0.56	0.81	32.2
West: Promontory Pkwy														
5	L2	150	3.0	150	3.0	0.686	20.7	LOS C	6.1	155.4	0.85	1.11	1.64	27.9
2	T1	257	3.0	257	3.0	0.686	20.7	LOS C	6.1	155.4	0.85	1.11	1.64	27.8
12	R2	25	3.0	25	3.0	0.686	20.7	LOS C	6.1	155.4	0.85	1.11	1.64	27.1
Approach		432	3.0	432	3.0	0.686	20.7	LOS C	6.1	155.4	0.85	1.11	1.64	27.8
All Vehicles		2160	3.0	2160	3.0	0.812	15.9	LOS C	19.6	501.2	0.71	0.92	1.36	29.5

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

LANE SUMMARY

Site: 101 [PM Peak Hour (Site Folder: General)]

Int 12 Promontory Pkwy and Pavillion Pkwy
Site Category: (None)
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Pavillion Pkwy													
Lane 1[d]	505	3.0	772	0.654	100	16.3	LOS C	6.0	152.9	Full	1600	0.0	0.0
Lane 2	256	3.0	772	0.331	51[5]	8.6	LOS A	1.4	36.2	Short	200	0.0	NA
Approach	761	3.0		0.654		13.7	LOS B	6.0	152.9				
East: Promontory Pkwy													
Lane 1[d]	147	3.0	627	0.235	100	8.7	LOS A	1.0	24.4	Full	1600	0.0	0.0
Approach	147	3.0		0.235		8.7	LOS A	1.0	24.4				
North: Pavillion Pkwy													
Lane 1[d]	145	3.0	1201	0.121	100	4.0	LOS A	0.5	12.7	Full	1600	0.0	0.0
Lane 2	38	3.0	1626	0.023	19[5]	0.0	LOS A	0.0	0.0	Short	200	0.0	NA
Approach	183	3.0		0.121		3.2	LOS A	0.5	12.7				
West: Promontory Pkwy													
Lane 1[d]	618	3.0	1081	0.572	100	10.5	LOS B	4.1	104.6	Full	1600	0.0	0.0
Approach	618	3.0		0.572		10.5	LOS B	4.1	104.6				
Intersection	1709	3.0		0.654		11.0	LOS B	6.0	152.9				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Pavillion Pkwy

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	25	480	-	505	3.0	772	0.654	100	NA	NA
Lane 2	-	-	256	256	3.0	772	0.331	51[5]	0.0	1
Approach	25	480	256	761	3.0		0.654			

East: Promontory Pkwy

Mov. From E	L2	T1	R2	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane

To Exit:	S	W	N			veh/h	v/c	%	%	No.
Lane 1	59	63	25	147	3.0	627	0.235	100	NA	NA
Approach	59	63	25	147	3.0		0.235			

North: Pavillion Pkwy

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	25	120	-	145	3.0	1201	0.121	100	NA	NA
Lane 2	-	-	38	38	3.0	1626	0.023	19 [5]	0.0	1
Approach	25	120	38	183	3.0		0.121			

West: Promontory Pkwy

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	218	375	25	618	3.0	1081	0.572	100	NA	NA
Approach	218	375	25	618	3.0		0.572			

	Total	%HV	Deg.Satn (v/c)
Intersection	1709	3.0	0.654

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

5 Lane under-utilisation found by the program

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Pavillion Pkwy Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Promontory Pkwy Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Pavillion Pkwy Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Promontory Pkwy Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

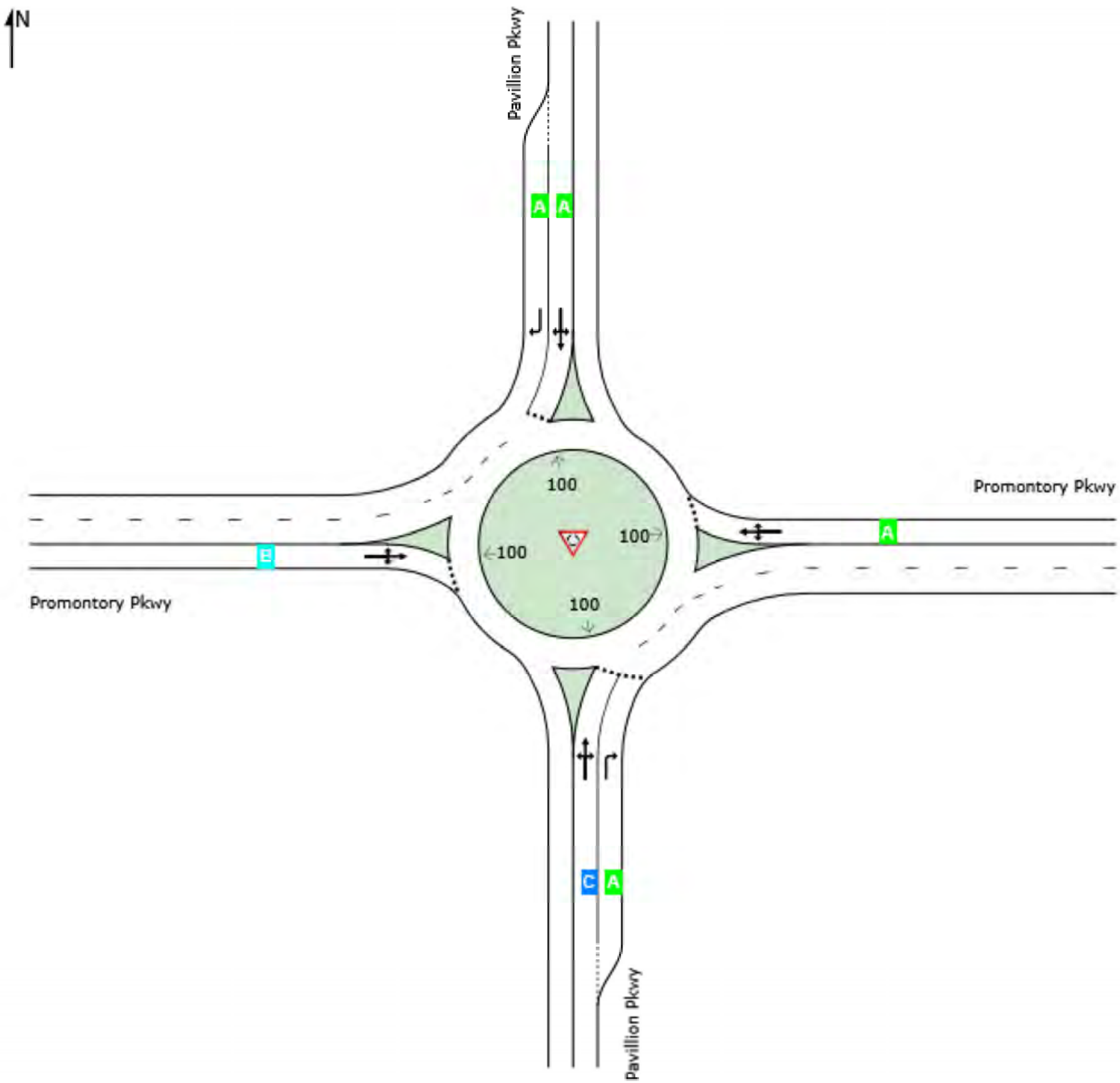
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 101 [PM Peak Hour (Site Folder: General)]

Int 12 Promontory Pkwy and Pavillion Pkwy
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	B	A	A	B	B



MOVEMENT SUMMARY

Site: 101 [PM Peak Hour (Site Folder: General)]

Int 12 Promontory Pkwy and Pavillion Pkwy
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Pavillion Pkwy														
3	L2	25	3.0	25	3.0	0.654	16.3	LOS C	6.0	152.9	0.80	1.03	1.46	30.0
8	T1	480	3.0	480	3.0	0.654	16.3	LOS C	6.0	152.9	0.80	1.03	1.46	29.9
18	R2	256	3.0	256	3.0	0.331	8.6	LOS A	1.4	36.2	0.63	0.63	0.63	32.2
Approach		761	3.0	761	3.0	0.654	13.7	LOS B	6.0	152.9	0.74	0.89	1.18	30.7
East: Promontory Pkwy														
1	L2	59	3.0	59	3.0	0.235	8.7	LOS A	1.0	24.4	0.65	0.65	0.65	32.4
6	T1	63	3.0	63	3.0	0.235	8.7	LOS A	1.0	24.4	0.65	0.65	0.65	32.4
16	R2	25	3.0	25	3.0	0.235	8.7	LOS A	1.0	24.4	0.65	0.65	0.65	31.5
Approach		147	3.0	147	3.0	0.235	8.7	LOS A	1.0	24.4	0.65	0.65	0.65	32.2
North: Pavillion Pkwy														
7	L2	25	3.0	25	3.0	0.121	4.0	LOS A	0.5	12.7	0.28	0.16	0.28	35.4
4	T1	120	3.0	120	3.0	0.121	4.0	LOS A	0.5	12.7	0.28	0.16	0.28	35.3
14	R2	38	3.0	38	3.0	0.023	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.8
Approach		183	3.0	183	3.0	0.121	3.2	LOS A	0.5	12.7	0.22	0.12	0.22	35.6
West: Promontory Pkwy														
5	L2	218	3.0	218	3.0	0.572	10.5	LOS B	4.1	104.6	0.60	0.44	0.60	31.7
2	T1	375	3.0	375	3.0	0.572	10.5	LOS B	4.1	104.6	0.60	0.44	0.60	31.7
12	R2	25	3.0	25	3.0	0.572	10.5	LOS B	4.1	104.6	0.60	0.44	0.60	30.8
Approach		618	3.0	618	3.0	0.572	10.5	LOS B	4.1	104.6	0.60	0.44	0.60	31.6
All Vehicles		1709	3.0	1709	3.0	0.654	11.0	LOS B	6.0	152.9	0.62	0.63	0.82	31.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

LANE SUMMARY

Site: 101 [AM Peak Hour (Site Folder: General)]

Intersection 45 Lammers Rd & I-580 WB Ramps
Site Category: (None)
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Lammers Rd													
Lane 1	482	3.0	1311	0.367	100	6.2	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	506	3.0	1379	0.367	100	6.0	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	988	3.0		0.367		6.1	LOS A	0.0	0.0				
East: I-580 WB Off Ramp													
Lane 1	170	3.0	514	0.332	100	12.1	LOS B	1.3	34.1	Full	1600	0.0	0.0
Lane 2[d]	193	3.0	580	0.332	100	10.9	LOS B	1.3	34.0	Full	1600	0.0	0.0
Approach	363	3.0		0.332		11.5	LOS B	1.3	34.1				
North: Lammers Rd													
Lane 1[d]	801	3.0	909	0.881	100	29.4	LOS D	20.1	515.1	Full	1600	0.0	0.0
Lane 2	545	3.0	1626	0.335	38[6]	13.0	LOS B	0.0	0.0	Short	200	0.0	NA
Approach	1346	3.0		0.881		22.8	LOS C	20.1	515.1				
Intersection	2697	3.0		0.881		15.1	LOS C	20.1	515.1				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Lammers Rd

Mov. From S To Exit:	L2 W	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	450	32	482	3.0	1311	0.367	100	NA	NA
Lane 2	-	506	506	3.0	1379	0.367	100	NA	NA
Approach	450	538	988	3.0		0.367			

East: I-580 WB Off Ramp

Mov. From E To Exit:	L2 S	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	26	144	170	3.0	514	0.332	100	NA	NA

Lane 2	-	193	193	3.0	580	0.332	100	NA	NA
Approach	26	337	363	3.0		0.332			

North: Lammers Rd									
Mov. From N To Exit:	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	77	724	801	3.0	909	0.881	100	NA	NA
Lane 2	-	545	545	3.0	1626	0.335	38[6]	0.0	1
Approach	77	1269	1346	3.0		0.881			

	Total	%HV	Deg.Satn (v/c)
Intersection	2697	3.0	0.881

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Lammers Rd Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Lammers Rd Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
West Exit: I-580 WB On Ramp Merge Type: **Priority**												
Exit Short Lane	2	200	0.0	1174	1209	3.00	2.00	545	902	0.604	4.0	12.9
Merge Lane	1	-	100.0	Merge Lane is not Opposed				1174	1800	0.652	0.0	0.0

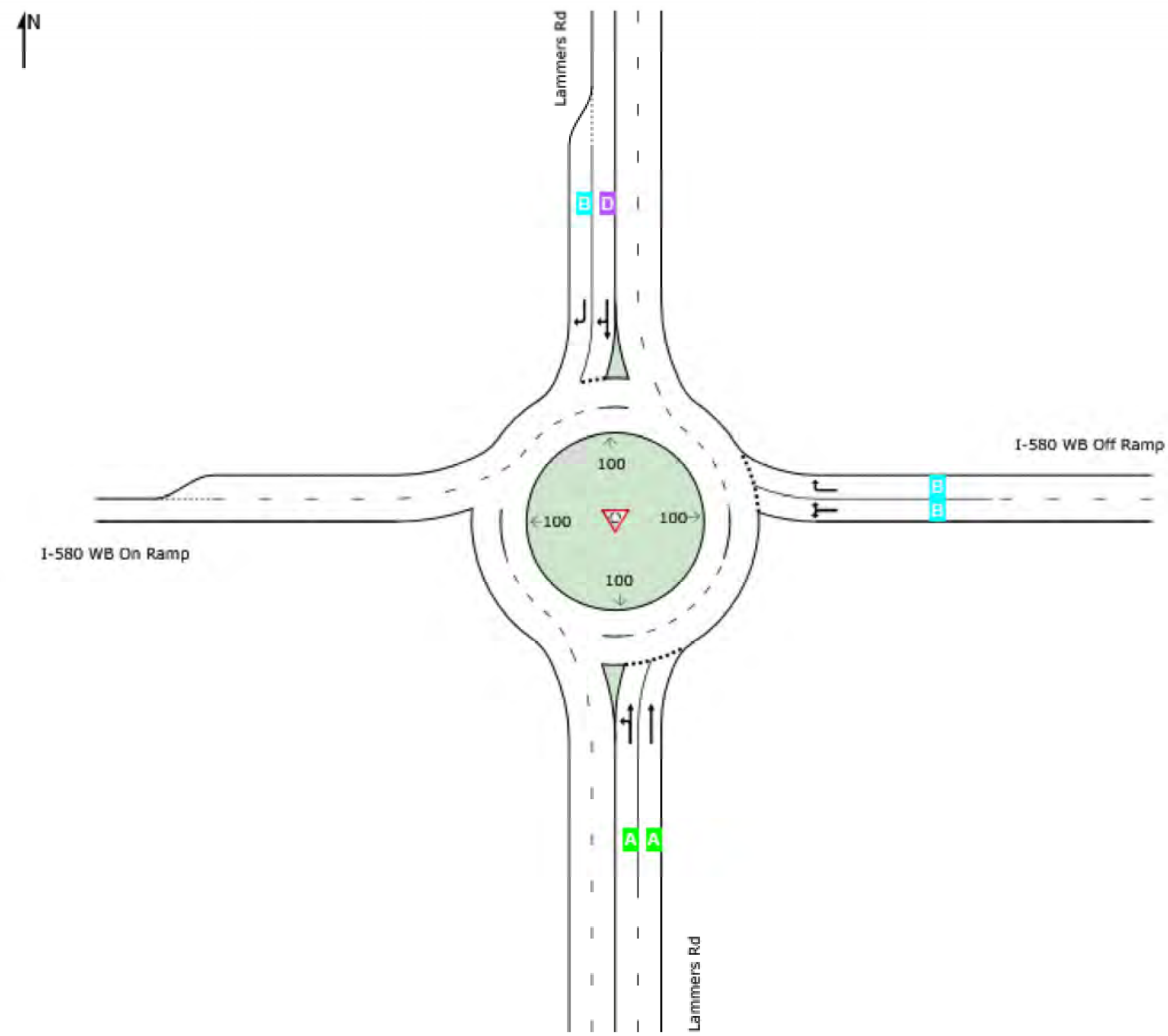
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 101 [AM Peak Hour (Site Folder: General)]

Intersection 45 Lammers Rd & I-580 WB Ramps
Site Category: (None)
Roundabout

	Approaches			Intersection
	South	East	North	
LOS	A	B	C	C



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

MOVEMENT SUMMARY

Site: 101 [AM Peak Hour (Site Folder: General)]

Intersection 45 Lammers Rd & I-580 WB Ramps
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Lammers Rd														
3	L2	450	3.0	450	3.0	0.367	6.2	LOS A	0.0	0.0	0.00	0.00	0.00	35.3
8	T1	538	3.0	538	3.0	0.367	6.0	LOS A	0.0	0.0	0.00	0.00	0.00	38.0
Approach		988	3.0	988	3.0	0.367	6.1	LOS A	0.0	0.0	0.00	0.00	0.00	36.7
East: I-580 WB Off Ramp														
1	L2	26	3.0	26	3.0	0.332	12.1	LOS B	1.3	34.1	0.70	0.74	0.84	31.4
16	R2	337	3.0	337	3.0	0.332	11.4	LOS B	1.3	34.1	0.68	0.73	0.83	30.8
Approach		363	3.0	363	3.0	0.332	11.5	LOS B	1.3	34.1	0.68	0.73	0.83	30.9
North: Lammers Rd														
4	T1	77	3.0	77	3.0	0.844	29.4	LOS D	20.1	515.1	0.99	1.66	2.74	25.4
14	R2	1269	3.0	1269	3.0	0.844	22.3	LOS C	20.1	515.1	0.57	0.95	1.56	28.8
Approach		1346	3.0	1346	3.0	0.844	22.8	LOS C	20.1	515.1	0.59	0.99	1.63	28.6
All Vehicles		2697	3.0	2697	3.0	0.844	15.1	LOS C	20.1	515.1	0.39	0.59	0.92	31.5

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

LANE SUMMARY

Site: 101 [PM Peak Hour (Site Folder: General)]

Intersection 45 Lammers Rd & I-580 WB Ramps
Site Category: (None)
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Lammers Rd													
Lane 1	769	3.0	1311	0.587	100	9.5	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	809	3.0	1379	0.587	100	9.2	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1578	3.0		0.587		9.3	LOS A	0.0	0.0				
East: I-580 WB Off Ramp													
Lane 1	42	3.0	294	0.144	100	15.0	LOS C	0.4	11.4	Full	1600	0.0	0.0
Lane 2[d]	50	3.0	346	0.144	100	12.9	LOS B	0.4	11.4	Full	1600	0.0	0.0
Approach	92	3.0		0.144		13.8	LOS B	0.4	11.4				
North: Lammers Rd													
Lane 1[d]	788	3.0	1170	0.673	100	12.5	LOS B	7.4	189.8	Full	1600	0.0	0.0
Lane 2	416	3.0	1626	0.256	38[6]	5.3	LOS A	0.0	0.0	Short	200	0.0	NA
Approach	1204	3.0		0.673		10.0	LOS B	7.4	189.8				
Intersection	2874	3.0		0.673		9.8	LOS A	7.4	189.8				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Lammers Rd

Mov. From S To Exit:	L2 W	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	162	607	769	3.0	1311	0.587	100	NA	NA
Lane 2	-	809	809	3.0	1379	0.587	100	NA	NA
Approach	162	1416	1578	3.0		0.587			

East: I-580 WB Off Ramp

Mov. From E To Exit:	L2 S	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	25	17	42	3.0	294	0.144	100	NA	NA

Lane 2	-	50	50	3.0	346	0.144	100	NA	NA
Approach	25	67	92	3.0		0.144			
North: Lammers Rd									
Mov. From N To Exit:	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	502	286	788	3.0	1170	0.673	100	NA	NA
Lane 2	-	416	416	3.0	1626	0.256	38 [6]	0.0	1
Approach	502	702	1204	3.0		0.673			

	Total	%HV	Deg.Satn (v/c)
Intersection	2874	3.0	0.673

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Lammers Rd Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Lammers Rd Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
West Exit: I-580 WB On Ramp Merge Type: **Priority**												
Exit Short Lane	2	200	0.0	448	461	3.00	2.00	416	1389	0.300	2.6	5.2
Merge Lane	1	-	100.0	Merge Lane is not Opposed				448	1800	0.249	0.0	0.0

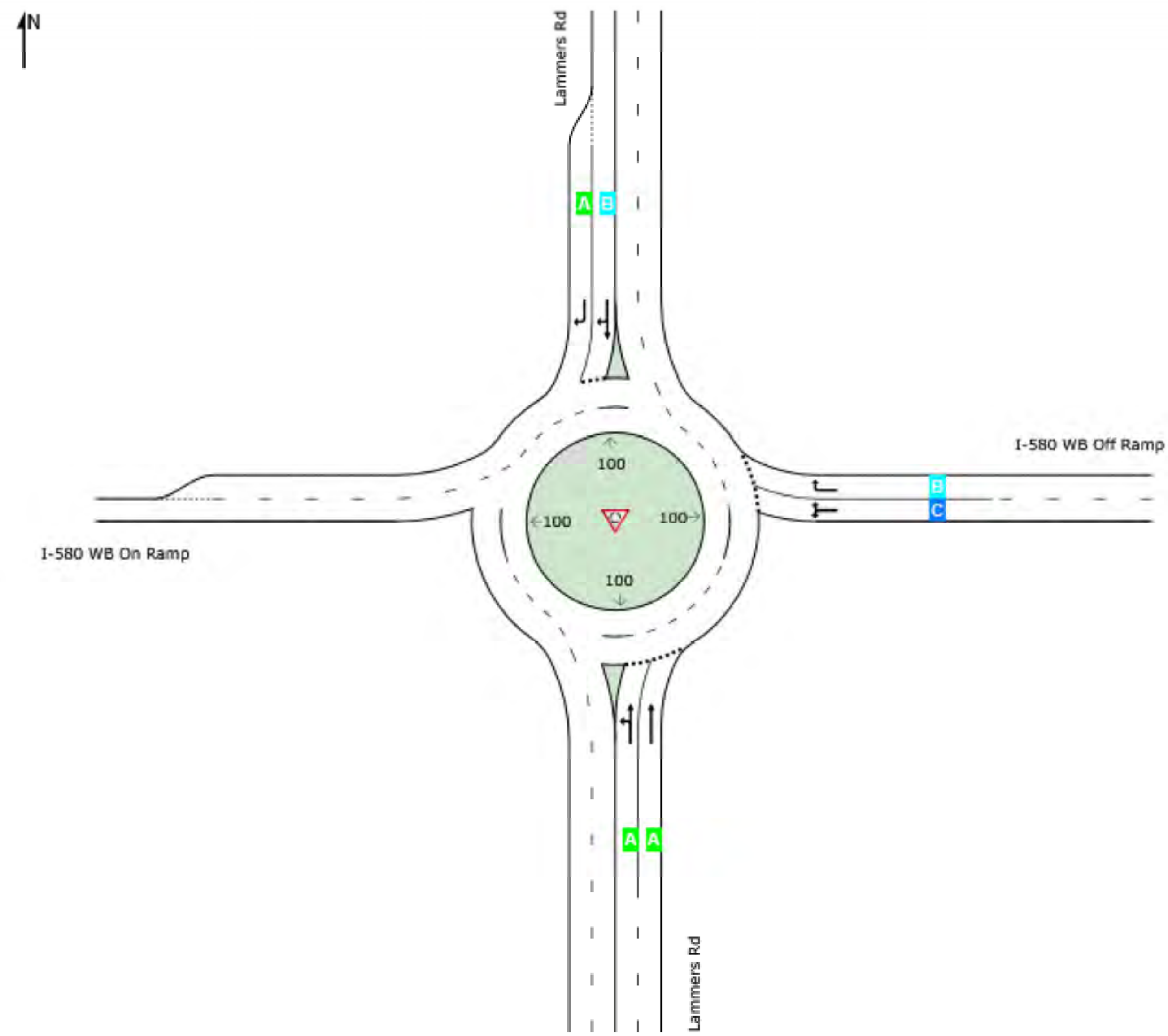
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 101 [PM Peak Hour (Site Folder: General)]

Intersection 45 Lammers Rd & I-580 WB Ramps
Site Category: (None)
Roundabout

	Approaches			Intersection
	South	East	North	
LOS	A	B	B	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

MOVEMENT SUMMARY

Site: 101 [PM Peak Hour (Site Folder: General)]

Intersection 45 Lammers Rd & I-580 WB Ramps
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Lammers Rd														
3	L2	162	3.0	162	3.0	0.587	9.5	LOS A	0.0	0.0	0.00	0.00	0.00	37.6
8	T1	1416	3.0	1416	3.0	0.587	9.3	LOS A	0.0	0.0	0.00	0.00	0.00	37.9
Approach		1578	3.0	1578	3.0	0.587	9.3	LOS A	0.0	0.0	0.00	0.00	0.00	37.9
East: I-580 WB Off Ramp														
1	L2	25	3.0	25	3.0	0.144	15.0	LOS C	0.4	11.4	0.80	0.80	0.80	29.3
16	R2	67	3.0	67	3.0	0.144	13.4	LOS B	0.4	11.4	0.78	0.78	0.78	29.8
Approach		92	3.0	92	3.0	0.144	13.8	LOS B	0.4	11.4	0.79	0.79	0.79	29.7
North: Lammers Rd														
4	T1	502	3.0	502	3.0	0.673	12.5	LOS B	7.4	189.8	0.60	0.51	0.74	31.5
14	R2	702	3.0	702	3.0	0.673	8.2	LOS A	7.4	189.8	0.25	0.21	0.30	33.9
Approach		1204	3.0	1204	3.0	0.673	10.0	LOS B	7.4	189.8	0.40	0.33	0.48	32.9
All Vehicles		2874	3.0	2874	3.0	0.673	9.8	LOS A	7.4	189.8	0.19	0.16	0.23	35.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

LANE SUMMARY

Site: 101 [AM Peak Hour (Site Folder: General)]

Intersection 46 Lammers Rd & i-580 EB Ramps
Site Category: (None)
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Lammers Rd													
Lane 1	259	3.0	882	0.294	100	7.2	LOS A	1.3	32.6	Full	1600	0.0	0.0
Lane 2[d]	259	3.0	882	0.294	100	7.2	LOS A	1.3	32.6	Full	1600	0.0	0.0
Approach	518	3.0		0.294		7.2	LOS A	1.3	32.6				
North: Lammers Rd													
Lane 1	66	3.0	1379	0.048	100	3.0	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	66	3.0	1379	0.048	100	3.0	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	132	3.0		0.048		3.0	LOS A	0.0	0.0				
West: I-580 Off Ramp													
Lane 1	218	3.0	1157	0.188	100	4.8	LOS A	0.8	20.4	Full	1600	0.0	0.0
Lane 2[d]	231	3.0	1229	0.188	100	4.5	LOS A	0.8	19.9	Full	1600	0.0	0.0
Lane 3	234	3.0	1626	0.144	76[5]	0.0	LOS A	0.0	0.0	Short	500	0.0	NA
Approach	683	3.0		0.188		3.1	LOS A	0.8	20.4				
Intersection	1333	3.0		0.294		4.7	LOS A	1.3	32.6				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Lammers Rd

Mov. From S To Exit:	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	259	-	259	3.0	882	0.294	100	NA	NA
Lane 2	232	27	259	3.0	882	0.294	100	NA	NA
Approach	491	27	518	3.0		0.294			

North: Lammers Rd

Mov. From N To Exit:	L2 E	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

Lane 1	27	39	66	3.0	1379	0.048	100	NA	NA
Lane 2	-	66	66	3.0	1379	0.048	100	NA	NA
Approach	27	104	132	3.0		0.048			

West: I-580 Off Ramp

Mov. From W To Exit:	L2 N	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	218	-	218	3.0	1157	0.188	100	NA	NA
Lane 2	231	-	231	3.0	1229	0.188	100	NA	NA
Lane 3	-	234	234	3.0	1626	0.144	76[5]	0.0	2
Approach	449	234	683	3.0		0.188			

	Total	%HV	Deg.Satn (v/c)
Intersection	1333	3.0	0.294

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

5 Lane under-utilisation found by the program

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Lammers Rd Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: I-580 On Ramp Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Lammers Rd Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

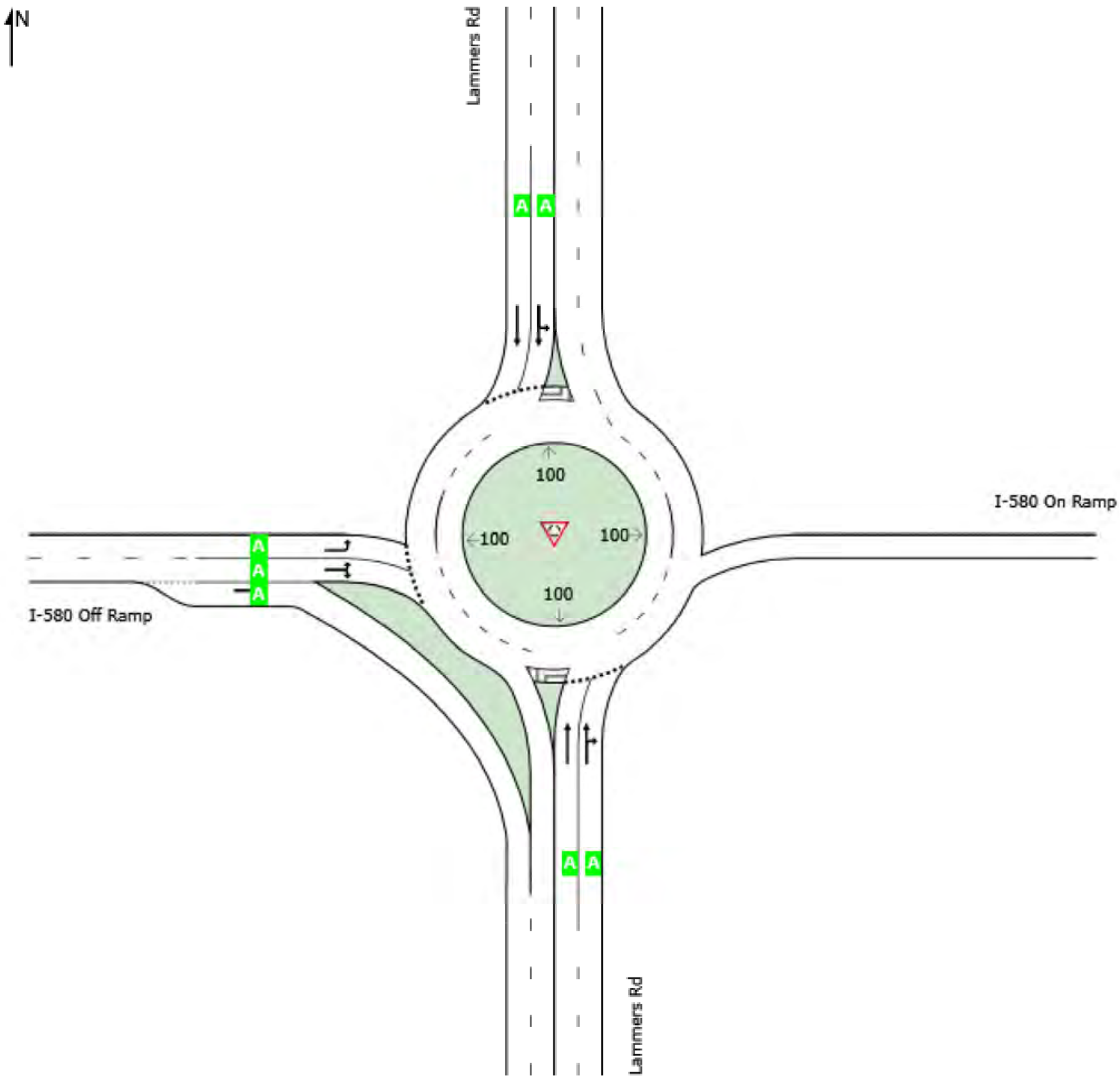
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 101 [AM Peak Hour (Site Folder: General)]

Intersection 46 Lammers Rd & i-580 EB Ramps
Site Category: (None)
Roundabout

	Approaches			Intersection
	South	North	West	
LOS	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

MOVEMENT SUMMARY

Site: 101 [AM Peak Hour (Site Folder: General)]

Intersection 46 Lammers Rd & i-580 EB Ramps
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Lammers Rd														
8	T1	452	3.0	491	3.0	0.294	7.2	LOS A	1.3	32.6	0.56	0.52	0.56	34.1
18	R2	25	3.0	27	3.0	0.294	7.2	LOS A	1.3	32.6	0.56	0.52	0.56	33.0
Approach		477	3.0	518	3.0	0.294	7.2	LOS A	1.3	32.6	0.56	0.52	0.56	34.0
North: Lammers Rd														
7	L2	25	3.0	27	3.0	0.048	3.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.9
4	T1	96	3.0	104	3.0	0.048	3.0	LOS A	0.0	0.0	0.00	0.00	0.00	37.7
Approach		121	3.0	132	3.0	0.048	3.0	LOS A	0.0	0.0	0.00	0.00	0.00	37.5
West: I-580 Off Ramp														
5	L2	413	3.0	449	3.0	0.188	4.7	LOS A	0.8	20.4	0.27	0.15	0.27	32.8
12	R2	215	3.0	234	3.0	0.144	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	37.1
Approach		628	3.0	683	3.0	0.188	3.1	LOS A	0.8	20.4	0.18	0.10	0.18	34.1
All Vehicles		1226	3.0	1333	3.0	0.294	4.7	LOS A	1.3	32.6	0.31	0.25	0.31	34.4

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

LANE SUMMARY

Site: 101 [PM Peak Hour (Site Folder: General)]

Intersection 46 Lammers Rd & i-580 EB Ramps
Site Category: (None)
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Lammers Rd													
Lane 1	121	3.0	261	0.465	100	27.6	LOS D	1.8	44.9	Full	1600	0.0	0.0
Lane 2[d]	144	3.0	310	0.465	100	23.6	LOS C	1.8	45.9	Full	1600	0.0	0.0
Approach	265	3.0		0.465		25.4	LOS D	1.8	45.9				
North: Lammers Rd													
Lane 1[d]	307	3.0	1379	0.223	100	4.5	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2	200	3.0	1311	0.153	69[5]	4.0	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	507	3.0		0.223		4.3	LOS A	0.0	0.0				
West: I-580 Off Ramp													
Lane 1	669	3.0	811	0.825	100	25.7	LOS D	13.8	353.2	Full	1600	0.0	0.0
Lane 2[d]	729	3.0	884	0.825	100	24.1	LOS C	14.4	368.5	Full	1600	0.0	0.0
Lane 3	440	3.0	1626	0.271	33[5]	0.1	LOS A	0.0	0.0	Short	500	0.0	NA
Approach	1838	3.0		0.825		19.0	LOS C	14.4	368.5				
Intersection	2610	3.0		0.825		16.7	LOS C	14.4	368.5				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Lammers Rd

Mov. From S To Exit:	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	121	-	121	3.0	261	0.465	100	NA	NA
Lane 2	114	30	144	3.0	310	0.465	100	NA	NA
Approach	235	30	265	3.0		0.465			

North: Lammers Rd

Mov. From N To Exit:	L2 E	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

Lane 1	307	-	307	3.0	1379	0.223	100	NA	NA
Lane 2	-	200	200	3.0	1311	0.153	69[5]	NA	NA
Approach	307	200	507	3.0		0.223			

West: I-580 Off Ramp

Mov. From W To Exit:	L2 N	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	669	-	669	3.0	811	0.825	100	NA	NA
Lane 2	729	-	729	3.0	884	0.825	100	NA	NA
Lane 3	-	440	440	3.0	1626	0.271	33[5]	0.0	2
Approach	1398	440	1838	3.0		0.825			

	Total	%HV	Deg.Satn (v/c)
Intersection	2610	3.0	0.825

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

5 Lane under-utilisation found by the program

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Lammers Rd Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: I-580 On Ramp Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Lammers Rd Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

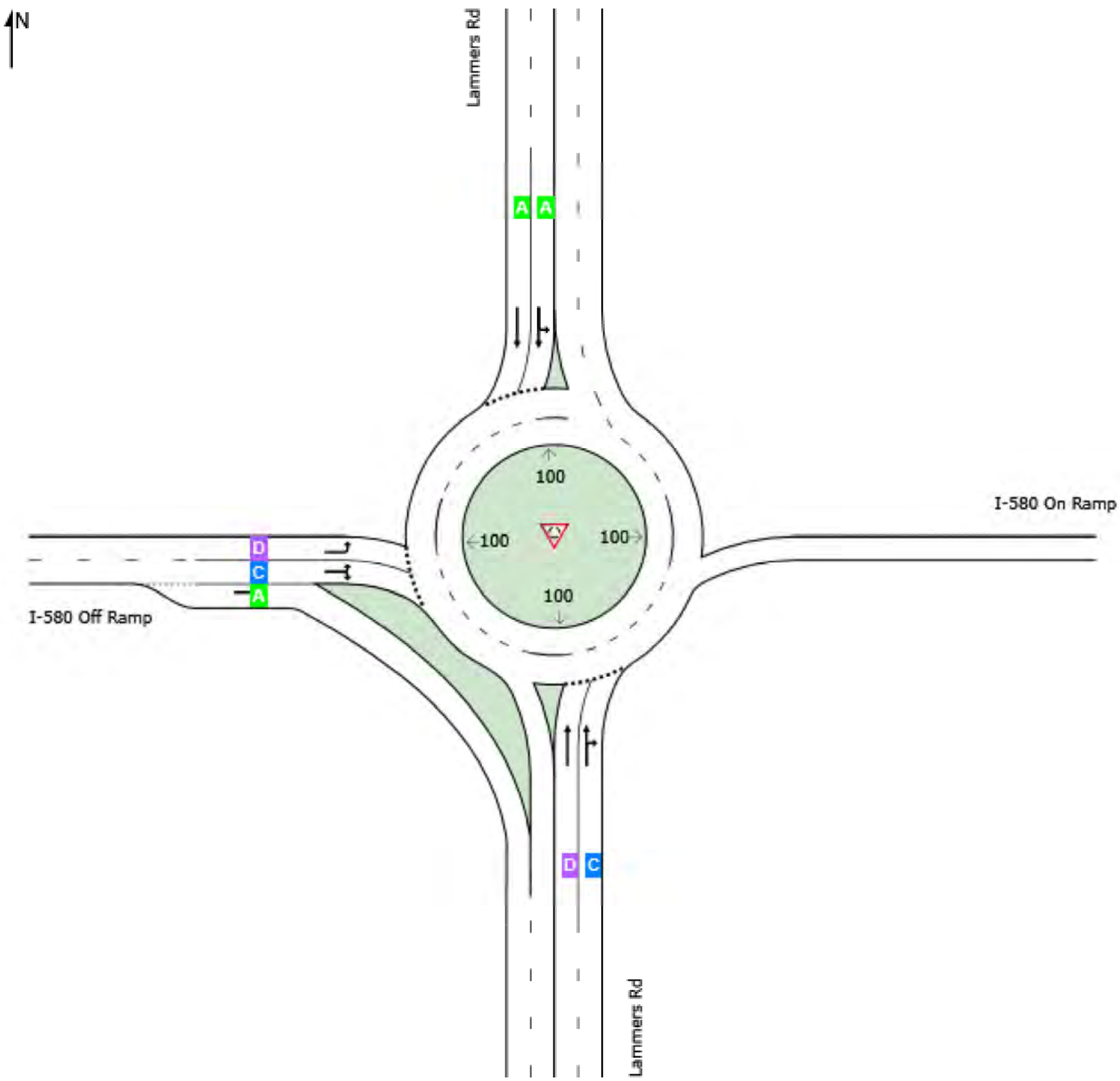
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 101 [PM Peak Hour (Site Folder: General)]

Intersection 46 Lammers Rd & i-580 EB Ramps
Site Category: (None)
Roundabout

	Approaches			Intersection
	South	North	West	
LOS	D	A	C	C



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

MOVEMENT SUMMARY

Site: 101 [PM Peak Hour (Site Folder: General)]

Intersection 46 Lammers Rd & i-580 EB Ramps
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Lammers Rd														
8	T1	235	3.0	235	3.0	0.465	25.7	LOS D	1.8	45.9	0.87	0.98	1.30	26.7
18	R2	30	3.0	30	3.0	0.465	23.6	LOS C	1.8	45.9	0.86	0.97	1.29	26.7
Approach		265	3.0	265	3.0	0.465	25.4	LOS D	1.8	45.9	0.87	0.98	1.30	26.7
North: Lammers Rd														
7	L2	307	3.0	307	3.0	0.223	4.5	LOS A	0.0	0.0	0.00	0.00	0.00	35.1
4	T1	200	3.0	200	3.0	0.153	4.0	LOS A	0.0	0.0	0.00	0.00	0.00	38.2
Approach		507	3.0	507	3.0	0.223	4.3	LOS A	0.0	0.0	0.00	0.00	0.00	36.2
West: I-580 Off Ramp														
5	L2	1398	3.0	1398	3.0	0.825	24.9	LOS C	14.4	368.5	0.92	1.42	2.26	25.6
12	R2	440	3.0	440	3.0	0.271	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	37.0
Approach		1838	3.0	1838	3.0	0.825	19.0	LOS C	14.4	368.5	0.70	1.08	1.72	27.5
All Vehicles		2610	3.0	2610	3.0	0.825	16.7	LOS C	14.4	368.5	0.58	0.86	1.34	28.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

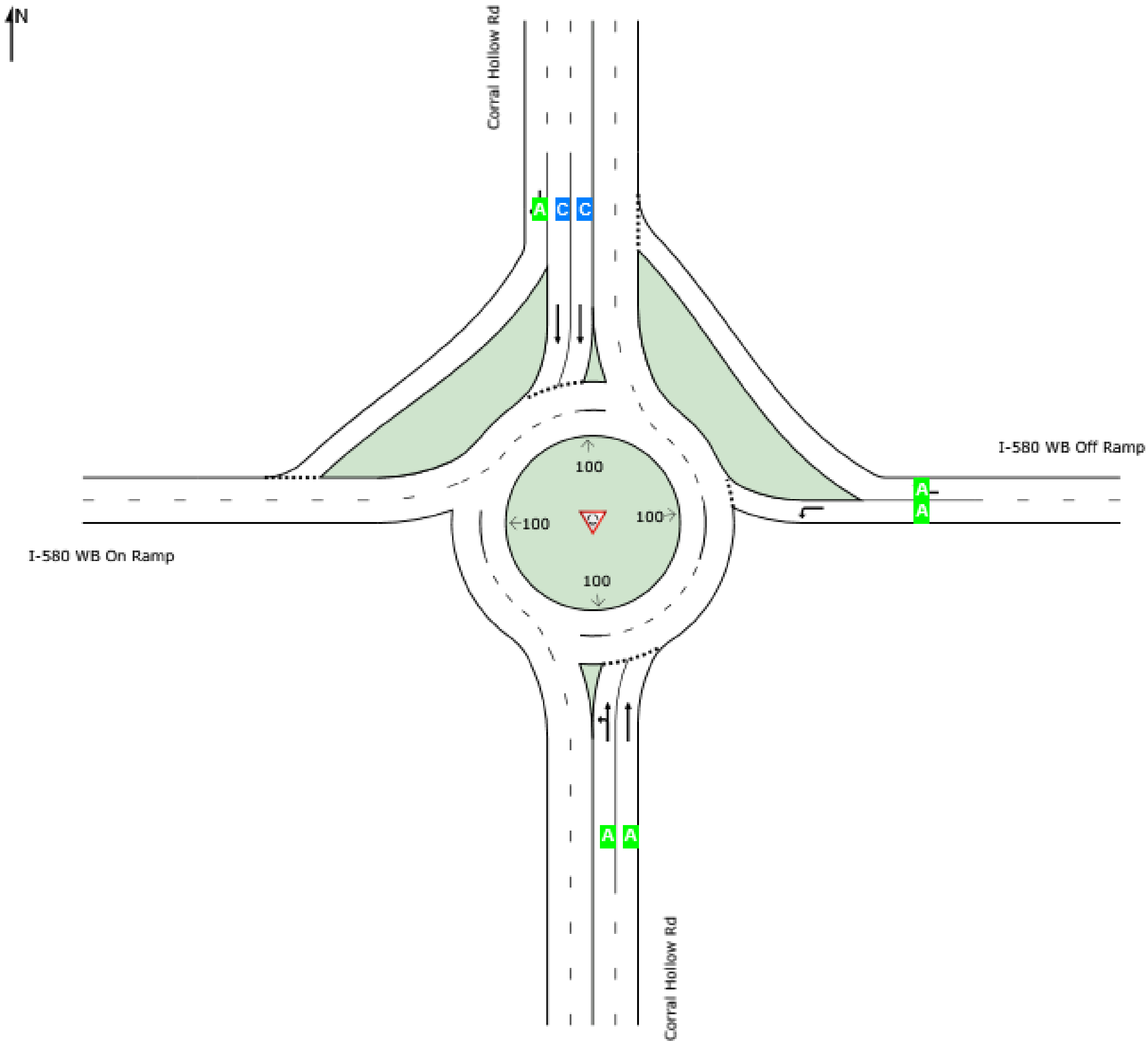
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 101 [AM Peak Hour (Site Folder: General)]

Intersection 67 Corral Hollow & I-580 WB Ramps
Site Category: (None)
Roundabout

	Approaches			Intersection
	South	East	North	
LOS	A	A	C	B



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Delay Model: HCM Delay Formula (Geometric Delay is not included).

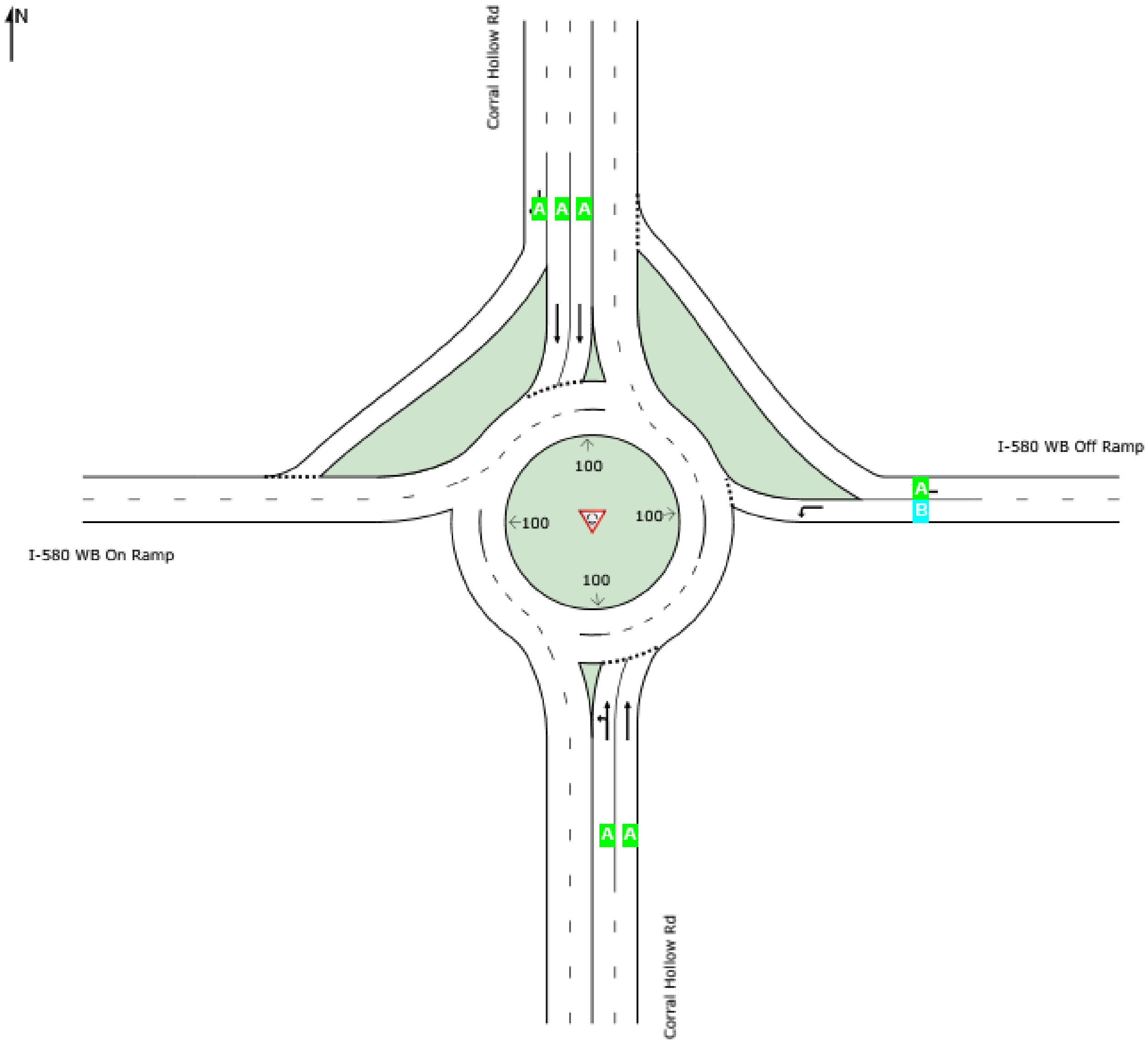
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 101 [PM Peak Hour (Site Folder: General)]

Intersection 67 Corral Hollow & I-580 WB Ramps
Site Category: (None)
Roundabout

	Approaches			Intersection
	South	East	North	
LOS	A	B	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Delay Model: HCM Delay Formula (Geometric Delay is not included).

LANE SUMMARY

Site: 101 [AM Peak Hour (Site Folder: General)]

Intersection 67 Corral Hollow & I-580 WB Ramps
Site Category: (None)
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Corral Hollow Rd													
Lane 1	230	3.0	1311	0.176	100	4.2	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	242	3.0	1379	0.176	100	4.0	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	473	3.0		0.176		4.1	LOS A	0.0	0.0				
East: I-580 WB Off Ramp													
Lane 1[d]	289	3.0	911	0.317	100	7.4	LOS A	1.3	34.2	Full	1600	0.0	0.0
Lane 2	57	3.0	966	0.059	100	4.3	LOS A	0.2	5.3	Full	1600	0.0	0.0
Approach	346	3.0		0.317		6.9	LOS A	1.3	34.2				
North: Corral Hollow Rd													
Lane 1	723	3.0	936	0.773	100	19.4	LOS C	13.6	348.7	Full	1600	0.0	0.0
Lane 2[d]	780	3.0	1010	0.773	100	18.4	LOS C	14.0	358.6	Full	1600	0.0	0.0
Lane 3	132	3.0	1301	0.101	100	3.6	LOS A	0.4	9.9	Full	1600	0.0	0.0
Approach	1635	3.0		0.773		17.6	LOS C	14.0	358.6				
Intersection	2453	3.0		0.773		13.5	LOS B	14.0	358.6				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Corral Hollow Rd

Mov. From S To Exit:	L2 W	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	66	164	230	3.0	1311	0.176	100	NA	NA
Lane 2	-	242	242	3.0	1379	0.176	100	NA	NA
Approach	66	407	473	3.0		0.176			

East: I-580 WB Off Ramp

Mov. From E To Exit:	L2 S	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	289	-	289	3.0	911	0.317	100	NA	NA
Lane 2	-	57	57	3.0	966	0.059	100	NA	NA
Approach	289	57	346	3.0		0.317			

North: Corral Hollow Rd

Mov. From N To Exit:	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	723	-	723	3.0	936	0.773	100	NA	NA
Lane 2	780	-	780	3.0	1010	0.773	100	NA	NA
Lane 3	-	132	132	3.0	1301	0.101	100	NA	NA
Approach	1503	132	1635	3.0		0.773			

	Total	%HV	Deg.Satn (v/c)
Intersection	2453	3.0	0.773

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Corral Hollow Rd Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Corral Hollow Rd Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: I-580 WB On Ramp Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

LANE SUMMARY

Site: 101 [PM Peak Hour (Site Folder: General)]

Intersection 67 Corral Hollow & I-580 WB Ramps
Site Category: (None)
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Corral Hollow Rd													
Lane 1	709	3.0	1311	0.541	100	8.6	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	746	3.0	1379	0.541	100	8.4	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1455	3.0		0.541		8.5	LOS A	0.0	0.0				
East: I-580 WB Off Ramp													
Lane 1[d]	30	3.0	386	0.079	100	10.5	LOS B	0.2	6.2	Full	1600	0.0	0.0
Lane 2	35	3.0	425	0.082	100	9.6	LOS A	0.3	6.6	Full	1600	0.0	0.0
Approach	65	3.0		0.082		10.1	LOS B	0.3	6.6				
North: Corral Hollow Rd													
Lane 1	74	3.0	1146	0.064	100	3.7	LOS A	0.2	6.2	Full	1600	0.0	0.0
Lane 2[d]	78	3.0	1218	0.064	100	3.5	LOS A	0.2	6.0	Full	1600	0.0	0.0
Lane 3	233	3.0	1251	0.186	100	4.5	LOS A	0.8	19.7	Full	1600	0.0	0.0
Approach	385	3.0		0.186		4.1	LOS A	0.8	19.7				
Intersection	1905	3.0		0.541		7.7	LOS A	0.8	19.7				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Corral Hollow Rd

Mov. From S To Exit:	L2 W	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	111	598	709	3.0	1311	0.541	100	NA	NA
Lane 2	-	746	746	3.0	1379	0.541	100	NA	NA
Approach	111	1345	1455	3.0		0.541			

East: I-580 WB Off Ramp

Mov. From E To Exit:	L2 S	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	30	-	30	3.0	386	0.079	100	NA	NA
Lane 2	-	35	35	3.0	425	0.082	100	NA	NA
Approach	30	35	65	3.0		0.082			

North: Corral Hollow Rd

Mov. From N To Exit:	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	74	-	74	3.0	1146	0.064	100	NA	NA
Lane 2	78	-	78	3.0	1218	0.064	100	NA	NA
Lane 3	-	233	233	3.0	1251	0.186	100	NA	NA
Approach	152	233	385	3.0		0.186			

	Total	%HV	Deg.Satn (v/c)
Intersection	1905	3.0	0.541

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Corral Hollow Rd Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Corral Hollow Rd Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: I-580 WB On Ramp Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

MOVEMENT SUMMARY

Site: 101 [AM Peak Hour (Site Folder: General)]

Intersection 67 Corral Hollow & I-580 WB Ramps
Site Category: (None)
Roundabout

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
Vehicle Movement Performance														
South: Corral Hollow Rd														
3	L2	61	3.0	66	3.0	0.176	4.2	LOS A	0.0	0.0	0.00	0.00	0.00	37.3
8	T1	374	3.0	407	3.0	0.176	4.1	LOS A	0.0	0.0	0.00	0.00	0.00	37.8
Approach		435	3.0	473	3.0	0.176	4.1	LOS A	0.0	0.0	0.00	0.00	0.00	37.7
East: I-580 WB Off Ramp														
1	L2	266	3.0	289	3.0	0.317	7.4	LOS A	1.3	34.2	0.54	0.51	0.54	31.6
16	R2	52	3.0	57	3.0	0.059	4.3	LOS A	0.2	5.3	0.42	0.32	0.42	34.6
Approach		318	3.0	346	3.0	0.317	6.9	LOS A	1.3	34.2	0.52	0.48	0.52	32.0
North: Corral Hollow Rd														
4	T1	1383	3.0	1503	3.0	0.773	18.9	LOS C	14.0	358.6	0.84	1.17	1.74	29.1
14	R2	121	3.0	132	3.0	0.101	3.6	LOS A	0.4	9.9	0.16	0.07	0.16	34.8
Approach		1504	3.0	1635	3.0	0.773	17.6	LOS C	14.0	358.6	0.79	1.08	1.62	29.4
All Vehicles		2257	3.0	2453	3.0	0.773	13.5	LOS B	14.0	358.6	0.60	0.79	1.15	31.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [PM Peak Hour (Site Folder: General)]

Intersection 67 Corral Hollow & I-580 WB Ramps
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Corral Hollow Rd														
3	L2	102	3.0	111	3.0	0.541	8.6	LOS A	0.0	0.0	0.00	0.00	0.00	37.8
8	T1	1237	3.0	1345	3.0	0.541	8.5	LOS A	0.0	0.0	0.00	0.00	0.00	38.0
Approach		1339	3.0	1455	3.0	0.541	8.5	LOS A	0.0	0.0	0.00	0.00	0.00	38.0
East: I-580 WB Off Ramp														
1	L2	28	3.0	30	3.0	0.079	10.5	LOS B	0.2	6.2	0.74	0.74	0.74	30.3
16	R2	32	3.0	35	3.0	0.082	9.6	LOS A	0.3	6.6	0.71	0.71	0.71	31.9
Approach		60	3.0	65	3.0	0.082	10.1	LOS B	0.3	6.6	0.72	0.72	0.72	31.1
North: Corral Hollow Rd														
4	T1	140	3.0	152	3.0	0.064	3.6	LOS A	0.2	6.2	0.25	0.13	0.25	36.1
14	R2	214	3.0	233	3.0	0.186	4.5	LOS A	0.8	19.7	0.24	0.13	0.24	34.3
Approach		354	3.0	385	3.0	0.186	4.1	LOS A	0.8	19.7	0.24	0.13	0.24	35.0
All Vehicles		1753	3.0	1905	3.0	0.541	7.7	LOS A	0.8	19.7	0.07	0.05	0.07	37.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

LANE SUMMARY

Site: 101 [AM Peak Hour (Site Folder: General)]

Intersection 68 Corral Hollow & I-580 EB ramps
Site Category: (None)
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Corral Hollow Rd													
Lane 1	153	3.0	1074	0.143	100	4.6	LOS A	0.6	14.5	Full	1600	0.0	0.0
Lane 2[d]	164	3.0	1147	0.143	100	4.4	LOS A	0.6	14.2	Full	1600	0.0	0.0
Lane 3	48	3.0	1626	0.029	100	0.0	LOS A	0.0	0.0	Short	200	0.0	NA
Approach	365	3.0		0.143		3.9	LOS A	0.6	14.5				
North: Corral Hollow Rd													
Lane 1	205	3.0	1311	0.156	100	4.0	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	216	3.0	1379	0.156	100	3.9	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	421	3.0		0.156		4.0	LOS A	0.0	0.0				
West: I-580 EB Off Ramp													
Lane 1	83	3.0	880	0.094	100	5.0	LOS A	0.3	8.8	Full	1600	0.0	0.0
Lane 2[d]	90	3.0	954	0.094	100	4.6	LOS A	0.3	8.7	Full	1600	0.0	0.0
Lane 3	27	3.0	985	0.028	100	3.9	LOS A	0.1	2.4	Short	200	0.0	NA
Approach	200	3.0		0.094		4.7	LOS A	0.3	8.8				
Intersection	986	3.0		0.156		4.1	LOS A	0.6	14.5				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Corral Hollow Rd

Mov. From S To Exit:	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	153	-	153	3.0	1074	0.143	100	NA	NA
Lane 2	164	-	164	3.0	1147	0.143	100	NA	NA
Lane 3	-	48	48	3.0	1626	0.029	100	0.0	2
Approach	317	48	365	3.0		0.143			

North: Corral Hollow Rd

Mov. From N	L2	T1	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

To Exit:	E	S							
Lane 1	37	168	205	3.0	1311	0.156	100	NA	NA
Lane 2	-	216	216	3.0	1379	0.156	100	NA	NA
Approach	37	384	421	3.0		0.156			
West: I-580 EB Off Ramp									
Mov. From W To Exit:	L2 N	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	83	-	83	3.0	880	0.094	100	NA	NA
Lane 2	90	-	90	3.0	954	0.094	100	NA	NA
Lane 3	-	27	27	3.0	985	0.028	100	0.0	2
Approach	173	27	200	3.0		0.094			

	Total	%HV	Deg.Satn (v/c)
Intersection	986	3.0	0.156

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis												
	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Corral Hollow Rd Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: I-580 EB On Ramp Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Corral Hollow Rd Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

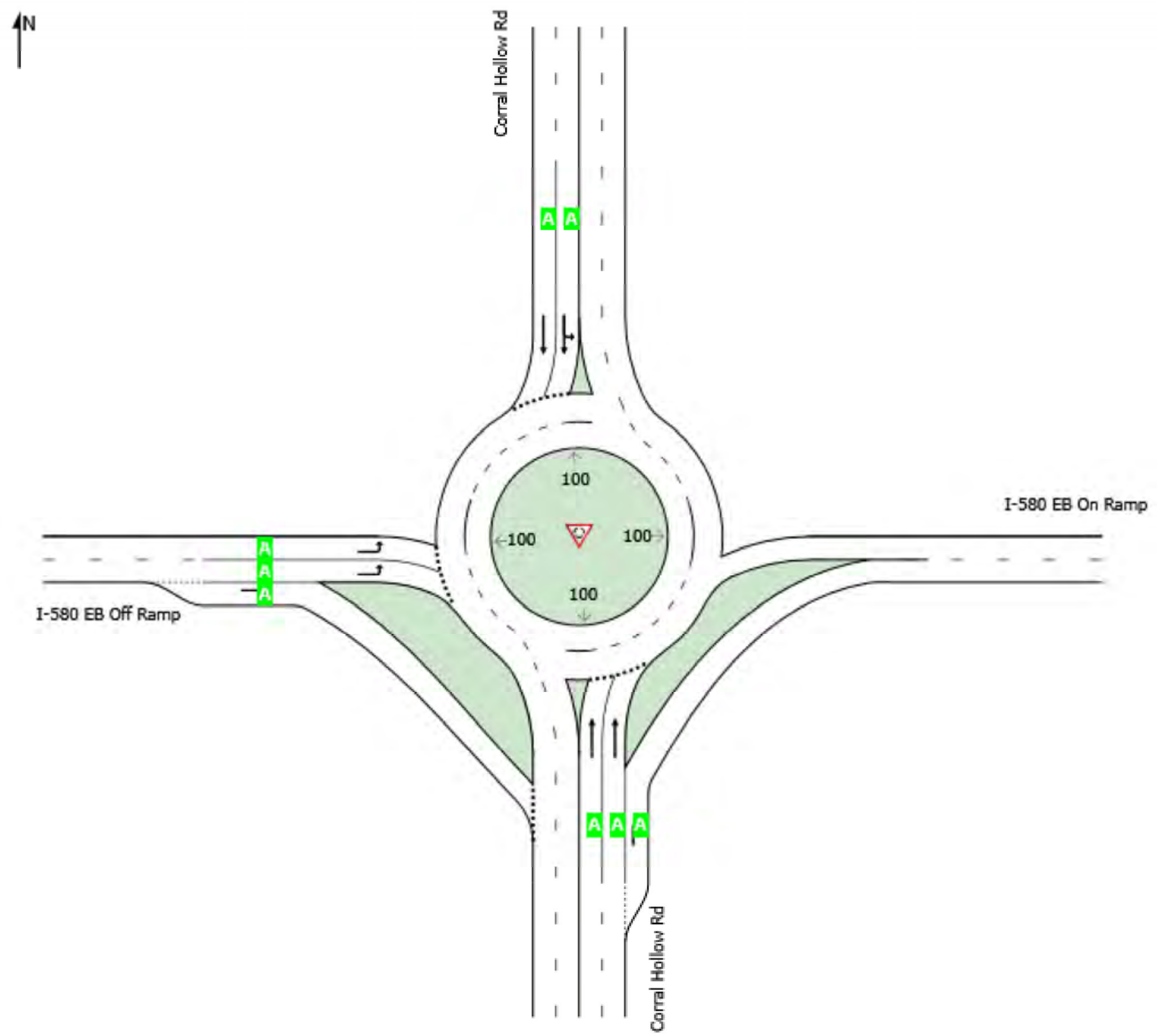
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 101 [AM Peak Hour (Site Folder: General)]

Intersection 68 Corral Hollow & I-580 EB ramps
Site Category: (None)
Roundabout

	Approaches			Intersection
	South	North	West	
LOS	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

MOVEMENT SUMMARY

Site: 101 [AM Peak Hour (Site Folder: General)]

Intersection 68 Corral Hollow & I-580 EB ramps
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Corral Hollow Rd														
8	T1	292	3.0	317	3.0	0.143	4.5	LOS A	0.6	14.5	0.33	0.22	0.33	35.6
18	R2	44	3.0	48	3.0	0.029	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	37.1
Approach		336	3.0	365	3.0	0.143	3.9	LOS A	0.6	14.5	0.29	0.19	0.29	35.8
North: Corral Hollow Rd														
7	L2	34	3.0	37	3.0	0.156	4.0	LOS A	0.0	0.0	0.00	0.00	0.00	37.7
4	T1	353	3.0	384	3.0	0.156	3.9	LOS A	0.0	0.0	0.00	0.00	0.00	37.9
Approach		387	3.0	421	3.0	0.156	4.0	LOS A	0.0	0.0	0.00	0.00	0.00	37.9
West: I-580 EB Off Ramp														
5	L2	159	3.0	173	3.0	0.094	4.8	LOS A	0.3	8.8	0.45	0.36	0.45	32.7
12	R2	25	3.0	27	3.0	0.028	3.9	LOS A	0.1	2.4	0.40	0.27	0.40	34.6
Approach		184	3.0	200	3.0	0.094	4.7	LOS A	0.3	8.8	0.44	0.35	0.44	33.0
All Vehicles		907	3.0	986	3.0	0.156	4.1	LOS A	0.6	14.5	0.20	0.14	0.20	36.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

LANE SUMMARY

Site: 101 [PM Peak Hour (Site Folder: General)]

Intersection 68 Corral Hollow & I-580 EB ramps
Site Category: (None)
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Corral Hollow Rd													
Lane 1	186	3.0	430	0.432	100	16.8	LOS C	1.9	47.9	Full	1600	0.0	0.0
Lane 2[d]	213	3.0	492	0.432	100	14.9	LOS B	1.9	48.6	Full	1600	0.0	0.0
Lane 3	639	3.0	1626	0.393	100	0.1	LOS A	0.0	0.0	Short	200	0.0	NA
Approach	1038	3.0		0.432		6.2	LOS A	1.9	48.6				
North: Corral Hollow Rd													
Lane 1	120	3.0	1311	0.091	100	3.5	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	126	3.0	1379	0.091	100	3.3	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	246	3.0		0.091		3.4	LOS A	0.0	0.0				
West: I-580 EB Off Ramp													
Lane 1	517	3.0	1038	0.497	100	9.3	LOS A	2.8	72.4	Full	1600	0.0	0.0
Lane 2[d]	553	3.0	1112	0.497	100	8.9	LOS A	2.8	71.4	Full	1600	0.0	0.0
Lane 3	85	3.0	1221	0.069	100	3.5	LOS A	0.3	6.5	Short	200	0.0	NA
Approach	1154	3.0		0.497		8.7	LOS A	2.8	72.4				
Intersection	2438	3.0		0.497		7.0	LOS A	2.8	72.4				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Corral Hollow Rd

Mov. From S To Exit:	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	186	-	186	3.0	430	0.432	100	NA	NA
Lane 2	213	-	213	3.0	492	0.432	100	NA	NA
Lane 3	-	639	639	3.0	1626	0.393	100	0.0	2
Approach	399	639	1038	3.0		0.432			

North: Corral Hollow Rd

Mov. From N	L2	T1	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

To Exit:	E	S								
Lane 1	107	13	120	3.0	1311	0.091	100	NA	NA
Lane 2	-	126	126	3.0	1379	0.091	100	NA	NA
Approach	107	139	246	3.0		0.091			

West: I-580 EB Off Ramp

Mov. From W To Exit:	L2 N	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	517	-	517	3.0	1038	0.497	100	NA	NA
Lane 2	553	-	553	3.0	1112	0.497	100	NA	NA
Lane 3	-	85	85	3.0	1221	0.069	100	0.0	2
Approach	1070	85	1154	3.0		0.497			

	Total	%HV	Deg.Satn (v/c)
Intersection	2438	3.0	0.497

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Corral Hollow Rd Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: I-580 EB On Ramp Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Corral Hollow Rd Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

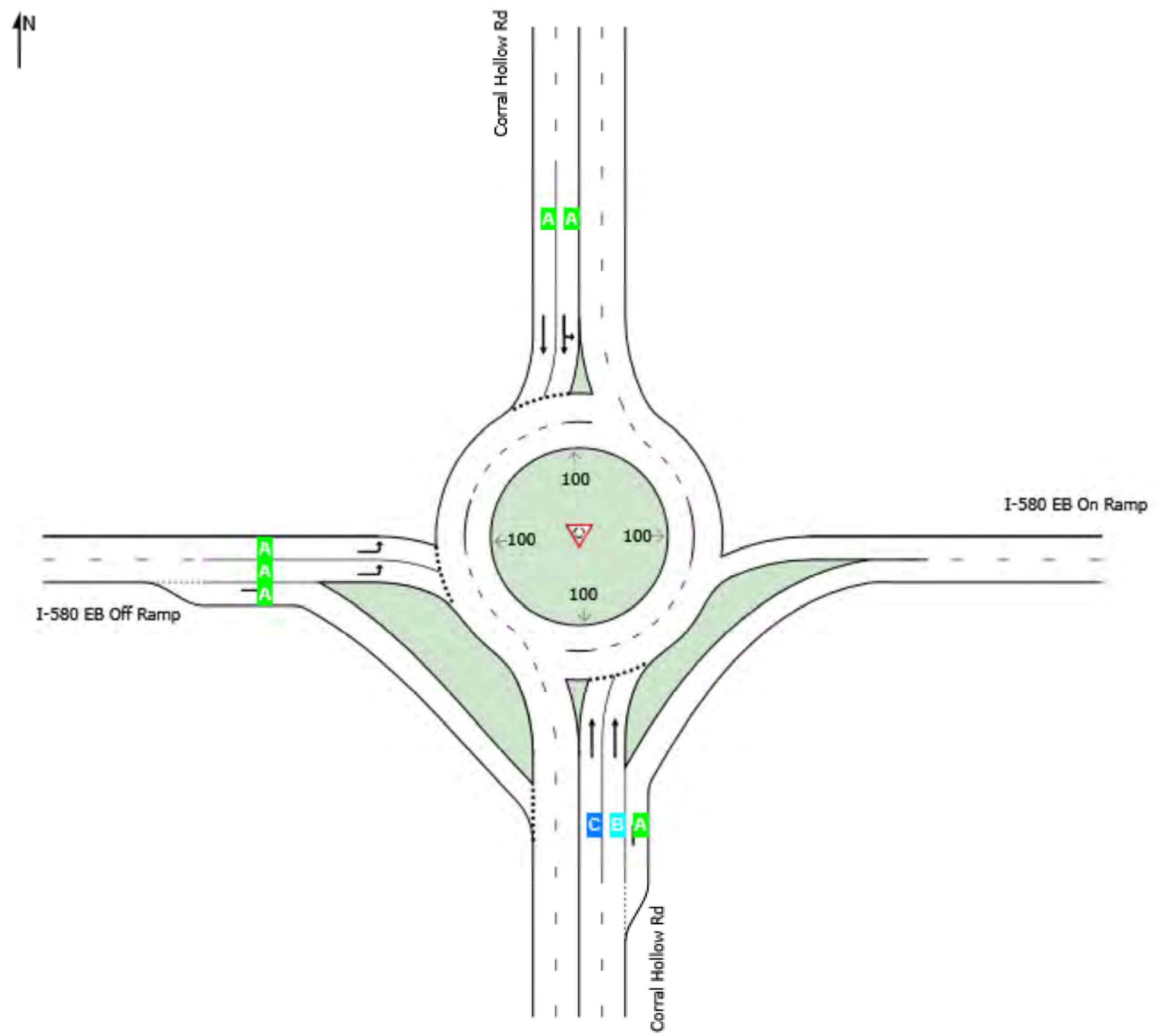
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 101 [PM Peak Hour (Site Folder: General)]

Intersection 68 Corral Hollow & I-580 EB ramps
Site Category: (None)
Roundabout

	Approaches			Intersection
	South	North	West	
LOS	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Delay Model: HCM Delay Formula (Geometric Delay is not included).

MOVEMENT SUMMARY

Site: 101 [PM Peak Hour (Site Folder: General)]

Intersection 68 Corral Hollow & I-580 EB ramps
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Corral Hollow Rd														
8	T1	367	3.0	399	3.0	0.432	15.8	LOS C	1.9	48.6	0.77	0.86	1.11	30.2
18	R2	588	3.0	639	3.0	0.393	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	37.0
Approach		955	3.0	1038	3.0	0.432	6.2	LOS A	1.9	48.6	0.29	0.33	0.43	34.0
North: Corral Hollow Rd														
7	L2	98	3.0	107	3.0	0.091	3.5	LOS A	0.0	0.0	0.00	0.00	0.00	35.4
4	T1	128	3.0	139	3.0	0.091	3.3	LOS A	0.0	0.0	0.00	0.00	0.00	37.9
Approach		226	3.0	246	3.0	0.091	3.4	LOS A	0.0	0.0	0.00	0.00	0.00	36.8
West: I-580 EB Off Ramp														
5	L2	984	3.0	1070	3.0	0.497	9.1	LOS A	2.8	72.4	0.52	0.41	0.52	30.9
12	R2	78	3.0	85	3.0	0.069	3.5	LOS A	0.3	6.5	0.24	0.13	0.24	34.8
Approach		1062	3.0	1154	3.0	0.497	8.7	LOS A	2.8	72.4	0.50	0.39	0.50	31.1
All Vehicles		2243	3.0	2438	3.0	0.497	7.0	LOS A	2.8	72.4	0.36	0.32	0.42	32.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

LANE SUMMARY

Site: 101 [AM Peak Hour (Site Folder: General)]

Intersection 69 Corral Hollow & Lammers Rd
Site Category: (None)
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Corral Hollow Rd													
Lane 1	24	3.0	935	0.025	100	4.1	LOS A	0.1	2.3	Full	1600	0.0	0.0
Lane 2[d]	25	3.0	1009	0.025	100	3.8	LOS A	0.1	2.2	Full	1600	0.0	0.0
Approach	49	3.0		0.025		3.9	LOS A	0.1	2.3				
North: Corral Hollow Rd													
Lane 1[d]	357	3.0	1351	0.264	100	4.9	LOS A	1.3	33.7	Full	1600	0.0	0.0
Lane 2	45	3.0	1351	0.033	13[5]	2.9	LOS A	0.1	3.3	Full	1600	0.0	0.0
Approach	401	3.0		0.264		4.7	LOS A	1.3	33.7				
West: Lammers Rd													
Lane 1	189	3.0	987	0.192	100	5.5	LOS A	0.8	20.3	Full	1600	0.0	0.0
Lane 2[d]	189	3.0	987	0.192	100	5.5	LOS A	0.8	20.3	Full	1600	0.0	0.0
Approach	378	3.0		0.192		5.5	LOS A	0.8	20.3				
Intersection	828	3.0		0.264		5.0	LOS A	1.3	33.7				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Corral Hollow Rd

Mov. From S To Exit:	L2 W	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	22	2	24	3.0	935	0.025	100	NA	NA
Lane 2	-	25	25	3.0	1009	0.025	100	NA	NA
Approach	22	27	49	3.0		0.025			

North: Corral Hollow Rd

Mov. From N To Exit:	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	357	-	357	3.0	1351	0.264	100	NA	NA

Mov. From W To Exit:	L2 N	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 2	-	45	45	3.0	1351	0.033	13[5]	NA	NA
Approach	357	45	401	3.0		0.264			
West: Lammers Rd									
Lane 1	189	-	189	3.0	987	0.192	100	NA	NA
Lane 2	167	22	189	3.0	987	0.192	100	NA	NA
Approach	357	22	378	3.0		0.192			

	Total	%HV	Deg.Satn (v/c)
Intersection	828	3.0	0.264

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

5 Lane under-utilisation found by the program

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Corral Hollow Rd Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Corral Hollow Rd Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
West Exit: Lammers Rd Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

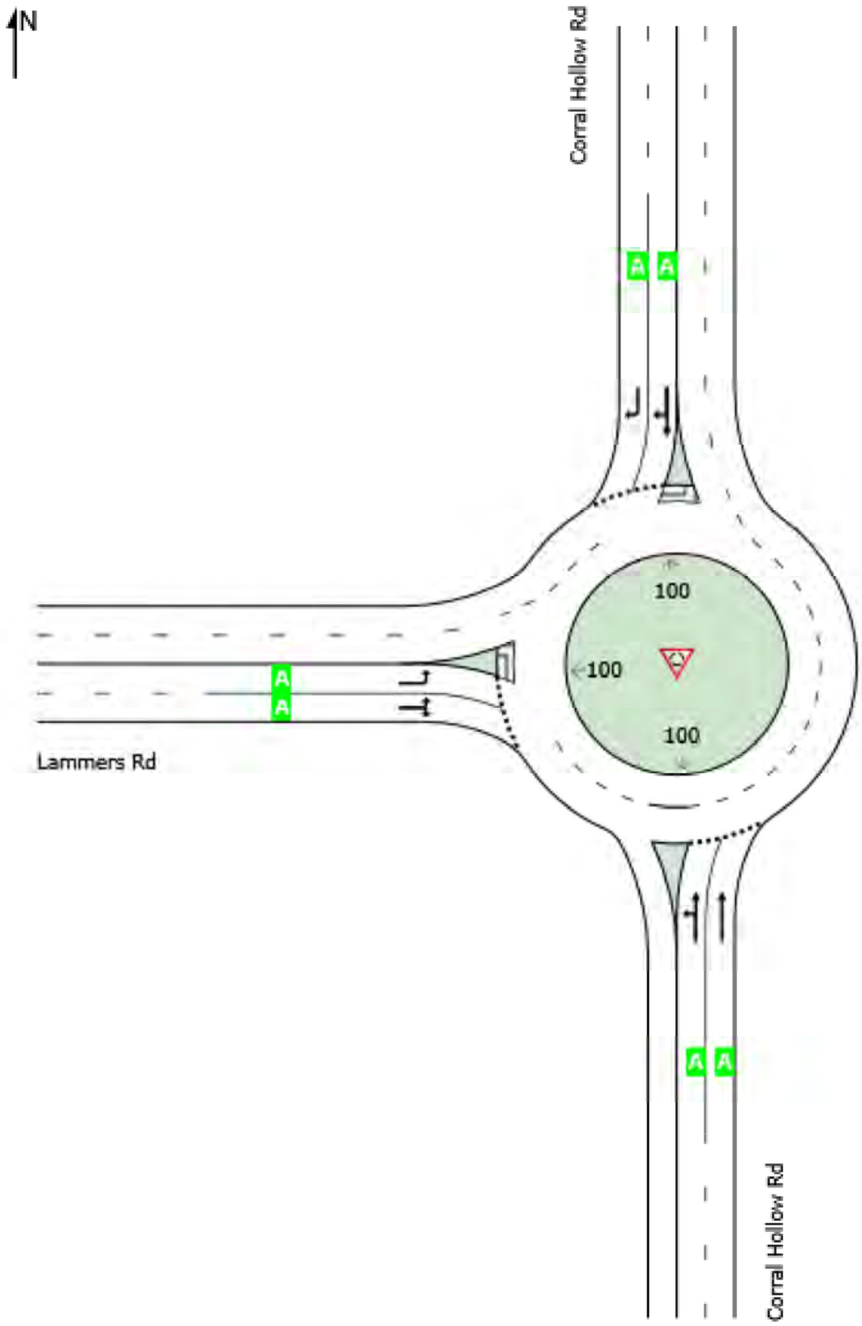
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 101 [AM Peak Hour (Site Folder: General)]

Intersection 69 Corral Hollow & Lammers Rd
Site Category: (None)
Roundabout

	Approaches			Intersection
	South	North	West	
LOS	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Delay Model: HCM Delay Formula (Geometric Delay is not included).

MOVEMENT SUMMARY

Site: 101 [AM Peak Hour (Site Folder: General)]

Intersection 69 Corral Hollow & Lammers Rd
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Corral Hollow Rd														
3	L2	20	3.0	22	3.0	0.025	4.1	LOS A	0.1	2.3	0.40	0.27	0.40	33.3
8	T1	25	3.0	27	3.0	0.025	3.8	LOS A	0.1	2.3	0.39	0.25	0.39	35.8
Approach		45	3.0	49	3.0	0.025	3.9	LOS A	0.1	2.3	0.39	0.26	0.39	34.6
North: Corral Hollow Rd														
4	T1	328	3.0	357	3.0	0.264	4.9	LOS A	1.3	33.7	0.11	0.03	0.11	35.3
14	R2	41	3.0	45	3.0	0.033	2.9	LOS A	0.1	3.3	0.09	0.02	0.09	35.1
Approach		369	3.0	401	3.0	0.264	4.7	LOS A	1.3	33.7	0.11	0.03	0.11	35.3
West: Lammers Rd														
5	L2	328	3.0	357	3.0	0.192	5.5	LOS A	0.8	20.3	0.46	0.37	0.46	32.6
12	R2	20	3.0	22	3.0	0.192	5.5	LOS A	0.8	20.3	0.46	0.37	0.46	31.7
Approach		348	3.0	378	3.0	0.192	5.5	LOS A	0.8	20.3	0.46	0.37	0.46	32.5
All Vehicles		762	3.0	828	3.0	0.264	5.0	LOS A	1.3	33.7	0.29	0.20	0.29	33.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

LANE SUMMARY

Site: 101 [PM Peak Hour (Site Folder: General)]

Intersection 69 Corral Hollow & Lammers Rd
Site Category: (None)
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total	HV]	Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% BACK OF QUEUE [Veh	Dist]	Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	veh/h	%	veh/h	v/c	%	sec			ft		ft	%	%
South: Corral Hollow Rd													
Lane 1	24	3.0	1101	0.021	100	3.4	LOS A	0.1	2.0	Full	1600	0.0	0.0
Lane 2[d]	25	3.0	1174	0.021	100	3.2	LOS A	0.1	1.9	Full	1600	0.0	0.0
Approach	49	3.0		0.021		3.3	LOS A	0.1	2.0				
North: Corral Hollow Rd													
Lane 1[d]	236	3.0	1351	0.175	100	4.1	LOS A	0.8	20.0	Full	1600	0.0	0.0
Lane 2	120	3.0	1351	0.089	51[5]	3.4	LOS A	0.4	9.2	Full	1600	0.0	0.0
Approach	355	3.0		0.175		3.9	LOS A	0.8	20.0				
West: Lammers Rd													
Lane 1	103	3.0	1105	0.093	100	4.1	LOS A	0.4	9.3	Full	1600	0.0	0.0
Lane 2[d]	103	3.0	1105	0.093	100	4.1	LOS A	0.4	9.3	Full	1600	0.0	0.0
Approach	205	3.0		0.093		4.1	LOS A	0.4	9.3				
Intersection	610	3.0		0.175		3.9	LOS A	0.8	20.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Corral Hollow Rd

Mov. From S To Exit:	L2 W	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	22	2	24	3.0	1101	0.021	100	NA	NA
Lane 2	-	25	25	3.0	1174	0.021	100	NA	NA
Approach	22	27	49	3.0		0.021			

North: Corral Hollow Rd

Mov. From N To Exit:	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	236	-	236	3.0	1351	0.175	100	NA	NA

Lane 2	-	120	120	3.0	1351	0.089	51[5]	NA	NA
Approach	236	120	355	3.0		0.175			
West: Lammers Rd									
Mov. From W To Exit:	L2 N	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	103	-	103	3.0	1105	0.093	100	NA	NA
Lane 2	81	22	103	3.0	1105	0.093	100	NA	NA
Approach	184	22	205	3.0		0.093			

	Total	%HV	Deg.Satn (v/c)
Intersection	610	3.0	0.175

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

5 Lane under-utilisation found by the program

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Corral Hollow Rd Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Corral Hollow Rd Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
West Exit: Lammers Rd Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

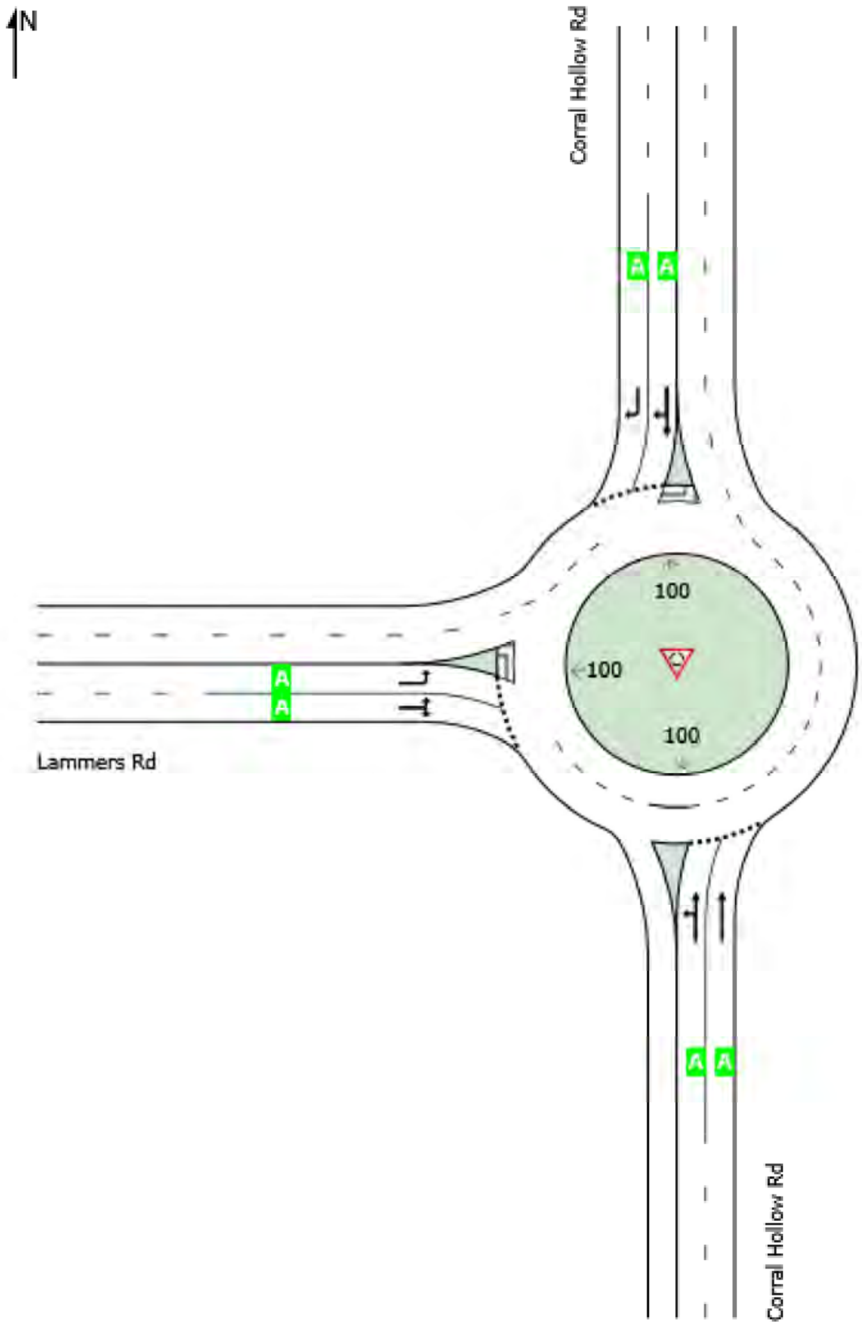
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 101 [PM Peak Hour (Site Folder: General)]

Intersection 69 Corral Hollow & Lammers Rd
Site Category: (None)
Roundabout

	Approaches			Intersection
	South	North	West	
LOS	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Delay Model: HCM Delay Formula (Geometric Delay is not included).

MOVEMENT SUMMARY

Site: 101 [PM Peak Hour (Site Folder: General)]

Intersection 69 Corral Hollow & Lammers Rd
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Corral Hollow Rd														
3	L2	20	3.0	22	3.0	0.021	3.4	LOS A	0.1	2.0	0.29	0.15	0.29	33.6
8	T1	25	3.0	27	3.0	0.021	3.3	LOS A	0.1	2.0	0.27	0.14	0.27	36.0
Approach		45	3.0	49	3.0	0.021	3.3	LOS A	0.1	2.0	0.28	0.14	0.28	34.9
North: Corral Hollow Rd														
4	T1	217	3.0	236	3.0	0.175	4.1	LOS A	0.8	20.0	0.10	0.03	0.10	35.8
14	R2	110	3.0	120	3.0	0.089	3.4	LOS A	0.4	9.2	0.09	0.02	0.09	34.9
Approach		327	3.0	355	3.0	0.175	3.9	LOS A	0.8	20.0	0.10	0.03	0.10	35.5
West: Lammers Rd														
5	L2	169	3.0	184	3.0	0.093	4.1	LOS A	0.4	9.3	0.35	0.23	0.35	33.3
12	R2	20	3.0	22	3.0	0.093	4.1	LOS A	0.4	9.3	0.35	0.23	0.35	32.5
Approach		189	3.0	205	3.0	0.093	4.1	LOS A	0.4	9.3	0.35	0.23	0.35	33.2
All Vehicles		561	3.0	610	3.0	0.175	3.9	LOS A	0.8	20.0	0.20	0.10	0.20	34.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

LANE SUMMARY

Site: 101 [AM Peak Hour (Site Folder: General)]

Intersection 107 Eleventh & Grant Line
Site Category: (None)
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total	HV]	Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% BACK OF QUEUE [Veh	Dist]	Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	veh/h	%	veh/h	v/c	%	sec			ft		ft	%	%
South: Eleventh St													
Lane 1[d]	750	3.0	1066	0.704	100	14.5	LOS B	10.9	277.8	Full	1600	0.0	0.0
Lane 2	285	3.0	1066	0.268	38[6]	5.9	LOS A	1.2	31.1	Full	1600	0.0	0.0
Lane 3	30	3.0	1626	0.019	3[5]	4.9	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1066	3.0		0.704		11.9	LOS B	10.9	277.8				
East: Kasson Rd													
Lane 1[d]	290	3.0	509	0.571	100	23.4	LOS C	3.1	78.6	Full	1600	0.0	0.0
Approach	290	3.0		0.571		23.4	LOS C	3.1	78.6				
North: Eleventh St													
Lane 1	840	3.0	954	0.880	100	28.4	LOS D	23.0	590.0	Full	1600	0.0	0.0
Lane 2[d]	840	3.0	954	0.880	100	33.0	LOS D	23.0	590.0	Full	1600	0.0	0.0
Approach	1680	3.0		0.880		30.7	LOS D	23.0	590.0				
West: W. Grant Line Rd													
Lane 1[d]	274	3.0	503	0.544	100	19.5	LOS C	2.8	71.7	Full	1600	0.0	0.0
Approach	274	3.0		0.544		19.5	LOS C	2.8	71.7				
Intersection	3311	3.0		0.880		23.1	LOS C	23.0	590.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Eleventh St

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	124	627	-	750	3.0	1066	0.704	100	NA	NA
Lane 2	-	285	-	285	3.0	1066	0.268	38[6]	NA	NA
Lane 3	-	-	30	30	3.0	1626	0.019	3[5]	NA	NA
Approach	124	912	30	1066	3.0		0.704			

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
East: Kasson Rd										
Lane 1	67	201	22	290	3.0	509	0.571	100	NA	NA
Approach	67	201	22	290	3.0		0.571			

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
North: Eleventh St										
Lane 1	27	813	-	840	3.0	954	0.880	100	NA	NA
Lane 2	-	243	597	840	3.0	954	0.880	100	NA	NA
Approach	27	1057	597	1680	3.0		0.880			

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
West: W. Grant Line Rd										
Lane 1	103	143	27	274	3.0	503	0.544	100	NA	NA
Approach	103	143	27	274	3.0		0.544			

	Total	%HV	Deg.Satn (v/c)
Intersection	3311	3.0	0.880

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

5 Lane under-utilisation found by the program

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Eleventh St Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: Kasson Rd Merge Type: **Priority**												
Exit Short Lane	2	200	0.0	27	28	3.00	2.00	143	1772	0.081	2.0	2.6
Merge Lane	1	-	100.0	Merge Lane is not Opposed				27	1800	0.015	0.0	0.0
East Exit: Kasson Rd Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	143	148	3.00	2.00	30	1658	0.018	2.2	2.3
Merge Lane	2	200	100.0	Merge Lane is not Opposed				143	1800	0.080	0.0	0.0
North Exit: Eleventh St Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
West Exit: W. Grant Line Rd Merge Type: **Priority**												
Exit Short Lane	2	200	0.0	124	128	3.00	2.00	798	1676	0.476	2.1	6.5
Merge Lane	1	-	100.0	Merge Lane is not Opposed				124	1800	0.069	0.0	0.0

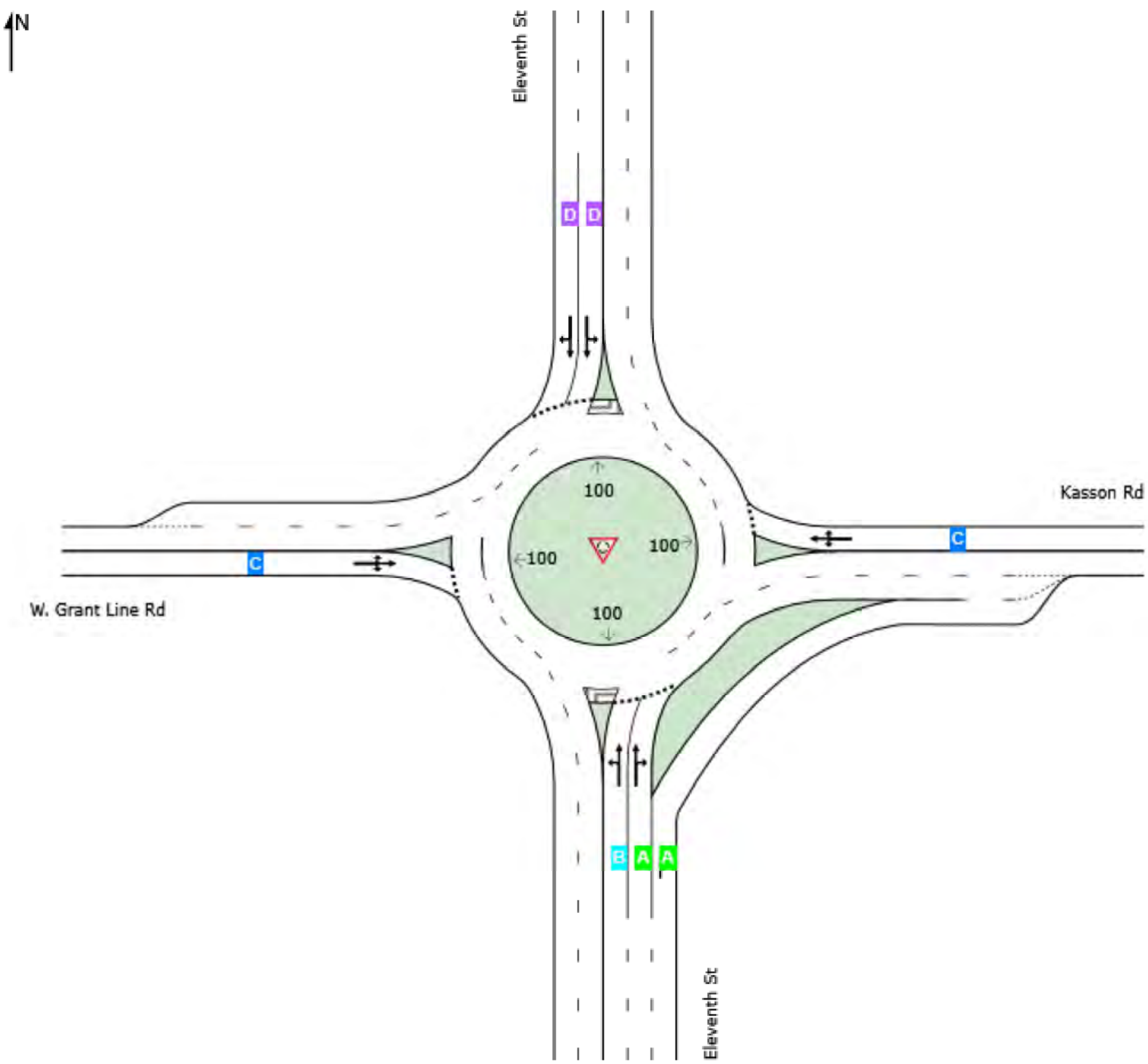
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 101 [AM Peak Hour (Site Folder: General)]

Intersection 107 Eleventh & Grant Line
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	B	C	D	C	C



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.

MOVEMENT SUMMARY

Site: 101 [AM Peak Hour (Site Folder: General)]

Intersection 107 Eleventh & Grant Line
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Eleventh St														
3	L2	114	3.0	124	3.0	0.704	14.5	LOS B	10.9	277.8	0.74	0.85	1.23	30.5
8	T1	839	3.0	912	3.0	0.704	11.8	LOS B	10.9	277.8	0.65	0.69	0.98	31.7
18	R2	28	3.0	30	3.0	0.019	4.9	LOS A	0.0	0.0	0.00	0.00	0.00	37.1
Approach		981	3.0	1066	3.0	0.704	11.9	LOS B	10.9	277.8	0.64	0.69	0.99	31.6
East: Kasson Rd														
1	L2	62	3.0	67	3.0	0.571	18.9	LOS C	3.1	78.6	0.79	0.96	1.37	28.7
6	T1	185	3.0	201	3.0	0.571	25.4	LOS D	3.1	78.6	0.79	0.96	1.37	28.6
16	R2	20	3.0	22	3.0	0.571	18.9	LOS C	3.1	78.6	0.79	0.96	1.37	27.9
Approach		267	3.0	290	3.0	0.571	23.4	LOS C	3.1	78.6	0.79	0.96	1.37	28.6
North: Eleventh St														
7	L2	25	3.0	27	3.0	0.844	28.4	LOS D	23.0	590.0	1.00	1.64	2.62	25.9
4	T1	972	3.0	1057	3.0	0.844	28.4	LOS D	23.0	590.0	1.00	1.64	2.62	25.9
14	R2	549	3.0	597	3.0	0.844	34.8	LOS D	23.0	590.0	1.00	1.64	2.62	25.1
Approach		1546	3.0	1680	3.0	0.844	30.7	LOS D	23.0	590.0	1.00	1.64	2.62	25.6
West: W. Grant Line Rd														
5	L2	95	3.0	103	3.0	0.544	18.1	LOS C	2.8	71.7	0.79	0.94	1.31	28.7
2	T1	132	3.0	143	3.0	0.544	20.7	LOS C	2.8	71.7	0.79	0.94	1.31	28.6
12	R2	25	3.0	27	3.0	0.544	18.1	LOS C	2.8	71.7	0.79	0.94	1.31	27.9
Approach		252	3.0	274	3.0	0.544	19.5	LOS C	2.8	71.7	0.79	0.94	1.31	28.6
All Vehicles		3046	3.0	3311	3.0	0.844	23.1	LOS C	23.0	590.0	0.85	1.21	1.87	27.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

LANE SUMMARY

Site: 101 [PM Peak Hour (Site Folder: General)]

Intersection 107 Eleventh & Grant Line
Site Category: (None)
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Eleventh St													
Lane 1[d]	920	3.0	852	1.080	100	76.0	LOS F	50.9	1303.4	Full	1600	0.0	0.0
Lane 2	350	3.0	852	0.411	38[6]	9.2	LOS A	2.2	55.0	Full	1600	0.0	0.0
Lane 3	132	3.0	1626	0.081	7[5]	5.4	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1401	3.0		1.080		52.7	LOS F	50.9	1303.4				
East: Kasson Rd													
Lane 1[d]	170	3.0	365	0.465	100	23.7	LOS C	1.9	48.8	Full	1600	0.0	0.0
Approach	170	3.0		0.465		23.7	LOS C	1.9	48.8				
North: Eleventh St													
Lane 1	724	3.0	1103	0.657	100	12.6	LOS B	8.1	208.6	Full	1600	0.0	0.0
Lane 2[d]	724	3.0	1103	0.657	100	15.5	LOS C	8.1	208.6	Full	1600	0.0	0.0
Approach	1449	3.0		0.657		14.1	LOS B	8.1	208.6				
West: W. Grant Line Rd													
Lane 1[d]	971	3.0	560	1.734	100	356.9	LOS F	140.8	3603.6	Full	1600	0.0	40.5
Approach	971	3.0		1.734		356.9	LOS F	140.8	3603.6				
Intersection	3990	3.0		1.734		111.4	LOS F	140.8	3603.6				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Eleventh St

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	105	814	-	920	3.0	852	1.080	100	NA	NA
Lane 2	-	350	-	350	3.0	852	0.411	38[6]	NA	NA
Lane 3	-	-	132	132	3.0	1626	0.081	7[5]	NA	NA
Approach	105	1164	132	1401	3.0		1.080			

East: Kasson Rd										
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	29	113	27	170	3.0	365	0.465	100	NA	NA
Approach	29	113	27	170	3.0		0.465			
North: Eleventh St										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	27	697	-	724	3.0	1103	0.657	100	NA	NA
Lane 2	-	276	449	724	3.0	1103	0.657	100	NA	NA
Approach	27	973	449	1449	3.0		0.657			
West: W. Grant Line Rd										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	577	259	135	971	3.0	560	1.734	100	NA	NA
Approach	577	259	135	971	3.0		1.734			

	Total	%HV	Deg.Satn (v/c)
Intersection	3990	3.0	1.734

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

5 Lane under-utilisation found by the program
6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Eleventh St Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: Kasson Rd Merge Type: **Priority**												
Exit Short Lane	2	200	0.0	27	28	3.00	2.00	149	1772	0.084	2.0	2.6
Merge Lane	1	-	100.0	Merge Lane is not Opposed				27	1800	0.015	0.0	0.0
East Exit: Kasson Rd Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	149	154	3.00	2.00	132	1652	0.080	2.2	2.8
Merge Lane	2	200	100.0	Merge Lane is not Opposed				149	1800	0.083	0.0	0.0
North Exit: Eleventh St Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
West Exit: W. Grant Line Rd Merge Type: **Priority**												
Exit Short Lane	2	200	0.0	98	101	3.00	2.00	562	1702	0.330	2.1	4.8
Merge Lane	1	-	100.0	Merge Lane is not Opposed				98	1800	0.054	0.0	0.0

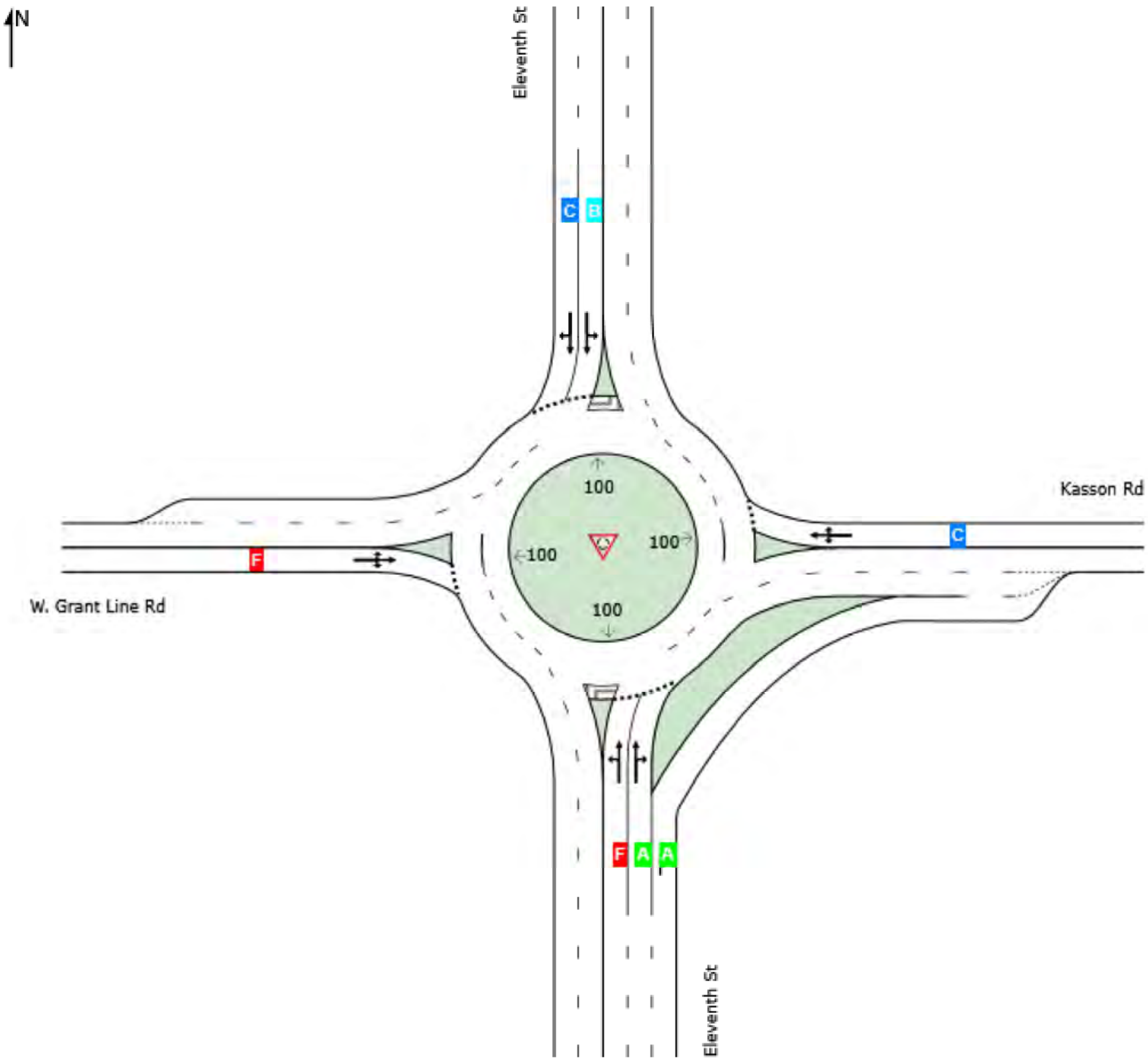
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 101 [PM Peak Hour (Site Folder: General)]

Intersection 107 Eleventh & Grant Line
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	F	C	B	F	F



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.

MOVEMENT SUMMARY

Site: 101 [PM Peak Hour (Site Folder: General)]

Intersection 107 Eleventh & Grant Line
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Eleventh St														
3	L2	97	3.0	105	3.0	1.080	76.0	LOS F	50.9	1303.4	1.00	2.77	5.74	16.8
8	T1	1071	3.0	1164	3.0	1.080	55.9	LOS F	50.9	1303.4	0.89	2.13	4.23	19.7
18	R2	121	3.0	132	3.0	0.081	5.4	LOS A	0.0	0.0	0.00	0.00	0.00	37.1
Approach		1289	3.0	1401	3.0	1.080	52.7	LOS F	50.9	1303.4	0.81	1.98	3.95	20.3
East: Kasson Rd														
1	L2	27	3.0	29	3.0	0.465	20.5	LOS C	1.9	48.8	0.84	0.95	1.26	28.2
6	T1	104	3.0	113	3.0	0.465	25.3	LOS D	1.9	48.8	0.84	0.95	1.26	28.1
16	R2	25	3.0	27	3.0	0.465	20.5	LOS C	1.9	48.8	0.84	0.95	1.26	27.4
Approach		156	3.0	170	3.0	0.465	23.7	LOS C	1.9	48.8	0.84	0.95	1.26	28.0
North: Eleventh St														
7	L2	25	3.0	27	3.0	0.657	12.6	LOS B	8.1	208.6	0.67	0.66	0.94	31.6
4	T1	895	3.0	973	3.0	0.657	12.6	LOS B	8.1	208.6	0.67	0.66	0.94	31.5
14	R2	413	3.0	449	3.0	0.657	17.4	LOS C	8.1	208.6	0.67	0.66	0.94	30.6
Approach		1333	3.0	1449	3.0	0.657	14.1	LOS B	8.1	208.6	0.67	0.66	0.94	31.2
West: W. Grant Line Rd														
5	L2	531	3.0	577	3.0	1.734	356.2	LOS F	140.8	3603.6	1.00	6.02	18.09	5.5
2	T1	238	3.0	259	3.0	1.734	358.8	LOS F	140.8	3603.6	1.00	6.02	18.09	5.5
12	R2	124	3.0	135	3.0	1.734	356.2	LOS F	140.8	3603.6	1.00	6.02	18.09	5.5
Approach		893	3.0	971	3.0	1.734	356.9	LOS F	140.8	3603.6	1.00	6.02	18.09	5.5
All Vehicles		3671	3.0	3990	3.0	1.734	111.4	LOS F	140.8	3603.6	0.81	2.44	6.18	13.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

APPENDIX H

SPECIFIC PLAN CROSS SECTIONS

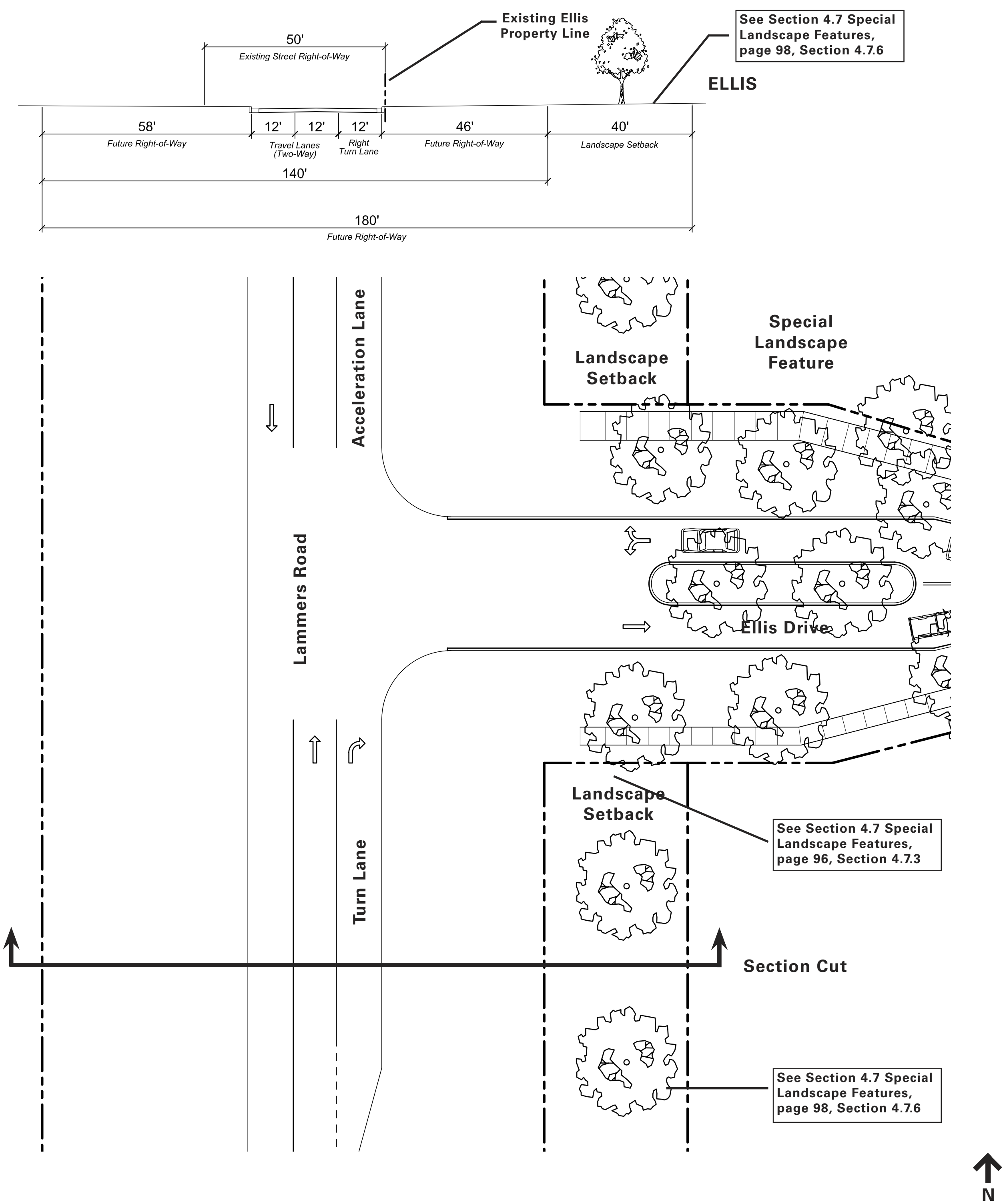


FIGURE 4.15 Existing Section and Plan: Regional Arterial – Lammers Road, Designation A (Cross-section at the time of connection of Ellis Drive to Lammers Road)

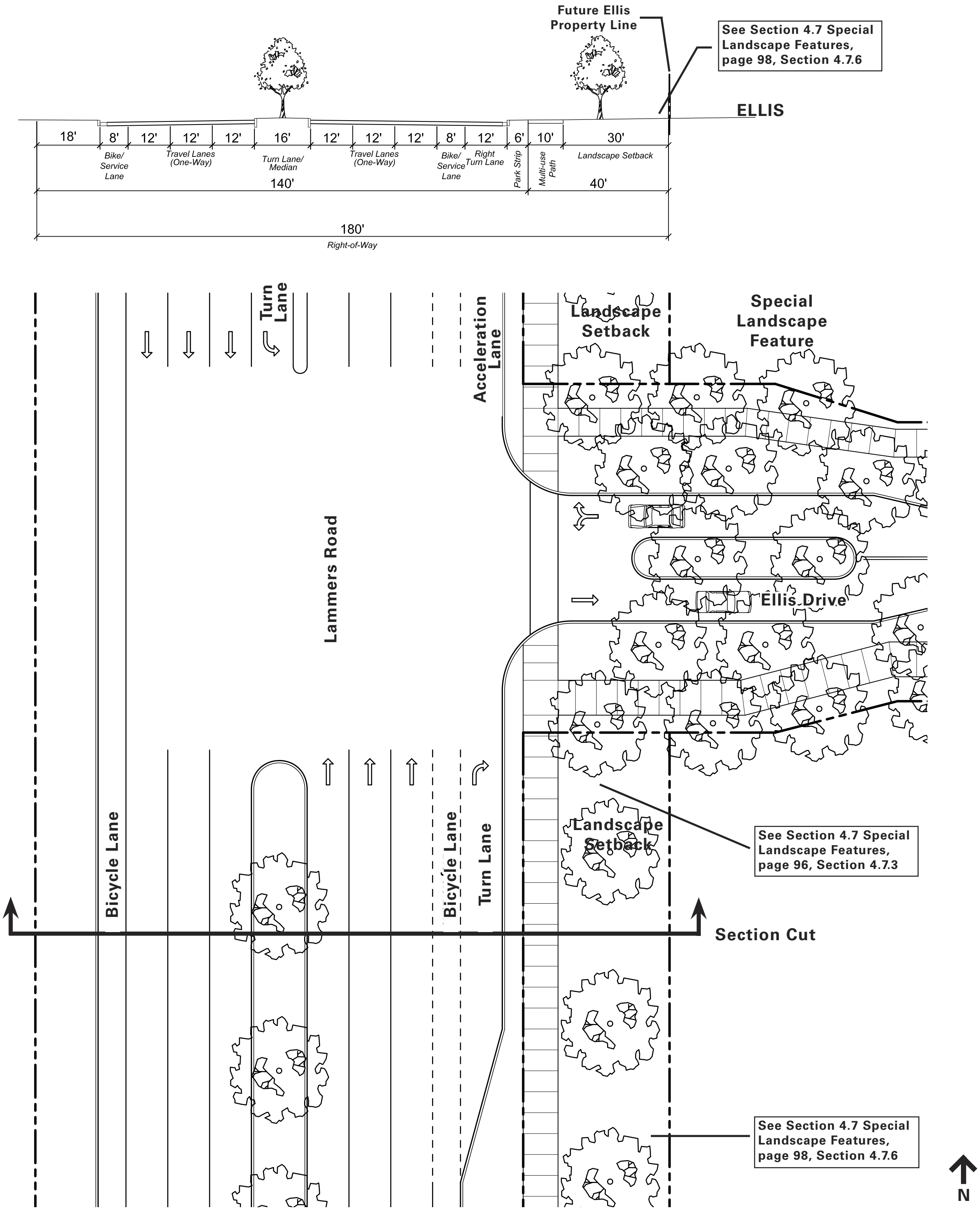


FIGURE 4.17 Build-out Section and Plan: Regional Arterial – Lammers Road, Designation A (Final Build-out)

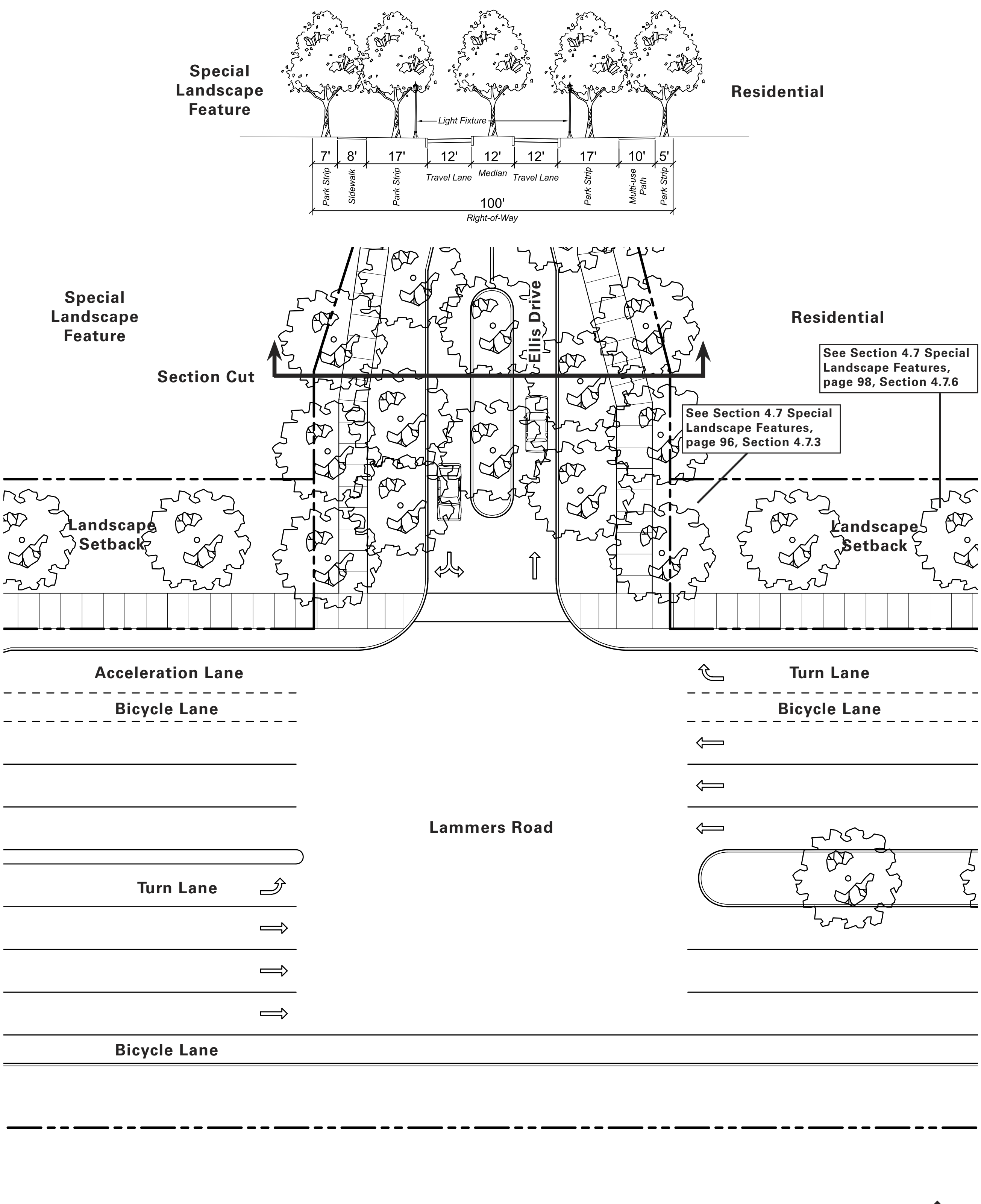


FIGURE 4.19 Proposed Section and Plan: Entry Street A

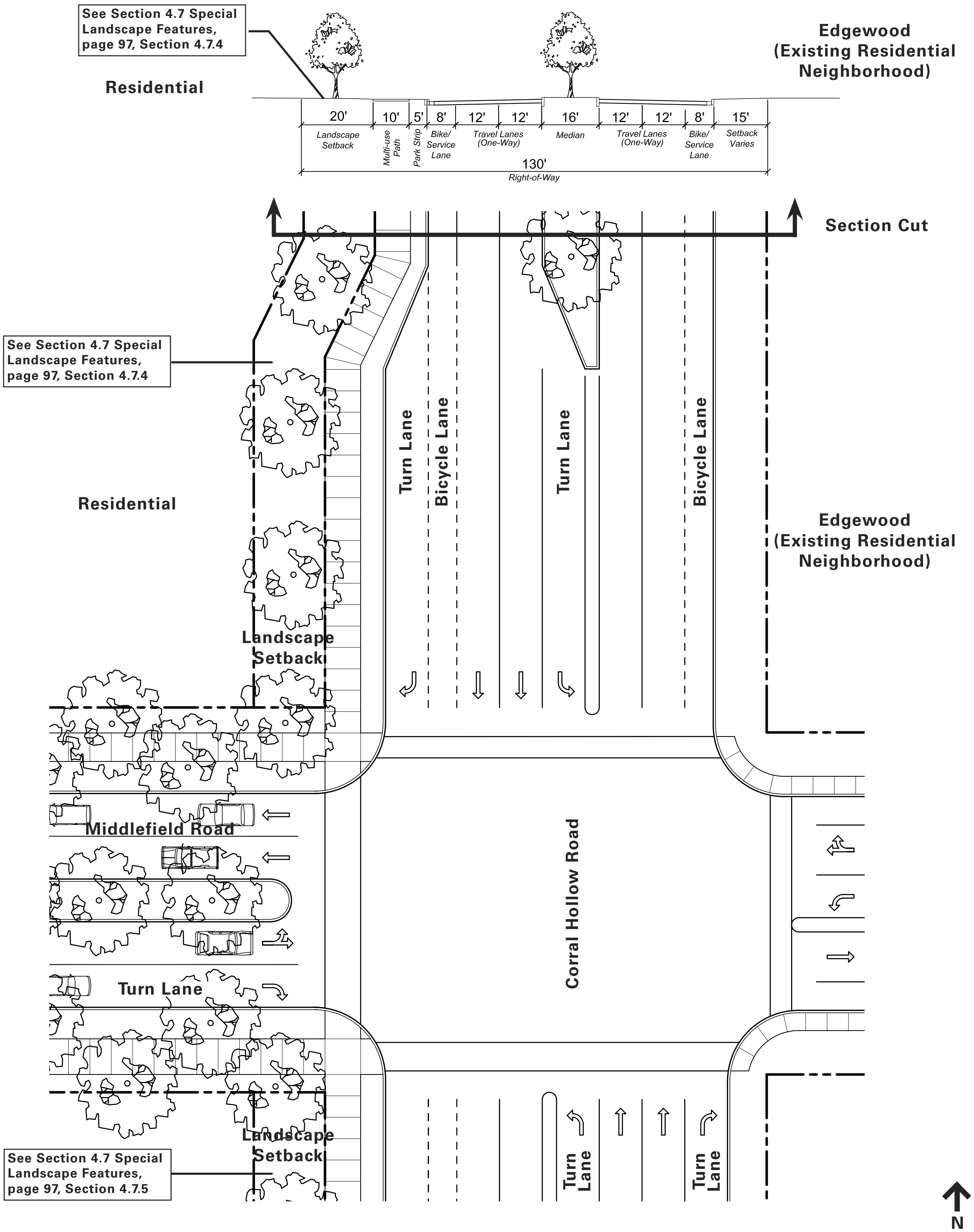


FIGURE 4.21 Interim Section and Plan: Regional Arterial – Corral Hollow Road, Designation B (Interim Condition)

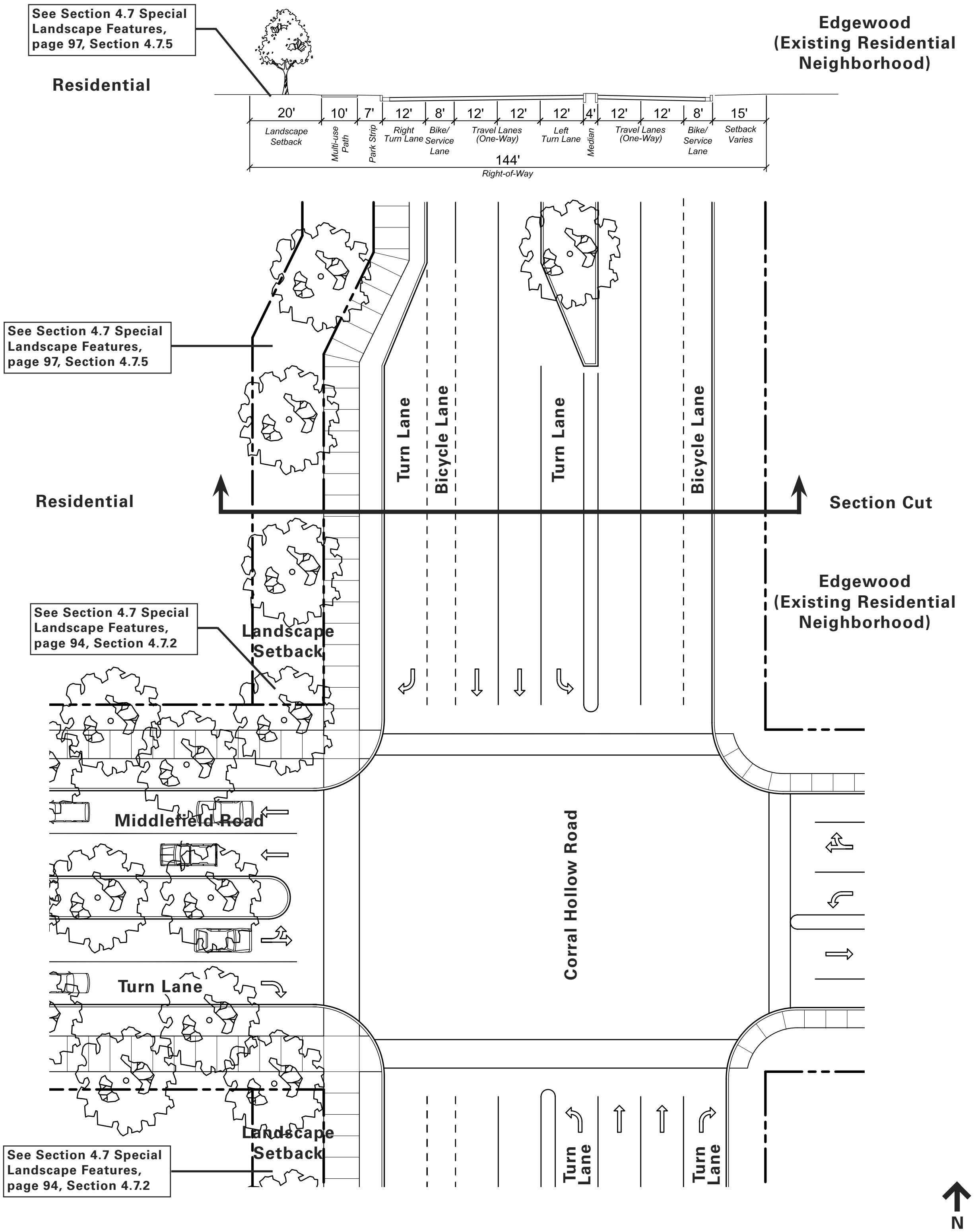


FIGURE 4.23 Build-out Section and Plan: Regional Arterial – Corral Hollow Road, Designation B (Final Build-out)

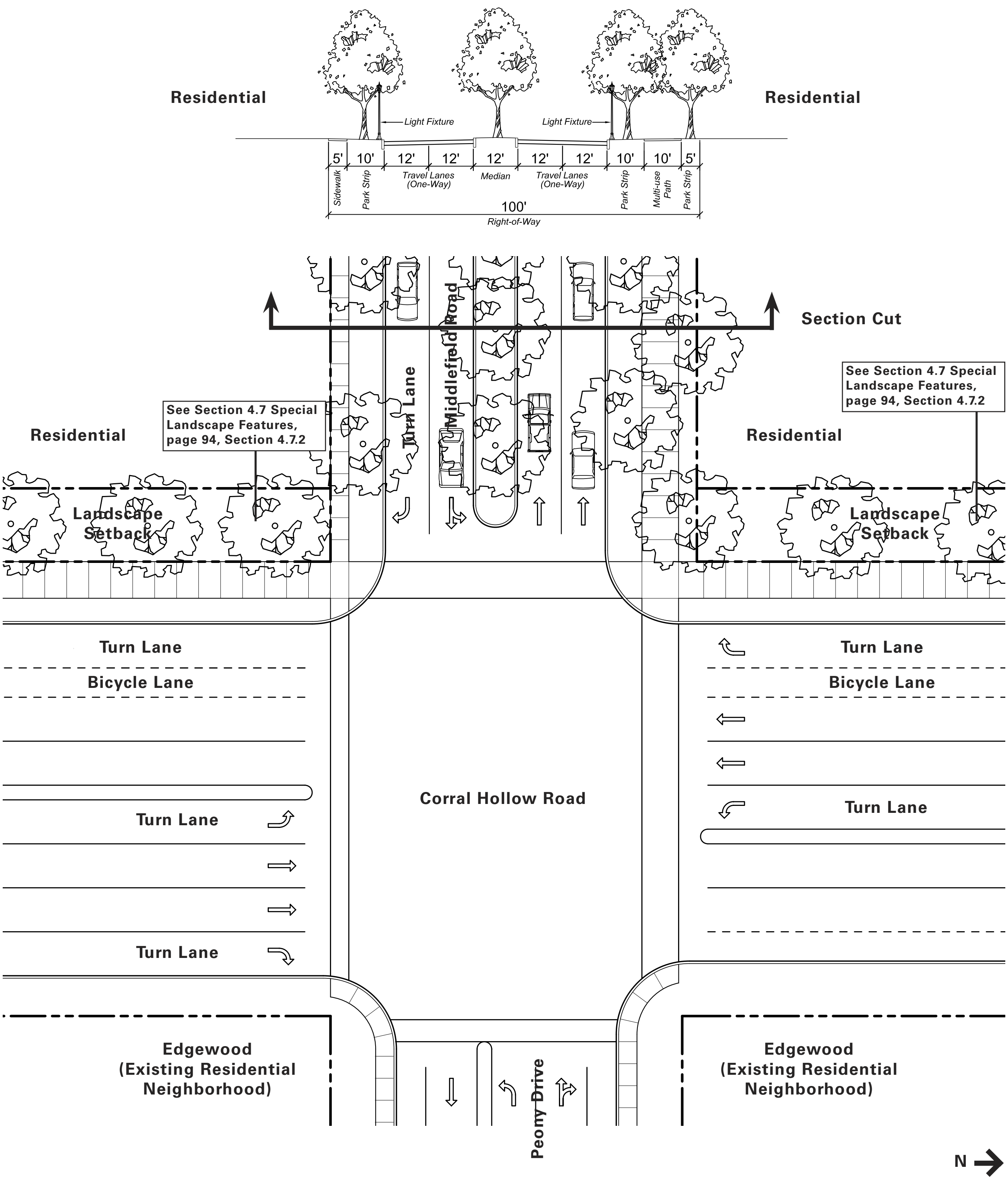


FIGURE 4.25 Proposed Section and Plan: Entry Street B

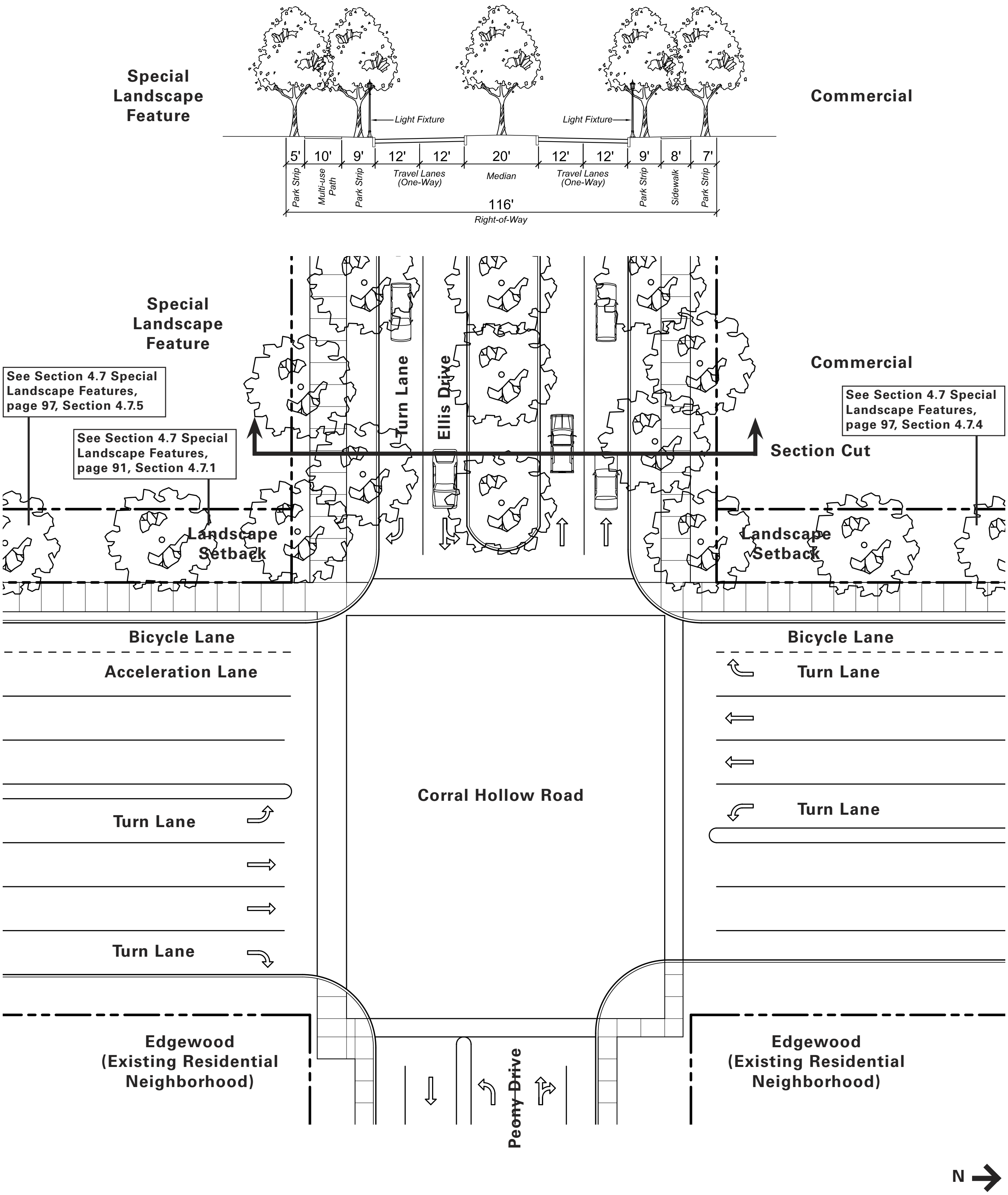


FIGURE 4.27 Proposed Section and Plan: Entry Street C (Ellis Drive)

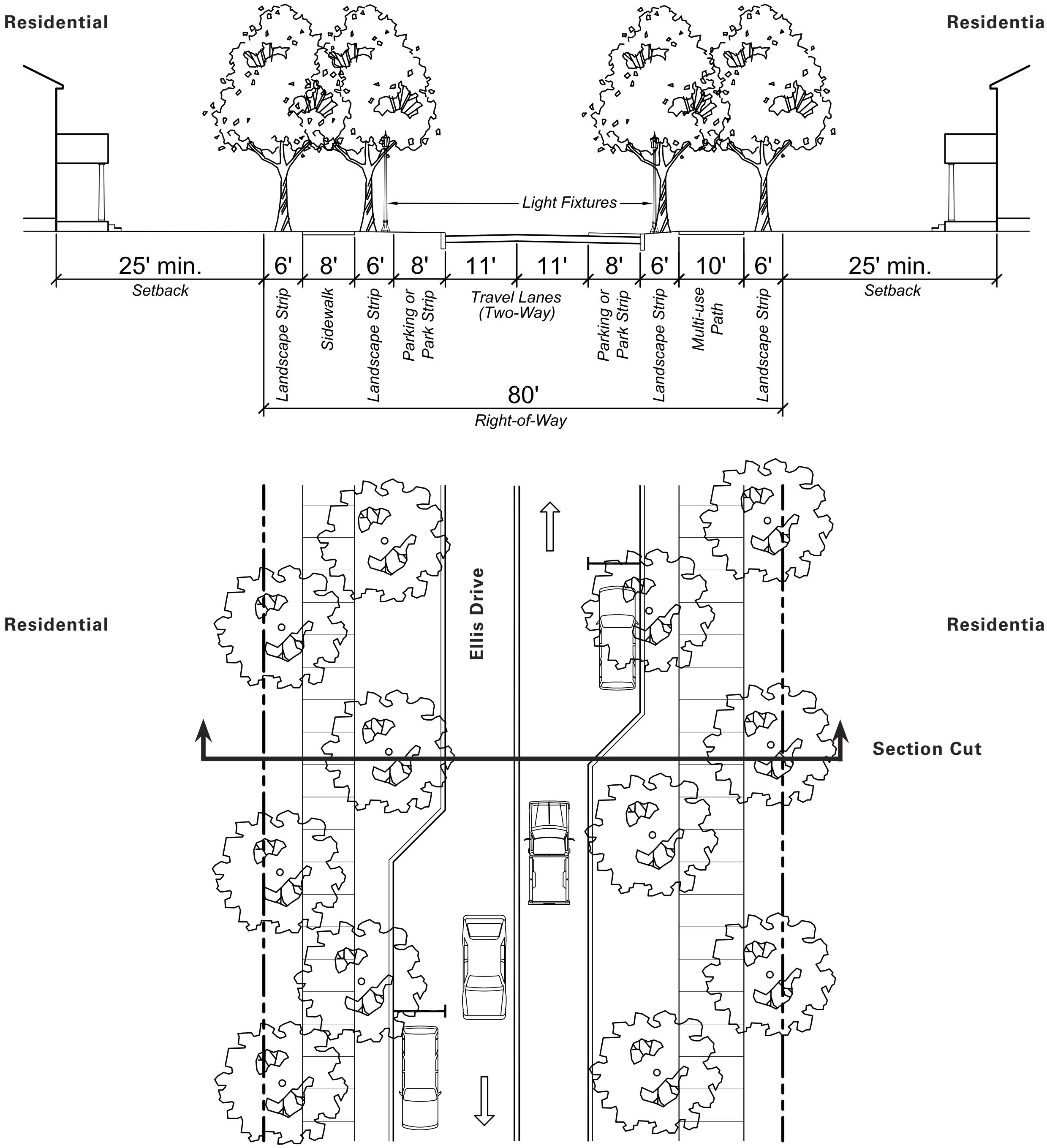


FIGURE 4.29 Proposed Section and Plan: Community Street A

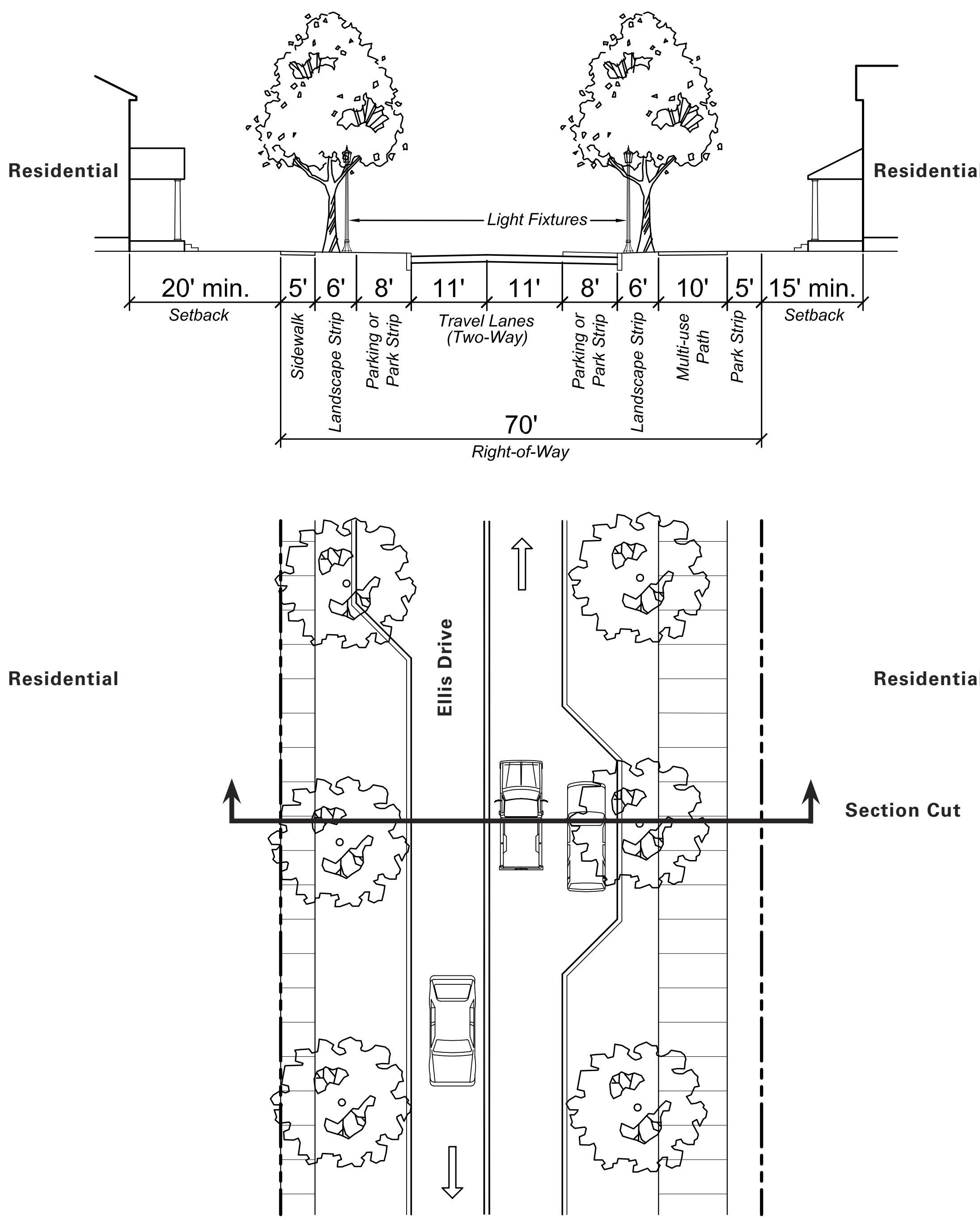


FIGURE 4.31 Proposed Section and Plan: Community Street B

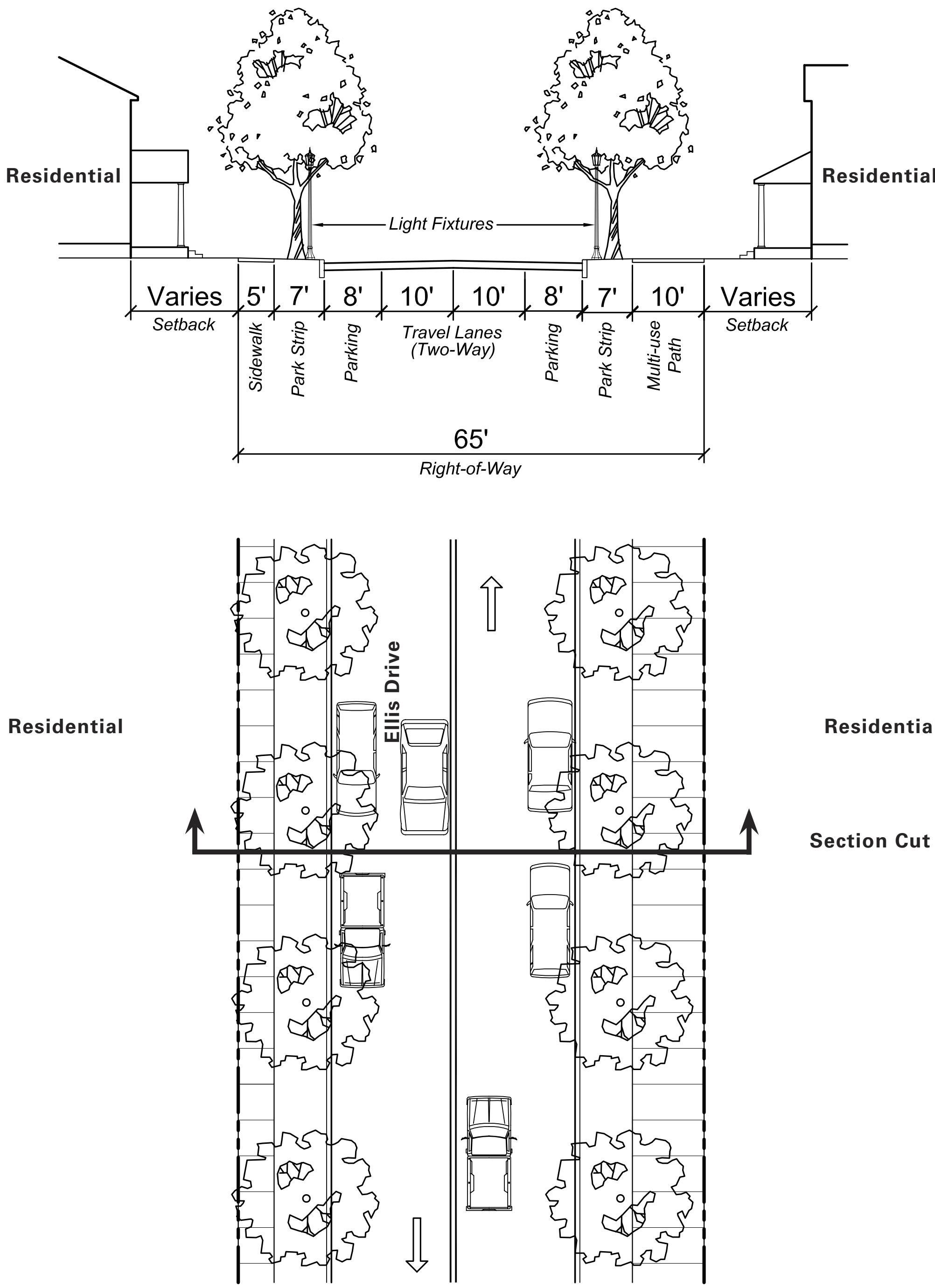


FIGURE 4.33 Proposed Section and Plan: Community Street C

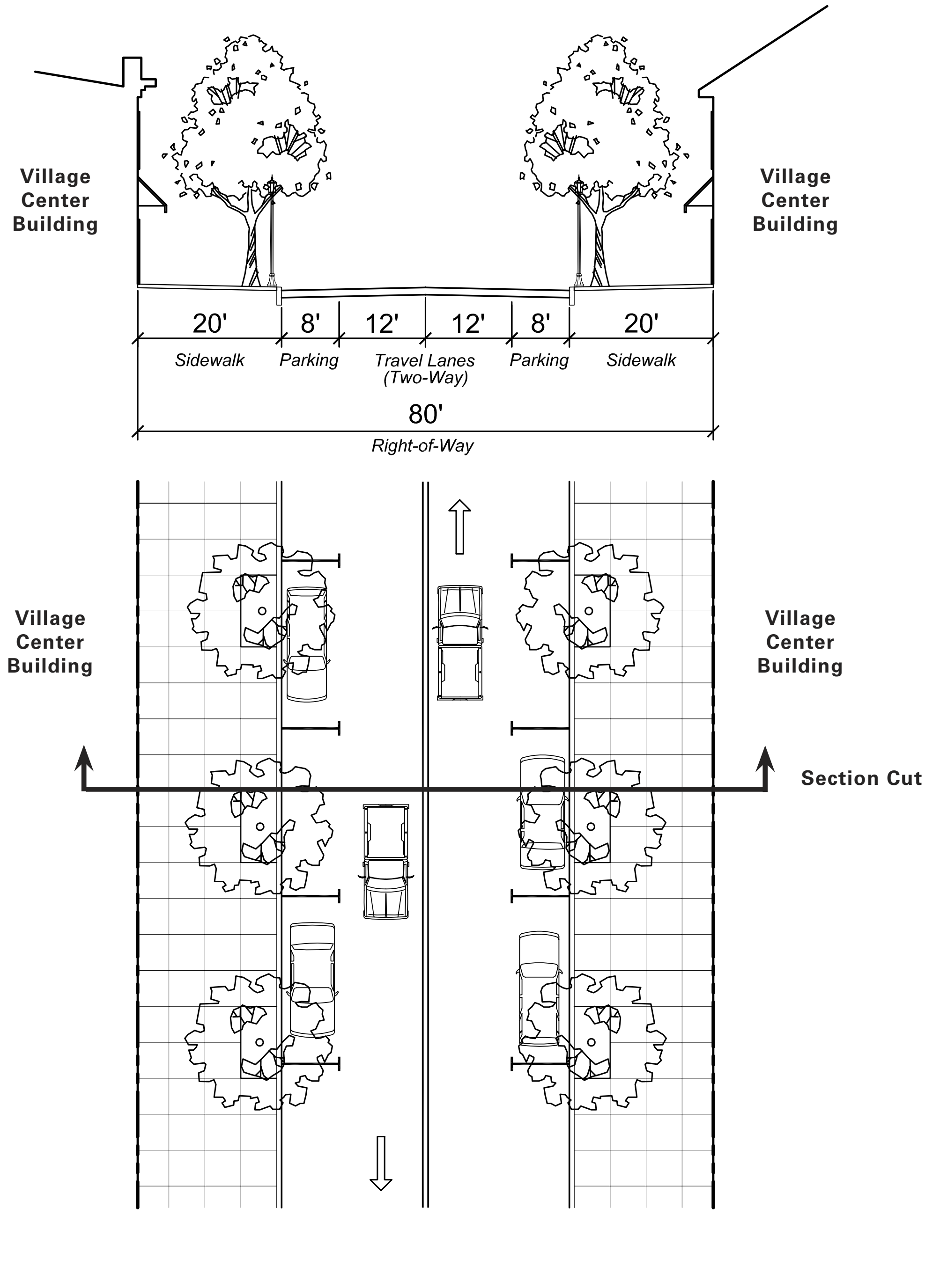


FIGURE 4.35 Proposed Section and Plan: Village Center Street A

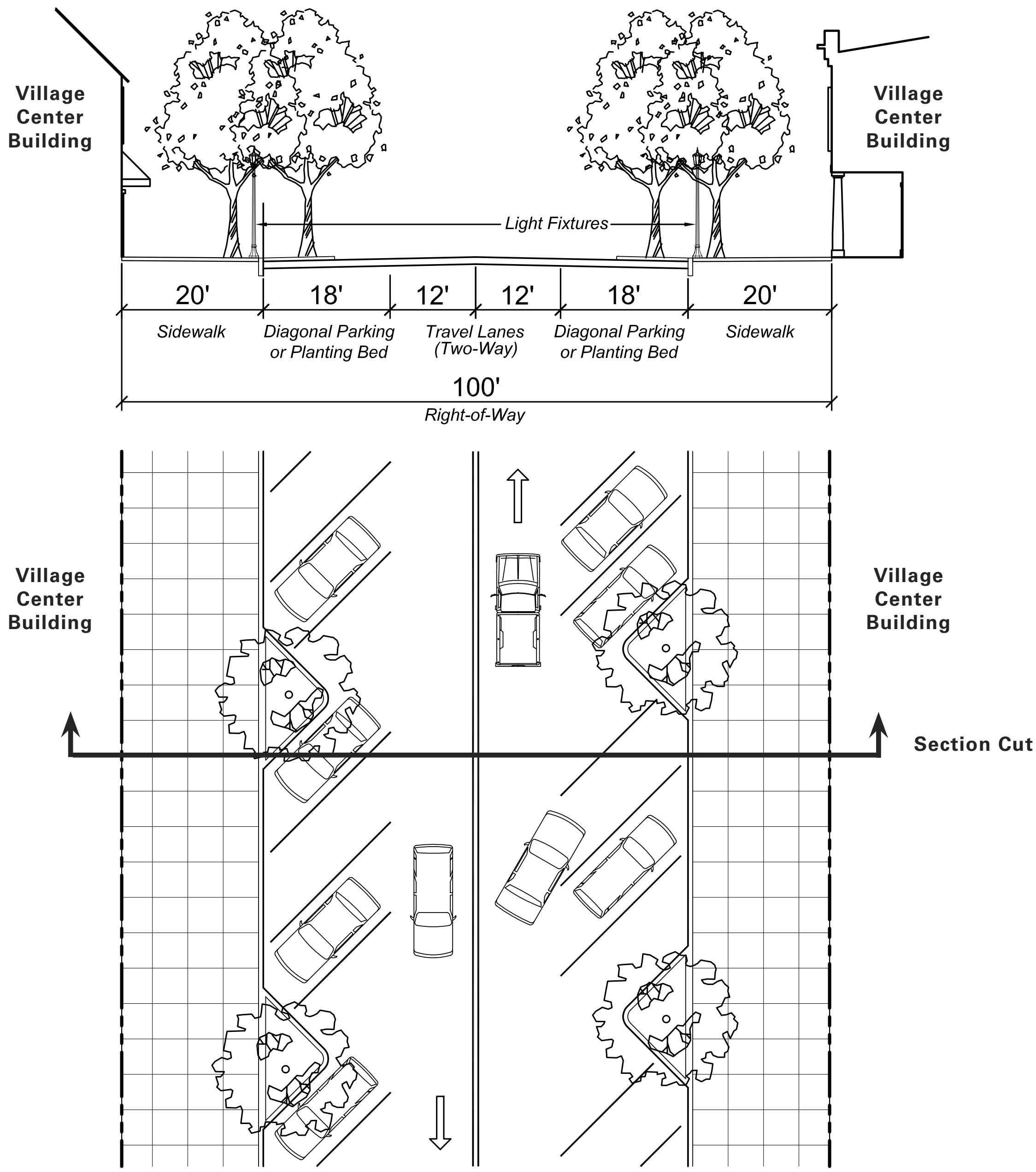


FIGURE 4.37 Proposed Section and Plan: Village Center Street A (Alternate)

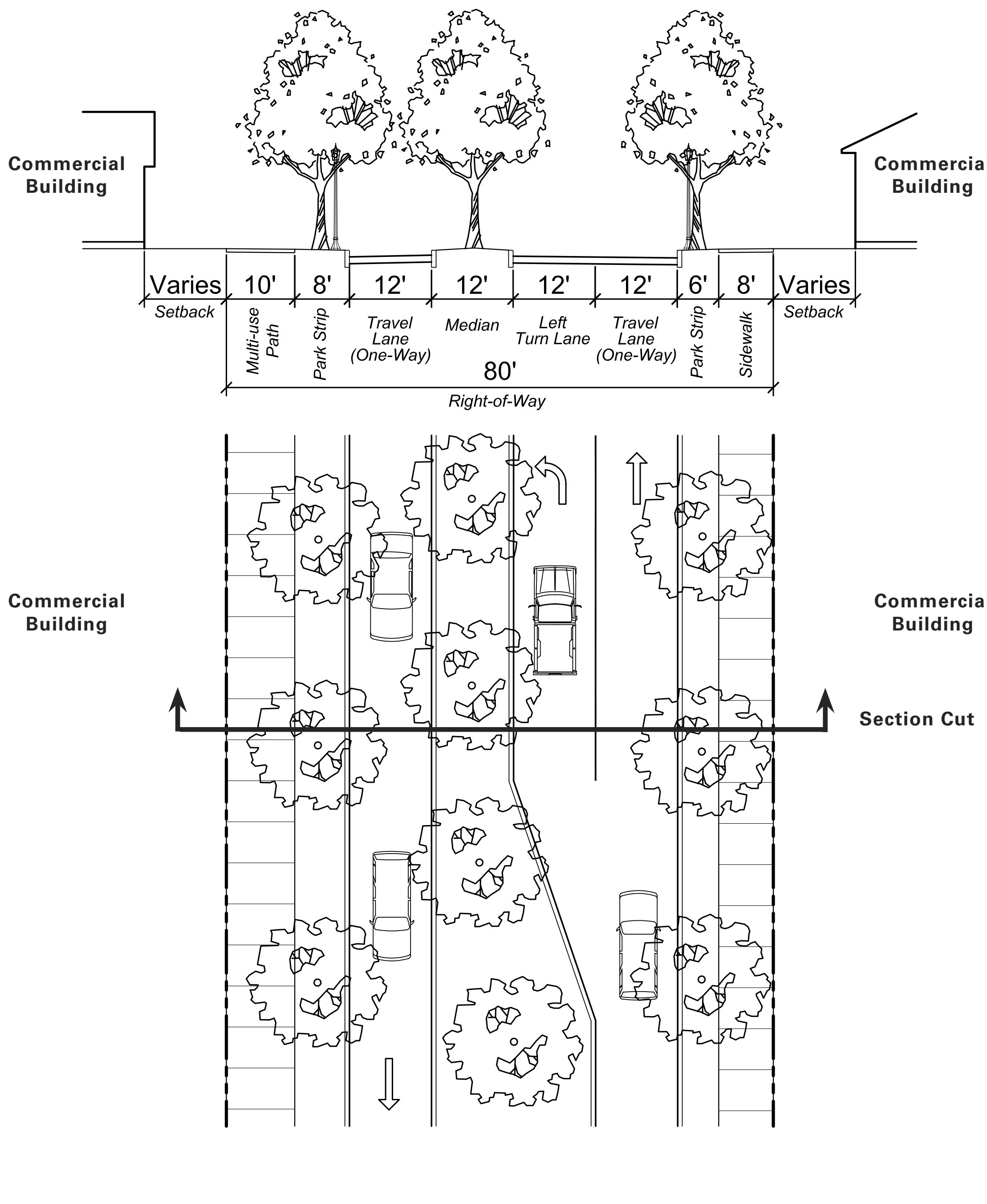


FIGURE 4.39 Proposed Section and Plan: Village Center Street B

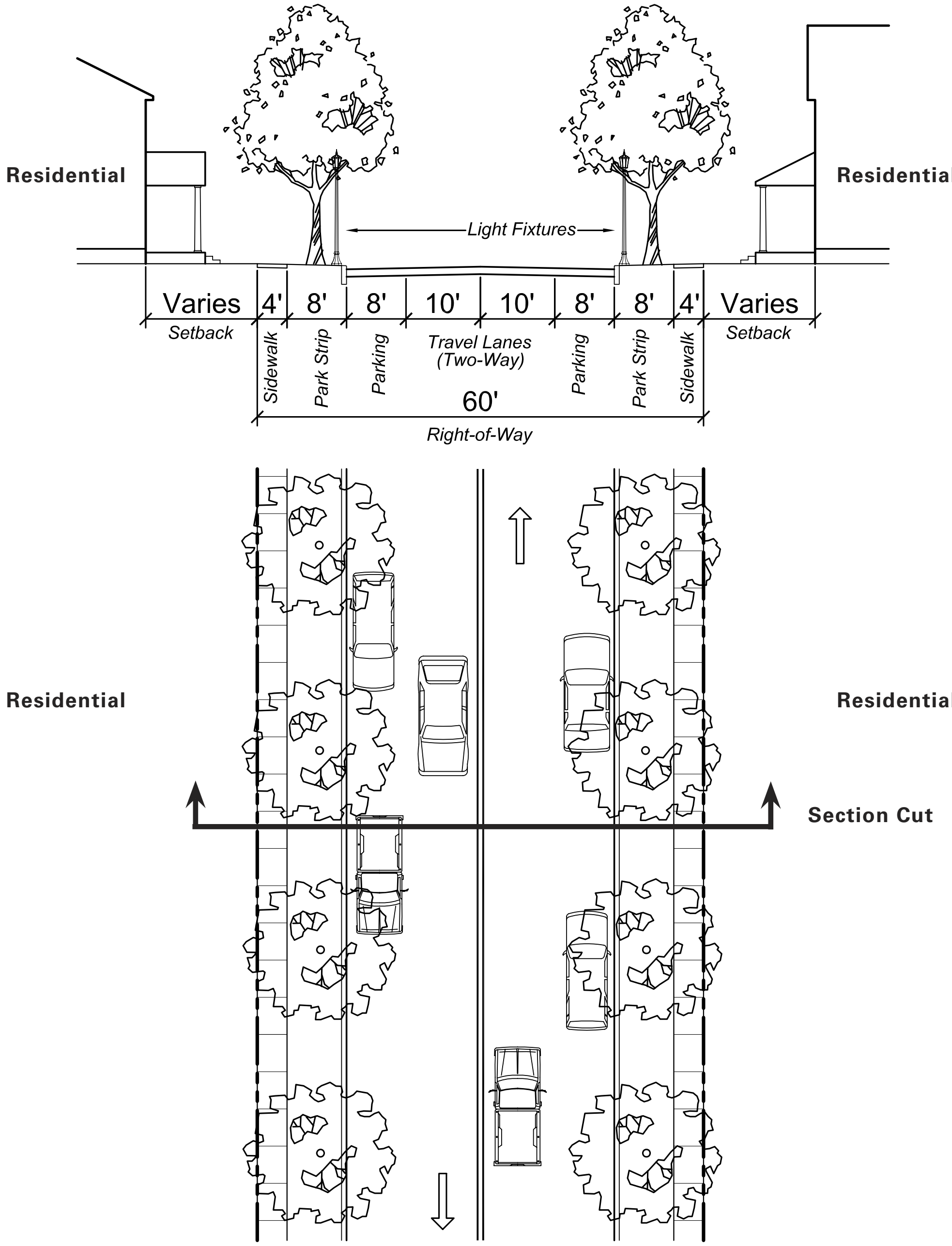


FIGURE 4.41 Proposed Section and Plan: Neighborhood Street A

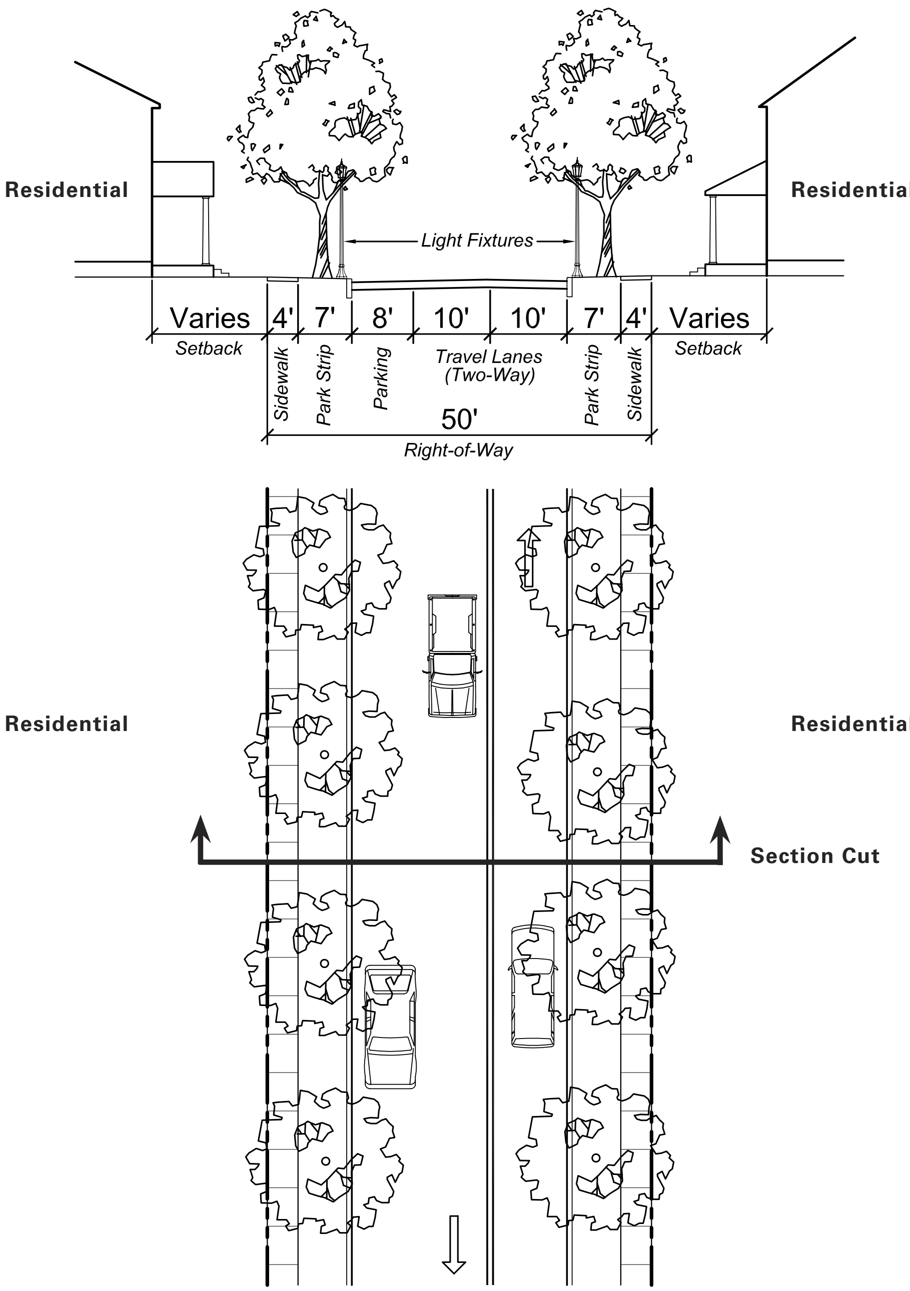


FIGURE 4.43 Proposed Section and Plan: Neighborhood Street B

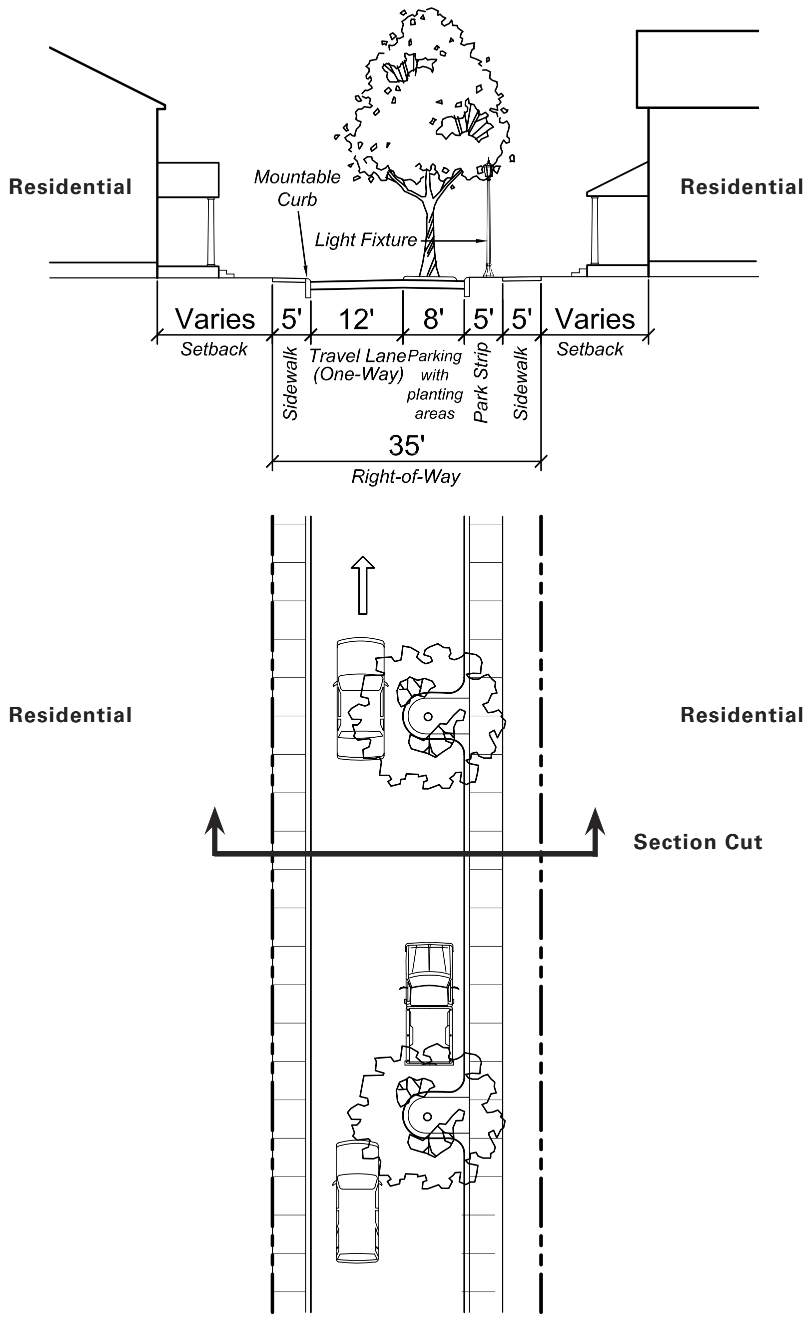


FIGURE 4.45 Proposed Section and Plan: Neighborhood Street C

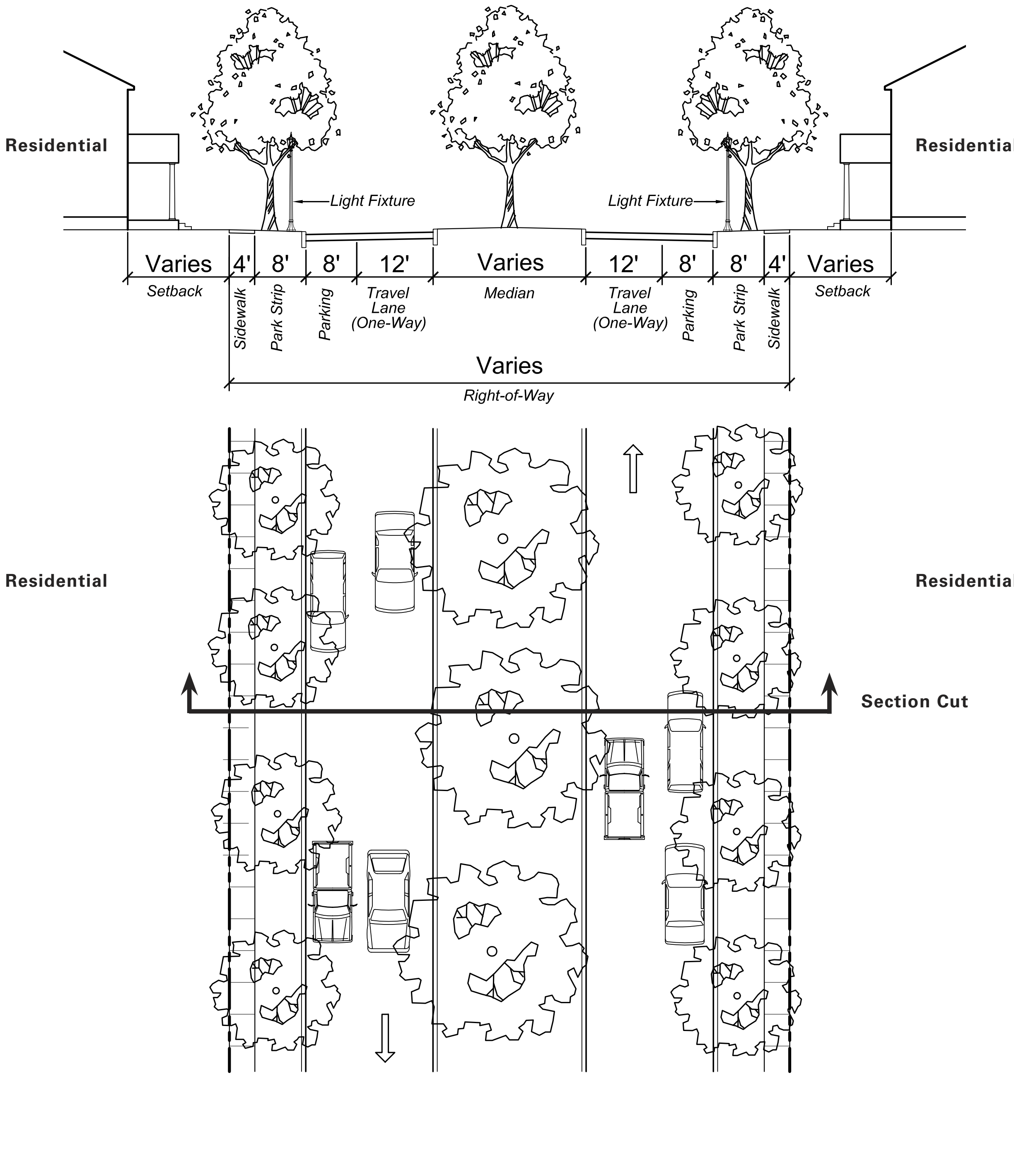


FIGURE 4.47 Proposed Section and Plan: Neighborhood Street D

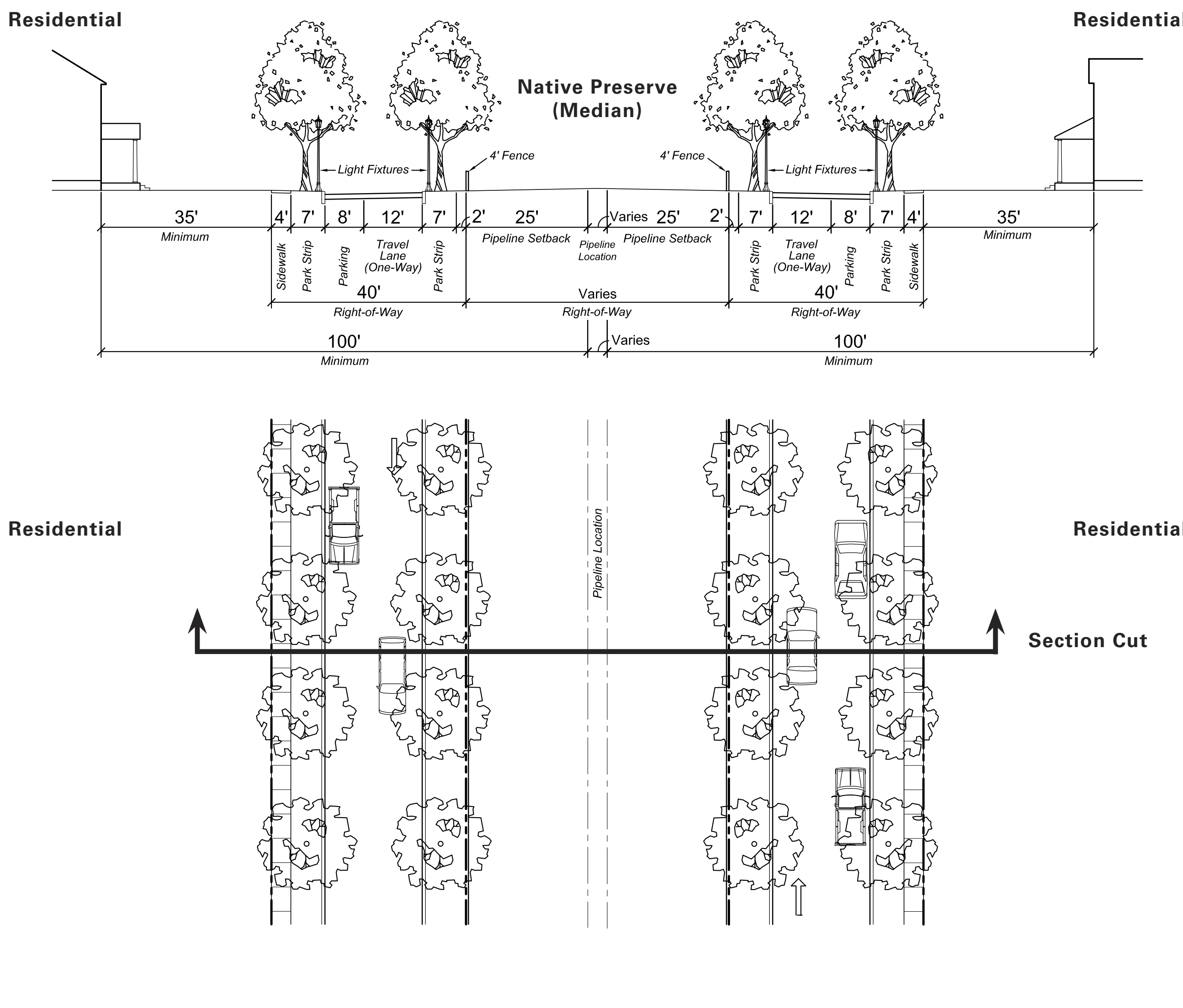


FIGURE 4.49 Proposed Section and Plan: Neighborhood Street E

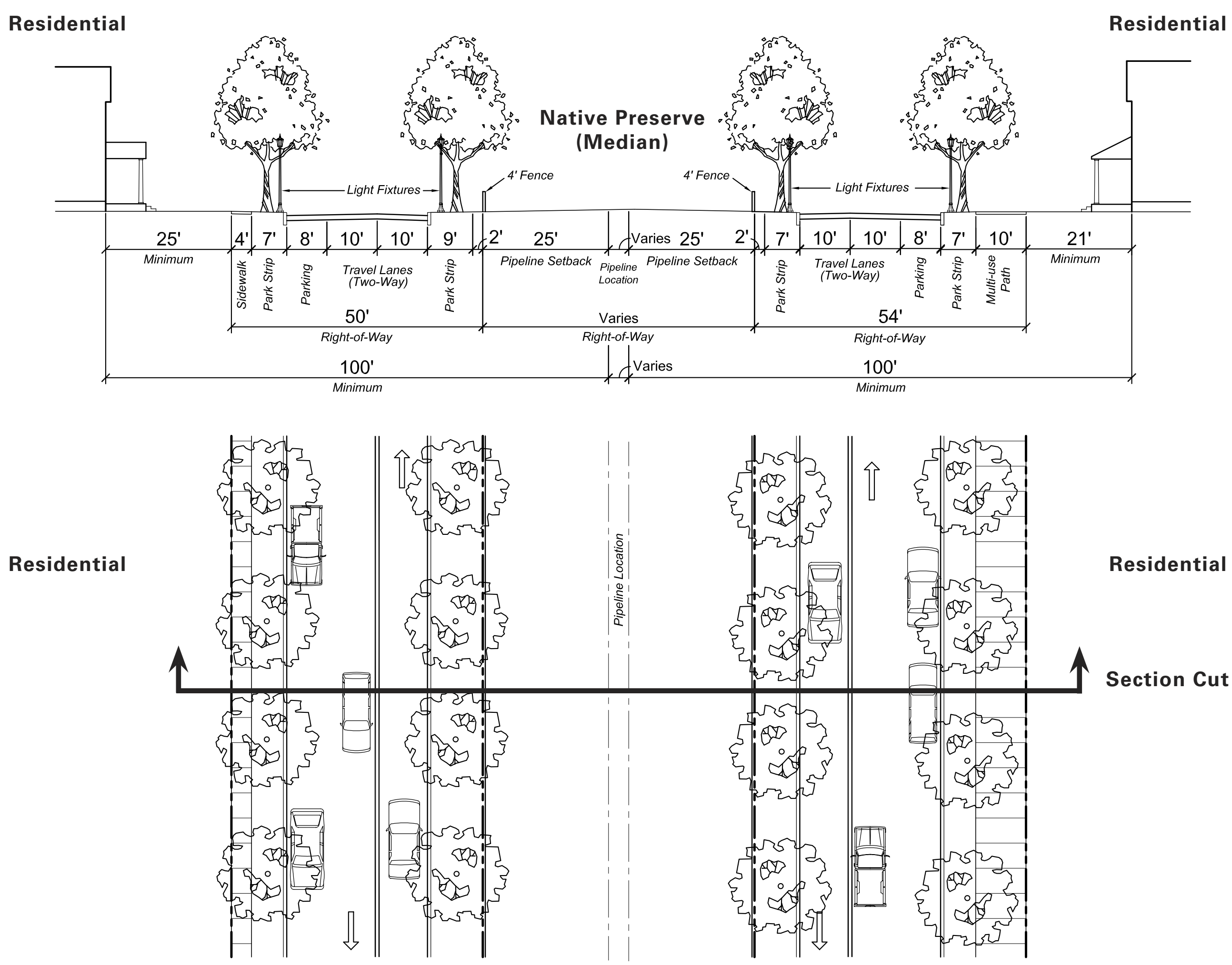


FIGURE 4.51 Proposed Section and Plan: Neighborhood Street F

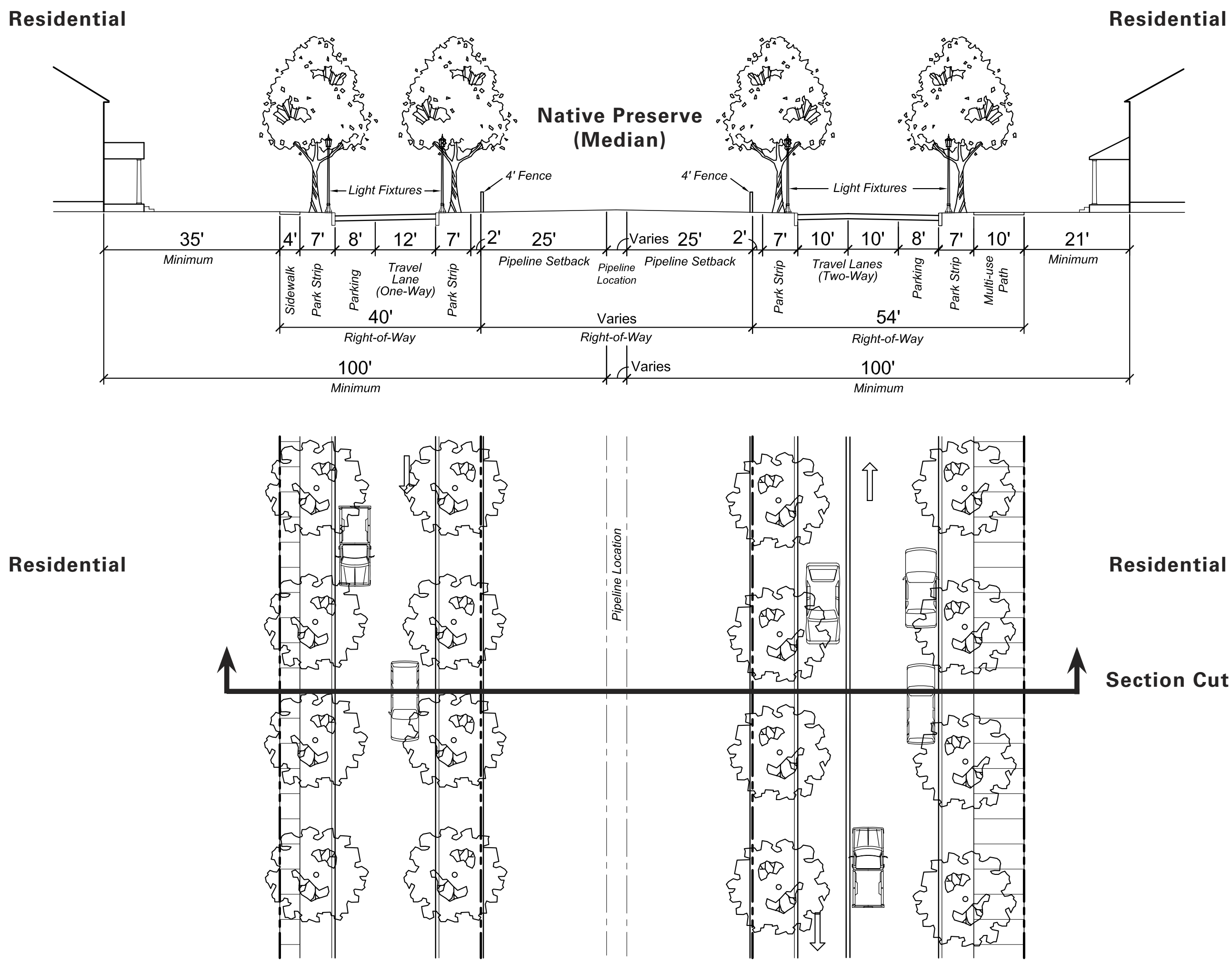


FIGURE 4.53 Proposed Section and Plan: Neighborhood Street G

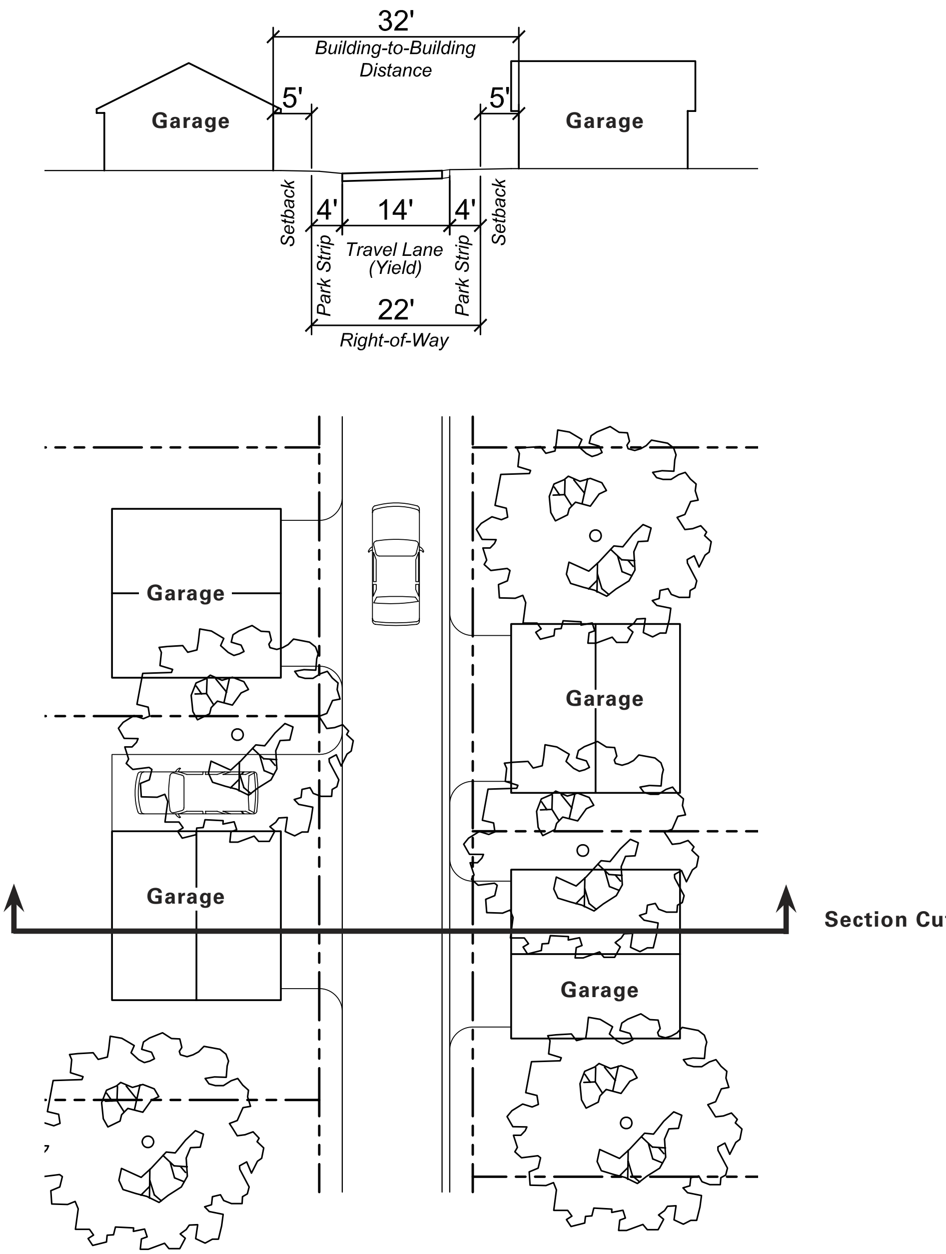
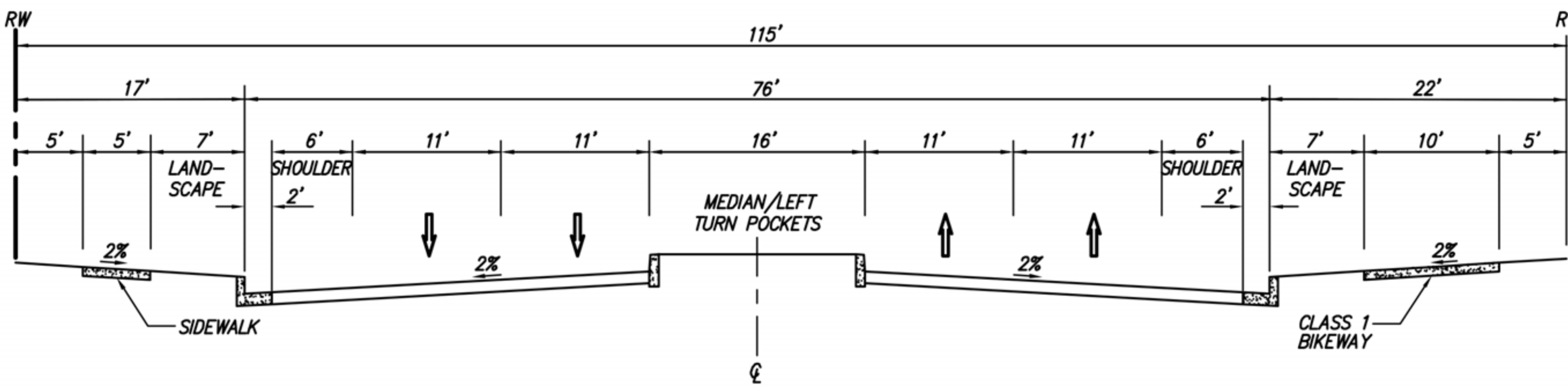


FIGURE 4.55 Proposed Section and Plan: Lane A

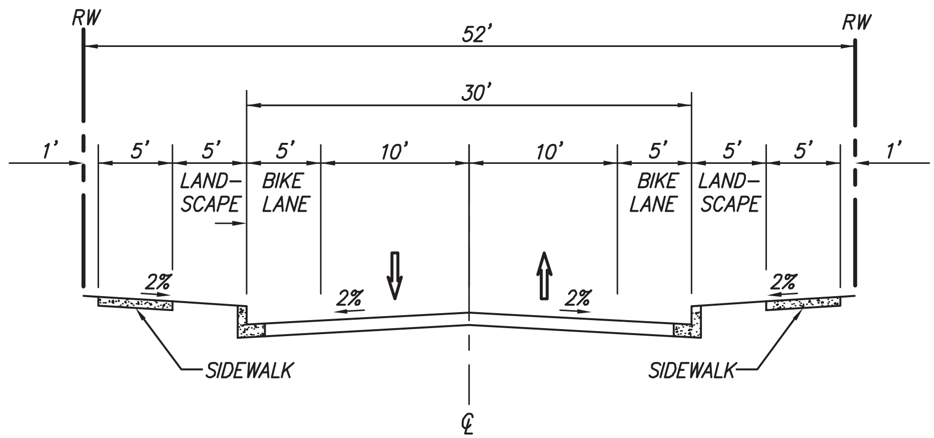


1 **FOUR LANE PARKWAY**

(EXPRESSWAY)

N.T.S.

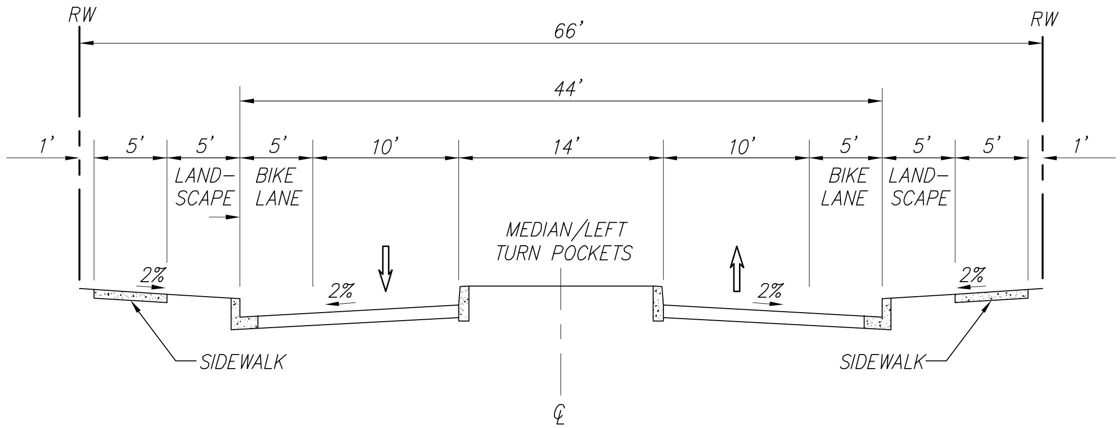
NOTE:
SECTION TAKEN FROM FIGURE 4.15a OF
CITY OF TRACY TRANSPORTATION MASTER PLAN



2 TWO LANE COLLECTOR < 2000 VEHICLES PER DAY

NO SCALE

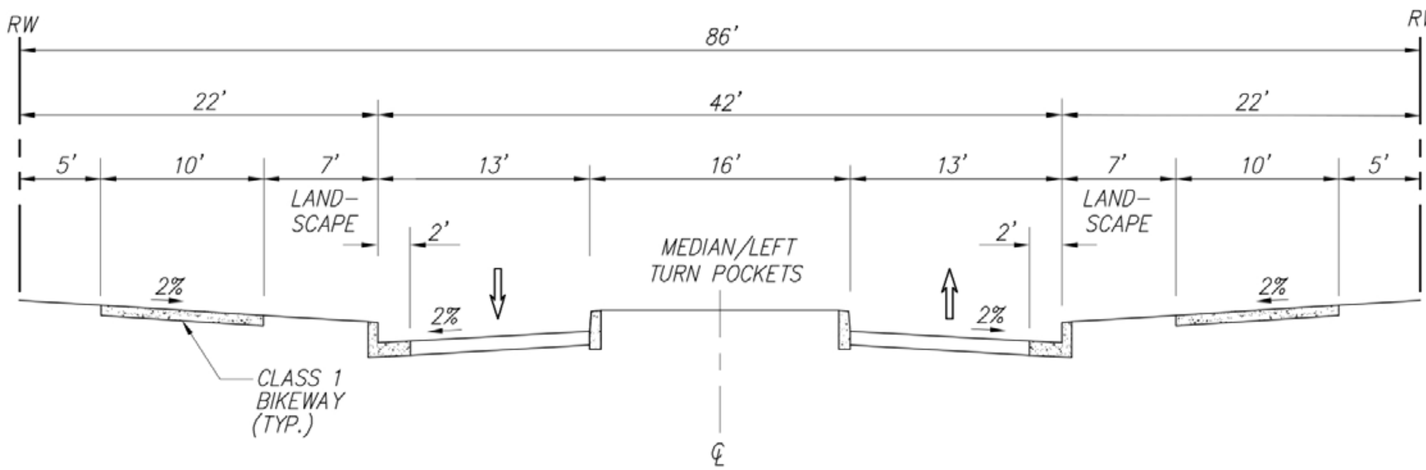
NOTE:
SECTION TAKEN FROM FIGURE 4.15d OF
CITY OF TRACY TRANSPORTATION MASTER PLAN



3 **TWO LANE MAJOR COLLECTOR**
2000 TO 5000 VEHICLES PER DAY

NO SCALE

NOTE:
SECTION TAKEN FROM FIGURE 4.15d OF
CITY OF TRACY TRANSPORTATION MASTER PLAN



4 **SPINE ROAD / LAMMERS EXTENSION**

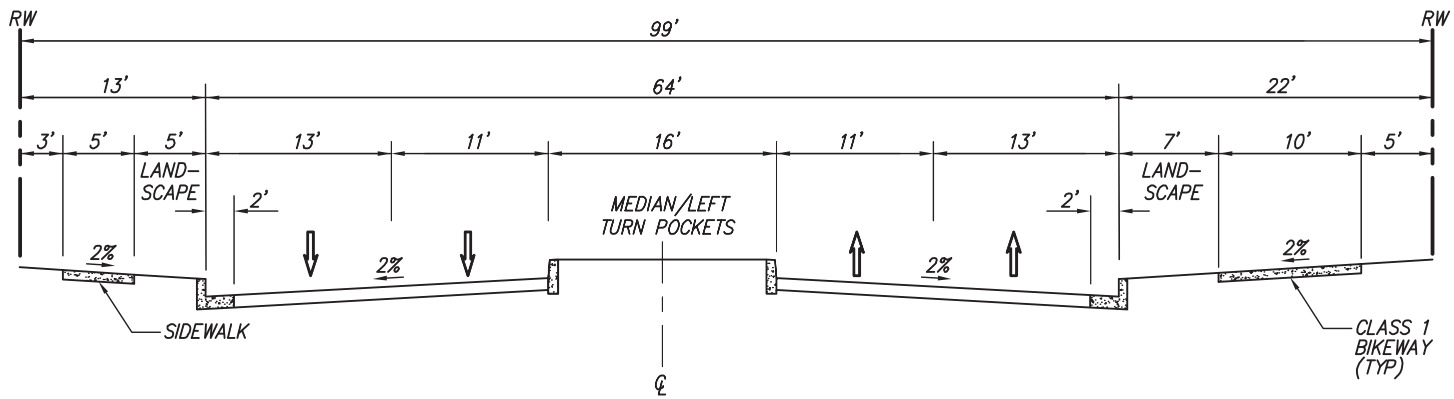
NO SCALE

NOTES:

1. SECTION TAKEN FROM FIGURE 4.15c OF CITY OF TRACY TRANSPORTATION MASTER PLAN – MODIFIED TO INCLUDE WIDENED PARKWAY & CLASS I BIKEWAY (LEFT SIDE)
2. ROAD WIDENS BETWEEN CORRAL HOLLOW ROAD AND THE FIRST ROUNDABOUT TO THE WEST.

Figure 4-5

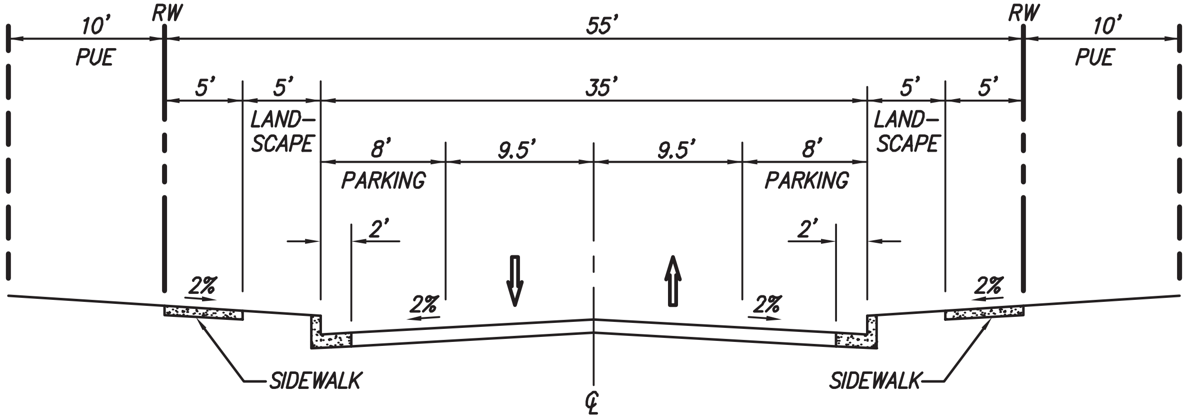
Spine Road / Lammers Extension



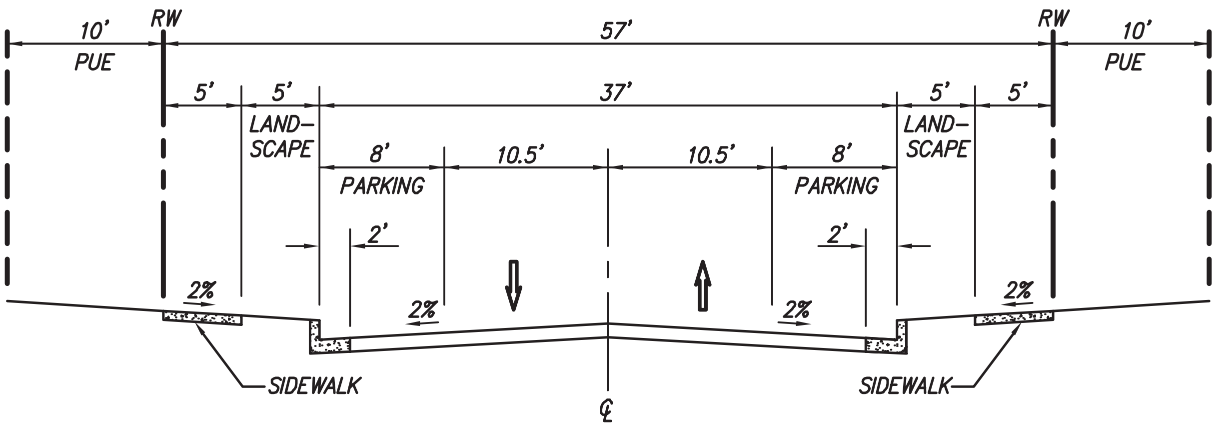
5 **FOUR LANE MAJOR ARTERIAL WITH MEDIAN**

(NO SCALE)

NOTE:
SECTION TAKEN FROM FIGURE 4.15b OF
CITY OF TRACY TRANSPORTATION MASTER PLAN



RESIDENTIAL STREET
MAXIMUM BLOCK LENGTH OF 500 FEET
NO SCALE



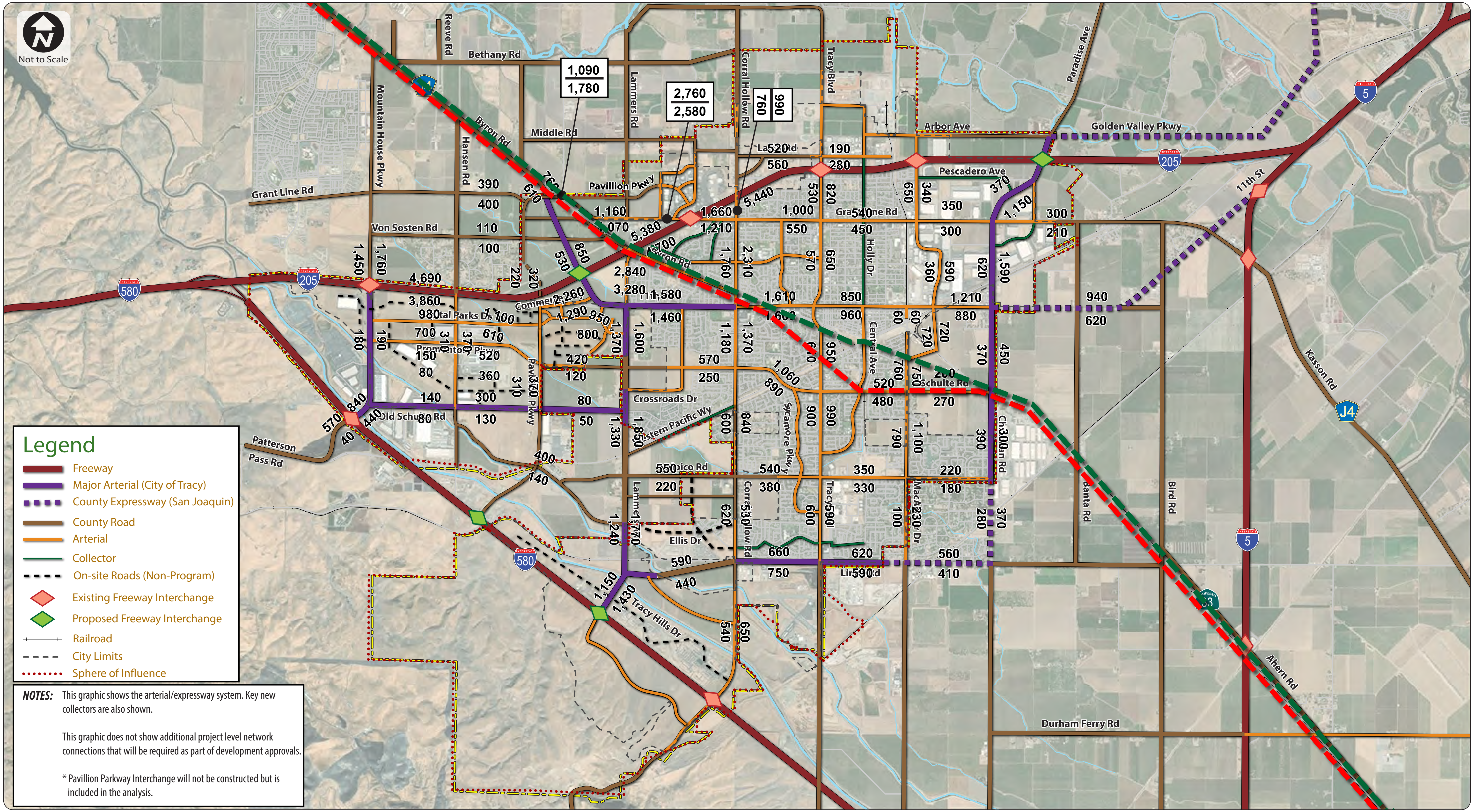
RESIDENTIAL STREET
NO SCALE

NOTE:
SECTIONS TAKEN FROM FIGURE 4.15e OF
CITY OF TRACY TRANSPORTATION MASTER PLAN

Figure 4-7
Residential Streets

APPENDIX I

HISTORICAL PIPELINE ROW LOCATIONS



Source: ESRI, Kimley-Horn

Historical Old Valley Pipeline (OVP)

Historical Tidewater Associated Oil Company (TAOC) Pipeline

Kimley»Horn

North

Appendix G: Historical Pipeline Rights-of-Way

City of Tracy Transportation Master Plan

APPENDIX J

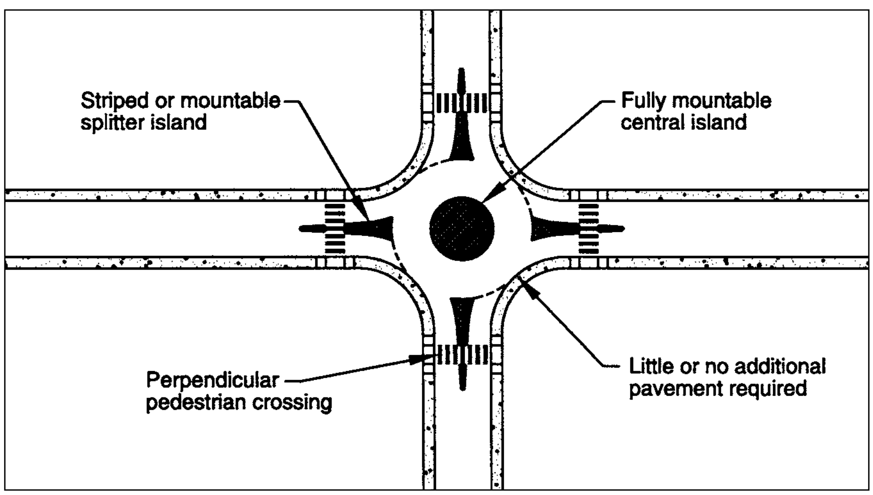
ROUNDABOUT CONCEPTUAL SKETCHES

1.6.2 Mini-roundabouts

Mini-roundabouts can be useful in low-speed urban environments with right-of-way constraints.

Mini-roundabouts are small roundabouts used in low-speed urban environments, with average operating speeds of 60km/h (35mph) or less. Exhibit 1-8 provides an example of a typical mini-roundabout. They can be useful in low-speed urban environments in cases where conventional roundabout design is precluded by right-of-way constraints. In retrofit applications, mini-roundabouts are relatively inexpensive because they typically require minimal additional pavement at the intersecting roads-for example, minor widening at the corner curbs. They are mostly recommended when there is insufficient right-of-way for an urban compact roundabout. Because they are small, mini-roundabouts are perceived as pedestrian-friendly with short crossing distances and very low vehicle speeds on approaches and exits. The mini-roundabout is designed to accommodate passenger cars without requiring them to drive over the central island. To maintain its perceived compactness and low speed characteristics, the yield lines are positioned just outside of the swept path of the largest expected vehicle. However, the central island is mountable, and larger vehicles may cross over the central island, but not to the left of it. Speed control around the mountable central island should be provided in the design by requiring horizontal deflection. Capacity for this type of roundabout is expected to be similar to that of the compact urban roundabout. The recommended design of these roundabouts is based on the German method, with some influence from the United Kingdom.

Exhibit 1-8. Typical mini-roundabout.



1.6.3 Urban compact roundabouts

Like mini-roundabouts, urban compact roundabouts are intended to be pedestrian- and bicyclist-friendly because their perpendicular approach legs require very low vehicle speeds to make a distinct right turn into and out of the circulatory roadway. All legs have single-lane entries. However, the urban compact treatment meets all the design requirements of effective roundabouts. The principal objective of this design is to enable pedestrians to have safe and effective use of the intersection. Capacity should not be a critical issue for this type of roundabout to be considered. The geometric design includes raised splitter islands that incorporate at-grade pedestrian storage areas, and a nonmountable central island. There is usually an apron surrounding the nonmountable part of the compact central island to accommodate large vehicles. The recommended design of these roundabouts is similar to those in Germany and other northern European countries. Exhibit 1-9 provides an example of a typical urban compact roundabout.

Urban compact roundabouts are intended to be pedestrian-friendly; capacity should not be a critical issue when considering this type.

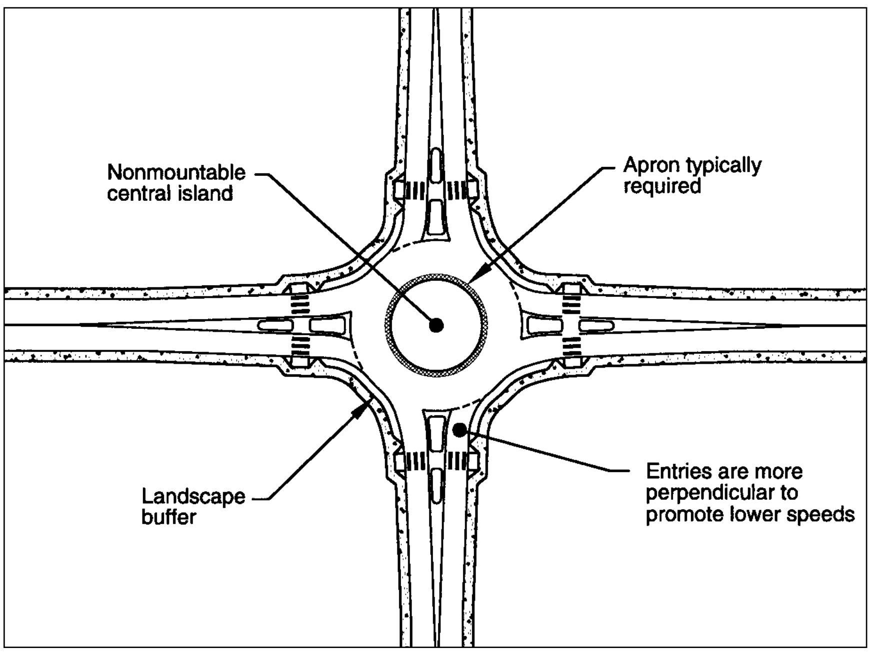


Exhibit 1-9. Typical urban compact roundabout.

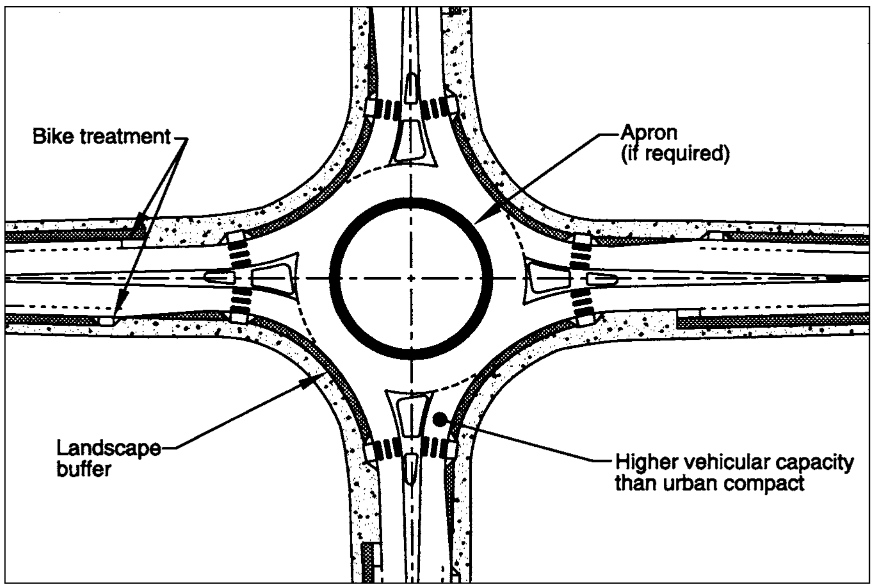
1.6.4 Urban single-lane roundabouts

Urban single-lane roundabouts have slightly higher speeds and capacities than urban compact roundabouts.

This type of roundabout is characterized as having a single lane entry at all legs and one circulatory lane. Exhibit 1-10 provides an example of a typical urban single-lane roundabout. They are distinguished from urban compact roundabouts by their larger inscribed circle diameters and more tangential entries and exits, resulting in higher capacities. Their design allows slightly higher speeds at the entry, on the circulatory roadway, and at the exit. Notwithstanding the larger inscribed circle diameters than compact roundabouts, the speed ranges recommended in this guide are somewhat lower than those used in other countries, in order to enhance safety for bicycles and pedestrians. The roundabout design is focused on achieving consistent entering and circulating vehicle speeds. The geometric design includes raised splitter islands, a nonmountable central island, and preferably, no apron. The design of these roundabouts is similar to those in Australia, France, and the United Kingdom.

The design focuses on consistent entering and exiting speeds.

Exhibit 1-10. Typical urban single-lane roundabout.



1.6.5 Urban double-lane roundabouts

Urban double-lane roundabouts include all roundabouts in urban areas that have at least one entry with two lanes. They include roundabouts with entries on one or more approaches that flare from one to two lanes. These require wider circulatory roadways to accommodate more than one vehicle traveling side by side. Exhibit 1-11 provides an example of a typical urban multilane roundabout. The speeds at the entry, on the circulatory roadway, and at the exit are similar to those for the urban single-lane roundabouts. Again, it is important that the vehicular speeds be consistent throughout the roundabout. The geometric design will include raised splitter islands, no truck apron, a nonmountable central island, and appropriate horizontal deflection.

The urban double-lane roundabout category includes roundabouts with one or more entries that flare from one to two lanes.

Alternate routes may be provided for bicyclists who choose to bypass the roundabout. Bicycle and pedestrian pathways must be clearly delineated with sidewalk construction and landscaping to direct users to the appropriate crossing locations and alignment. Urban double-lane roundabouts located in areas with high pedestrian or bicycle volumes may have special design recommendations such as those provided in Chapters 6 and 7. The design of these roundabouts is based on the methods used in the United Kingdom, with influences from Australia and France.

See Chapters 6 and 7 for special design considerations for pedestrians and bicycles.

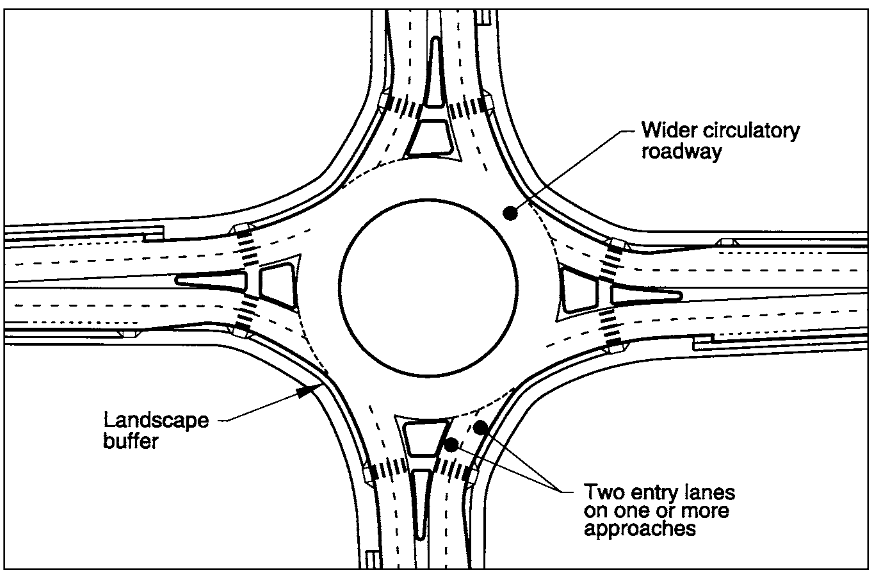


Exhibit 1-11. Typical urban double-lane roundabout.

1.6.6 Rural single-lane roundabouts

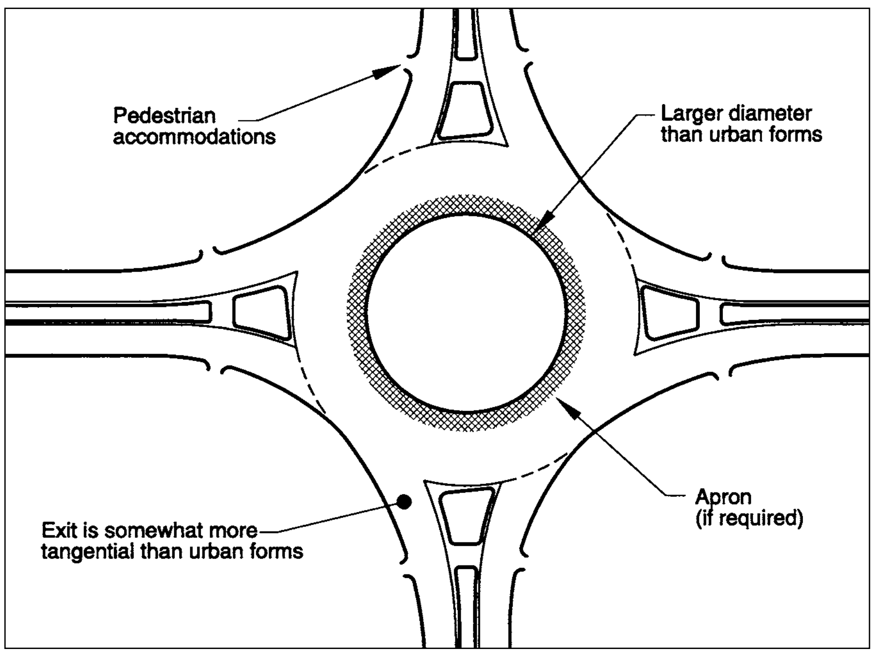
Because of their higher approach speeds, rural single-lane roundabouts require supplementary geometric and traffic control device treatments on the approaches.

Rural single-lane roundabouts generally have high average approach speeds in the range of 80 to 100 km/h (50 to 60 mph). They require supplementary geometric and traffic control device treatments on approaches to encourage drivers to slow to an appropriate speed before entering the roundabout. Rural roundabouts may have larger diameters than urban roundabouts to allow slightly higher speeds at the entries, on the circulatory roadway, and at the exits. This is possible if few pedestrians are expected at these intersections, currently and in future. There is preferably no apron because their larger diameters should accommodate larger vehicles. Supplemental geometric design elements include extended and raised splitter islands, a nonmountable central island, and adequate horizontal deflection. The design of these roundabouts is based primarily on the methods used by Australia, France, and the United Kingdom. Exhibit 1-12 provides an example of a typical rural single-lane roundabout.

Rural roundabouts that may become part of an urbanized area should include urban roundabout design features.

Rural roundabouts that may one day become part of an urbanized area should be designed as urban roundabouts, with slower speeds and pedestrian treatments. However, in the interim, they should be designed with supplementary approach and entry features to achieve safe speed reduction.

Exhibit 1-12. Typical rural single-lane roundabout.



1.6.7 Rural double-lane roundabouts

Rural double-lane roundabouts have speed characteristics similar to rural single-lane roundabouts with average approach speeds in the range of 80 to 100 km/h (50 to 60 mph). They differ in having two entry lanes, or entries flared from one to two lanes, on one or more approaches. Consequently, many of the characteristics and design features of rural double-lane roundabouts mirror those of their urban counterparts. The main design differences are designs with higher entry speeds and larger diameters, and recommended supplementary approach treatments. The design of these roundabouts is based on the methods used by the United Kingdom, Australia, and France. Exhibit 1-13 provides an example of a typical rural double-lane roundabout. Rural roundabouts that may one day become part of an urbanized area should be designed for slower speeds, with design details that fully accommodate pedestrians and bicyclists. However, in the interim they should be designed with approach and entry features to achieve safe speed reduction.

Rural double-lane roundabouts have higher entry speeds and larger diameters than their urban counterparts.

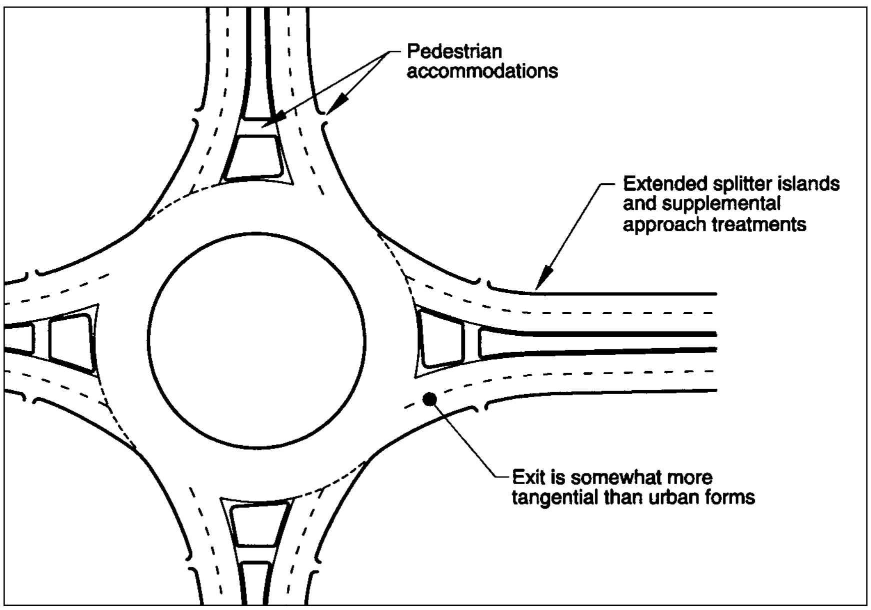


Exhibit 1-13. Typical rural double-lane roundabout.

APPENDIX K

HORIZON YEAR TMP PROJECT COST ESTIMATES

City of Tracy
Overpass/Underpass/Bridges/Culvert/Railroad Improvements
Preliminary Construction Cost Estimates (Buildout / Horizon Year)

No.	Structure Type & Location	Improvement Description	Status	Length (ft)	Existing Width (ft)	Water Channel / Freeway Length (ft)	Buildout / Horizon Year Improvement						Total Structure Width (ft)	Future Area (ft^2)	Structure & Earthwork Cost	ROW Area (ft^2)	ROW / Easement Cost	Preliminary Subtotal Cost	Contingency / Overhead	Total Cost w/Markup
							Travel Width	# Lanes	Sidewalks	Bike Facility	Bike Width	K rail & Sep								
	Bridges																			
1	Delta Mendota Canal/International Parkway	Widen	Planned	335	36	115	64	4	0	Class I Path	12	4	80	14,740	$ 5,896,000	14,740	$ 17,000	$ 5,913,080	$ 2,069,578	$ 7,982,658
2	Delta Mendota Canal/Old Schulte Road	Widen	Planned	325	49	110	71	4	0	Class I Path	12	4	87	12,350	$ 4,940,000	12,350	$ 14,000	$ 4,954,087	$ 1,733,930	$ 6,688,017
3	Delta Mendota Canal/Lammers Road	Widen	Planned	130	26	105	86	6	0	Class I Path	12	4	102	13,260	$ 6,630,000	9,880	$ 11,000	$ 6,641,102	$ 2,324,386	$ 8,965,488
4	California Aqueduct/Lammers Road	Widen	Planned	170	24	130	86	6	0	Class I Path	12	4	102	17,340	$ 8,670,000	13,260	$ 15,000	$ 8,685,102	$ 3,039,786	$ 11,724,888
5	Delta Mendota Canal/Corral Hollow Road	Widen	Planned	130	29	105	52	4	0	Class I Path	12	4	68	8,840	$ 4,420,000	5,070	$ 6,000	$ 4,426,068	$ 1,549,124	$ 5,975,192
6	California Aqueduct/Corral Hollow Road	Widen	Planned	220	35	150	52	4	0	Class I Path	12	4	68	14,960	$ 7,480,000	7,260	$ 8,000	$ 7,488,068	$ 2,620,824	$ 10,108,892
	Culvert																			
7	Upper Main Canal/Capital Parks Drive	Construct	Completed	240	0	240							14	3,360	$ 1,344,000	3,360	$ 4,000	$ 1,348,014	$ 471,805	$ 1,819,819
8	Upper Main Canal/Pavillion Parkway	Construct	Completed	240	0	240							14	3,360	$ 1,344,000	3,360	$ 4,000	$ 1,348,014	$ 471,805	$ 1,819,819
9	Upper Main Canal/Promontory Parkway	Construct	Completed	180	0	180							14	2,520	$ 1,008,000	2,520	$ 3,000	$ 1,011,014	$ 353,855	$ 1,364,869
10	Upper Main Canal/Lammers Road	Widen	Planned	65	93	30							142	3,185	$ 1,274,000	3,185	$ 4,000	$ 1,278,142	$ 447,350	$ 1,725,492
11	Upper Main Canal/Corral Hollow Road	Widen	Planned	65	90	30							108	1,170	$ 468,000	1,170	$ 1,000	$ 469,108	$ 164,188	$ 633,296
	Interchange/Overpass/Underpass																			
12	I-205/Pavilion Parkway	New Overpass	Planned	350	0	155	76	4	6	Class I Path	12	4	98	34,300	$ 17,150,000	19,110	$ 110,000	$ 17,260,098	$ 6,041,034	$ 23,301,132
13	I-205/Lammers Extension	New Interchange	Planned															$ 39,180,000		$ 52,893,000
14	I-205/Tracy Boulevard	Interchange Modifications	Planned														$ -	$ 7,500,000	$ 2,625,000	$ 10,125,000
15	I-205/Grant Line Road	Interchange Modifications	Planned													216,551	$ 1,243,000	$ 2,500,000	$ 875,000	$ 3,375,000
16	I-205/MacArthur Drive	Interchange Modifications	Planned														$ -	$ 2,500,000	$ 875,000	$ 3,375,000
17	I-205/Chrisman Road	New Interchange	Planned															$ 36,056,267	$ 12,619,693	$ 48,675,960
18	I-580/International Parkway	New Interchange	Planned	350	0	155	76	4	6	Class I Path	12	4	98	34,300	$ 17,150,000	19,110	$ 110,000	$ 17,260,098	$ 6,041,034	$ 23,301,132
19	I-580/Lammers Road	New Interim Interchange	Planned														$ -	$ 17,000,000	$ 5,950,000	$ 22,950,000
20	I-580/Lammers Road	odify Interim to Futre Interchan	Planned	242	0	0							155	37,510	$ 18,755,000	37,510	$ 215,000	$ 22,470,000	$ 7,864,500	$ 30,334,500
21	I-580/Corral Hollow Road	New Interchange	Planned															$ 14,074,074	$ 4,925,926	$ 19,000,000
	Railroad Crossings																			
22	Lammers Road at Western Pacific Way (#1)	Widen from 2-4 lanes	Planned															$ 1,250,000	$ 437,500	$ 1,687,500
23	Lammers Road North of Linne Road (#2)	New Bridge	Planned	100	0	100	88	6	6	Class I Path	12	4	110	11,000	$ 5,500,000	11,000	$ 63,000	$ 5,563,110	$ 1,947,089	$ 7,510,199
24	Corral Hollow Road North of Linne Road (#5)	Widen from 2-4 lanes	Planned															$ 1,250,000	$ 437,500	$ 1,687,500
25	Tracy Boulevard North of Linne Road (#8)	Widen from 2-4 lanes	Planned															$ 1,250,000	$ 437,500	$ 1,687,500
26	11th Street/MacArthur Drive (#9)	New Bridge	Partially Completed															$ -	$ -	$ -
27	MacArthur Drive South of 6th Street (#15)	Close, keep bike & ped	Planned															$ 1,250,000	$ 437,500	$ 1,687,500
28	Chrisman Road at Schulte Road (#16)	Widen from 2-4 lanes	Planned															$ 1,250,000	$ 437,500	$ 1,687,500
29	MacArthur Drive Extension (#21)	New Bridge	Planned	100	0	100	64	4	6	Class I Path	12	4	86	8,600	$ 4,300,000	8,600	$ 49,000	$ 4,349,086	$ 1,522,180	$ 5,871,266
30	Chrisman Road (#22)	New Bridge	Planned	100	0	100	88	6	6	Class I Path	12	4	110	11,000	$ 5,500,000	11,000	$ 63,000	$ 5,563,110	$ 1,947,089	$ 7,510,199
31	Hansen Road (#23)	New Bridge	Planned	100	0	100	64	4	6	Class I Path	12	4	86	8,600	$ 4,300,000	8,600	$ 49,000	$ 4,349,086	$ 1,522,180	$ 5,871,266
32	Pavillion Parkway (#24)	New Bridge	Planned	100	0	100	88	6	6	Class I Path	12	4	110	11,000	$ 5,500,000	11,000	$ 63,000	$ 5,563,110	$ 1,947,089	$ 7,510,199
	Grand Total																	**$ 250,999,838**		**$ 338,849,781**

City of Tracy
Intersection Improvements
Preliminary Construction Cost Estimates (Horizon Year)

No.	Intersection	Status	Preliminary Cost Estimate	Cost w/Markup
1	International Parkway/I-205 Westbound Ramps	N/A	$ -	$ -
2	International Parkway/I-205 Eastbound Ramps	N/A	$ -	$ -
3	International Parkway/Capital Parks Drive	Planned	$ 4,230,000	$ 5,710,500
4	International Pkwy/Promontory Parkway	Partially Complete	$ 450,500	$ 608,175
5	International Pkwy/Old Schulte Road	Planned	$ -	$ -
6	International Pkwy/Patterson Pass Rd/I-580 Westbound Ramps	See Interchange Cost Estimates		
7	International Pkwy/Patterson Pass Rd/I-580 Eastbound Ramps	See Interchange Cost Estimates		
8	Hansen Road/Capital Parks Dr	Partially Complete	$ 3,853,000	$ 5,201,550
9	Hansen Road/Promontory Parkway	Complete	$ -	$ -
10	Hansen Road/Old Schulte Road	Partially Complete	$ 1,777,500	$ 2,399,625
11	Pavillion Parkway/Capital Parks Dr	Planned	$ 4,448,000	$ 6,004,800
12	Pavillion Parkway/Promontory Parkway	Planned	$ 3,332,000	$ 4,498,200
13	Pavillion Parkway/Old Schulte Road	Planned	$ 3,707,000	$ 5,004,450
14	Pavillion Parkway/Hansen Road	Planned	$ 2,699,000	$ 3,643,650
15	Commerce Way/Capital Parks Drive	Planned	$ 4,666,000	$ 6,299,100
16	Road M/Capital Parks Drive	Planned	$ 4,038,000	$ 5,451,300
17	Hansen Road/Valpico Road	Planned	$ 2,699,000	$ 3,643,650
18	Pavillion Parkway/Grant Line Road	Planned	$ 2,699,000	$ 3,643,650
19	Pavillion Parkway/Von Sosten Road	Planned	$ 2,803,000	$ 3,784,050
20	Lammers Extension/Pavillion Pkwy	Planned	$ 3,707,000	$ 5,004,450
21	Lammers Extension/Grant Line Road	Planned	$ 3,707,000	$ 5,004,450
22	Lammers Extension/Van Sosten Road	Planned	$ 3,707,000	$ 5,004,450
23	Lammers Extension/I-205 WB Ramps	See Interchange Cost Estimates		
24	Lammers Extension/I-205 EB Ramps	See Interchange Cost Estimates		
25	Lammers Extension/Commerce Road	Planned	$ 5,771,000	$ 7,790,850
26	Eleventh Street/Road M	Planned	$ 4,415,000	$ 5,960,250
27	Grant Line Road/Pavillion Pkwy	Planned	$ 2,699,000	$ 3,643,650
28	Byron Road/Grant Line Road	Planned	$ -	$ -
29	Lammers Road/Pavillion Pkwy	Planned	$ 3,063,000	$ 4,135,050
30	Grant Line Road/Lammers Road	Planned	$ 2,494,000	$ 3,366,900
31	Lammers Road/Byron Road	Existing	$ -	$ -
32	Lammers Road/Eleventh Street	Existing	$ -	$ -
33	Lammers Road/Capital Parks Drive	Planned	$ 392,000	$ 529,200
34	Lammers Road/Promontory Pkwy	Planned	$ 4,201,000	$ 5,671,350
35	Lammers Road/Crossroads Drive	Planned	$ 3,193,000	$ 4,310,550
36	Lammers Road/Redbridge Rd	Planned	$ 2,741,000	$ 3,700,350
37	Lammers Road/Old Schulte Road	Planned	$ 2,741,000	$ 3,700,350
38	Lammers Road/Western Pacific Wy	Planned	$ 2,946,000	$ 3,977,100
39	Lammers Road/Valpico Road	Planned	$ 4,201,000	$ 5,671,350
40	Lammers Road/Samuel James Way	Planned	$ 3,193,000	$ 4,310,550
41	Lammers Road/Hansen Rd/Ellis Town Drive	Planned	$ 4,051,000	$ 5,468,850
42	North Tracy Hills Drive/Linne Dr	Planned	$ 3,323,000	$ 4,486,050
43	Lammers Road/Linne Road	Planned	$ 3,323,000	$ 4,486,050
44	Lammers Road/Tracy Hills Dr	Planned	$ -	$ -
45	Lammers Road/I-580 WB Ramps	See Interchange Cost Estimates		
46	Lammers Road/I-580 EB Ramps	See Interchange Cost Estimates		
47	Naglee Road/Middle Road	Existing	$ -	$ -
48	Naglee Road/Auto Plaza Drive	Planned	$ 1,431,000	$ 1,931,850
49	Naglee Road/I-205 Westbound Ramps	Existing	$ -	$ -
50	Park & Ride/Naglee Road	Existing	$ -	$ -
51	Naglee Road/Grant Line Road/I-205 Westbound Ramps	Planned	$ 405,000	$ 546,750
52	Grant Line Road/I-205 EB Ramps	See Interchange Cost Estimates		
53	Crossroads Drive/Eleventh Road	Existing	$ -	$ -
54	Crossroads Drive/Schulte Road	Planned	$ 3,967,000	$ 5,355,450
55	Corral Hollow Road/Larch Road	Existing	$ -	$ -
56	Corral Hollow Road/Auto Plaza Drive	Planned	$ 2,205,000	$ 2,976,750
57	Corral Hollow Road/Grant Line Road	Existing	$ -	$ -
58	Corral Hollow Road/Eleventh Street	Planned	$ 652,000	$ 880,200

No.	Intersection	Status	Preliminary Cost Estimate	Cost w/Markup
59	Corral Hollow Road/Schulte Road	Existing	$ -	$ -
60	Corral Hollow Road/Valpico Road	Planned	$ 4,285,000	$ 5,784,750
61	Corral Hollow Road/Samuel James Way	Planned	$ 2,088,000	$ 2,818,800
62	Corral Hollow Road/Peony Drive	Planned	$ 363,000	$ 490,050
63	Corral Hollow Road/Middlefield Drive	Planned	$ 454,000	$ 612,900
64	Corral Hollow Road/Linne Road	Planned	$ 4,197,000	$ 5,665,950
65	Corral Hollow Road/North Tracy Hills Drive	Planned	$ 3,323,000	$ 4,486,050
66	Corral Hollow Road/Tracy Hills Drive	Planned	$ -	$ -
67	Corral Hollow Road/I-580 WB Ramps	See Interchange Cost Estimates		
68	Corral Hollow Road/I-580 EB Ramps	See Interchange Cost Estimates		
69	Corral Hollow Road/Lammers Road	Planned	Funded by Developer	
70	Tracy Boulevard/Sugar Road	Existing	$ -	$ -
71	Tracy Boulevard/Larch Road	Planned	$ 1,931,750	$ 2,607,863
72	Tracy Blvd/I-205 WB Ramps	See Interchange Cost Estimates		
73	Tracy Blvd/I-205 EB Ramps	See Interchange Cost Estimates		
74	Tracy Boulevard/Grant Line Road	Existing	$ -	$ -
75	Tracy Boulevard/Eleventh Street	Existing	$ -	$ -
76	Tracy Boulevard/6th Street	Existing	$ -	$ -
77	Tracy Boulevard/Mount Diablo Avenue	Existing	$ -	$ -
78	Tracy Boulevard/Schulte Road	Existing	$ -	$ -
79	Tracy Boulevard/Central Avenue	Existing	$ -	$ -
80	Tracy Boulevard/Valpico Road	Existing	$ -	$ -
81	Tracy Boulevard/Whispering Wind Drive	Existing	$ -	$ -
82	Tracy Boulevard/ACE Station	Existing	$ -	$ -
83	Tracy Boulevard/Linne Road	Planned	$ 3,498,000	$ 4,722,300
84	Central Avenue/Eleventh Street	Existing	$ -	$ -
85	Central Avenue/Schulte Road	Existing	$ -	$ -
86	MacArthur Drive/Arbor Avenue	Existing	$ -	$ -
87	MacArthur Drive/I-205 WB Ramps	See Interchange Cost Estimates		
88	MacArthur Drive/I-205 EB Ramps	See Interchange Cost Estimates		
89	MacArthur Drive/Pescadero Avenue	Existing	$ -	$ -
90	MacArthur Drive/Grant Line Road	Planned	$ 363,000	$ 490,050
91	MacArthur Drive/Eleventh Street	Planned	$ 3,297,000	$ 4,450,950
92	MacArthur Drive/Eleventh Street (South)	Existing	$ -	$ -
93	MacArthur Drive/6th Street	Existing	$ -	$ -
94	MacArthur Drive/Mount Diablo Avenue	Planned	$ 2,816,000	$ 3,801,600
95	MacArthur Drive/Schulte Road	Planned	$ 844,000	$ 1,139,400
96	MacArthur Drive/Valpico Road	Existing	$ -	$ -
97	Chrisman Road/Pescadero Avenue	Planned	$ 3,427,000	$ 4,626,450
98	Chrisman Road/Grant Line Road	Planned	$ 1,961,000	$ 2,647,350
99	Chrisman Road/Eleventh Street	Planned	$ 1,613,000	$ 2,177,550
100	Chrisman Road/Schulte Road	Planned	$ 3,323,000	$ 4,486,050
101	Chrisman Road/Valpico Road	Planned	$ 1,431,000	$ 1,931,850
102	Paradise Road/Arbor Avenue	Planned	$ 4,737,000	$ 6,394,950
103	Paradise Road/I-205 WB Ramps	See Interchange Cost Estimates		
104	Paradise Road/I-205 EB Ramps	See Interchange Cost Estimates		
105	Paradise Road/Pescadero Avenue	Planned	$ 4,457,000	$ 6,016,950
106	Paradise Road/Grant Line Road	Planned	$ 778,250	$ 1,050,638
107	Eleventh Street/Grant Line Road	Existing	$ -	$ -
a	Power Road/Pavillion Parkway	Planned	$ 4,009,000	$ 5,412,150
b	Power Road/Grant Line Road	Planned	$ 2,447,000	$ 3,303,450
c	Hansen Road/Old Hansen Road	Planned	$ 2,428,000	$ 3,277,800
			$ 172,001,000	**$ 232,201,350**

Notes:

1 Markups include 15% Contingency, 10% Design & Planning and 10% Construction Management

City of Tracy 9/21/2022 16:57
Roadway Improvements
Preliminary Construction Cost Estimates (Horizon Year)

No.	Street	From	To	Street Length (ft)	Roadway Improvement Type at Buildout / Horizon Year	Status	Preliminary Cost Estimate	Cost w/Markup
1	International Pkwy	I-205 WB	I-205 EB	N/A	N/A - Interchange Project	Planned	$ -	$ -
2	International Pkwy	I-205 EB	Capital Parks Dr	1,200	Widen 2- to 8-Lane Major Arterial (curb-curb)	Planned	$ 4,080,000	$ 5,508,000
3	International Pkwy	Capital Parks Dr	Promontory Pkwy	300	Widen 2- to 6-Lane Major Arterial (curb-curb)	Partially Completed	$ 930,000	$ 1,255,500
4	International Pkwy	Promontory Pkwy	Old Schulte Rd	1,400	Widen 2- to 4-Lane Major Arterial (curb-curb)	Partially Completed	$ 3,500,000	$ 4,725,000
5	International Pkwy	Old Schulte Rd	I-580 WB	N/A	N/A - Interchange Project	Planned	$ -	$ -
6	International Pkwy	I-580 WB	I-580 EB	N/A	N/A - Interchange Project	Planned	$ -	$ -
7	Hansen Rd	I-205	Capital Parks Dr	1,200	Widen 2- to 2-Lane Divided Arterial	Planned	$ 2,280,000	$ 3,078,000
8	Hansen Rd	Capital Parks Dr	Promontory Pkwy	N/A	Widen 2- to 4-Lane Major Arterial	Completed	$ -	$ -
9	Hansen Rd	Promontory Pkwy	Old Schulte Rd	N/A	Widen 2- to 4-Lane Major Arterial	Completed	$ -	$ -
10	Pavillion Pkwy	Power Rd	Lammers Rd	1,600	2-Lane Divided Arterial	Planned	$ 3,840,000	$ 5,184,000
11	Pavillion Pkwy	Lammers Rd	Grant Line Rd	2,600	2-Lane Divided Arterial	Planned	$ 6,240,000	$ 8,424,000
12	Pavillion Pkwy	Grant Line Rd	Lammers Extn	1,100	2-Lane Divided Arterial	Planned	$ 2,640,000	$ 3,564,000
13	Pavillion Pkwy	Lammers Extn	Grant Line Rd	500	2-Lane Divided Arterial	Planned	$ 1,200,000	$ 1,620,000
14	Pavillion Pkwy	Grant Line Rd	Von Sosten Rd	1,900	2-Lane Divided Arterial	Planned	$ 4,560,000	$ 6,156,000
15	Pavillion Pkwy	Von Sosten Rd	Capital Parks Dr	4,900	2-Lane Divided Arterial	Planned	$ 11,760,000	$ 15,876,000
16	Pavillion Pkwy	Capital Parks Dr	Promontory Pkwy	2,000	2-Lane Divided Arterial	Planned	$ 4,800,000	$ 6,480,000
17	Pavillion Pkwy	Promontory Pkwy	Old Schulte Rd	2,300	2-Lane Divided Arterial	Planned	$ 5,520,000	$ 7,452,000
18	Pavillion Pkwy	Old Schulte Rd	Hansen Rd	3,000	2-Lane Divided Arterial	Planned	$ 7,200,000	$ 9,720,000
19	Lammers Extn	Pavillion Pkwy	Byron Rd	1,100	2-Lane Major Arterial	Planned	$ 2,640,000	$ 3,564,000
20	Lammers Extn	Byron Rd	Von Sosten Rd	800	2-Lane Major Arterial	Planned	$ 1,920,000	$ 2,592,000
21	Lammers Extn	Von Sosten Rd	I-205 WB	1,100	2-Lane Major Arterial	Planned	$ 2,640,000	$ 3,564,000
22	Lammers Extn	I-205 WB	I-205 EB	900	N/A - Interchange Project	Planned	$ -	$ -
23	Lammers Extn	I-205 EB	Commerce Wy	200	8-Lane Major Arterial	Planned	$ 660,000	$ 891,000
24	Lammers Extn	Commerce Wy	Road M	700	8-Lane Major Arterial	Planned	$ 2,310,000	$ 3,118,500
25	Lammers Extn	Road M	11th St	900	8-Lane Major Arterial	Planned	$ 2,970,000	$ 4,009,500
26	Lammers Rd	City Limits	Pavillion Pkwy	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
27	Lammers Rd	Pavillion Pkwy	Grant Line Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
28	Lammers Rd	Byron Rd	11th St	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
29	Lammers Rd	11th St	Capital Parks Dr	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
30	Lammers Rd	Capital Parks Dr	Promontory Pkwy	300	4-Lane Major Arterial (curb-curb)	Partially Completed	$ 900,000	$ 1,215,000
31	Lammers Rd	Promontory Pkwy	Crossroads Dr	700	4-Lane Major Arterial (curb-curb)	Planned	$ 2,100,000	$ 2,835,000
32	Lammers Rd	Crossroads Dr	Redbridge Rd	800	4-Lane Major Arterial (curb-curb)	Planned	$ 2,400,000	$ 3,240,000
33	Lammers Rd	Redbridge Rd	Old Schulte Rd	300	4-Lane Major Arterial (curb-curb)	Planned	$ 900,000	$ 1,215,000
34	Lammers Rd	Old Schulte Rd	Western Pacific Wy	1,300	4-Lane Major Arterial (curb-curb)	Planned	$ 3,900,000	$ 5,265,000
35	Lammers Rd	Western Pacific Wy	Valpico Rd	900	4-Lane Major Arterial (curb-curb)	Planned	$ 2,700,000	$ 3,645,000
36	Lammers Rd	Valpico Rd	Samual James Wy	700	4-Lane Major Arterial (curb-curb)	Planned	$ 2,100,000	$ 2,835,000
37	Lammers Rd	Samual James Wy	Hansen Rd	1,300	4-Lane Major Arterial (curb-curb)	Planned	$ 3,900,000	$ 5,265,000
38	Lammers Rd	Hansen Rd	Linne Rd	2,400	4-Lane Major Arterial (curb-curb)	Planned	$ 7,200,000	$ 9,720,000
39	Lammers Rd	Linne Rd	Tracy Hills Dr	1,400	4-Lane Major Arterial (curb-curb)	Planned	$ 4,200,000	$ 5,670,000
40	Lammers Rd	Tracy Hills Dr	I-580 WB	400	4-Lane Major Arterial (curb-curb)	Planned	$ 1,200,000	$ 1,620,000
41	Lammers Rd	I-580 WB	I-580 EB	N/A	N/A - Interchange Project	Planned	$ -	$ -
42	Lammers Rd	I-580 EB	Corral Hollow Rd	N/A	N/A - Onsite Street Project	Planned	$ -	$ -
43	Power Rd	Pavillion Pkwy	Grant Line Rd	1,600	6-Lane Divided Arterial	Planned	$ 4,160,000	$ 5,616,000
44	Naglee Rd	Middle Rd	Auto Plaza Dr	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
45	Naglee Rd	Auto Plaza Dr	Pavillion Pkwy	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
46	Naglee Rd	Pavillion Pkwy	Private Dwy	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
47	Naglee Rd	Private Dwy	Grant Line Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
48	Crossroads Dr	11th St	Schulte Rd	1,500	4-Lane Divided Arterial	Partially Completed	$ 2,850,000	$ 3,847,500
49	Corral Hollow Rd	Larch Rd	Auto Plaza Dr	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
50	Corral Hollow Rd	Auto Plaza Dr	Grant Line Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
51	Corral Hollow Rd	Grant Line Rd	11th St	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
52	Corral Hollow Rd	11th St	Schulte Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
53	Corral Hollow Rd	Schulte Rd	Valpico Rd	4,000	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 10,000,000	$ 13,500,000
54	Corral Hollow Rd	Valpico Rd	Samuel James Wy	800	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 2,000,000	$ 2,700,000
55	Corral Hollow Rd	Samual James Wy	Ellis Town Dr/Peony Dr	500	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 1,250,000	$ 1,687,500
56	Corral Hollow Rd	Ellis Town Dr/Peony Dr	Summit Dr/Middlefield Dr	N/A	Widen 2- to 4-Lane Major Arterial (curb-curb)	Completed	$ -	$ -
57	Corral Hollow Rd	Summit Dr/Middlefield Dr	Linne Rd	85	Widen 2- to 4-Lane Major Arterial (curb-curb)	Partially Completed	$ 212,500	$ 286,875
58	Corral Hollow Rd	Linne Rd	North Tracy Hills Dr	4,000	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 10,000,000	$ 13,500,000
59	Corral Hollow Rd	North Tracy Hills Dr	Tracy Hills Dr	2,400	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 6,000,000	$ 8,100,000
60	Corral Hollow Rd	Tracy Hills Dr	I-580 WB	1,000	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 2,500,000	$ 3,375,000
61	Corral Hollow Rd	I-580 WB	I-580 EB	N/A	N/A - Interchange Project	Planned	$ -	$ -
62	Corral Hollow Rd	I-580 EB	Lammers Rd	1,400	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 3,500,000	$ 4,725,000
63	Corral Hollow Rd	Lammers Rd	City Limits	2,000	Widen 2- to 2-Lane Divided Arterial (curb-curb)	Planned	$ 3,800,000	$ 5,130,000
64	Tracy Blvd	Larch Rd	I-205 WB	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
65	Tracy Blvd	I-205 WB	I-205 EB	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
66	Tracy Blvd	I-205 EB	Grant Line Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
67	Tracy Blvd	Grant Line Rd	11th St	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
68	Tracy Blvd	11th St	6th St	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
69	Tracy Blvd	6th St	Mt Diablo Ave	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
70	Tracy Blvd	Mt Diablo Ave	Schulte Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
71	Tracy Blvd	Schulte Rd	Central Ave	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
72	Tracy Blvd	Central Ave	Valpico Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
73	Tracy Blvd	Valpico Rd	Whispering Wind Dr	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
74	Tracy Blvd	Whispering Wind Dr	ACE Station	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
75	Tracy Blvd	ACE Station	Linne Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
76	Holly Dr	11th St	Schulte Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
77	MacArthur Dr	Arbor Ave	I-205 WB	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
78	MacArthur Dr	I-205 WB	I-205 EB	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
79	MacArthur Dr	I-205 EB	Pescadero Ave	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
80	MacArthur Dr	Pescadero Ave	Grant Line Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
81	MacArthur Dr	Grant Line Rd	11th St	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
82	MacArthur Dr	11th St	Mt Diablo Ave	4,700	4-Lane Divided Arterial	Planned	$ 8,930,000	$ 12,055,500
83	MacArthur Dr	Mt Diablo Ave	Schulte Rd	1,300	4-Lane Divided Arterial	Planned	$ 2,470,000	$ 3,334,500
84	MacArthur Dr	Schulte Rd	Valpico Rd	N/A	Widen 2- to 4-Lane Major Arterial (curb-curb)	Completed	$ -	$ -
85	Chrisman Rd	Paradise Rd	Pescadero Ave	1,300	6-Lane Major Arterial (curb-curb)	Planned	$ 4,680,000	$ 6,318,000
86	Chrisman Rd	Pescadero Ave	Grant Line Rd	2,200	4-Lane Major Arterial (curb-curb)	Planned	$ 6,600,000	$ 8,910,000
87	Chrisman Rd	Grant Line Rd	11th St	2,300	Widen 2- to 6-Lane Major Arterial (curb-curb)	Partially Completed	$ 7,130,000	$ 9,625,500
88	Chrisman Rd	11th St	Schulte Rd	4,800	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 12,000,000	$ 16,200,000
89	Chrisman Rd	Schulte Rd	Valpico Rd	3,800	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 9,500,000	$ 12,825,000
90	Paradise Rd	Arbor Ave	I-205 WB	800	Widen 2- to 6-Lane Major Arterial (curb-curb)	Planned	$ 2,480,000	$ 3,348,000
91	Paradise Rd	I-205 WB	I-205 EB	N/A	N/A - Interchange Project	Planned	$ -	$ -
92	Paradise Rd	I-205 EB	Paradise Rd	700	8-Lane Major Arterial	Planned	$ 2,310,000	$ 3,118,500
93	Paradise Rd	Paradise Rd	Grant Line Rd	1,200	4-Lane Major Arterial	Partially Completed	$ 2,400,000	$ 3,240,000
94	Arbor Ave	City Limits	City Limits	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
95	Larch Rd	City Limits	City Limits	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
96	Auto Plaza Dr	Power Rd	Naglee Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
97	Auto Plaza Dr	Naglee Rd	Corral Hollow Rd	2,100	2-Lane Divided Arterial	Planned	$ 5,040,000	$ 6,804,000
98a	Grant Line Rd (Interim)	Byron Rd	Lammers Rd	900	Widen 2- to 4-Lane Divided Arterial	Partially Completed	$ 1,260,000	$ 1,701,000
98b	Grant Line Rd	Pavillion Pkwy	Lammers Rd	3,300	4-Lane Divided Arterial	Planned	$ 6,270,000	$ 8,464,500
99	Grant Line Rd	Lammers Rd	Naglee Rd/I-205 WB	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
100	Grant Line Rd	Naglee Rd/I-205 WB	I-205 EB	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -

No.	Street	From	To	Street Length (ft)	Roadway Improvement Type at Buildout / Horizon Year	Status	Preliminary Cost Estimate	Cost w/Markup
101	Grant Line Rd	I-205 EB	Corral Hollow Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
102	Grant Line Rd	Corral Hollow Rd	Tracy Blvd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
103	Grant Line Rd	Tracy Blvd	MacArthur Dr	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
104	Grant Line Rd	MacArthur Dr	Chrisman Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
105	Grant Line Rd	Chrisman Rd	Paradise Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
106	Grant Line Rd	Paradise Rd	City Limits	500	Widen 2- to 4-Lane Divided Arterial	Partially Completed	$ 700,000	$ 945,000
107	Byron Rd	Pavillion Pkwy	Lammers Extn	600	N/A - No Existing Street Widening	Existing	$ -	$ -
108	Byron Rd	Lammers Extn	Existing Byron Rd	1,900	N/A - No Existing Street Widening	Existing	$ -	$ -
109	Von Sosten Rd	Pavillion Pkwy	Lammers Extn	1,300	2-Lane Divided Arterial	Planned	$ 3,120,000	$ 4,212,000
110	Von Sosten Rd	Lammers Extn	Existing Byron Rd	1,800	2-Lane Divided Arterial	Planned	$ 4,320,000	$ 5,832,000
111	11th St	City Limits	City Limits	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
112	Commerce Wy	Pavillion Pkwy	New Street	1,300	4-Lane Major Arterial	Planned	$ 2,600,000	$ 3,510,000
113	Commerce Wy	New Street	Lammers Extn	1,000	4-Lane Major Arterial	Planned	$ 2,000,000	$ 2,700,000
114	Capital Parks Dr	International Pkwy	Hansen Rd	4,800	4-Lane Divided Arterial	Planned	$ 9,120,000	$ 12,312,000
115	Capital Parks Dr	Hansen Rd	Pavillion Pkwy	4,800	4-Lane Divided Arterial	Planned	$ 9,120,000	$ 12,312,000
116	Capital Parks Dr	Pavillion Pkwy	Commerce Wy	1,200	4-Lane Divided Arterial	Planned	$ 2,280,000	$ 3,078,000
117	Capital Parks Dr	Commerce Wy	Road M	1,800	4-Lane Divided Arterial	Planned	$ 3,420,000	$ 4,617,000
118	Capital Parks Dr	Road M	Lammers Rd	1,000	6-Lane Divided Arterial	Planned	$ 2,600,000	$ 3,510,000
119	Promontory Pkwy	Road H	Pavillion Pkwy	3,400	4-Lane Divided Arterial (curb-curb)	Planned	$ 8,840,000	$ 11,934,000
120	Promontory Pkwy	Pavillion Pkwy	Lammers Rd	1,100	4-Lane Divided Arterial (curb-curb)	Planned	$ 2,860,000	$ 3,861,000
121	Schulte Rd	Lammers Rd	Crossroads Dr	3,500	4-Lane Divided Arterial (curb-curb)	Planned	$ 9,100,000	$ 12,285,000
122	Schulte Rd	Crossroads Dr	Mabel Josehpine Dr	2,000	4-Lane Divided Arterial (curb-curb)	Planned	$ 5,200,000	$ 7,020,000
123	Schulte Rd	Mabel Josehpine Dr	Corral Hollow Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
124	Schulte Rd	Corral Hollow Rd	Tracy Blvd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
125	Schulte Rd	Tracy Blvd	Central Ave	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
126	Schulte Rd	Central Ave	MacArthur Dr	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
127	Schulte Rd	MacArthur Dr	Chrisman Rd	4,800	Widen 2- to 4-Lane Divided Arterial (curb-curb)	Planned	$ 10,080,000	$ 13,608,000
128	Crossroads Dr	Lammers Rd	Schulte Rd	4,000	2-Lane Divided Arterial	Planned	$ 9,600,000	$ 12,960,000
129	Old Schulte Rd	International Pkwy	Hansen Rd	750	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 1,875,000	$ 2,531,250
130	Old Schulte Rd	Hansen Rd	Pavillion Pkwy	3,900	Widen 2- to 4-Lane Major Arterial (curb-curb)	Partially Completed	$ 9,750,000	$ 13,162,500
131	Old Schulte Rd	Pavillion Pkwy	Lammers Rd	4,800	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 12,000,000	$ 16,200,000
132	Hansen Rd	Old Schulte Rd	Pavillion Pkwy	6,400	2-Lane Divided Arterial	Planned	$ 15,360,000	$ 20,736,000
133	Hansen Rd	Pavillion Pkwy	Valpico Rd	900	2-Lane Divided Arterial	Planned	$ 2,160,000	$ 2,916,000
134	Hansen Rd	Valpico Rd	Lammers Rd	4,800	2-Lane Divided Arterial	Planned	$ 11,520,000	$ 15,552,000
135	Valpico Rd	Hansen Rd	Lammers Rd	3,800	2-Lane Divided Arterial	Planned	$ 9,120,000	$ 12,312,000
136	Valpico Rd	Lammers Rd	Corral Hollow Rd	6,300	Widen 2- to 4-Lane Divided Arterial	Planned	$ 8,820,000	$ 11,907,000
137	Valpico Rd	Corral Hollow Rd	Cagney Wy	2,500	Widen 2- to 4-Lane Divided Arterial	Planned	$ 3,500,000	$ 4,725,000
138	Valpico Rd	Cagney Wy	Tracy Blvd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
139	Valpico Rd	Tracy Blvd	Glenbriar Dr	2,700	Widen 2- to 4-Lane Divided Arterial	Partially Completed	$ 3,780,000	$ 5,103,000
140	Valpico Rd	Glenbriar Dr	MacArthur Dr	N/A	Widen 2- to 4-Lane Divided Arterial	Completed	$ -	$ -
141	Valpico Rd	MacArthur Dr	Chrisman Rd	N/A	N/A - No Existing Street Widening	Existing	$ -	$ -
142	Samuel James Wy	Lammers Rd	Corral Hollow Rd	6,300	2-Lane Collector	Planned	$ 10,080,000	$ 13,608,000
143	Linne Rd	Lammers Rd	North Tracy Hills Dr	300	4-Lane Major Arterial (curb-curb)	Planned	$ 900,000	$ 1,215,000
144	Linne Rd	North Tracy Hills Dr	Corral Hollow Rd	5,600	4-Lane Major Arterial (curb-curb)	Planned	$ 16,800,000	$ 22,680,000
145	Linne Rd	Corral Hollow Rd	Tracy Blvd	4,800	Widen 2- to 4-Lane Major Arterial (curb-curb)	Planned	$ 12,000,000	$ 16,200,000
146	Linne Rd	Tracy Blvd	City Limits	3,400	2-Lane Divided Arterial (curb-curb)	Planned	$ 8,160,000	$ 11,016,000
147	North Tracy Hills Dr	Linne Rd	Corral Hollow Rd	6,400	4-Lane Divided Arterial	Planned	$ 12,160,000	$ 16,416,000
					SUBTOTAL		**$ 443,477,500**	**$ 598,694,625**
					Non-Developable Frontage (20 miles of estimated frontage)		$ 31,954,533	$ 43,138,620
					Temporary Sidewalk (1/3 of estimated sidewalk costs)		$ 19,333,500	$ 26,100,225
					TOTAL		**$ 494,765,533**	**$ 667,933,470**

Notes:

1 Markups include 15% Contingency, 10% Design & Planning and 10% Construction Management

City of Tracy
Intelligent Transportation System Infrastructure Improvements
Preliminary Construction Cost Estimates (Horizon Year)

No.	Improvement Description	Unit	Quantity	Unit Cost	Total Cost	Total Cost w/Markup
	Fiber Optic Communication System Installation (Traffic Management Improvements Only)					
1	Furnish and Install 3" Conduit	LF	386,000	$60	$23,160,000	$31,266,000
2	Furnish and Install Pull Boxes	EA	1,544	$2,000	$3,088,000	$4,168,800
3	Furnish and Install 144 Strand Singlemode Fiber Optic Cable	LF	386,000	$18	$6,948,000	$9,379,800
4	Signalized Intersection Upgrades (Includes Splice Vault/Enclosure/Communication Equipment/Controller & Cabinet Modifications)	EA	109	$43,000	$4,687,000	$6,327,450
5	Furnish and Install CCTV Camera System (includes CCTV Camera, Cables, Mounting and Video Encoder)	EA	33	$15,000	$495,000	$668,250
6	Furnish and Install DMS System (Including Display/Sign Structure/Pole/Foundation/Splice Vault/Cabinet/Communication Equipment). This TMP includes the use of DMS signs on trailers on an “as needed” basis. Future updates may reassess the use of standard DMS signs.	EA	0	$162,500	$0	$0
7	Furnish and Install Field Communication Hub (Including Splice Vault/Enclosure/Communication Equipment/Cabinet)	EA	4	$37,500	$150,000	$202,500
	Subtotal				**$38,528,000**	**$52,012,800**
	Fiber Optic Communication System Installation (Public Works Department)					
8	PUBLIC WORKS DEPARTMENT Furnish and Install Two (2) Workstations/Computer (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$62,500	$62,500	$84,375
	Subtotal				**$62,500**	**$84,375**
	Fiber Optic Communication System Installation (Water Department)					
9	WATER TREATMENT PLANT Furnish and Install One (1) Workstation/Computer (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$62,500	$62,500	$84,375
	Subtotal				**$62,500**	**$84,375**
	Fiber Optic Communication System Installation (Parks / Library)					
10	TRACY SPORTS COMPLEX Furnish and Install One (1) Workstation/Computer (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$62,500	$62,500	$84,375
11	EL PESCADERO PARK Furnish and Install One (1) Workstation/Computer (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$62,500	$62,500	$84,375
12	TRACY BALL PARK Furnish and Install One (1) Workstation/Computer (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$62,500	$62,500	$84,375
13	POWERS PARK Furnish and Install One (1) Workstation/Computer (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$62,500	$62,500	$84,375
14	LINCOLN PARK Furnish and Install One (1) Workstation/Computer (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$62,500	$62,500	$84,375

No.	Improvement Description	Unit	Quantity	Unit Cost	Total Cost	Total Cost w/Markup
15	TRACY PUBLIC LIBRARY Furnish and Install One (1) Workstation/Computer (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$62,500	$62,500	$84,375
	Subtotal				**$375,000**	**$506,250**

No.	Improvement Description	Unit	Quantity	Unit Cost	Total Cost	Total Cost w/Markup
	Fiber Optic Communication System Installation (Fire Department / Station)					
16	TRACY FIRE DEPARTMENT BUILDING Furnish and Install One (1) Workstation (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$62,500	$62,500	$84,375
17	TRACY FIRE STATION NO. 1 Furnish and Install One (1) Workstation (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$62,500	$62,500	$84,375
18	TRACY FIRE STATION NO. 6 Furnish and Install One (1) Workstation (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$62,500	$62,500	$84,375
19	TRACY FIRE STATION NO. 7 Furnish and Install One (1) Workstation/Computer (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Communication Equipment/Equipment Rack/Ethernet Switch/Fiber Distribution Unit/Miscellaneous)	LS	1	$62,500	$62,500	$84,375
	Subtotal				**$250,000**	**$337,500**
	City Hall - Traffic Management Center					
20	TRAFFIC MANAGEMENT CENTER (TMC) Furnish and Install TMC (Including Fiber Optic Cable/Conduit/Spice Vault-Enclosure and Video Wall/Communication Equipment & Sofware/Furniture)	LS	1	$500,000	$500,000	$675,000
	Subtotal				**$500,000**	**$675,000**
	Other Costs Associated with Intelligent Transportation System					
21	Testing	LS	1	$62,500	**$62,500**	$84,375
22	Training	LS	1	$25,000	**$25,000**	$33,750
23	System Integration	LS	1	$62,500	**$62,500**	$84,375
	Subtotal				**$150,000**	**$202,500**
	Grand Total				**$39,928,000**	**$53,902,800**

Notes:

1 Markups include 15% Contingency, 10% Design & Planning and 10% Construction Management

2 Refer to Figure 4.37

APPENDIX L

TRAVEL DEMAND MODEL BANDWITH PLOTS BY GROWTH AREA

Cordes Ranch (AM)

IN - Black
OUT - Red


Cordes Ranch (PM)
IN - Black
OUT - Red
cube
(Licensed to Kimley Horn & Associates)


Westside (AM)
IN - Black
OUT - Red
cube
(Licensed to Kimley Horn & Associates)


Westside (PM)
IN - Black
OUT - Red
cube
(Licensed to Kimley Horn & Associates)


Westside Industrial (AM)
IN - Black
OUT - Red
(Licensed to Kimley Horn & Associates)


Westside Industrial (PM)
IN - Black
OUT - Red
cube
(Licensed to Kimley Horn & Associates)


I-205 Expansion (AM)
IN - Black
OUT - Red
(Licensed to Kimley Horn & Associates)


I-205 Expansion (PM)
IN - Black
OUT - Red

Filios (AM)

IN - Black
OUT - Red

cube

(Licensed to Kimley Horn & Associates)


Filios (PM)
IN - Black
OUT - Red

Downtown TOD (AM)
IN - Black
OUT - Red
cube
(Licensed to Kimley Horn & Associates)


Downtown TOD (PM)
IN - Black
OUT - Red
cube
(Licensed to Kimley Horn & Associates)


Westside Residential (AM)
IN - Black
OUT - Red


Westside Residential (PM)
IN - Black
OUT - Red


Northeast Industrial (AM)
IN - Black
OUT - Red
cube
(Licensed to Kimley Horn & Associates)


Northeast Industrial (PM)
IN - Black
OUT - Red
cube
(Licensed to Kimley Horn & Associates)


Larch Clover (AM)
IN - Black
OUT - Red


Larch Clover (PM)
IN - Black
OUT - Red


Berg-Byron (AM)
IN - Black
OUT - Red


Berg-Byron (PM)
IN - Black
OUT - Red


Kagehiro (AM)
IN - Black
OUT - Red
(Licensed to Kimley Horn & Associates)


Kagehiro (AM)
IN - Black
OUT - Red
cube
(Licensed to Kimley Horn & Associates)

Attachment B

City of Tracy Transportation 2022 Master Plan

February 21, 2023

Goals and Objectives of the 2022 TMP

1. Implementation Tool for the General Plan Circulation Element
2. Plan the future transportation system
3. Multimodal / Bicycle and Pedestrian Master Plan
4. Vehicle Miles Travelled (VMT) Policy per SB 743.
5. Establish Transportation Demand Management & VMT Banking Fee Program for VMT mitigation
6. Signal technology, bridges, culverts, and rail crossings are included
7. Mobility Hub system that supports multimodal travel and “Valley Link”
8. Provides a nexus for a Traffic Impact Fee Program
9. Establish a framework for financial resources

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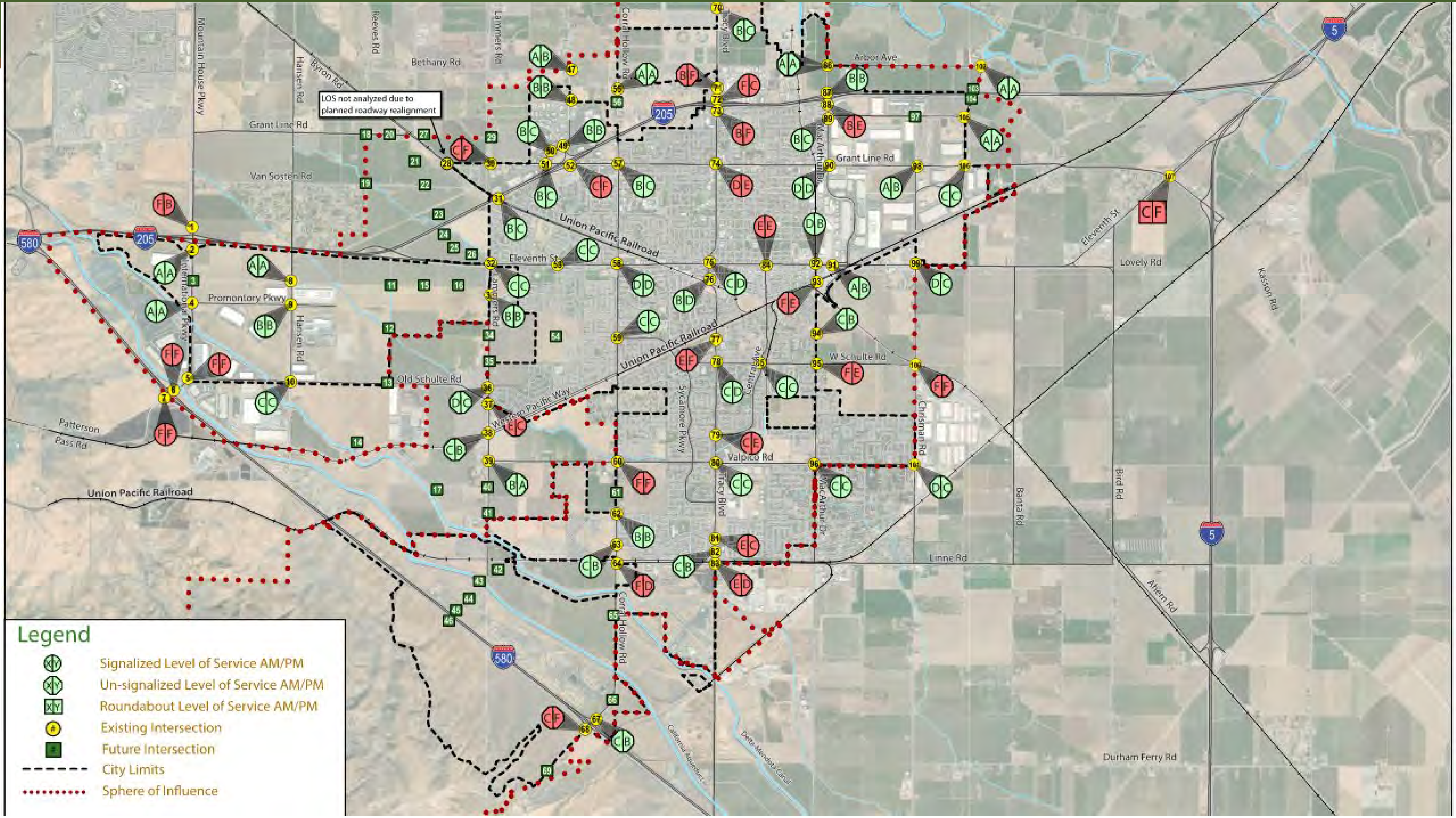
Existing Level Of Service (LOS)



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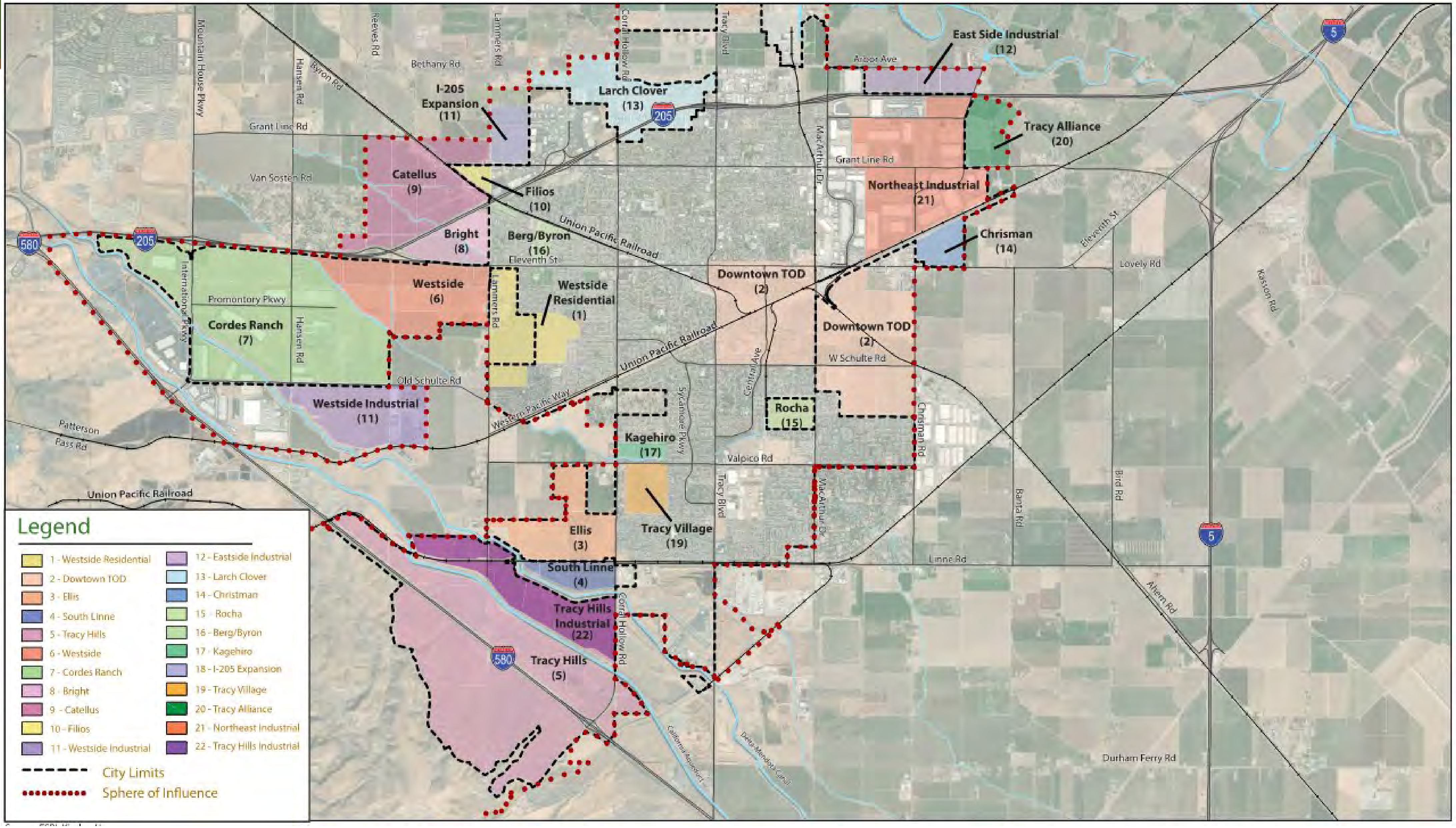
Think Inside the Triangle™

Future Land Use Map



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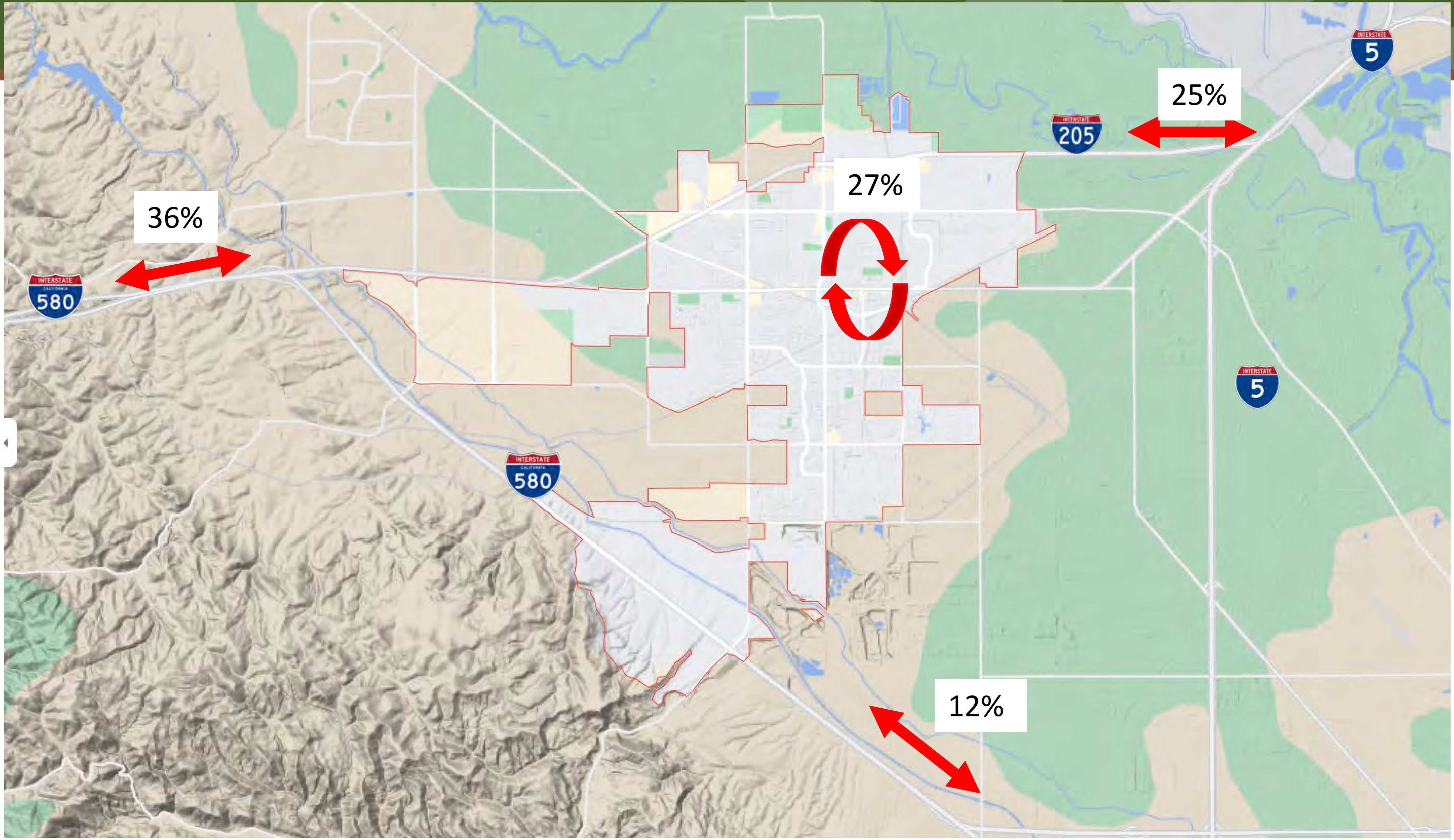
Citywide Future Traffic Distribution



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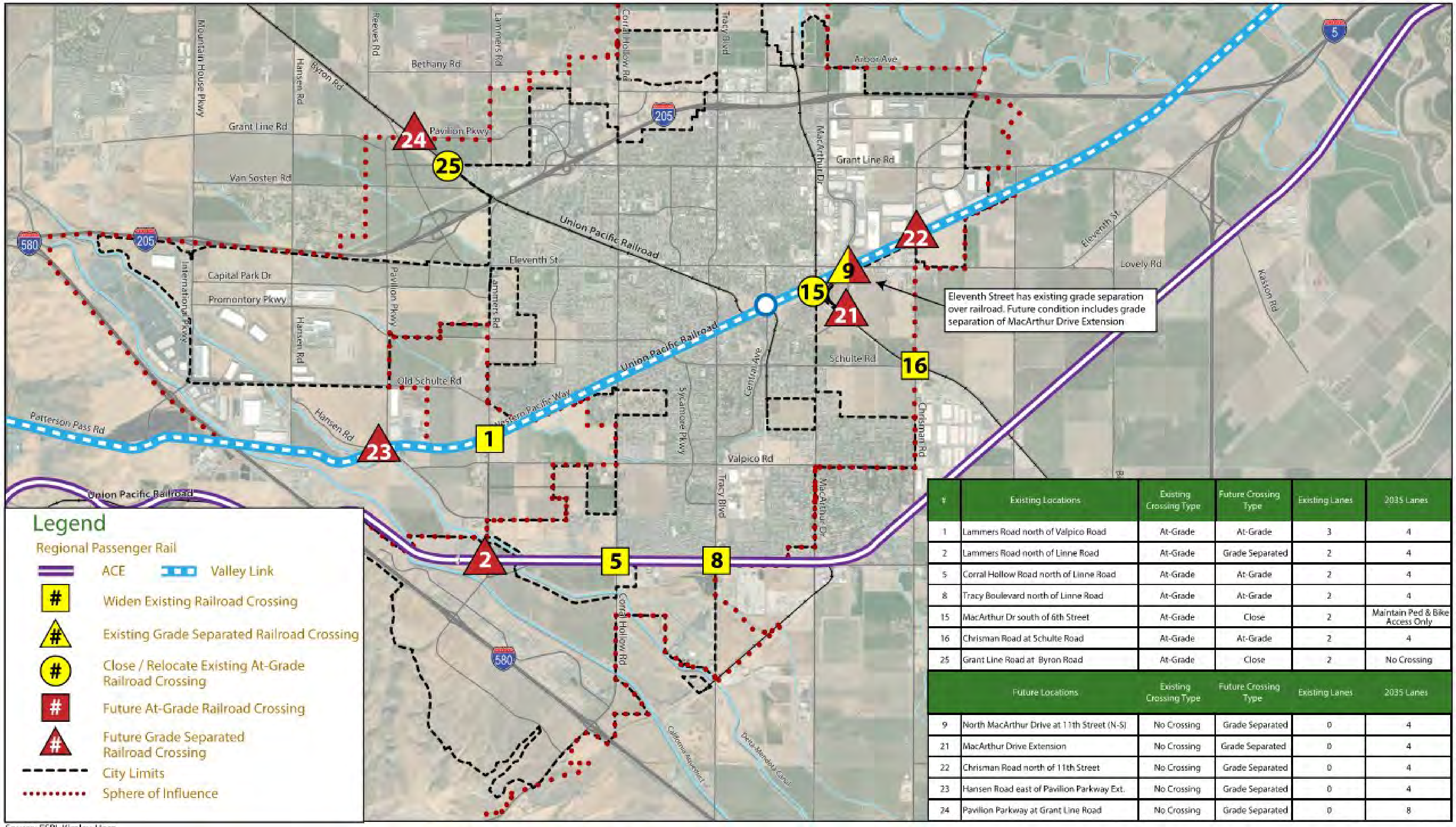
Future Rail Crossings



#	Existing Locations	Existing Crossing Type	Future Crossing Type	Existing Lanes	2035 Lanes
1	Lammers Road north of Valpico Road	At-Grade	At-Grade	3	4
2	Lammers Road north of Linne Road	At-Grade	Grade Separated	2	4
5	Corral Hollow Road north of Linne Road	At-Grade	At-Grade	2	4
8	Tracy Boulevard north of Linne Road	At-Grade	At-Grade	2	4
15	MacArthur Dr south of 6th Street	At-Grade	Close	2	Maintain Ped & Bike Access Only
16	Chrisman Road at Schulte Road	At-Grade	At-Grade	2	4
25	Grant Line Road at Byron Road	At-Grade	Close	2	No Crossing

	Future Locations	Existing Crossing Type	Future Crossing Type	Existing Lanes	2035 Lanes
9	North MacArthur Drive at 11th Street (N-S)	No Crossing	Grade Separated	0	4
21	MacArthur Drive Extension	No Crossing	Grade Separated	0	4
22	Chrisman Road north of 11th Street	No Crossing	Grade Separated	0	4
23	Hansen Road east of Pavilion Parkway Ext.	No Crossing	Grade Separated	0	4
24	Pavilion Parkway at Grant Line Road	No Crossing	Grade Separated	0	8

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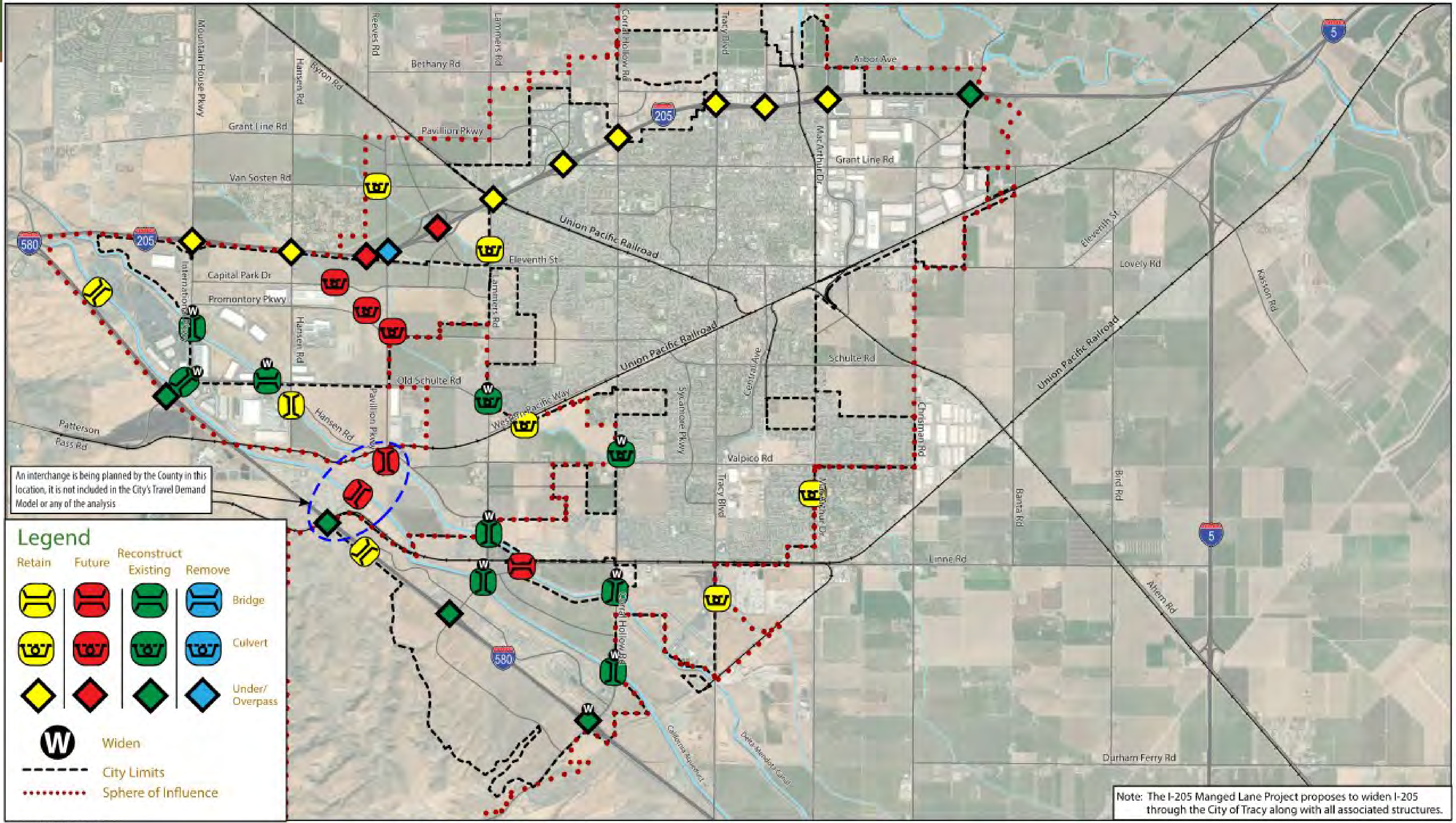
Future Bridges



TRACY

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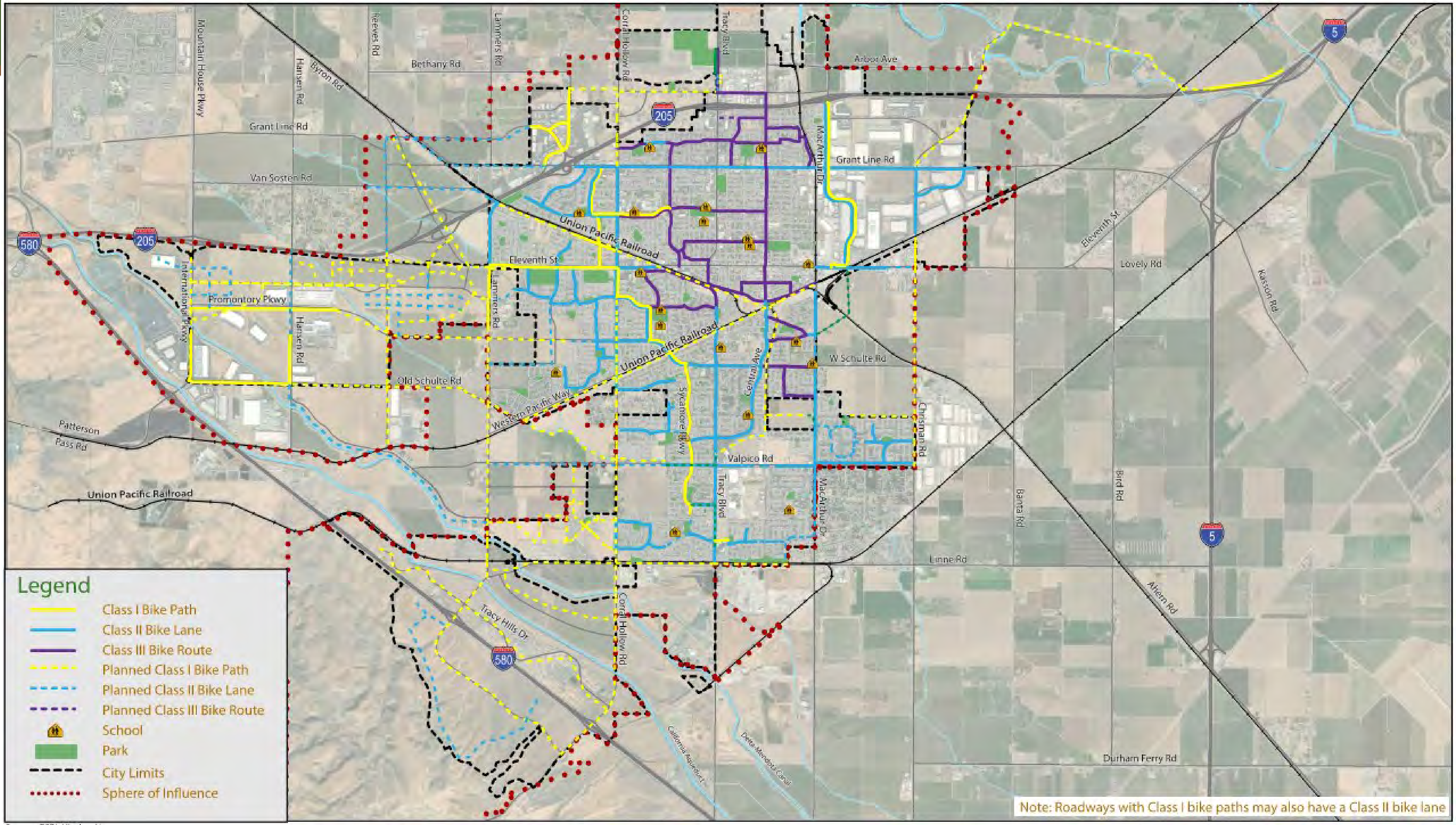
Future Bike/Ped Facilities



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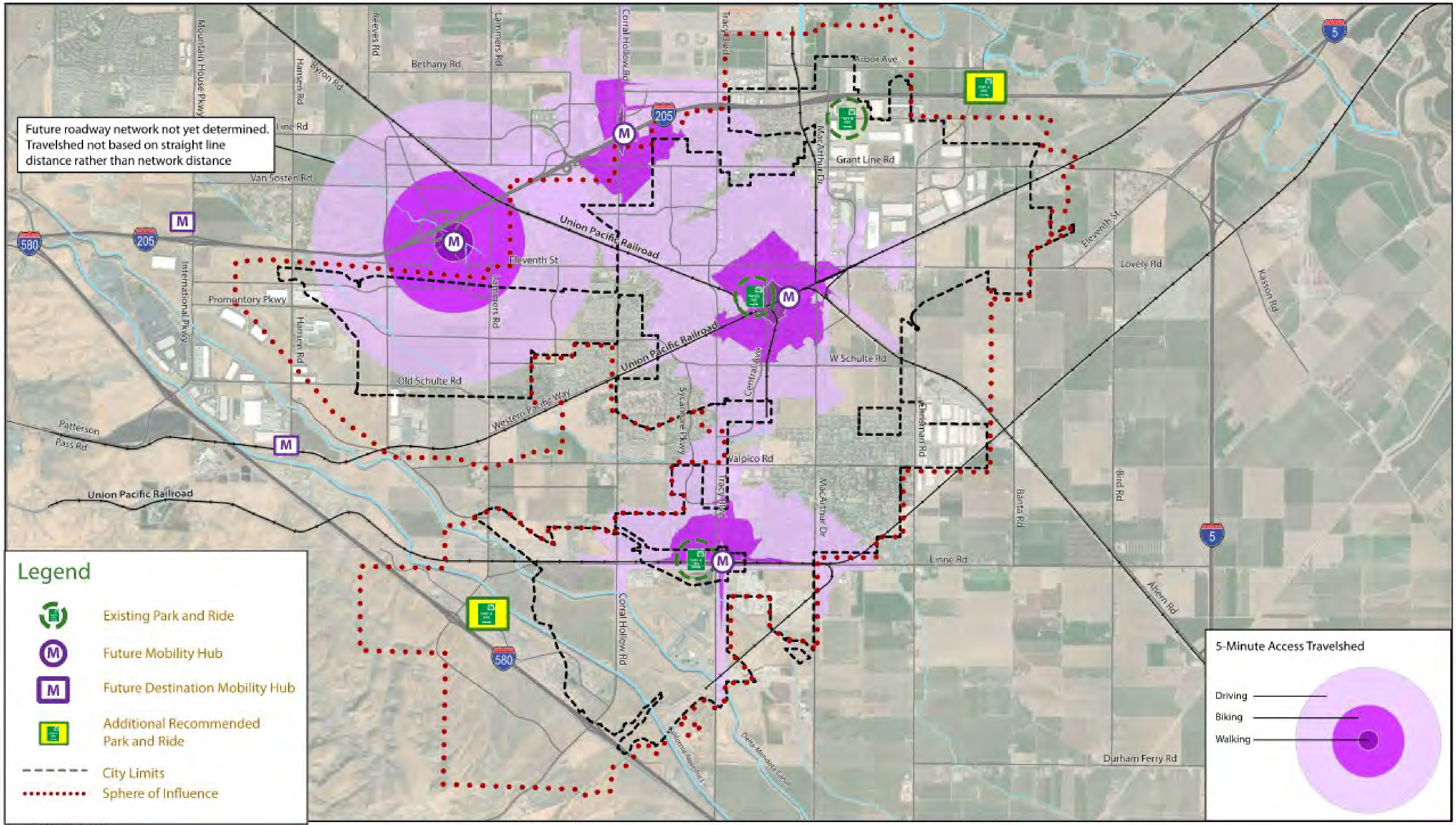
Future Mobility Hubs



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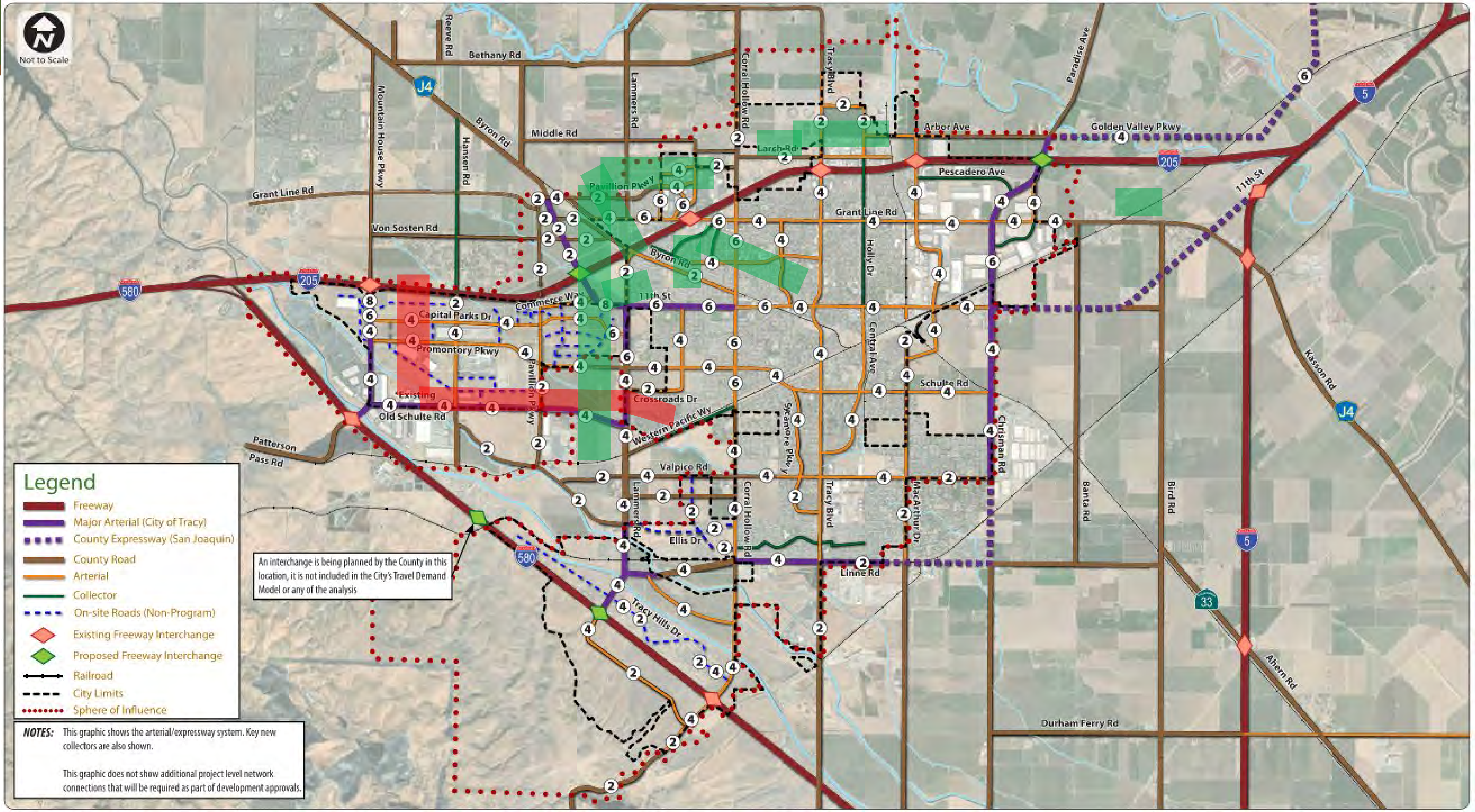
Horizon Year Change in # of Lanes



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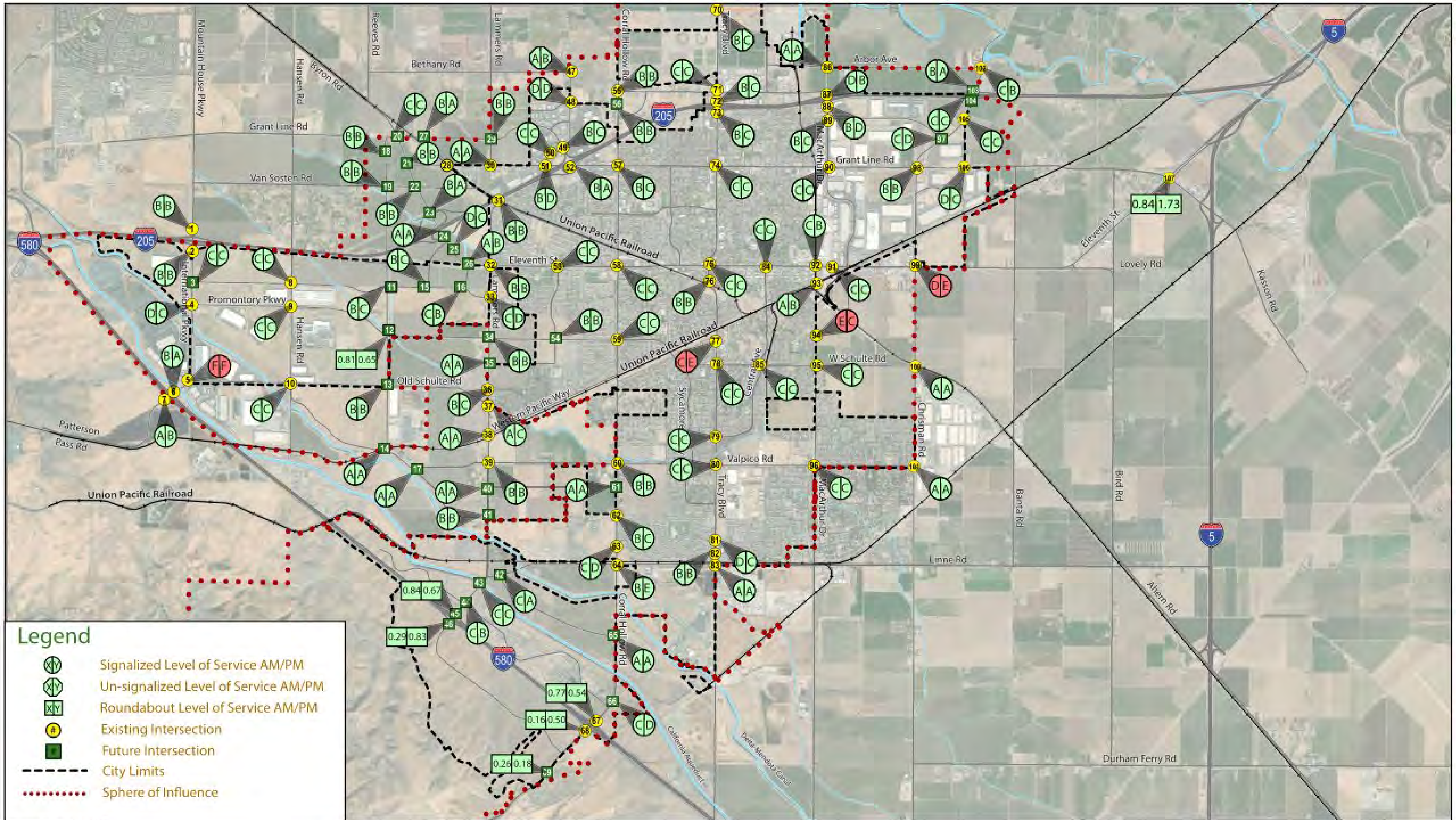
Horizon Year LOS



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SB 743

Land Use	OPR Guidance[8]
Residential	15% below existing city-wide average VMT per capita
Office	15% below existing county-wide average VMT per employee
Retail	Net increase in regional VMT

Land Use	VMT Threshold
Residential	16.7 VMT/capita[9]
Office	9.4 Work VMT/Employee[10]
Retail	Net regional change
Other Employment	Work VMT/Employee[11]
Other Customer	Net regional change

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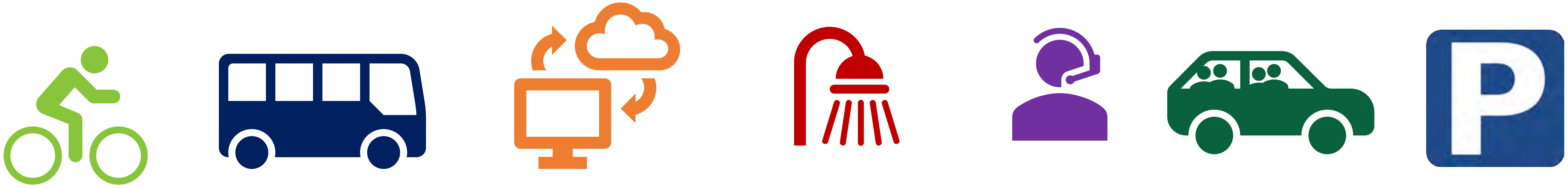
Transportation Demand Management Mitigations

- Transit Tickets
- Trolley Subsidy
- Bike Racks and lockers
- Showers
- Bike share facility (for residents or employers)
- No parking provision
- Unbundling of parking – where applicable
- Shared parking and parking cash-out programs
- Guaranteed ride home
- Flexible schedule
- Company HR policies
- Carpool parking
- Preferential parking



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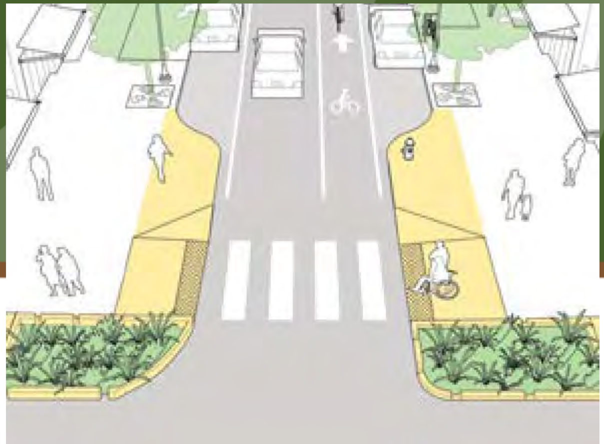
Vehicle Miles Traveled (VMT) Banking Fee Program

- The purpose of the VMT Banking Fee Program is to provide a tool for VMT mitigation over and above TDM Measures
- Caltrans projects will require City VMT mitigation projects for new interchanges (i.e. VMT Banking Fees)

Complete Streets



Pedestrian

- Trail Crossings
- Wide Sidewalks
- Curb Extensions or Bulb-outs
- Pedestrian Refuge Islands or Crossing Islands
- High Visibility Crosswalks
- Pedestrian Facility Gap Closure
- Audible Pedestrian Signals
- Pedestrian-activated Traffic Control Devices and Yield Lines
- Automatic Active Transportation Counters

Bicycle

- Bicycle Parking
- Green Colored Pavement for Bikeways
- Bicycle Boxes
- Bicycle Signals
- Bicycle Detection
- Class II Bike Lanes and Buffered Bike Lanes
- Class I Bike Paths and Class IV Separated Bikeways
- Class III Bike Routes

Transit

- Transit Priority Signals
- Transit Queue Jump Lanes
- Transit Stop Improvements
- Improve Access to Transit Stops (First Mile/Last Mile)
- Park and Ride Lots
- Mobility hubs

Streetscape Features

- Benches and Shaded Areas for Pedestrians
- Green Streets
- Landscaped Areas
- Intersection Streetlighting
- Benches and Shaded Areas

Road Scape Reallocation Features

- Lane Narrowing
- Lane Reduction (Road Diet)
- Curb Radius Reduction and Eliminating Free Right Turns
- Parking Modifications

Costs of Roadway Infrastructure

- Structures - $340 million
- Intersections - $232 million
- Roadway Segments - $668 million
- Intelligent Transportation Systems - $54 million
- Total - $1.294 billion

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Discussion