I-580/Corral Hollow Road Interchange Project

Traffic Operations Analysis Report (TOAR) – Final

September 2025

Prepared For

Caltrans

CITY OF TRACY CALIFORNIA
Think Inside the Triangle™

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INTRODUCTION

The City of Tracy is experiencing tremendous growth in residential, retail, and commercial development. Development projects have been entitled, and roadway infrastructure needs to be improved to accommodate the growth. In addition, regional cut-through traffic from the cities east of Tracy are utilizing City streets to avoid congestion on Interstate 205 (I-205) and Interstate 580 (I-580) heading to the west in the mornings and east in the afternoons. One of the major residential/retail developments along I-580 is the Tracy Hills project, which is located north and south of the I-580/Corral Hollow Road interchange and the future I-580/Lammers Road interchange. The Tracy Hills Specific Plan (THSP) Environmental Impact Report (EIR) has identified interim and ultimate improvements at the I-580/Corral Hollow Road interchange. The 2012 City of Tracy Transportation Master Plan has also identified ultimate improvements at the I-580/Corral Hollow Road interchange, similar to the Tracy Hills Specific Plan EIR.

The proposed new interchange at the I-580/Lammers Road interchange would be located at an existing undercrossing at approximately Post Mile SJ 9.718. The schedule of construction of this interchange is anticipated in the year 2035 per the THSP EIR. Until the interchange is constructed, the City now plans to utilize the undercrossing for an access road connecting the Tracy Hills phased development to Corral Hollow Road. The roadway will connect from the proposed intersection of Tracy Hills Drive/Lammers Road north of I-580, then continue underneath I-580 via an existing under crossing to the proposed intersection of Sierra View Drive/Corral Hollow Road on the south side of I-580.

The proposed project focuses on the improvements needed at the I-580/Corral Hollow Road interchange to address the Tracy Hills development traffic growth.

STUDY AREA AND DATA COLLECTION

Study Area

The proposed traffic study area includes the portion of the I-580 mainline extending from the State Route 132 (SR-132) interchange to the Patterson Pass Road/International Parkway interchange and several intersections along Corral Hollow Road in the City of Tracy. The study intersections and mainline segments are shown in **Figure 1** and identified below.

Mainline Segments

Eastbound I-580

- Between Patterson Pass Road On-Ramp and Corral Hollow Road Off-Ramp
- Between Corral Hollow Road Off-Ramp and On-Ramp
- Between Corral Hollow Road On-Ramp and SR-132 Off-Ramp

Westbound I-580

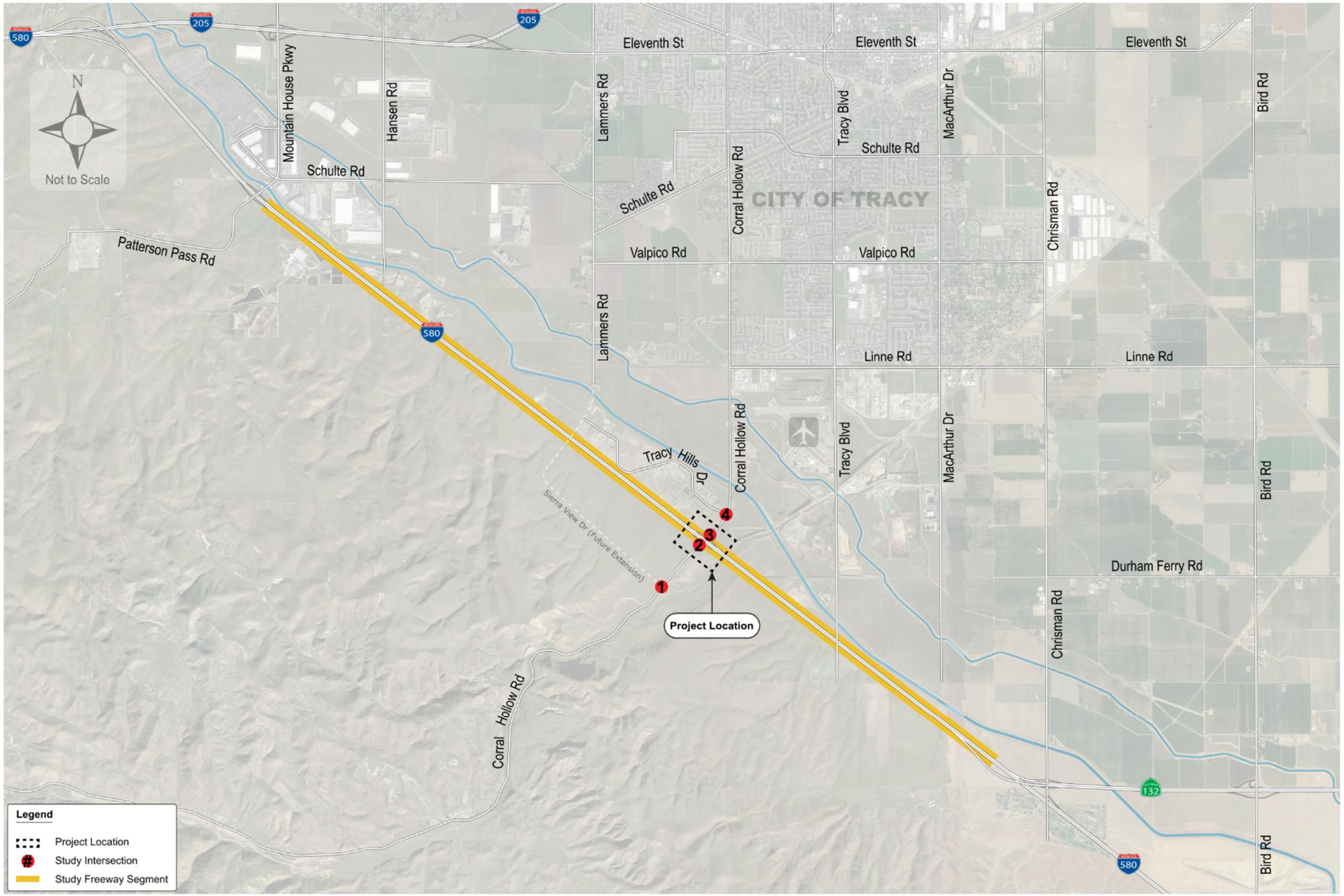
- Between SR-132 On-Ramp and Corral Hollow Road Off-Ramp
- Between Corral Hollow Road Off-Ramp and On-Ramp
- Between Corral Hollow Road On-Ramp and International Parkway Off-Ramp

Intersections

1. Corral Hollow Road & Sierra View Drive*
2. Corral Hollow Road & Eastbound I-580 Ramps
3. Corral Hollow Road & Westbound I-580 Ramps
4. Corral Hollow Road & Tracy Hills Drive

*It is noted that the intersection of Corral Hollow Road and Sierra View Drive does not exist under the Existing conditions. This intersection is anticipated to be constructed as a part of the Lammers Road undercrossing.

Figure 1. Project Area and Traffic Study Limits



Roadway Network

Interstate 580 (I-580) is an east-west Interstate Highway in Northern California extending from US 101 in Marin County to Interstate 5 (I-5) in San Joaquin County. In the vicinity of the project, I-580 is typically a four-lane freeway with two general-purpose lanes in each direction. No auxiliary lanes exist between the interchanges in most segments. The posted speed limit on I-580 is 65 MPH.

Corral Hollow Road is a north-south roadway that transitions from Tesla Road to the south of the I-580 interchange and connects to Grant Line Road to the north. Within the vicinity of the project, Corral Hollow Road is a two-lane undivided roadway with a posted speed limit of 50 MPH.

Lammers Road is a north-south roadway that extends from I-205 to the north to I-580 to the south. There is an I-580 undercrossing and future interchange planned which would connect to Sierra View Drive south of I-580.

Sierra View Drive is a future east-west roadway connecting Corral Hollow Road to the future extension of Lammers Road south of I-580 to the north.

Tracy Hills Drive is a local east-west roadway connecting the Tracy Hills development to Corral Hollow Road.

Data Collection

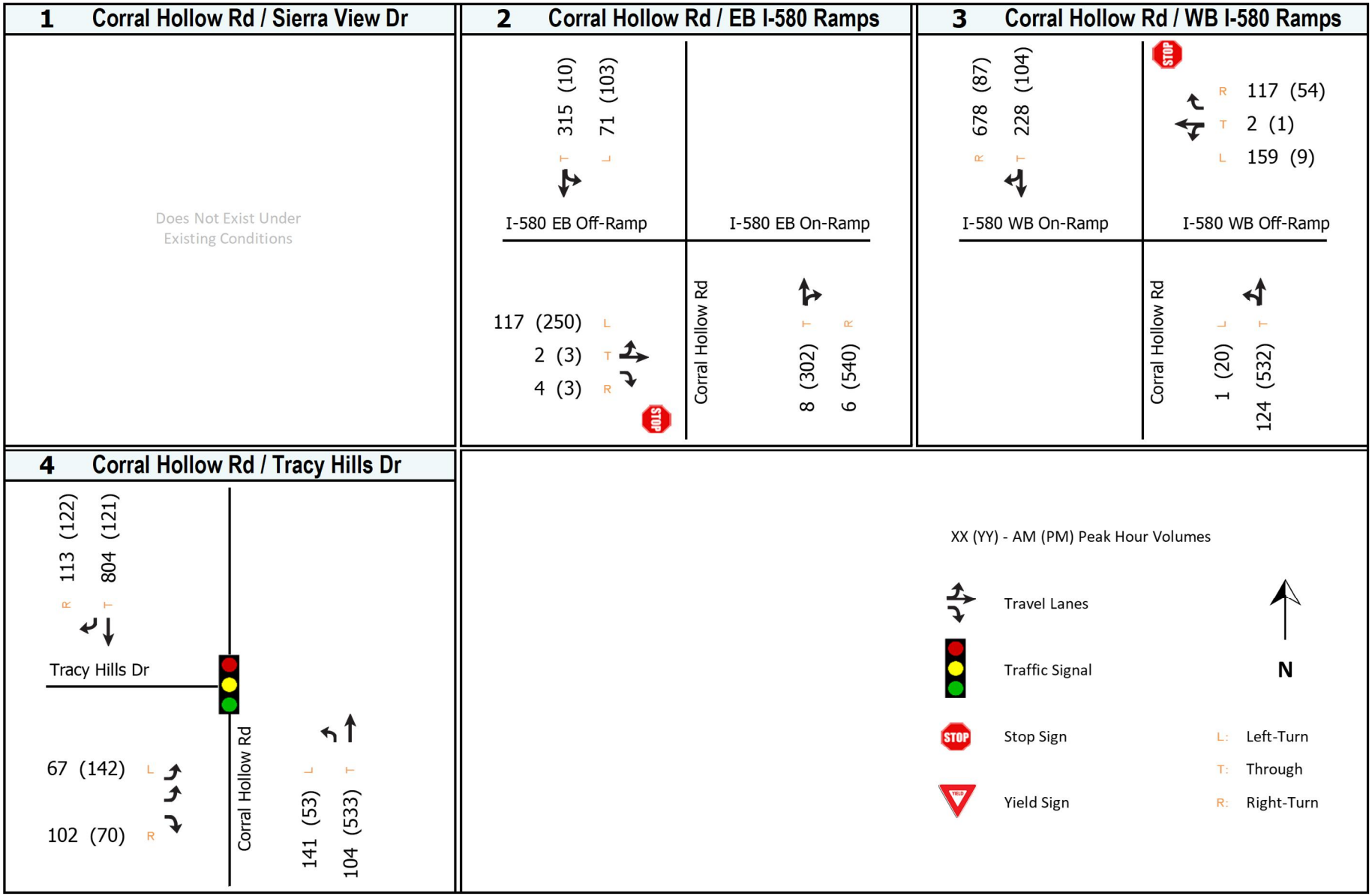
Data collection efforts were undertaken during the AM and PM peak periods to determine existing peak period and peak hour traffic volumes, peak hour pedestrian and bicycle volumes, truck volumes and percentages, freeway congestion locations and queues, and queues on local roadways within the study area.

Intersection Turning Movement Volumes

New intersection turning movement counts for the project were collected in March 2022 for both the AM peak period from 5 – 9 AM and the PM peak period from 4 – 7 PM at the study intersections. However, the new 2022 data was determined to be slightly lower than the data previously collected in April 2019 as part of the CEQA process and previous traffic impact studies. The 2022 traffic conditions were determined to be unstable as some companies still allowed their employees to work remotely or on hybrid schedules and college students were allowed to take more online courses due to COVID conditions at the time. As a conservative approach, 2019 data were used to analyze the Existing pre-COVID-19 conditions based on discussions with local agencies and Caltrans.

Existing intersection lane configuration and peak hour count volumes are shown in **Figure 2**. The data summary and raw traffic counts are included in **Appendix A.**

Figure 2. Existing Intersection Lane Configuration and Count Volumes



Mainline and Ramp Volumes

Mainline and ramp volumes along both eastbound and westbound I-580 were downloaded from the Caltrans Performance Measurement System (PeMS) website for typical midweek days (Tuesday-Thursday) for two months from September 1, 2019, to October 31, 2019, excluding holidays, and averaged out to determine the mainline throughput volumes for the Existing 2019, pre-COVID-19 conditions. Existing mainline lane configuration and peak period count volumes are shown in **Figure 3**.

The raw traffic data extracted from PeMS is included in **Appendix A**.

Mainline Truck Volumes

Truck percentage data for I-580 within the study area were extracted from the 2018 Truck Annual Average Daily Traffic (AADT) data from the Caltrans Traffic Census Database. The data represent the number of trucks as a percentage of the vehicle composition. Daily truck volumes and percentages are shown in **Table 1**.

Table 1. Existing Truck Volumes and Percentages

Location	Post Mile	Total Vehicles	Total Trucks	
		AADT	AADT	%
Between SR-132 and Corral Hollow Road	8.149	40,600	5,700	14.04%

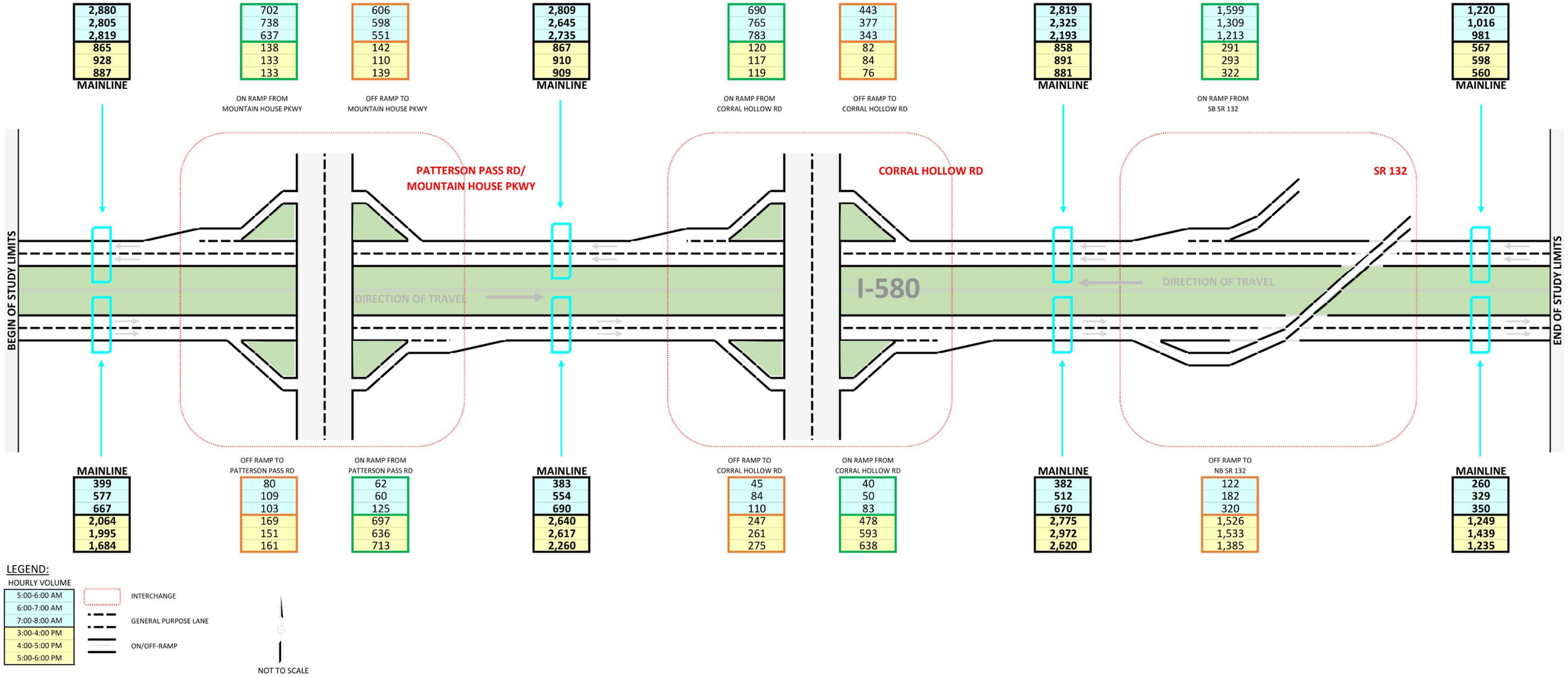
Source: 2018 Truck AADT Caltrans Traffic Census Data

Freeway Speed Data

I-580 mainline travel speed data for the study corridor were obtained from the INRIX database. INRIX provides a traffic flow archive with the ability to access speeds reported at the segment level for specific days and times of day. INRIX data are gathered from a variety of sources, including in-vehicle GPS systems, mobile smart phones and roadway sensors. INRIX provides a much larger data set than could be collected through travel-time surveys by using the floating-car method and therefore is more reliable. INRIX speed data for the months of September 2019 and October 2019 were reviewed to identify a data set that most represented the typical pre-COVID-19 field conditions. On freeways, the speeds presented by INRIX are aggregates of speeds across all travel lanes, including auxiliary and HOV lanes where available.

Detailed INRIX speed data by segment for the AM and PM peak periods is included in **Appendix A**.

Figure 3. Existing Mainline Lane Configuration and Volumes



Congestion and Queuing Observations

In addition to the geometry and traffic volume data, Google Traffic, Caltrans PeMS, and INRIX speed data were used to identify existing travel patterns, congestion locations, and queuing conditions at study intersections as well as mainline segments along the I-580 corridor within the project study area.

Study Intersections

Corral Hollow Road & Sierra View Drive (#1) – Does not exist under Existing conditions.

Corral Hollow Road & EB I-580 Ramps (#2) – No major queues were observed during the AM peak hour. Heavy left-turn queues were observed at the EB off-ramp approach due to high demand volumes and limited gaps available at the intersection during the PM peak hour. High demand volumes were observed in the northbound right-turn movement. It was suspected that a big portion of heavy traffic volume in the northbound right-turn movement was the cut-through traffic using Tesla Road and Corral Hollow Road as an alternative route to bypass the eastbound congestion on I-580 in the City of Livermore and get back onto EB I-580 at this intersection.

Corral Hollow Road & WB I-580 Ramps (#3) – No major queues were observed during both the AM and PM peak hours. During the AM peak, heavy volumes in the southbound right-turn movement are approaching the WB I-580 on-ramp, but no queues were observed as the southbound right-turn was the free controlled movement and no interruptions were caused by downstream congestion. Left-turn and through movements in the westbound off-ramp approach had limited gaps as the movements had to yield to conflict traffic at the intersection traveling on Corral Hollow Road. Due to low demand volumes, queues were stored within the off-ramp capacity.

Corral Hollow Road & Tracy Hills Drive (#4) – No major queues were observed during both the AM and PM peak hours. Only construction related trips were observed using Tracy Hills Drive to access the Tracy Hills Development as the project was still under construction and no homes were occupied in 2019.

I-580 Mainline

AM Peak Period

During the AM peak period, the following were observed along the I-580 corridor:

Eastbound I-580

No major slowdown or congestion was observed in the eastbound direction during the AM peak period. Average travel speed is 63 MPH or better in all segments.

Westbound I-580

Merge area at the SR-132 on-ramp – This was a minor slowdown caused by heavy on-ramp traffic from SR-132 merging onto the I-580 mainline. The queue from this slowdown formed

around 5:00 AM and was covered by the queues extended back from downstream around 5:30 AM. The total queue extended beyond the SR-132 interchange in the peak hour and dissipated by 7:15 AM.

Merge area at the Corral Hollow Road on-ramp – This was a major slowdown caused by heavy on-ramp traffic from Corral Hollow Road merging onto the I-580 mainline and total demand volumes exceeding the mainline capacity at the merge location. The queue from this location formed around 5:00 AM and dissipated around 7:30 AM. The queue extended back and merged with the upstream queue generated at the SR-132 on-ramp in the peak hour.

PM Peak Period

During the PM peak period, the following were observed along the I-580 corridor:

Eastbound I-580

No major slowdown or congestion was observed in the eastbound direction during the PM peak period. Average travel speed is 59 MPH or better in all segments.

Westbound I-580

No major slowdown or congestion was observed in the westbound direction during the PM peak period. Average travel speed is 69 MPH or better in all segments.

Detailed INRIX speed data are shown in **Appendix A.**

ANALYSIS METHODOLOGY

This section summarizes the methodology used in conducting the detailed Existing conditions traffic operational analysis for the I-580/Corral Hollow Road Interchange Project.

Study intersections were analyzed using the HCM 6th Edition (Highway Capacity Manual - Transportation Research Board, 2016) methodologies. Traffic operations were analyzed using the Synchro/SimTraffic 10.0 software program, which is based on procedures outlined in the HCM 6th Edition.

Level of Service (LOS) is an indicator of operating conditions on a roadway or at an intersection and is defined in categories ranging from A to F. LOS A indicates free-flowing traffic and LOS F indicates substantial congestion with stop-and-go traffic and long delays at intersections.

The micro-simulation program, SimTraffic, was used to determine the LOS at the study intersections. For signalized intersections and all-way stop-controlled intersections, the LOS reported is the weighted average control delay of all movements measured in seconds per vehicle. For side street stop-controlled intersections and roundabouts, the LOS reported is based on the maximum delay of all movements measured in seconds per vehicle.

Peak hour traffic volumes, lane configurations, and signal timing plans are used as inputs in the LOS calculations. The LOS criteria used for this methodology are summarized in **Table 2** for both signalized and unsignalized intersections. Results from SimTraffic were used to determine the delay and LOS at all intersections.

Table 2. Intersection Level of Service (LOS) Thresholds

Level of Service	Average Delay (seconds / vehicle)		Description
	Signalized	Unsignalized	
A	≤ 10.0	≤ 10.0	Little or no traffic delay
B	> 10.0 and ≤ 20.0	> 10.0 and ≤ 15.0	Minimal traffic delay
C	> 20.0 and ≤ 35.0	> 15.0 and ≤ 25.0	Average traffic delay
D	> 35.0 and ≤ 55.0	> 25.0 and ≤ 35.0	Long traffic delay
E	> 55.0 and ≤ 80.0	> 35.0 and ≤ 50.0	Very long traffic delay
F	> 80.0	> 50.0	Extreme traffic delay

Source: Highway Capacity Manual

The SimTraffic model is calibrated to reflect the field observed maximum queues during the peak hour. Intersection lane geometries, signal timings, roadway speeds, and turning movement volumes including pedestrian and bike data are coded in the Synchro model for all the study intersections. Individual intersection peak hour intersection traffic demand volume was used in the Synchro/SimTraffic model instead of the global peak hour volumes to accurately reflect the field conditions.

Existing conditions were modeled in SimTraffic by giving the seeding time (loading time) of 15 minutes (to account for the queues extending from the previous hours in the peak period) and

recording the time of one hour to analyze the hourly operations. The existing counts at the intersections do not reflect the volumes in queue; therefore, the traffic volume was adjusted (added) to replicate the demand volume that corresponds to the longest queue length during the peak period. The volume served (flow) is then compared to the counts to validate the demands.

There is a certain amount of random variability inherent to a micro-simulation model such as SimTraffic. This is due to the random distribution of vehicle entry time, vehicle type, traffic fleet composition, and driver behavior. This is very similar to the random variability of the day-to-day observations in the field. Therefore, the SimTraffic simulation model is ran multiple times with different random number seeds. The calibration procedure then looks at a statistical comparison between the multiple model runs and the field data. For this study, twelve (12) runs using different random number seeds were conducted for the weekday AM and PM peak operational hours.

The following parameters were used in the SimTraffic simulation for Existing conditions:

Parameter	Setting
Peak Hour Factor (PHF)	Based on Existing Turning Movement Count Data
Heavy Vehicle % (HV)	Based on Existing Turning Movement Count Data
Signal Timing	Based on Existing Signal Timing Data
Vehicles	Default
Drivers	Default
Intervals & Volumes	15 minute seeding period + 1 hour analysis period (four 15 min intervals) For Peak 15 minute period, PHF Adjust = "Yes", AntiPHF Adjust = "No" For all other 15 minute periods, PHF Adjust = "No", AntiPHF Adjust = "Yes"

Table 3 and **Table 4** show the intersection peak hour counts, volume adjustments (demands), and served volume comparison for the AM peak hour and PM peak hour, respectively. The calibrated demand volumes are presented in **Figure 4**. SimTraffic outputs are included in **Appendix B**.

Table 3. SimTraffic Existing Model Calibration (Demands) – AM Peak Hour

No.	Intersection	Control	Volume (vph)	Overall	Northbound				Southbound				Eastbound				Westbound			
					L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total
1	Corral Hollow Rd/ Sierra View Dr (Does Not Exist Under 2019 Conditions)	N/A	Demand																	
			Counts																	
			Served							Future Intersection										
			% Served (Demand)																	
			% Served (Count)																	
2	Corral Hollow Rd/ EB I-580 Ramps	SSSC	Demand	536	-	10	6	16	72	322	-	394	120	2	4	126	-	-	-	-
			Counts	523	-	8	6	14	71	315	-	386	117	2	4	123	-	-	-	-
			Served	534	-	9	7	16	72	319	-	391	120	2	5	127	-	-	-	-
			% Served (Demand)	100%	-	90%	117%	100%	100%	99%	-	99%	100%	100%	125%	101%	-	-	-	-
			% Served (Count)	102%	-	113%	117%	114%	101%	101%	-	101%	103%	100%	125%	103%	-	-	-	-
3	Corral Hollow Rd/ WB I-580 Ramps	SSSC	Demand	1,325	2	129	-	131	-	238	678	916	-	-	-	-	159	2	117	278
			Counts	1,309	1	124	-	125	-	228	678	906	-	-	-	-	159	2	117	278
			Served	1,311	2	128	-	130	-	222	683	905	-	-	-	-	160	2	114	276
			% Served (Demand)	99%	100%	99%	-	99%	-	93%	101%	99%	-	-	-	-	101%	100%	97%	99%
			% Served (Count)	100%	200%	103%	-	104%	-	97%	101%	100%	-	-	-	-	101%	100%	97%	99%
4	Corral Hollow Rd/ Tracy Hills Dr	Signal	Demand	1,343	141	116	-	257	-	804	113	917	67	-	102	169	-	-	-	-
			Counts	1,331	141	104	-	245	-	804	113	917	67	-	102	169	-	-	-	-
			Served	1,327	139	118	-	257	-	791	112	903	64	-	103	167	-	-	-	-
			% Served (Demand)	99%	99%	102%	-	100%	-	98%	99%	98%	96%	-	101%	99%	-	-	-	-
			% Served (Count)	100%	99%	113%	-	105%	-	98%	99%	98%	96%	-	101%	99%	-	-	-	-

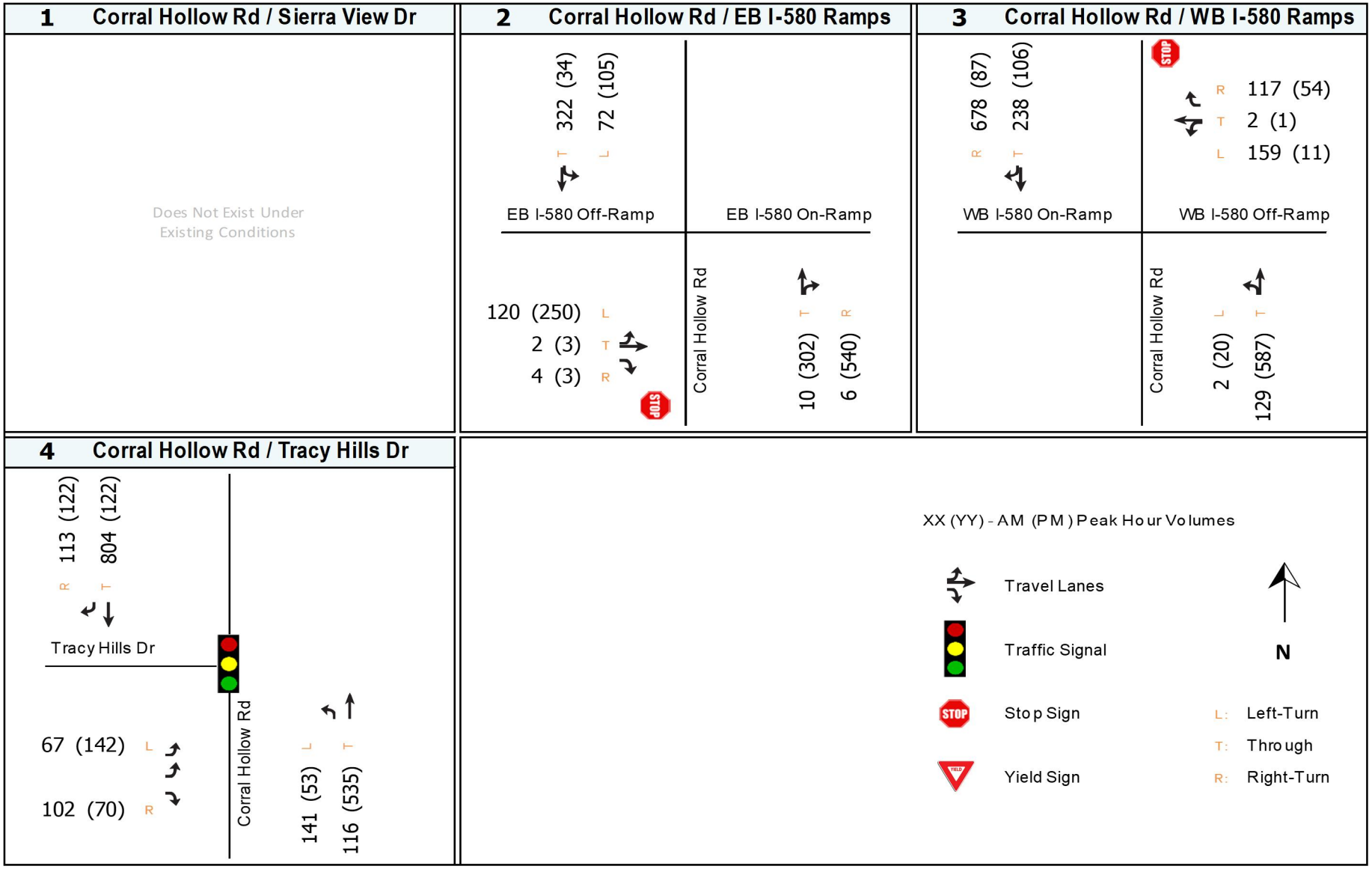
Results are based on the average of 12-multiple SimTraffic simulation runs. SSSC = Side Street Stop Control

Table 4. SimTraffic Existing Model Calibration (Demands) – PM Peak Hour

No.	Intersection	Control	Volume (vph)	Overall	Northbound				Southbound				Eastbound				Westbound			
					L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total
1	Corral Hollow Rd/ Sierra View Dr (Does Not Exist Under 2019 Conditions)	N/A	Demand																	
			Counts																	
			Served							Future Intersection										
			% Served (Demand)																	
			% Served (Count)																	
2	Corral Hollow Rd/ EB I-580 Ramps	SSSC	Demand	1,237	-	302	540	842	105	34	-	139	250	3	3	256	-	-	-	-
			Counts	1,211	-	302	540	842	103	10	-	113	250	3	3	256	-	-	-	-
			Served	1,227	-	302	536	838	120	14	-	134	248	3	4	255	-	-	-	-
			% Served (Demand)	99%	-	100%	99%	100%	114%	41%	-	96%	99%	100%	133%	100%	-	-	-	-
			% Served (Count)	101%	-	100%	99%	100%	117%	140%	-	119%	99%	100%	133%	100%	-	-	-	-
3	Corral Hollow Rd/ WB I-580 Ramps	SSSC	Demand	866	20	587	-	607	-	106	87	193	-	-	-	-	11	1	54	66
			Counts	807	20	532	-	552	-	104	87	191	-	-	-	-	9	1	54	64
			Served	865	19	589	-	608	-	100	91	191	-	-	-	-	10	2	54	66
			% Served (Demand)	100%	95%	100%	-	100%	-	94%	105%	99%	-	-	-	-	91%	200%	100%	100%
			% Served (Count)	107%	95%	111%	-	110%	-	96%	105%	100%	-	-	-	-	111%	200%	100%	103%
4	Corral Hollow Rd/ Tracy Hills Dr	Signal	Demand	1,044	53	535	-	588	-	122	122	244	142	-	70	212	-	-	-	-
			Counts	1,041	53	533	-	586	-	121	122	243	142	-	70	212	-	-	-	-
			Served	1,087	52	592	-	644	-	122	123	245	130	-	68	198	-	-	-	-
			% Served (Demand)	104%	98%	111%	-	110%	-	100%	101%	100%	92%	-	97%	93%	-	-	-	-
			% Served (Count)	104%	98%	111%	-	110%	-	101%	101%	101%	92%	-	97%	93%	-	-	-	-

Results are based on the average of 12-multiple SimTraffic simulation runs. SSSC = Side Street Stop Control

Figure 4. Existing Intersection Demand Volumes



Existing (2019) Intersection Performance

The intersection LOS results are summarized in **Table 5**. It is observed from the results that both ramp termini intersections (#2 & #3) operate at LOS D or better during the AM peak hour. The EB I-580 ramp terminus intersection (#2) operates at **LOS F** in the PM peak hour.

The average and 95th percentile queue lengths (measured in feet) were also determined using the SimTraffic micro-simulation software. The queue lengths are summarized in **Table 6**. As shown in **Table 6**, both ramp termini intersections (#2 & #3) have adequate storage capacity in all movements.

Table 5. Existing Intersection LOS Summary

No.	Intersection	Intersection Control	AM Peak Hour		PM Peak Hour	
			Average Delay	LOS	Average Delay	LOS
1	Corral Hollow Rd/ Sierra View Dr (Does Not Exist Under 2019 Conditions)			*Future Intersection*		
2	Corral Hollow Rd/ EB I-580 Ramps	SSSC	8.9	A	119.0	F
3	Corral Hollow Rd/ WB I-580 Ramps	SSSC	9.8	A	9.3	A
4	Corral Hollow Rd/ Tracy Hills Dr	Signal	21.3	C	10.2	B

Results are based on the average of 12-multiple SimTraffic simulation runs. Average delay expressed in second per vehicle. Side street stop controlled (SSSC) intersection analyzed for worst movement.
Vehicle delays for EB/WB through movements at the off-ramp approach were excluded as these movements were considered irregular movements.
***Bold** indicates intersections that are operating at LOS E or F.*

Table 6. Existing Intersection Queue Length Summary

No.	Intersection	Movement	Storage Capacity (ft)	AM Peak Hour		PM Peak Hour	
				Average Queue (ft)	95th Queue (ft)	Average Queue (ft)	95th Queue (ft)
1	Corral Hollow Road/ Sierra View Drive (Does Not Exist Under 2019 Conditions)	EBL					
		EBR					
		NBL			Future Intersection		
		NBT					
		SBT					
		SBR					
2	Corral Hollow Road/ EB I-580 Ramps	EBLT	900	59	108	341	888
		EBR	125	-	-	13	94
		NBTR	1,840	-	-	5	28
		SBLT	440	2	14	69	150
3	Corral Hollow Road/ WB I-580 Ramps	WBLT	960	47	81	10	32
		WBR	125	-	-	-	-
		NBLT	440	4	30	4	24
		SBTR	1,440	0	3	-	-
4	Corral Hollow Road/ Tracy Hills Drive	EBL	890	32	65	41	71
		EBR	890	61	135	33	67
		NBL	490	79	151	31	63
		NBT	1,440	24	74	83	149
		SBT	>2000	234	483	33	79
		SBR	400	41	175	27	56

Results are based on the average of 12-multiple SimTraffic Simulation runs.
***Bold** indicates queue lengths exceed its storage capacity.*

Existing (2019) Freeway Performance

The operations for the freeway mainline were analyzed using the latest Highway Capacity Software (HCS 7) Freeway Facilities Module based on Highway Capacity Manual 6th Edition (HCM 2016) Methodology. The HCS Freeway Facilities Module allows analysis of multiple time-intervals within the peak period with appropriate adjustment factors. HCS is a macroscopic modeling software used to evaluate basic mainline segments, weaving segments, and merging and diverging junctions. The following measures of effectiveness (MOEs) were considered in the evaluation of the mainline operations and performance:

- Level of Service (LOS) - Based on density (vehicles per mile per lane).
- Average Freeway Speeds (MPH)

Table 7 describes the LOS thresholds from the Highway Capacity Manual for freeway sections.

Table 7. Freeway Level of Service (LOS) Thresholds

Level of Service	Description	Density
A	Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	< 11
B	Free-flow speeds are maintained. The ability to maneuver with the traffic stream is only slightly restricted.	> 11 to 18
C	Flow with speeds at or near free-flow speeds. Freedom to maneuver with the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.	> 18 to 26
D	Speeds decline slightly with increasing flows. Freedom to maneuver with the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort.	> 26 to 35
E	Operation at capacity. There are virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption can be expected to produce a breakdown with queuing.	> 35 to 45
F	Represents a breakdown in flow.	> 45

Source: Highway Capacity Manual
Note: Density is reported in vehicles per mile per lane (vpmpl).

Table 8 through **Table 11** below provide AM and PM peak period INRIX speeds and HCS analysis results for the eastbound and westbound calibrated model networks. HCS outputs are included in **Appendix B**.

Eastbound I-580

As shown in **Table 8** and **Table 9**, during both AM and PM peak periods, all segments operate at LOS D at a minimum travel speed of 58 MPH in the AM peak period and 53 MPH in the PM peak period.

Westbound I-580

Some segments operate at **LOS F** in one or more hours during the AM peak period. Average travel speed drops as low as 22 MPH in the AM peak hour from 7 – 8 AM as shown in **Table 10**. During the PM peak period, all segments operate at LOS D or better at a minimum travel speed of 61 MPH as shown in **Table 11**.

Table 8. Existing Mainline LOS Summary – Eastbound I-580 AM Peak Period

AM Peak Period				INRIX Speed (mph)			HCS Analysis								
							Speed (mph)			LOS			Density (pc/mi/ln)		
	Segment		Length (Mi)	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8
DIRECTION OF TRAVEL	1 Basic		1.00	68	68	70	71	71	71	A	A	A	2.8	4.3	4.9
	2 Basic	Patterson Pass Rd	0.38	68	69	71	71	71	71	A	A	A	2.8	4.3	4.9
	3 Merge		0.28	68	69	71	62	62	62	A	A	B	3.8	5.5	6.8
	4 Basic		0.64	68	69	71	71	71	71	A	A	A	3.3	4.8	6.0
	5 Basic		0.64	68	69	71	71	71	71	A	A	A	3.3	4.8	6.0
	6 Basic		0.64	67	69	72	71	71	71	A	A	A	3.3	4.8	6.0
	7 Basic		0.64	69	70	72	71	71	71	A	A	A	3.3	4.8	6.0
	8 Basic		0.64	68	70	72	71	71	71	A	A	A	3.3	4.8	6.0
	9 Basic		0.64	69	70	72	71	71	71	A	A	A	3.3	4.8	6.0
	10 Basic		0.64	69	70	72	71	71	71	A	A	A	3.3	4.8	6.0
	11 Diverge	Corral Hollow Rd	0.28	68	69	71	58	58	58	A	A	B	4.1	6.0	7.4
	12 Basic		0.33	67	69	70	70	70	70	A	A	A	2.9	4.0	4.9
	13 Merge		0.28	68	69	70	62	62	62	A	A	A	3.7	5.0	6.4
	14 Basic		0.76	69	70	71	71	71	71	A	A	A	3.2	4.4	5.7
	15 Basic		0.76	69	70	71	71	71	71	A	A	A	3.2	4.4	5.7
	16 Basic		0.76	69	70	71	71	71	71	A	A	A	3.2	4.4	5.7
	17 Diverge	SR 132	0.28	68	69	70	58	58	57	A	A	A	4.0	5.5	7.1
	18 Basic		1.00	69	70	71	71	71	71	A	A	A	2.2	2.8	2.9

Traffic Speed (mph) | 25 | 40 | 55

Table 9. Existing Mainline LOS Summary – Eastbound I-580 PM Peak Period

PM Peak Period				INRIX Speed (mph)			HCS Analysis								
							Speed (mph)			LOS			Density (pc/mi/ln)		
	Segment		Length (Mi)	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6
DIRECTION OF TRAVEL	1 Basic		1.00	71	71	72	71	71	71	B	B	B	17.0	17.4	13.5
	2 Basic	Patterson Pass Rd	0.38	70	70	71	71	71	71	B	B	B	17.0	17.4	13.5
	3 Merge		0.28	68	68	70	60	60	61	D	D	C	26.9	26.6	22.5
	4 Basic		0.64	68	68	70	66	66	69	C	C	C	24.8	24.5	20.2
	5 Basic		0.64	68	68	71	66	66	69	C	C	C	24.8	24.5	20.2
	6 Basic		0.64	68	67	70	66	66	69	C	C	C	24.8	24.5	20.2
	7 Basic		0.64	70	68	71	66	66	69	C	C	C	24.8	24.5	20.2
	8 Basic		0.64	70	67	70	66	66	69	C	C	C	24.8	24.5	20.2
	9 Basic		0.64	69	66	70	66	66	69	C	C	C	24.8	24.5	20.2
	10 Basic		0.64	68	65	69	66	66	69	C	C	C	24.8	24.5	20.2
	11 Diverge	Corral Hollow Rd	0.28	67	62	67	57	57	57	D	D	C	28.6	28.4	24.5
	12 Basic		0.33	67	61	66	68	69	70	C	C	B	21.7	21.3	17.4
	13 Merge		0.28	68	61	66	59	58	60	D	D	D	30.0	31.0	26.8
	14 Basic		0.76	67	62	66	63	62	66	D	D	C	28.3	29.5	24.7
	15 Basic		0.76	67	65	67	63	62	66	D	D	C	28.3	29.5	24.7
	16 Basic		0.76	67	66	68	63	62	66	D	D	C	28.3	29.5	24.7
	17 Diverge	SR 132	0.28	67	67	69	53	53	54	D	D	D	33.4	34.3	30.3
	18 Basic		1.00	72	72	74	71	71	71	B	B	A	11.8	12.4	10.8

Traffic Speed (mph) | 25 | 40 | 55

Table 10. Existing Mainline LOS Summary – Westbound I-580 AM Peak Period

AM Peak Period				INRIX Speed (mph)			HCS Analysis								
							Speed (mph)			LOS			Density (pc/mi/ln)		
	Segment		Length (Mi)	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8
DIRECTION OF TRAVEL	1 Basic	SR 132	0.67	51	31	55	51	30	51	B	C	B	14.4	20.1	11.5
	2 Merge		0.28	41	22	43	41	22	46	F	F	F	26.9	39.2	24.0
	3 Basic		0.95	46	27	44	45	28	42	F	F	F	24.4	36.8	26.5
	4 Basic		0.95	48	28	44	48	27	41	F	F	F	23.0	37.9	26.6
	5 Basic		0.95	48	29	41	48	29	40	F	F	F	23.0	36.0	27.3
	6 Basic		0.95	46	28	39	48	28	40	F	F	F	23.0	37.2	27.5
	7 Diverge	Corral Hollow Rd	0.28	44	26	36	44	24	37	F	F	F	25.0	31.9	27.8
	8 Basic		0.33	42	23	31	42	23	32	F	F	F	22.1	37.0	29.1
	9 Merge		0.28	44	29	35	45	29	37	F	F	F	26.6	33.3	30.1
	10 Basic		0.90	50	40	46	61	40	45	F	F	F	19.5	27.8	26.1
	11 Basic		0.90	53	44	50	67	44	51	B	F	C	17.7	25.4	23.2
	12 Basic		0.90	52	43	51	67	44	52	B	F	C	17.9	25.4	22.5
	13 Basic		0.90	51	43	53	66	44	56	C	F	C	18.0	25.4	20.9
	14 Basic		0.90	51	43	54	66	44	57	C	F	C	18.0	25.4	20.5
	15 Basic		0.90	51	43	55	66	44	58	C	F	C	18.0	25.4	20.2
	16 Basic		0.90	49	42	55	64	42	58	C	F	C	18.5	26.8	20.3
	17 Diverge	Patterson Pass Rd	0.28	48	43	55	48	43	56	C	C	C	24.6	25.8	20.9
	18 Basic		0.36	50	43	56	51	43	57	C	C	B	18.8	20.8	16.1

Traffic Speed (mph) | 25 | 40 | 55

Table 11. Existing Mainline LOS Summary – Westbound I-580 PM Peak Period

PM Peak Period				INRIX Speed (mph)			HCS Analysis								
							Speed (mph)			LOS			Density (pc/mi/ln)		
	Segment		Length (Mi)	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6
DIRECTION OF TRAVEL	1 Basic	SR 132	0.67	73	73	72	73	73	72	A	A	A	4.8	5.1	4.8
	2 Merge		0.28	73	73	73	69	69	69	A	A	A	7.5	7.8	7.7
	3 Basic		0.95	74	73	74	74	73	74	A	A	A	7.2	7.5	7.3
	4 Basic		0.95	74	74	74	74	74	74	A	A	A	7.2	7.5	7.4
	5 Basic		0.95	73	73	74	73	73	74	A	A	A	7.3	7.6	7.4
	6 Basic		0.95	73	73	74	73	73	74	A	A	A	7.3	7.5	7.4
	7 Diverge	Corral Hollow Rd	0.28	73	73	73	61	61	61	B	B	B	8.8	9.1	9.0
	8 Basic		0.33	72	72	73	72	72	73	A	A	A	6.6	6.8	6.8
	9 Merge		0.28	72	73	73	65	65	65	B	B	B	8.5	8.7	8.8
	10 Basic		0.90	73	74	74	73	74	74	A	A	A	7.6	7.7	7.7
	11 Basic		0.90	73	74	74	73	74	74	A	A	A	7.6	7.8	7.8
	12 Basic		0.90	74	73	73	74	73	73	A	A	A	7.6	7.8	7.8
	13 Basic		0.90	74	74	73	74	74	73	A	A	A	7.6	7.8	7.8
	14 Basic		0.90	74	74	73	74	74	73	A	A	A	7.6	7.8	7.8
	15 Basic		0.90	74	75	74	74	75	74	A	A	A	7.5	7.7	7.8
	16 Basic		0.90	73	74	73	73	74	73	A	A	A	7.6	7.8	7.8
	17 Diverge	Patterson Pass Rd	0.28	72	73	72	60	61	60	B	B	B	9.2	9.5	9.5
	18 Basic		0.36	73	73	73	73	73	73	A	A	A	6.4	6.8	6.6

Traffic Speed (mph) | 25 | 40 | 55

PROPOSED PROJECT ALTERNATIVES

This chapter discusses the various alternatives that were analyzed for this project under Opening Year (2028), Interim Year (2035), and Design Year (2048) conditions.

The proposed alternatives include:

1. No Build Conditions
2. Build Conditions
    - Alternative 1 – Roundabouts (RAB)
    - Alternative 2 – Tight Diamond Interchange (TDI)
    - Alternative 3 – Partial Cloverleaf/Tight Diamond Interchange (ParClo/TDI)
    - Alternative 4 – Diverging Diamond Interchange (DDI)

The No Build and Build conditions assumed a number of programmed and planned improvements for the project under Opening Year (2028), Interim Year (2035), and Design Year (2048) conditions. The following sections describe the improvements assumed under each scenario.

No Build Conditions

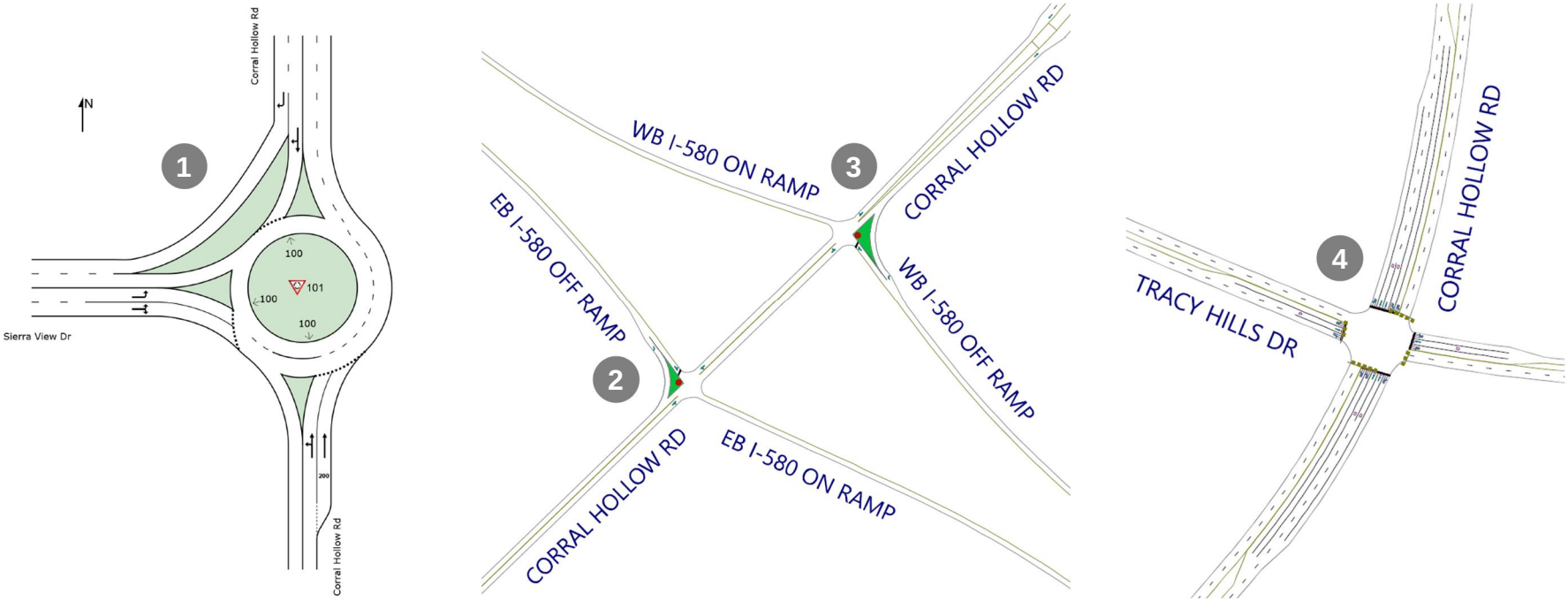
The No Build Alternative assumes programmed and planned improvements within the City of Tracy. While many planned or programmed transportation projects within the City of Tracy and the region can impact future travel patterns (and were therefore incorporated into the travel demand forecasting model), only the improvements that are along the project corridor were included. The No Build roadway and intersection lane configuration for the study intersections is shown in **Figure 5**. The following improvement projects were assumed as part of the No Build Alternative for 2028, 2035, and 2048:

Tracy Hills Development – As part of the Tracy Hills Development, the following improvements are proposed along Corral Hollow Road within the project area:

- *Corral Hollow Road/Sierra View Drive* – Construct a new 2-lane roundabout at the intersection of Corral Hollow Road and Sierra View Drive.
- *Corral Hollow Road/Tracy Hills Drive* – Modify the intersection of Corral Hollow Road and Tracy Hills Drive to include a second southbound left lane and convert the merge lane on the south leg into a through lane.

In addition to the intersection improvements above, under Design Year (2048) No Build conditions, it is assumed that the I-580/Lammers Road interchange east of Corral Hollow Road is constructed.

Figure 5. No Build Intersection Lane Configuration



Sierra View Drive & Corral Hollow Road

EB/WB I-580 Ramps & Corral Hollow Road

Tracy Hills Drive & Corral Hollow Road

**Not to Scale*

Build Conditions

The Build Alternative assumes completion of the I-580/Corral Hollow Road Interchange Project to increase connectivity and access for vehicles, pedestrians, and bicycles. The intersections of Corral Hollow Road and Sierra View Drive and Corral Hollow Road and Tracy Hills Drive are unchanged from No Build conditions. As part of the Corral Hollow Road Corridor Project, Corral Hollow Road would also be widened from two lanes to four lanes.

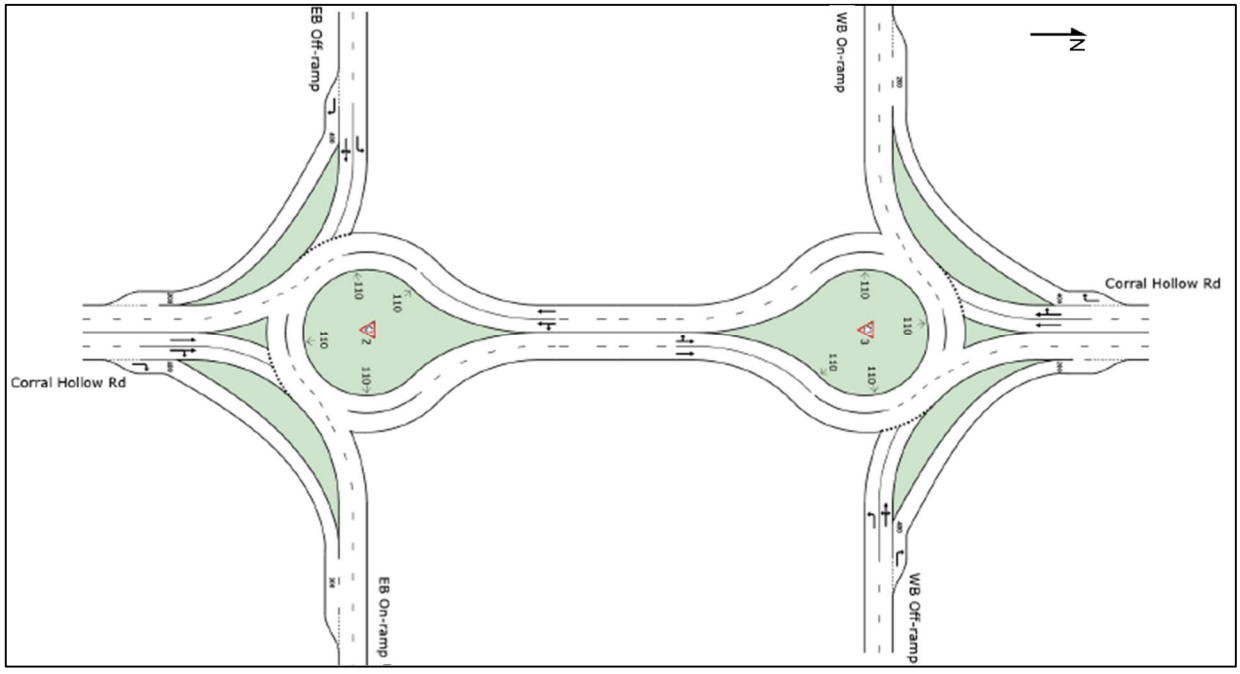
The following roadway modifications are proposed for each alternative to accommodate the multimodal improvements:

Alternative 1 (Roundabouts)

Build Alternative 1 would reconstruct the I-580/Corral Hollow Road interchange as two-lane roundabouts. A conceptual layout of the design alternative can be found in **Figure 6**. Alternative 1 would include the following improvements:

- Widen Corral Hollow Road from two lanes to four lanes from north of Sierra View Drive to south of Tracy Hills Drive to conform to the 4-lane roadway section to be constructed by the Tracy Hills Development projects.
- Widen the Corral Hollow Road Overpass structure for the new vehicle lanes.
- Reconfigure the eastbound and westbound I-580 ramp termini intersections into two-lane roundabouts.
- Stripe crosswalks on the east and west legs of the eastbound and westbound I-580 ramp termini intersections.

Figure 6. Build Alternative 1 – Roundabout Lane Configuration



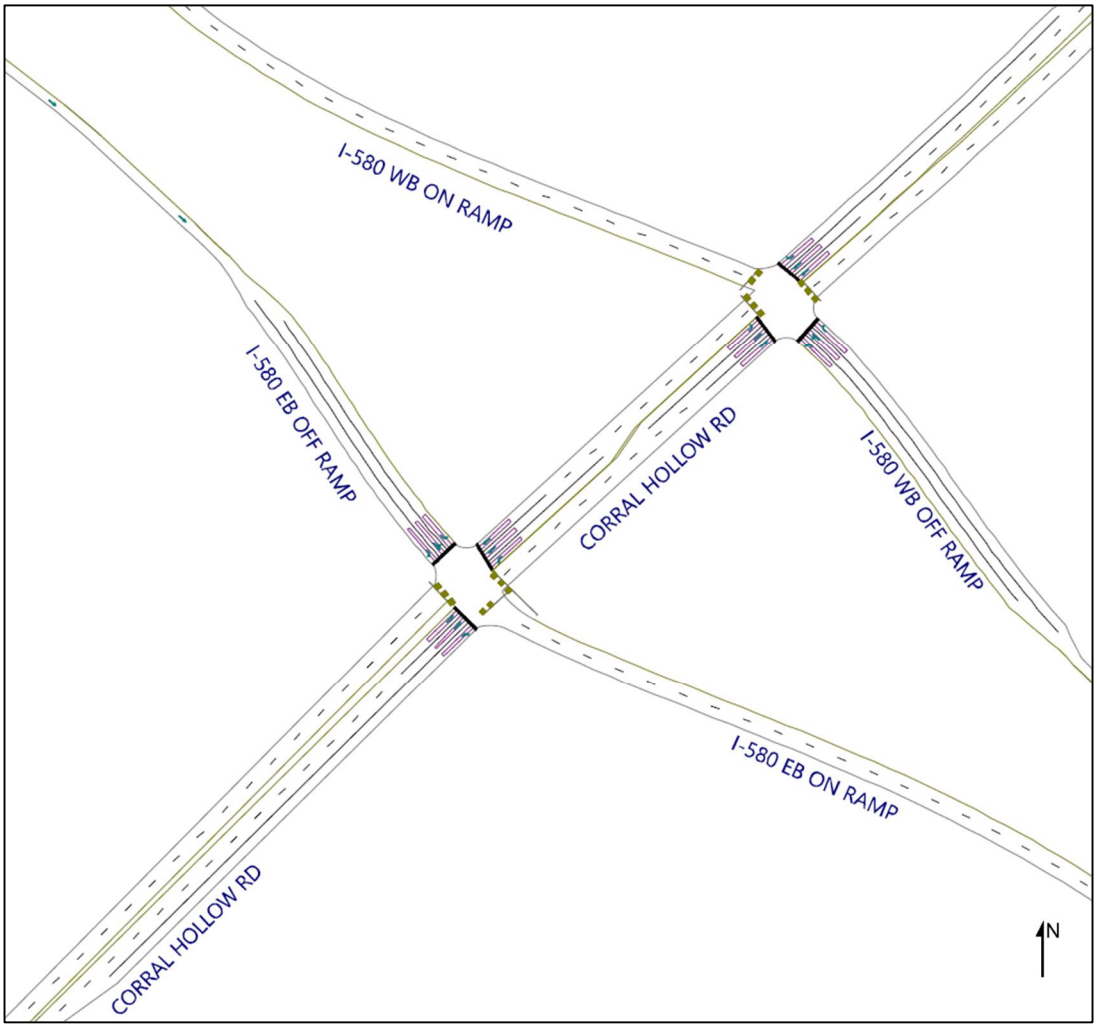
Note: On Ramp Geometry doesn't reflect the HOV Preferential Lane; Not to Scale

Alternative 2 (Tight Diamond Interchange)

Build Alternative 2 would modify the existing Tight Diamond configuration at the I-580/Corral Hollow Road interchange. A conceptual layout of the design alternative can be found in **Figure 7**. Alternative 2 would include the following improvements:

- Widen Corral Hollow Road from two lanes to four lanes from north of Sierra View Drive to south of Tracy Hills Drive to conform to the 4-lane roadway section to be constructed by the Tracy Hills Development projects.
- Widen the Corral Hollow Road Overpass structure for the new vehicle lanes.
- Install new traffic signals or modify stop controls at both the eastbound and westbound I-580 off-ramp intersections.
- Construct a multi-purpose bike/pedestrian path along the west side of the overpass.
- Stripe crosswalks on all four legs of the eastbound and westbound I-580 ramp termini intersections.

Figure 7. Build Alternative 2 – Tight Diamond Interchange Lane Configuration



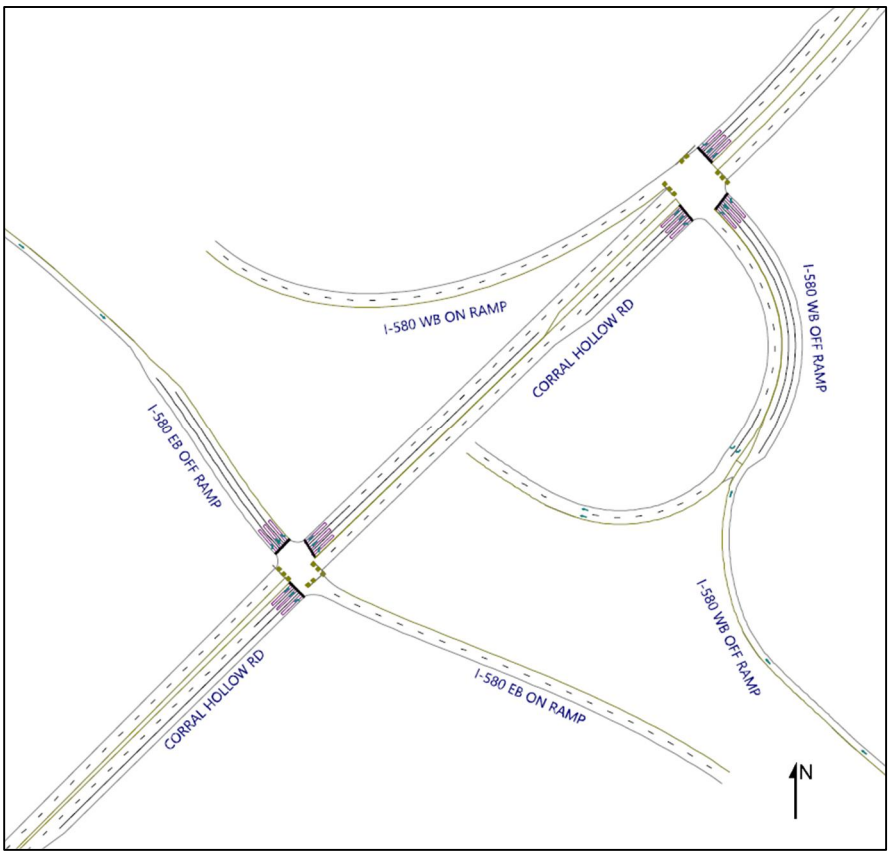
Note: On Ramp Geometry doesn't reflect the HOV Preferential Lane; Not to Scale

Alternative 3 (Partial Cloverleaf/Tight Diamond Interchange)

Build Alternative 3 would reconfigure the westbound off/on-ramp at the I-580/Corral Hollow Road interchange to a Partial Cloverleaf and modify the existing Tight Diamond configuration at the eastbound ramp. A conceptual layout of the design alternative can be found in **Figure 8**. Alternative 3 would include the following improvements:

- Widen Corral Hollow Road from two lanes to four lanes from north of Sierra View Drive to south of Tracy Hills Drive to conform to the 4-lane roadway section to be constructed by the Tracy Hills Development projects.
- Widen the Corral Hollow Road Overpass structure for the new vehicle lanes.
- Install a new traffic signal at the eastbound I-580 off-ramp intersection.
- Relocate the westbound I-580 ramp terminus intersection north of the existing intersection. Install a new traffic signal at the westbound off-ramp intersection. Construct a westbound I-580 Loop on-ramp.
- Construct a multi-purpose bike/pedestrian path along the west side of the overpass.
- Stripe crosswalks on all four legs of the eastbound and westbound I-580 ramp termini intersections.

Figure 8. Build Alternative 3 – Partial Cloverleaf/Tight Diamond Interchange Lane Configuration



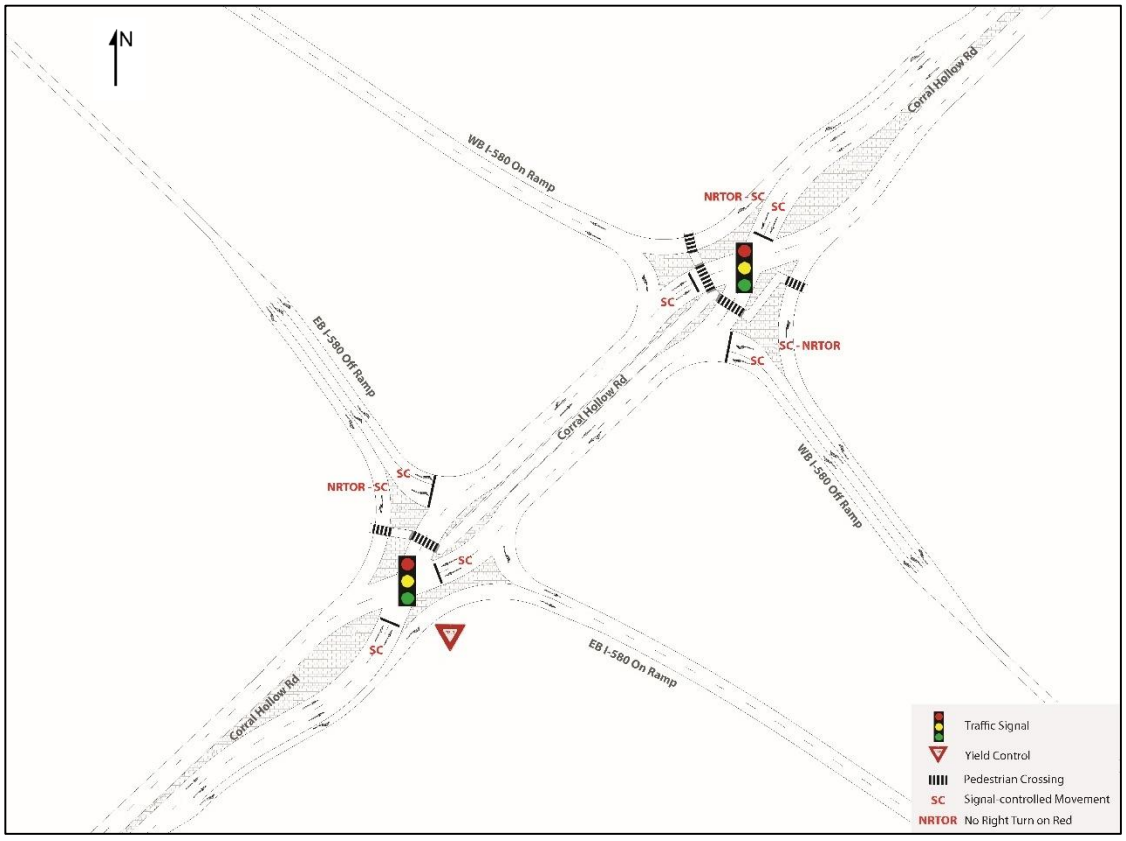
Note: On Ramp Geometry doesn't reflect the HOV Preferential Lane; Not to Scale

Alternative 4 (Diverging Diamond Interchange)

Build Alternative 4 would reconstruct the I-580/Corral Hollow Road interchange as a Diverging Diamond interchange. A conceptual layout of the design alternative can be found in **Figure 9.** Detailed exhibits for the design alternative can be found in **Appendix R**. Alternative 4 would include the following improvements:

- Widen Corral Hollow Road from two lanes to four lanes from north of Sierra View Drive to south of Tracy Hills Drive to conform to the 4-lane roadway section to be constructed by the Tracy Hills Development projects.
- Widen the Corral Hollow Road Overpass structure for the new vehicle lanes and construct a new concrete barrier between the vehicle lanes and the new center-running multi-purpose bike/pedestrian path.
- Reconfigure the eastbound and westbound I-580 ramp termini intersections to a Diverging Diamond configuration and install a new two-phase signal.
- Install new traffic signals at both the EB and WB ramp terminus intersections. All movements will be signal-controlled except the NBR movement at the EB ramp, which will operate under yield control.
- Stripe crosswalks on the north leg of the westbound I-580 ramp terminus intersection and the south leg of the eastbound I-580 ramp terminus intersection.

Figure 9. Build Alternative 4 – Diverging Diamond Interchange Lane Configuration



Note: On Ramp Geometry doesn't reflect the HOV Preferential Lane; Not to Scale

FORECAST VOLUMES

The future forecast volumes for the study were developed using the calibrated and approved forecast model for the I-205 Managed Lanes Project (I-205 Project Model). Model runs were conducted for base year 2019 and horizon year 2042.

To develop future volumes, link volumes for the Base Year (2019) and Future Year (2042) models were extracted and post processed to develop turning movement volumes based on Existing (2022) demand.

The project Opening Year is 2028 and the Design Year is 2048. An additional Interim Year of 2035 was analyzed as the worst-case scenario to determine the appropriate size of the interchange prior to the opening of the I-580/Lammers Road interchange.

For the Opening Year (2028) and Interim Year (2035) conditions, the 23-year growth from 2019 to 2042, derived from the forecast models, was converted using linear interpolation to 6-year (from 2022 to 2028) and 13-year (from 2022 to 2035) growth and added to Existing (2022) demand to develop the Opening Year (2028) and Interim Year (2035) demand volumes, respectively.

For Design Year (2048) conditions, the 23-year growth from 2019 to 2042 was converted using linear interpolation to 20-year growth (from 2028 to 2048) and added to Opening Year (2028) demand to develop the Design Year (2048) demand volumes.

Detailed forecast methodology is included in the *Traffic Forecast Memo* provided in **Appendix S**.

AM and PM peak hour intersection turning movements for Opening Year (2028), Interim Year (2035), and Design Year (2048) are shown in **Figure 10** for No Build conditions and in **Figure 11** for Build conditions.

Peak period hourly mainline volumes for Opening Year (2028) No Build and Build conditions are shown in **Figure 12** and **Figure 13**, respectively.

Peak period hourly mainline volumes for Interim Year (2035) No Build and Build conditions are shown in **Figure 14** and **Figure 15**, respectively.

Peak period mainline hourly volumes for Design Year (2048) No Build and Build conditions are shown in **Figure 16** and **Figure 17**, respectively.

Figure 10. No Build Conditions Intersection Demand Volumes

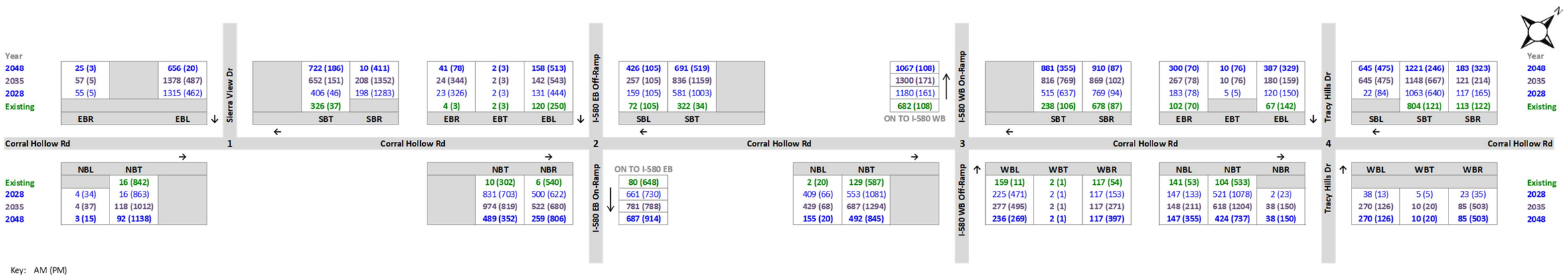


Figure 11. Build Conditions Intersection Demand Volumes

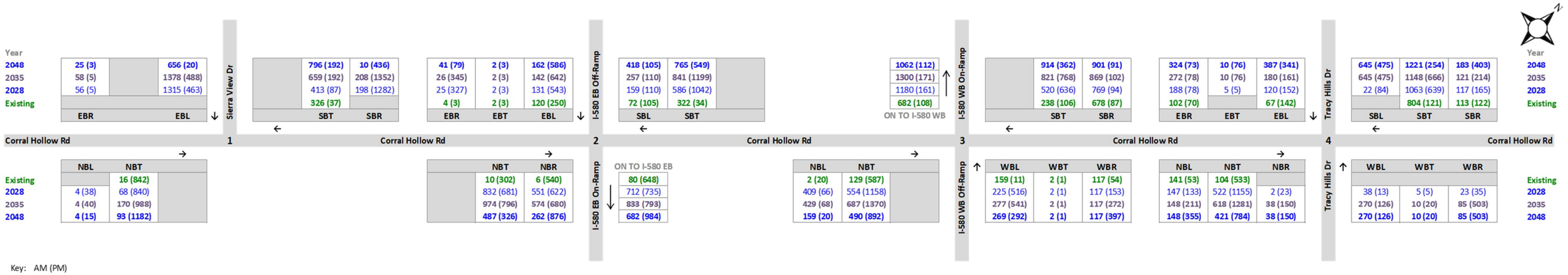


Figure 12. Opening Year (2028) No Build Conditions Mainline Lane Configuration and Volumes

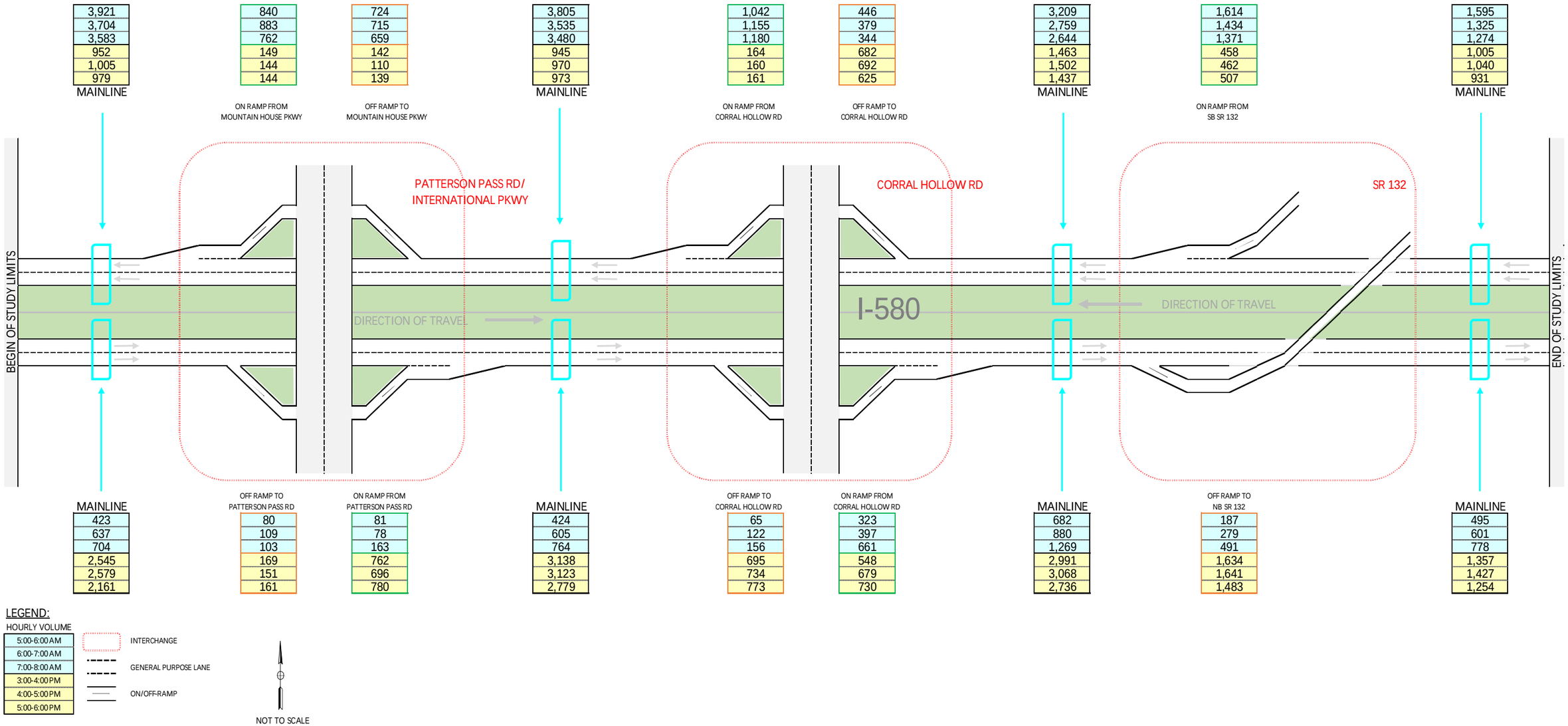


Figure 13. Opening Year (2028) Build Conditions Mainline Lane Configuration and Volumes

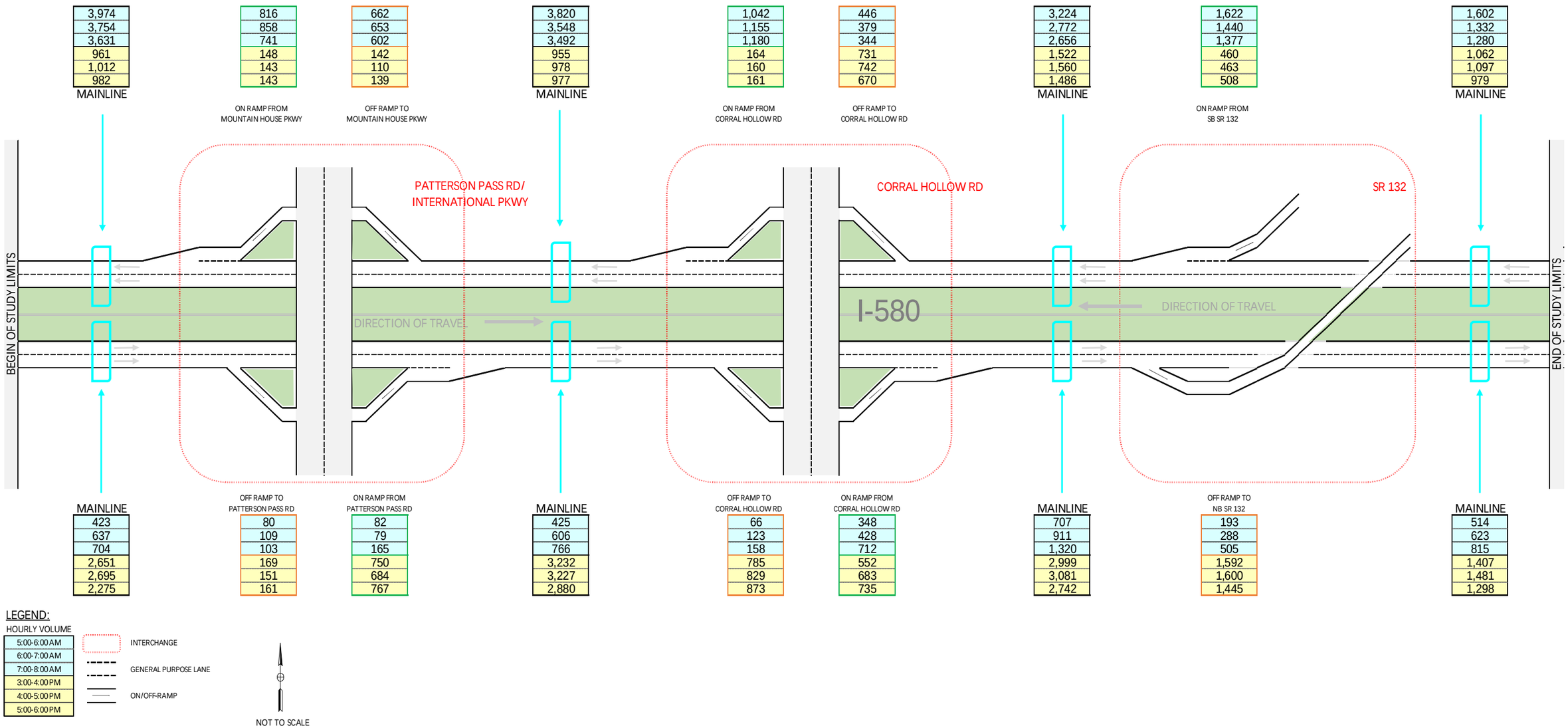


Figure 14. Interim Year (2035) No Build Conditions Mainline Lane Configuration and Volumes

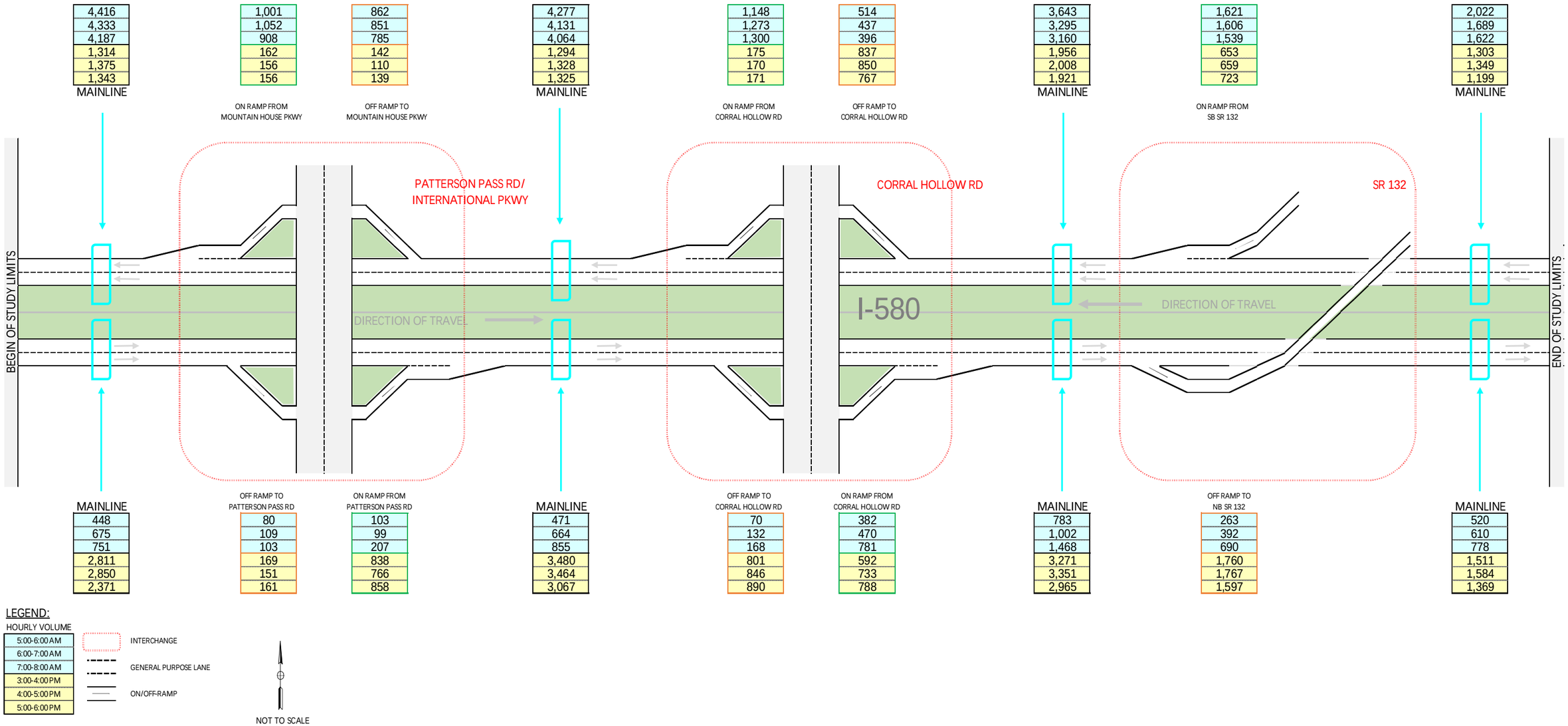


Figure 15. Interim Year (2035) Build Conditions Mainline Lane Configuration and Volumes

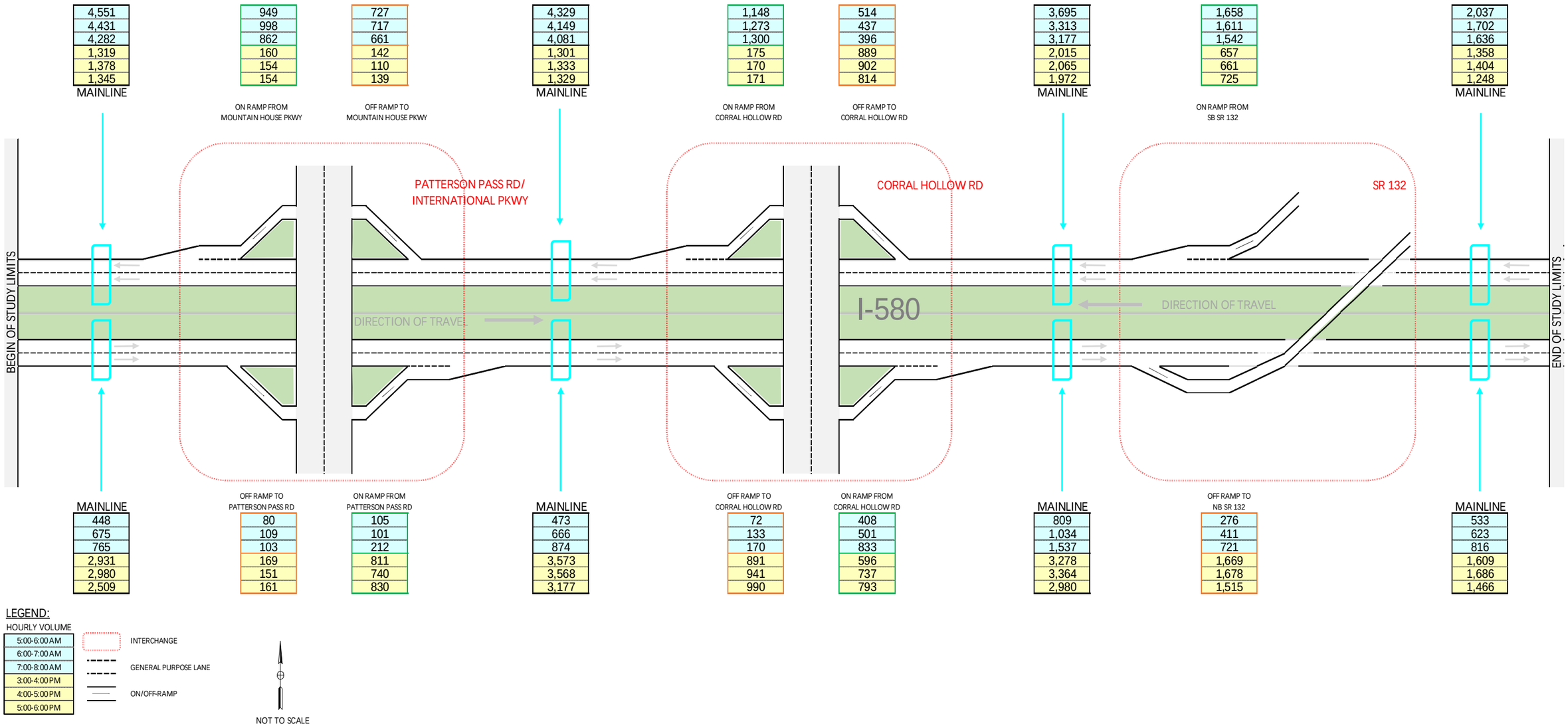


Figure 16. Design Year (2048) No Build Conditions Mainline Lane Configuration and Volumes

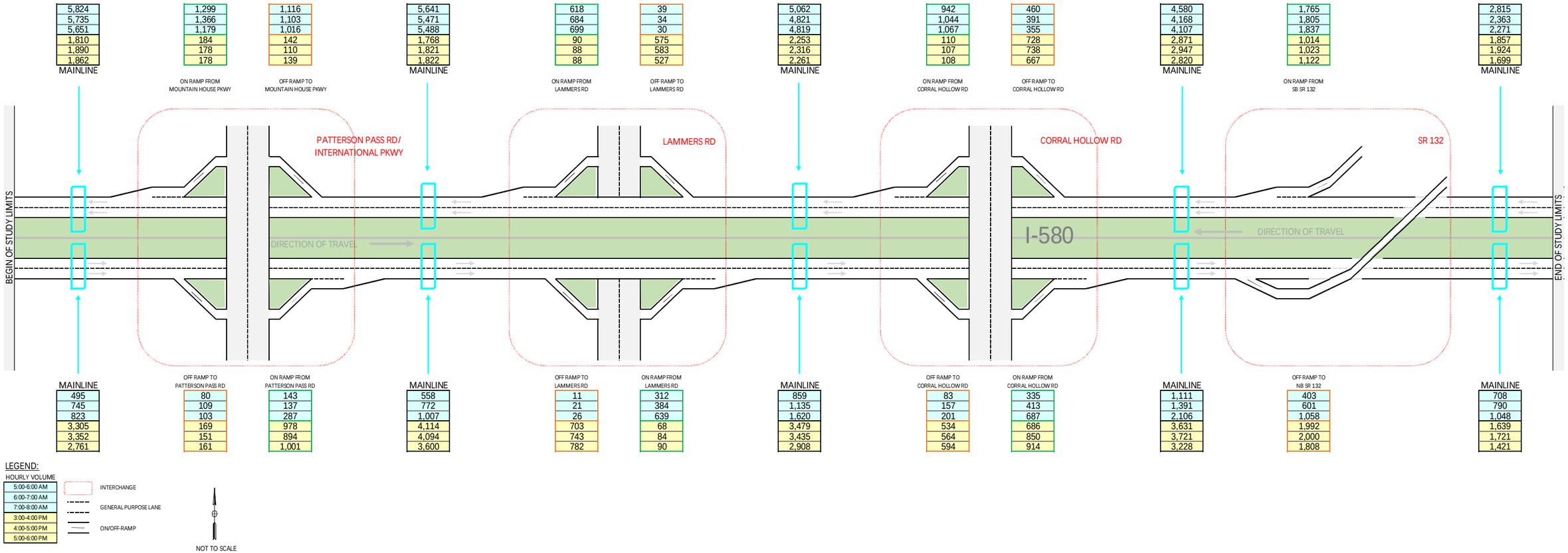
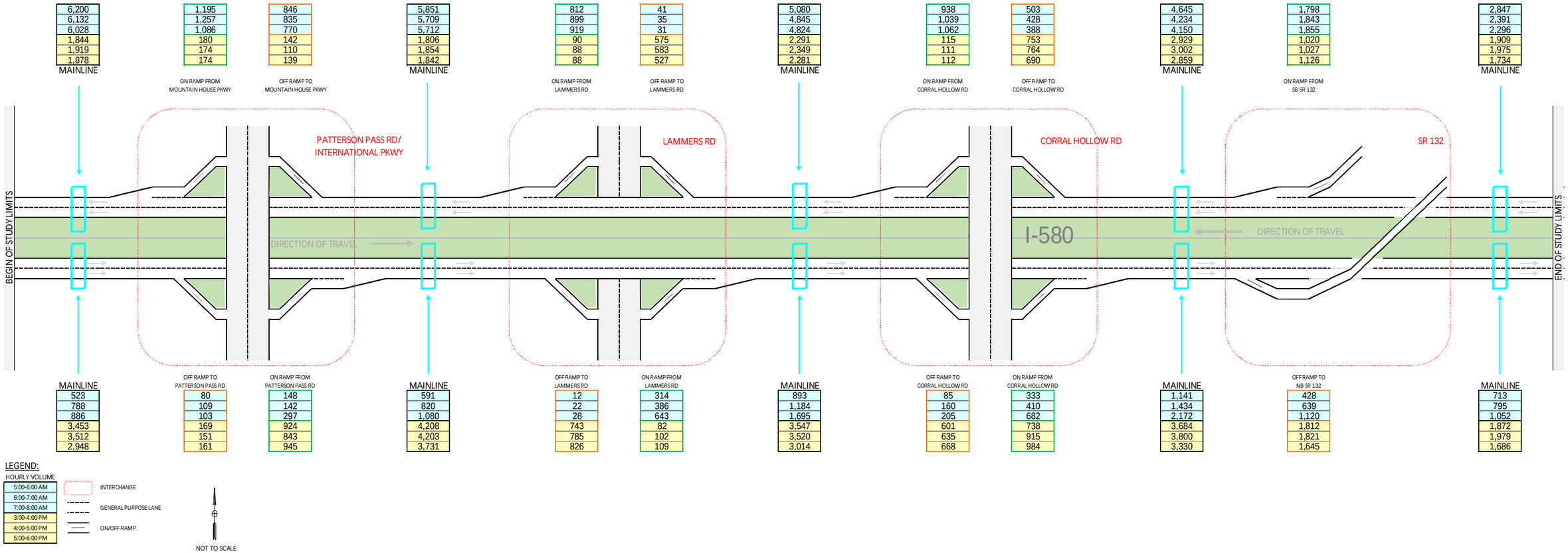


Figure 17. Design Year (2048) Build Conditions Mainline Lane Configuration and Volumes



OPENING YEAR (2028) TRAFFIC OPERATIONS ANALYSIS

This section provides a summary of the traffic operations analysis under Opening Year (2028) No Build and Build conditions during the AM and PM peak periods.

Similar to Existing conditions, served volumes, intersection LOS, and average and 95th percentile queues were obtained from the SimTraffic operational analyses. Additionally, roundabout operational results were obtained from Sidra Intersection software and mainline average speeds and LOS were obtained from HCS operational analysis.

For SimTraffic operational analysis, the following parameters were used:

Parameter	Setting
Peak Hour Factor (PHF)	0.92
Heavy Vehicle % (HV)	5% (Higher HV % is observed in Existing conditions because of Tracy Hills Development construction truck traffic)
Signal Timing	Optimized to minimize intersection delays and queueing
Vehicles	Default
Drivers	Default
Intervals & Volumes	15 minute seeding period + 1 hour analysis period (four 15 min intervals) For Peak 15 minute period, PHF Adjust = "Yes", AntiPHF Adjust = "No" For all other 15 minute periods, PHF Adjust = "No", AntiPHF Adjust = "Yes"

Intersection Performance

Intersection performance in terms of levels of service (LOS) and average vehicle delays for Opening Year (2028) No Build and Build conditions were extracted and analyzed. The results of the LOS/delay analysis are summarized in **Table 12** and **Table 13** for the AM and PM peak hours, respectively. Detailed LOS/delay calculation worksheets are included in **Appendix D** and **Appendix E**.

No Build Conditions

As mentioned previously, No Build conditions assume several planned improvements from Existing conditions to Opening Year (2028) conditions. These improvements include construction of the two-lane roundabout at Sierra View Drive and intersection improvements at Tracy Hills Drive.

Table 12. Opening Year (2028) Intersection LOS Summary – AM Peak Hour

No.	Intersection	No Build (TDI)				Build Alt-1 (RAB)				Build Alt-2 (TDI)				Build Alt-3 (ParClo/TDI)				Build Alt-4 (DDI)			
		Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS
1	Sierra View Dr & Corral Hollow Rd	RAB	0.685	16.7	B	RAB	0.689	16.9	B	RAB	0.689	16.9	B	RAB	0.689	16.9	B	RAB	0.689	16.9	B
2	EB I-580 Ramps & Corral Hollow Rd	SSSC	-	>300	F	RAB	0.485	12.6	B	Signal	-	19.5	B	Signal	-	15.7	B	Signal	-	8.8	A
3	WB I-580 Ramps & Corral Hollow Rd	SSSC	-	>300	F	RAB	0.536	13.6	B	Signal	-	35.6	D	Signal	-	14.7	B	Signal	-	9.8	A
4	Tracy Hills Dr & Corral Hollow Rd	Signal	-	27.9	C	Signal	-	26.3	C	Signal	-	25.4	C	Signal	-	26.3	C	Signal	-	23.9	C
Total	A-D	2				4				4				4				4			
	E-F	2				0				0				0				0			

Results are based on an average of 12-multiple SimTraffic simulation runs for side-street stop control (SSSC) and signalized intersections. Results are based on Sidra Standard methodology in Sidra Intersection software for roundabout (RAB) intersections. Average delay is expressed in seconds per vehicle. Overall results for RAB and SSSC look at the worst movement and results for signals look at an average of all movements. Freeway congestion and on-ramp metering operations are not accounted for in the model.

Sierra View Dr & Corral Hollow Rd (#1) is analyzed separately in Sidra Intersection software, so results are consistent for all Build Alternatives. Build Alternative 1 is analyzed only in Sidra Intersection software, so Tracy Hills Dr & Corral Hollow Rd (#4) is not analyzed. There is no impact of queue spillback from the WB I-580 Ramps & Corral Hollow Rd (#3), so it is assumed Tracy Hills Dr & Corral Hollow Rd (#4) operates at the worst LOS of Build Alternatives 2 to 4. Key project intersections are highlighted in grey.

Table 13. Opening Year (2028) Intersection LOS Summary – PM Peak Hour

No.	Intersection	No Build (TDI)				Build Alt-1 (RAB)				Build Alt-2 (TDI)				Build Alt-3 (ParClo/TDI)				Build Alt-4 (DDI)			
		Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS
1	Sierra View Dr & Corral Hollow Rd	RAB	0.757	10.1	B	RAB	0.781	10.4	B	RAB	0.781	10.4	B	RAB	0.781	10.4	B	RAB	0.781	10.4	B
2	EB I-580 Ramps & Corral Hollow Rd	SSSC	-	>300	F	RAB	0.565	15.7	B	Signal	-	18.1	B	Signal	-	15.8	B	Signal	-	12.7	B
3	WB I-580 Ramps & Corral Hollow Rd	SSSC	-	>300	F	RAB	0.401	15.3	B	Signal	-	19.9	B	Signal	-	16.0	B	Signal	-	14.4	B
4	Tracy Hills Dr & Corral Hollow Rd	Signal	-	123.9	F	Signal	-	30.7	C	Signal	-	26.0	C	Signal	-	25.8	C	Signal	-	30.7	C
Total	A-D	1				4				4				4				4			
	E-F	3				0				0				0				0			

Results are based on an average of 12-multiple SimTraffic simulation runs for side-street stop control (SSSC) and signalized intersections. Results are based on Sidra Standard methodology in Sidra Intersection software for roundabout (RAB) intersections. Average delay is expressed in seconds per vehicle. Overall results for RAB and SSSC look at the worst movement and results for signals look at an average of all movements. Freeway congestion and on-ramp metering operations are not accounted for in the model.

Sierra View Dr & Corral Hollow Rd (#1) is analyzed separately in Sidra Intersection software, so results are consistent for all Build Alternatives. Build Alternative 1 is analyzed only in Sidra Intersection software, so Tracy Hills Dr & Corral Hollow Rd (#4) is not analyzed. There is no impact of queue spillback from the WB I-580 Ramps & Corral Hollow Rd (#3), so it is assumed Tracy Hills Dr & Corral Hollow Rd (#4) operates at the worst LOS of Build Alternatives 2 to 4. Key project intersections are highlighted in grey.

Based on the results, two (2) study intersections would operate at an unacceptable **LOS E** or **F** in the AM peak hour and three (3) study intersections would operate unacceptably in the PM peak hour:

AM Peak Hour	***PM Peak Hour***
(#2) EB I-580 Ramps & Corral Hollow Rd [LOS F]	(#2) EB I-580 Ramps & Corral Hollow Rd [LOS F][1]
(#3) WB I-580 Ramps & Corral Hollow Rd [LOS F]	(#3) WB I-580 Ramps & Corral Hollow Rd [LOS F]
	(#4) Tracy Hills Dr & Corral Hollow Rd [LOS F]

[1] *Intersection operates at LOS E or F in Existing conditions*

With an increase in demand volumes from Existing conditions to 2028 No Build conditions, intersection average delay would generally increase or remain similar.

The Sierra View Drive intersection (#1) is newly constructed under 2028 No Build conditions and would operate at an acceptable LOS in the AM and PM peak hours.

In the AM peak hour, two more intersections, the EB I-580 ramp terminus intersection (#2) and the WB I-580 ramp terminus intersection (#3), would operate at an unacceptable LOS under 2028 No Build conditions compared to Existing conditions.

Similarly, in the PM peak hour, two more intersections, the WB I-580 ramp terminus intersection (#3) and the Tracy Hills Drive intersection (#4), would operate at an unacceptable LOS under 2028 No Build conditions compared to Existing conditions. Intersection #3 is expected to fail due to demand exceeding intersection capacity, resulting in queues that may extend beyond the interchange and reach Intersection #4. This spillback would interfere with traffic operations and further deteriorate the performance of Intersection #4.

Build Conditions

With the proposed improvements implemented, 2028 Build conditions would show improvements in delay from 2028 No Build conditions. **Table 14** shows a LOS comparison of 2028 No Build conditions and 2028 Build conditions.

In the AM peak hour, the EB I-580 ramp terminus intersection (#2) and WB I-580 ramp terminus intersection (#3) no longer operate at an unacceptable LOS under all Build Alternatives.

In the PM peak hour, the EB I-580 ramp terminus intersection (#2), WB I-580 ramp terminus intersection (#3), and Tracy Hills Drive intersection (#4) would no longer operate at an unacceptable LOS under all Build Alternatives.

Similar delay is observed in both the AM and PM peak hours for Build Alternatives 2, 3, and 4. Build Alternative 4 shows the most improvement in delay compared to No Build conditions.

Table 14. Opening Year (2028) No Build vs. Build LOS Comparison

No.	Intersection	AM Peak Hour					PM Peak Hour				
		No Build	Build Alternative				No Build	Build Alternative			
			1	2	3	4		1	2	3	4
1	Sierra View Dr & Corral Hollow Rd	B	B	B	B	B	B	B	B	B	B
2	EB I-580 Ramps & Corral Hollow Rd	F	B	B	B	A	F	B	B	B	B
3	WB I-580 Ramps & Corral Hollow Rd	F	B	D	B	A	F	B	B	B	B
4	Tracy Hills Dr & Corral Hollow Rd	C	C*	C	C	C	F	C*	C	C	C
Total	A-D	2	4	4	4	4	1	4	4	4	4
	E-F	2	0	0	0	0	3	0	0	0	0

Note: No Build = TDI, Alt 1 = RAB, Alt 2 = TDI, Alt 3 = ParClo/TDI, Alt 4 = DDI
**Build Alternative 1 is analyzed in Sidra intersection software only, so the Tracy Hills Dr intersection (#4) is not analyzed. There is no impact of queue spillback from the WB I-580 ramp terminus intersection (#3) so it is assumed the Tracy Hills Dr intersection (#4) operates at the worst LOS of Build Alternatives 2 to 4. Key project intersections are highlighted in grey.*

Intersection Queue Analysis

Opening Year (2028) average and 95th percentile queue lengths were also analyzed at the study intersections. AM peak hour average and 95th percentile queues at the study intersections are shown in **Table 15** and PM peak hour average and 95th percentile queues are shown in **Table 16**.

AM Peak Hour

Average and 95th percentile queues in the AM peak hour generally decrease from 2028 No Build conditions to 2028 Build conditions.

Focusing on the I-580 ramp termini intersections, eastbound queues at the EB I-580 ramp terminus intersection (#2) and westbound queues at the WB I-580 ramp terminus intersection (#3) no longer spill onto the I-580 mainline under all Build Alternatives compared to No Build conditions.

Under Build Alternative 2, northbound left queues at the WB I-580 ramp terminus intersection (#3) spill back from the signal and extend into the through lane, resulting in northbound through queues spilling into the EB I-580 ramp terminus intersection (#2). Additionally, southbound left queues exceed storage capacity at the EB I-580 ramp terminus intersection (#2).

Build Alternative 3 shows southbound right-turn queueing at the WB I-580 ramp terminus intersection (#3) exceeding the available storage length, with queues spilling into the through lane. This condition is primarily due to the reduced intersection spacing between the WB I-580 ramp and Tracy Hills Drive to accommodate the I-580 loop on-ramp.

PM Peak Hour

Average and 95th percentile queues in the PM peak hour generally decrease from 2028 No Build conditions to 2028 Build conditions.

Similar to AM peak hour conditions, eastbound queues spilling from the EB I-580 ramp terminus intersection (#2) and westbound queues spilling from the WB I-580 ramp terminus intersection (#3) no longer extend onto the I-580 mainline under all Build Alternatives.

Under Build Alternative 2, the southbound queues at the EB I-580 ramp terminus intersection (#2) show slight decreases from No Build conditions, but the southbound left turn queue spills into the through lane.

At the Tracy Hills Drive intersection (#4) southbound left and right queues no longer exceed their storage capacity under all Build Alternatives compared to No Build conditions.

Queueing Summary

As summarized above, during both the AM and PM peak hours, Build Alternative 4 demonstrates the most notable reduction in queuing at the ramp intersections relative to the 2028 No Build conditions when compared to Build Alternatives 2 and 3. The improved performance under Build Alternative 4 can be attributed to its design features, which reduce the number of conflict points and simplify traffic signal phasing. These enhancements contribute to more efficient vehicle progression and reduced congestion at critical intersections.

Build Alternative 1 also shows significantly reduced queuing in the analysis; however, this outcome is primarily due to the different analytical methodology used. While Build Alternatives 2, 3, and 4 were evaluated using SimTraffic microsimulation, Build Alternative 1 was analyzed using the Sidra software. Sidra generally incorporates more idealized assumptions regarding driver behavior, such as higher levels of yielding, smoother gap acceptance, and reduced variability in traffic flow. These assumptions often result in lower estimates of stop delays and queuing. Additionally, Sidra does not account for queuing impacts from downstream intersections or ramp metering influences, which can be significant in congested corridors or closely spaced intersections.

Table 15. Opening Year (2028) Intersection Queue Length Summary – AM Peak Hour

No.	Intersection	No Build (TDI)				Build Alt-1 (RAB)				Build Alt-2 (TDI)				Build Alt-3 (ParClo/TDI)				Build Alt-4 (DDI)			
		Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue
1	Sierra View Dr & Corral Hollow Rd	South Leg	>5000	-	2	South Leg	>5000	-	10	South Leg	>5000	-	10	South Leg	>5000	-	10	South Leg	>5000	-	10
		North Leg	1800	-	45	North Leg	1800	-	46	North Leg	1800	-	46	North Leg	1800	-	46	North Leg	1800	-	46
		West Leg	750	-	361	West Leg	750	-	209	West Leg	750	-	209	West Leg	750	-	209	West Leg	750	-	209
2	EB I-580 Ramps & Corral Hollow Rd	NBTR	1840	1789	1789	NBT	1800	-	79	NBT	1800	221	321	NBT	1800	185	273	NBT	1800	156	236
						NBR		-		NBR	590	109	194	NBR	590	98	168	NBR	590	0	0
		SBLT	550	38	162	SBL	540	-	0	SBL	180	108	188	SBL	550	98	172	SBL	550	11	61
						SBT		-		SBT	420	111	195	SBT	850	74	138	SBT	540	91	141
		EBL	900	2107	3675	EBL	850	-	7	EBL	850	50	100	EBL	850	52	100	EBL	850	40	56
		EBR	125	16	98	EBR		-		EBR	600	14	39	EBR	600	12	36	EBR	600	11	37
3	WB I-580 Ramps & Corral Hollow Rd	NBLT	540	420	420	NBL	510	-	0	NBL	180	219	253	NBT	850	104	171	NBL	540	33	136
						NBT		-		NBT	420	246	421	NBR	250	121	199	NBT	510	107	173
		SBTR	1400	9	124	SBT	1400	-	103	SBT	1400	298	775	SBT	900	89	239	SBT	1400	101	177
						SBR		-		SBR	430	377	430	SBR	300	190	349	SBR	430	0	0
		WBL	920	4616	6933	WBL	920	-	16	WBL	920	73	125	WBL	920	57	104	WBL	920	65	70
		WBR	460	1	23	WBR		-		WBR	600	42	77	WBR	600	27	55	WBR	600	43	72
4	Tracy Hills Dr & Corral Hollow Rd	NBL	440	15	50	*Not Analyzed in this Alternative*				NBL	440	68	113	NBL	440	61	111	NBL	440	85	137
		NBT	1400	16	61					NBT	1400	101	198	NBT	900	87	178	NBT	1400	83	173
		NBR	380	0	0					NBR	380	1	7	NBR	380	0	3	NBR	380	0	5
		SBL	560	14	39					SBL	560	18	45	SBL	560	16	45	SBL	560	22	55
		SBT	>5000	285	464					SBT	>5000	245	406	SBT	>5000	264	437	SBT	>5000	214	381
		SBR	430	17	45					SBR	430	31	130	SBR	430	25	94	SBR	430	19	74
		EBL	250	85	161					EBL	250	83	158	EBL	250	83	156	EBL	250	98	171
		EBT	890	4	19					EBT	890	4	19	EBT	890	4	25	EBT	890	5	21
		EBR	890	89	163					EBR	890	92	171	EBR	890	95	175	EBR	890	76	142
		WBL	200	26	64					WBL	200	28	66	WBL	200	31	71	WBL	200	32	73
		WBT	250	4	22					WBT	250	5	24	WBT	250	5	24	WBT	250	6	27
		WBR	200	12	40					WBR	200	15	42	WBR	200	16	45	WBR	200	15	43

Results are based on an average of 12-multiple SimTraffic simulation runs for side-street stop control (SSSC) and signalized intersections. Results are based on Sidra Standard methodology in Sidra Intersection software for roundabout (RAB) intersections. Freeway congestion and on-ramp metering operations are not accounted for in the model. ***Bold*** *indicates queue lengths that exceed its storage capacity.*
EBT/WBT movements at the off-ramp approach were excluded as these movements were considered as the irregular movements.
Sierra View Dr & Corral Hollow Rd (#1) is analyzed separately in Sidra Intersection software, so results are consistent for all Build Alternatives. Build Alternative 1 is analyzed only in Sidra Intersection software, so Tracy Hills Dr & Corral Hollow Rd (#4) is not analyzed. Sidra Intersection software does not report Average Queues. Key project intersections are highlighted in grey.

Table 16. Opening Year (2028) Intersection Queue Length – PM Peak Hour

No.	Intersection	No Build (TDI)				Build Alt-1 (RAB)				Build Alt-2 (TDI)				Build Alt-3 (ParClo/TDI)				Build Alt-4 (DDI)			
		Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue
1	Sierra View Dr & Corral Hollow Rd	South Leg	>5000	-	94	South Leg	>5000	-	73	South Leg	>5000	-	73	South Leg	>5000	-	73	South Leg	>5000	-	73
		North Leg	1800	-	17	North Leg	1800	-	23	North Leg	1800	-	23	North Leg	1800	-	23	North Leg	1800	-	23
		West Leg	750	-	21	West Leg	750	-	24	West Leg	750	-	24	West Leg	750	-	24	West Leg	750	-	24
2	EB I-580 Ramps & Corral Hollow Rd	NBTR	1840	56	439	NBT	1800	-	109	NBT	1800	121	188	NBT	1800	129	196	NBT	1800	88	137
						NBR		-		NBR	590	112	197	NBR	590	115	196	NBR	590	0	0
		SBLT	550	420	420	SBL	540	-	0	SBL	180	90	182	SBL	550	71	135	SBL	550	66	184
						SBT		-		SBT	420	187	287	SBT	850	112	231	SBT	540	146	264
		EBL	900	9737	13796	EBL	850	-	53	EBL	850	144	209	EBL	850	161	232	EBL	850	76	120
		EBR	125	2	33	EBR		-		EBR	600	107	189	EBR	600	106	184	EBR	600	69	98
3	WB I-580 Ramps & Corral Hollow Rd	NBLT	540	50	245	NBL	510	-	0	NBL	180	54	128	NBT	850	157	262	NBL	540	106	224
						NBT		-		NBT	420	198	287	NBR	250	21	77	NBT	510	190	293
		SBTR	1400	1253	1330	SBT	1400	-	49	SBT	1400	124	242	SBT	900	114	245	SBT	1400	121	234
						SBR		-		SBR	430	25	60	SBR	300	28	79	SBR	430	2	40
		WBL	920	5433	6704	WBL	920	-	39	WBL	920	137	206	WBL	920	142	215	WBL	920	70	83
		WBR	460	6	57	WBR		-		WBR	600	59	110	WBR	600	46	93	WBR	600	55	77
4	Tracy Hills Dr & Corral Hollow Rd	NBL	440	37	80	*Not Analyzed in this Alternative*				NBL	440	53	137	NBL	440	50	128	NBL	440	47	100
		NBT	1400	119	217					NBT	1400	218	407	NBT	900	210	398	NBT	1400	203	401
		NBR	380	3	13					NBR	380	9	69	NBR	380	5	46	NBR	380	5	21
		SBL	560	172	594					SBL	560	48	86	SBL	560	47	85	SBL	560	60	106
		SBT	>5000	573	7121					SBT	>5000	147	255	SBT	>5000	155	255	SBT	>5000	242	392
		SBR	430	138	7121					SBR	430	32	67	SBR	430	35	70	SBR	430	42	80
		EBL	250	121	226					EBL	250	100	189	EBL	250	103	185	EBL	250	132	234
		EBT	890	26	244					EBT	890	4	18	EBT	890	3	16	EBT	890	7	38
		EBR	890	185	526					EBR	890	32	72	EBR	890	27	67	EBR	890	23	63
		WBL	200	31	99					WBL	200	13	45	WBL	200	10	35	WBL	200	14	43
		WBT	250	4	21					WBT	250	3	17	WBT	250	4	21	WBT	250	6	26
		WBR	200	21	51					WBR	200	23	55	WBR	200	23	57	WBR	200	22	53

Results are based on an average of 12-multiple SimTraffic simulation runs for side-street stop control (SSSC) and signalized intersections. Results are based on Sidra Standard methodology in Sidra Intersection software for roundabout (RAB) intersections. Freeway congestion and on-ramp metering operations are not accounted for in the model. ***Bold*** *indicates queue lengths that exceed its storage capacity.*
EBT/WBT movements at the off-ramp approach were excluded as these movements were considered as the irregular movements.
Sierra View Dr & Corral Hollow Rd (#1) is analyzed separately in Sidra Intersection software, so results are consistent for all Build Alternatives. Build Alternative 1 is analyzed only in Sidra Intersection software, so Tracy Hills Dr & Corral Hollow Rd (#4) is not analyzed. Sidra Intersection software does not report Average Queues. Key project intersections are highlighted in grey.

Intersection Network Performance

The intersection network wide performance Measures of Effectiveness (MOE's) for Opening Year (2028) No Build and Build conditions are shown in **Table 17** and **Table 18** for the AM and PM peak hours, respectively.

Table 17. Opening Year (2028) Network Vehicle Performance – AM Peak Hour

Measure of Effectiveness (MOE)	No Build	Build Alternative			
		1	2	3	4
Vehicles Served (veh)	1,959	*Network MOEs not available from Sidra Software*	3,647	3,616	3,677
Average Travel Speed (mph)	6		25	27	29
Total Vehicle Hours of Delay (VHD) (veh-hr)	562		76	58	52
Vehicle Hours Traveled (VHT) (veh-hr)	1,187		238	221	221
Vehicle Miles Traveled (VMT) (veh-mi)*	4,066		5,884	5,857	6,342
Total Stops (stops)	3,373		6,153	5,423	3,983
Total Fuel Consumption (gallons)	360		210	205	220
HC Emissions (grams)	4,125		4,466	4,342	4,217
CO Emissions (grams)	91,595		129,703	126,114	132,499
NOx Emissions (grams)	9,559		14,006	13,691	13,972
Number of Top MOEs		*N/A*	0	4	7

Note: No Build = TDI, Alt 1 = RAB, Alt 2 = TDI, Alt 3 = ParClo/TDI, Alt 4 = DDI
Results are based on the average of 12 SimTraffic simulation runs. Build Alternative 1 was analyzed only in Sidra Intersection software, so no MOEs were recorded. Highlighted cells show the best results out of the Build Alternatives for that MOE. Build Alternative 4 SimTraffic network has longer segment lengths, so VMT and VHT may be higher relative to other Build Alternatives.
** This operational VMT demonstrates efficient traffic movement and roadway utilization, rather than indicating induced demand associated with SB 743 requirements.*

Table 18. Opening Year (2028) Network Vehicle Performance – PM Peak Hour

Measure of Effectiveness (MOE)	No Build	Build Alternative			
		1	2	3	4
Vehicles Served (veh)	2,108	*Network MOEs not available from Sidra Software*	4,178	4,178	4,216
Average Travel Speed (mph)	4		27	27	28
Total Vehicle Hours of Delay (VHD) (veh-hr)	925		77	71	79
Vehicle Hours Traveled (VHT) (veh-hr)	1,384		265	264	268
Vehicle Miles Traveled (VMT) (veh-mi)*	4,475		7,137	7,228	7,382
Total Stops (stops)	3,687		5,989	5,432	5,315
Total Fuel Consumption (gallons)	419		248	249	260
HC Emissions (grams)	4,615		5,410	5,363	5,529
CO Emissions (grams)	110,632		158,115	156,749	168,106
NOx Emissions (grams)	9,844		17,089	16,969	17,893
Number of Top MOEs		*N/A*	1	5	4

Note: No Build = TDI, Alt 1 = RAB, Alt 2 = TDI, Alt 3 = ParClo/TDI, Alt 4 = DDI
Results are based on the average of 12 SimTraffic simulation runs. Build Alternative 1 was analyzed only in Sidra Intersection software, so no MOEs were recorded. Highlighted cells show the best results out of the Build Alternatives for that MOE. Build Alternative 4 SimTraffic network has longer segment lengths, so VMT and VHT may be higher relative to other Build Alternatives.
** This operational VMT demonstrates efficient traffic movement and roadway utilization, rather than indicating induced demand associated with SB 743 requirements.*

Table 17 and **Table 18** indicate that in the AM and PM peak hours, 2028 Build conditions would outperform 2028 No Build conditions based on vehicle hours of delay (VHD), vehicle hours traveled (VHT), average travel speed, served vehicles, vehicle miles traveled (VMT), and total fuel consumption, while the 2028 No Build conditions perform better in terms of total stops, and emissions. This is likely due to severe congestion under No Build conditions, which restricts the number of vehicles able to enter or be generated in the network. Since total stops, and emissions are not accounted for vehicles that are not generated, the overall values for these metrics appear artificially lower.

Among the Build Alternatives, Build Alternatives 3 and 4 show slightly greater overall performance compared to No Build conditions, with higher served volumes and reduced delays.

I-580 Freeway Facility Analysis

Average travel speeds along the I-580 corridor for the 2028 No Build and Build conditions were also extracted for evaluation. Eastbound I-580 AM and PM peak period speed profiles are shown in **Table 19**. Similarly, westbound I-580 AM and PM peak period speed profiles are shown in **Table 20**.

AM Peak Period

In the eastbound direction, the Corral Hollow Road diverge segment (#11) and merge segment (#13) operate at LOS D or better and average travel speeds are 58 MPH and 62 MPH, respectively, similar to Existing conditions.

Along the I-580 corridor, average travel speeds remain similar to Existing conditions under 2028 No Build conditions, with all segments operating at LOS D or better and average travel speeds reducing as low as 57 MPH.

Under 2028 Build conditions, average travel speed and LOS remain similar to 2028 No Build conditions.

In the westbound direction, the Corral Hollow Road diverge segment (#7) operates at **LOS F** with average travel speeds in a range of 24 – 38 MPH, compared to 26 – 44 MPH in Existing conditions. At the merge segment (#9), average travel speeds remain similar to Existing conditions in a range of 29 – 44 MPH and **LOS F** in all hours of the AM peak period.

Queues from the bottleneck at the I-580/Corral Hollow Road interchange extend upstream and merge with the queues forming at the SR-132 on-ramp merge point, resulting in average travel speeds dropping below 30 MPH and segments operating at **LOS F** in one or more hours during the AM peak period, similar to Existing conditions. Between 5 AM and 6 AM, operating conditions at the I-580/Corral Hollow Road interchange worsen, with average travel speeds dropping as low as 15 MPH.

Under 2028 Build conditions, similar congestion patterns are observed compared to 2028 No Build conditions with segments operating at **LOS F** and average travel speeds dropping as low as 15 MPH.

PM Peak Period

In the eastbound direction, the Corral Hollow Road diverge segment (#11) and merge segment (#13) operate at LOS D or better at average travel speeds of 56 MPH and 59 – 60 MPH, respectively, similar to Existing conditions.

Along the I-580 corridor, average travel speeds remain similar to Existing conditions under 2028 No Build conditions, with all segments operating at LOS D or better and average travel speeds reducing as low as 53 MPH.

Under 2028 Build conditions, all segments continue to operate at LOS D or better and average travel speeds remain similar or reduce slightly.

In the westbound direction, the Corral Hollow Road diverge segment (#7) operates at LOS D or better with reduced average travel speeds of 58 – 59 MPH compared to Existing conditions. The merge segment (#9) operates at LOS D or better with average travel speeds of 65 MPH, similar to Existing conditions.

Along the I-580 corridor, all segments operate at LOS D or better with average travel speeds reducing as low as 60 MPH.

Under 2028 Build conditions, average travel speeds and LOS remain similar to 2028 No Build conditions.

Table 19. Opening Year (2028) Mainline LOS Summary – Eastbound I-580

AM Peak Period			Opening Year 2028 No Build												Opening Year 2028 Build											
			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity		
	Segment	Length (Mi)	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8
DIRECTION OF TRAVEL	1 Basic	1.00	71	71	71	A	A	A	2.8	4.2	4.8	0.1	0.1	0.2	71	71	71	A	A	A	2.8	4.2	4.8	0.1	0.1	0.2
	2 Basic (Patterson Pass Rd)	0.38	71	71	71	A	A	A	2.8	4.2	4.8	0.1	0.1	0.2	71	71	71	A	A	A	2.8	4.2	4.8	0.1	0.1	0.2
	3 Merge (Patterson Pass Rd)	0.28	62	62	62	A	A	B	3.9	5.5	7.0	0.1	0.2	0.2	62	62	62	A	A	B	3.9	5.6	7.0	0.1	0.2	0.2
	4 Basic	0.64	71	71	71	A	A	A	3.4	4.8	6.1	0.1	0.2	0.2	71	71	71	A	A	A	3.4	4.9	6.1	0.1	0.2	0.2
	5 Basic	0.64	71	71	71	A	A	A	3.4	4.8	6.1	0.1	0.2	0.2	71	71	71	A	A	A	3.4	4.9	6.1	0.1	0.2	0.2
	6 Basic	0.64	71	71	71	A	A	A	3.4	4.8	6.1	0.1	0.2	0.2	71	71	71	A	A	A	3.4	4.9	6.1	0.1	0.2	0.2
	7 Basic	0.64	71	71	71	A	A	A	3.4	4.8	6.1	0.1	0.2	0.2	71	71	71	A	A	A	3.4	4.9	6.1	0.1	0.2	0.2
	8 Basic	0.64	71	71	71	A	A	A	3.4	4.8	6.1	0.1	0.2	0.2	71	71	71	A	A	A	3.4	4.9	6.1	0.1	0.2	0.2
	9 Basic	0.64	71	71	71	A	A	A	3.4	4.8	6.1	0.1	0.2	0.2	71	71	71	A	A	A	3.4	4.9	6.1	0.1	0.2	0.2
	10 Basic	0.64	71	71	71	A	A	A	3.4	4.8	6.1	0.1	0.2	0.2	71	71	71	A	A	A	3.4	4.9	6.1	0.1	0.2	0.2
	11 Diverge (Corral Hollow Rd)	0.28	58	58	58	A	A	B	4.2	6.0	7.6	0.1	0.2	0.2	58	58	58	A	A	B	4.2	6.0	7.6	0.1	0.2	0.2
	12 Basic (Corral Hollow Rd)	0.33	70	70	70	A	A	A	2.9	3.9	4.9	0.1	0.1	0.2	70	70	70	A	A	A	2.9	3.9	4.9	0.1	0.1	0.2
	13 Merge (Corral Hollow Rd)	0.28	62	62	62	A	B	B	6.3	8.1	11.7	0.2	0.2	0.3	62	62	62	A	B	B	6.5	8.4	12.2	0.2	0.2	0.3
	14 Basic	0.76	71	71	71	A	A	A	5.5	7.1	10.2	0.2	0.2	0.3	71	71	71	A	A	A	5.7	7.3	10.6	0.2	0.2	0.3
	15 Basic	0.76	71	71	71	A	A	A	5.5	7.1	10.2	0.2	0.2	0.3	71	71	71	A	A	A	5.7	7.3	10.6	0.2	0.2	0.3
	16 Basic	0.76	71	71	71	A	A	A	5.5	7.1	10.2	0.2	0.2	0.3	71	71	71	A	A	A	5.7	7.3	10.6	0.2	0.2	0.3
	17 Diverge (SR 132)	0.28	57	57	57	A	B	B	6.8	8.8	12.8	0.2	0.2	0.3	57	57	57	A	B	B	7.0	9.1	13.3	0.2	0.2	0.3
	18 Basic (SR 132)	1.00	71	71	71	A	A	A	4.0	4.8	6.2	0.1	0.2	0.2	71	71	71	A	A	A	4.1	5.0	6.5	0.1	0.2	0.2

PM Peak Period			Opening Year 2028 No Build												Opening Year 2028 Build											
			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity		
	Segment	Length (Mi)	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6
DIRECTION OF TRAVEL	1 Basic	1.00	70	69	71	C	C	B	19.5	20.0	16.1	0.6	0.6	0.5	69	69	71	C	C	B	20.5	21.1	17.0	0.6	0.6	0.5
	2 Basic (Patterson Pass Rd)	0.38	70	69	71	C	C	B	19.5	20.0	16.1	0.6	0.6	0.5	69	69	71	C	C	B	20.5	21.1	17.0	0.6	0.6	0.5
	3 Merge (Patterson Pass Rd)	0.28	58	58	60	D	D	C	30.7	30.5	26.5	0.8	0.8	0.7	58	58	59	D	D	D	31.8	31.8	27.6	0.8	0.8	0.7
	4 Basic	0.64	63	63	67	D	D	C	28.4	28.2	23.7	0.8	0.8	0.7	62	62	66	D	D	C	29.8	29.8	25.0	0.8	0.8	0.7
	5 Basic	0.64	63	63	67	D	D	C	28.4	28.2	23.7	0.8	0.8	0.7	62	62	66	D	D	C	29.8	29.8	25.0	0.8	0.8	0.7
	6 Basic	0.64	63	63	67	D	D	C	28.4	28.2	23.7	0.8	0.8	0.7	62	62	66	D	D	C	29.8	29.8	25.0	0.8	0.8	0.7
	7 Basic	0.64	63	63	67	D	D	C	28.4	28.2	23.7	0.8	0.8	0.7	62	62	66	D	D	C	29.8	29.8	25.0	0.8	0.8	0.7
	8 Basic	0.64	63	63	67	D	D	C	28.4	28.2	23.7	0.8	0.8	0.7	62	62	66	D	D	C	29.8	29.8	25.0	0.8	0.8	0.7
	9 Basic	0.64	63	63	67	D	D	C	28.4	28.2	23.7	0.8	0.8	0.7	62	62	66	D	D	C	29.8	29.8	25.0	0.8	0.8	0.7
	10 Basic	0.64	63	63	67	D	D	C	28.4	28.2	23.7	0.8	0.8	0.7	62	62	66	D	D	C	29.8	29.8	25.0	0.8	0.8	0.7
	11 Diverge (Corral Hollow Rd)	0.28	56	56	56	D	D	D	32.0	31.9	28.4	0.8	0.8	0.7	56	56	55	D	D	D	33.1	33.2	29.6	0.8	0.8	0.7
	12 Basic (Corral Hollow Rd)	0.33	69	70	70	C	C	B	20.1	19.6	16.1	0.6	0.6	0.5	69	70	70	C	C	B	20.2	19.7	16.1	0.6	0.6	0.5
	13 Merge (Corral Hollow Rd)	0.28	59	59	60	D	D	C	28.9	29.8	26.1	0.8	0.8	0.7	59	59	60	D	D	C	29.0	30.0	26.1	0.8	0.8	0.7
	14 Basic	0.76	65	64	67	D	D	C	26.4	27.4	23.2	0.8	0.8	0.7	65	64	67	D	D	C	26.5	27.6	23.3	0.8	0.8	0.7
	15 Basic	0.76	65	64	67	D	D	C	26.4	27.4	23.2	0.8	0.8	0.7	65	64	67	D	D	C	26.5	27.6	23.3	0.8	0.8	0.7
	16 Basic	0.76	65	64	67	D	D	C	26.4	27.4	23.2	0.8	0.8	0.7	65	64	67	D	D	C	26.5	27.6	23.3	0.8	0.8	0.7
	17 Diverge (SR 132)	0.28	53	53	54	D	D	D	32.1	32.9	29.1	0.8	0.8	0.7	53	53	54	D	D	D	32.1	33.0	29.1	0.8	0.8	0.7
	18 Basic (SR 132)	1.00	71	71	71	A	B	A	10.9	11.4	10.0	0.3	0.4	0.3	71	71	71	B	B	A	11.3	11.9	10.4	0.4	0.4	0.3

Note: Demand/Capacity highlighted red when exceeding 1.0

Traffic Speed (mph) 25 40 55

Table 20. Opening Year (2028) Mainline LOS Summary – Westbound I-580

AM Peak Period			Opening Year 2028 No Build												Opening Year 2028 Build											
			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity		
Segment		Length (Mi)	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8
DIRECTION OF TRAVEL																										
1 Basic	SR 132	0.67	51	30	45	F	F	B	17.8	22.9	17.7	0.5	0.6	0.7	51	30	44	F	F	B	17.9	22.9	17.9	0.5	0.6	0.7
2 Merge	SR 132	0.28	34	22	46	F	F	F	46.5	55.3	34.2	1.1	1.5	1.3	34	22	46	F	F	F	46.6	55.4	34.4	1.1	1.5	1.3
3 Basic		0.71	42	28	39	F	F	F	37.5	33.4	28.9	1.1	1.2	1.2	42	28	39	F	F	F	37.5	33.4	28.6	1.1	1.2	1.2
4 Basic		0.71	43	27	39	F	F	F	36.6	34.6	29.0	1.1	1.1	1.2	43	27	39	F	F	F	36.6	34.6	28.6	1.1	1.1	1.2
5 Basic		0.71	33	29	39	F	F	F	46.7	34.0	29.1	1.1	1.1	1.2	33	29	39	F	F	F	46.7	34.0	28.8	1.1	1.1	1.2
6 Basic		0.71	24	28	42	F	F	F	59.4	38.2	26.9	1.1	1.1	1.1	24	28	42	F	F	F	59.5	38.2	26.7	1.1	1.1	1.1
7 Diverge	Corral Hollow Rd	0.28	26	24	38	F	F	F	53.8	33.6	28.6	1.2	1.2	1.2	26	24	38	F	F	F	53.9	33.6	28.5	1.2	1.2	1.2
8 Basic	Corral Hollow Rd	0.33	15	23	33	F	F	F	76.0	41.8	29.3	1.1	1.1	1.1	15	23	33	F	F	F	76.0	41.9	29.3	1.1	1.1	1.1
9 Merge	Corral Hollow Rd	0.28	44	29	37	F	F	F	38.2	47.5	41.7	1.4	1.4	1.3	44	29	37	F	F	F	38.2	47.5	41.6	1.4	1.4	1.3
10 Basic		0.64	54	40	39	F	F	F	27.3	35.0	38.1	1.2	1.1	1.3	54	40	39	F	F	F	27.3	35.0	38.1	1.2	1.1	1.3
11 Basic		0.64	63	43	51	F	F	D	23.4	32.4	29.4	1.1	1.1	1.0	63	43	51	F	F	D	23.4	32.4	29.4	1.1	1.1	1.0
12 Basic		0.64	63	43	52	F	F	D	23.6	32.4	28.7	1.1	1.1	1.0	63	43	52	F	F	D	23.6	32.4	28.7	1.1	1.1	1.0
13 Basic		0.64	62	43	55	F	F	D	24.0	32.4	27.0	1.1	1.1	1.0	62	43	55	F	F	D	24.0	32.4	27.0	1.1	1.1	1.0
14 Basic		0.64	62	43	56	F	F	D	24.0	32.4	26.6	1.1	1.1	1.0	62	43	56	F	F	D	24.0	32.4	26.6	1.1	1.1	1.0
15 Basic		0.64	62	43	56	F	F	D	24.0	32.4	26.3	1.1	1.1	1.0	62	43	56	F	F	D	24.0	32.4	26.3	1.1	1.1	1.0
16 Basic		0.64	61	42	56	F	F	D	24.4	33.9	26.4	1.1	1.1	1.0	61	42	56	F	F	D	24.4	33.9	26.4	1.1	1.1	1.0
17 Diverge	Patterson Pass Rd	0.28	48	43	56	F	F	F	30.7	32.4	26.6	1.2	1.2	1.0	48	43	56	F	F	F	30.6	32.4	26.5	1.2	1.2	1.0
18 Basic	Patterson Pass Rd	0.36	51	43	57	C	D	C	20.6	26.1	20.6	0.9	0.9	0.8	51	43	57	C	D	C	21.3	26.7	21.1	0.9	0.9	0.8

PM Peak Period			Opening Year 2028 No Build												Opening Year 2028 Build											
			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity		
Segment		Length (Mi)	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6
DIRECTION OF TRAVEL																										
1 Basic	SR 132	0.67	73	73	72	A	A	A	7.8	8.2	7.4	0.3	0.3	0.2	73	73	72	A	A	A	8.3	8.6	7.8	0.3	0.3	0.3
2 Merge	SR 132	0.28	68	68	69	B	B	A	12.1	12.5	11.9	0.4	0.4	0.4	68	68	68	B	B	B	12.6	13.0	12.3	0.4	0.4	0.4
3 Basic		0.71	74	73	74	B	B	A	11.3	11.7	11.0	0.4	0.4	0.4	74	73	74	B	B	B	11.8	12.1	11.4	0.4	0.4	0.4
4 Basic		0.71	74	74	74	B	B	B	11.3	11.6	11.1	0.4	0.4	0.4	74	74	74	B	B	B	11.8	12.1	11.4	0.4	0.4	0.4
5 Basic		0.71	73	73	74	B	B	B	11.4	11.7	11.1	0.4	0.4	0.4	73	73	74	B	B	B	11.8	12.2	11.5	0.4	0.4	0.4
6 Basic		0.71	73	73	74	B	B	B	11.5	11.7	11.1	0.4	0.4	0.4	73	73	74	B	B	B	11.9	12.1	11.5	0.4	0.4	0.4
7 Diverge	Corral Hollow Rd	0.28	59	58	59	B	B	B	14.3	14.7	14.0	0.4	0.4	0.4	58	58	59	B	B	B	14.9	15.3	14.5	0.4	0.4	0.4
8 Basic	Corral Hollow Rd	0.33	72	72	72	A	A	A	6.1	6.3	6.3	0.2	0.2	0.2	72	72	72	A	A	A	6.2	6.4	6.3	0.2	0.2	0.2
9 Merge	Corral Hollow Rd	0.28	65	65	65	B	B	B	8.3	8.5	8.6	0.2	0.2	0.3	65	65	65	B	B	B	8.4	8.6	8.6	0.2	0.3	0.3
10 Basic		0.64	73	74	74	A	A	A	7.4	7.5	7.5	0.2	0.3	0.3	73	74	74	A	A	A	7.4	7.5	7.5	0.2	0.3	0.3
11 Basic		0.64	73	74	74	A	A	A	7.4	7.5	7.5	0.2	0.3	0.3	73	74	74	A	A	A	7.4	7.6	7.6	0.2	0.3	0.3
12 Basic		0.64	74	73	73	A	A	A	7.3	7.5	7.6	0.2	0.3	0.3	74	73	73	A	A	A	7.4	7.6	7.6	0.2	0.3	0.3
13 Basic		0.64	74	74	73	A	A	A	7.3	7.5	7.6	0.2	0.3	0.3	74	74	73	A	A	A	7.4	7.6	7.6	0.2	0.3	0.3
14 Basic		0.64	74	74	73	A	A	A	7.3	7.5	7.6	0.2	0.3	0.3	74	74	73	A	A	A	7.4	7.6	7.6	0.2	0.3	0.3
15 Basic		0.64	74	75	74	A	A	A	7.3	7.4	7.6	0.2	0.3	0.3	74	75	74	A	A	A	7.4	7.5	7.6	0.2	0.3	0.3
16 Basic		0.64	73	74	73	A	A	A	7.4	7.5	7.6	0.2	0.3	0.3	73	74	73	A	A	A	7.4	7.6	7.6	0.2	0.3	0.3
17 Diverge	Patterson Pass Rd	0.28	60	61	60	B	B	B	8.9	9.1	9.2	0.2	0.3	0.3	60	61	60	B	B	B	9.0	9.2	9.2	0.2	0.3	0.3
18 Basic	Patterson Pass Rd	0.36	73	73	73	A	A	A	6.2	6.7	6.5	0.2	0.2	0.2	73	73	73	A	A	A	6.3	6.7	6.5	0.2	0.2	0.2

Note: Demand/Capacity highlighted red when exceeding 1.0

Traffic Speed (mph) 25 40 55

INTERIM YEAR (2035) TRAFFIC OPERATIONS ANALYSIS

This section provides a summary of the traffic operations analysis under Interim Year (2035) No Build and Build conditions during the AM and PM peak periods. Roadway and intersection lane configuration for Interim Year (2035) No Build and Build conditions remain unchanged from Opening Year (2028) No Build and Build conditions, respectively.

Similar to Opening Year (2028) conditions, served volumes, intersection LOS, and average and 95th percentile queues were obtained from the SimTraffic operational analysis. Additionally, roundabout operational results were obtained from Sidra Intersection software and mainline average speeds and LOS were obtained from HCS operational analysis.

For SimTraffic operational analysis, similar parameters were used as for Opening Year (2028) conditions.

Intersection Performance

Intersection performance in terms of levels of service (LOS) and average vehicle delays for Interim Year (2035) No Build and Build conditions were extracted and analyzed. The results of the LOS/delay analysis are summarized in **Table 21** and **Table 22** for the AM and PM peak hours, respectively. Detailed LOS/delay calculation worksheets are included in **Appendix F** and **Appendix G**.

No Build Conditions

The Interim Year (2035) No Build conditions assume the same planned improvements as Opening Year (2028) conditions. These improvements include construction of the two-lane roundabout at Sierra View Drive and intersection improvements at Tracy Hills Drive.

Based on the results, three (3) study intersections would operate at an unacceptable **LOS E** or **F** in the AM peak hour and three (3) intersections would operate unacceptably in the PM peak hour:

AM Peak Hour	***PM Peak Hour***
(#2) EB I-580 Ramps & Corral Hollow Rd [LOS F] [1]	(#2) EB I-580 Ramps & Corral Hollow Rd [LOS F][1]
(#3) WB I-580 Ramps & Corral Hollow Rd [LOS F] [1]	(#3) WB I-580 Ramps & Corral Hollow Rd [LOS F] [1]
(#4) Tracy Hills Dr & Corral Hollow Rd [LOS F]	(#4) Tracy Hills Dr & Corral Hollow Rd [LOS F] [1]

[1] *Intersection operates at LOS E or F in No Build (2028) conditions*

From Opening Year (2028) to Interim Year (2035) No Build conditions, demand volumes increase, so delays generally worsen slightly at the study intersections.

Table 21. Interim Year (2035) Intersection LOS Summary – AM Peak Hour

No.	Intersection	No Build (TDI)				Build Alt-1 (RAB)				Build Alt-2 (TDI)				Build Alt-3 (ParClo/TDI)				Build Alt-4 (DDI)			
		Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS
1	Sierra View Dr & Corral Hollow Rd	RAB	0.879	35.4	D	RAB	0.885	36.5	D	RAB	0.885	36.5	D	RAB	0.885	36.5	D	RAB	0.885	36.5	D
2	EB I-580 Ramps & Corral Hollow Rd	SSSC	-	>300	F	RAB	0.574	13.9	B	Signal	-	29.0	C	Signal	-	21.9	C	Signal	-	9.3	A
3	WB I-580 Ramps & Corral Hollow Rd	SSSC	-	>300	F	RAB	0.73	14.3	B	Signal	-	62.6	E	Signal	-	16.0	B	Signal	-	10.7	B
4	Tracy Hills Dr & Corral Hollow Rd	Signal	-	219.9	F	Signal	-	61.0	E	Signal	-	61.0	E	Signal	-	49.6	D	Signal	-	43.8	D
Total	A-D	1				3				2				4				4			
	E-F	3				1				2				0				0			

Results are based on an average of 12-multiple SimTraffic simulation runs for side-street stop control (SSSC) and signalized intersections. Results are based on Sidra Standard methodology in Sidra Intersection software for roundabout (RAB) intersections. Average delay is expressed in seconds per vehicle. Overall results for RAB and SSSC look at the worst movement and results for signals look at an average of all movements. Freeway congestion and on-ramp metering operations are not accounted for in the model.

Sierra View Dr & Corral Hollow Rd (#1) is analyzed separately in Sidra Intersection software, so results are consistent for all Build Alternatives. Build Alternative 1 is analyzed only in Sidra Intersection software, so Tracy Hills Dr & Corral Hollow Rd (#4) is not analyzed. There is no impact of queue spillback from the WB I-580 Ramps & Corral Hollow Rd (#3), so it is assumed Tracy Hills Dr & Corral Hollow Rd (#4) operates at the worst LOS of Build Alternatives 2 to 4. Key project intersections are highlighted in grey.

Table 22. Interim Year (2035) Intersection LOS Summary – PM Peak Hour

No.	Intersection	No Build (TDI)				Build Alt-1 (RAB)				Build Alt-2 (TDI)				Build Alt-3 (ParClo/TDI)				Build Alt-4 (DDI)			
		Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS
1	Sierra View Dr & Corral Hollow Rd	RAB	0.856	10.8	B	RAB	0.881	11.1	B	RAB	0.881	11.1	B	RAB	0.881	11.1	B	RAB	0.881	11.1	B
2	EB I-580 Ramps & Corral Hollow Rd	SSSC	-	>300	F	RAB	0.674	17.4	B	Signal	-	20.8	C	Signal	-	18.1	B	Signal	-	15.1	B
3	WB I-580 Ramps & Corral Hollow Rd	SSSC	-	>300	F	RAB	0.472	17.4	B	Signal	-	23.4	C	Signal	-	23.5	C	Signal	-	16.0	B
4	Tracy Hills Dr & Corral Hollow Rd	Signal	-	259	F	Signal	-	60.4	E	Signal	-	60.0	E	Signal	-	60.4	E	Signal	-	49.3	D
Total	A-D	1				3				3				3				4			
	E-F	3				1				1				1				0			

Results are based on an average of 12-multiple SimTraffic simulation runs for side-street stop control (SSSC) and signalized intersections. Results are based on Sidra Standard methodology in Sidra Intersection software for roundabout (RAB) intersections. Average delay is expressed in seconds per vehicle. Overall results for RAB and SSSC look at the worst movement and results for Signals look at an average of all movements. Freeway congestion and on-ramp metering operations are not accounted for in the model.

Sierra View Dr & Corral Hollow Rd (#1) is analyzed separately in Sidra Intersection software, so results are consistent for all Build Alternatives. Build Alternative 1 is analyzed only in Sidra Intersection software, so Tracy Hills Dr & Corral Hollow Rd (#4) is not analyzed. There is no impact of queue spillback from the WB I-580 Ramps & Corral Hollow Rd (#3), so it is assumed Tracy Hills Dr & Corral Hollow Rd (#4) operates at the worst LOS of Build Alternatives 2 to 4. Key project intersections are highlighted in grey.

Compared to 2028 No Build conditions, one more intersection would operate at an unacceptable LOS in the AM peak hour: the Tracy Hills Drive intersection (#4).

During the PM peak hour, the same three intersections would operate at an unacceptable LOS compared to Opening Year (2028) No Build conditions.

Build Conditions

With the proposed improvements implemented, the 2035 Build Alternatives would show similar or slightly improved delay along the study corridor. **Table 23** shows a LOS comparison between 2035 No Build conditions and 2035 Build conditions.

Table 23. Interim Year (2035) No Build vs. Build LOS Comparison

No.	Intersection	AM Peak Hour					PM Peak Hour				
		No Build	Build Alternative				No Build	Build Alternative			
			1	2	3	4		1	2	3	4
1	Sierra View Dr & Corral Hollow Rd	D	D	D	D	D	B	B	B	B	B
2	EB I-580 Ramps & Corral Hollow Rd	F	B	C	C	A	F	B	C	B	B
3	WB I-580 Ramps & Corral Hollow Rd	F	B	E	B	B	F	B	C	C	B
4	Tracy Hills Dr & Corral Hollow Rd	F	E*	E	D	D	F	E*	E	E	D
Total	A-D	1	3	2	4	4	1	3	3	3	4
	E-F	3	1	2	0	0	3	1	1	1	0

Note: No Build = TDI, Alt 1 = RAB, Alt 2 = TDI, Alt 3 = ParClo/TDI, Alt 4 = DDI
**Build Alternative 1 is analyzed in Sidra intersection software only, so the Tracy Hills Dr intersection (#4) is not analyzed. There is no impact of queue spillback from the WB I-580 ramp terminus intersection (#3), so it is assumed the Tracy Hills Dr intersection (#4) operates at the worst LOS of Build Alternatives 2 to 4. Key project intersections are highlighted in grey.*

In the AM peak hour, the EB I-580 ramp terminus intersection (#2) would no longer operate at an unacceptable LOS under all Build Alternatives. The WB I-580 ramp terminus intersection (#3) would no longer operate at an unacceptable LOS under Build Alternatives 1, 3, and 4 and would show slightly improved delay under Build Alternative 2. Similarly, the Tracy Hills Drive intersection (#4) would no longer operate at an unacceptable LOS under Build Alternatives 3 and 4 and would show slightly improved delay under Build Alternative 2.

In the PM peak hour, the EB I-580 ramp terminus intersection (#2) and the WB I-580 ramp terminus intersection (#3) would no longer operate at an unacceptable LOS under all Build Alternatives. The Tracy Hills Drive intersection (#4) would operate at an acceptable LOS under Build Alternative 4 and would show slightly improved delay under Build Alternatives 2 and 3.

Slightly improved delays are observed in the AM and PM peak hours under all Build Alternatives. Build Alternative 4 shows the most improved operations overall compared to No Build conditions.

Intersection Queue Analysis

Interim Year (2035) average and 95th percentile queue lengths were also analyzed at the study intersections. AM peak hour average and 95th percentile queues at the study intersections are shown in **Table 24** and PM peak hour average and 95th percentile queues are shown in **Table 25**.

AM Peak Hour

Average and 95th percentile queues in the AM peak hour generally decrease from 2035 No Build conditions to 2035 Build conditions.

Focusing on the I-580 ramp termini intersections, eastbound queues at the EB I-580 ramp terminus intersection (#2) and westbound queues at the WB I-580 ramp terminus intersection (#3) no longer spill onto the I-580 mainline under all Build Alternatives compared to No Build conditions. Build Alternative 2 shows southbound left queues at the EB I-580 ramp terminus intersection (#2) exceeding the storage length but not spilling past the WB I-580 ramp terminus intersection (#3). At the WB I-580 ramp terminus intersection (#3), queues in the northbound and southbound directions spill past the adjacent EB I-580 ramp terminus intersection (#2) and the Tracy Hills Drive intersection (#4), respectively. The southbound queueing continues past the Tracy Hills Drive intersection (#4) and results in southbound left and right queues exceeding storage capacity at the intersection. Under Build Alternative 3, southbound right queues at the WB I-580 ramp terminus intersection (#3) are shown to exceed storage capacity.

At the Tracy Hills Drive intersection (#4), the westbound movement shows a similar pattern where queues spill past the adjacent intersection under No Build conditions and under all Build Alternatives. Additionally, eastbound queues at the Tracy Hills Drive intersection (#4) no longer spill past the adjacent intersection under all Build Alternatives.

PM Peak Hour

Average and 95th percentile queues in the PM peak hour generally decrease from 2035 No Build conditions to the Build Alternatives.

Similar to AM peak hour conditions, eastbound queues spilling from the EB I-580 ramp terminus intersection (#2) and westbound queues spilling from the WB I-580 ramp terminus intersection (#3) no longer extend onto the I-580 mainline under all Build Alternatives. Under Build Alternative 2, queues exceed storage capacity for the southbound left movement at the EB I-580 ramp terminus intersection (#2).

At the Tracy Hills Drive intersection (#4), eastbound queues would continue to exceed storage capacity under Build Alternatives 2 and 3, and westbound queues would continue to exceed storage capacity under Build Alternatives 2, 3, and 4. Northbound queues would also exceed storage capacity under Build Alternatives 2, 3, and 4.

Queueing Summary

As summarized above, during both the AM and PM peak hours, Build Alternative 4 demonstrates the most notable reduction in queuing at the ramp intersections relative to the 2035 No Build conditions when compared to Build Alternatives 2 and 3. The improved performance under Build Alternative 4 can be attributed to its design features, which reduce the number of conflict points and simplify traffic signal phasing. These enhancements contribute to more efficient vehicle progression and reduced congestion at critical intersections.

Build Alternative 1 also shows significantly reduced queuing in the analysis; however, this outcome is primarily due to the different analytical methodology used. While Build Alternatives 2, 3, and 4 were evaluated using SimTraffic microsimulation, Build Alternative 1 was analyzed using the Sidra software. Sidra generally incorporates more idealized assumptions regarding driver behavior, such as higher levels of yielding, smoother gap acceptance, and reduced variability in traffic flow. These assumptions often result in lower estimates of stop delays and queuing. Additionally, Sidra does not account for queuing impacts from downstream intersections or ramp metering influences, which can be significant in congested corridors or closely spaced intersections.

Table 24. Interim Year (2035) Intersection Queue Length Summary – AM Peak Hour

No.	Intersection	No Build (TDI)				Build Alt-1 (RAB)				Build Alt-2 (TDI)				Build Alt-3 (ParClo/TDI)				Build Alt-4 (DDI)			
		Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue
1	Sierra View Dr & Corral Hollow Rd	South Leg	>5000	-	22	South Leg	>5000	-	32	South Leg	>5000	-	32	South Leg	>5000	-	32	South Leg	>5000	-	32
		North Leg	1800	-	87	North Leg	1800	-	89	North Leg	1800	-	89	North Leg	1800	-	89	North Leg	1800	-	89
		West Leg	750	-	557	West Leg	750	-	576	West Leg	750	-	576	West Leg	750	-	576	West Leg	750	-	576
2	EB I-580 Ramps & Corral Hollow Rd	NBTR	1840	508	1789	NBT NBR	1800	- -	112	NBT NBR	1800 590	288 117	436 203	NBT NBR	1800 590	275 136	434 280	NBT NBR	1800 590	173 112	252 191
		SBLT	550	283	420	SBL SBT	540	- -	0	SBL SBT	180 420	175 202	261 325	SBL SBT	550 850	149 89	252 166	SBL SBT	550 540	67 147	214 294
		EBL EBR	900 125	2576 2	4380 32	EBL EBR	850	- -	9	EBL EBR	850 600	80 17	231 63	EBL EBR	850 600	60 12	109 37	EBL EBR	850 600	43 11	56 37
3	WB I-580 Ramps & Corral Hollow Rd	NBLT	540	211	420	NBL NBT	510	- -	0	NBL NBT	180 420	312 312	421 421	NBT NBR	850 250	144 134	223 218	NBL NBT	540 510	68 135	184 221
		SBTR	1400	378	1330	SBT SBR	1400	- -	201	SBT SBR	1400 430	1002 1002	1432 1432	SBT SBR	900 300	125 180	247 346	SBT SBR	1400 430	172 20	283 87
		WBL WBR	920 460	4956 0	6894 16	WBL WBR	920	- -	20	WBL WBR	920 600	92 44	149 85	WBL WBR	920 600	80 30	135 64	WBL WBR	920 600	69 45	77 81
4	Tracy Hills Dr & Corral Hollow Rd	NBL	440	42	105	*Not Analyzed in this Alternative*				NBL	440	74	130	NBL	440	66	119	NBL	440	78	135
		NBT	1400	76	187					NBT	1400	188	284	NBT	900	173	273	NBT	1400	182	292
		NBR	380	4	20					NBR	380	17	46	NBR	380	9	30	NBR	380	13	37
		SBL	560	193	580					SBL	560	363	2342	SBL	560	279	531	SBL	560	272	394
		SBT	>5000	628	7121					SBT	>5000	472	2342	SBT	>5000	374	783	SBT	>5000	271	447
		SBR	430	51	281					SBR	430	163	2342	SBR	430	100	393	SBR	430	24	92
		EBL	250	96	253					EBL	250	138	244	EBL	250	129	234	EBL	250	146	544
		EBT	890	434	1849					EBT	890	12	62	EBT	890	12	71	EBT	890	11	51
		EBR	890	567	1849					EBR	890	162	302	EBR	890	142	264	EBR	890	164	318
		WBL	200	696	1453					WBL	200	203	756	WBL	200	179	385	WBL	200	208	513
		WBT	250	696	1453					WBT	250	204	756	WBT	250	83	385	WBT	250	137	513
		WBR	200	14	59					WBR	200	39	112	WBR	200	34	80	WBR	200	35	95

Results are based on an average of 12-multiple SimTraffic simulation runs for side-street stop control (SSSC) and signalized intersections. Results are based on Sidra Standard methodology in Sidra Intersection software for roundabout (RAB) intersections. Freeway congestion and on-ramp metering operations are not accounted for in the model. ***Bold*** *indicates queue lengths that exceed its storage capacity.*
EBT/WBT movements at the off-ramp approach were excluded as these movements were considered as the irregular movements.
Sierra View Dr & Corral Hollow Rd (#1) is analyzed separately in Sidra Intersection software, so results are consistent for all Build Alternatives. Build Alternative 1 is analyzed only in Sidra Intersection software, so Tracy Hills Dr & Corral Hollow Rd (#4) is not analyzed. Sidra Intersection software does not report Average Queues. Key project intersections are highlighted in grey.

Table 25. Interim Year (2035) Intersection Queue Length Summary – PM Peak Hour

No.	Intersection	No Build (TDI)				Build Alt-1 (RAB)				Build Alt-2 (TDI)				Build Alt-3 (ParClo/TDI)				Build Alt-4 (DDI)			
		Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue
1	Sierra View Dr & Corral Hollow Rd	South Leg	>5000	-	113	South Leg	>5000	-	110	South Leg	>5000	-	110	South Leg	>5000	-	110	South Leg	>5000	-	110
		North Leg	1800	-	26	North Leg	1800	-	27	North Leg	1800	-	27	North Leg	1800	-	27	North Leg	1800	-	27
		West Leg	750	-	27	West Leg	750	-	29	West Leg	750	-	29	West Leg	750	-	29	West Leg	750	-	29
2	EB I-580 Ramps & Corral Hollow Rd	NBTR	1840	0	0	NBT NBR	1800	- -	151	NBT NBR	1800 590	154 126	235 234	NBT NBR	1800 590	155 132	236 245	NBT NBR	1800 590	115 0	181 0
		SBLT	550	420	420	SBL SBT	540	- -	0	SBL SBT	180 420	95 222	339 339	SBL SBT	550 850	68 157	135 310	SBL SBT	550 540	139 219	366 446
		EBL EBR	900 125	10305 9	13644 71	EBL EBR	850	- -	72	EBL EBR	850 600	184 127	264 223	EBL EBR	850 600	190 115	274 203	EBL EBR	850 600	141 95	323 227
3	WB I-580 Ramps & Corral Hollow Rd	NBLT	540	6	70	NBL NBT	510	- -	0	NBL NBT	180 420	69 255	167 380	NBT NBR	850 250	287 58	580 230	NBL NBT	540 510	244 328	381 444
		SBTR	1400	1321	1330	SBT SBR	1400	- -	66	SBT SBR	1400 430	171 25	348 59	SBT SBR	900 300	133 30	310 121	SBT SBR	1400 430	180 2	320 39
		WBL WBR	920 460	5681 1	6224 16	WBL WBR	920	- -	57	WBL WBR	920 600	154 106	223 177	WBL WBR	920 600	147 113	231 210	WBL WBR	920 600	70 75	85 99
4	Tracy Hills Dr & Corral Hollow Rd	NBL	440	58	104	*Not Analyzed in this Alternative*				NBL	440	200	929	NBL	440	214	936	NBL	440	160	457
		NBT	1400	121	207					NBT	1400	566	929	NBT	900	589	936	NBT	1400	476	854
		NBR	380	12	31					NBR	380	204	929	NBR	380	202	936	NBR	380	189	854
		SBL	560	144	527					SBL	560	271	423	SBL	560	246	425	SBL	560	214	317
		SBT	>5000	6480	7121					SBT	>5000	262	404	SBT	>5000	243	409	SBT	>5000	263	400
		SBR	430	35	240					SBR	430	51	122	SBR	430	45	104	SBR	430	53	136
		EBL	250	106	1733					EBL	250	169	279	EBL	250	161	262	EBL	250	153	257
		EBT	890	466	1733					EBT	890	80	212	EBT	890	61	150	EBT	890	70	174
		EBR	890	672	1733					EBR	890	29	76	EBR	890	28	70	EBR	890	22	58
		WBL	200	1019	1389					WBL	200	93	185	WBL	200	95	187	WBL	200	127	585
		WBT	250	1019	1389					WBT	250	195	553	WBT	250	214	570	WBT	250	231	585
		WBR	200	36	178					WBR	200	237	553	WBR	200	239	570	WBR	200	231	585

Results are based on an average of 12-multiple SimTraffic simulation runs for side-street stop control (SSSC) and signalized intersections. Results are based on Sidra Standard methodology in Sidra Intersection software for roundabout (RAB) intersections. Freeway congestion and on-ramp metering operations are not accounted for in the model. ***Bold*** *indicates queue lengths that exceed its storage capacity.*
EBT/WBT movements at the off-ramp approach were excluded as these movements were considered as the irregular movements.
Sierra View Dr & Corral Hollow Rd (#1) is analyzed separately in Sidra Intersection software, so results are consistent for all Build Alternatives. Build Alternative 1 is analyzed only in Sidra Intersection software, so Tracy Hills Dr & Corral Hollow Rd (#4) is not analyzed. Sidra Intersection software does not report Average Queues. Key project intersections are highlighted in grey.

Intersection Network Performance

The intersection network wide performance Measures of Effectiveness (MOE's) for Interim Year (2035) No Build and Build conditions are shown in **Table 26** and **Table 27** for the AM and PM peak hours, respectively.

Table 26. Interim Year (2035) Network Vehicle Performance – AM Peak Hour

Measure of Effectiveness (MOE)	No Build	Build Alternative			
		1	2	3	4
Vehicles Served (veh)	2,147	Network MOEs not available from Sidra Software	4,928	4,821	5,032
Average Travel Speed (mph)	4		19	22	24
Total Vehicle Hours of Delay (VHD) (veh-hr)	911		207	136	133
Vehicle Hours Traveled (VHT) (veh-hr)	1,988		433	453	361
Vehicle Miles Traveled (VMT) (veh-mi)*	4,135		8,218	7,817	8,659
Total Stops (stops)	4,597		11,747	8,865	7,255
Total Fuel Consumption (gallons)	548		317	312	315
HC Emissions (grams)	5,306		6,137	6,112	5,904
CO Emissions (grams)	117,590		177,485	173,085	182,773
NOx Emissions (grams)	10,107		19,110	18,728	19,493
Number of Top MOEs		N/A	0	3	7

Note: No Build = TDI, Alt 1 = RAB, Alt 2 = TDI, Alt 3 = ParClo/TDI, Alt 4 = DDI
Results are based on the average of 12 SimTraffic simulation runs. Build Alternative 1 was analyzed only in Sidra Intersection software, so no MOEs were recorded. Highlighted cells show the best results out of the Build Alternatives for that MOE. Build Alternative 4 SimTraffic network has longer segment lengths, so VMT and VHT may be higher relative to other Build Alternatives.
** This operational VMT demonstrates efficient traffic movement and roadway utilization, rather than indicating induced demand associated with SB 743 requirements.*

Table 27. Interim Year (2035) Network Vehicle Performance – PM Peak Hour

Measure of Effectiveness (MOE)	No Build	Build Alternative			
		1	2	3	4
Vehicles Served (veh)	1,920	Network MOEs not available from Sidra Software	5,623	5,629	5,752
Average Travel Speed (mph)	3		23	23	25
Total Vehicle Hours of Delay (VHD) (veh-hr)	1,294		161	157	151
Vehicle Hours Traveled (VHT) (veh-hr)	2,655		472	458	404
Vehicle Miles Traveled (VMT) (veh-mi)*	3,610		9,425	9,554	9,927
Total Stops (stops)	2,947		9,032	8,755	8,850
Total Fuel Consumption (gallons)	686		353	352	357
HC Emissions (grams)	5,747		7,267	7,231	7,128
CO Emissions (grams)	127,938		204,483	202,922	215,792
NOx Emissions (grams)	8,878		22,573	22,587	23,245
Number of Top MOEs		N/A	1	3	6

Note: No Build = TDI, Alt 1 = RAB, Alt 2 = TDI, Alt 3 = ParClo/TDI, Alt 4 = DDI
Results are based on the average of 12 SimTraffic simulation runs. Build Alternative 1 was analyzed only in Sidra Intersection software, so no MOEs were recorded. Highlighted cells show the best results out of the Build Alternatives for that MOE. Build Alternative 4 SimTraffic network has longer segment lengths, so VMT and VHT may be higher relative to other Build Alternatives.
** This operational VMT demonstrates efficient traffic movement and roadway utilization, rather than indicating induced demand associated with SB 743 requirements.*

Table 26 and **Table 27** indicate that in the AM and PM peak hours, the Build Alternatives would outperform 2035 No Build conditions based on vehicle hours of delay (VHD), vehicle hours traveled (VHT), average travel speed, vehicles served, vehicle miles traveled (VMT), and total fuel consumption. Similar to Opening Year (2028), 2035 No Build conditions perform better in terms of total stops, and emissions. This is likely due to severe congestion under No Build conditions, which restricts the number of vehicles able to enter or be generated in the network. Since total stops, and emissions are not accounted for vehicles that are not generated, the overall values for these metrics appear artificially lower.

Among the Build Alternatives, Build Alternatives 3 and 4 show slightly greater overall improvements compared to No Build conditions, with higher served volumes and reduced delays.

I-580 Freeway Facility Analysis

Average travel speeds along the I-580 corridor for the Interim Year (2035) No Build and Build conditions were also extracted for evaluation. Eastbound AM and PM peak period speed profiles are shown in **Table 28**. Similarly, westbound peak period speed profiles are shown in **Table 29**.

AM Peak Period

In the eastbound direction, the Corral Hollow Road diverge segment (#11) and merge segment (#13) operate at LOS D or better with average travel speeds of 58 MPH and 62 MPH, respectively, similar to 2028 No Build conditions.

Along the I-580 corridor, average travel speeds remain similar to 2028 No Build conditions, with all segments operating at LOS D or better and average travel speeds reducing as low as 56 MPH.

Under 2035 Build conditions, all segments continue to operate at LOS D or better and average travel speeds remain similar in a range of 55 – 70 MPH.

In the westbound direction, the Corral Hollow Road diverge segment (#7) and merge segment (#9) operate at **LOS F** with average travel speeds in a range of 24 – 38 MPH and 29 – 44 MPH, respectively.

Along the I-580 corridor, all segments operate at **LOS F** in one or more hours of the AM peak period and average travel speeds drop as low as 8 MPH from 6 AM to 7 AM. Traffic flows are primarily controlled at the I-580/Corral Hollow Road interchange, with segments operating at **LOS F** and average travel speeds dropping as low as 15 MPH.

Compared to 2028 No Build conditions, average travel speeds between SR-132 and Corral Hollow Road in the westbound direction are similar or slightly higher under 2035 No Build conditions. This is primarily due to queueing at the SR-132 bottleneck worsening under 2035 No Build conditions. Demand/capacity at the SR-132 merge increases to a range of 1.3 – 1.8 and average travel speeds at the interchange drop to as low as 8 – 10 MPH. This bottleneck slows

down more vehicles east of the I-580/SR-132 interchange and allows slightly higher speeds west of the interchange.

Under 2035 Build conditions, similar westbound congestion patterns are observed as in 2035 No Build conditions. All segments continue to operate at **LOS F** for two or more hours in the AM peak period, with average travel speeds remaining as low as 8 MPH

PM Peak Period

In the eastbound direction, the Corral Hollow Road diverge segment (#11) operates at **LOS E** in two hours of the PM peak period with reduced average travel speeds in a range of 55 – 56 MPH compared to 56 MPH under 2028 No Build conditions. The merge segment (#13) operates at LOS D or better with slightly reduced average travel speeds in a range of 57 – 59 MPH compared to 59 – 60 MPH in 2028 No Build conditions.

Along the I-580 corridor, average travel speeds remain similar to 2028 No Build conditions, with average travel speeds reducing as low as 53 MPH. Some segments operate at **LOS E** or **F**.

Under 2035 Build conditions, average travel speeds reduce slightly and remain within the 50 – 70 MPH range. The diverge at the Corral Hollow Road off-ramp (#11) continues to operate at **LOS E** with a slightly reduced average travel speeds of 55 MPH. Upstream, between Patterson Pass Road and Corral Hollow Road, segments operate at **LOS E** and average travel speeds drop as low as 57 MPH, compared to average travel speeds as low as 58 MPH under 2035 No Build conditions.

In the westbound direction, the Corral Hollow Road diverge segment (#7) and merge segment (#9) operate at LOS D or better with average travel speeds of 58 MPH and 65 MPH, respectively, similar to 2028 No Build conditions.

Along the I-580 corridor, all segments operate at LOS D or better at average travel speeds in a range of 55 – 75 MPH under 2035 No Build conditions.

All segments continue to operate at LOS D or better with average travel speeds in a range of 55 – 75 MPH under 2035 Build conditions.

Table 28. Interim Year (2035) Mainline LOS Summary – Eastbound I-580

AM Peak Period			Interim Year 2035 No Build												Interim Year 2035 Build											
			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity		
Segment		Length (Mi)	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8
DIRECTION OF TRAVEL																										
1 Basic		1.00	71	71	71	A	A	A	2.9	4.5	5.2	0.1	0.1	0.2	71	71	71	A	A	A	2.9	4.5	5.3	0.1	0.1	0.2
2 Basic	Patterson Pass Rd	0.38	71	71	71	A	A	A	2.9	4.5	5.2	0.1	0.1	0.2	71	71	71	A	A	A	2.9	4.5	5.3	0.1	0.1	0.2
3 Merge		0.28	62	62	62	A	A	B	4.3	6.1	7.9	0.1	0.2	0.2	62	62	62	A	A	B	4.3	6.1	8.0	0.1	0.2	0.2
4 Basic		0.64	71	71	71	A	A	A	3.8	5.3	6.9	0.1	0.2	0.2	71	71	71	A	A	A	3.8	5.3	7.0	0.1	0.2	0.2
5 Basic		0.64	71	71	71	A	A	A	3.8	5.3	6.9	0.1	0.2	0.2	71	71	71	A	A	A	3.8	5.3	7.0	0.1	0.2	0.2
6 Basic		0.64	71	71	71	A	A	A	3.8	5.3	6.9	0.1	0.2	0.2	71	71	71	A	A	A	3.8	5.3	7.0	0.1	0.2	0.2
7 Basic		0.64	71	71	71	A	A	A	3.8	5.3	6.9	0.1	0.2	0.2	71	71	71	A	A	A	3.8	5.3	7.0	0.1	0.2	0.2
8 Basic		0.64	71	71	71	A	A	A	3.8	5.3	6.9	0.1	0.2	0.2	71	71	71	A	A	A	3.8	5.3	7.0	0.1	0.2	0.2
9 Basic		0.64	71	71	71	A	A	A	3.8	5.3	6.9	0.1	0.2	0.2	71	71	71	A	A	A	3.8	5.3	7.0	0.1	0.2	0.2
10 Basic		0.64	71	71	71	A	A	A	3.8	5.3	6.9	0.1	0.2	0.2	71	71	71	A	A	A	3.8	5.3	7.0	0.1	0.2	0.2
11 Diverge	Corral Hollow Rd	0.28	58	58	58	A	A	B	4.6	6.6	8.5	0.1	0.2	0.2	58	58	58	A	A	B	4.7	6.6	8.7	0.1	0.2	0.2
12 Basic		0.33	70	70	70	A	A	A	3.2	4.3	5.5	0.1	0.1	0.2	70	70	70	A	A	A	3.2	4.3	5.6	0.1	0.1	0.2
13 Merge		0.28	62	62	62	B	B	B	7.2	9.2	13.5	0.2	0.3	0.4	62	62	62	B	B	B	7.4	9.5	14.2	0.2	0.3	0.4
14 Basic		0.76	71	71	71	A	A	B	6.3	8.0	11.8	0.2	0.3	0.4	71	71	71	A	A	B	6.5	8.3	12.3	0.2	0.3	0.4
15 Basic		0.76	71	71	71	A	A	B	6.3	8.0	11.8	0.2	0.3	0.4	71	71	71	A	A	B	6.5	8.3	12.3	0.2	0.3	0.4
16 Basic		0.76	71	71	71	A	A	B	6.3	8.0	11.8	0.2	0.3	0.4	71	71	71	A	A	B	6.5	8.3	12.3	0.2	0.3	0.4
17 Diverge	SR 132	0.28	57	57	56	B	B	B	7.8	10.1	14.9	0.2	0.3	0.4	57	57	56	B	B	B	8.1	10.4	15.7	0.2	0.3	0.4
18 Basic		1.00	71	71	71	A	A	A	4.2	4.9	6.2	0.1	0.2	0.2	71	71	71	A	A	A	4.3	5.0	6.5	0.1	0.2	0.2

PM Peak Period			Interim Year 2035 No Build												Interim Year 2035 Build											
			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity		
Segment		Length (Mi)	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6
DIRECTION OF TRAVEL																										
1 Basic		1.00	68	67	70	C	C	B	22.2	22.8	17.9	0.7	0.7	0.6	67	66	70	C	C	C	23.5	24.3	19.2	0.7	0.7	0.6
2 Basic	Patterson Pass Rd	0.38	68	67	70	C	C	B	22.2	22.8	17.9	0.7	0.7	0.6	67	66	70	C	C	C	23.5	24.3	19.2	0.7	0.7	0.6
3 Merge		0.28	56	57	59	D	D	D	35.2	34.9	29.8	0.9	0.9	0.8	56	56	58	D	D	D	36.6	36.5	31.2	0.9	0.9	0.8
4 Basic		0.64	58	59	64	D	D	D	34.0	33.8	27.4	0.9	0.9	0.8	57	57	63	E	E	D	35.9	35.8	29.0	0.9	0.9	0.8
5 Basic		0.64	58	59	64	D	D	D	34.0	33.8	27.4	0.9	0.9	0.8	57	57	63	E	E	D	35.9	35.8	29.0	0.9	0.9	0.8
6 Basic		0.64	58	59	64	D	D	D	34.0	33.8	27.4	0.9	0.9	0.8	57	57	63	E	E	D	35.9	35.8	29.0	0.9	0.9	0.8
7 Basic		0.64	58	59	64	D	D	D	34.0	33.8	27.4	0.9	0.9	0.8	57	57	63	E	E	D	35.9	35.8	29.0	0.9	0.9	0.8
8 Basic		0.64	58	59	64	D	D	D	34.0	33.8	27.4	0.9	0.9	0.8	57	57	63	E	E	D	35.9	35.8	29.0	0.9	0.9	0.8
9 Basic		0.64	58	59	64	D	D	D	34.0	33.8	27.4	0.9	0.9	0.8	57	57	63	E	E	D	35.9	35.8	29.0	0.9	0.9	0.8
10 Basic		0.64	58	59	64	D	D	D	34.0	33.8	27.4	0.9	0.9	0.8	57	57	63	E	E	D	35.9	35.8	29.0	0.9	0.9	0.8
11 Diverge	Corral Hollow Rd	0.28	56	56	55	E	E	D	35.7	35.6	31.6	0.9	0.9	0.8	55	55	55	E	E	D	36.8	36.9	32.9	0.9	0.9	0.8
12 Basic		0.33	68	68	70	C	C	C	22.6	22.5	18.9	0.7	0.7	0.6	68	68	70	C	C	C	22.6	22.6	19.1	0.7	0.7	0.6
13 Merge		0.28	58	57	59	D	D	D	32.3	34.1	30.3	0.8	0.9	0.8	58	57	58	D	D	D	32.4	34.3	30.6	0.8	0.9	0.8
14 Basic		0.76	61	60	63	D	D	D	30.5	32.6	28.0	0.8	0.9	0.8	61	59	63	D	D	D	30.5	32.9	28.3	0.8	0.9	0.8
15 Basic		0.76	61	60	63	D	D	D	30.5	32.6	28.0	0.8	0.9	0.8	61	59	63	D	D	D	30.5	32.9	28.3	0.8	0.9	0.8
16 Basic		0.76	61	60	63	D	D	D	30.5	32.6	28.0	0.8	0.9	0.8	61	59	63	D	D	D	30.5	32.9	28.3	0.8	0.9	0.8
17 Diverge	SR 132	0.28	53	53	53	F	F	D	35.4	36.8	33.3	0.8	0.9	0.8	53	53	54	F	F	D	35.3	36.7	33.4	0.8	0.9	0.8
18 Basic		1.00	71	71	71	B	B	B	12.1	12.6	11.8	0.4	0.4	0.4	71	71	71	B	B	B	12.9	13.4	12.6	0.4	0.4	0.4

Note: Demand/Capacity highlighted red when exceeding 1.0

Traffic Speed (mph) 25 40 55

Table 29. Interim Year (2035) Mainline LOS Summary – Westbound I-580

AM Peak Period			Interim Year 2035 No Build												Interim Year 2035 Build											
			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity		
Segment		Length (Mi)	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8
DIRECTION OF TRAVEL																										
1 Basic	SR 132	0.67	50	8	10	F	F	F	22.3	85.7	80.6	0.7	0.8	0.8	50	8	10	F	F	F	22.3	88.6	80.6	0.7	0.8	0.9
2 Merge	SR 132	0.28	41	22	46	F	F	F	49.1	58.7	37.2	1.3	1.8	1.5	41	22	46	F	F	F	49.6	58.8	37.2	1.3	1.8	1.5
3 Basic		0.71	43	28	41	F	F	F	35.4	34.1	26.6	1.2	1.4	1.4	43	28	41	F	F	F	35.4	34.1	26.6	1.2	1.4	1.4
4 Basic		0.71	44	27	41	F	F	F	34.3	35.2	26.6	1.2	1.3	1.4	44	27	41	F	F	F	34.3	35.2	26.6	1.2	1.3	1.4
5 Basic		0.71	44	29	41	F	F	F	34.3	33.5	26.8	1.2	1.3	1.4	44	29	41	F	F	F	34.3	33.5	26.8	1.2	1.3	1.4
6 Basic		0.71	31	28	44	F	F	F	48.4	35.6	25.2	1.2	1.3	1.4	31	28	44	F	F	F	48.4	35.6	25.2	1.2	1.3	1.4
7 Diverge	Corral Hollow Rd	0.28	29	24	38	F	F	F	50.2	31.0	27.8	1.3	1.4	1.4	29	24	38	F	F	F	50.2	31.0	27.8	1.3	1.4	1.5
8 Basic	Corral Hollow Rd	0.33	15	23	33	F	F	F	72.3	38.8	28.4	1.2	1.3	1.3	15	23	33	F	F	F	72.3	38.9	28.4	1.2	1.3	1.3
9 Merge	Corral Hollow Rd	0.28	44	29	37	F	F	F	39.5	47.4	42.8	1.5	1.6	1.6	44	29	37	F	F	F	39.5	47.4	42.8	1.6	1.6	1.6
10 Basic		0.64	54	40	39	F	F	F	27.3	36.0	38.1	1.3	1.3	1.5	54	40	39	F	F	F	27.3	36.0	38.1	1.4	1.3	1.5
11 Basic		0.64	63	43	51	F	F	F	23.4	33.3	29.4	1.2	1.3	1.2	63	43	51	F	F	F	23.4	33.3	29.4	1.2	1.3	1.2
12 Basic		0.64	63	43	52	F	F	F	23.6	33.3	28.7	1.2	1.3	1.2	63	43	52	F	F	F	23.6	33.3	28.7	1.2	1.3	1.2
13 Basic		0.64	62	43	55	F	F	F	24.0	33.3	27.0	1.2	1.3	1.2	62	43	55	F	F	F	24.0	33.3	27.0	1.2	1.3	1.2
14 Basic		0.64	62	43	56	F	F	F	24.0	33.3	26.6	1.2	1.3	1.2	62	43	56	F	F	F	24.0	33.3	26.6	1.2	1.3	1.2
15 Basic		0.64	62	43	56	F	F	F	24.0	33.3	26.3	1.2	1.3	1.2	62	43	56	F	F	F	24.0	33.3	26.3	1.2	1.3	1.2
16 Basic		0.64	61	41	56	F	F	F	24.4	34.7	26.4	1.2	1.3	1.2	61	41	56	F	F	F	24.4	34.7	26.4	1.2	1.3	1.2
17 Diverge	Patterson Pass Rd	0.28	48	43	55	F	F	F	30.8	33.2	26.8	1.3	1.4	1.2	48	43	56	F	F	F	30.7	33.2	26.6	1.3	1.4	1.2
18 Basic	Patterson Pass Rd	0.36	51	43	57	C	F	C	19.0	26.4	20.5	1.0	1.1	0.9	51	43	57	F	F	C	20.5	27.5	21.4	1.0	1.1	1.0

PM Peak Period			Interim Year 2035 No Build												Interim Year 2035 Build											
			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity		
Segment		Length (Mi)	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6
DIRECTION OF TRAVEL																										
1 Basic	SR 132	0.67	73	73	72	A	A	A	10.2	10.6	9.5	0.3	0.3	0.3	73	73	72	A	A	A	10.6	11.0	9.9	0.3	0.4	0.3
2 Merge	SR 132	0.28	68	68	68	B	B	B	16.4	16.8	16.0	0.5	0.5	0.5	68	68	68	B	B	B	16.8	17.3	16.5	0.5	0.5	0.5
3 Basic		0.71	73	73	74	B	B	B	15.3	15.7	14.9	0.5	0.5	0.5	73	73	74	B	B	B	15.7	16.2	15.3	0.5	0.5	0.5
4 Basic		0.71	73	73	74	B	B	B	15.2	15.7	14.9	0.5	0.5	0.5	73	73	74	B	B	B	15.7	16.2	15.3	0.5	0.5	0.5
5 Basic		0.71	73	73	74	B	B	B	15.3	15.8	14.9	0.5	0.5	0.5	73	72	73	B	B	B	15.8	16.3	15.3	0.5	0.5	0.5
6 Basic		0.71	73	73	73	B	B	B	15.4	15.7	15.0	0.5	0.5	0.5	72	73	73	B	B	B	15.9	16.2	15.4	0.5	0.5	0.5
7 Diverge	Corral Hollow Rd	0.28	58	58	58	C	C	C	19.3	19.8	18.8	0.5	0.5	0.5	58	58	58	C	C	C	19.9	20.4	19.4	0.5	0.5	0.5
8 Basic	Corral Hollow Rd	0.33	72	72	72	A	A	A	8.7	9.0	9.0	0.3	0.3	0.3	72	72	72	A	A	A	8.8	9.1	9.0	0.3	0.3	0.3
9 Merge	Corral Hollow Rd	0.28	65	65	65	B	B	B	11.4	11.7	11.7	0.3	0.3	0.3	65	65	65	B	B	B	11.5	11.8	11.7	0.3	0.3	0.3
10 Basic		0.64	73	74	74	A	A	A	10.1	10.2	10.2	0.3	0.3	0.3	73	74	74	A	A	A	10.1	10.3	10.2	0.3	0.3	0.3
11 Basic		0.64	73	74	74	A	A	A	10.1	10.3	10.3	0.3	0.3	0.3	73	74	74	A	A	A	10.1	10.3	10.3	0.3	0.3	0.3
12 Basic		0.64	74	73	73	A	A	A	10.0	10.3	10.3	0.3	0.3	0.3	74	73	73	A	A	A	10.1	10.4	10.3	0.3	0.3	0.3
13 Basic		0.64	74	74	73	A	A	A	10.0	10.3	10.4	0.3	0.3	0.3	74	74	73	A	A	A	10.1	10.3	10.4	0.3	0.3	0.3
14 Basic		0.64	74	74	73	A	A	A	10.0	10.3	10.4	0.3	0.3	0.3	74	74	73	A	A	A	10.1	10.3	10.4	0.3	0.3	0.3
15 Basic		0.64	74	75	74	A	A	A	10.0	10.2	10.3	0.3	0.3	0.3	74	75	74	A	A	A	10.1	10.2	10.3	0.3	0.3	0.3
16 Basic		0.64	73	74	73	A	A	A	10.1	10.3	10.4	0.3	0.3	0.3	73	74	73	A	A	A	10.1	10.3	10.4	0.3	0.3	0.3
17 Diverge	Patterson Pass Rd	0.28	60	61	60	B	B	B	12.2	12.5	12.5	0.3	0.3	0.3	60	61	60	B	B	B	12.3	12.6	12.6	0.3	0.3	0.3
18 Basic	Patterson Pass Rd	0.36	73	73	73	A	A	A	8.9	9.4	9.2	0.3	0.3	0.3	73	73	73	A	A	A	9.0	9.5	9.2	0.3	0.3	0.3

Note: Demand/Capacity highlighted red when exceeding 1.0

Traffic Speed (mph) 25 40 55

DESIGN YEAR (2048) TRAFFIC OPERATIONS ANALYSIS

This section provides a summary of the traffic operations analysis under the Design Year (2048) No Build and Build conditions during the AM and PM peak periods. Roadway and intersection lane configuration for Design Year (2048) No Build and Build conditions remain unchanged from Interim Year (2035) No Build and Build conditions, respectively, except for the completion of the I-580/Lammers Road interchange west of the interchange.

Similar to Interim Year (2035) conditions, served volumes, intersection LOS, and average and 95th percentile queues were obtained from the SimTraffic operational analysis. Additionally, roundabout operational results were obtained from Sidra Intersection software and mainline average speeds and LOS were obtained from HCS operational analysis.

For SimTraffic operational analysis, similar parameters were used as for Interim Year (2035).

Intersection Performance

Intersection performance in terms of levels of service (LOS) and average vehicle delays for Design Year (2048) No Build and Build conditions were extracted and analyzed. The results of the LOS/delay analysis are summarized in **Table 30** and **Table 31** for the AM and PM peak hours, respectively. Detailed LOS/delay calculation worksheets are included in **Appendix H** and **Appendix I**.

No Build Conditions

As mentioned previously, No Build conditions assume several planned improvements from Existing conditions to Design Year (2048) conditions. These improvements include construction of the two-lane roundabout at Sierra View Drive and intersection improvements at Tracy Hills Drive.

Based on the results, three (3) study intersections would operate at an unacceptable **LOS E** or **F** in the AM peak hour and two (2) study intersections would operate unacceptably in the PM peak hour:

AM Peak Hour	***PM Peak Hour***
(#2) EB I-580 Ramps & Corral Hollow Rd [LOS F][1]	(#2) EB I-580 Ramps & Corral Hollow Rd [LOS F][1]
(#3) WB I-580 Ramps & Corral Hollow Rd [LOS F][1]	(#3) WB I-580 Ramps & Corral Hollow Rd [LOS F][1]
(#4) Tracy Hills Dr & Corral Hollow Rd [LOS F]	

[1] *Intersection operates at LOS E or F in No Build (2028) conditions*

From Interim Year (2035) to Design Year (2048) No Build conditions, demand on Corral Hollow Road decreases as traffic shifts to the new Lammers Road Interchange, resulting in slight improvements in delays at the study intersections.

Compared to 2035 No Build conditions, the same intersections would operate at an unacceptable LOS in the AM peak hour. During the PM peak hour, one less intersection, the Tracy Hills Drive intersection (#4), would operate at an unacceptable LOS.

Table 30. Design Year (2048) Intersection LOS Summary – AM Peak Hour

No.	Intersection	No Build (TDI)				Build Alt-1 (RAB)				Build Alt-2 (TDI)				Build Alt-3 (ParClo/TDI)				Build Alt-4 (DDI)			
		Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS
1	Sierra View Dr & Corral Hollow Rd	RAB	0.442	18.4	B	RAB	0.486	21.3	C	RAB	0.486	21.3	C	RAB	0.486	21.3	C	RAB	0.486	21.3	C
2	EB I-580 Ramps & Corral Hollow Rd	SSSC	-	>300	F	RAB	0.388	14.3	B	Signal	-	26.9	C	Signal	-	23.2	C	Signal	-	11.3	B
3	WB I-580 Ramps & Corral Hollow Rd	SSSC	-	>300	F	RAB	0.688	12.5	B	Signal	-	23.5	C	Signal	-	14.3	B	Signal	-	10.8	B
4	Tracy Hills Dr & Corral Hollow Rd	Signal	-	159.1	F	Signal	-	66.1	E	Signal	-	63.8	E	Signal	-	61.6	E	Signal	-	66.1	E
Total	A-D	1				3				3				3				3			
	E-F	3				1				1				1				1			

Results are based on an average of 12-multiple SimTraffic simulation runs for side-street stop control (SSSC) and signalized intersections. Results are based on Sidra Standard methodology in Sidra Intersection software for roundabout (RAB) intersections. Average delay is expressed in seconds per vehicle. Overall results for RAB and SSSC look at the worst movement and results for signals look at an average of all movements. Freeway congestion and on-ramp metering operations are not accounted for in the model.

Sierra View Dr & Corral Hollow Rd (#1) is analyzed separately in Sidra Intersection software, so results are consistent for all Build Alternatives. Build Alternative 1 is analyzed only in Sidra Intersection software, so Tracy Hills Dr & Corral Hollow Rd (#4) is not analyzed. There is no impact of queue spillback from the WB I-580 Ramps & Corral Hollow Rd (#3) so it is assumed Tracy Hills Dr & Corral Hollow Rd (#4) operates at the worst LOS of Build Alternatives 2 to 4. Key project intersections are highlighted in grey.

Table 31. Design Year (2048) Intersection LOS Summary – PM Peak Hour

No.	Intersection	No Build (TDI)				Build Alt-1 (RAB)				Build Alt-2 (TDI)				Build Alt-3 (ParClo/TDI)				Build Alt-4 (DDI)			
		Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS
1	Sierra View Dr & Corral Hollow Rd	RAB	0.422	10.8	B	RAB	0.437	10.8	B	RAB	0.437	10.8	B	RAB	0.437	10.8	B	RAB	0.437	10.8	B
2	EB I-580 Ramps & Corral Hollow Rd	SSSC	-	>300	F	RAB	0.56	12.9	B	Signal	-	22.3	C	Signal	-	19.3	B	Signal	-	10.2	B
3	WB I-580 Ramps & Corral Hollow Rd	SSSC	-	>300	F	RAB	0.299	13.8	B	Signal	-	15.2	B	Signal	-	12.3	B	Signal	-	11.5	B
4	Tracy Hills Dr & Corral Hollow Rd	Signal	-	48.2	D	Signal	-	52.9	D	Signal	-	52.9	D	Signal	-	51.4	D	Signal	-	44.0	D
Total	A-D	2				4				4				4				4			
	E-F	2				0				0				0				0			

Results are based on an average of 12-multiple SimTraffic simulation runs for side-street stop control (SSSC) and signalized intersections. Results are based on Sidra Standard methodology in Sidra Intersection software for roundabout (RAB) intersections. Average delay is expressed in seconds per vehicle. Overall results for RAB and SSSC look at the worst movement and results for signals look at an average of all movements. Freeway congestion and on-ramp metering operations are not accounted for in the model.

Sierra View Dr & Corral Hollow Rd (#1) is analyzed separately in Sidra Intersection software, so results are consistent for all Build Alternatives. Build Alternative 1 is analyzed only in Sidra Intersection software, so Tracy Hills Dr & Corral Hollow Rd (#4) is not analyzed. There is no impact of queue spillback from the WB I-580 Ramps & Corral Hollow Rd (#3) so it is assumed Tracy Hills Dr & Corral Hollow Rd (#4) operates at the worst LOS of Build Alternatives 2 to 4. Key project intersections are highlighted in grey.

Build Conditions

With the proposed improvements implemented, the 2048 Build Alternatives would show similar or slightly improved delay along the study corridor. **Table 32** shows a LOS comparison between 2048 No Build conditions and 2048 Build conditions.

Table 32. Design Year (2048) No Build vs. Build LOS Comparison

No.	Intersection	AM Peak Hour					PM Peak Hour				
		No Build	Build Alternative				No Build	Build Alternative			
			1	2	3	4		1	2	3	4
1	Sierra View Dr & Corral Hollow Rd	B	C	C	C	C	B	B	B	B	B
2	EB I-580 Ramps & Corral Hollow Rd	F	B	C	C	B	F	B	C	B	B
3	WB I-580 Ramps & Corral Hollow Rd	F	B	C	B	B	F	B	B	B	B
4	Tracy Hills Dr & Corral Hollow Rd	F	E*	E	E	E	D	D*	D	D	D
Total	A-D	1	3	3	3	3	2	4	4	4	4
	E-F	3	1	1	1	1	2	0	0	0	0

Note: No Build = TDI, Alt 1 = RAB, Alt 2 = TDI, Alt 3 = ParClo/TDI, Alt 4 = DDI
**Build Alternative 1 is analyzed in Sidra intersection software only, so the Tracy Hills Dr intersection (#4) is not analyzed. There is no impact of queue spillback from the WB I-580 ramp terminus intersection (#3), so it is assumed the Tracy Hills Dr intersection (#4) operates at the worst LOS of Build Alternatives 2 to 4. Key project intersections are highlighted in grey.*

In the AM peak hour, the EB I-580 ramp terminus intersection (#2) and the WB I-580 ramp terminus intersection (#3) would no longer operate at an unacceptable LOS under all Build Alternatives. The Tracy Hills Drive intersection (#4) would continue to operate unacceptably under all Build Alternatives, with slightly improved delay compared to No Build conditions.

In the PM peak hour, the EB I-580 ramp terminus intersection (#2) and the WB I-580 ramp terminus intersection (#3) would no longer operate at an unacceptable LOS under all Build Alternatives.

Slightly improved delays are observed in the AM and PM peak hours under all Build Alternatives. Build Alternative 4 shows the most improved operations overall compared to No Build conditions.

Intersection Queue Analysis

Design Year (2048) average and 95th percentile queue lengths were also analyzed at the study intersections. AM peak hour average and 95th percentile queues at the study intersections are shown in **Table 33** and PM peak hour average and 95th percentile queues are shown in **Table 34**.

AM Peak Hour

Average and 95th percentile queues in the AM peak hour generally decrease from 2048 No Build conditions to the 2048 Build Alternatives.

Focusing on the I-580 ramp termini intersections, eastbound queues at the EB I-580 ramp terminus intersection (#2) and westbound queues at the WB I-580 ramp terminus intersection (#3) no longer spill onto the I-580 mainline under all Build Alternatives compared to No Build conditions. Under Build Alternative 2, southbound queues at the EB I-580 ramp terminus intersection (#2) would spill into the WB I-580 ramp terminus intersection (#3). Northbound left queues at the WB I-580 ramp terminus intersection (#3) would also spill into the through lane. Under Build Alternative 3, southbound right queues at the WB I-580 ramp terminus intersection (#3) would spill into the through lane.

At the Tracy Hills Drive intersection (#4), southbound, eastbound, and westbound queues exceed storage capacity under No Build conditions and continue to show similar patterns under all Build Alternatives.

PM Peak Hour

Average and 95th percentile queues in the PM peak hour generally decrease from 2048 No Build conditions to 2048 Build conditions.

Similar to AM peak hour conditions, eastbound queues spilling from the EB I-580 ramp terminus intersection (#2) and westbound queues spilling from the WB I-580 ramp terminus intersection (#3) no longer extend onto the I-580 mainline under all Build Alternatives.

At the Tracy Hills Drive intersection (#4), westbound queues exceed storage capacity under No Build conditions and continue to show similar patterns under all the Build Alternatives. Eastbound queues also exceed storage capacity under No Build conditions and continue to show similar patterns under all Build Alternatives except Build Alternative 4.

Queueing Summary

As summarized above, during both the AM and PM peak hours, Build Alternative 4 demonstrates the most notable reduction in queuing at the ramp intersections relative to the 2048 No Build conditions when compared to Build Alternatives 2 and 3. The improved performance under Build Alternative 4 can be attributed to its design features, which reduce the number of conflict points and simplify traffic signal phasing. These enhancements contribute to more efficient vehicle progression and reduced congestion at critical intersections.

Build Alternative 1 also shows significantly reduced queuing in the analysis; however, this outcome is primarily due to the different analytical methodology used. While Build Alternatives 2, 3, and 4 were evaluated using SimTraffic microsimulation, Build Alternative 1 was analyzed using the Sidra Intersection software. Sidra generally incorporates more idealized assumptions regarding driver behavior, such as higher levels of yielding, smoother gap acceptance, and reduced variability in traffic flow. These assumptions often result in lower estimates of stop delays and queuing. Additionally, Sidra does not account for queuing impacts from downstream intersections or ramp metering influences, which can be significant in congested corridors or closely spaced intersections.

Table 33. Design Year (2048) Intersection Queue Length Summary – AM Peak Hour

No.	Intersection	No Build (TDI)				Build Alt-1 (RAB)				Build Alt-2 (TDI)				Build Alt-3 (ParClo/TDI)				Build Alt-4 (DDI)			
		Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue
1	Sierra View Dr & Corral Hollow Rd	South Leg	>5000	-	8	South Leg	>5000	-	8	South Leg	>5000	-	8	South Leg	>5000	-	8	South Leg	>5000	-	8
		North Leg	1800	-	95	North Leg	1800	-	114	North Leg	1800	-	114	North Leg	1800	-	114	North Leg	1800	-	114
		West Leg	750	-	95	West Leg	750	-	111	West Leg	750	-	111	West Leg	750	-	111	West Leg	750	-	111
2	EB I-580 Ramps & Corral Hollow Rd	NBTR	1840	655	1789	NBT NBR	1800	- -	43	NBT NBR	1800 590	139 82	197 141	NBT NBR	1800 590	133 66	212 111	NBT NBR	1800 590	83 0	131 0
		SBLT	550	227	420	SBL SBT	540	- -	0	SBL SBT	180 420	207 299	265 500	SBL SBT	550 850	260 112	429 286	SBL SBT	550 540	125 205	412 448
		EBL EBR	900 125	3055 2	5395 33	EBL EBR	850	- -	11	EBL EBR	850 600	52 19	94 49	EBL EBR	850 600	70 19	122 48	EBL EBR	850 600	49 18	56 51
3	WB I-580 Ramps & Corral Hollow Rd	NBLT	540	292	420	NBL NBT	510	- -	0	NBL NBT	180 420	100 78	178 116	NBT NBR	850 250	98 50	176 98	NBL NBT	540 510	6 91	38 123
		SBTR	1400	279	1330	SBT SBR	1400	- -	169	SBT SBR	1400 430	249 242	407 395	SBT SBR	900 300	144 165	267 327	SBT SBR	1400 430	235 7	380 81
		WBL WBR	920 460	4699 5	6931 54	WBL WBR	920	- -	16	WBL WBR	920 600	107 46	178 84	WBL WBR	920 600	86 29	143 58	WBL WBR	920 600	68 44	74 75
4	Tracy Hills Dr & Corral Hollow Rd	NBL	440	46	135	*Not Analyzed in this Alternative*				NBL	440	78	123	NBL	440	73	131	NBL	440	85	142
		NBT	1400	69	198					NBT	1400	135	206	NBT	900	129	214	NBT	1400	134	217
		NBR	380	5	22					NBR	380	24	56	NBR	380	9	30	NBR	380	13	37
		SBL	560	293	7121					SBL	560	363	3785	SBL	560	359	2390	SBL	560	303	492
		SBT	>5000	594	7121					SBT	>5000	529	3785	SBT	>5000	480	2390	SBT	>5000	358	596
		SBR	430	122	7121					SBR	430	232	3785	SBR	430	211	2390	SBR	430	87	346
		EBL	250	230	1829					EBL	250	279	359	EBL	250	270	737	EBL	250	581	1357
		EBT	890	511	1829					EBT	890	241	691	EBT	890	261	737	EBT	890	581	1357
		EBR	890	492	1829					EBR	890	168	292	EBR	890	169	294	EBR	890	348	752
		WBL	200	660	1455					WBL	200	189	275	WBL	200	185	493	WBL	200	196	473
		WBT	250	660	1455					WBT	250	57	255	WBT	250	115	493	WBT	250	127	473
		WBR	200	24	84					WBR	200	42	122	WBR	200	33	79	WBR	200	39	107

Results are based on an average of 12-multiple SimTraffic simulation runs for side-street stop control (SSSC) and signalized intersections. Results are based on Sidra Standard methodology in Sidra Intersection software for roundabout (RAB) intersections. Freeway congestion and on-ramp metering operations are not accounted for in the model. ***Bold*** *indicates queue lengths that exceed its storage capacity.*
EBT/WBT movements at the off-ramp approach were excluded as these movements were considered as the irregular movements.
Sierra View Dr & Corral Hollow Rd (#1) is analyzed separately in Sidra Intersection software, so results are consistent for all Build Alternatives. Build Alternative 1 is analyzed only in Sidra Intersection software, so Tracy Hills Dr & Corral Hollow Rd (#4) is not analyzed. Sidra Intersection software does not report Average Queues. Key project intersections are highlighted in grey.

Table 34. Design Year (2048) Intersection Queue Length Summary – PM Peak Hour

No.	Intersection	No Build (TDI)				Build Alt-1 (RAB)				Build Alt-2 (TDI)				Build Alt-3 (ParClo/TDI)				Build Alt-4 (DDI)			
		Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue
1	Sierra View Dr & Corral Hollow Rd	South Leg	>5000	-	75	South Leg	>5000	-	80	South Leg	>5000	-	80	South Leg	>5000	-	80	South Leg	>5000	-	80
		North Leg	1800	-	15	North Leg	1800	-	15	North Leg	1800	-	15	North Leg	1800	-	15	North Leg	1800	-	15
		West Leg	750	-	1	West Leg	750	-	1	West Leg	750	-	1	West Leg	750	-	1	West Leg	750	-	1
2	EB I-580 Ramps & Corral Hollow Rd	NBTR	1840	3	17	NBT NBR	1800	- -	102	NBT NBR	1800 590	112 263	364 510	NBT NBR	1800 590	99 243	295 461	NBT NBR	1800 590	59 0	75 0
		SBLT	550	420	420	SBL SBT	540	- -	0	SBL SBT	180 420	119 102	204 206	SBL SBT	550 850	82 69	168 131	SBL SBT	550 540	2 82	16 96
		EBL EBR	900 125	8620 2	13502 29	EBL EBR	850	- -	35	EBL EBR	850 600	139 29	197 49	EBL EBR	850 600	138 28	203 60	EBL EBR	850 600	73 31	119 127
3	WB I-580 Ramps & Corral Hollow Rd	NBLT	540	4	31	NBL NBT	510	- -	0	NBL NBT	180 420	17 160	47 223	NBT NBR	850 250	116 7	191 29	NBL NBT	540 510	21 106	73 158
		SBTR	1400	488	1330	SBT SBR	1400	- -	22	SBT SBR	1400 430	101 25	210 55	SBT SBR	900 300	65 27	135 65	SBT SBR	1400 430	75 0	127 0
		WBL WBR	920 460	5025 53	7175 185	WBL WBR	920	- -	34	WBL WBR	920 600	77 104	122 190	WBL WBR	920 600	63 108	110 202	WBL WBR	920 600	6 86	6 139
4	Tracy Hills Dr & Corral Hollow Rd	NBL	440	46	91	*Not Analyzed in this Alternative*				NBL	440	139	270	NBL	440	151	311	NBL	440	137	304
		NBT	1400	77	152					NBT	1400	271	393	NBT	900	309	463	NBT	1400	299	485
		NBR	380	15	39					NBR	380	55	187	NBR	380	50	193	NBR	380	70	250
		SBL	560	220	421					SBL	560	225	342	SBL	560	252	405	SBL	560	197	309
		SBT	>5000	174	439					SBT	>5000	101	164	SBT	>5000	109	207	SBT	>5000	115	198
		SBR	430	59	150					SBR	430	92	160	SBR	430	104	219	SBR	430	104	190
		EBL	250	233	482					EBL	250	287	1014	EBL	250	270	728	EBL	250	258	551
		EBT	890	145	482					EBT	890	439	1014	EBT	890	280	728	EBT	890	197	551
		EBR	890	40	130					EBR	890	20	49	EBR	890	26	73	EBR	890	15	42
		WBL	200	97	576					WBL	200	69	126	WBL	200	71	134	WBL	200	105	197
		WBT	250	114	576					WBT	250	62	263	WBT	250	83	311	WBT	250	97	362
		WBR	200	145	576					WBR	200	221	207	WBR	200	202	311	WBR	200	199	362

Results are based on an average of 12-multiple SimTraffic simulation runs for side-street stop control (SSSC) and signalized intersections. Results are based on Sidra Standard methodology in Sidra Intersection software for roundabout (RAB) intersections. Freeway congestion and on-ramp metering operations are not accounted for in the model. ***Bold*** *indicates queue lengths that exceed its storage capacity.*
EBT/WBT movements at the off-ramp approach were excluded as these movements were considered as the irregular movements.
Sierra View Dr & Corral Hollow Rd (#1) is analyzed separately in Sidra Intersection software, so results are consistent for all Build Alternatives. Build Alternative 1 is analyzed only in Sidra Intersection software, so Tracy Hills Dr & Corral Hollow Rd (#4) is not analyzed. Sidra Intersection software does not report Average Queues. Key project intersections are highlighted in grey.

Intersection Network Performance

The intersection network wide performance Measures of Effectiveness (MOE's) for Design Year (2048) No Build and Build conditions are shown in **Table 35** and **Table 36** for the AM and PM peak hours, respectively.

Table 35. Design Year (2048) Network Vehicle Performance – AM Peak Hour

Measure of Effectiveness (MOE)	No Build	Build Alternative			
		1	2	3	4
Vehicles Served (veh)	2,475	*Network MOEs not available from Sidra Software*	4,538	4,390	4,603
Average Travel Speed (mph)	5		20	20	24
Total Vehicle Hours of Delay (VHD) (veh-hr)	836		185	167	133
Vehicle Hours Traveled (VHT) (veh-hr)	1,469		403	456	343
Vehicle Miles Traveled (VMT) (veh-mi)*	4,906		7,789	7,400	8,204
Total Stops (stops)	6,088		10,182	8,936	6,851
Total Fuel Consumption (gallons)	449		299	299	297
HC Emissions (grams)	4,830		6,017	5,780	5,522
CO Emissions (grams)	112,323		170,614	163,201	169,553
NOx Emissions (grams)	10,707		18,596	17,595	18,373
Number of Top MOEs		*N/A*	0	2	8

Note: No Build = TDI, Alt 1 = RAB, Alt 2 = TDI, Alt 3 = ParClo/TDI, Alt 4 = DDI
Results are based on the average of 12 SimTraffic simulation runs. Build Alternative 1 was analyzed only in Sidra Intersection software, so no MOEs were recorded. Highlighted cells show the best results out of the Build Alternatives for that MOE. Build Alternative 4 SimTraffic network has longer segment lengths, so VMT and VHT may be higher relative to other Build Alternatives.
**This operational VMT demonstrates efficient traffic movement and roadway utilization, rather than indicating induced demand associated with SB 743 requirements.*

Table 36. Design Year (2048) Network Vehicle Performance – PM Peak Hour

Measure of Effectiveness (MOE)	No Build	Build Alternative			
		1	2	3	4
Vehicles Served (veh)	3,370	*Network MOEs not available from Sidra Software*	4,959	4,975	4,985
Average Travel Speed (mph)	7		25	25	27
Total Vehicle Hours of Delay (VHD) (veh-hr)	703		107	105	99
Vehicle Hours Traveled (VHT) (veh-hr)	1,049		313	313	306
Vehicle Miles Traveled (VMT) (veh-mi)*	5,948		7,726	7,804	8,036
Total Stops (stops)	3,807		7,075	6,781	5,744
Total Fuel Consumption (gallons)	377		273	275	284
HC Emissions (grams)	5,039		6,226	5,965	5,782
CO Emissions (grams)	123,287		176,781	170,562	176,666
NOx Emissions (grams)	12,540		19,325	18,773	18,930
Number of Top MOEs		*N/A*	1	2	7

Note: No Build = TDI, Alt 1 = RAB, Alt 2 = TDI, Alt 3 = ParClo/TDI, Alt 4 = DDI
Results are based on the average of 12 SimTraffic simulation runs. Build Alternative 1 was analyzed only in Sidra Intersection software, so no MOEs were recorded. Highlighted cells show the best results out of the Build Alternatives for that MOE. Build Alternative 4 SimTraffic network has longer segment lengths, so VMT and VHT may be higher relative to other Build Alternatives.
**This operational VMT demonstrates efficient traffic movement and roadway utilization, rather than indicating induced demand associated with SB 743 requirements.*

Table 35 and **Table 36** indicate that in the AM and PM peak hours, the Build Alternatives would outperform 2048 No Build conditions based on vehicle hours of delay (VHD), vehicle hours traveled (VHT), average travel speed, vehicles served, vehicle miles traveled (VMT), and total fuel consumption. 2048 No Build conditions perform better in terms of total stops, and emissions. This is likely due to severe congestion under No Build conditions, which restricts the number of vehicles able to enter or be generated in the network. Since total stops, and emissions are not accounted for vehicles that are not generated, the overall values for these metrics appear artificially lower.

Among the Build Alternatives, Build Alternative 4 shows slightly greater overall improvements compared to No Build conditions, with higher served volumes and reduced delays.

I-580 Freeway Facility Analysis

Average travel speeds along the I-580 corridor for the Design Year (2048) No Build and Build conditions were also extracted for evaluation. Eastbound AM and PM peak period speed profiles are shown in **Table 37**. Similarly, westbound peak period speed profiles are shown in **Table 38**. Under Design Year (2048) conditions, the I-580/Lammers Road interchange is assumed to be constructed.

AM Peak Period

In the eastbound direction, the Corral Hollow Road diverge segment (#11) and merge segment (#13) operate at LOS D or better with slightly reduced average travel speeds of 57 – 58 MPH and 61 – 62 MPH, respectively, compared to 2035 No Build conditions.

At the new I-580/Lammers Road interchange, the diverge segment (#7) and merge segment (#9) operate at LOS D or better with average travel speeds of 59 MPH and 62 MPH, respectively.

Along the I-580 corridor, all segments operate at LOS D or better and average travel speeds reduce as low as 55 MPH.

Under 2048 Build conditions, average travel speed and LOS remain very similar to 2048 No Build conditions.

In the westbound direction, the Corral Hollow Road diverge segment (#7) and merge segment (#9) operate at **LOS F** with similar or slightly reduced average travel speeds in the ranges of 24 – 37 MPH and 29 – 44 MPH, respectively, compared to 2035 No Build conditions.

At the I-580/Lammers Road interchange, the diverge segment (#11) and merge segment (#13) operate at **LOS F** with average travel speeds in the ranges of 18 – 57 MPH and 42 – 56 MPH, respectively.

Along the I-580 corridor, congestion generally worsens from 2035 No Build conditions to 2048 No Build conditions with all segments operating at **LOS F** and average travel speeds dropping as low as 7 MPH.

The major bottleneck develops at the I-580/Lammers Road interchange merge segment (#13), where average travel speeds drop to as low as 12 MPH in the peak hour. The bottleneck is primarily caused by increased demand exceeding capacity at the merge segment. Queueing from this bottleneck extends upstream and merges with the queue formed at the I-580/Corral Hollow Road interchange. Similarly, the queue from the I-580/Corral Hollow Road interchange continues to extend upstream to merge with the queue formed at I-580/SR-132 interchange. At the SR-132 interchange, average travel speeds are reduced to a range of 7 – 13 MPH.

Under 2048 Build conditions, similar congestion patterns are observed with all segments operating at **LOS F** and average travel speeds as low as 7 MPH. The bottleneck at the I-580/Lammers Road interchange starts earlier at 5 – 6 AM, with average travel speeds reduced to as low as 19 MPH.

PM Peak Period

In the eastbound direction, the Corral Hollow Road diverge segment (#11) and merge segment (#13) operate at LOS D or better with average travel speeds of 56 MPH and 56 – 58 MPH, respectively, similar to 2035 No Build conditions.

At the I-580/Lammers Road interchange, the diverge segment (#7) operates at **LOS E** and **F** with average travel speeds in the range of 56 – 57 MPH. The merge segment (#9) operates at LOS D or better with average travel speeds in the range of 58 – 59 MPH.

Along the I-580 corridor, average travel speeds are reduced from 2035 No Build conditions to 2048 No Build conditions, with some segments operating at **LOS E** or **F** and average travel speeds dropping as low as 18 MPH.

At the I-580/Patterson Pass Road interchange, a bottleneck forms at the merge segment (#3) with upstream average travel speeds reduced to as low as 18 MPH. This is primarily due to demand exceeding capacity at the merge segment.

Under 2048 Build conditions, similar or slightly worse congestion patterns are observed. Queues at the bottleneck at the I-580/Patterson Pass Road interchange worsen with the maximum average travel speed before the interchange reducing from 65 MPH to 34 MPH.

In the westbound direction, the Corral Hollow Road diverge segment (#7) and merge segment (#9) operate at LOS D or better with slightly reduced average travel speeds of 58 – 59 MPH and 63 MPH, respectively, compared to 2035 No Build conditions.

At the I-580/Lammers Road interchange, the diverge segment (#11) and merge segment (#13) operate at LOS D or better with average travel speeds of 58 MPH and 63 MPH, respectively.

Along the I-580 corridor, similar to 2035 No Build conditions, all segments operate at LOS D or better with similar average travel speeds.

Under 2048 Build conditions, average travel speeds and LOS remain similar to 2048 No Build conditions.

Table 37. Design Year (2048) Mainline LOS Summary – Eastbound I-580

AM Peak Period				Design Year 2048 No Build												Design Year 2048 Build											
				Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity		
	Segment		Length (Mi)	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8
<---------- DIRECTION OF TRAVEL ----------	1 Basic		1.00	71	71	71	A	A	A	3.3	5.1	5.8	0.1	0.2	0.2	71	71	71	A	A	A	3.5	5.4	6.3	0.1	0.2	0.2
	2 Basic	Patterson Pass Rd	0.38	71	71	71	A	A	A	3.3	5.1	5.8	0.1	0.2	0.2	71	71	71	A	A	A	3.5	5.4	6.3	0.1	0.2	0.2
	3 Merge		0.28	62	62	62	A	B	B	5.1	7.1	9.2	0.1	0.2	0.3	62	62	62	A	B	B	5.4	7.5	9.9	0.2	0.2	0.3
	4 Basic		0.98	71	71	71	A	A	A	4.5	6.2	8.1	0.1	0.2	0.3	71	71	71	A	A	A	4.7	6.6	8.7	0.2	0.2	0.3
	5 Basic		0.98	71	71	71	A	A	A	4.5	6.2	8.1	0.1	0.2	0.3	71	71	71	A	A	A	4.7	6.6	8.7	0.2	0.2	0.3
	6 Basic		0.98	71	71	71	A	A	A	4.5	6.2	8.1	0.1	0.2	0.3	71	71	71	A	A	A	4.7	6.6	8.7	0.2	0.2	0.3
	7 Diverge	Lammers Rd	0.28	59	59	59	A	B	B	5.4	7.5	9.8	0.1	0.2	0.3	59	59	59	A	B	B	5.7	8.0	10.5	0.2	0.2	0.3
	8 Basic		0.33	70	70	70	A	A	A	4.4	6.0	7.9	0.1	0.2	0.3	70	70	70	A	A	A	4.6	6.4	8.4	0.2	0.2	0.3
	9 Merge		0.28	62	62	62	B	B	B	7.9	10.4	15.0	0.2	0.3	0.4	62	62	62	B	B	B	8.2	10.9	15.7	0.2	0.3	0.4
	10 Basic		0.64	71	71	71	A	A	B	6.9	9.1	13.0	0.2	0.3	0.4	71	71	71	A	A	B	7.1	9.5	13.6	0.2	0.3	0.4
	11 Diverge	Corral Hollow Rd	0.28	58	58	57	B	B	B	8.5	11.3	16.1	0.2	0.3	0.4	58	58	57	B	B	B	8.8	11.7	16.8	0.2	0.3	0.4
	12 Basic		0.33	70	70	70	A	A	B	6.2	7.8	11.4	0.2	0.3	0.4	70	70	70	A	A	B	6.5	8.2	11.9	0.2	0.3	0.4
	13 Merge		0.28	62	62	61	B	B	C	10.2	12.8	19.6	0.3	0.4	0.5	62	62	61	B	B	C	10.5	13.2	20.3	0.3	0.4	0.6
	14 Basic		0.76	71	71	71	A	B	B	8.9	11.1	17.0	0.3	0.4	0.5	71	71	71	A	B	B	9.1	11.5	17.6	0.3	0.4	0.6
	15 Basic		0.76	71	71	71	A	B	B	8.9	11.1	17.0	0.3	0.4	0.5	71	71	71	A	B	B	9.1	11.5	17.6	0.3	0.4	0.6
	16 Basic		0.76	71	71	71	A	B	B	8.9	11.1	17.0	0.3	0.4	0.5	71	71	71	A	B	B	9.1	11.5	17.6	0.3	0.4	0.6
	17 Diverge	SR 132	0.28	57	56	55	B	B	C	11.2	14.1	21.9	0.3	0.4	0.5	57	56	55	B	B	C	11.5	14.6	22.6	0.3	0.4	0.6
	18 Basic		1.00	71	71	71	A	A	A	5.7	6.3	8.4	0.2	0.2	0.3	71	71	71	A	A	A	5.7	6.4	8.4	0.2	0.2	0.3

PM Peak Period				Design Year 2048 No Build												Design Year 2048 Build											
				Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity		
	Segment		Length (Mi)	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6
<---------- DIRECTION OF TRAVEL ----------	1 Basic		1.00	65	18	18	F	F	F	25.5	88.9	88.1	0.8	0.8	0.7	34	19	18	F	F	F	49.3	86.7	87.8	0.8	0.9	0.7
	2 Basic	Patterson Pass Rd	0.38	21	18	18	F	F	F	76.0	88.8	88.6	0.8	0.8	0.7	20	19	18	F	F	F	80.3	86.2	88.5	0.8	0.9	0.7
	3 Merge		0.28	54	55	54	F	F	E	39.3	37.8	39.6	1.0	1.0	0.9	55	55	55	F	F	E	38.3	38.1	38.7	1.1	1.1	0.9
	4 Basic		0.98	55	55	55	F	F	E	38.2	38.0	38.0	1.0	1.0	0.9	55	55	55	F	F	E	38.2	38.0	38.0	1.1	1.1	0.9
	5 Basic		0.98	55	55	55	F	F	E	38.2	38.0	38.0	1.0	1.0	0.9	55	55	55	F	F	E	38.2	38.0	38.0	1.1	1.1	0.9
	6 Basic		0.98	55	55	55	F	F	E	38.2	38.0	38.0	1.0	1.0	0.9	55	55	55	F	F	E	38.2	38.0	38.0	1.1	1.1	0.9
	7 Diverge	Lammers Rd	0.28	57	57	56	F	F	E	37.1	37.1	37.2	1.0	1.0	0.9	57	56	56	F	F	E	37.1	37.2	37.3	1.1	1.1	0.9
	8 Basic		0.33	65	64	65	D	D	D	26.2	27.1	26.6	0.9	0.9	0.7	65	64	65	C	D	D	25.7	26.9	26.3	0.9	0.9	0.7
	9 Merge		0.28	59	58	59	D	D	D	29.5	30.6	30.2	0.9	0.9	0.7	59	58	59	D	D	D	29.2	30.5	30.1	0.9	0.9	0.8
	10 Basic		0.64	64	63	63	D	D	D	27.1	28.3	27.9	0.9	0.9	0.7	64	63	63	D	D	D	26.8	28.3	27.9	0.9	0.9	0.8
	11 Diverge	Corral Hollow Rd	0.28	56	56	56	D	D	D	30.8	31.7	31.4	0.9	0.9	0.7	56	56	56	D	D	D	30.6	31.8	31.5	0.9	0.9	0.8
	12 Basic		0.33	69	68	68	C	C	C	20.8	22.3	21.6	0.8	0.7	0.6	69	68	69	C	C	C	19.9	21.7	21.1	0.8	0.7	0.6
	13 Merge		0.28	58	56	56	D	D	D	31.4	35.5	35.6	0.9	0.9	0.8	58	56	56	D	D	D	30.9	35.6	35.8	0.9	1.0	0.8
	14 Basic		0.76	62	58	58	D	D	D	29.3	34.4	34.5	0.9	0.9	0.8	63	58	58	D	D	D	28.7	34.7	34.9	0.9	1.0	0.8
	15 Basic		0.76	62	58	58	D	D	D	29.3	34.4	34.5	0.9	0.9	0.8	63	58	58	D	D	D	28.7	34.7	34.9	0.9	1.0	0.8
	16 Basic		0.76	62	58	58	D	D	D	29.3	34.4	34.5	0.9	0.9	0.8	63	58	58	D	D	D	28.7	34.7	34.9	0.9	1.0	0.8
	17 Diverge	SR 132	0.28	52	52	53	F	F	F	35.1	38.4	38.0	0.9	0.9	0.8	53	53	53	F	F	E	34.2	38.1	37.8	0.9	1.0	0.8
	18 Basic		1.00	71	71	71	A	B	B	9.7	12.7	13.0	0.4	0.4	0.4	71	71	71	A	B	B	10.8	14.3	14.7	0.5	0.5	0.4

Note: Demand/Capacity highlighted red when exceeding 1.0

Traffic Speed (mph) 25 40 55

Table 38. Design Year (2048) Mainline LOS Summary – Westbound I-580

AM Peak Period				Design Year 2048 No Build												Design Year 2048 Build											
				Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity		
	Segment		Length (Mi)	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8
<---------- DIRECTION OF TRAVEL ----------	1 Basic	SR 132	0.67	13	7	10	F	F	F	86.1	105.7	81.1	1.0	1.1	1.2	13	7	10	F	F	F	86.7	105.6	80.6	1.0	1.1	1.2
	2 Merge		0.28	41	22	45	F	F	F	51.1	61.6	40.2	1.6	2.3	2.0	41	22	45	F	F	F	51.4	62.2	40.6	1.6	2.3	2.0
	3 Basic		0.71	43	28	44	F	F	F	35.4	34.1	23.9	1.5	1.8	1.9	43	28	44	F	F	F	35.4	34.1	24.1	1.5	1.8	1.9
	4 Basic		0.71	44	27	44	F	F	F	34.3	35.2	23.9	1.5	1.6	1.9	44	27	21	F	F	F	34.3	35.2	49.3	1.5	1.7	1.9
	5 Basic		0.71	44	29	44	F	F	F	34.3	33.5	24.1	1.5	1.6	1.9	44	29	45	F	F	F	34.3	33.5	23.5	1.5	1.7	1.9
	6 Basic		0.71	29	28	18	F	F	F	50.4	36.6	57.3	1.5	1.6	1.8	30	28	19	F	F	F	48.6	35.7	54.5	1.5	1.7	1.8
	7 Diverge	Corral Hollow Rd	0.28	26	24	37	F	F	F	54.7	32.0	25.8	1.6	1.8	1.9	29	24	17	F	F	F	50.9	31.1	61.0	1.7	1.8	1.9
	8 Basic		0.33	15	23	15	F	F	F	75.1	41.7	59.5	1.6	1.7	1.8	15	23	13	F	F	F	72.4	40.4	68.8	1.6	1.7	1.8
	9 Merge		0.28	44	29	36	F	F	F	36.8	45.7	38.4	1.8	1.9	1.9	44	27	36	F	F	F	36.8	49.0	38.5	1.8	1.9	1.9
	10 Basic		0.64	54	23	43	F	F	F	27.3	55.3	31.3	1.6	1.6	1.7	54	18	25	F	F	F	27.3	66.9	52.8	1.6	1.6	1.7
	11 Diverge	Lammers Rd	0.28	57	18	18	F	F	F	26.0	69.2	76.3	1.4	1.7	1.5	32	15	16	F	F	F	45.9	78.7	85.8	1.4	1.7	1.5
	12 Basic		0.33	63	13	15	F	F	F	23.1	87.1	92.4	1.4	1.5	1.4	19	12	14	F	F	F	73.2	92.7	95.1	1.4	1.6	1.4
	13 Merge		0.28	56	42	50	F	F	F	32.2	35.9	35.0	1.6	1.9	1.7	56	42	50	F	F	F	33.0	38.5	37.0	1.7	2.0	1.7
	14 Basic		0.98	53	42	52	F	F	F	34.4	36.6	34.1	1.6	1.8	1.6	52	42	52	F	F	F	35.7	36.3	34.1	1.7	1.8	1.6
	15 Basic		0.98	53	42	52	F	F	F	34.4	36.6	34.0	1.6	1.8	1.6	41	42	52	F	F	F	45.1	36.4	34.0	1.7	1.8	1.6
	16 Basic		0.98	34	28	51	F	F	F	51.4	55.8	35.8	1.6	1.8	1.6	32	26	50	F	F	F	55.1	60.5	36.5	1.7	1.8	1.6
	17 Diverge	Patterson Pass Rd	0.28	48	43	55	F	F	F	36.9	35.8	33.0	1.7	1.9	1.6	48	43	55	F	F	F	36.6	35.7	32.9	1.8	2.0	1.7
	18 Basic		0.36	51	43	56	F	F	F	21.5	28.5	25.5	1.3	1.4	1.3	51	43	55	F	F	F	24.7	30.5	28.3	1.4	1.6	1.4

PM Peak Period				Design Year 2048 No Build												Design Year 2048 Build											
				Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity		
	Segment		Length (Mi)	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6
<---------- DIRECTION OF TRAVEL ----------	1 Basic	SR 132	0.67	73	72	72	B	B	B	14.5	15.2	13.4	0.5	0.5	0.4	73	72	72	B	B	B	15.0	15.6	13.7	0.5	0.5	0.4
	2 Merge		0.28	66	66	66	C	C	C	24.8	25.5	24.2	0.7	0.7	0.7	66	65	66	C	C	C	25.4	26.1	24.7	0.7	0.8	0.7
	3 Basic		0.71	67	66	68	C	C	C	24.5	25.5	23.8	0.7	0.8	0.7	66	65	67	C	D	C	25.2	26.2	24.2	0.7	0.8	0.7
	4 Basic		0.71	67	66	68	C	C	C	24.5	25.4	23.8	0.7	0.8	0.7	66	65	67	C	D	C	25.2	26.2	24.2	0.7	0.8	0.7
	5 Basic		0.71	67	66	68	C	C	C	24.5	25.5	23.8	0.7	0.8	0.7	66	65	67	C	D	C	25.3	26.3	24.3	0.7	0.8	0.7
	6 Basic		0.71	67	66	68	C	C	C	24.6	25.5	23.8	0.7	0.8	0.7	66	65	67	C	D	C	25.3	26.2	24.3	0.7	0.8	0.7
	7 Diverge	Corral Hollow Rd	0.28	58	58	59	D	D	D	28.1	28.8	27.5	0.7	0.8	0.7	58	58	58	D	D	D	28.7	29.4	27.9	0.7	0.8	0.7
	8 Basic		0.33	72	72	72	B	B	B	17.0	17.5	17.0	0.5	0.6	0.5	72	72	72	B	B	B	17.2	17.8	17.1	0.6	0.6	0.6
	9 Merge		0.28	63	63	63	C	C	C	20.3	20.8	20.3	0.6	0.6	0.6	63	63	63	C	C	C	20.6	21.2	20.5	0.6	0.6	0.6
	10 Basic		0.64	72	72	72	B	C	B	17.9	18.4	17.9	0.6	0.6	0.6	71	72	72	C	C	C	18.3	18.7	18.1	0.6	0.6	0.6
	11 Diverge	Lammers Rd	0.28	58	58	58	C	C	C	22.1	22.7	22.1	0.6	0.6	0.6	58	58	58	C	C	C	22.5	23.0	22.3	0.6	0.6	0.6
	12 Basic		0.33	72	72	72	B	B	B	13.0	13.5	13.5	0.4	0.4	0.4	72	72	72	B	B	B	13.3	13.8	13.6	0.4	0.5	0.4
	13 Merge		0.28	63	63	63	B	B	B	16.0	16.4	16.6	0.5	0.5	0.5	63	63	63	B	C	B	16.3	16.7	16.7	0.5	0.5	0.5
	14 Basic		0.98	73	74	73	B	B	B	13.7	14.1	14.3	0.5	0.5	0.5	73	74	73	B	B	B	14.0	14.4	14.4	0.5	0.5	0.5
	15 Basic		0.98	74	74	73	B	B	B	13.7	14.0	14.2	0.5	0.5	0.5	74	74	73	B	B	B	14.0	14.2	14.3	0.5	0.5	0.5
	16 Basic		0.98	73	73	73	B	B	B	13.8	14.1	14.3	0.5	0.5	0.5	73	73	73	B	B	B	14.1	14.4	14.4	0.5	0.5	0.5
	17 Diverge	Patterson Pass Rd	0.28	60	61	60	C	C	C	16.7	17.2	17.2	0.5	0.5	0.5	60	61	60	C	C	C	17.0	17.5	17.4	0.5	0.5	0.5
	18 Basic		0.36	73	73	73	B	B	B	12.6	13.3	13.0	0.4	0.4	0.4	73	73	73	B	B	B	12.9	13.5	13.2	0.4	0.4	0.4

Note: Demand/Capacity highlighted red when exceeding 1.0

Traffic Speed (mph) 25 40 55

ON-RAMP METERING ANALYSIS

Required Lanes for Ramp Meter and Auxiliary Lanes

The number of lanes required for on-ramp for the proposed I-580/Corral Hollow Road interchange were determined for Opening Year (2028), Interim Year (2035), and Design Year (2048) Build conditions based on methodology within Caltrans' *Ramp Metering Design Manual* dated 2022. On-ramp metering rates typically range between 240 vehicles per hour (vph) to 900 vph for one vehicle per green operation. Therefore, assuming the least restrictive metering rate of 900 vph, a minimum of one lane should be provided for every 900 vph as shown in the following requirements below:

- ≤ 900 vph – requires a minimum of one (1) general purpose (GP) lane and one (1) HOV lane
- > 900 vph and ≤ 1,800 vph – requires a minimum of two (2) GP lanes and one (1) HOV lane
- >1,800 vph – requires a minimum of three (3) GP lanes and one (1) HOV lane

To convert truck volumes to PCE, a PCE of 2.0 was used for truck percentages greater than five percent and PCE of 1.0 for truck percentages less than or equal to five percent.

For auxiliary lanes, Caltrans' *Highway Design Manual, 7th Edition* (2019) has the following requirement:

> *"When ramp volumes exceed 1,500 vph, a 1,000-foot minimum length of auxiliary lane should be provided beyond the ramp convergence point. If an auxiliary lane is included, the ramp lane transition may be extended to the convergence point. However, the proximity of the nearest interchange may warrant weaving analysis to determine the acceptability of extending the ramp lane transition beyond the 6-foot separation point. A longer auxiliary lane should be considered where mainline/ramp gradients and truck volumes warrant additional length."* (Page 500-24)

Opening Year (2028)

The number of metered on-ramp lanes were determined for Opening Year (2028) in the AM and PM peak hour. Results of the analysis are provided in **Table 39**. All on-ramp locations provide sufficient metered on-ramp lanes.

Based on the on-ramp volumes, under Opening Year (2028) conditions, a 1,000-foot auxiliary lane is not required beyond the ramp convergence point.

Table 39. Opening Year (2028) Required Lanes for Ramp Meter

2028 Build	Eastbound I-580/Corral Hollow Rd		Westbound I-580/Corral Hollow Rd	
	Diagonal On-Ramp		Diagonal On-Ramp	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
On-Ramp Demand Volume	712	735	1180	161
Percentage using HOV Bypass	10%	10%	10%	10%
On-Ramp GP Lane Volume	641	662	1062	145
Truck Percent	5%	5%	5%	5%
Trucks	36	37	59	8
Truck PCE *Truck PCE = 1 for Truck % ≤ 5%* *Truck PCE = 2 for Truck % > 5%*	1	1	1	1
GP Lane Volume with Truck PCE	641	662	1062	145
Entrance lanes required*	1 GP + 1 HOV		2 GP + 1 HOV	

**Entrance Lanes required were determined based on the highest of the AM and PM peak-hour volumes*

Interim Year (2035)

The number of metered on-ramp lanes were determined for Interim Year (2035) in the AM and PM peak hour. Results of the analysis are provided in **Table 40**. All on-ramp locations provide sufficient metered on-ramp lanes.

Based on the on-ramp volumes, under Interim Year (2035) conditions, a 1,000-foot auxiliary lane is not required beyond the ramp convergence point.

Table 40. Interim Year (2035) Required Lanes for Ramp Meter

2035 Build	Eastbound I-580/Corral Hollow Rd		Westbound I-580/Corral Hollow Rd	
	Diagonal On-Ramp		Diagonal On-Ramp	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
On-Ramp Demand Volume	833	793	1300	171
Percentage using HOV Bypass	10%	10%	10%	10%
On-Ramp GP Lane Volume	750	714	1170	154
Truck Percent	5%	5%	5%	5%
Trucks	42	40	65	9
Truck PCE *Truck PCE = 1 for Truck % ≤ 5%* *Truck PCE = 2 for Truck % > 5%*	1	1	1	1
GP Lane Volume with Truck PCE	750	714	1170	154
Entrance lanes required*	1 GP + 1 HOV		2 GP + 1 HOV	

**Entrance Lanes required were determined based on the highest of the AM and PM peak-hour volumes*

Design Year (2048)

The number of metered on-ramp lanes were determined for Design Year (2048) in the AM and PM peak hour. Results of the analysis are provided in **Table 41**. All on-ramp locations provide sufficient metered on-ramp lanes.

Based on the on-ramp volumes, under Design Year (2048) conditions, a 1,000-foot auxiliary lane is not required beyond the ramp convergence point.

Table 41. Design Year (2048) Required Lanes for Ramp Meter

2048 Build	Eastbound I-580/Corral Hollow Rd		Westbound I-580/Corral Hollow Rd	
	Diagonal On-Ramp		Diagonal On-Ramp	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
On-Ramp Demand Volume	682	984	1062	112
Percentage using HOV Bypass	10%	10%	10%	10%
On-Ramp GP Lane Volume	614	886	956	101
Truck Percent	5%	5%	5%	5%
Trucks	34	49	53	6
Truck PCE *Truck PCE = 1 for Truck % ≤ 5%* *Truck PCE = 2 for Truck % > 5%*	1	1	1	1
GP Lane Volume with Truck PCE	614	886	956	101
Entrance lanes required*	2 GP + 1 HOV		2 GP + 1 HOV	

**Entrance Lanes required were determined based on the highest of the AM and PM peak-hour volumes*

On-Ramp Storage Lengths

I-580 on-ramp storage lengths required for the proposed I-580/Corral Hollow Road interchange were determined for Opening Year (2028), Interim Year (2035), and Design Year (2048) Build conditions based on methodology within Caltrans' *Ramp Metering Design Manual* dated 2022. To determine the on-ramp storage needed, the following assumptions were made:

- General purpose (GP) volumes consist of 90 percent of the total volumes
- High occupancy vehicle (HOV) volumes consist of 10 percent of the total volumes
- Passenger car equivalent (PCE) of 2.0 for truck percentages greater than five percent and PCE of 1.0 for truck percentages less than or equal to five percent
- Vehicle lengths are assumed at 29 feet per vehicle
- Minimum storage length required is based on seven percent of the peak hour demand

Opening Year (2028)

On-ramp storage lengths required were determined for Opening Year (2028) in the AM and PM peak hours. The results of the analysis are provided in **Table 42**. Based on the higher of the AM and PM peak-hour demands, the minimum required storage lengths for the eastbound on-ramp were 672 ft, 1,344 ft, and 746 ft for Option 1, Option 2, and Option 3, respectively. For the westbound on-ramp, the minimum required storage lengths were 1,078 ft, 2,156 ft, and 1,198 ft for Option 1, Option 2, and Option 3, respectively.

Interim Year (2035)

On-ramp storage lengths required were determined for Interim Year (2035) in the AM and PM peak hours. The results of the analysis are provided in **Table 43**. Based on the higher of the AM and PM peak-hour demands, the minimum required storage length for the eastbound on-ramp was determined to be 761 ft, 1,523 ft, and 845 ft for Option 1, Option 2, and Option 3, respectively. For the westbound on-ramp, the minimum required storage lengths were 1,188 ft, 2,375 ft, and 1,320 ft for Option 1, Option 2, and Option 3, respectively.

Design Year (2048)

On-ramp storage lengths required were determined for Design Year (2048) in the AM and PM peak hours. The results of the analysis are provided in **Table 44**. Based on the higher of the AM and PM peak-hour demands, the minimum required storage length for the eastbound on-ramp was determined to be 899 ft, 1,799 ft, and 999 ft for Option 1, Option 2, and Option 3, respectively. For the westbound on-ramp, the minimum required storage lengths were 970 ft, 1,941 ft, and 1,078 ft for Option 1, Option 2, and Option 3, respectively.

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Table 42. Opening Year (2028) Required On-Ramp Storage Lengths

Ramp Location	# of Lanes		AM Peak Hour								PM Peak Hour							
			Demand Volume							7% Metered Lane Storage Requirement	Demand Volume							7% Metered Lane Storage Requirement
			Vehicles				PCE				Vehicles				PCE			
	GP	HOV	Total	GP	Truck	HOV	Total	GP	HOV	Length (ft) per Lane	Total	GP	Truck	HOV	Total	GP	HOV	Length (ft) per Lane
Eastbound I-580																		
Corral Hollow Diagonal On-Ramp (Option 1)	2	1	712	605	36	71	712	641	71	651	735	625	37	73	735	662	73	672
Corral Hollow Diagonal On-Ramp (Option 2)	1	1	712	605	36	71	712	641	71	1,301	735	625	37	73	735	662	73	1,344
Corral Hollow Diagonal On-Ramp (Option 3)	2	0	712	676	36	0	712	712	0	723	735	698	37	0	735	735	0	746
Westbound I-580																		
Corral Hollow Diagonal On-Ramp (Option 1)	2	1	1,180	1003	59	118	1,180	1,062	118	1,078	161	137	8	16	161	145	16	147
Corral Hollow Diagonal On-Ramp (Option 2)	1	1	1,180	1003	59	118	1,180	1,062	118	2,156	161	137	8	16	161	145	16	294
Corral Hollow Diagonal On-Ramp (Option 3)	2	0	1,180	1121	59	0	1,180	1,180	0	1,198	161	153	8	0	161	161	0	163

*Note: Minimum Required Storage Length is shown in **bold** and highlighted (the higher of AM and PM).*
GP = General Purpose, HOV = High Occupancy Vehicle; Truck Percentage assumed to be 5%

Table 43. Interim Year (2035) Required On-Ramp Storage Lengths

Ramp Location	# of Lanes		AM Peak Hour								PM Peak Hour							
			Demand Volume							7% Metered Lane Storage Requirement	Demand Volume							7% Metered Lane Storage Requirement
			Vehicles				PCE				Vehicles				PCE			
	GP	HOV	Total	GP	Truck	HOV	Total	GP	HOV	Length (ft) per Lane	Total	GP	Truck	HOV	Total	GP	HOV	Length (ft) per Lane
Eastbound I-580																		
Corral Hollow Diagonal On-Ramp (Option 1)	2	1	833	708	42	83	833	750	83	761	793	674	40	79	793	714	79	725
Corral Hollow Diagonal On-Ramp (Option 2)	1	1	833	708	42	83	833	750	83	1,523	793	674	40	79	793	714	79	1,449
Corral Hollow Diagonal On-Ramp (Option 3)	2	0	833	791	42	0	833	833	0	845	793	753	40	0	793	793	0	805
Westbound I-580																		
Corral Hollow Diagonal On-Ramp (Option 1)	2	1	1,300	1105	65	130	1,300	1,170	130	1,188	171	145	9	17	171	154	17	156
Corral Hollow Diagonal On-Ramp (Option 2)	1	1	1,300	1105	65	130	1,300	1,170	130	2,375	171	145	9	17	171	154	17	313
Corral Hollow Diagonal On-Ramp (Option 3)	2	0	1,300	1235	65	0	1,300	1,300	0	1,320	171	162	9	0	171	171	0	174

*Note: Minimum Required Storage Length is shown in **bold** and highlighted (the higher of AM and PM).*
GP = General Purpose, HOV = High Occupancy Vehicle; Truck Percentage assumed to be 5%

Table 44. Design Year (2048) Required On-Ramp Storage Lengths

Ramp Location	# of Lanes		AM Peak Hour								PM Peak Hour							
			Demand Volume							7% Metered Lane Storage Requirement	Demand Volume							7% Metered Lane Storage Requirement
			Vehicles				PCE				Vehicles				PCE			
	GP	HOV	Total	GP	Truck	HOV	Total	GP	HOV	Length (ft) per Lane	Total	GP	Truck	HOV	Total	GP	HOV	Length (ft) per Lane
Eastbound I-580																		
Corral Hollow Diagonal On-Ramp (Option 1)	2	1	682	580	34	68	682	614	68	623	984	837	49	98	984	886	98	899
Corral Hollow Diagonal On-Ramp (Option 2)	1	1	682	580	34	68	682	614	68	1,246	984	837	49	98	984	886	98	1,799
Corral Hollow Diagonal On-Ramp (Option 3)	2	0	682	648	34	0	682	682	0	692	984	935	49	0	984	984	0	999
Westbound I-580																		
Corral Hollow Diagonal On-Ramp (Option 1)	2	1	1,062	903	53	106	1,062	956	106	970	112	95	6	11	112	101	11	103
Corral Hollow Diagonal On-Ramp (Option 2)	1	1	1,062	903	53	106	1,062	956	106	1,941	112	95	6	11	112	101	11	205
Corral Hollow Diagonal On-Ramp (Option 3)	2	0	1,062	1009	53	0	1,062	1,062	0	1,078	112	106	6	0	112	112	0	114

*Note: Minimum Required Storage Length is shown in **bold** and highlighted (the higher of AM and PM).*
GP = General Purpose, HOV = High Occupancy Vehicle; Truck Percentage assumed to be 5%

ADDITIONAL ANALYSIS REQUESTED BY FHWA – 2048 NO LAMMERS RD INTERCHANGE

This section provides a summary of the traffic operations analysis under the Design Year (2048) Build conditions without completion of the I-580/Lammers Road interchange, located west of the Corral Hollow Road interchange, during the AM and PM peak periods. This additional scenario was analyzed at the request of Caltrans and FHWA to evaluate the performance of the Corral Hollow Road Interchange in the event of a potential delay in the implementation of the Lammers Road interchange. Roadway and intersection lane configuration for Design Year (2048) No Lammers Build conditions remain unchanged from Design Year (2048) Build conditions, except for the exclusion of the I-580/Lammers Road interchange.

Similar to Existing and Design Year (2048) conditions, served volumes, intersection LOS, and average and 95th percentile queues were obtained from the SimTraffic operational analysis. Additionally, roundabout operational results were obtained from Sidra Intersection software and mainline average speeds and LOS were obtained from HCS operational analysis.

For SimTraffic operational analysis, similar parameters were used as for Design Year (2048).

Forecast Volumes

Similar to Opening Year (2028), Interim Year (2035), and Design Year (2048) With Lammers conditions, the future forecast volumes for the Design Year (2048) No Lammers scenario were developed using the calibrated and approved forecast model for the I-205 Managed Lanes Project (I-205 Project Model). Model runs were conducted for base year 2019 and horizon year 2042.

To develop future volumes, link volumes for the and Future Year (2042) models with and without the I-580/Lammers Road interchange were extracted and post processed to develop turning movement volumes based on Design Year (2048) With Lammers demand.

For Design Year (2048) No Lammers conditions, the delta between the 2042 No Lammers and With Lammers models was added to Design Year (2048) With Lammers demand to develop the Design Year (2048) No Lammers demand volumes.

Detailed forecast methodology is included in the *2048 No Lammers Traffic Forecast Memo* provided in **Appendix T**.

AM and PM peak hour intersection turning movements for Design Year (2048) No Lammers and Design Year (2048) With Lammers are shown in **Figure 18**.

Peak period hourly mainline volumes for Design Year (2048) No Lammers Build conditions are shown in **Figure 19**.

Figure 18. Design Year (2048) No Lammers Interchange Intersection Demand Volumes

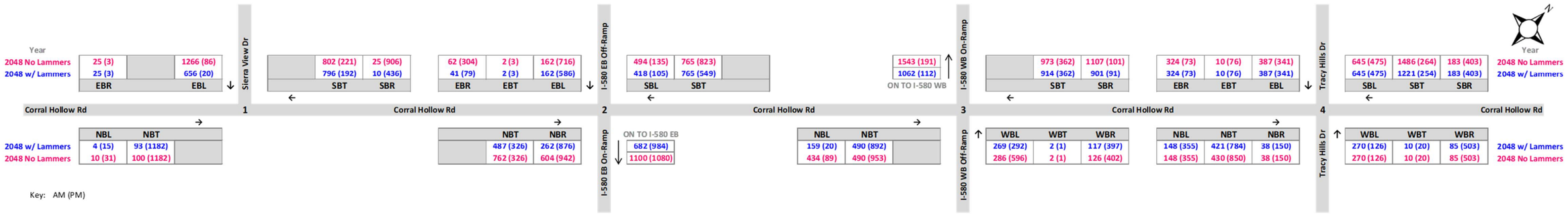
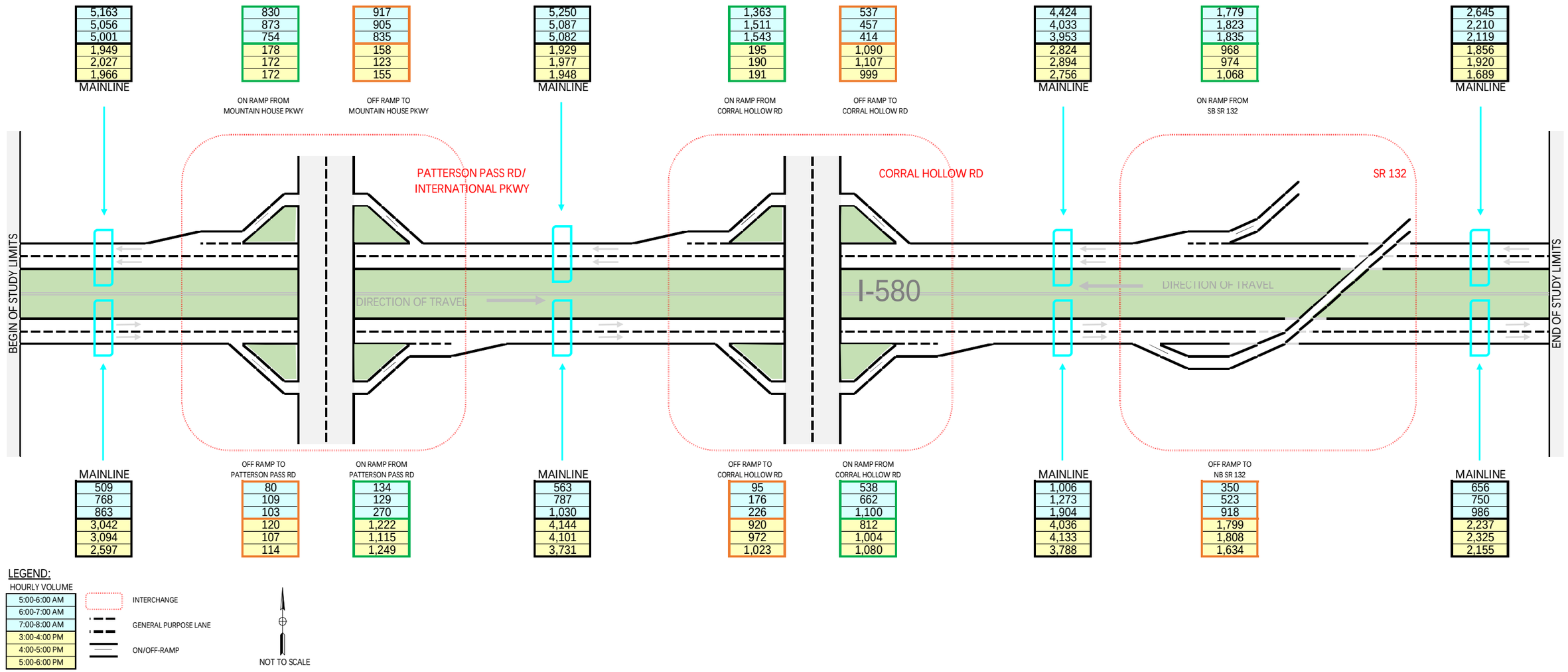


Figure 19. Design Year (2048) No Lammers Interchange Mainline Lane Configuration and Volumes



Intersection Performance

Intersection performance in terms of levels of service (LOS) and average vehicle delays for Design Year (2048) No Lammers Build conditions were extracted and analyzed. The results of the LOS/delay analysis are summarized in **Table 45** and **Table 46** for the AM and PM peak hours, respectively. Detailed LOS/delay calculation worksheets are included in **Appendix P**.

Without the opening of the I-580/Lammers Road interchange, the Build alternatives would show similar or slightly increased delay along the study corridor. **Table 47** and **Table 48** show a LOS comparison between 2048 No Lammers Build conditions and 2048 With Lammers Build conditions for the AM and PM peak hours, respectively.

In the AM peak hour, the EB I-580 ramp terminus intersection (#2) and the WB I-580 ramp terminus intersection (#3) would operate at an unacceptable **LOS F** under Build Alternative 2, compared to 2048 With Lammers conditions. The Tracy Hills Drive intersection (#4) would continue to operate unacceptably under all Build Alternatives, with delay increasing to **LOS F** under Build Alternative 2.

In the PM peak hour, the EB I-580 ramp terminus intersection (#2) and the WB I-580 ramp terminus intersection (#3) would continue to operate at acceptable LOS D or better under all Build Alternatives. The Tracy Hills Drive intersection (#4) would operate at unacceptable **LOS E** under all Build Alternatives except for Build Alternative 4.

Slightly increased delays would be observed in the AM and PM peak hours under 2048 No Lammers conditions for all Build Alternatives compared to the 2048 With Lammers conditions. Similar to 2048 With Lammers conditions, Build Alternative 4 continues to operate at acceptable LOS and shows the best operations overall.

Table 45. Design Year (2048) No Lammers Interchange Intersection LOS Summary – AM Peak Hour

No.	Intersection	Build Alt-1 (RAB)				Build Alt-2 (TDI)				Build Alt-3 (ParClo/TDI)				Build Alt-4 (DDI)			
		Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS
1	Sierra View Dr & Corral Hollow Rd	RAB	0.930	53.7	D	RAB	0.930	53.7	D	RAB	0.930	53.7	D	RAB	0.930	53.7	D
2	EB I-580 Ramps & Corral Hollow Rd	RAB	0.573	14.7	B	Signal	-	88.9	F	Signal	-	27.3	C	Signal	-	10.2	B
3	WB I-580 Ramps & Corral Hollow Rd	RAB	0.902	20.9	C	Signal	-	83.3	F	Signal	-	15.9	B	Signal	-	9.8	A
4	Tracy Hills Dr & Corral Hollow Rd	Signal	-	82.2	F	Signal	-	92.6	F	Signal	-	75.8	E	Signal	-	76.0	E
Total	A-D	3				1				3				3			
	E-F	1				3				1				1			

Results are based on an average of 12-multiple SimTraffic simulation runs for side-street stop control (SSSC) and signalized intersections. Results are based on Sidra Standard methodology in Sidra Intersection software for roundabout (RAB) intersections. Average delay is expressed in seconds per vehicle. Overall results for RAB and SSSC look at the worst movement and results for signals look at an average of all movements. Freeway congestion and on-ramp metering operations are not accounted for in the model.

Sierra View Dr & Corral Hollow Rd (#1) is analyzed separately in Sidra Intersection software, so results are consistent for all Build Alternatives. Build Alternative 1 is analyzed only in Sidra Intersection software, so Tracy Hills Dr & Corral Hollow Rd (#4) is not analyzed. There is no impact of queue spillback from the WB I-580 Ramps & Corral Hollow Rd (#3) so it is assumed Tracy Hills Dr & Corral Hollow Rd (#4) operates at the worst LOS of Build Alternatives 2 to 4. Key project intersections are highlighted in grey.

Table 46. Design Year (2048) No Lammers Interchange Intersection LOS Summary – PM Peak Hour

No.	Intersection	Build Alt-1 (RAB)				Build Alt-2 (TDI)				Build Alt-3 (ParClo/TDI)				Build Alt-4 (DDI)			
		Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS	Control	v/c	Avg Delay	LOS
1	Sierra View Dr & Corral Hollow Rd	RAB	0.617	11.0	B	RAB	0.617	11.0	B	RAB	0.617	11.0	B	RAB	0.617	11.0	B
2	EB I-580 Ramps & Corral Hollow Rd	RAB	0.644	15.1	B	Signal	-	33.0	C	Signal	-	24.0	C	Signal	-	12.6	B
3	WB I-580 Ramps & Corral Hollow Rd	RAB	0.438	15.5	B	Signal	-	21.1	C	Signal	-	18.4	B	Signal	-	11.9	B
4	Tracy Hills Dr & Corral Hollow Rd	Signal	-	57.1	E	Signal	-	64.4	E	Signal	-	61.9	E	Signal	-	46.3	D
Total	A-D	3				3				3				4			
	E-F	1				1				1				0			

Results are based on an average of 12-multiple SimTraffic simulation runs for side-street stop control (SSSC) and signalized intersections. Results are based on Sidra Standard methodology in Sidra Intersection software for roundabout (RAB) intersections. Average delay is expressed in seconds per vehicle. Overall results for RAB and SSSC look at the worst movement and results for signals look at an average of all movements. Freeway congestion and on-ramp metering operations are not accounted for in the model.

Sierra View Dr & Corral Hollow Rd (#1) is analyzed separately in Sidra Intersection software, so results are consistent for all Build Alternatives. Build Alternative 1 is analyzed only in Sidra Intersection software, so Tracy Hills Dr & Corral Hollow Rd (#4) is not analyzed. There is no impact of queue spillback from the WB I-580 Ramps & Corral Hollow Rd (#3) so it is assumed Tracy Hills Dr & Corral Hollow Rd (#4) operates at the worst LOS of Build Alternatives 2 to 4. Key project intersections are highlighted in grey.

Table 47. Design Year (2048) No Lammers Interchange LOS Comparison – AM Peak Hour

No.	Intersection	With Lammers					No Lammers			
		No Build	Build Alternative				Build Alternative			
			1	2	3	4	1	2	3	4
1	Sierra View Dr & Corral Hollow Rd	B	C	C	C	C	D	D	D	D
2	EB I-580 Ramps & Corral Hollow Rd	F	B	C	C	B	B	F	C	B
3	WB I-580 Ramps & Corral Hollow Rd	F	B	C	B	B	C	F	B	A
4	Tracy Hills Dr & Corral Hollow Rd	F	E*	E	E	E	F*	F	E	E
Total	A-D	1	3	3	3	3	3	1	3	3
	E-F	3	1	1	1	1	1	3	1	1

Note: No Build = TDI, Alt 1 = RAB, Alt 2 = TDI, Alt 3 = ParClo/TDI, Alt 4 = DDI
**Build Alternative 1 is analyzed in Sidra intersection software only, so the Tracy Hills Dr intersection (#4) is not analyzed. There is no impact of queue spillback from the WB I-580 ramp terminus intersection (#3), so it is assumed the Tracy Hills Dr intersection (#4) operates at the worst LOS of Build Alternatives 2 to 4. Key project intersections are highlighted in grey.*

Table 48. Design Year (2048) No Lammers Interchange LOS Comparison – PM Peak Hour

No.	Intersection	With Lammers					No Lammers			
		No Build	Build Alternative				Build Alternative			
			1	2	3	4	1	2	3	4
1	Sierra View Dr & Corral Hollow Rd	B	B	B	B	B	B	B	B	B
2	EB I-580 Ramps & Corral Hollow Rd	F	B	C	C	B	B	C	C	B
3	WB I-580 Ramps & Corral Hollow Rd	F	B	B	B	B	B	C	B	B
4	Tracy Hills Dr & Corral Hollow Rd	D	D*	D	D	D	E*	E	E	D
Total	A-D	2	4	4	4	4	3	3	3	4
	E-F	2	0	0	0	0	1	1	1	0

Note: No Build = TDI, Alt 1 = RAB, Alt 2 = TDI, Alt 3 = ParClo/TDI, Alt 4 = DDI
**Build Alternative 1 is analyzed in Sidra intersection software only, so the Tracy Hills Dr intersection (#4) is not analyzed. There is no impact of queue spillback from the WB I-580 ramp terminus intersection (#3), so it is assumed the Tracy Hills Dr intersection (#4) operates at the worst LOS of Build Alternatives 2 to 4. Key project intersections are highlighted in grey.*

Intersection Queue Analysis

Design Year (2048) No Lammers average and 95th percentile queue lengths were also analyzed at the study intersections. AM peak hour average and 95th percentile queues at the study intersections are shown in **Table 49** and PM peak hour average and 95th percentile queues are shown in **Table 50**.

AM Peak Period

Average and 95th percentile queues generally increase or remain similar compared to 2048 With Lammers conditions.

Focusing on the I-580 ramp termini intersections, the northbound queues at the EB I-580 ramp terminus intersection (#2) and southbound queues at the WB I-580 ramp terminus intersection (#3) would increase under all Build Alternatives due to increased volumes entering the interchange from Corral Hollow Road. Under Build Alternative 2, the northbound left queues at the WB I-580 ramp terminus intersection (#3) would spill into the storage lane and into the EB I-580 ramp terminus intersection (#2) and result in eastbound queues spilling onto the EB I-580 mainline and greatly increased northbound queues. Southbound right queues at the WB I-580 ramp terminus intersection (#3) would also spill into the Tracy Hills Drive intersection (#4) due to demand volumes exceeding effective green time capacity.

At the Tracy Hills Drive intersection (#4), southbound, eastbound, and westbound queues continue to exceed storage capacity under all Build Alternatives, with southbound queues showing significant increases due to the increase in demand volumes.

PM Peak Period

Average and 95th percentile queues generally increase from 2048 With Lammers conditions to 2048 No Lammers conditions.

Focusing on the I-580 ramp termini intersections, queues would generally increase on all approaches under all Build Alternatives compared to 2048 With Lammers conditions. All queues would continue to remain within the storage capacity, except for the southbound left at the EB I-580 ramp terminus intersection (#2) which joins the southbound through queue but does not spill into the adjacent intersection.

At the Tracy Hills Drive intersection (#4), eastbound and westbound queues continue to exceed storage capacity under all Build Alternatives. Northbound left queues also exceed storage capacity under Build Alternatives 2 and 3.

Table 49. Design Year (2048) No Lammers Intersection Queue Length Summary – AM Peak Hour

No.	Intersection	Build Alt-1 (RAB)				Build Alt-2 (TDI)				Build Alt-3 (ParClo/TDI)				Build Alt-4 (DDI)			
		Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue
1	Sierra View Dr & Corral Hollow Rd	South Leg	>5000	-	19	South Leg	>5000	-	19	South Leg	>5000	-	19	South Leg	>5000	-	19
		North Leg	1800	-	127	North Leg	1800	-	127	North Leg	1800	-	127	North Leg	1800	-	127
		West Leg	750	-	760	West Leg	750	-	760	West Leg	750	-	760	West Leg	750	-	760
2	EB I-580 Ramps & Corral Hollow Rd	NBT	1800	-	120	NBT	1800	805	1683	NBT	1800	250	371	NBT	1800	160	245
		NBR		-		NBR	590	328	590	NBR	590	178	319	NBR	590	0	0
		SBL	540	-	0	SBL	180	328	518	SBL	550	284	458	SBL	550	146	410
		SBT		-		SBT	420	328	518	SBT	850	107	249	SBT	540	226	446
		EBL	850	-	12	EBL	850	212	923	EBL	850	77	139	EBL	850	47	61
		EBR		-		EBR	600	57	245	EBR	600	24	51	EBR	600	24	62
3	WB I-580 Ramps & Corral Hollow Rd	NBL	510	-	0	NBL	180	418	518	NBT	850	111	185	NBL	540	9	78
		NBT		-		NBT	420	418	518	NBR	250	155	251	NBT	510	93	141
		SBT	1400	-	417	SBT	1400	1264	1756	SBT	900	143	270	SBT	1400	280	461
		SBR		-		SBR	430	1264	1756	SBR	300	191	357	SBR	430	25	160
		WBL	920	-	19	WBL	920	138	301	WBL	920	95	157	WBL	920	69	82
		WBR		-		WBR	600	49	155	WBR	600	31	60	WBR	600	45	72
4	Tracy Hills Dr & Corral Hollow Rd	*Not Analyzed in this Alternative*				NBL	440	72	130	NBL	440	75	133	NBL	440	85	139
						NBT	1400	128	218	NBT	900	126	212	NBT	1400	140	235
						NBR	380	13	38	NBR	380	10	32	NBR	380	14	38
						SBL	560	584	7951	SBL	560	495	7209	SBL	560	404	2988
						SBT	>5000	715	7951	SBT	>5000	1096	7209	SBT	>5000	534	2988
						SBR	430	393	7951	SBR	430	339	7209	SBR	430	229	2988
						EBL	250	282	921	EBL	250	316	804	EBL	250	635	1266
						EBT	890	362	921	EBT	890	316	804	EBT	890	635	1266
						EBR	890	224	481	EBR	890	178	333	EBR	890	411	1266
						WBL	200	235	772	WBL	200	183	359	WBL	200	207	464
						WBT	250	235	772	WBT	250	86	359	WBT	250	128	464
						WBR	200	41	122	WBR	200	37	91	WBR	200	43	128

Results are based on an average of 12-multiple SimTraffic simulation runs for side-street stop control (SSSC) and signalized intersections. Results are based on Sidra Standard methodology in Sidra Intersection software for roundabout (RAB) intersections. Freeway congestion and on-ramp metering operations are not accounted for in the model. ***Bold*** *indicates queue lengths that exceed its storage capacity.*
EBT/WBT movements at the off-ramp approach were excluded as these movements were considered as the irregular movements.
Sierra View Dr & Corral Hollow Rd (#1) is analyzed separately in Sidra Intersection software, so results are consistent for all Build Alternatives. Build Alternative 1 is analyzed only in Sidra Intersection software, so Tracy Hills Dr & Corral Hollow Rd (#4) is not analyzed. Sidra Intersection software does not report Average Queues. Key project intersections are highlighted in grey.

Table 50. Design Year (2048) No Lammers Intersection Queue Length Summary – PM Peak Hour

No.	Intersection	Build Alt-1 (RAB)				Build Alt-2 (TDI)				Build Alt-3 (ParClo/TDI)				Build Alt-4 (DDI)			
		Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue	Movement/ Approach	Storage Length	Avg Queue	95th Queue
1	Sierra View Dr & Corral Hollow Rd	South Leg	>5000	-	91	South Leg	>5000	-	91	South Leg	>5000	-	91	South Leg	>5000	-	91
		North Leg	1800	-	20	North Leg	1800	-	20	North Leg	1800	-	20	North Leg	1800	-	20
		West Leg	750	-	5	West Leg	750	-	5	West Leg	750	-	5	West Leg	750	-	5
2	EB I-580 Ramps & Corral Hollow Rd	NBT	1800	-	135	NBT	1800	284	830	NBT	1800	200	624	NBT	1800	65	88
		NBR		-		NBR	590	396	830	NBR	590	344	634	NBR	590	0	0
		SBL	540	-	0	SBL	180	158	394	SBL	550	84	155	SBL	550	54	295
		SBT		-		SBT	420	219	394	SBT	850	79	158	SBT	540	134	464
		EBL	850	-	62	EBL	850	165	245	EBL	850	207	302	EBL	850	90	151
		EBR		-		EBR	600	84	146	EBR	600	87	170	EBR	600	69	98
3	WB I-580 Ramps & Corral Hollow Rd	NBL	510	-	0	NBL	180	79	170	NBT	850	118	258	NBL	540	29	89
		NBT		-		NBT	420	198	278	NBR	250	21	83	NBT	510	114	243
		SBT	1400	-	63	SBT	1400	73	148	SBT	900	61	129	SBT	1400	80	137
		SBR		-		SBR	430	29	67	SBR	300	28	68	SBR	430	0	0
		WBL	920	-	28	WBL	920	146	246	WBL	920	172	311	WBL	920	73	99
		WBR		-		WBR	600	123	217	WBR	600	140	287	WBR	600	83	126
4	Tracy Hills Dr & Corral Hollow Rd	*Not Analyzed in this Alternative*				NBL	440	238	1057	NBL	440	237	876	NBL	440	158	362
						NBT	1400	513	1057	NBT	900	481	876	NBT	1400	351	538
						NBR	380	158	466	NBR	380	161	482	NBR	380	83	294
						SBL	560	251	390	SBL	560	259	413	SBL	560	198	302
						SBT	>5000	117	221	SBT	>5000	117	202	SBT	>5000	117	187
						SBR	430	115	257	SBR	430	105	218	SBR	430	102	186
						EBL	250	276	675	EBL	250	264	551	EBL	250	258	573
						EBT	890	273	675	EBT	890	211	551	EBT	890	206	573
						EBR	890	23	63	EBR	890	26	71	EBR	890	15	43
						WBL	200	71	137	WBL	200	72	144	WBL	200	103	188
						WBT	250	104	369	WBT	250	93	354	WBT	250	98	351
						WBR	200	209	369	WBR	200	204	354	WBR	200	200	351

Results are based on an average of 12-multiple SimTraffic simulation runs for side-street stop control (SSSC) and signalized intersections. Results are based on Sidra Standard methodology in Sidra Intersection software for roundabout (RAB) intersections. Freeway congestion and on-ramp metering operations are not accounted for in the model. ***Bold*** *indicates queue lengths that exceed its storage capacity.*
EBT/WBT movements at the off-ramp approach were excluded as these movements were considered as the irregular movements.
Sierra View Dr & Corral Hollow Rd (#1) is analyzed separately in Sidra Intersection software, so results are consistent for all Build Alternatives. Build Alternative 1 is analyzed only in Sidra Intersection software, so Tracy Hills Dr & Corral Hollow Rd (#4) is not analyzed. Sidra Intersection software does not report Average Queues. Key project intersections are highlighted in grey

Intersection Network Performance

The intersection network wide performance Measures of Effectiveness (MOE's) for Design Year (2048) No Lammers Build conditions are shown in **Table 51** and **Table 52** for the AM and PM peak hours, respectively.

Table 51. Design Year (2048) No Lammers Interchange Network Vehicle Performance – AM Peak Hour

Measure of Effectiveness (MOEs)	With Lammers Interchange					No Lammers Interchange			
	No Build	Build Alternative				Build Alternative			
		1	2	3	4	1	2	3	4
Vehicles Served (veh)	2,475	Network MOEs not available from Sidra Software	4,538	4,390	4,603	Network MOEs not available from Sidra Software	4,770	4,922	5,494
Average Travel Speed (mph)	5		20	20	24		10	13	21
Total Vehicle Hours of Delay (VHD) (veh-hr)	836		185	167	133		565	374	200
Vehicle Hours Traveled (VHT) (veh-hr)	1,469		403	456	343		833	707	447
Vehicle Miles Traveled (VMT) (veh-mi)*	4,906		7,789	7,400	8,204		7,926	7,959	9,500
Total Stops (stops)	6,088		10,182	8,936	6,851		17,202	13,196	9,568
Total Fuel Consumption (gallons)	449		299	299	297		390	365	356
HC Emissions (grams)	4,830		6,017	5,780	5,522		6,070	6,307	6,368
CO Emissions (grams)	112,323		170,614	163,201	169,553		164,595	169,204	194,301
NOx Emissions (grams)	10,707		18,596	17,595	18,373		16,827	17,735	20,806

Note: No Build = TDI, Alt 1 = RAB, Alt 2 = TDI, Alt 3 = ParClo/TDI, Alt 4 = DDI
Results are based on the average of 12 SimTraffic simulation runs. Build Alternative 1 was analyzed only in Sidra Intersection software, so no MOEs were recorded. Build Alternative 4 SimTraffic network has longer segment lengths, so VMT and VHT may be higher relative to other Build Alternatives.
**This operational VMT demonstrates efficient traffic movement and roadway utilization, rather than indicating induced demand associated with SB 743 requirements.*

Table 52. Design Year (2048) No Lammers Interchange Network Vehicle Performance – PM Peak Hour

Measure of Effectiveness (MOEs)	With Lammers Interchange					No Lammers Interchange			
	No Build	Build Alternative				Build Alternative			
		1	2	3	4	1	2	3	4
Vehicles Served (veh)	3,370	Network MOEs not available from Sidra Software	4,959	4,975	4,985	Network MOEs not available from Sidra Software	5,675	5,692	5,728
Average Travel Speed (mph)	7		25	25	27		23	24	25
Total Vehicle Hours of Delay (VHD) (veh-hr)	703		107	105	99		152	136	123
Vehicle Hours Traveled (VHT) (veh-hr)	1,049		313	313	306		381	368	364
Vehicle Miles Traveled (VMT) (veh-mi)*	5,948		7,726	7,804	8,036		8,551	8,609	8,841
Total Stops (stops)	3,807		7,075	6,781	5,744		9,216	8,197	7,105
Total Fuel Consumption (gallons)	377		273	275	284		310	306	318
HC Emissions (grams)	5,039		6,226	5,965	5,782		6,580	6,392	6,429
CO Emissions (grams)	123,287		176,781	170,562	176,666		188,329	182,202	193,245
NOx Emissions (grams)	12,540		19,325	18,773	18,930		20,504	20,085	20,806

Note: No Build = TDI, Alt 1 = RAB, Alt 2 = TDI, Alt 3 = ParClo/TDI, Alt 4 = DDI
Results are based on the average of 12 SimTraffic simulation runs. Build Alternative 1 was analyzed only in Sidra Intersection software, so no MOEs were recorded. Build Alternative 4 SimTraffic network has longer segment lengths, so VMT and VHT may be higher relative to other Build Alternatives.
**This operational VMT demonstrates efficient traffic movement and roadway utilization, rather than indicating induced demand associated with SB 743 requirements.*

Table 51 and **Table 52** indicate that in the AM and PM peak hours, network MOEs would worsen under all Build Alternatives compared to 2048 With Lammers Interchange conditions. Without the Lammers Road interchange, all surrounding traffic must rely on the Corral Hollow Road interchange to access I-580, which is reflected in the MOE results. While local intersections may experience increased delays, no significant impacts are observed at the ramp intersections. Network input volumes are higher in the 2048 Without Lammers Interchange scenario compared to the 2048 With Lammers Interchange scenario, resulting in increased served volumes and VMT. This difference primarily reflects the study area's focus on Corral Hollow Road while excluding Lammers Road. In the absence of the Lammers Road Interchange, traffic shifts from Lammers Road to Corral Hollow Road, causing higher recorded volumes within the network. Importantly, this reflects a redistribution of existing trips rather than an overall increase in demand. The exception is for the CO and NOx emissions under Build Alternative 2 in the AM peak hour, which show slight improvements compared to 2048 With Lammers Road Interchange conditions. This is likely due to severe congestion under this Build Alternative, which restricts the number of vehicles able to enter or be generated in the network. Since emissions are not accounted for vehicles that are not generated, the overall values for these metrics appear artificially lower.

I-580 Freeway Facility Analysis

Average travel speeds along the I-580 corridor for the Design Year (2048) No Lammers Build conditions were also extracted for evaluation. Eastbound AM and PM peak period speed profiles are shown in **Table 53**. Similarly, westbound peak period speed profiles are shown in **Table 54**. Under Design Year (2048) No Lammers conditions, the I-580/Lammers Road interchange is not assumed to be constructed.

AM Peak Period

In the eastbound direction, the Corral Hollow Road diverge segment (#11) and merge segment (#13) continue to operate at LOS D or better with similar average travel speeds of 57 – 58 MPH and 61 – 62 MPH, respectively, compared to 2048 With Lammers conditions.

Along the I-580 corridor, all segments continue to operate at LOS D or better and average travel speeds drop as low as 55 MPH, similar to 2048 With Lammers conditions.

In the westbound direction, the Corral Hollow Road diverge segment (#7) and merge segment (#9) continue to operate at **LOS F** with slightly increased average travel speeds in the ranges of 24 – 38 MPH and 29 – 44 MPH, respectively, compared to 2048 With Lammers conditions.

Along the I-580 corridor, congestion generally improves from 2048 With Lammers conditions with all segments continuing to operate at **LOS F** and average travel speeds remaining similar or slightly improving.

Without the I-580/Lammers Road interchange, average travel speeds are improved on the freeway mainline segments (#11 – #13) in a range of 43 – 63 MPH. The major bottleneck

continues to occur at the I-580/Corral Hollow Road interchange, with queues extending upstream and merging with the queues forming at the I-580/SR-132. At the SR-132 interchange, average travel speeds are slightly improved to a range of 7 – 14 MPH compared to 2048 With Lammers conditions.

PM Peak Period

In the eastbound direction, the Corral Hollow Road diverge segment (#11) and merge segment (#13) operate at LOS D or better with slightly reduced average travel speeds of 55 MPH and 53 – 56 MPH, respectively, compared to 2048 With Lammers conditions.

Along the I-580 corridor, average travel speeds remain within a similar range but show slight reductions compared to 2048 With Lammers conditions and more segments operate at **LOS E** or **F**.

At the I-580/Patterson Pass Road interchange, the on-ramp volumes increase merging conflicts with the mainline, resulting in a decrease in average travel speed, but the bottleneck observed under 2048 With Lammers conditions no longer spills into the first mainline segment (#1) of the corridor. This is primarily due to the decrease in volumes at the start of the mainline compared to 2048 With Lammers conditions.

In the westbound direction, the Corral Hollow Road diverge segment (#7) and merge segment (#9) operate at LOS D or better with average travel speeds slightly decreasing to 57 MPH at the diverge segment (#7) and average travel speeds slightly increasing to 64 MPH at the merge segment (#9), compared to 2048 With Lammers conditions.

Along the I-580 corridor, all segments continue to operate at LOS D or better with generally increased average travel speeds and improved LOS compared to 2048 With Lammers conditions.

Table 53. Design Year (2048) No Lammers Interchange Mainline LOS Summary – Eastbound I-580

AM Peak Period				Design Year 2048 With Lammers												Design Year 2048 No Lammers											
				Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity		
	Segment		Length (Mi)	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8
<---------- DIRECTION OF TRAVEL ----------	1 Basic		1.00	71	71	71	A	A	A	3.5	5.4	6.3	0.1	0.2	0.2	71	71	71	A	A	A	3.4	5.3	6.1	0.1	0.2	0.2
	2 Basic	Patterson Pass Rd	0.38	71	71	71	A	A	A	3.5	5.4	6.3	0.1	0.2	0.2	71	71	71	A	A	A	3.4	5.3	6.1	0.1	0.2	0.2
	3 Merge		0.28	62	62	62	A	B	B	5.4	7.5	9.9	0.2	0.2	0.3	62	62	62	A	B	B	5.2	7.2	9.5	0.1	0.2	0.3
	4 Basic		0.98	71	71	71	A	A	A	4.7	6.6	8.7	0.2	0.2	0.3	71	71	71	A	A	A	4.5	6.3	8.2	0.1	0.2	0.3
	5 Basic		0.98	71	71	71	A	A	A	4.7	6.6	8.7	0.2	0.2	0.3	71	71	71	A	A	A	4.5	6.3	8.2	0.1	0.2	0.3
	6 Basic		0.98	71	71	71	A	A	A	4.7	6.6	8.7	0.2	0.2	0.3	71	71	71	A	A	A	4.5	6.3	8.2	0.1	0.2	0.3
	7 Diverge	Lammers Rd	0.28	59	59	59	A	B	B	5.7	8.0	10.5	0.2	0.2	0.3	71	71	71	A	A	A	4.5	6.3	8.2	0.1	0.2	0.3
	8 Basic		0.33	70	70	70	A	A	A	4.6	6.4	8.4	0.2	0.2	0.3	71	71	71	A	A	A	4.5	6.3	8.2	0.1	0.2	0.3
	9 Merge		0.28	62	62	62	B	B	B	8.2	10.9	15.7	0.2	0.3	0.4	71	71	71	A	A	A	4.5	6.3	8.2	0.1	0.2	0.3
	10 Basic		0.64	71	71	71	A	A	B	7.1	9.5	13.6	0.2	0.3	0.4	71	71	71	A	A	A	4.5	6.3	8.2	0.1	0.2	0.3
	11 Diverge	Corral Hollow Rd	0.28	58	58	57	B	B	B	8.8	11.7	16.8	0.2	0.3	0.4	58	58	57	A	B	B	5.6	7.8	10.2	0.1	0.2	0.3
	12 Basic		0.33	70	70	70	A	A	B	6.5	8.2	11.9	0.2	0.3	0.4	70	70	70	A	A	A	3.8	4.9	6.4	0.1	0.2	0.2
	13 Merge		0.28	62	62	61	B	B	C	10.5	13.2	20.3	0.3	0.4	0.6	62	62	61	B	B	B	9.2	11.7	17.7	0.3	0.3	0.5
	14 Basic		0.76	71	71	71	A	B	B	9.1	11.5	17.6	0.3	0.4	0.6	71	71	71	A	A	B	8.1	10.2	15.3	0.3	0.3	0.5
	15 Basic		0.76	71	71	71	A	B	B	9.1	11.5	17.6	0.3	0.4	0.6	71	71	71	A	A	B	8.1	10.2	15.3	0.3	0.3	0.5
	16 Basic		0.76	71	71	71	A	B	B	9.1	11.5	17.6	0.3	0.4	0.6	71	71	71	A	A	B	8.1	10.2	15.3	0.3	0.3	0.5
	17 Diverge	SR 132	0.28	57	56	55	B	B	C	11.5	14.6	22.6	0.3	0.4	0.6	57	57	55	B	B	C	10.1	12.8	19.6	0.3	0.3	0.5
	18 Basic		1.00	71	71	71	A	A	A	5.7	6.4	8.4	0.2	0.2	0.3	71	71	71	A	A	A	5.3	6.0	7.9	0.2	0.2	0.3

PM Peak Period				Design Year 2048 With Lammers												Design Year 2048 No Lammers											
				Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity		
	Segment		Length (Mi)	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6
<---------- DIRECTION OF TRAVEL ----------	1 Basic		1.00	34	19	18	F	F	F	49.3	86.7	87.8	0.8	0.9	0.7	65	67	67	C	F	C	25.5	23.5	23.0	0.7	0.8	0.6
	2 Basic	Patterson Pass Rd	0.38	20	19	18	F	F	F	80.3	86.2	88.5	0.8	0.9	0.7	28	18	18	F	F	F	57.2	88.8	85.8	0.7	0.8	0.6
	3 Merge		0.28	55	55	55	F	F	E	38.3	38.1	38.7	1.1	1.1	0.9	52	53	51	F	F	E	43.8	41.6	44.4	1.1	1.0	0.9
	4 Basic		0.98	55	55	55	F	F	E	38.2	38.0	38.0	1.1	1.1	0.9	55	55	55	F	F	E	38.2	38.0	38.0	1.1	1.0	0.9
	5 Basic		0.98	55	55	55	F	F	E	38.2	38.0	38.0	1.1	1.1	0.9	55	55	55	F	F	E	38.2	38.0	38.0	1.1	1.0	0.9
	6 Basic		0.98	55	55	55	F	F	E	38.2	38.0	38.0	1.1	1.1	0.9	55	55	55	F	F	E	38.2	38.0	38.0	1.1	1.0	0.9
	7 Diverge	Lammers Rd	0.28	57	56	56	F	F	E	37.1	37.2	37.3	1.1	1.1	0.9	55	55	55	F	F	E	38.2	38.0	38.0	1.1	1.0	0.9
	8 Basic		0.33	65	64	65	C	D	D	25.7	26.9	26.3	0.9	0.9	0.7	55	55	55	F	F	E	38.2	38.0	38.0	1.1	1.0	0.9
	9 Merge		0.28	59	58	59	D	D	D	29.2	30.5	30.1	0.9	0.9	0.8	55	55	55	F	F	E	38.2	38.0	38.0	1.1	1.0	0.9
	10 Basic		0.64	64	63	63	D	D	D	26.8	28.3	27.9	0.9	0.9	0.8	55	55	55	F	F	E	38.2	38.0	38.0	1.1	1.0	0.9
	11 Diverge	Corral Hollow Rd	0.28	56	56	56	D	D	D	30.6	31.8	31.5	0.9	0.9	0.8	55	55	55	F	F	E	37.9	38.0	38.1	1.1	1.0	0.9
	12 Basic		0.33	69	68	69	C	C	C	19.9	21.7	21.1	0.8	0.7	0.6	67	66	67	C	C	C	23.5	24.7	24.0	0.8	0.8	0.7
	13 Merge		0.28	58	56	56	D	D	D	30.9	35.6	35.8	0.9	1.0	0.8	56	53	53	F	F	E	36.6	41.5	41.9	1.0	1.1	1.0
	14 Basic		0.76	63	58	58	D	D	D	28.7	34.7	34.9	0.9	1.0	0.8	57	52	51	F	F	E	35.9	42.5	43.1	1.0	1.1	1.0
	15 Basic		0.76	63	58	58	D	D	D	28.7	34.7	34.9	0.9	1.0	0.8	57	52	51	F	F	E	35.9	42.5	43.1	1.0	1.1	1.0
	16 Basic		0.76	63	58	58	D	D	D	28.7	34.7	34.9	0.9	1.0	0.8	57	52	51	F	F	E	35.9	42.5	43.1	1.0	1.1	1.0
	17 Diverge	SR 132	0.28	53	53	53	F	F	E	34.2	38.1	37.8	0.9	1.0	0.8	53	53	53	F	F	E	38.7	41.9	41.7	1.0	1.1	1.0
	18 Basic		1.00	71	71	71	A	B	B	10.8	14.3	14.7	0.5	0.5	0.4	71	71	71	B	B	B	14.2	17.3	17.7	0.6	0.6	0.5

Note: Demand/Capacity highlighted red when exceeding 1.0

Traffic Speed (mph) 25 40 55

Table 54. Design Year (2048) No Lammers Interchange Mainline LOS Summary – Westbound I-580

AM Peak Period				Design Year 2048 With Lammers												Design Year 2048 No Lammers											
				Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity		
	Segment		Length (Mi)	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8	5-6	6-7	7-8
DIRECTION OF TRAVEL	1 Basic	SR 132	0.67	13	7	10	F	F	F	86.7	105.6	80.6	1.0	1.1	1.2	14	7	10	F	F	F	82.5	106.0	80.6	0.9	1.0	1.1
	2 Merge		0.28	41	22	45	F	F	F	51.4	62.2	40.6	1.6	2.3	2.0	41	22	45	F	F	F	51.2	61.8	41.1	1.6	2.2	1.9
	3 Basic		0.71	43	28	44	F	F	F	35.4	34.1	24.1	1.5	1.8	1.9	43	28	41	F	F	F	35.4	34.1	26.6	1.5	1.7	1.8
	4 Basic		0.71	44	27	21	F	F	F	34.3	35.2	49.3	1.5	1.7	1.9	44	27	41	F	F	F	34.3	35.2	26.6	1.5	1.6	1.8
	5 Basic		0.71	44	29	45	F	F	F	34.3	33.5	23.5	1.5	1.7	1.9	44	29	41	F	F	F	34.3	33.5	26.8	1.5	1.6	1.8
	6 Basic		0.71	30	28	19	F	F	F	48.6	35.7	54.5	1.5	1.7	1.8	31	28	44	F	F	F	48.2	35.2	25.2	1.5	1.6	1.7
	7 Diverge	Corral Hollow Rd	0.28	29	24	17	F	F	F	50.9	31.1	61.0	1.7	1.8	1.9	31	24	38	F	F	F	48.0	30.6	27.8	1.6	1.7	1.8
	8 Basic		0.33	15	23	13	F	F	F	72.4	40.4	68.8	1.6	1.7	1.8	16	23	33	F	F	F	70.8	39.2	29.5	1.5	1.6	1.7
	9 Merge		0.28	44	27	36	F	F	F	36.8	49.0	38.5	1.8	1.9	1.9	44	29	37	F	F	F	42.4	50.8	46.6	1.9	2.0	2.0
	10 Basic		0.64	54	18	25	F	F	F	27.3	66.9	52.8	1.6	1.6	1.7	54	40	39	F	F	F	27.3	36.0	38.1	1.6	1.6	1.8
	11 Diverge	Lammers Rd	0.28	32	15	16	F	F	F	45.9	78.7	85.8	1.4	1.7	1.5	63	43	51	F	F	F	23.4	33.3	29.4	1.5	1.6	1.4
	12 Basic		0.33	19	12	14	F	F	F	73.2	92.7	95.1	1.4	1.6	1.4	63	43	52	F	F	F	23.6	33.3	28.7	1.5	1.6	1.4
	13 Merge		0.28	56	42	50	F	F	F	33.0	38.5	37.0	1.7	2.0	1.7	62	43	55	F	F	F	24.0	33.3	27.0	1.5	1.6	1.4
	14 Basic		0.98	52	42	52	F	F	F	35.7	36.3	34.1	1.7	1.8	1.6	62	43	56	F	F	F	24.0	33.3	26.6	1.5	1.6	1.4
	15 Basic		0.98	41	42	52	F	F	F	45.1	36.4	34.0	1.7	1.8	1.6	62	43	56	F	F	F	24.0	33.3	26.3	1.5	1.6	1.4
	16 Basic		0.98	32	26	50	F	F	F	55.1	60.5	36.5	1.7	1.8	1.6	61	41	56	F	F	F	24.4	34.8	26.4	1.5	1.6	1.4
	17 Diverge	Patterson Pass Rd	0.28	48	43	55	F	F	F	36.6	35.7	32.9	1.8	2.0	1.7	48	43	55	F	F	F	30.8	33.3	26.9	1.6	1.7	1.5
	18 Basic		0.36	51	43	55	F	F	F	24.7	30.5	28.3	1.4	1.6	1.4	51	43	57	F	F	F	18.3	27.3	21.3	1.2	1.3	1.2

PM Peak Period				Design Year 2048 With Lammers												Design Year 2048 No Lammers											
				Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity			Speed (mph)			LOS			Density (pc/mi/ln)			Demand/Capacity		
	Segment		Length (Mi)	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6	3-4	4-5	5-6
DIRECTION OF TRAVEL	1 Basic	SR 132	0.67	73	72	72	B	B	B	15.0	15.6	13.7	0.5	0.5	0.4	73	72	72	B	B	B	14.5	15.1	13.4	0.5	0.5	0.4
	2 Merge		0.28	66	65	66	C	C	C	25.4	26.1	24.7	0.7	0.8	0.7	66	66	66	C	C	C	24.3	25.0	23.6	0.7	0.7	0.7
	3 Basic		0.71	66	65	67	C	D	C	25.2	26.2	24.2	0.7	0.8	0.7	67	67	68	C	C	C	23.9	24.8	23.0	0.7	0.7	0.7
	4 Basic		0.71	66	65	67	C	D	C	25.2	26.2	24.2	0.7	0.8	0.7	67	67	68	C	C	C	23.9	24.7	23.0	0.7	0.7	0.7
	5 Basic		0.71	66	65	67	C	D	C	25.3	26.3	24.3	0.7	0.8	0.7	67	66	68	C	C	C	23.9	24.8	23.0	0.7	0.7	0.7
	6 Basic		0.71	66	65	67	C	D	C	25.3	26.2	24.3	0.7	0.8	0.7	67	67	68	C	C	C	24.0	24.8	23.1	0.7	0.7	0.7
	7 Diverge	Corral Hollow Rd	0.28	58	58	58	D	D	D	28.7	29.4	27.9	0.7	0.8	0.7	57	57	57	D	D	D	28.2	29.0	27.4	0.7	0.7	0.7
	8 Basic		0.33	72	72	72	B	B	B	17.2	17.8	17.1	0.6	0.6	0.6	72	72	72	B	B	B	13.5	13.9	13.7	0.4	0.5	0.4
	9 Merge		0.28	63	63	63	C	C	C	20.6	21.2	20.5	0.6	0.6	0.6	64	64	64	C	C	C	17.2	17.6	17.4	0.5	0.5	0.5
	10 Basic		0.64	71	72	72	C	C	C	18.3	18.7	18.1	0.6	0.6	0.6	73	73	74	B	B	B	15.1	15.4	15.1	0.5	0.5	0.5
	11 Diverge	Lammers Rd	0.28	58	58	58	C	C	C	22.5	23.0	22.3	0.6	0.6	0.6	73	73	73	B	B	B	15.1	15.4	15.2	0.5	0.5	0.5
	12 Basic		0.33	72	72	72	B	B	B	13.3	13.8	13.6	0.4	0.5	0.4	73	73	73	B	B	B	15.0	15.5	15.2	0.5	0.5	0.5
	13 Merge		0.28	63	63	63	B	C	B	16.3	16.7	16.7	0.5	0.5	0.5	73	73	73	B	B	B	15.0	15.4	15.3	0.5	0.5	0.5
	14 Basic		0.98	73	74	73	B	B	B	14.0	14.4	14.4	0.5	0.5	0.5	73	73	73	B	B	B	15.0	15.4	15.3	0.5	0.5	0.5
	15 Basic		0.98	74	74	73	B	B	B	14.0	14.2	14.3	0.5	0.5	0.5	73	74	73	B	B	B	15.0	15.3	15.2	0.5	0.5	0.5
	16 Basic		0.98	73	73	73	B	B	B	14.1	14.4	14.4	0.5	0.5	0.5	73	73	73	B	B	B	15.1	15.4	15.3	0.5	0.5	0.5
	17 Diverge	Patterson Pass Rd	0.28	60	61	60	C	C	C	17.0	17.5	17.4	0.5	0.5	0.5	60	60	60	C	C	C	18.2	18.7	18.4	0.5	0.5	0.5
	18 Basic		0.36	73	73	73	B	B	B	12.9	13.5	13.2	0.4	0.4	0.4	73	73	73	B	B	B	13.7	14.4	13.9	0.5	0.5	0.5

Note: Demand/Capacity highlighted red when exceeding 1.0

Traffic Speed (mph) 25 40 55

On-Ramp Metering Analysis

Required Ramp Meter Lanes and Auxiliary Lanes

Similar to Design Year (2048) With Lammers conditions, the number of metered on-ramp lanes were determined for Design Year (2048) No Lammers conditions in the AM and PM peak hour. Results of the analysis are provided in **Table 55**.

The eastbound I-580 on-ramp does not provide sufficient metered on-ramp lanes.

The westbound I-580 on-ramp provides sufficient metered on-ramp lanes.

Based on the on-ramp volumes, under Design Year (2048) No Lammers conditions, WB I-580 on-ramp volumes exceed 1,500 vehicles in the peak hour, so a 1,000-foot auxiliary lane is required beyond the ramp convergence point for the WB I-580 on-ramp.

Table 55. Design Year (2048) No Lammers Interchange Required Metered Ramp Lanes

2048 No Lammers Build	Eastbound I-580/Corral Hollow Rd		Westbound I-580/Corral Hollow Rd	
	Diagonal On-Ramp		Diagonal On-Ramp	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
On-Ramp Demand Volume	1100	1080	1543	191
Percentage using HOV Bypass	10%	10%	10%	10%
On-Ramp GP Lane Volume	990	972	1389	172
Truck Percent	5%	5%	5%	5%
Trucks	55	54	77	10
Truck PCE *Truck PCE = 1 for Truck % ≤ 5%* *Truck PCE = 2 for Truck % > 5%*	1	1	1	1
GP Lane Volume with Truck PCE	990	972	1389	172
Entrance lanes required*	2 GP + 1 HOV		2 GP + 1 HOV	

**Entrance Lanes required were determined based on the highest of the AM and PM peak-hour volumes*

On-Ramp Storage Lengths

Similar to Design Year (2048) With Lammers conditions, on-ramp storage lengths required were determined for Design Year (2048) No Lammers conditions in the AM and PM peak hour. Results of the analysis are provided in **Table 56**. Based on the higher of the AM and PM peak-hour demands, the minimum required storage length for the eastbound on-ramp was determined to be 1,005 ft, 2,010 ft, and 1,117 ft for Option 1, Option 2, and Option 3, respectively. For the westbound on-ramp, the minimum required storage lengths were 1,410 ft, 2,820 ft, and 1,566 ft for Option 1, Option 2, and Option 3, respectively.

Table 56. Design Year (2048) No Lammers Interchange Required On-Ramp Storage Lengths

Ramp Location	# of Lanes		AM Peak Hour							
			Demand Volume							7% Metered Lane Storage Requirement
			Vehicles				PCE			
	GP	HOV	Total	GP	Truck	HOV	Total	GP	HOV	Length (ft) per Lane
Eastbound I-580										
Corral Hollow Diagonal On-Ramp (Option 1)	2	1	1,100	935	55	110	1,100	990	110	1,005
Corral Hollow Diagonal On-Ramp (Option 2)	1	1	1,100	935	55	110	1,100	990	110	2,010
Corral Hollow Diagonal On-Ramp (Option 3)	2	0	1,100	1045	55	0	1,100	1,100	0	1,117
Westbound I-580										
Corral Hollow Diagonal On-Ramp (Option 1)	2	1	1,543	1312	77	154	1,543	1,389	154	1,410
Corral Hollow Diagonal On-Ramp (Option 2)	1	1	1,543	1312	77	154	1,543	1,389	154	2,820
Corral Hollow Diagonal On-Ramp (Option 3)	2	0	1,543	1466	77	0	1,543	1,543	0	1,566
Ramp Location	# of Lanes		PM Peak Hour							
			Demand Volume							7% Metered Lane Storage Requirement
			Vehicles				PCE			
	GP	HOV	Total	GP	Truck	HOV	Total	GP	HOV	Length (ft) per Lane
Eastbound I-580										
Corral Hollow Diagonal On-Ramp (Option 1)	2	1	1,080	918	54	108	1,080	972	108	987
Corral Hollow Diagonal On-Ramp (Option 2)	1	1	1,080	918	54	108	1,080	972	108	1,973
Corral Hollow Diagonal On-Ramp (Option 3)	2	0	1,080	1026	54	0	1,080	1,080	0	1,096
Westbound I-580										
Corral Hollow Diagonal On-Ramp (Option 1)	2	1	191	162	10	19	191	172	19	175
Corral Hollow Diagonal On-Ramp (Option 2)	1	1	191	162	10	19	191	172	19	349
Corral Hollow Diagonal On-Ramp (Option 3)	2	0	191	181	10	0	191	191	0	194

Note:
*Minimum Required Storage Length is shown in **bold** and highlighted (the higher of AM and PM).*
GP = General Purpose, HOV = High Occupancy Vehicle; Truck Percentage assumed to be 5%

SUMMARY

The purpose of the I-580/Corral Hollow Road Interchange Project is to improve traffic operations along Corral Hollow Road within the limits of the I-580/Corral Hollow Road interchange. It aligns with various regional and local plans, including the Tracy Hills Specific Plan (THSP) EIR and the 2012 City of Tracy Transportation Master Plan.

The I-580/Corral Hollow Road Interchange Project proposes interchange modifications to improve traffic operations and provide safer bicycle and pedestrian connectivity along Corral Hollow Road. The current configuration of the interchange allows for high speed northbound and southbound vehicle movements, which results in high delays for vehicles exiting from I-580 and safety impacts for non-motorized users. The project proposes to improve traffic operations within the Corral Hollow Road interchange while also improving bicycle and pedestrian accessibility for both sides of the I-580 interchange.

Proposed Alternatives

Project Opening Year (2028), Interim Year (2035) and Design Year (2048) conditions were analyzed under No Build and four (4) Build alternatives as described below.

No Build Alternative assumes programmed and planned improvements within the City of Tracy, as shown below for 2028, 2035, and 2048. Corral Hollow Road will be two lanes between north of Sierra View Drive and south of Tracy Hills Drive (within Caltrans right of way).

- *Corral Hollow Road/Sierra View Drive* – Construct a new 2-lane roundabout at the intersection of Corral Hollow Road and Sierra View Drive. Widen Corral Hollow Road from 2 lanes to 4 lanes just north and south of the intersection.
- *Corral Hollow Road/Tracy Hills Drive* – Modify the intersection of Corral Hollow Road and Tracy Hills Drive to include a second southbound left lane. Widen Corral Hollow Road from 2 lanes to 4 lanes just north and south of the intersection.

Build Alternative assumes completion of the I-580/Corral Hollow Road Interchange Project with the four build alternatives below. As part of all four build alternatives, Corral Hollow Road will be widened from two lanes to four lanes between north of Sierra View Drive and south of Tracy Hills Drive.

- Build Alternative 1 – Roundabouts (RAB)
- Build Alternative 2 – Tight Diamond Interchange (TDI)
- Build Alternative 3 – Partial Cloverleaf/Tight Diamond Interchange (ParClo/TDI)
- Build Alternative 4 – Diverging Diamond Interchange (DDI)

The difference in the I-580 ramp termini intersection configurations between Existing and the Future preferred Build Alternative 4 are shown in **Table 57**.

Table 57. I-580/Corral Hollow Rd Interchange Configuration Comparison

	Existing Configuration	Future (Preferred) Configuration
Interchange Type	Tight Diamond (TDI)	Diverging Diamond (DDI)
Intersection Control		
EB Ramp Terminus	Off Ramp Stop-controlled	Signalized
WB Ramp Terminus	Off Ramp Stop-controlled	Signalized
Intersection Lane Configuration		
EB Ramp Terminus	NB Approach: 1TR SB Approach: 1LT EB Approach: 1LTR	NB Approach: 2T, 1R SB Approach: 1LT, 1T EB Approach: 2L, 1R
WB Ramp Terminus	NB Approach: 1LT SB Approach: 1TR WB Approach: 1LTR	NB Approach: 1LT, 1T SB Approach: 1R, 2T WB Approach: 2L, 1R
Pedestrian & Bicycle Infrastructure		
Infrastructure Type	None	Sidewalks & Crosswalks Pedestrian Signals Class I Multiuse Trail
Lanes at Mainline Merge Location		
EB I-580 Off-Ramp	1 Lane	1 Lane
EB I-580 On-Ramp	1 Lane	1 Lane
WB I-580 Off-Ramp	1 Lane	1 Lane
WB I-580 On-Ramp	1 Lane	1 Lane
On-Ramp Lanes		
EB I-580 On-Ramp	1 GP	2 GP + 1 HOV
WB I-580 On-Ramp	1 GP	2 GP + 1 HOV
On-Ramp Metering		
EB I-580 On-Ramp	No	Yes
WB I-580 On-Ramp	No	Yes

Traffic Operations Analysis

Study intersections were analyzed using the SimTraffic microsimulation program for signalized and stop-controlled intersections and the Sidra Intersection software for roundabouts for the AM and PM peak hours and the freeway mainline was analyzed using the Highway Capacity Software (HCS) Freeway Facilities Module for the AM peak period (5 – 8 AM) and PM peak period (3 – 6 PM) using methodologies consistent with the HCM 6th Edition (Highway Capacity Manual – Transportation Research Board, 2016).

Table 58 and **Table 59** summarize the intersection operations for the Existing, Opening Year (2028), Interim Year (2035), and Design Year (2048) conditions for the AM and PM peak hours, respectively.

Table 58. Intersection Operations LOS Comparison - AM Peak Hour

No.	Intersection	Existing	Opening Year (2028)					Interim Year (2035)					Design Year (2048)								
			No Build	Build Alternative				No Build	Build Alternative				No Build	Build Alternative_ With Lammers IC				Build Alternative_ No Lammers IC			
				1	2	3	4		1	2	3	4		1	2	3	4	1	2	3	4
1	Sierra View Dr & Corral Hollow Rd	-	B	B	B	B	B	D	D	D	D	D	B	C	C	C	C	D	D	D	D
2	EB I-580 Ramps & Corral Hollow Rd	A	F	B	B	B	A	F	B	C	C	A	F	B	C	C	B	B	E	C	B
3	WB I-580 Ramps & Corral Hollow Rd	A	F	B	D	B	A	F	B	E	B	B	F	B	C	B	B	C	E	B	B
4	Tracy Hills Dr & Corral Hollow Rd	C	C	C*	C	C	C	F	E*	E	D	D	F	E*	E	E	E	F*	F	E	E
Total	A-D	3	2	4	4	4	4	1	3	2	4	4	1	3	3	3	3	3	1	3	3
	E-F	0	2	0	0	0	0	3	1	2	0	0	3	1	1	1	1	1	3	1	1

Note: No Build = TDI, Alt 1 = RAB, Alt 2 = TDI, Alt 3 = ParClo/TDI, Alt 4 = DDI
**Build Alternative 1 is analyzed in Sidra intersection software only, so the Tracy Hills Dr intersection (#4) is not analyzed. There is no impact of queue spillback from the WB I-580 ramp terminus intersection (#3), so it is assumed the Tracy Hills Dr intersection (#4) operates at the worst LOS of Build Alternatives 2 to 4. Key project intersections are highlighted in grey.*

Table 59. Intersection Operations LOS Comparison - PM Peak Hour

No.	Intersection	Existing	Opening Year (2028)					Interim Year (2035)					Design Year (2048)								
			No Build	Build Alternative				No Build	Build Alternative				No Build	Build Alternative_ With Lammers IC				Build Alternative_ No Lammers IC			
				1	2	3	4		1	2	3	4		1	2	3	4	1	2	3	4
1	Sierra View Dr & Corral Hollow Rd	-	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
2	EB I-580 Ramps & Corral Hollow Rd	F	F	B	B	B	B	F	B	C	B	B	F	B	C	B	B	B	C	C	B
3	WB I-580 Ramps & Corral Hollow Rd	A	F	B	B	B	B	F	B	C	C	B	F	B	B	B	B	B	C	B	B
4	Tracy Hills Dr & Corral Hollow Rd	B	F	C*	C	C	C	F	E*	E	E	D	D	D*	D	D	D	E*	E	E	D
Total	A-D	2	1	4	4	4	4	1	3	3	3	4	2	4	4	4	4	3	3	3	4
	E-F	1	3	0	0	0	0	3	1	1	1	0	2	0	0	0	0	1	1	1	0

Note: No Build = TDI, Alt 1 = RAB, Alt 2 = TDI, Alt 3 = ParClo/TDI, Alt 4 = DDI
**Build Alternative 1 is analyzed in Sidra intersection software only, so the Tracy Hills Dr intersection (#4) is not analyzed. There is no impact of queue spillback from the WB I-580 ramp terminus intersection (#3), so it is assumed the Tracy Hills Dr intersection (#4) operates at the worst LOS of Build Alternatives 2 to 4. Key project intersections are highlighted in grey.*

Based on the operational analysis results, the following can be concluded:

Existing Conditions

Under Existing conditions, all study intersections operate at acceptable LOS D or better in the AM peak hour and one (1) study intersection, the EB I-580 ramp terminus intersection (#3) operates at an unacceptable **LOS F** in the PM peak hour. All queues remain within the available storage capacity.

On the I-580 mainline, in the eastbound direction, all segments operate at LOS D or better with average travel speeds as low as 58 MPH in the AM peak period and 53 MPH in the PM peak period. In the westbound direction, some segments operate at **LOS F** in one or more hours during the AM peak period with average travel speeds as low as 22 MPH. In the PM peak period, all segments operate at LOS D or better with average travel speeds as low as 61 MPH.

Future No Build Conditions Operations

Under Opening Year (2028), Interim Year (2035), and Design Year (2048) No Build conditions, the study intersections would see a deterioration in delay to **LOS E** or **LOS F** in the AM and PM peak periods. Focusing on the I-580 ramp termini intersections, significant queueing would be observed on the EB and WB I-580 off-ramps, resulting in disruptions on the I-580 mainline in both directions. On mainline I-580, operations remain similar or slightly worsen under No Build conditions compared to Existing conditions, with demand/capacity generally increasing and average travel speeds dropping.

Future Build Conditions Operations

Under all four Build alternatives, the intersection delays, queues, and overall network performance MOEs would improve from No Build conditions. These improvements are attributed to increased capacity from the widening of Corral Hollow Road and the addition of intersection controls and turn lanes, allowing eastbound and westbound off-ramp traffic from I-580 to turn onto Corral Hollow Road. The Build Alternatives also provide new pedestrian crossings and bicycle facilities which allow safer, more comfortable crossings for non-motorized users through the interchange.

On mainline I-580, the project shows no significant impacts when comparing No Build to Build conditions.

Ramp Analysis

The project provides the required number of metered ramp lanes, but the on-ramp storage lengths are not sufficient based on Caltrans' *Ramp Metering Design Manual* (2022).

Minimum lengths for on-ramp auxiliary lanes are also not required based on Caltrans' Highway Design Manual, 7th Edition (2019).

I-580/Lammers Road Interchange

The Interim Year (2035) scenario was included in the analysis to evaluate the worst-case scenario for the I-580/Corral Hollow Road interchange prior to the opening of the I-580/Lammers Road interchange in 2035.

Compared to Design Year (2048) conditions, the Interim Year (2035) conditions analysis showed that the study intersections would generally operate worse in terms of LOS and queueing, and the mainline would see similar operations, except for where slowdowns occur at the merge and diverge segments at the I-580/Lammers Road interchange under Design Year (2048) conditions.

An additional scenario for Design Year (2048) without construction of the I-580/Lammers Road interchange was also analyzed in the case that the interchange is not completed. Similar to Interim Year (2035) conditions, the analysis showed that the adjacent interchange study intersections along Corral Hollow Road would generally operate worse in terms of LOS and queueing and mainline operations would deteriorate compared to Design Year (2048) with construction of the I-580/Lammers Road interchange. In particular, the Tracy Hills Drive intersection would see significant increases in delay and queueing, resulting in greater disruptions to traffic flow on local streets.

Based on these analyses, it can be concluded that the proposed I-580/CH Corral Hollow Rd interchange DDI alternative would improve the traffic operations while enhancing bicycle and pedestrian circulation and safety. In addition, construction of the I-580/Lammers Road interchange would facilitate improved operations at the I-580/Corral Hollow Road interchange.

Conclusion

Overall, Build Alternative 4, the Diverging Diamond Interchange (DDI), shows the best overall benefits for the project, with the most improvements in delay and queueing at the intersections and the best network performance out of the Build Alternatives. In addition to improving vehicle operations, Alternative 4 provides substantial advantages for pedestrians and cyclists by enhancing circulation and safety. The inclusion of signalized crossings within the Diverging Diamond Interchange design creates safer and more direct pathways for non-motorized users, effectively addressing important multimodal connectivity issues. Furthermore, the signals facilitate improved coordination and synchronization with nearby traffic signals, supporting smoother and more efficient traffic flow throughout the corridor.

APPENDIX

Appendix A. Traffic Counts and INRIX Speed Data

AM Peak Hour Volume

Intersection	NB Approach				SB Approach				EB Approach				WB Approach				Intersection	
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Overall	
2019 Counts (7-8 AM)																		
Corral Hollow & 580 EB	0	8	6	14	71	315	0	386	117	2	4	123	0	0	0	0	**523**	
Corral Hollow & 580 WB	1	124	0	125	0	228	678	906	0	0	0	0	159	2	117	278	**1309**	
Tracy Hills Dr & Corral Hollow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	
2022 Counts (6-7 AM)																		
Corral Hollow & 580 EB	0	1	5	6	55	678	0	733	80	2	36	118	0	0	0	0	**857**	
Corral Hollow & 580 WB	1	84	0	85	0	394	623	1017	0	0	0	0	318	2	195	515	**1617**	
Tracy Hills Dr & Corral Hollow	141	135	3	279	0	907	113	1020	64	3	102	169	1	2	0	3	**2313**	
Changes																		
Corral Hollow & 580 EB	0	-7	-1	-8	-16	**363**	0	**347**	-37	0	**32**	-5	0	0	0	0	**334**	**64%**
Corral Hollow & 580 WB	0	-40	0	-40	0	**166**	-55	**111**	0	0	0	0	**159**	0	**78**	**237**	**308**	**24%**
Tracy Hills Dr & Corral Hollow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

PM Peak Hour Volume

Intersection	NB Approach				SB Approach				EB Approach				WB Approach				Intersection	
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Overall	
2019 Counts (5-6 PM)																		
Corral Hollow & 580 EB	0	302	540	842	103	10	0	113	250	3	3	256	0	0	0	0	**1211**	
Corral Hollow & 580 WB	20	532	0	552	0	104	87	191	0	0	0	0	9	1	54	64	**807**	
Tracy Hills Dr & Corral Hollow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	
2022 Counts (4-5 PM)																		
Corral Hollow & 580 EB	0	229	434	663	120	13	0	133	253	3	1	257	0	0	0	0	**1053**	
Corral Hollow & 580 WB	27	450	0	477	0	126	128	254	0	0	0	0	8	1	77	86	**817**	
Tracy Hills Dr & Corral Hollow	53	473	0	526	0	185	122	307	141	1	70	212	0	1	1	2	**1035**	
Changes																		
Corral Hollow & 580 EB	0	-73	-106	-179	**17**	**3**	0	**20**	**3**	0	-2	**1**	0	0	0	0	-158	-13%
Corral Hollow & 580 WB	**7**	-82	0	-75	0	**22**	**41**	**63**	0	0	0	0	-1	0	**23**	**22**	**10**	**1%**
Tracy Hills Dr & Corral Hollow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

EB Ramps		WB Ramps	
OFF	**ON**	**ON**	**OFF**
123	79		
		681	278
118	62		
		626	515
-5	-17		
		-55	**237**
256	646		
		108	64
257	557		
		156	86
1	-89		
		48	**22**

EB Ramps

	OFF	ON
5:00-6:00 AM	40	45
6:00-7:00 AM	50	84
7:00-8:00 AM	83	110

WB Ramps

ON	OFF
690	443
765	377
783	343

EB Ramps

	OFF	ON
3:00-4:00 PM	247	478
4:00-5:00 PM	261	593
5:00-6:00 PM	275	638

WB Ramps

ON	OFF
120	82
117	84
119	76

INRIX SPEED DATA

March 6-12, 2022 Typical weekday (Tue-Thu) Average Data

Segment		ID	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
I-580 Eastbound																																																										
	Diverge	1626698712	66	65	64	65	69	67	68	68	68	68	69	68	69	68	68	67	67	67	65	65	64	64	69	67	67	68	68	67	67	68	67	68	68	68	67	68	68	69	68	69	69	69	68	69	68	68	68	69	68	68	68	69	70	69
Patterson Pass Rd	Basic	1626753465	65	63	63	65	70	69	69	67	67	68	67	67	68	69	68	67	67	66	65	65	63	65	68	68	68	68	68	67	66	67	66	68	68	68	67	69	67	67	69	68	70	68	69	67	66	67	67	68	68	68	69	68	68	70	69
	Merge	1626630999	64	67	66	65	69	70	69	67	67	68	68	68	69	68	68	67	67	67	66	66	65	65	68	69	67	68	67	66	65	68	66	67	69	68	69	68	68	68	67	69	68	69	67	67	66	66	66	65	66	68	67	68	68	68	69	68
	Basic	1626631014	65	67	66	65	68	69	69	68	68	69	69	70	70	68	67	68	68	67	66	67	66	67	69	69	68	69	69	67	67	68	67	68	69	68	70	68	69	70	69	69	69	69	70	69	68	68	68	66	68	69	68	70	69	68	70	69
	Basic	1626630993	65	67	66	64	68	68	69	68	67	68	69	70	70	68	67	67	68	68	66	66	66	66	69	69	69	69	68	67	67	67	67	69	70	69	69	69	68	69	69	69	69	69	69	69	68	67	68	66	67	68	67	69	69	68	69	69
	Basic	1626631052	65	67	66	65	68	68	68	68	68	69	70	70	69	68	67	67	68	68	66	67	65	65	69	69	69	69	68	66	66	67	66	68	69	69	69	69	68	68	69	70	70	68	69	69	68	68	66	67	65	66	66	67	69	69	68	69
	Basic	1626631033	65	66	67	65	67	67	69	68	68	69	70	70	70	68	67	67	68	69	66	68	65	66	69	69	69	69	67	67	66	67	67	68	70	68	69	69	69	70	70	70	69	70	70	69	70	66	68	66	65	59	64	69	69	68	70	69
	Basic	1626630938	65	65	66	66	69	68	70	68	68	69	69	69	70	69	68	67	68	69	66	68	66	66	69	69	69	69	68	67	66	68	67	68	70	69	69	70	69	69	69	69	69	69	69	68	69	66	67	64	58	53	57	68	68	67	69	69
	Basic	1626630919	65	65	67	66	68	68	69	69	68	69	70	69	70	70	68	67	69	70	67	67	66	67	68	69	68	69	68	67	65	67	67	68	71	68	69	69	68	69	69	68	69	69	70	68	69	68	67	61	53	55	56	61	66	67	70	70
	Basic	1626630976	65	64	65	65	68	68	70	69	67	68	69	69	70	70	68	67	68	69	67	67	67	66	68	69	67	69	68	65	66	67	66	67	70	69	70	68	68	69	68	68	69	69	70	68	69	68	67	52	45	53	54	55	59	67	69	69
	Diverge	1626630957	64	65	66	64	66	67	69	69	66	66	68	69	69	68	67	66	66	67	65	66	66	65	67	68	67	69	66	64	64	65	65	66	69	68	69	67	67	68	67	67	68	68	67	65	67	64	62	46	40	53	53	55	58	64	67	68
Corral Hollow Rd	Basic	1626753445	64	65	66	64	67	67	69	68	67	68	68	68	69	69	68	67	68	68	66	67	67	66	68	69	69	69	67	66	64	66	65	68	69	69	68	68	69	68	69	69	69	70	68	67	68	65	61	55	56	63	63	65	64	66	69	68
	Merge	1626753343	65	67	67	65	67	66	68	68	68	69	68	69	68	69	68	68	69	69	67	69	67	67	68	69	70	70	70	68	67	67	66	69	70	70	69	70	69	70	70	70	72	71	70	69	67	55	58	60	61	65	67	67	68	70	69
	Basic	1626753325	65	66	65	65	67	66	68	69	68	69	69	69	70	70	67	67	70	69	67	69	67	67	68	70	69	70	70	69	68	68	67	68	69	70	70	69	69	69	69	69	69	72	71	70	69	67	57	59	55	58	65	65	64	68	68	68
	Basic	1626753383	64	64	65	65	67	67	69	69	68	69	69	69	70	70	67	67	71	70	68	69	68	67	67	70	69	70	69	68	67	68	68	68	69	70	70	68	70	69	69	70	70	71	71	70	69	68	64	64	62	64	66	68	66	69	68	68
	Basic	400421603	64	64	65	65	66	67	69	69	67	69	68	69	69	70	68	67	69	70	67	70	68	66	67	70	68	70	69	66	67	68	69	69	69	70	71	69	70	69	70	70	69	70	71	70	70	69	65	66	65	67	66	66	68	69	68	68
	Diverge	1626753261	64	65	64	65	67	65	68	69	67	68	68	67	69	69	68	66	68	69	66	68	68	66	66	69	67	68	68	67	66	67	68	67	68	68	69	68	69	67	68	68	68	68	69	69	69	68	65	66	65	66	66	65	67	67	67	67
SR 132	Basic	400070856	67	65	67	66	68	67	67	71	68	69	70	69	70	70	69	68	68	69	68	70	71	71	67	69	69	70	70	68	66	68	68	68	70	70	71	71	69	69	71	70	70	71	73	71	71	72	71	70	71	71	70	70	71	71	71	69
I-580 Westbound																																																										
SR 132	Basic	1626687248	69	69	71	71	68	69	65	42	40	41	36	31	47	59	64	68	68	68	69	67	68	70	70	69	68	68	69	69	69	70	66	70	68	68	69	68	69	69	71	70	70	69	69	69	70	72	72	71	71	68	70	71	68	66	68	69
	Merge	170404958	68	69	72	70	68	65	44	23	22	21	20	18	26	33	54	69	69	68	68	67	68	69	69	70	69	68	69	69	69	69	67	71	67	70	69	69	70	69	70	70	70	70	70	69	71	72	71	71	70	69	73	72	69	67	70	72
	Basic	400428728	68	69	70	69	67	61	48	39	39	31	30	34	32	36	55	68	70	69	69	66	68	69	69	70	70	68	69	68	69	69	67	72	68	71	69	69	70	69	70	69	69	71	70	70	71	72	72	71	70	70	74	71	69	68	70	72
	Basic	1626714398	68	69	70	70	67	63	52	49	42	32	34	34	34	40	52	66	70	69	69	68	68	69	69	70	70	67	70	68	69	69	68	72	69	71	70	69	70	69	70	69	70	70	70	70	71	72	71	72	70	70	74	71	69	68	70	72
	Basic	1626714275	68	69	70	69	66	61	51	54	42	36	32	36	42	44	54	67	70	69	69	68	68	70	69	69	69	68	70	67	68	68	67	72	69	71	70	69	69	70	70	69	70	70	70	70	71	73	72	72	70	70	74	71	70	69	70	71
	Basic	1626714296	68	70	69	69	66	56	49	47	39	41	39	44	47	54	60	67	69	69	69	68	68	69	69	70	69	68	70	67	68	70	67	72	70	71	69	69	69	70	70	69	70	69	69	70	70	71	72	72	70	70	73	71	70	68	70	70
	Diverge	1626714316	68	70	69	67	64	54	45	40	36	37	37	46	50	58	63	67	70	69	68	68	67	68	69	69	68	68	69	68	67	69	67	70	70	71	69	69	68	70	69	69	70	69	69	70	70	69	71	71	70	69	73	71	69	67	69	71
Corral Hollow Rd	Basic	1626687231	67	69	68	65	63	54	45	46	32	23	26	37	51	59	58	66	68	67	67	66	66	68	68	68	67	68	68	67	66	68	66	69	69	70	69	68	68	68	68	68	69	69	69	69	69	68	70	70	70	68	72	71	69	68	69	70
	Merge	1626687134	67	68	67	63	63	56	44	45	35	29	31	38	49	54	56	67	68	67	67	66	65	67	67	67	66	68	68	66	66	67	66	69	67	69	68	67	67	68	69	69	69	69	70	69	69	66	70	70	70	68	71	70	69	68	68	70
	Basic	1626687112	68	69	67	66	65	60	55	51	48	42	43	44	50	53	61	66	69	67	69	68	67	68	68	68	67	70	69	67	66	68	68	71	68	68	68	67	67	69	71	68	68	70	71	70	69	68	70	71	71	68	70	70	70	67	68	70
	Basic	1626687172	68	69	67	67	65	62	58	56	55	52	53	49	56	60	65	67	70	68	69	67	67	68	69	67	68	70	70	68	68	68	67	71	69	68	68	67	67	69	71	69	68	70	70	70	69	70	70	70	72	69	70	70	70	67	68	70
	Basic	1626687156	68	69	68	66	65	63	59	58	56	57	57	51	60	62	65	67	69	68	69	68	67	68	69	67	69	70	70	69	68	67	68	71	69	69	68	66	67	69	71	69	69	70	70	71	69	69	70	70	71	69	70	69	70	68	68	70
	Basic	1626687056	68	68	67	67	65	63	60	59	57	57	54	53	61	62	65	67	69	68	68	67	66	68	69	67	67	69	69	68	68	68	69	70	69	69	67	67	68	70	71	69	69	71	70	71	69	68	70	70	70	70	71	71	70	68	67	70
	Basic	1626687037	69	69	67	67	65	63	60	58	57	58	53	57	61	63	58	67	69	68	69	67	66	68	69	67	67	69	69	68	69	68	68	70	70	69	66	67	69	70	71	69	68	70	71	71	68	70	70	70	71	71	70	71	70	69	69	70
	Basic	1626687095	69	69	68	67	66	64	61	59	58	57	55	62	64	61	57	68	69	69	69	68	67	69	70	67	67	69	69	69	69	68	67	71	70	69	67	66	68	70	71	70	69	70	71	70	69	70	70	70	71	71	70	71	70	69	68	71
	Basic	1626687098	68	68	66	66	65	61	58	58	57	54	57	62	63	58	57	68	70	69	67	67	66	69	70	69	68	68	70	69	69	68	67	70	69	68	68	67	68	69	70	69	68	70	69	70	69	69	70	70	71	69	70	72	69	68	68	71
	Diverge	1626687078	68	67	65	66	65	62	58	57	58	58	57	61	62	54	59	67	68	68	67	67	67	68	69	68	68	69	70	68	67	69	67	70	70	68	66	67	67	68	70	69	68	70	70	70	69	69	70	69	71	69	69	71	68	69	70	69
Mountain House Pkwy	Basic	1626679920	68	69	67	67	66	64	61	60	60	61	61	62	62	52	64	68	68	68	68	67	66	68	68	67	68	68	69	70	66	69	68	69	70	68	66	66	66	68	69	69	69	70	70	72	68	69	70	70	72	70	69	70	69	69	68	70

INRIX SPEED DATA

September & October 2019 Typical weekday (Tue-Thu) Average Data

Segment		ID	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
I-580 Eastbound																																																										
	Diverge	1626698712	64	65	70	68	67	66	68	69	69	69	67	67	70	70	69	72	71	71	70	70	70	69	69	71	71	69	70	69	68	69	69	70	70	70	69	71	71	72	71	71	71	71	71	71	71	71	71	70	70	71	72	73	71	72	71
Patterson Pass Rd	Basic	1626753465	64	64	70	67	68	67	68	70	70	69	68	68	72	71	71	71	71	72	71	70	70	69	69	70	70	68	70	69	68	69	68	70	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	64	67	70	68	68	67	68	70	70	69	68	68	71	70	70	71	71	71	70	69	68	69	69	69	70	68	68	69	68	68	68	69	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	64	66	70	68	67	68	68	70	70	69	68	68	71	70	71	72	71	71	71	69	68	69	68	69	70	69	68	69	69	69	69	69	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	64	65	70	68	67	67	67	70	69	70	68	69	72	70	71	72	71	71	72	70	70	70	70	69	70	69	69	69	69	69	69	69	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	64	65	70	69	66	66	67	70	69	69	68	68	72	70	71	73	71	71	72	70	70	70	70	70	71	70	69	69	69	69	70	70	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	64	66	70	69	69	68	68	70	70	70	69	69	72	70	71	73	71	72	72	71	71	71	71	71	71	70	70	69	70	69	70	70	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	64	65	70	69	68	68	67	70	71	70	70	69	72	71	71	73	72	73	72	71	71	71	70	71	72	70	70	69	70	70	69	71	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	64	65	70	70	69	68	68	70	70	70	70	70	72	72	71	73	72	73	72	70	70	71	70	71	72	70	70	69	70	69	69	70	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	64	65	69	70	69	68	68	70	70	70	70	70	72	72	71	73	71	72	72	69	70	71	69	71	72	70	70	70	70	69	69	70	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	64	64	66	68	68	67	67	69	69	68	70	69	71	71	70	71	70	71	71	69	69	70	68	69	70	69	68	69	69	69	68	69	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	63	64	65	67	67	67	66	69	70	68	70	69	70	70	70	71	71	72	71	70	69	69	69	69	70	69	68	69	69	68	69	70	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	64	65	66	68	68	68	67	70	69	69	70	69	69	71	70	71	71	71	72	70	70	70	70	70	71	70	69	70	70	70	70	71	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	64	65	66	69	69	69	67	70	69	70	71	70	70	71	71	72	72	71	72	71	71	70	70	70	72	70	69	71	71	70	71	71	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	64	65	65	69	69	69	67	70	70	70	70	70	70	71	71	72	72	72	72	71	71	70	70	71	71	70	69	70	71	69	70	71	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	64	65	67	69	69	69	66	70	71	69	70	70	70	71	71	72	73	72	72	71	70	70	70	70	71	69	69	70	70	70	70	71	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	64	64	66	69	68	68	66	69	70	69	69	69	68	70	70	72	72	71	72	70	70	69	69	69	70	69	68	69	69	69	69	70	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	65	64	65	69	70	69	67	69	71	70	69	71	70	71	71	72	74	71	71	70	72	72	71	71	72	71	69	70	70	70	71	71	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	74	74	72	67	63	57	46	38	31	29	30	34	40	52	60	66	68	71	71	72	71	71	71	71	70	68	67	68	68	68	69	70	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	72	71	67	60	56	46	36	27	24	20	21	23	25	36	50	59	65	70	71	71	71	72	71	70	70	69	69	71	69	69	68	71	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	70	70	66	61	59	51	41	34	30	26	25	28	28	38	50	58	64	69	71	71	71	72	71	71	71	70	70	71	70	70	69	71	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	70	69	66	62	60	54	42	36	31	27	25	30	31	39	49	56	63	68	71	71	71	72	72	71	71	70	70	71	69	70	70	71	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	68	65	62	60	53	42	37	31	27	26	31	32	37	44	52	60	67	70	70	70	71	71	71	70	69	70	70	69	69	69	71	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	69	68	65	63	59	50	40	36	30	25	25	30	32	35	38	49	59	65	69	70	70	70	70	71	70	69	69	70	69	68	69	70	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	69	68	64	62	57	47	37	34	27	24	24	28	30	33	33	46	57	64	67	68	70	70	70	70	69	68	69	70	68	68	68	70	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	68	66	63	60	55	44	36	32	24	21	23	24	27	28	28	41	54	60	66	67	69	68	69	69	69	67	68	69	68	67	68	69	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	66	62	59	55	46	38	35	30	28	30	29	32	32	33	43	54	60	64	65	68	68	69	69	69	68	69	70	69	67	68	69	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	69	66	63	61	58	52	46	44	42	41	39	39	42	43	45	52	59	62	65	67	68	69	70	69	70	69	69	70	70	68	68	70	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	70	68	66	63	60	54	50	46	45	45	42	43	46	46	50	56	62	65	67	68	69	70	70	70	70	69	70	71	71	69	69	71	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	69	67	65	63	60	53	50	44	45	44	41	43	46	47	53	57	62	64	67	68	69	70	70	70	70	69	69	71	70	69	69	70	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	66	65	62	58	52	49	44	45	42	41	45	49	50	55	59	63	64	68	68	69	70	70	70	70	70	70	71	70	69	69	70	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	70	67	66	63	58	52	49	45	45	41	40	45	49	51	57	60	64	65	69	68	69	70	71	70	71	70	70	72	71	70	70	70	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	68	67	64	59	52	47	45	46	40	40	44	50	51	58	61	64	66	69	69	70	70	71	71	71	71	70	72	71	70	70	71	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	66	65	62	56	50	45	45	44	41	40	43	49	52	58	60	62	65	68	68	69	69	70	70	70	69	70	71	70	69	69	70	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	65	63	60	53	48	44	45	44	42	40	45	49	53	57	59	60	63	66	67	67	68	69	69	69	68	68	70	69	68	68	69	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	69	67	65	61	54	49	47	48	42	41	41	49	49	55	58	62	62	65	67	69	68	69	70	70	70	69	69	70	70	68	69	69	68	69	70	70	69	70	71	73	70	70	70	71	72	73	73	73	73	72	73	73	73	73	72	73

Prepared by National Data & Surveying Services

Corral Hollow Rd & I-580 EB Ramps

Peak Hour Turning Movement Count

ID: 19-08184-005
City: Tracy

Day: Thursday
Date: 04/11/2019

PEAK HOURS	COUNT PERIODS
07:00 AM - 08:00 AM	07:00 AM - 09:00 AM
NONE	NONE
05:00 PM - 06:00 PM	04:00 PM - 06:00 PM

Corral Hollow Rd — SOUTHBOUND

AM	0	315	71	0	125	AM
NOON	0	0	0	0	0	NOON
PM	0	10	103	0	552	PM

I-580 EB Ramps — EASTBOUND

AM	NOON	PM		
0	0	0		
0	0	0	0	
117	0	250	0	
2	0	3	1	
4	0	3	1	
AM	NOON	PM		

CONTROL

1-Way Stop (EB)

TEV	523 AM	0 NOON	1211 PM
PHF	0.83		0.92

WESTBOUND — I-580 EB Ramps

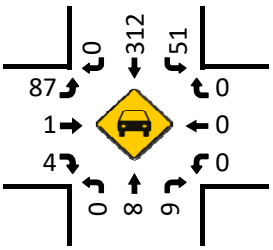
PM	NOON	AM	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
646	0	79	
PM	NOON	AM	

Corral Hollow Rd — NORTHBOUND

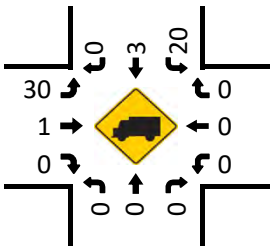
PM	13	0	0	302	540	PM
NOON	0	0	0	0	0	NOON
AM	319	0	0	8	6	AM

0 1 0 0 — 0 0 1 0

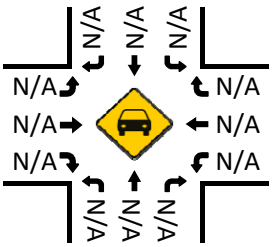
Cars (AM)



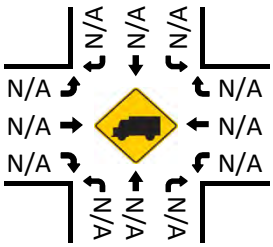
HT (AM)



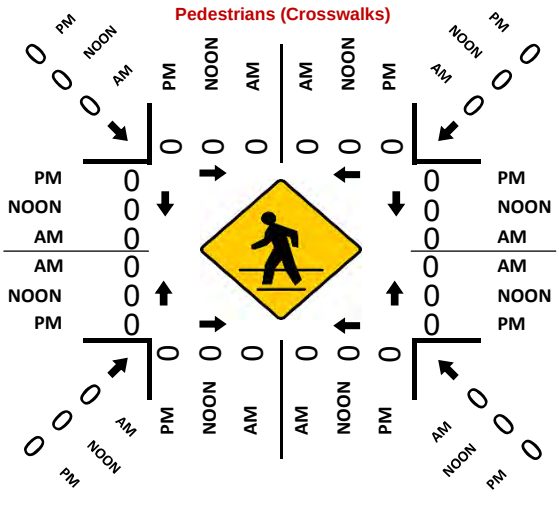
Cars (NOON)



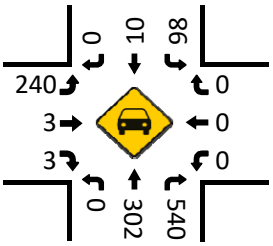
HT (NOON)



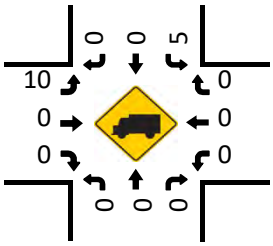
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Corral Hollow Rd & I-580 WB Ramps

Peak Hour Turning Movement Count

ID: 19-08184-006
City: Tracy

Day: Thursday
Date: 04/11/2019

PEAK HOURS	COUNT PERIODS
07:00 AM - 08:00 AM	07:00 AM - 09:00 AM
NONE	NONE
05:00 PM - 06:00 PM	04:00 PM - 06:00 PM

Corral Hollow Rd — SOUTHBOUND

AM	678	228	0	0	241	AM
NOON	0	0	0	0	0	NOON
PM	87	104	0	0	586	PM

I-580 WB Ramps — EASTBOUND

AM	NOON	PM		
681	0	108	⇦	
0	0	0	↶	0
0	0	0	↱	0
0	0	0	→	0
0	0	0	↴	0
AM	NOON	PM		

CONTROL

1-Way Stop (WB)

TEV	1309	0	807
	AM	NOON	PM
PHF	0.87		0.90

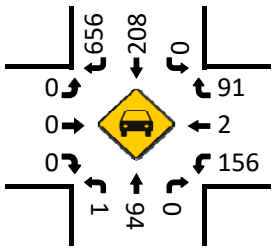
WESTBOUND — I-580 WB Ramps

PM	NOON	AM		
54	0	117	↰	1
1	0	2	←	1
9	0	159	↰	0
0	0	0	↶	0
0	0	0	⇨	
PM	NOON	AM		

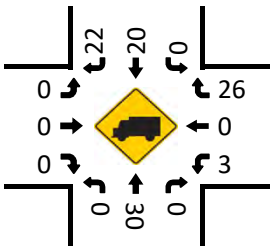
Corral Hollow Rd — NORTHBOUND

PM	113	0	20	532	0	PM
NOON	0	0	0	0	0	NOON
AM	387	0	1	124	0	AM

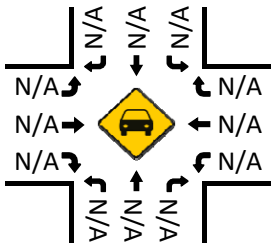
Cars (AM)



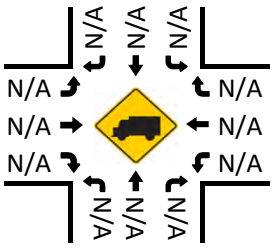
HT (AM)



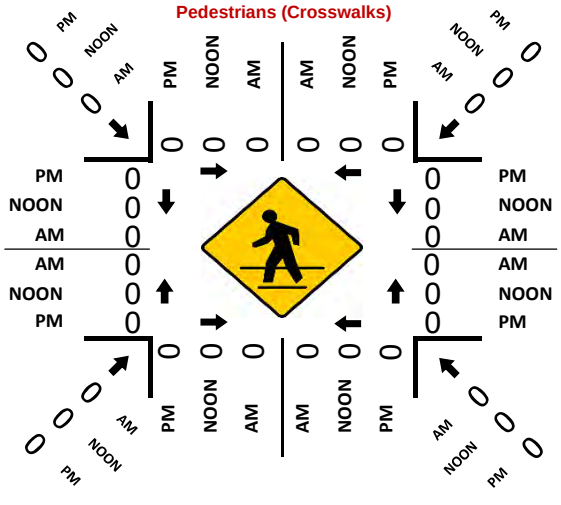
Cars (NOON)



HT (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
0
0
0

Prepared by National Data & Surveying Services

Corral Hollow Rd & I-580 EB Ramps

Peak Hour Turning Movement Count

ID: 22-090006-001
City: Tracy

Day: Tuesday
Date: 3/8/2022

PEAK HOURS	COUNT PERIODS
06:00 AM - 07:00 AM	5:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	4:00 PM - 07:00 PM

SOUTHBOUND (Corral Hollow Rd)

	L	T	R	U	Total	
AM	0	678	55	0	81	AM
NOON	0	0	0	0	0	NOON
PM	0	13	120	0	482	PM

EASTBOUND (I-580 EB Ramps)

	L	T	R	U	Total	
AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

WESTBOUND (I-580 EB Ramps)

	L	T	R	U	Total	
PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

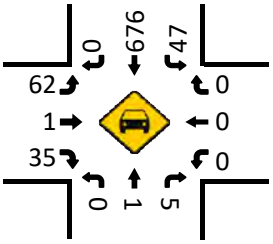
NORTHBOUND (Corral Hollow Rd)

	L	T	R	U	Total	
PM	14	0	0	229	434	PM
NOON	0	0	0	0	0	NOON
AM	714	0	0	1	5	AM

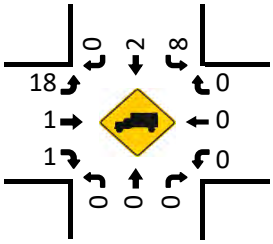
CONTROL: 1-Way Stop(EB)

	AM	NOON	PM
TEV	857	0	1053
PHF	0.90		0.92

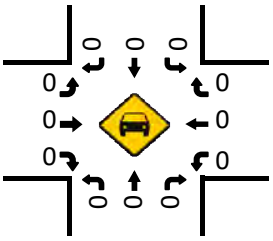
Cars (AM)



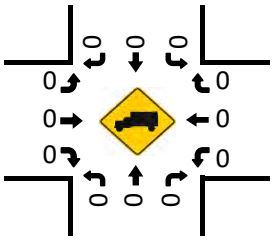
HT (AM)



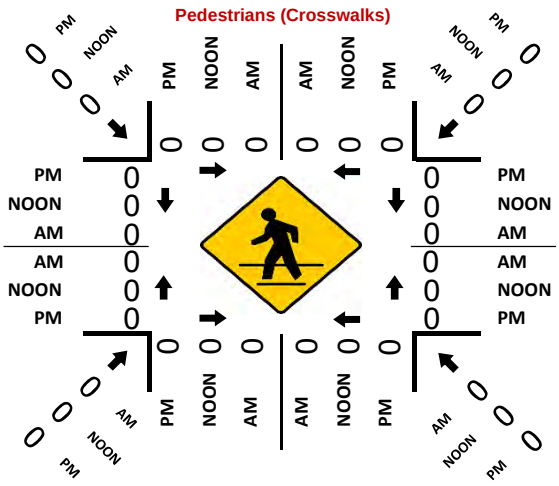
Cars (NOON)



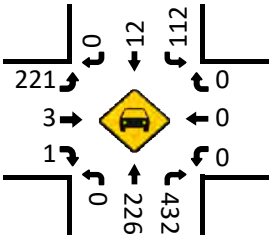
HT (NOON)



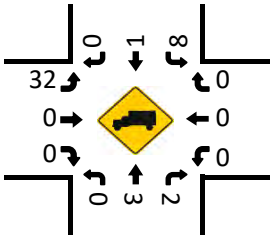
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Corral Hollow Rd & Tracy Hills Dr

Peak Hour Turning Movement Count

ID: 22-090006-003
City: Tracy

Day: Tuesday
Date: 3/8/2022

PEAK HOURS	COUNT PERIODS
06:30 AM - 07:30 AM	5:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	4:00 PM - 07:00 PM

SOUTHBOUND (Corral Hollow Rd)

AM	113	907	0	0	199	AM
NOON	0	0	0	0	0	NOON
PM	122	185	0	0	615	PM
	1	1	0	0		

EASTBOUND (Tracy Hills Dr)

AM	NOON	PM	
256	0	176	
0	0	0	0
64	0	141	2
3	0	1	0
102	0	70	1
AM	NOON	PM	

WESTBOUND (Tracy Hills Dr)

	PM	NOON	AM
0	1	0	0
0	1	0	2
0	0	0	1
0	0	0	0
	1	0	6
	PM	NOON	AM

NORTHBOUND (Corral Hollow Rd)

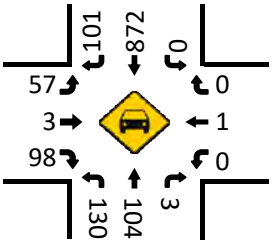
PM	255	0	53	473	0	PM
NOON	0	0	0	0	0	NOON
AM	1010	0	141	135	3	AM
		0	1	1	0	

CONTROL

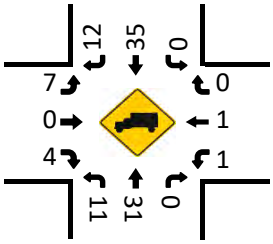
Signalized

TEV	1471 AM	0 NOON	1047 PM
PHF	0.90		0.89

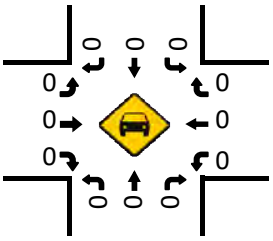
Cars (AM)



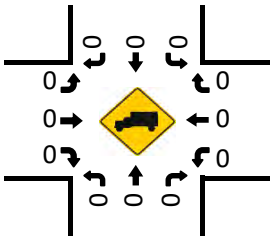
HT (AM)



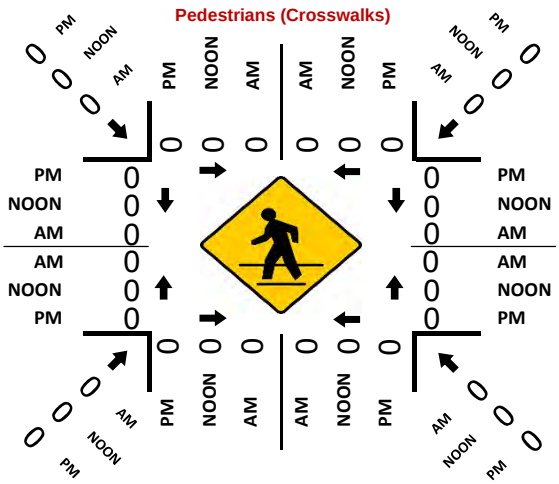
Cars (NOON)



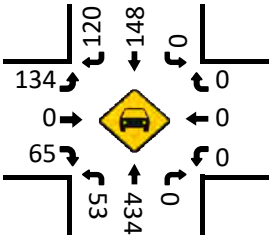
HT (NOON)



Pedestrians (Crosswalks)



Cars (PM)



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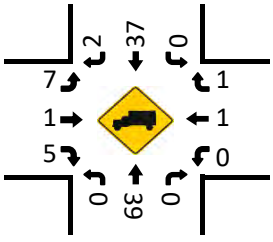


Prepared by National Data & Surveying Services

Corral Hollow Rd & I-580 WB Ramps

Peak Hour Turning Movement Count

ID: 22-090006-002
City: Tracy

Day: Tuesday
Date: 3/8/2022

PEAK HOURS	COUNT PERIODS
06:15 AM - 07:15 AM	5:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	4:00 PM - 07:00 PM

SOUTHBOUND (Corral Hollow Rd)

AM	623	394	0	0	279	AM
NOON	0	0	0	0	0	NOON
PM	128	126	0	0	527	PM

EASTBOUND (I-580 WB Ramps)

AM	NOON	PM	
626	0	156	⇦
0	0	0	↩ 0
0	0	0	↱ 0
0	0	0	→ 0
0	0	0	↴ 0
AM	NOON	PM	

WESTBOUND (I-580 WB Ramps)

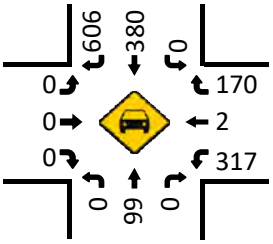
PM	NOON	AM	
77	0	195	1 ↰
1	0	2	1 ←
8	0	318	0 ↩
0	0	0	0 ↪
0	0	0	⇨
PM	NOON	AM	

NORTHBOUND (Corral Hollow Rd)

PM	134	0	27	450	0	PM
NOON	0	0	0	0	0	NOON
AM	712	0	1	84	0	AM

CONTROL			
1-Way Stop(WB)			
TEV	1617 AM	0 NOON	817 PM
PHF	0.88		0.89

Cars (AM)



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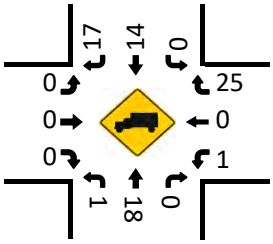

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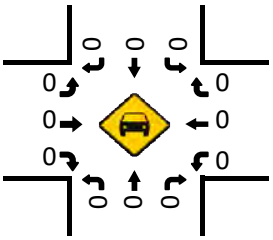

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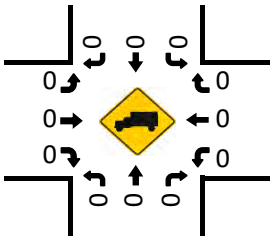
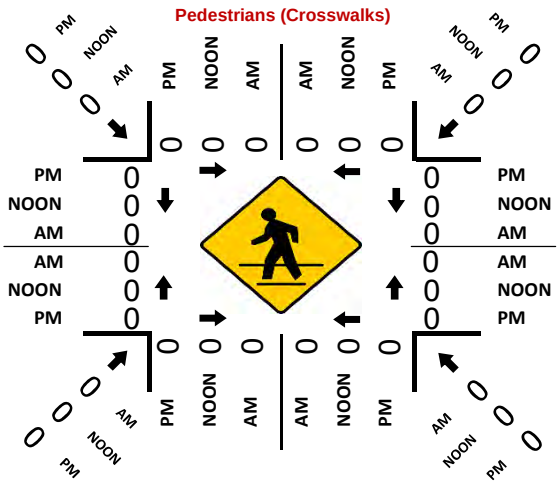


Pedestrians (Crosswalks)



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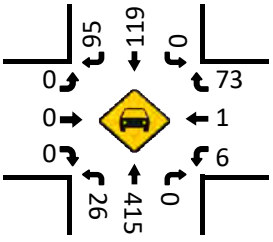

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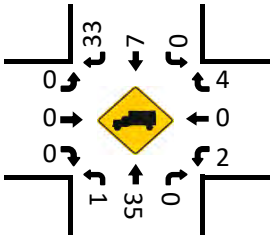


I-580 Eastbound

No.	Type	Location	Source	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total
1	ML	Mainline VDS 10123010 - W/O Patterson Pass Rd	PeMS Fall 2019	427	249	194	191	262	399	577	667	619	738	847	957	1117	1461	1880	2064	1995	1684	1465	1356	1096	839	627	526	**22,238**
2	OFF	Off Ramp VDS 1094310 - Off to Patterson Pass Rd	PeMS Fall 2019	93	40	43	39	51	80	109	103	105	103	82	110	129	137	168	169	151	161	145	151	157	133	94	121	**2,674**
3	ON	On Ramp VDS 1094410 - On from Patterson Pass Rd	PeMS Fall 2019	61	54	47	47	68	62	60	125	226	210	217	245	282	322	465	697	636	713	453	181	82	69	89	97	**5,505**
4	ML	Mainline VDS 10123210 - E/O Patterson Pass Rd	PeMS Fall 2019	393	264	210	205	281	383	554	690	744	861	978	1113	1281	1679	2232	2640	2617	2260	1879	1457	1068	798	615	504	**25,707**
5	OFF	Off Ramp VDS 1094510 - Off to Corral Hollow Rd	PeMS Fall 2019	57	27	19	14	14	45	84	110	102	94	86	110	134	179	222	247	261	275	292	253	203	173	123	85	**3,210**
6	ON	On Ramp VDS 1094610 - On from Corral Hollow Rd	PeMS Fall 2019	12	5	10	13	23	40	50	83	97	80	84	90	106	133	266	478	593	638	433	230	92	46	29	20	**3,650**
7	ML	Mainline VDS 10123610 - E/O Tracy Blvd	PeMS Fall 2019	367	251	198	204	289	382	512	670	747	838	970	1076	1236	1558	2206	2775	2972	2620	2052	1440	980	711	534	458	**26,048**
8	OFF	Off Ramp to EB SR132	Calculated	153	104	76	90	123	122	182	320	379	402	436	498	613	820	1252	1526	1533	1385	1093	688	397	255	192	186	**12,827**
9	ML	Mainline afte SR132 Off ramp	Calculated	215	148	122	114	166	260	329	350	367	436	533	578	623	738	954	1249	1439	1235	960	752	583	456	341	273	**13,221**

I-580 Westbound

No.	Type	Location	Source	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total
1	ML	Mainline	Calculated	232	225	292	720	1330	1220	1016	981	792	634	565	537	522	521	513	567	598	560	515	404	331	288	232	223	**13,817**
2	ON	ON Ramp from WB SR 132	Calculated	37	64	205	870	1700	1599	1309	1213	951	644	474	432	421	375	301	291	293	322	197	107	95	89	79	48	**12,116**
3	ML	Mainline VDS 10123710 - E/O Tracy Blvd	PeMS Fall 2019	269	289	497	1590	3030	2819	2325	2193	1742	1278	1039	969	943	896	814	858	891	881	712	511	425	378	311	271	**25,933**
4	OFF	Off Ramp VDS 1094710 - Off to Corral Hollow Rd	PeMS Fall 2019	9	8	15	115	422	443	377	343	215	144	119	100	99	98	83	82	84	76	57	41	31	24	16	12	**3,013**
5	ON	On Ramp VDS 1094810 - On from Corral Hollow Rd	PeMS Fall 2019	13	18	41	174	497	690	765	783	577	304	221	170	157	140	123	120	117	119	78	46	42	38	22	15	**5,268**
6	ML	Mainline VDS 403525 - E OF PG&E POWER LINE	PeMS Fall 2019	266	275	462	1399	2775	2809	2645	2735	2118	1389	1098	1021	998	931	836	867	910	909	734	518	438	377	324	270	**27,104**
7	OFF	Off Ramp VDS 1094110 - Off to Patterson Pass Rd	PeMS Fall 2019	51	64	92	172	440	606	598	551	394	272	203	214	218	183	152	142	110	139	109	71	71	65	50	53	**5,019**
8	ON	On Ramp VDS 1094210 - On from Patterson Pass Rd	PeMS Fall 2019	47	50	81	210	547	702	738	637	422	206	181	173	165	147	132	138	133	133	109	79	87	107	76	48	**5,350**
9	ML	Mainline VDS 10123110 - W/O Patterson Pass Rd	PeMS Fall 2019	263	269	449	1448	2971	2880	2805	2819	2199	1411	1133	988	952	906	821	865	928	887	733	536	454	419	348	268	**27,753**

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 |
|---|---|---

Appendix B. Existing SimTraffic and HCS LOS Calculation Outputs

2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Vehicles Exited	120	2	5	9	7	72	319	534
Hourly Exit Rate	120	2	5	9	7	72	319	534
Input Volume	120	2	4	10	6	72	322	538
% of Volume	100	100	118	88	112	100	99	99

3: CORRAL HOLLOW RD & I-580 WB ON RAMP/I-580 WB OFF RAMP Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Vehicles Exited	160	2	114	2	128	222	683	1311
Hourly Exit Rate	160	2	114	2	128	222	683	1311
Input Volume	159	2	117	2	129	238	678	1326
% of Volume	101	89	97	89	99	93	101	99

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Vehicles Exited	64	103	139	118	791	112	1327
Hourly Exit Rate	64	103	139	118	791	112	1327
Input Volume	67	102	141	116	804	113	1342
% of Volume	96	101	99	102	98	99	99

2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Vehicles Exited	248	3	4	302	536	120	14	1227
Hourly Exit Rate	248	3	4	302	536	120	14	1227
Input Volume	250	3	3	302	540	105	34	1238
% of Volume	99	100	133	100	99	114	41	99

3: CORRAL HOLLOW RD & I-580 WB ON RAMP/I-580 WB OFF RAMP Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Vehicles Exited	10	2	54	19	589	100	91	865
Hourly Exit Rate	10	2	54	19	589	100	91	865
Input Volume	11	1	54	20	587	106	87	866
% of Volume	89	200	100	96	100	94	105	100

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Vehicles Exited	130	68	52	592	122	123	1087
Hourly Exit Rate	130	68	52	592	122	123	1087
Input Volume	142	70	53	535	122	122	1043
% of Volume	92	97	99	111	100	101	104

2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.2	1.9	0	0	0	0	0.1
Total Del/Veh (s)	8.7	12.4	1.7	0.6	0	3	2.8	4.1

3: CORRAL HOLLOW RD & I-580 WB ON RAMP/I-580 WB OFF RAMP Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.4	1.6	0	0	0	0	0.2
Total Del/Veh (s)	9.5	33	2.7	24.6	1.8	13.9	9.9	9.2

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0.3	0	0	0	0
Total Del/Veh (s)	28.2	34.9	39	7.4	20.3	4.8	21.3

2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.5	0.4	2.1	0	0	0.3	0	0.1
Total Del/Veh (s)	118.5	105.7	82.7	7.9	4.2	18.9	14.6	30.7

3: CORRAL HOLLOW RD & I-580 WB ON RAMP/I-580 WB OFF RAMP Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	1.8	0.1	0	0	0	0.1
Total Del/Veh (s)	9.1	7.7	1.8	3	2.5	3.5	2.3	2.7

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0
Total Del/Veh (s)	16.1	15.4	27.3	9.1	7.3	2.1	10.2

Intersection: 2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP

Movement	EB	SB
Directions Served	LT	LT
Maximum Queue (ft)	145	32
Average Queue (ft)	59	2
95th Queue (ft)	108	14
Link Distance (ft)	1858	438
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 3: CORRAL HOLLOW RD & I-580 WB ON RAMP/I-580 WB OFF RAMP

Movement	WB	NB	SB
Directions Served	LT	LT	TR
Maximum Queue (ft)	118	69	3
Average Queue (ft)	47	4	0
95th Queue (ft)	81	30	3
Link Distance (ft)	2041	438	1404
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)	0		
Queuing Penalty (veh)	0		

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	NB	NB	SB	SB	B5
Directions Served	L	L	R	L	T	T	R	T
Maximum Queue (ft)	47	75	185	184	96	528	238	38
Average Queue (ft)	7	32	61	79	24	230	41	4
95th Queue (ft)	29	65	135	151	74	439	175	44
Link Distance (ft)		885	885		1404	582		6544
Upstream Blk Time (%)						1		
Queuing Penalty (veh)						0		
Storage Bay Dist (ft)	240			485			400	
Storage Blk Time (%)						2		
Queuing Penalty (veh)						3		

Intersection: 2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP

Movement	EB	EB	NB	SB
Directions Served	LT	R	TR	LT
Maximum Queue (ft)	891	183	54	201
Average Queue (ft)	341	13	5	69
95th Queue (ft)	888	94	28	150
Link Distance (ft)	1858		1501	438
Upstream Blk Time (%	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)		125		
Storage Blk Time (%)	51			
Queuing Penalty (veh)	2			

Intersection: 3: CORRAL HOLLOW RD & I-580 WB ON RAMP/I-580 WB OFF RAMP

Movement	WB	NB
Directions Served	LT	LT
Maximum Queue (ft)	35	49
Average Queue (ft)	10	4
95th Queue (ft)	32	24
Link Distance (ft)	2041	438
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	NB	NB	SB	SB
Directions Served	L	L	R	L	T	T	R
Maximum Queue (ft)	66	89	87	75	179	98	65
Average Queue (ft)	18	41	33	31	83	33	27
95th Queue (ft)	51	71	67	63	149	79	56
Link Distance (ft)		885	885		1404	582	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	240			485			400
Storage Blk Time (%)							
Queuing Penalty (veh)							

HCS7 Freeway Facilities Report

Project Information

Analyst	HD	Date	3/5/2021
Agency	Kimley-Horn	Analysis Year	2019
Jurisdiction	Caltrans D10	Time Period Analyzed	AM Peak
Project Description	I-580/Corral Hollow Rd Interchange	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Time Periods	4	Time Period Duration, min	15
Facility Length, mi	10.84		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy Link	5280	2
2	Basic	Basic	Segment Starts	3560	2
3	Merge	Merge	SR 132 On-ramp	1500	2
4	Basic	Basic	Subsegment 1	3768	2
5	Basic	Basic	Subsegment 2	3768	2
6	Basic	Basic	Subsegment 3	3768	2
7	Basic	Basic	Subsegment 4	3768	2
8	Diverge	Diverge	Corral Hollow Rd Off-ramp	1500	2
9	Basic	Basic	Between Hollow Rd OFF/ON	1755	2
10	Merge	Merge	Corral Hollow Rd On-ramp	1500	2
11	Basic	Basic	Subsegment 1	3382	2
12	Basic	Basic	Subsegment 2	3382	2
13	Basic	Basic	Subsegment 3	3382	2
14	Basic	Basic	Subsegment 4	3382	2
15	Basic	Basic	Subsegment 5	3382	2
16	Basic	Basic	Subsegment 6	3382	2
17	Basic	Basic	Subsegment 7	3382	2
18	Diverge	Diverge	Mountain House Pkwy Off-ramp	1500	2
19	Basic	Basic	Segment Ends	1910	2

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	1596	4800	0.33	71.1	11.2	B
2	1.00	0.877	1464	4410	0.33	50.5	14.5	B
3	1.00	0.877	1219	4400	0.28	41.2	14.8	B

4	1.00	0.877	1178	4480	0.26	54.0	10.9	A

Segment 2: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	1596	4507	0.35	71.8	11.1	B
2	1.00	0.877	1464	3094	0.47	51.0	14.4	B
3	1.00	0.877	1219	2270	0.54	30.3	20.1	C
4	1.00	0.877	1178	2047	0.58	51.1	11.5	B

Segment 3: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.877	0.888	3510	1914	4507	2200	0.78	0.87	64.8	64.8	27.1	23.9	C
2	1.00	1.00	0.877	0.888	2217	1801	3236	2200	1.01	0.82	41.2	41.2	26.9	13.9	F
3	1.00	1.00	0.877	0.888	2052	1474	2052	2200	1.31	0.67	22.2	26.2	39.2	12.7	F
4	1.00	1.00	0.877	0.888	2200	1366	2367	2200	1.07	0.62	45.9	45.9	24.0	13.9	F

Segment 4: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	3535	4507	0.78	64.6	27.4	D
2	1.00	0.877	2217	3164	1.04	45.3	24.4	F
3	1.00	0.877	2052	2446	1.11	27.9	36.8	F
4	1.00	0.877	2200	2525	1.01	41.5	26.5	F

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	3535	4507	0.78	64.6	27.4	D
2	1.00	0.877	2217	3164	1.04	48.3	23.0	F
3	1.00	0.877	2052	2662	1.02	27.1	37.9	F
4	1.00	0.877	2200	2524	1.01	41.4	26.6	F

Segment 6: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	3535	4507	0.78	64.6	27.4	D
2	1.00	0.877	2217	3164	1.04	48.3	23.0	F
3	1.00	0.877	2052	2662	1.02	28.5	36.0	F
4	1.00	0.877	2200	2505	1.02	40.3	27.3	F

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	3535	4507	0.78	64.6	27.4	D
2	1.00	0.877	2217	3164	1.04	48.3	23.0	F
3	1.00	0.877	2052	2662	1.02	27.6	37.2	F

4	1.00		0.877		2200		2535		1.01		40.0		27.5	F
Segment 8: Diverge														
Time Period	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**	**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R**	**Freeway**	**Ramp**	
1	1.00	1.00	0.877	0.842	3535	501	4507	2000	0.78	0.25	59.4	59.4	29.8	33.8	D
2	1.00	1.00	0.877	0.842	2217	526	3191	2000	1.03	0.26	44.3	44.3	25.0	22.4	F
3	1.00	1.00	0.877	0.838	2052	450	2723	2000	1.00	0.23	23.6	32.2	31.9	21.0	C
4	1.00	1.00	0.877	0.842	2200	407	2502	2000	1.02	0.20	37.4	39.5	27.8	22.3	F
Segment 9: Basic														
Time Period	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**	**LOS**
1	1.00		0.877		3054		3547		0.86		51.4		29.7	D
2	1.00		0.877		1862		2750		1.01		42.3		22.0	F
3	1.00		0.877		1724		2314		0.99		23.4		36.8	E
4	1.00		0.877		1835		2182		0.99		31.8		28.9	D
Segment 10: Merge														
Time Period	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**	**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R**	**Freeway**	**Ramp**	
1	1.00	1.00	0.877	0.888	3614	560	4507	2000	0.80	0.28	60.3	60.3	30.0	31.6	D
2	1.00	1.00	0.877	0.888	2367	777	3173	2000	1.12	0.39	44.6	44.6	26.5	21.8	F
3	1.00	1.00	0.877	0.888	2224	861	2966	2000	1.06	0.43	28.8	33.5	33.2	20.6	F
4	1.00	1.00	0.877	0.888	2335	882	2966	2000	1.03	0.44	37.0	39.0	29.9	21.5	F
Segment 11: Basic														
Time Period	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**	**LOS**
1	1.00		0.877		3620		4507		0.80		63.6		28.5	D
2	1.00		0.877		2367		3563		1.00		61.0		19.4	F
3	1.00		0.877		2224		3252		0.97		39.9		27.7	D
4	1.00		0.877		2335		2900		1.06		45.2		25.8	F
Segment 12: Basic														
Time Period	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**	**LOS**
1	1.00		0.877		3620		4507		0.80		63.6		28.5	D
2	1.00		0.877		2367		4092		0.87		67.1		17.6	B
3	1.00		0.877		2224		3252		0.97		43.9		25.3	C
4	1.00		0.877		2335		3702		0.83		50.6		23.1	C
Segment 13: Basic														
Time Period	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**	**LOS**
1	1.00		0.877		3620		4507		0.80		63.6		28.5	D
2	1.00		0.877		2367		4080		0.87		66.5		17.8	B

3	1.00	0.877	2224	3252	0.97	43.9	25.3	C
4	1.00	0.877	2335	3725	0.82	52.0	22.5	C

Segment 14: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	3620	4507	0.80	63.6	28.5	D
2	1.00	0.877	2367	3984	0.90	66.0	17.9	B
3	1.00	0.877	2224	3252	0.97	43.9	25.3	C
4	1.00	0.877	2335	3796	0.81	56.2	20.8	C

Segment 15: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	3620	4507	0.80	63.6	28.5	D
2	1.00	0.877	2367	3984	0.90	66.0	17.9	B
3	1.00	0.877	2224	3252	0.97	43.9	25.3	C
4	1.00	0.877	2335	3814	0.80	57.3	20.4	C

Segment 16: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	3620	4507	0.80	63.6	28.5	D
2	1.00	0.877	2367	3984	0.90	66.0	17.9	B
3	1.00	0.877	2224	3252	0.97	43.9	25.3	C
4	1.00	0.877	2335	3826	0.80	58.0	20.1	C

Segment 17: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	3620	4507	0.80	63.6	28.5	D
2	1.00	0.877	2367	3947	0.90	64.3	18.4	C
3	1.00	0.877	2224	3252	0.97	41.6	26.7	D
4	1.00	0.877	2335	3822	0.80	57.8	20.2	C

Segment 18: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.877	0.842	3620	523	4507	2000	0.80	0.26	59.3	59.3	30.5	34.0	D
2	1.00	1.00	0.877	0.842	2367	720	3776	2000	0.95	0.36	48.3	48.3	24.5	23.3	C
3	1.00	1.00	0.877	0.842	2224	710	3326	2000	0.95	0.36	43.3	43.3	25.7	22.0	C
4	1.00	1.00	0.877	0.842	2335	654	3943	2000	0.78	0.33	56.1	56.1	20.8	23.0	C

Segment 19: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	3119	4507	0.69	67.6	23.1	C
2	1.00	0.877	1890	3707	0.78	50.7	18.6	C

3	1.00	0.877	1775	3252	0.76	43.1	20.6	C
4	1.00	0.877	1809	3806	0.64	56.8	15.9	B

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	63.8	25.5	22.3	10.20	C
2	54.1	19.9	17.4	12.00	F
3	34.3	28.3	24.8	19.00	F
4	47.2	22.0	19.3	13.80	F

Facility Overall Results

Space Mean Speed, mi/h	49.1	Density, veh/mi/ln	21.0
Average Travel Time, min	13.20	Density, pc/mi/ln	23.9

Messages

WARNING 1	Oversaturated conditions currently exist in boundary time period 4. Results may not be reliable. Consider expanding analysis in time and/or space to resolve this warning.
WARNING 2	PHFs are set to one for multiple time period analysis.

Comments

HCS7 Freeway Facilities Report

Project Information

Analyst	HD	Date	3/5/2021
Agency	Kimley-Horn	Analysis Year	2019
Jurisdiction	Caltrans D10	Time Period Analyzed	PM Peak
Project Description	I-580/Corral Hollow Rd Interchange	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Time Periods	4	Time Period Duration, min	15
Facility Length, mi	10.84		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy Link	5280	2
2	Basic	Basic	Segment Starts	3560	2
3	Merge	Merge	SR 132 On-ramp	1500	2
4	Basic	Basic	Subsegment 1	3768	2
5	Basic	Basic	Subsegment 2	3768	2
6	Basic	Basic	Subsegment 3	3768	2
7	Basic	Basic	Subsegment 4	3768	2
8	Diverge	Diverge	Corral Hollow Rd Off-ramp	1500	2
9	Basic	Basic	Between Hollow Rd OFF/ON	1755	2
10	Merge	Merge	Corral Hollow Rd On-ramp	1500	2
11	Basic	Basic	Subsegment 1	3382	2
12	Basic	Basic	Subsegment 2	3382	2
13	Basic	Basic	Subsegment 3	3382	2
14	Basic	Basic	Subsegment 4	3382	2
15	Basic	Basic	Subsegment 5	3382	2
16	Basic	Basic	Subsegment 6	3382	2
17	Basic	Basic	Subsegment 7	3382	2
18	Diverge	Diverge	Mountain House Pkwy Off-ramp	1500	2
19	Basic	Basic	Segment Ends	1910	2

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	636	4503	0.14	69.8	4.6	A
2	1.00	0.877	702	4507	0.16	72.3	4.9	A
3	1.00	0.877	741	4507	0.16	71.8	5.2	A

4	1.00	0.877	694	4507	0.15	71.3	4.9	A

Segment 2: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	636	4507	0.14	70.5	4.5	A
2	1.00	0.877	702	4507	0.16	73.0	4.8	A
3	1.00	0.877	741	4507	0.16	72.5	5.1	A
4	1.00	0.877	694	4507	0.15	72.0	4.8	A

Segment 3: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.877	0.888	975	339	4507	2200	0.22	0.15	68.8	68.8	7.1	4.8	A
2	1.00	1.00	0.877	0.888	1030	328	4507	2200	0.23	0.15	68.8	68.8	7.5	5.3	A
3	1.00	1.00	0.877	0.888	1071	330	4507	2200	0.24	0.15	68.8	68.8	7.8	5.6	A
4	1.00	1.00	0.877	0.888	1057	363	4507	2200	0.23	0.17	68.8	68.8	7.7	5.5	A

Segment 4: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	979	4507	0.22	71.1	6.9	A
2	1.00	0.877	1034	4507	0.23	73.5	7.0	A
3	1.00	0.877	1075	4507	0.24	73.3	7.3	A
4	1.00	0.877	1062	4507	0.24	74.2	7.1	A

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	979	4507	0.22	71.0	6.9	A
2	1.00	0.877	1034	4507	0.23	73.7	7.0	A
3	1.00	0.877	1075	4507	0.24	73.7	7.3	A
4	1.00	0.877	1062	4507	0.24	74.2	7.2	A

Segment 6: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	979	4507	0.22	70.7	6.9	A
2	1.00	0.877	1034	4507	0.23	73.3	7.1	A
3	1.00	0.877	1075	4507	0.24	73.0	7.4	A
4	1.00	0.877	1062	4507	0.24	74.0	7.2	A

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	979	4507	0.22	70.5	7.0	A
2	1.00	0.877	1034	4507	0.23	72.8	7.1	A
3	1.00	0.877	1075	4507	0.24	73.3	7.3	A

4	1.00		0.877		1062		4507		0.24		73.7		7.2		A
Segment 8: Diverge															
Time Period	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R**	**Freeway**	**Ramp**	
1	1.00	1.00	0.877	0.842	979	99	4507	2000	0.22	0.05	60.6	60.6	8.1	11.8	B
2	1.00	1.00	0.877	0.842	1034	97	4507	2000	0.23	0.05	60.6	60.6	8.5	12.2	B
3	1.00	1.00	0.877	0.838	1075	100	4507	2000	0.24	0.05	60.6	60.6	8.9	12.6	B
4	1.00	1.00	0.877	0.842	1062	90	4507	2000	0.24	0.05	60.6	60.6	8.8	12.5	B
Segment 9: Basic															
Time Period	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
1	1.00		0.877		885		4507		0.20		69.5		6.3		A
2	1.00		0.877		941		4507		0.21		72.1		6.4		A
3	1.00		0.877		979		4507		0.22		72.3		6.7		A
4	1.00		0.877		975		4507		0.22		72.6		6.6		A
Segment 10: Merge															
Time Period	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R**	**Freeway**	**Ramp**	
1	1.00	1.00	0.877	0.888	1024	139	4507	2000	0.23	0.07	64.7	64.7	7.9	11.6	B
2	1.00	1.00	0.877	0.888	1076	135	4507	2000	0.24	0.07	64.7	64.7	8.3	12.0	B
3	1.00	1.00	0.877	0.888	1111	132	4507	2000	0.25	0.07	64.7	64.7	8.6	12.3	B
4	1.00	1.00	0.877	0.888	1109	134	4507	2000	0.25	0.07	64.7	64.7	8.6	12.3	B
Segment 11: Basic															
Time Period	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
1	1.00		0.877		1025		4507		0.23		70.3		7.3		A
2	1.00		0.877		1078		4507		0.24		73.0		7.4		A
3	1.00		0.877		1113		4507		0.25		73.8		7.5		A
4	1.00		0.877		1111		4507		0.25		73.8		7.5		A
Segment 12: Basic															
Time Period	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
1	1.00		0.877		1025		4507		0.23		71.0		7.2		A
2	1.00		0.877		1078		4507		0.24		73.3		7.4		A
3	1.00		0.877		1113		4507		0.25		73.7		7.5		A
4	1.00		0.877		1111		4507		0.25		73.7		7.5		A
Segment 13: Basic															
Time Period	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
1	1.00		0.877		1025		4507		0.23		70.5		7.3		A
2	1.00		0.877		1078		4507		0.24		73.5		7.3		A

3	1.00	0.877	1113	4507	0.25	73.3	7.6	A
4	1.00	0.877	1111	4507	0.25	73.3	7.6	A

Segment 14: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	1025	4507	0.23	71.0	7.2	A
2	1.00	0.877	1078	4507	0.24	73.5	7.3	A
3	1.00	0.877	1113	4507	0.25	73.7	7.5	A
4	1.00	0.877	1111	4507	0.25	73.0	7.6	A

Segment 15: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	1025	4507	0.23	71.8	7.1	A
2	1.00	0.877	1078	4507	0.24	73.5	7.3	A
3	1.00	0.877	1113	4507	0.25	73.7	7.5	A
4	1.00	0.877	1111	4507	0.25	73.0	7.6	A

Segment 16: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	1025	4507	0.23	71.5	7.2	A
2	1.00	0.877	1078	4507	0.24	73.7	7.3	A
3	1.00	0.877	1113	4507	0.25	74.5	7.5	A
4	1.00	0.877	1111	4507	0.25	73.5	7.6	A

Segment 17: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	1025	4507	0.23	71.2	7.2	A
2	1.00	0.877	1078	4507	0.24	73.3	7.4	A
3	1.00	0.877	1113	4507	0.25	73.5	7.6	A
4	1.00	0.877	1111	4507	0.25	73.0	7.6	A

Segment 18: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.877	0.842	1025	181	4507	2000	0.23	0.09	60.3	60.3	8.5	11.7	B
2	1.00	1.00	0.877	0.842	1078	169	4507	2000	0.24	0.08	60.4	60.4	8.9	12.2	B
3	1.00	1.00	0.877	0.842	1113	131	4507	2000	0.25	0.07	60.5	60.5	9.2	12.5	B
4	1.00	1.00	0.877	0.842	1111	165	4507	2000	0.25	0.08	60.4	60.4	9.2	12.5	B

Segment 19: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	852	4507	0.19	70.4	6.0	A
2	1.00	0.877	916	4507	0.20	72.8	6.2	A

3	1.00	0.877	987	4507	0.22	72.8	6.7	A
4	1.00	0.877	952	4507	0.21	72.8	6.5	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	69.9	6.7	5.9	9.30	A
2	72.0	6.9	6.1	9.00	A
3	72.1	7.2	6.3	9.00	A
4	72.0	7.1	6.2	9.00	A

Facility Overall Results

Space Mean Speed, mi/h	71.5	Density, veh/mi/ln	6.1
Average Travel Time, min	9.10	Density, pc/mi/ln	7.0

Messages

WARNING 1	PHFs are set to one for multiple time period analysis.

Comments

HCS7 Freeway Facilities Report

Project Information

Analyst	HD	Date	3/5/2021
Agency	Kimley-Horn	Analysis Year	2019
Jurisdiction	Caltrans D10	Time Period Analyzed	AM Peak
Project Description	I-580/ Corral Hollow Rd Interchange	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	18
Total Time Periods	4	Time Period Duration, min	15
Facility Length, mi	10.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy	5280	2
2	Basic	Basic	Segment Starts	2000	2
3	Merge	Merge	Patterson Pass Rd On-Ramp	1500	2
4	Basic	Basic	Subsegment 1	3373	2
5	Basic	Basic	Subsegment 2	3373	2
6	Basic	Basic	Subsegment 3	3373	2
7	Basic	Basic	Subsegment 4	3373	2
8	Basic	Basic	Subsegment 5	3373	2
9	Basic	Basic	Subsegment 6	3373	2
10	Basic	Basic	Subsegment 7	3373	2
11	Diverge	Diverge	Corral Hollow Rd Off-Ramp	1500	2
12	Basic	Basic	Between Corral Hollow Rd OFF/ON	1730	2
13	Merge	Merge	Corral Hollow Rd On-Ramp	1500	2
14	Basic	Basic	Subsegment 1	4010	2
15	Basic	Basic	Subsegment 2	4010	2
16	Basic	Basic	Subsegment 3	4010	2
17	Diverge	Diverge	SR 132 Off-Ramp	1500	2
18	Basic	Basic	Segment Ends	5280	2

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	266	4507	0.06	71.2	1.9	A
2	1.00	0.877	398	4507	0.09	71.2	2.8	A
3	1.00	0.877	612	4507	0.14	71.2	4.3	A
4	1.00	0.877	700	4507	0.16	71.2	4.9	A

Segment 2: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	266	4507	0.06	71.2	1.9	A
2	1.00	0.877	398	4507	0.09	71.2	2.8	A
3	1.00	0.877	612	4507	0.14	71.2	4.3	A
4	1.00	0.877	700	4507	0.16	71.2	4.9	A

Segment 3: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.877	0.877	344	78	4507	1878	0.08	0.04	62.2	62.2	2.8	6.3	A
2	1.00	1.00	0.877	0.877	469	71	4507	1878	0.10	0.04	62.2	62.2	3.8	7.3	A
3	1.00	1.00	0.877	0.877	680	68	4507	1878	0.15	0.04	62.2	62.2	5.5	8.9	A
4	1.00	1.00	0.877	0.877	843	143	4507	1878	0.19	0.08	62.1	62.1	6.8	10.2	B

Segment 4: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	343	4507	0.08	71.0	2.4	A
2	1.00	0.877	469	4507	0.10	71.0	3.3	A
3	1.00	0.877	681	4507	0.15	71.0	4.8	A
4	1.00	0.877	843	4507	0.19	71.0	5.9	A

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	343	4507	0.08	71.2	2.4	A
2	1.00	0.877	469	4507	0.10	71.2	3.3	A
3	1.00	0.877	681	4507	0.15	71.2	4.8	A
4	1.00	0.877	843	4507	0.19	71.2	5.9	A

Segment 6: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	343	4507	0.08	71.2	2.4	A
2	1.00	0.877	469	4507	0.10	71.2	3.3	A
3	1.00	0.877	681	4507	0.15	71.2	4.8	A
4	1.00	0.877	843	4507	0.19	71.2	5.9	A

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	343	4507	0.08	71.2	2.4	A
2	1.00	0.877	469	4507	0.10	71.2	3.3	A
3	1.00	0.877	681	4507	0.15	71.2	4.8	A
4	1.00	0.877	843	4507	0.19	71.2	5.9	A

Segment 8: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	343	4507	0.08	71.2	2.4	A
2	1.00	0.877	469	4507	0.10	71.2	3.3	A
3	1.00	0.877	681	4507	0.15	71.2	4.8	A
4	1.00	0.877	843	4507	0.19	71.2	5.9	A

Segment 9: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	343	4507	0.08	71.2	2.4	A
2	1.00	0.877	469	4507	0.10	71.2	3.3	A
3	1.00	0.877	681	4507	0.15	71.2	4.8	A
4	1.00	0.877	843	4507	0.19	71.2	5.9	A

Segment 10: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	343	4507	0.08	71.2	2.4	A
2	1.00	0.877	469	4507	0.10	71.2	3.3	A
3	1.00	0.877	681	4507	0.15	71.2	4.8	A
4	1.00	0.877	843	4507	0.19	71.2	5.9	A

Segment 11: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.877	0.877	343	18	4507	1878	0.08	0.01	58.0	58.0	3.0	6.3	A
2	1.00	1.00	0.877	0.877	469	57	4507	1878	0.10	0.03	57.9	57.9	4.1	7.4	A
3	1.00	1.00	0.877	0.877	681	108	4507	1878	0.15	0.06	57.7	57.7	5.9	9.2	A
4	1.00	1.00	0.877	0.877	843	140	4507	1878	0.19	0.07	57.7	57.7	7.3	10.6	B

Segment 12: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	325	4507	0.07	70.2	2.3	A
2	1.00	0.877	412	4507	0.09	70.2	2.9	A
3	1.00	0.877	572	4507	0.13	70.2	4.0	A
4	1.00	0.877	702	4507	0.16	70.2	4.9	A

Segment 13: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.877	0.877	351	26	4507	1878	0.08	0.01	62.2	62.2	2.8	6.4	A
2	1.00	1.00	0.877	0.877	458	46	4507	1878	0.10	0.02	62.2	62.2	3.7	7.2	A
3	1.00	1.00	0.877	0.877	629	57	4507	1878	0.14	0.03	62.2	62.2	5.1	8.5	A

4	1.00	1.00	0.877	0.877	797	95	4507	1878	0.18	0.05	62.1	62.1	6.4	9.8	A

Segment 14: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	351	4507	0.08	71.1	2.5	A
2	1.00	0.877	457	4507	0.10	71.1	3.2	A
3	1.00	0.877	629	4507	0.14	71.1	4.4	A
4	1.00	0.877	797	4507	0.18	71.1	5.6	A

Segment 15: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	351	4507	0.08	71.2	2.5	A
2	1.00	0.877	457	4507	0.10	71.2	3.2	A
3	1.00	0.877	629	4507	0.14	71.2	4.4	A
4	1.00	0.877	797	4507	0.18	71.2	5.6	A

Segment 16: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	351	4507	0.08	71.2	2.5	A
2	1.00	0.877	457	4507	0.10	71.2	3.2	A
3	1.00	0.877	629	4507	0.14	71.2	4.4	A
4	1.00	0.877	797	4507	0.18	71.2	5.6	A

Segment 17: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.877	0.877	351	140	4507	1878	0.08	0.07	57.7	57.7	3.0	5.5	A
2	1.00	1.00	0.877	0.877	457	139	4507	1878	0.10	0.07	57.7	57.7	4.0	6.4	A
3	1.00	1.00	0.877	0.877	629	208	4507	1878	0.14	0.11	57.5	57.5	5.5	7.9	A
4	1.00	1.00	0.877	0.877	797	365	4507	1878	0.18	0.19	57.1	57.1	7.0	9.3	A

Segment 18: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	211	4507	0.05	71.1	1.5	A
2	1.00	0.877	318	4507	0.07	71.1	2.2	A
3	1.00	0.877	422	4507	0.09	71.1	3.0	A
4	1.00	0.877	432	4507	0.10	71.1	3.0	A

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	69.6	2.3	2.0	9.10	A
2	69.7	3.2	2.8	9.10	A
3	69.7	4.5	4.0	9.10	A

4	69.6	5.5	4.8	9.10	A

Facility Overall Results

Space Mean Speed, mi/h	69.6	Density, veh/mi/ln	3.4
Average Travel Time, min	9.10	Density, pc/mi/ln	3.9

Messages

WARNING 1	PHFs are set to one for multiple time period analysis.

Comments

HCS7 Freeway Facilities Report

Project Information

Analyst	HD	Date	3/5/2021
Agency	Kimley-Horn	Analysis Year	2019
Jurisdiction	Caltrans D10	Time Period Analyzed	PM Peak
Project Description	I-580/ Corral Hollow Rd Interchange	Unit	United States Customary

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	18
Total Time Periods	4	Time Period Duration, min	15
Facility Length, mi	10.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy	5280	2
2	Basic	Basic	Segment Starts	2000	2
3	Merge	Merge	Patterson Pass Rd On-Ramp	1500	2
4	Basic	Basic	Subsegment 1	3373	2
5	Basic	Basic	Subsegment 2	3373	2
6	Basic	Basic	Subsegment 3	3373	2
7	Basic	Basic	Subsegment 4	3373	2
8	Basic	Basic	Subsegment 5	3373	2
9	Basic	Basic	Subsegment 6	3373	2
10	Basic	Basic	Subsegment 7	3373	2
11	Diverge	Diverge	Corral Hollow Rd Off-Ramp	1500	2
12	Basic	Basic	Between Corral Hollow Rd OFF/ON	1730	2
13	Merge	Merge	Corral Hollow Rd On-Ramp	1500	2
14	Basic	Basic	Subsegment 1	4010	2
15	Basic	Basic	Subsegment 2	4010	2
16	Basic	Basic	Subsegment 3	4010	2
17	Diverge	Diverge	SR 132 Off-Ramp	1500	2
18	Basic	Basic	Segment Ends	5280	2

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	2190	4507	0.49	71.1	15.4	B
2	1.00	0.877	2408	4507	0.53	70.7	17.0	B
3	1.00	0.877	2455	4507	0.54	70.6	17.4	B
4	1.00	0.877	1918	4507	0.43	71.2	13.5	B

Segment 2: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	2190	4507	0.49	71.1	15.4	B
2	1.00	0.877	2408	4507	0.53	70.7	17.0	B
3	1.00	0.877	2455	4507	0.54	70.6	17.4	B
4	1.00	0.877	1918	4507	0.43	71.2	13.5	B

Segment 3: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.877	0.877	2720	530	4507	1878	0.60	0.28	60.7	60.7	22.4	24.6	C
2	1.00	1.00	0.877	0.877	3203	795	4507	1878	0.71	0.42	59.6	59.6	26.9	28.3	D
3	1.00	1.00	0.877	0.877	3180	725	4507	1878	0.71	0.39	59.7	59.7	26.6	28.1	D
4	1.00	1.00	0.877	0.877	2731	813	4507	1878	0.61	0.43	60.7	60.7	22.5	24.6	C

Segment 4: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	2721	4507	0.60	69.6	19.5	C
2	1.00	0.877	3203	4507	0.71	66.5	24.1	C
3	1.00	0.877	3180	4507	0.71	66.7	23.8	C
4	1.00	0.877	2731	4507	0.61	69.5	19.7	C

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	2721	4507	0.60	69.6	19.5	C
2	1.00	0.877	3203	4507	0.71	66.5	24.1	C
3	1.00	0.877	3180	4507	0.71	66.7	23.8	C
4	1.00	0.877	2731	4507	0.61	69.5	19.7	C

Segment 6: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	2721	4507	0.60	69.6	19.5	C
2	1.00	0.877	3203	4507	0.71	66.5	24.1	C
3	1.00	0.877	3180	4507	0.71	66.7	23.8	C
4	1.00	0.877	2731	4507	0.61	69.5	19.7	C

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	2721	4507	0.60	69.6	19.5	C
2	1.00	0.877	3203	4507	0.71	66.5	24.1	C
3	1.00	0.877	3180	4507	0.71	66.7	23.8	C
4	1.00	0.877	2731	4507	0.61	69.5	19.7	C

Segment 8: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	2721	4507	0.60	69.6	19.5	C
2	1.00	0.877	3203	4507	0.71	66.5	24.1	C
3	1.00	0.877	3180	4507	0.71	66.7	23.8	C
4	1.00	0.877	2731	4507	0.61	69.5	19.7	C

Segment 9: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	2721	4507	0.60	69.6	19.5	C
2	1.00	0.877	3203	4507	0.71	66.5	24.1	C
3	1.00	0.877	3180	4507	0.71	66.7	23.8	C
4	1.00	0.877	2731	4507	0.61	69.5	19.7	C

Segment 10: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	2721	4507	0.60	69.6	19.5	C
2	1.00	0.877	3203	4507	0.71	66.5	24.1	C
3	1.00	0.877	3180	4507	0.71	66.7	23.8	C
4	1.00	0.877	2731	4507	0.61	69.5	19.7	C

Segment 11: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.877	0.877	2721	253	4507	1878	0.60	0.13	57.4	57.4	23.7	26.8	C
2	1.00	1.00	0.877	0.877	3203	282	4507	1878	0.71	0.15	57.3	57.3	27.9	30.9	D
3	1.00	1.00	0.877	0.877	3180	298	4507	1878	0.71	0.16	57.2	57.2	27.8	30.7	D
4	1.00	1.00	0.877	0.877	2731	314	4507	1878	0.61	0.17	57.2	57.2	23.9	26.8	C

Segment 12: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	2468	4507	0.55	70.2	17.5	B
2	1.00	0.877	2921	4507	0.65	68.5	21.3	C
3	1.00	0.877	2883	4507	0.64	68.7	21.0	C
4	1.00	0.877	2417	4507	0.54	70.2	17.1	B

Segment 13: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.877	0.877	2775	307	4507	1878	0.62	0.16	60.6	60.6	22.9	25.2	C
2	1.00	1.00	0.877	0.877	3473	552	4507	1878	0.77	0.29	58.7	58.7	29.6	30.5	D
3	1.00	1.00	0.877	0.877	3567	684	4507	1878	0.79	0.36	58.4	58.4	30.5	31.2	D

4	1.00	1.00	0.877	0.877	3154	737	4507	1878	0.70	0.39	59.8	59.8	26.4	27.9	C

Segment 14: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	2774	4507	0.62	69.3	20.0	C
2	1.00	0.877	3473	4507	0.77	64.1	27.1	D
3	1.00	0.877	3567	4507	0.79	63.1	28.3	D
4	1.00	0.877	3154	4507	0.70	66.9	23.6	C

Segment 15: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	2774	4507	0.62	69.3	20.0	C
2	1.00	0.877	3473	4507	0.77	64.1	27.1	D
3	1.00	0.877	3567	4507	0.79	63.1	28.3	D
4	1.00	0.877	3154	4507	0.70	66.9	23.6	C

Segment 16: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	2774	4507	0.62	69.3	20.0	C
2	1.00	0.877	3473	4507	0.77	64.1	27.1	D
3	1.00	0.877	3567	4507	0.79	63.1	28.3	D
4	1.00	0.877	3154	4507	0.70	66.9	23.6	C

Segment 17: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	1.00	1.00	0.877	0.877	2774	1428	4507	1878	0.62	0.76	54.3	54.3	25.5	26.3	C
2	1.00	1.00	0.877	0.877	3473	1740	4507	1878	0.77	0.93	53.4	53.4	32.5	32.3	D
3	1.00	1.00	0.877	0.877	3567	1748	4507	1878	0.79	0.93	53.4	53.4	33.4	33.1	D
4	1.00	1.00	0.877	0.877	3154	1579	4507	1878	0.70	0.84	53.9	53.9	29.3	29.6	D

Segment 18: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	1347	4507	0.30	71.1	9.5	A
2	1.00	0.877	1733	4507	0.38	71.1	12.2	B
3	1.00	0.877	1819	4507	0.40	71.1	12.8	B
4	1.00	0.877	1575	4507	0.35	71.1	11.1	B

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	68.2	18.5	16.2	9.30	C
2	65.3	23.2	20.3	9.70	C
3	65.1	23.4	20.6	9.80	C

4	67.4	19.5	17.1	9.40	C

Facility Overall Results

Space Mean Speed, mi/h	66.4	Density, veh/mi/ln	18.5
Average Travel Time, min	9.60	Density, pc/mi/ln	21.1

Messages

WARNING 1	PHFs are set to one for multiple time period analysis.

Comments

Appendix C. Detailed Analysis Summary

I-580/Corral Hollow Road Interchange Improvement Project

Sierra View Drive No Build Intersection Analysis Summary

Scenario	Approach	AM Peak Hour						PM Peak Hour					
		Demand Volume (vph)	v/c	Avg. Delay (sec)	LOS	95th % Queue		Demand Volume (vph)	v/c	Avg. Delay (sec)	LOS	95th % Queue	
						Vehicles	Length (ft)					Vehicles	Length (ft)
2028 NB	South Leg	20	0.029	11.1	B	0	2	897	0.538	11.5	B	4	94
	North Leg	604	0.328	5.6	A	2	45	1329	0.782	4.0	A	1	17
	West Leg	1370	0.805	21.7	C	14	361	467	0.196	4.4	A	1	21
	Overall	1994	0.805	21.7	C			2693	0.782	11.5	A		
2035 NB	South Leg	122	0.185	14.3	B	1	15	1049	0.652	15.2	C	6	158
	North Leg	860	0.526	8.2	A	4	100	1503	0.884	4.2	A	1	19
	West Leg	1435	1.060	73.6	F	37	954	492	0.228	5.1	A	1	24
	Overall	2417	1.060	73.6	F			3044	0.884	15.2	A		
2048 NB	South Leg	95	0.072	6.1	A	0	6	1153	0.483	7.9	A	3	69
	North Leg	732	0.582	9.2	A	5	124	597	0.280	3.9	A	1	17
	West Leg	681	0.537	13.8	B	3	83	23	0.011	3.3	A	0	1
	Overall	1508	0.582	13.8	B			1773	0.483	7.9	A		

Results are based on HCM 6th Methodology in Sidra Intersection Software. Overall looks at worst movement.

Sierra View Drive Build Intersection Analysis Summary

Scenario	Approach	AM Peak Hour						PM Peak Hour					
		Demand Volume (vph)	v/c	Avg. Delay (sec)	LOS	95th % Queue		Demand Volume (vph)	v/c	Avg. Delay (sec)	LOS	95th % Queue	
						Vehicles	Length (ft)					Vehicles	Length (ft)
2028 B	South Leg	72	0.106	12.5	B	0	8	878	0.531	11.5	B	4	92
	North Leg	611	0.333	5.7	A	2	47	1369	0.806	4.1	A	1	17
	West Leg	1371	0.810	22.3	C	14	367	468	0.204	4.7	A	1	22
	Overall	2054	0.810	22.3	C			2715	0.806	11.5	A		
2035 B	South Leg	174	0.261	15.9	C	1	23	1028	0.641	14.9	B	6	151
	North Leg	867	0.532	8.3	A	4	102	1544	0.909	4.2	A	1	20
	West Leg	1436	1.068	76.1	F	38	980	493	0.237	5.4	A	1	25
	Overall	2477	1.068	76.1	F			3065	0.909	14.9	A		
2048 B	South Leg	97	0.074	6.2	A	0	6	1197	0.501	8.2	A	3	74
	North Leg	806	0.642	10.6	B	6	157	628	0.297	4.0	A	1	18
	West Leg	681	0.576	15.8	C	4	91	23	0.011	3.3	A	0	1
	Overall	1584	0.642	15.8	C			1848	0.501	8.2	A		

Results are based on HCM 6th Methodology in Sidra Intersection Software. Overall looks at worst movement.

I-580/Corral Hollow Road Interchange Improvement Project

Opening Year (2028) I-580 Ramp Termini Intersection Analysis Summary

AM Peak Hour

No	Intersection	No Build							Build Alternative 1							Build Alternative 2							Build Alternative 3							Build Alternative 4						
		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Demand Volume (vph)	v/c	Avg. Delay (sec)	LOS	95th % Queue		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)	
			Demand	Served				Avg	95th						Veh	Feet		Demand	Served				Avg	95th		Demand	Served				Avg	95th		Demand	Served				Avg	95th
2	EB I-580 Ramps/ Corral Hollow Rd	NBT	832	223	-73%	392.8	F	1789	1789	South Leg	1383	0.596	12.2	B	6	147	NBT	832	834	0%	24.3	C	203	312	NBT	832	832	0%	20.6	C	168	258	NBT	832	827	-1%	13.0	B	97	176
		NBR	500	141	-72%	369.6	F	1789	1789								NBR	551	553	0%	9.2	A	93	174	NBR	551	544	-1%	9.6	A	90	162	NBR	551	547	-1%	1.7	A	0	0
		SBL	159	113	-29%	7.5	A	38	162	North Leg	745	0.299	4.2	A	0	0	SBL	159	157	-1%	36.4	D	105	176	SBL	159	155	-3%	51.2	D	103	192	SBL	159	160	1%	4.1	A	9	43
		SBT	581	403	-31%	7.8	A	38	162								SBT	586	585	0%	17.7	B	98	164	SBT	586	576	-2%	8.2	A	59	118	SBT	586	597	2%	9.7	A	52	86
		EBL	131	15	-89%	1780.4	F	2107	3675	West Leg	156	0.124	8.0	A	0	10	EBL	131	126	-4%	45.7	D	57	122	EBL	131	133	2%	20.7	C	53	96	EBL	131	131	0%	7.9	A	31	69
		EBR	23	3	-87%	1601.6	F	16	98								EBR	25	28	12%	5.7	A	16	43	EBR	25	27	8%	4.5	A	13	40	EBR	25	23	-8%	10.9	B	23	52
		Overall	2226	898	-60%	1780.4	F			Overall	2284	0.596	12.2	B			Overall	2284	2283	0%	20.7	C			Overall	2284	2267	-1%	16.7	B			Overall	2284	2285	0%	8.5	A		
3	WB I-580 Ramps/ Corral Hollow Rd	NBL	409	103	-75%	256.1	F	420	420	South Leg	964	0.386	4.6	A	0	0	NBL	409	411	0%	63.4	E	258	421	NBT	555	557	0%	13.3	B	70	131	NBL	409	405	-1%	4.9	A	6	40
		NBT	554	136	-75%	231.7	F	420	420								NBT	555	548	-1%	14.0	B	258	421	NBR	409	409	0%	12.8	B	105	178	NBT	554	551	-1%	9.2	A	24	57
		SBT	516	515	0%	11.6	B	9	124	North Leg	1290	0.733	23.0	C	7	174	SBT	521	515	-1%	29.8	C	233	670	SBT	521	507	-3%	12.5	B	76	179	SBT	520	537	3%	10.7	B	55	87
		SBR	769	756	-2%	7.9	A	9	124								SBR	769	754	-2%	49.7	D	344	670	SBR	769	762	-1%	18.1	B	168	316	SBR	769	758	-1%	8.1	A	114	169
		WBL	225	1	-100%	2856.7	F	4616	6933	East Leg	342	0.270	12.6	B	1	23	WBL	225	229	2%	32.0	C	77	128	WBL	225	225	0%	22.4	C	55	100	WBL	225	220	-2%	5.2	A	26	62
		WBR	117	0	-100%	2827.4	F	1	23								WBR	117	117	0%	8.2	A	42	74	WBR	117	118	1%	5.9	A	32	64	WBR	117	118	1%	10.3	B	45	81
		Overall	2590	1511	-42%	2856.7	F			Overall	2596	0.733	23.0	C			Overall	2596	2574	-1%	36.8	D			Overall	2596	2578	-1%	14.9	B			Overall	2594	2589	0%	8.2	A		

PM Peak Hour

No	Intersection	No Build							Build Alternative 1							Build Alternative 2							Build Alternative 3							Build Alternative 4						
		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Demand Volume (vph)	v/c	Avg. Delay (sec)	LOS	95th % Queue		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)	
			Demand	Served				Avg	95th						Veh	Feet		Demand	Served				Avg	95th		Demand	Served				Avg	95th		Demand	Served				Avg	95th
2	EB I-580 Ramps/ Corral Hollow Rd	NBT	703	704	0%	19.1	B	56	439	South Leg	1304	0.752	24.7	C	7	175	NBT	682	682	0%	17.2	B	109	167	NBT	682	680	0%	17.0	B	115	178	NBT	681	671	-1%	10.1	B	46	58
		NBR	622	614	-1%	14.2	B	56	439								NBR	622	630	1%	10.5	B	104	187	NBR	622	622	0%	9.8	A	100	174	NBR	622	619	0%	1.9	A	0	0
		SBL	105	33	-69%	215.9	F	420	420	North Leg	1152	0.462	5.0	A	0	0	SBL	110	109	-1%	52.9	D	85	165	SBL	110	107	-3%	44.9	D	70	134	SBL	110	109	-1%	4.1	A	54	138
		SBT	1003	316	-68%	157.5	F	420	420								SBT	1042	1037	0%	19.8	B	172	267	SBT	1042	1040	0%	11.3	B	98	194	SBT	1042	1047	0%	11.8	B	119	206
		EBL	444	2	-100%	3046.6	F	9737	13796	West Leg	870	0.804	44.7	E	5	136	EBL	543	533	-2%	23.9	C	132	194	EBL	543	544	0%	29.5	C	155	223	EBL	543	547	1%	7.3	A	85	110
		EBR	326	1	-100%	3032.7	F	2	33								EBR	327	323	-1%	13.6	B	101	179	EBR	327	322	-2%	15.8	B	106	185	EBR	327	326	0%	12.7	B	79	141
		Overall	3203	1670	-48%	3046.6	F			Overall	3326	0.804	44.7	E			Overall	3326	3314	0%	18.6	B			Overall	3326	3315	0%	16.7	B			Overall	3325	3319	0%	8.7	A		
3	WB I-580 Ramps/ Corral Hollow Rd	NBL	66	37	-44%	15.6	B	50	245	South Leg	1224	0.491	5.1	A	0	0	NBL	66	64	-3%	40.4	D	55	130	NBT	1158	1158	0%	12.9	B	122	207	NBL	66	66	0%	4.2	A	84	168
		NBT	1082	668	-38%	9.7	A	50	245								NBT	1158	1148	-1%	20.2	C	185	277	NBR	66	66	0%	6.0	A	15	62	NBT	1158	1151	-1%	10.4	B	101	182
		SBT	638	344	-46%	193.4	F	1253	1330	North Leg	730	0.493	12.8	B	3	72	SBT	636	631	-1%	21.5	C	109	222	SBT	636	637	0%	14.7	B	87	206	SBT	636	640	1%	13.6	B	58	97
		SBR	94	55	-41%	169.2	F	1253	1330								SBR	94	97	3%	9.5	A	22	52	SBR	94	99	5%	8.2	A	23	59	SBR	94	98	4%	3.7	A	30	68
		WBL	471	4	-99%	3317.4	F	5433	6704	East Leg	669	0.828	50.8	F	5	139	WBL	516	518	0%	24.0	C	125	187	WBL	516	510	-1%	30.0	C	132	196	WBL	516	513	-1%	6.1	A	62	99
		WBR	153	2	-99%	3267.6	F	6	57								WBR	153	159	4%	12.2	B	59	106	WBR	153	153	0%	12.6	B	50	97	WBR	153	156	2%	10.7	B	58	85
		Overall	2504	1110	-56%	3317.4	F			Overall	2623	0.828	50.8	F			Overall	2623	2617	0%	20.9	C			Overall	2623	2623	0%	16.3	B			Overall	2623	2624	0%	10.0	A		

Results are based on an average of 12-multiple SimTraffic Simulation runs for side-street stop control (SSSC) and Signalized intersections. Results are based on HCM 6th methodology in Sidra Intersection software for Roundabout (RAB) intersections. Average delay is expressed in seconds per vehicle. Overall results for RAB and SSSC look at worst movement and results for Signals look at an average of all movements. Freeway congestion and on-ramp metering operations are not accounted for in the model.

I-580/Corral Hollow Road Interchange Improvement Project

Interim Year (2035) I-580 Ramp Termini Intersection Analysis Summary

AM Peak Hour

No	Intersection	No Build							Build Alternative 1							Build Alternative 2							Build Alternative 3							Build Alternative 4						
		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Demand Volume (vph)	v/c	Avg. Delay (sec)	LOS	95th % Queue		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)	
			Demand	Served				Avg	95th						Veh	Feet		Demand	Served				Avg	95th		Demand	Served				Avg	95th		Demand	Served				Avg	95th
2	EB I-580 Ramps/ Corral Hollow Rd	NBT	974	638	-34%	97.6	F	508	1789	South Leg	1548	0.730	18.5	C	9	242	NBT	974	977	0%	34.5	C	281	439	NBT	974	965	-1%	34.0	C	254	376	NBT	974	947	-3%	12.4	B	102	184
		NBR	522	345	-34%	84.4	F	508	1789								NBR	574	570	-1%	11.9	B	116	207	NBR	574	588	2%	13.5	B	123	225	NBR	574	550	-4%	1.8	A	0	0
		SBL	257	70	-73%	162.7	F	283	420	North Leg	1098	0.441	4.9	A	0	0	SBL	257	250	-3%	44.0	D	171	315	SBL	257	258	0%	47.7	D	160	265	SBL	257	251	-2%	5.2	A	46	118
		SBT	836	229	-73%	129.8	F	283	420								SBT	841	826	-2%	27.8	C	188	315	SBT	841	852	1%	9.2	A	83	158	SBT	841	848	1%	11.6	B	89	161
		EBL	142	2	-99%	1998.1	F	2576	4380	West Leg	168	0.199	13.1	B	1	16	EBL	142	142	0%	60.1	E	69	172	EBL	142	145	2%	26.0	C	61	113	EBL	142	142	0%	8.7	A	37	74
		EBR	24	0	0%	1888.5	F	2	32								EBR	26	27	4%	7.5	A	15	43	EBR	26	26	0%	6.0	A	15	43	EBR	26	26	0%	11.6	B	15	47
		Overall	2755	1284	-53%	1998.1	F			Overall	2814	0.730	18.5	C			Overall	2814	2792	-1%	29.8	C			Overall	2814	2834	1%	22.9	C			Overall	2814	2764	-2%	9.2	A		
3	WB I-580 Ramps/ Corral Hollow Rd	NBL	429	247	-42%	55.2	E	211	420	South Leg	1116	0.448	4.9	A	0	0	NBL	429	432	1%	69.2	E	324	421	NBT	687	680	-1%	17.9	B	106	187	NBL	429	418	-3%	5.1	A	9	47
		NBT	688	406	-41%	48.1	D	211	420								NBT	687	684	0%	19.1	B	324	421	NBR	429	427	0%	15.0	B	118	196	NBT	687	672	-2%	9.5	A	28	64
		SBT	816	311	-62%	95.3	F	378	1330	North Leg	1690	1.015	65.8	F	23	601	SBT	821	789	-4%	43.6	D	953	1432	SBT	821	825	0%	14.3	B	120	228	SBT	821	814	-1%	12.5	B	80	153
		SBR	869	328	-62%	93.3	F	378	1330								SBR	869	805	-7%	129.0	F	953	1432	SBR	869	858	-1%	18.0	B	177	330	SBR	869	874	1%	9.0	A	126	213
		WBL	277	1	-100%	3036.6	F	4956	6894	East Leg	394	0.394	18.1	C	1	38	WBL	277	282	2%	32.0	C	95	158	WBL	277	285	3%	28.4	C	84	142	WBL	277	284	3%	8.1	A	44	80
		WBR	117	0	-100%	3029.6	F	0	16								WBR	117	117	0%	11.0	B	48	93	WBR	117	118	1%	6.9	A	34	69	WBR	117	121	3%	9.6	A	44	79
		Overall	3196	1293	-60%	3036.6	F			Overall	3200	1.015	65.8	F			Overall	3200	3109	-3%	61.6	E			Overall	3200	3193	0%	17.1	B			Overall	3200	3183	-1%	9.4	A		

PM Peak Hour

No	Intersection	No Build							Build Alternative 1							Build Alternative 2							Build Alternative 3							Build Alternative 4						
		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Demand Volume (vph)	v/c	Avg. Delay (sec)	LOS	95th % Queue		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)	
			Demand	Served				Avg	95th						Veh	Feet		Demand	Served				Avg	95th		Demand	Served				Avg	95th		Demand	Served				Avg	95th
2	EB I-580 Ramps/ Corral Hollow Rd	NBT	873	800	-8%	19.6	B	0	0	South Leg	1476	0.867	36.4	E	11	275	NBT	796	804	1%	19.3	B	133	201	NBT	796	804	1%	18.8	B	136	204	NBT	796	790	-1%	10.8	B	48	70
		NBR	724	659	-9%	15.2	B	0	0								NBR	680	688	1%	11.8	B	120	221	NBR	680	661	-3%	11.5	B	115	214	NBR	680	686	1%	2.2	A	0	0
		SBL	112	6	-95%	842.2	F	420	420	North Leg	1309	0.525	5.3	A	0	0	SBL	110	109	-1%	46.3	D	90	323	SBL	110	107	-3%	44.7	D	71	135	SBL	110	105	-5%	5.2	A	103	201
		SBT	1235	61	-95%	753.6	F	420	420								SBT	1199	1202	0%	22.1	C	210	323	SBT	1199	1179	-2%	13.0	B	117	234	SBT	1199	1200	0%	13.0	B	166	248
		EBL	578	3	-99%	3210.5	F	10305	13644	West Leg	987	1.126	126.0	F	20	526	EBL	642	644	0%	31.6	C	180	258	EBL	642	639	0%	30.6	C	179	263	EBL	642	625	-3%	23.8	C	150	315
		EBR	366	1	-100%	3219.4	F	9	71								EBR	345	354	3%	18.6	B	132	224	EBR	345	344	0%	18.1	B	126	219	EBR	345	338	-2%	11.7	B	88	201
		Overall	3203	1670	-48%	3046.6	F			Overall	3772	1.126	126.0	F			Overall	3772	3801	1%	21.6	C			Overall	3772	3734	-1%	18.4	B			Overall	3772	3744	-1%	12.0	B		
3	WB I-580 Ramps/ Corral Hollow Rd	NBL	72	42	-42%	4.4	A	6	70	South Leg	1438	0.577	5.6	A	0	0	NBL	68	66	-3%	43.3	D	70	177	NBT	1370	1362	-1%	23.5	C	219	441	NBL	68	63	-7%	7.9	A	140	195
		NBT	1380	761	-45%	5.1	A	6	70								NBT	1370	1382	1%	25.0	C	255	383	NBR	68	71	4%	10.2	B	42	180	NBT	1370	1348	-2%	11.6	B	170	212
		SBT	820	67	-92%	906.8	F	1321	1330	North Leg	870	0.591	15.6	C	4	105	SBT	768	760	-1%	24.9	C	150	311	SBT	768	751	-2%	17.8	B	123	288	SBT	768	770	0%	16.9	B	73	141
		SBR	109	11	-90%	852.0	F	1321	1330								SBR	102	101	-1%	11.4	B	21	53	SBR	102	99	-3%	10.1	B	28	107	SBR	102	100	-2%	3.5	A	30	65
		WBL	527	1	-100%	3519.1	F	5681	6224	East Leg	813	1.051	108.3	F	13	344	WBL	541	551	2%	30.7	C	148	219	WBL	541	536	-1%	30.4	C	137	210	WBL	541	532	-2%	8.1	A	76	104
		WBR	289	0	-100%	3497.7	F	1	16								WBR	272	277	2%	19.5	B	111	187	WBR	272	268	-1%	23.5	C	112	218	WBR	272	274	1%	12.1	B	82	104
		Overall	3197	882	-72%	3519.1	F			Overall	3121	1.051	108.3	F			Overall	3121	3137	1%	25.4	C			Overall	3121	3087	-1%	22.6	C			Overall	3121	3087	-1%	12.0	B		

Results are based on an average of 12-multiple SimTraffic Simulation runs for side-street stop control (SSSC) and Signalized intersections. Results are based on HCM 6th methodology in Sidra Intersection software for Roundabout (RAB) intersections. Average delay is expressed in seconds per vehicle. Overall results for RAB and SSSC look at worst movement and results for Signals look at an average of all movements. Freeway congestion and on-ramp metering operations are not accounted for in the model.

I-580/Corral Hollow Road Interchange Improvement Project

Design Year (2048) I-580 Ramp Termini Intersection Analysis Summary

AM Peak Hour

No	Intersection	No Build							Build Alternative 1							Build Alternative 2							Build Alternative 3							Build Alternative 4						
		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Demand Volume (vph)	v/c	Avg. Delay (sec)	LOS	95th % Queue		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)	
			Demand	Served				Avg	95th						Veh	Feet		Demand	Served				Avg	95th		Demand	Served				Avg	95th		Demand	Served				Avg	95th
2	EB I-580 Ramps/ Corral Hollow Rd	NBT	490	420	-14%	157.8	F	655	1789	South Leg	749	0.408	11.0	B	2	51	NBT	487	485	0%	30.2	C	127	192	NBT	487	493	1%	25.3	C	119	193	NBT	487	490	1%	11.0	B	47	68
		NBR	259	219	-15%	146.7	F	655	1789								NBR	262	254	-3%	7.4	A	57	100	NBR	262	260	-1%	7.9	A	59	102	NBR	262	261	0%	0.8	A	0	0
		SBL	426	188	-56%	69.5	E	227	420	North Leg	1183	0.475	5.0	A	0	0	SBL	418	408	-2%	55.3	E	217	258	SBL	418	400	-4%	56.5	E	265	432	SBL	418	418	0%	6.8	A	71	186
		SBT	691	309	-55%	61.1	E	227	420								SBT	765	732	-4%	18.6	B	282	475	SBT	765	726	-5%	9.5	A	87	194	SBT	765	770	1%	12.1	B	112	196
		EBL	158	2	-99%	1937.7	F	3055	5395	West Leg	203	0.250	15.5	C	1	20	EBL	162	162	0%	29.9	C	53	101	EBL	162	158	-2%	29.1	C	65	116	EBL	162	166	2%	4.2	A	29	63
		EBR	41	0	-100%	1925.4	F	2	33								EBR	41	43	5%	7.1	A	24	54	EBR	41	42	2%	5.3	A	20	50	EBR	41	40	-2%	10.5	B	21	51
		Overall	2065	1138	-45%	1937.7	F			Overall	2135	0.475	15.5	C			Overall	2135	2084	-2%	27.8	C	0	0	Overall	2135	2079	-3%	23.5	C	0	0	Overall	2135	2145	0%	8.8	A	0	0
3	WB I-580 Ramps/ Corral Hollow Rd	NBL	155	100	-35%	116.0	F	292	420	South Leg	649	0.260	4.0	A	0	0	NBL	159	151	-5%	50.4	D	115	198	NBT	490	489	0%	13.0	B	71	136	NBL	159	152	-4%	3.8	A	4	23
		NBT	492	327	-34%	89.8	F	292	420								NBT	490	493	1%	15.5	B	72	161	NBR	159	160	1%	8.1	A	45	94	NBT	490	503	3%	7.6	A	21	40
		SBT	881	494	-44%	50.2	D	279	1330	North Leg	1815	0.877	30.7	D	18	456	SBT	914	874	-4%	27.9	C	224	381	SBT	914	853	-7%	14.4	B	131	251	SBT	914	926	1%	17.2	B	184	330
		SBR	910	513	-44%	44.4	D	279	1330								SBR	901	860	-5%	26.4	C	241	426	SBR	901	833	-8%	16.8	B	157	323	SBR	901	887	-2%	9.3	A	127	211
		WBL	236	5	-98%	2832.4	F	4699	6931	East Leg	386	0.226	8.6	A	1	21	WBL	269	271	1%	36.2	D	111	180	WBL	269	273	1%	31.6	C	97	159	WBL	269	262	-3%	10.4	B	51	93
		WBR	117	2	-98%	2831.6	F	5	54								WBR	117	117	0%	7.2	A	41	73	WBR	117	120	3%	6.2	A	33	65	WBR	117	125	7%	10.2	B	47	86
		Overall	2791	1441	-48%	2832.4	F			Overall	2850	0.877	30.7	D			Overall	2850	2766	-3%	26.4	C	0	0	Overall	2850	2728	-4%	15.9	B	0	0	Overall	2850	2855	0%	11.4	B	0	0

PM Peak Hour

No	Intersection	No Build							Build Alternative 1							Build Alternative 2							Build Alternative 3							Build Alternative 4						
		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Demand Volume (vph)	v/c	Avg. Delay (sec)	LOS	95th % Queue		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)	
			Demand	Served				Avg	95th						Veh	Feet		Demand	Served				Avg	95th		Demand	Served				Avg	95th		Demand	Served				Avg	95th
2	EB I-580 Ramps/ Corral Hollow Rd	NBT	352	349	-1%	10.2	B	3	17	South Leg	1203	0.769	25.0	D	7	181	NBT	327	323	-1%	14.6	B	70	216	NBT	327	332	2%	15.4	B	111	433	NBT	326	321	-2%	9.7	A	58	98
		NBR	806	801	-1%	6.2	A	3	17								NBR	876	890	2%	25.2	C	246	488	NBR	876	876	0%	27.7	C	248	535	NBR	876	839	-4%	2.6	A	0	0
		SBL	105	59	-44%	182.2	F	420	420	North Leg	655	0.262	4.0	A	0	0	SBL	105	106	1%	77.9	E	91	179	SBL	105	106	1%	68.9	E	84	166	SBL	105	100	-5%	3.4	A	5	28
		SBT	519	296	-43%	151.6	F	420	420								SBT	550	551	0%	12.4	B	90	191	SBT	550	546	-1%	9.0	A	58	109	SBT	549	560	2%	9.0	A	48	71
		EBL	513	4	-99%	2673.5	F	8620	13502	West Leg	665	0.494	13.7	B	3	71	EBL	586	586	0%	21.9	C	130	191	EBL	586	582	-1%	21.8	C	134	203	EBL	586	581	-1%	3.2	A	51	93
		EBR	78	1	-99%	2725.4	F	2	29								EBR	79	80	1%	5.8	A	29	63	EBR	79	80	1%	5.5	A	30	63	EBR	79	80	1%	10.8	B	36	55
		Overall	2373	1510	-36%	2725.4	F	0	0	Overall	2523	0.769	25.0	D			Overall	2523	2536	1%	21.9	C	0	0	Overall	2523	2522	0%	21.7	C	0	0	Overall	2521	2481	-2%	5.4	A	0	0
3	WB I-580 Ramps/ Corral Hollow Rd	NBL	20	8	-60%	6.5	A	4	31	South Leg	913	0.366	4.5	A	0	0	NBL	20	18	-10%	34.7	C	17	56	NBT	893	891	0%	11.9	B	91	154	NBL	20	18	-10%	3.3	A	45	102
		NBT	846	346	-59%	3.8	A	4	31								NBT	893	888	-1%	16.3	B	158	237	NBR	20	21	5%	4.7	A	5	24	NBT	892	882	-1%	9.5	A	62	119
		SBT	355	307	-14%	153.2	F	488	1330	North Leg	453	0.209	6.0	A	1	21	SBT	362	367	1%	15.1	B	57	129	SBT	362	357	-1%	12.8	B	59	128	SBT	362	365	1%	9.5	A	49	58
		SBR	87	75	-14%	156.2	F	488	1330								SBR	91	93	2%	6.8	A	19	48	SBR	91	90	-1%	6.6	A	24	59	SBR	91	93	2%	3.3	A	27	62
		WBL	269	49	-82%	2085.4	F	5025	7175	East Leg	689	0.481	17.1	C	2	57	WBL	292	293	0%	19.4	B	71	115	WBL	292	293	0%	19.3	B	62	105	WBL	292	296	1%	3.6	A	26	62
		WBR	397	72	-82%	2026.4	F	53	185								WBR	397	405	2%	13.6	B	119	207	WBR	397	398	0%	13.7	B	111	202	WBR	397	391	-2%	11.8	B	93	137
		Overall	1974	857	-57%	2085.4	F	0	0	Overall	2055	0.481	17.1	C			Overall	2055	2064	0%	15.7	B	0	0	Overall	2055	2050	0%	13.2	B	0	0	Overall	2054	2045	0%	8.7	A	0	0

Results are based on an average of 12-multiple SimTraffic Simulation runs for side-street stop control (SSSC) and Signalized intersections. Results are based on HCM 6th methodology in Sidra Intersection software for Roundabout (RAB) intersections. Average delay is expressed in seconds per vehicle. Overall results for RAB and SSSC look at worst movement and results for Signals look at an average of all movements. Freeway congestion and on-ramp metering operations are not accounted for in the model.

I-580/Corral Hollow Road Interchange Improvement Project

Opening Year (2028) Tracy Hills Drive Intersection Analysis Summary

AM Peak Hour

No	Intersection	No Build							Build Alternative 1							Build Alternative 2							Build Alternative 3							Build Alternative 4						
		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)		Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)	
			Demand	Served				Avg	95th		Demand	Served			Avg	95th		Demand	Served				Avg	95th		Demand	Served				Avg	95th		Demand	Served				Avg	95th
4	Tracy Hills Dr/ Corral Hollow Rd	NBL	147	30	-80%	34.8	C	15	50	Not Anlyzed for this Alternative							NBL	147	145	-1%	50.2	D	67	114	NBL	147	148	1%	47.1	D	59	101	NBL	147	143	-3%	46.6	D	64	110
		NBT	522	107	-80%	14.3	B	16	61								NBT	523	519	-1%	17.0	B	92	184	NBT	523	523	0%	15.7	B	79	156	NBT	523	525	0%	13.3	B	84	174
		NBR	2	0	-100%	0.0	-	0	0								NBR	2	2	0%	4.0	A	1	6	NBR	2	3	50%	3.1	A	0	3	NBR	2	2	0%	1.7	A	1	5
		SBL	22	18	-18%	40.8	D	14	39								SBL	22	21	-5%	51.1	D	19	48	SBL	22	22	0%	44.3	D	19	49	SBL	22	20	-9%	47.4	D	19	49
		SBT	1063	1060	0%	30.7	C	285	464								SBT	1063	1050	-1%	26.4	C	270	472	SBT	1063	1046	-2%	25.1	C	279	480	SBT	1063	1068	0%	24.5	C	267	439
		SBR	117	116	-1%	3.5	A	17	45								SBR	117	115	-2%	4.9	A	35	166	SBR	117	120	3%	4.6	A	33	151	SBR	117	120	3%	4.4	A	33	150
		EBL	120	122	2%	40.8	D	85	161								EBL	120	122	2%	43.7	D	86	161	EBL	120	120	0%	40.9	D	82	158	EBL	120	121	1%	41.3	D	82	154
		EBT	5	5	0%	32.6	C	4	19								EBT	5	5	0%	37.7	D	4	18	EBT	5	5	0%	30.0	C	3	15	EBT	5	7	40%	40.6	D	5	23
		EBR	183	179	-2%	24.6	C	89	163								EBR	188	188	0%	23.3	C	90	172	EBR	188	188	0%	22.4	C	87	166	EBR	188	186	-1%	17.6	B	78	152
		WBL	38	34	-11%	36.8	D	26	64								WBL	38	38	0%	32.1	C	29	68	WBL	38	33	-13%	32.6	C	27	67	WBL	38	36	-5%	33.5	C	31	70
		WBT	5	5	0%	38.9	D	4	22								WBT	5	5	0%	51.7	D	5	23	WBT	5	5	0%	49.8	D	5	23	WBT	5	6	20%	35.3	D	6	26
		WBR	23	22	-4%	3.6	A	12	40								WBR	23	24	4%	5.6	A	16	43	WBR	23	22	-4%	4.9	A	14	42	WBR	23	24	4%	5.5	A	17	46
		Overall	2247	1698	-24%	27.9	C										Overall	2253	2234	-1%	25.5	C			Overall	2253	2235	-1%	24.0	C			Overall	2253	2258	0%	22.8	C		

PM Peak Hour

No	Intersection	No Build							Build Alternative 1							Build Alternative 2							Build Alternative 3							Build Alternative 4						
		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)		Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)	
			Demand	Served				Avg	95th		Demand	Served			Avg	95th		Demand	Served				Avg	95th		Demand	Served				Avg	95th		Demand	Served				Avg	95th
4	Tracy Hills Dr/ Corral Hollow Rd	NBL	133	71	-47%	52.9	D	37	80	Not Anlyzed for this Alternative							NBL	133	130	-2%	35.8	D	57	164	NBL	133	131	-2%	33.8	C	44	102	NBL	133	125	-6%	29.8	C	47	84
		NBT	1079	588	-46%	19.0	B	119	217								NBT	1155	1162	1%	28.2	C	211	408	NBT	1155	1159	0%	25.1	C	201	387	NBT	1155	1166	1%	21.6	C	218	400
		NBR	23	11	-52%	2.2	A	3	13								NBR	23	22	-4%	11.3	B	8	53	NBR	23	26	13%	7.8	A	4	17	NBR	23	22	-4%	4.3	A	5	23
		SBL	84	55	-35%	83.9	F	172	594								SBL	84	84	0%	38.7	D	46	86	SBL	84	84	0%	39.1	D	46	84	SBL	84	80	-5%	39.3	D	46	84
		SBT	640	355	-45%	339.9	F	573	7121								SBT	639	638	0%	23.9	C	140	244	SBT	639	647	1%	24.3	C	142	245	SBT	640	648	1%	26.2	C	151	257
		SBR	165	100	-39%	69.2	E	138	7121								SBR	165	167	1%	3.8	A	33	70	SBR	165	171	4%	3.8	A	35	71	SBR	165	164	-1%	3.9	A	36	72
		EBL	150	149	-1%	61.0	E	121	226								EBL	152	148	-3%	34.0	C	90	157	EBL	152	148	-3%	34.6	C	91	161	EBL	152	151	-1%	36.0	D	92	159
		EBT	5	4	-20%	33.8	C	26	244								EBT	5	5	0%	17.2	B	3	16	EBT	5	5	0%	22.0	C	3	16	EBT	5	6	20%	26.2	C	4	19
		EBR	78	73	-6%	277.9	F	185	526								EBR	78	80	3%	10.8	B	30	71	EBR	78	76	-3%	9.9	A	27	64	EBR	78	80	3%	6.2	A	25	59
		WBL	13	12	-8%	290.1	F	31	99								WBL	13	13	0%	26.2	C	11	38	WBL	13	11	-15%	28.5	C	11	37	WBL	13	12	-8%	36.2	D	11	36
		WBT	5	4	-20%	67.8	E	4	21								WBT	5	4	-20%	42.7	D	5	22	WBT	5	5	0%	41.9	D	6	24	WBT	5	5	0%	41.9	D	6	26
		WBR	35	36	3%	6.3	A	21	51								WBR	35	38	9%	11.4	B	23	55	WBR	35	37	6%	11.4	B	23	57	WBR	35	37	6%	12.6	B	23	56
		Overall	2410	1458	-40%	123.9	F										Overall	2487	2491	0%	25.6	C			Overall	2487	2500	1%	24.1	C			Overall	2488	2496	0%	22.8	C		

Results are based on an average of 12-multiple SimTraffic Simulation runs. Average delay is expressed in seconds per vehicle. Overall results look at an average of all movements. Freeway congestion and on-ramp metering operations are not accounted for in the model. Build Alternative 1 is only analyzed in Sidra Intersection software, so the Tracy Hills Drive/Corral Hollow Road intersection is not analyzed.

I-580/Corral Hollow Road Interchange Improvement Project

Interim Year (2035) Tracy Hills Drive Intersection Analysis Summary

AM Peak Hour

No	Intersection	No Build							Build Alternative 1							Build Alternative 2							Build Alternative 3							Build Alternative 4						
		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)		Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)	
			Demand	Served				Avg	95th		Demand	Served			Avg	95th		Demand	Served				Avg	95th		Demand	Served				Avg	95th		Demand	Served				Avg	95th
4	Tracy Hills Dr/ Corral Hollow Rd	NBL	148	70	-53%	66.0	E	42	105	*Not Anlyzed for this Alternative*							NBL	148	142	-4%	65.6	E	77	154	NBL	148	144	-3%	62.9	E	67	115	NBL	148	144	-3%	51.8	D	68	116
		NBT	618	307	-50%	24.6	C	76	187								NBT	618	617	0%	43.8	D	193	297	NBT	618	605	-2%	43.7	D	181	280	NBT	618	613	-1%	35.0	C	172	274
		NBR	38	20	-47%	2.8	A	4	20								NBR	38	38	0%	11.0	B	15	39	NBR	38	41	8%	11.0	B	10	34	NBR	38	39	3%	8.2	A	15	43
		SBL	645	268	-58%	62.9	E	193	580								SBL	645	629	-2%	69.1	E	337	1129	SBL	645	639	-1%	71.1	E	294	514	SBL	645	659	2%	51.4	D	246	389
		SBT	1148	443	-61%	292.4	F	628	7121								SBT	1148	1097	-4%	71.3	E	505	1129	SBT	1148	1137	-1%	45.1	D	415	827	SBT	1148	1156	1%	33.7	C	334	546
		SBR	121	49	-60%	69.2	E	51	281								SBR	121	115	-5%	20.1	C	204	1129	SBR	121	118	-2%	10.4	B	114	424	SBR	121	118	-2%	5.9	A	54	253
		EBL	180	100	-44%	262.8	F	96	253								EBL	180	173	-4%	46.6	D	124	218	EBL	180	179	-1%	50.6	D	133	232	EBL	180	185	3%	47.5	D	133	230
		EBT	10	6	-40%	277.5	F	434	1849								EBT	10	11	10%	38.4	D	12	69	EBT	10	9	-10%	36.5	D	10	70	EBT	10	11	10%	49.2	D	12	60
		EBR	267	127	-52%	534.9	F	567	1849								EBR	272	269	-1%	34.0	C	145	255	EBR	272	272	0%	33.5	C	145	263	EBR	272	270	-1%	36.4	D	149	277
		WBL	270	115	-57%	573.6	F	696	1453								WBL	270	265	-2%	89.0	F	199	612	WBL	270	274	1%	54.5	D	185	309	WBL	270	262	-3%	52.4	D	177	280
		WBT	10	4	-60%	536.4	F	696	1453								WBT	10	10	0%	78.3	E	167	612	WBT	10	11	10%	48.9	D	73	309	WBT	10	10	0%	52.5	D	52	248
		WBR	85	44	-48%	354.2	F	14	59								WBR	85	85	0%	25.3	C	39	115	WBR	85	87	2%	9.0	A	39	111	WBR	85	85	0%	8.7	A	34	76
		Overall	3540	1553	-56%	219.9	F										Overall	3545	3451	-3%	59.4	E			Overall	3545	3516	-1%	48.0	D			Overall	3545	3552	0%	38.5	D		

PM Peak Hour

No	Intersection	No Build							Build Alternative 1							Build Alternative 2							Build Alternative 3							Build Alternative 4						
		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)		Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)	
			Demand	Served				Avg	95th		Demand	Served			Avg	95th		Demand	Served				Avg	95th		Demand	Served				Avg	95th		Demand	Served				Avg	95th
4	Tracy Hills Dr/ Corral Hollow Rd	NBL	224	107	-52%	57.3	E	58	104	*Not Anlyzed for this Alternative*							NBL	211	214	1%	66.2	E	220	1057	NBL	211	209	-1%	60.1	E	218	936	NBL	211	210	0%	33.2	C	92	254
		NBT	1284	582	-55%	19.5	B	121	207								NBT	1282	1285	0%	81.7	F	617	1057	NBT	1282	1269	-1%	75.2	E	580	936	NBT	1282	1261	-2%	37.3	D	342	522
		NBR	160	75	-53%	2.4	A	12	31								NBR	150	149	-1%	37.5	D	218	1057	NBR	150	146	-3%	27.8	C	200	936	NBR	150	153	2%	10.4	B	88	311
		SBL	506	49	-90%	328.5	F	144	527								SBL	475	465	-2%	82.0	F	247	381	SBL	475	477	0%	86.1	F	263	400	SBL	475	469	-1%	66.8	E	206	319
		SBT	710	49	-93%	1844.5	F	6480	7121								SBT	667	656	-2%	53.0	D	261	388	SBT	667	646	-3%	52.4	D	248	380	SBT	668	655	-2%	41.6	D	209	321
		SBR	228	18	-92%	359.8	F	35	240								SBR	214	218	2%	7.4	A	54	135	SBR	214	215	0%	7.0	A	54	119	SBR	214	216	1%	5.7	A	48	87
		EBL	170	106	-38%	261.5	F	106	1733								EBL	161	157	-2%	91.9	F	166	272	EBL	161	158	-2%	90.5	F	165	271	EBL	161	163	1%	58.8	E	126	229
		EBT	81	46	-43%	215.0	F	466	1733								EBT	76	74	-3%	46.6	D	72	200	EBT	76	77	1%	44.0	D	72	217	EBT	76	76	0%	41.8	D	59	147
		EBR	83	18	-78%	1736.8	F	672	1733								EBR	78	78	0%	9.8	A	26	67	EBR	78	79	1%	11.0	B	28	73	EBR	78	81	4%	6.8	A	24	58
		WBL	134	14	-90%	1989.1	F	1019	1389								WBL	126	125	-1%	48.8	D	97	196	WBL	126	127	1%	46.5	D	94	184	WBL	126	124	-2%	67.4	E	105	204
		WBT	22	3	-86%	904.2	F	1019	1389								WBT	20	20	0%	59.1	E	233	608	WBT	20	21	5%	55.3	E	185	506	WBT	20	21	5%	67.9	E	283	718
		WBR	536	81	-85%	830.3	F	36	178								WBR	503	506	1%	42.5	D	243	608	WBR	503	493	-2%	37.3	D	232	506	WBR	503	513	2%	55.3	E	237	324
		Overall	4138	1148	-72%	259.0	F										Overall	3963	3947	0%	62.5	E			Overall	3963	3917	-1%	59.4	E			Overall	3964	3942	-1%	42.3	D		

Results are based on an average of 12-multiple SimTraffic Simulation runs. Average delay is expressed in seconds per vehicle. Overall results look at an average of all movements. Freeway congestion and on-ramp metering operations are not accounted for in the model. Build Alternative 1 is only analyzed in Sidra Intersection software, so the Tracy Hills Drive/Corral Hollow Road intersection is not analyzed.

I-580/Corral Hollow Road Interchange Improvement Project

Design Year (2048) Tracy Hills Drive Intersection Analysis Summary

AM Peak Hour

No	Intersection	No Build							Build Alternative 1							Build Alternative 2							Build Alternative 3							Build Alternative 4						
		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)		Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)	
			Demand	Served				Avg	95th		Demand	Served			Avg	95th		Demand	Served				Avg	95th		Demand	Served				Avg	95th		Demand	Served				Avg	95th
4	Tracy Hills Dr/ Corral Hollow Rd	NBL	147	75	-49%	86.4	F	46	135	*Not Anlyzed for this Alternative*							NBL	148	150	1%	69.9	E	80	140	NBL	148	150	1%	63.4	E	68	122	NBL	148	153	3%	61.7	E	77	131
		NBT	424	230	-46%	34.5	C	69	198								NBT	422	423	0%	44.3	D	140	224	NBT	422	418	-1%	43.9	D	133	214	NBT	421	438	4%	40.4	D	140	228
		NBR	38	21	-45%	3.6	A	5	22								NBR	38	39	3%	9.5	A	16	43	NBR	38	40	5%	9.1	A	10	29	NBR	38	42	11%	7.6	A	16	43
		SBL	645	328	-49%	59.5	E	293	7121								SBL	645	607	-6%	75.9	E	366	3966	SBL	645	599	-7%	74.6	E	309	1039	SBL	645	649	1%	69.2	E	305	526
		SBT	1221	601	-51%	198.4	F	594	7121								SBT	1222	1142	-7%	72.1	E	531	3966	SBT	1222	1096	-10%	58.9	E	472	1039	SBT	1222	1206	-1%	50.2	D	437	872
		SBR	183	96	-48%	31.0	C	122	7121								SBR	183	171	-7%	19.3	B	241	3966	SBR	183	168	-8%	16.6	B	203	1039	SBR	183	183	0%	10.0	A	147	872
		EBL	387	313	-19%	143.1	F	230	1829								EBL	387	382	-1%	89.9	F	269	764	EBL	387	373	-4%	88.0	F	267	743	EBL	387	385	-1%	106.4	F	340	860
		EBT	10	8	-20%	98.9	F	511	1829								EBT	10	10	0%	55.1	E	262	764	EBT	10	11	10%	54.2	D	253	743	EBT	10	9	-10%	77.6	E	340	860
		EBR	300	241	-20%	244.9	F	492	1829								EBR	324	332	2%	35.0	C	193	406	EBR	324	327	1%	32.5	C	181	385	EBR	324	330	2%	48.1	D	213	378
		WBL	270	186	-31%	371.4	F	660	1455								WBL	270	264	-2%	80.9	F	197	507	WBL	270	265	-2%	60.3	E	178	369	WBL	270	274	1%	61.6	E	183	456
		WBT	10	8	-20%	290.3	F	660	1455								WBT	10	10	0%	69.1	E	134	507	WBT	10	10	0%	64.5	E	77	369	WBT	10	12	20%	72.6	E	103	456
		WBR	85	59	-31%	210.6	F	24	84								WBR	85	86	1%	17.7	B	41	116	WBR	85	82	-4%	11.2	B	33	79	WBR	85	86	1%	14.7	B	36	88
		Overall	3720	2166	-42%	159.1	F										Overall	3744	3616	-3%	64.0	E			Overall	3744	3539	-5%	57.0	E			Overall	3743	3767	1%	56.1	E		

PM Peak Hour

No	Intersection	No Build							Build Alternative 1							Build Alternative 2							Build Alternative 3							Build Alternative 4						
		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)		Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)		Mvmt/ Lane Group	Volume (vph)			Avg. Delay (sec)	LOS	Queue Length (ft)	
			Demand	Served				Avg	95th		Demand	Served			Avg	95th		Demand	Served				Avg	95th		Demand	Served				Avg	95th		Demand	Served				Avg	95th
4	Tracy Hills Dr/ Corral Hollow Rd	NBL	355	118	-67%	42.7	D	46	91	*Not Anlyzed for this Alternative*							NBL	355	356	0%	52.7	D	167	360	NBL	355	351	-1%	50.1	D	153	324	NBL	355	346	-3%	31.8	C	107	214
		NBT	738	255	-65%	40.9	D	77	152								NBT	784	792	1%	70.9	E	329	547	NBT	784	776	-1%	69.4	E	319	528	NBT	784	782	0%	42.3	D	228	369
		NBR	150	48	-68%	5.4	A	15	39								NBR	150	146	-3%	16.7	B	82	285	NBR	150	147	-2%	13.7	B	65	258	NBR	150	144	-4%	8.2	A	42	125
		SBL	475	460	-3%	64.5	E	220	421								SBL	475	472	-1%	88.9	F	255	439	SBL	475	477	0%	96.4	F	268	447	SBL	475	477	0%	50.5	D	180	285
		SBT	246	232	-6%	107.5	F	174	439								SBT	254	258	2%	54.2	D	120	288	SBT	254	250	-2%	52.4	D	115	274	SBT	256	255	0%	42.0	D	94	155
		SBR	323	315	-2%	8.3	A	59	150								SBR	403	400	-1%	12.4	B	108	229	SBR	403	400	-1%	11.1	B	103	218	SBR	403	406	1%	9.5	A	99	175
		EBL	329	327	-1%	63.9	E	233	482								EBL	341	333	-2%	82.2	F	259	639	EBL	341	337	-1%	71.2	E	260	483	EBL	341	337	-1%	45.1	D	208	315
		EBT	76	76	0%	35.1	D	145	482								EBT	76	77	1%	43.1	D	226	639	EBT	76	77	1%	37.6	D	180	483	EBT	76	75	-1%	37.2	D	84	258
		EBR	70	71	1%	32.2	C	40	130								EBR	73	73	0%	9.5	A	26	101	EBR	73	74	1%	8.0	A	23	63	EBR	73	72	-1%	3.0	A	18	46
		WBL	126	119	-6%	82.0	F	97	576								WBL	126	127	1%	30.2	C	75	141	WBL	126	125	-1%	28.9	C	71	132	WBL	126	126	0%	44.5	D	88	168
		WBT	20	19	-5%	55.1	E	114	576								WBT	20	20	0%	42.6	D	90	346	WBT	20	19	-5%	45.8	D	86	332	WBT	20	24	20%	53.4	D	88	332
		WBR	503	488	-3%	25.1	C	145	576								WBR	503	511	2%	26.5	C	202	346	WBR	503	504	0%	26.3	C	202	332	WBR	503	495	-2%	28.6	C	189	332
		Overall	3411	2528	-26%	48.2	D										Overall	3560	3565	0%	52.7	D			Overall	3560	3537	-1%	51.5	D			Overall	3562	3539	-1%	34.8	C		

Results are based on an average of 12-multiple SimTraffic Simulation runs. Average delay is expressed in seconds per vehicle. Overall results look at an average of all movements. Freeway congestion and on-ramp metering operations are not accounted for in the model. Build Alternative 1 is only analyzed in Sidra Intersection software, so the Tracy Hills Drive/Corral Hollow Road intersection is not analyzed.

Appendix D. Opening Year (2028) No Build SimTraffic and Sidra Outputs

Opening Year (2028) No Build

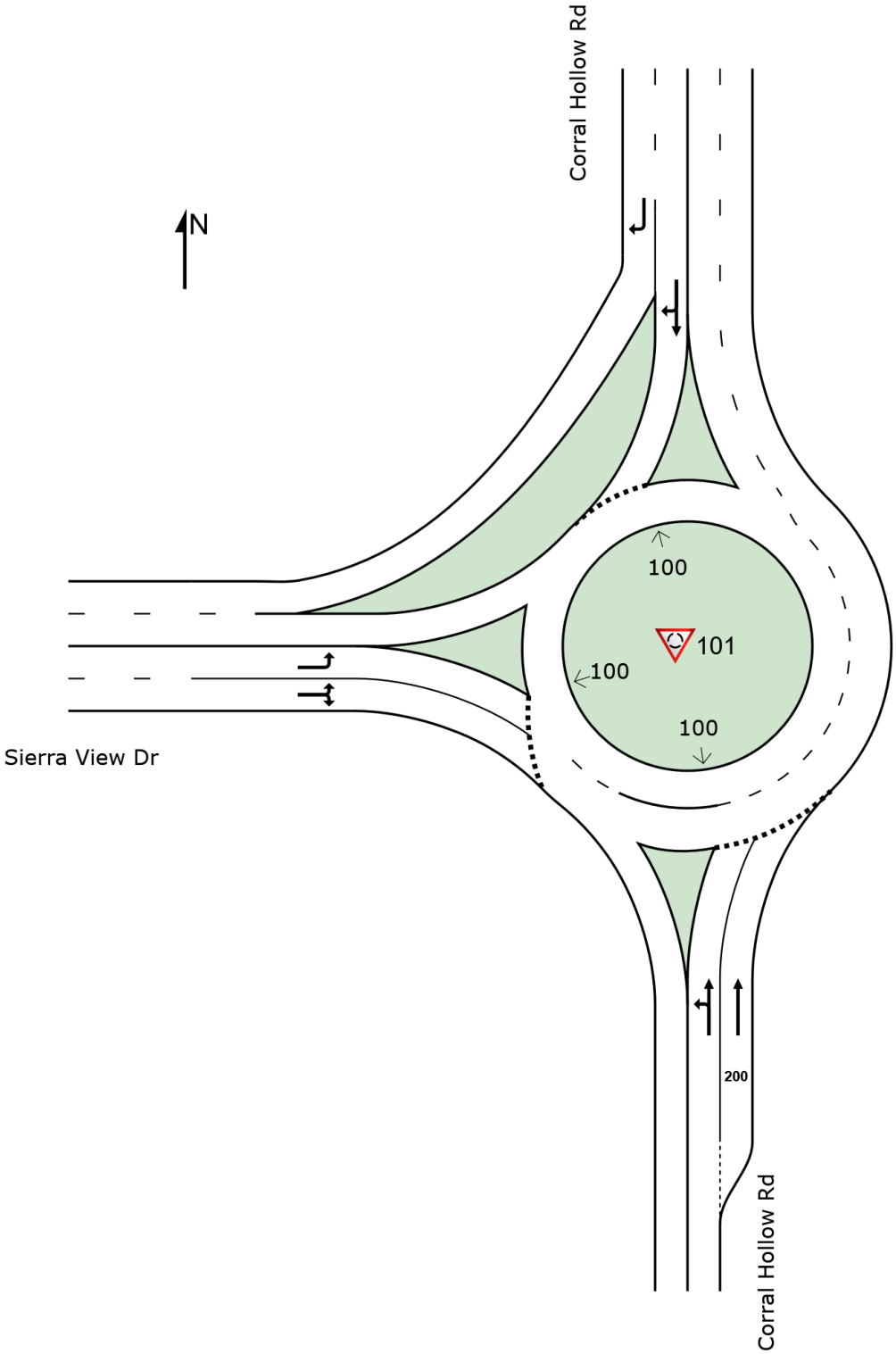
Sierra View Drive Sidra Outputs

SITE LAYOUT

Site: 101 [No Build - AM (Site Folder: OY 2028)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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LANE SUMMARY

Site: 101 [No Build - AM (Site Folder: OY 2028)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	9	5.0	9	5.0	456	0.021	100	11.6	LOS B	0.1	2.5	Full	1600	0.0	0.0
Lane 2[d]	12	5.0	12	5.0	592	0.021	100	7.9	LOS A	0.1	2.8	Short	200	0.0	NA
Approach	22	5.0	22	5.0		0.021		9.5	LOS A	0.1	2.8				
North: Corral Hollow Rd															
Lane 1[d]	441	5.0	441	5.0	1769	0.249	100	4.1	LOS A	1.7	44.6	Full	1600	0.0	0.0
Lane 2	215	5.0	215	5.0	1595	0.135	54[5]	3.6	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	657	5.0	657	5.0		0.249		3.9	LOS A	1.7	44.6				
West: Sierra View Dr															
Lane 1	668	5.0	668	5.0	975	0.685	100	16.7	LOS B	7.4	193.6	Full	1600	0.0	0.0
Lane 2[d]	821	5.0	821	5.0	1200	0.685	100	14.8	LOS B	7.9	204.2	Full	1600	0.0	0.0
Approach	1489	5.0	1489	5.0		0.685		15.7	LOS B	7.9	204.2				
All Vehicles	2167	5.0	2167	5.0		0.685		12.1	LOS B	7.9	204.2				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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	4	5	9	5.0	456	0.021	100	NA	NA
Lane 2	-	12	12	5.0	592	0.021	100	0.0	1
Approach	4	17	22	5.0		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	441	-	441	5.0	1769	0.249	100	NA	NA
Lane 2	-	215	215	5.0	1595	0.135	54[5]	NA	NA

Approach	441	215	657	5.0		0.249			
West: Sierra View Dr									
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	668	-	668	5.0	975	0.685	100	NA	NA
Lane 2	762	60	821	5.0	1200	0.685	100	NA	NA
Approach	1429	60	1489	5.0		0.685			
	Total	%HV	Deg.Satn (v/c)						
All Vehicles	2167	5.0		0.685					

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

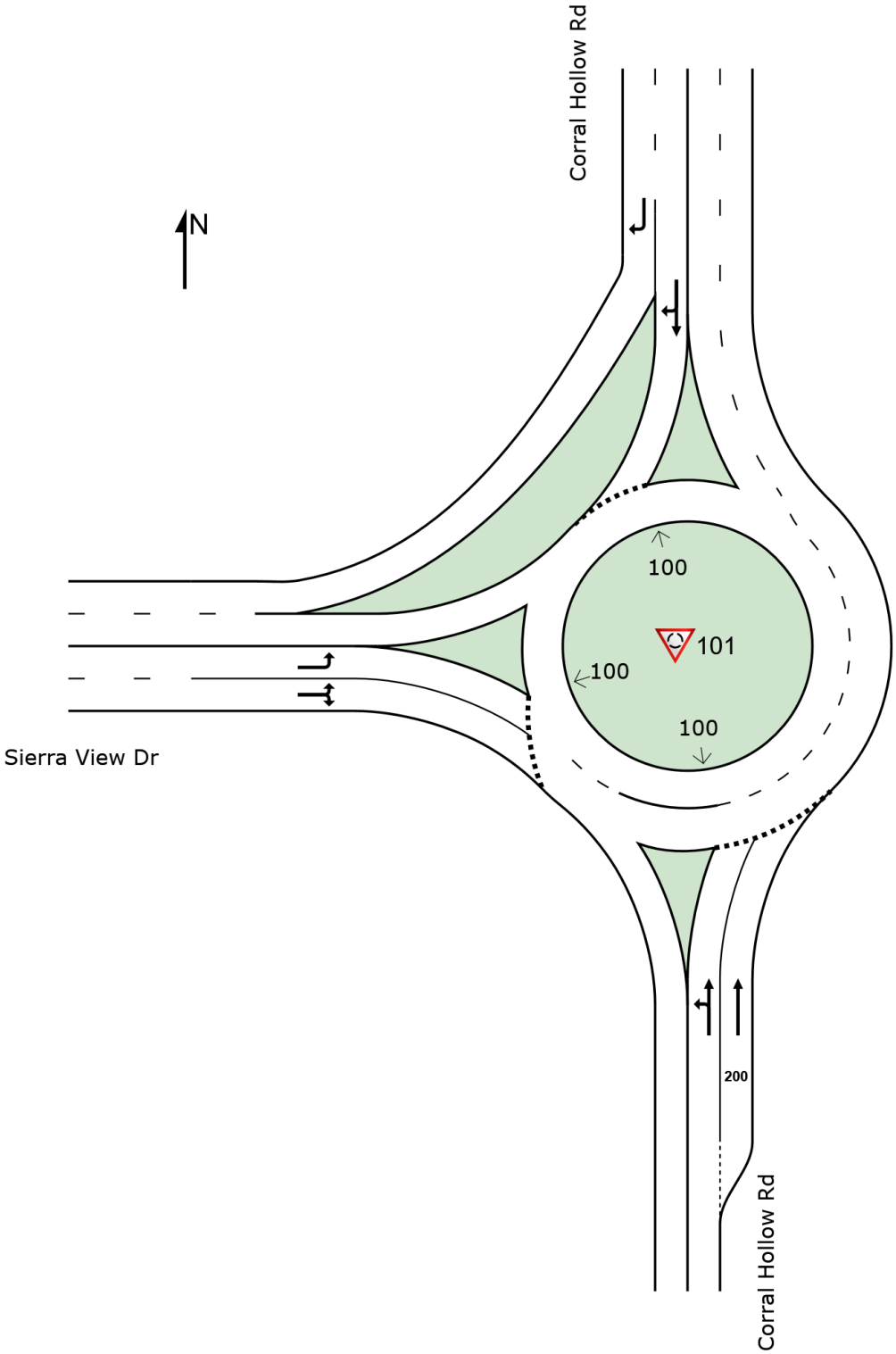
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Sierra View Dr				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

SITE LAYOUT

Site: 101 [No Build - PM (Site Folder: OY 2028)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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LANE SUMMARY

Site: 101 [No Build - PM (Site Folder: OY 2028)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	464	5.0	464	5.0	970	0.479	100	7.2	LOS A	2.8	73.5	Full	1600	0.0	0.0
Lane 2[d]	511	5.0	511	5.0	1068	0.479	100	6.3	LOS A	2.8	73.6	Short	200	0.0	NA
Approach	975	5.0	975	5.0		0.479		6.8	LOS A	2.8	73.6				
North: Corral Hollow Rd															
Lane 1[d]	238	5.0	238	5.0	1618	0.147	19[7]	3.8	LOS A	0.8	21.8	Full	1600	0.0	0.0
Lane 2	1207	5.0	1207	5.0	1595	0.757	100	4.2	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1445	5.0	1445	5.0		0.757		4.1	LOS A	0.8	21.8				
West: Sierra View Dr															
Lane 1	235	5.0	235	5.0	1382	0.170	100	10.1	LOS B	0.8	21.6	Full	1600	0.0	0.0
Lane 2[d]	273	5.0	273	5.0	1604	0.170	100	10.0	LOS A	0.8	22.0	Full	1600	0.0	0.0
Approach	508	5.0	508	5.0		0.170		10.1	LOS B	0.8	22.0				
All Vehicles	2927	5.0	2927	5.0		0.757		6.0	LOS A	2.8	73.6				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

7 Lane under-utilisation specified by the user
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	37	427	464	5.0	970	0.479	100	NA	NA
Lane 2	-	511	511	5.0	1068	0.479	100	0.0	1
Approach	37	938	975	5.0		0.479			

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	50	188	238	5.0	1618	0.147	19[7]	NA	NA
Lane 2	-	1207	1207	5.0	1595	0.757	100	NA	NA

Approach	50	1395	1445	5.0		0.757			
West: Sierra View Dr									
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	235	-	235	5.0	1382	0.170	100	NA	NA
Lane 2	267	5	273	5.0	1604	0.170	100	NA	NA
Approach	502	5	508	5.0		0.170			
	Total	%HV	Deg.Satn (v/c)						
All Vehicles	2927	5.0		0.757					

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

7 Lane under-utilisation specified by the user

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Sierra View Dr				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

Opening Year (2028) No Build

SimTraffic Outputs

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	1242.5	1256.3	0	0	0.4	0	951.3
Total Del/Veh (s)	809.8	790.6	622.6	3.9	84.2	8.4	449.9
Vehicles Exited	345	14	4	15	275	131	784
Hourly Exit Rate	345	14	4	15	275	131	784
Input Volume	1315	55	4	16	407	198	1994
% of Volume	26	26	100	92	68	66	39

2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.1	0.2	4.2	4	0	0	1.5
Total Del/Veh (s)	1780.4	1521.4	1601.6	392.8	369.6	7.5	7.8	441.1
Vehicles Exited	15	0	3	223	141	113	403	898
Hourly Exit Rate	15	0	3	223	141	113	403	898
Input Volume	131	2	23	832	500	159	581	2228
% of Volume	11	0	13	27	28	71	69	40

3: I-580 WB ON RAMP/I-580 WB OFF RAMP & Corral Hollow Rd Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	393.8	306.3	394.3	2.8	5.6	0	0	73.2
Total Del/Veh (s)	2856.7	4027.1	2827.4	256.1	231.7	11.6	7.9	443.5
Vehicles Exited	1	0	0	103	136	515	756	1511
Hourly Exit Rate	1	0	0	103	136	515	756	1511
Input Volume	225	2	117	409	554	516	769	2592
% of Volume	0	0	0	25	25	100	98	58

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	4.1	0.2	4.1	0	0		0	0	0	0.1
Total Del/Veh (s)	40.8	32.6	24.6	36.8	38.9	3.6	34.8	14.3		40.8	30.7	3.5	28
Vehicles Exited	122	5	179	34	5	22	30	107	0	18	1060	116	1698
Hourly Exit Rate	122	5	179	34	5	22	30	107	0	18	1060	116	1698
Input Volume	120	5	183	38	5	23	147	522	2	22	1063	117	2247
% of Volume	101	100	98	89	100	97	20	21	0	83	100	99	76

Intersection: 1: CORRAL HOLLOW RD & SIERRA VIEW DR

Movement	EB	EB	NB	SB	SB	B13	B13	B12	
Directions Served	L	LR	L	TR	R	T	T	T	
Maximum Queue (ft)	1383	1384	48	561	377	286	246	316	
Average Queue (ft)	1345	1344	13	211	42	41	26	40	
95th Queue (ft)	1390	1398	51	556	253	207	161	309	
Link Distance (ft)	1328	1328		480	480	264	264	1045	
Upstream Blk Time (%)	99	98		17	1	6	1	1	
Queuing Penalty (veh)	0	0		50	2	18	2	4	
Storage Bay Dist (ft)			200						
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP

Movement	EB	EB	NB	B12	B12	B13	B13	B13	SB	
Directions Served	LT	R	TR	T		T	T		LT	
Maximum Queue (ft)	3765	175	1158	377	48	563	546	510	266	
Average Queue (ft)	2107	16	1115	340	11	524	474	142	38	
95th Queue (ft)	3675	98	1260	390	99	578	646	502	162	
Link Distance (ft)	11393		1045	264	264	480	480	480	420	
Upstream Blk Time (%)			90	92	1	97	70	19	1	
Queuing Penalty (veh)			1203	615	9	430	311	84	6	
Storage Bay Dist (ft)		100								
Storage Blk Time (%)	100									
Queuing Penalty (veh)	23									

Intersection: 3: I-580 WB ON RAMP/I-580 WB OFF RAMP & Corral Hollow Rd

Movement	WB	WB	NB	SB	B11	B11	
Directions Served	LT	R	LT	TR	T		
Maximum Queue (ft)	5783	29	470	88	579	519	
Average Queue (ft)	4616	1	440	9	141	69	
95th Queue (ft)	6933	23	491	124	452	331	
Link Distance (ft)	5770		420	550	780	780	
Upstream Blk Time (%)	45		82	1	1	1	
Queuing Penalty (veh)	0		788	11	3	3	
Storage Bay Dist (ft)		100					
Storage Blk Time (%)	100						
Queuing Penalty (veh)	117						

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B5	
Directions Served	L	T	R	L	T	R	L	L	T	T	L	L	T	T	R	T	
Maximum Queue (ft)	202	29	198	84	35	53	54	74	84	97	15	51	521	442	59	96	
Average Queue (ft)	85	4	89	26	4	12	6	15	14	16	1	14	285	209	17	2	
95th Queue (ft)	161	19	163	64	22	40	29	50	55	61	10	39	464	381	45	63	
Link Distance (ft)		866	866		1078				780	780			693	693		6428	
Upstream Blk Time (%)													0	0			
Queuing Penalty (veh)													0	0			
Storage Bay Dist (ft)	240			200		200	440	440			560	560			430		
Storage Blk Time (%)	0												1	1			
Queuing Penalty (veh)	0												0	1			

Intersection: 5: Bend

Movement	NB	NB
Directions Served		T
Maximum Queue (ft)	4	8
Average Queue (ft)	0	0
95th Queue (ft)	5	7
Link Distance (ft)	693	693
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	460.4	19.2	0	0	0	0	479.6
Total Delay (hr)	100.1	4.2	0.7	0	6.6	0.3	111.8
Total Stops	163	10	4	0	108	10	295
Travel Dist (mi)	87.2	3.7	1.2	4.5	28	13.4	137.9
Travel Time (hr)	563.5	23.5	0.7	0.1	7.1	0.7	595.7
Avg Speed (mph)	1	1	2	39	4	19	1
Fuel Used (gal)	128.3	5.4	0.2	0.2	1.9	0.4	136.3
HC Emissions (g)	888	29	0	4	16	7	944
CO Emissions (g)	16970	613	44	175	335	191	18329
NOx Emissions (g)	744	26	2	11	26	18	826
Vehicles Exited	345	14	4	15	275	131	784
Hourly Exit Rate	345	14	4	15	275	131	784
Input Volume	1315	55	4	16	407	198	1994
% of Volume	26	26	100	92	68	66	39

2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0	0	0	0.3	0.2	0	0	0.4
Total Delay (hr)	79.1	0.8	12	27.3	16.1	0.2	0.9	136.5
Total Stops	135	2	23	174	99	18	23	474
Travel Dist (mi)	236.7	2.7	41.4	46.1	29.1	10.5	37.8	404.4
Travel Time (hr)	86	0.9	13.2	28.5	17	0.6	1.6	147.9
Avg Speed (mph)	3	3	3	2	2	18	23	3
Fuel Used (gal)	23.9	0.3	3.8	7.3	4.4	0.5	2.8	43
HC Emissions (g)	176	0	42	55	36	12	64	385
CO Emissions (g)	3379	16	738	1122	711	435	2861	9262
NOx Emissions (g)	367	2	90	81	52	37	189	818
Vehicles Exited	15	0	3	223	141	113	403	898
Hourly Exit Rate	15	0	3	223	141	113	403	898
Input Volume	131	2	23	832	500	159	581	2228
% of Volume	11	0	13	27	28	71	69	40

3: I-580 WB ON RAMP/I-580 WB OFF RAMP & Corral Hollow Rd Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	24.4	0.2	12.8	0.1	0.2	0	0	37.7
Total Delay (hr)	134.1	1.1	64.4	7.9	9.4	1.7	1.7	220.3
Total Stops	125	1	64	140	156	4	5	495
Travel Dist (mi)	50.3	0.4	25.5	9.5	12.6	59.1	86.8	244.2
Travel Time (hr)	160	1.3	78	8.3	9.9	3.1	4.6	265
Avg Speed (mph)	0	0	0	1	1	19	19	1
Fuel Used (gal)	37	0.3	18	2.1	2.5	2	2.7	64.6
HC Emissions (g)	268	0	134	17	27	35	48	529
CO Emissions (g)	5027	15	2498	327	485	820	1038	10211
NOx Emissions (g)	247	0	126	22	37	104	138	674
Vehicles Exited	1	0	0	103	136	515	756	1511
Hourly Exit Rate	1	0	0	103	136	515	756	1511
Input Volume	225	2	117	409	554	516	769	2592
% of Volume	0	0	0	25	25	100	98	58

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0	0	0	0	0	0.1
Total Delay (hr)	1.4	0	1.2	0.4	0.1	0	0.3	0.4	0	0.2	9.2	0.1	13.3
Total Stops	102	4	135	28	4	16	24	34	0	16	689	34	1086
Travel Dist (mi)	21.1	0.9	31.6	7	1	4.5	4.8	17	0.1	2.6	150.8	16.5	257.8
Travel Time (hr)	2.3	0.1	2.6	0.6	0.1	0.2	0.4	0.8	0	0.3	12.2	0.6	20.3
Avg Speed (mph)	9	11	12	12	11	24	11	21	37	9	12	27	13
Fuel Used (gal)	0.9	0	1.1	0.3	0	0.1	0.3	0.9	0	0.1	5.7	0.5	10
HC Emissions (g)	10	0	14	4	0	2	5	22	0	1	95	11	165
CO Emissions (g)	190	2	247	68	4	41	237	1010	4	86	2773	502	5164
NOx Emissions (g)	25	0	33	9	0	6	13	60	0	3	249	30	430
Vehicles Exited	122	5	179	34	5	22	30	107	0	18	1060	116	1698
Hourly Exit Rate	122	5	179	34	5	22	30	107	0	18	1060	116	1698
Input Volume	120	5	183	38	5	23	147	522	2	22	1063	117	2247
% of Volume	101	100	98	89	100	97	20	21	0	83	100	99	76

Total Network Performance

Denied Delay (hr)	518.3
Total Delay (hr)	561.6
Total Stops	3373
Travel Dist (mi)	4066.2
Travel Time (hr)	1186.9
Avg Speed (mph)	6
Fuel Used (gal)	359.8
HC Emissions (g)	4125
CO Emissions (g)	91595
NOx Emissions (g)	9559
Vehicles Exited	1959
Hourly Exit Rate	1959
Input Volume	23141
% of Volume	8

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.1	0	0	0	0	0.1
Total Del/Veh (s)	5.1	2.5	17.1	21.1	7.6	3.8	13.4
Vehicles Exited	454	5	33	871	12	306	1681
Hourly Exit Rate	454	5	33	871	12	306	1681
Input Volume	462	5	34	863	47	1283	2694
% of Volume	98	100	97	101	26	24	62

2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	617.2	606.3	625.4	0	0	0	0	196.1
Total Del/Veh (s)	3046.6	2995.3	3032.7	19.1	14.2	215.9	157.5	732.4
Vehicles Exited	2	0	1	704	614	33	316	1670
Hourly Exit Rate	2	0	1	704	614	33	316	1670
Input Volume	444	3	326	703	622	105	1003	3206
% of Volume	0	0	0	100	99	31	32	52

3: I-580 WB ON RAMP/I-580 WB OFF RAMP & Corral Hollow Rd Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	1097.1		1074.6	0	0	0	0	391.3
Total Del/Veh (s)	3317.4	2173.6	3267.6	15.6	9.7	193.4	169.2	675.2
Vehicles Exited	4	0	2	37	668	344	55	1110
Hourly Exit Rate	4	0	2	37	668	344	55	1110
Input Volume	471	1	153	66	1082	638	94	2504
% of Volume	1	0	1	56	62	54	59	44

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	4.1	0.2	4.1	0	0	0	0	0	0	0.1
Total Del/Veh (s)	61	33.8	277.9	290.1	67.8	6.3	52.9	19	2.2	83.9	339.9	69.2	132.3
Vehicles Exited	149	4	73	12	4	36	71	588	11	55	355	100	1458
Hourly Exit Rate	149	4	73	12	4	36	71	588	11	55	355	100	1458
Input Volume	150	5	78	13	5	35	133	1079	23	84	640	165	2410
% of Volume	99	80	93	91	80	103	53	54	48	65	55	61	60

Intersection: 1: CORRAL HOLLOW RD & SIERRA VIEW DR

Movement	EB	EB	NB	NB	B198	SB
Directions Served	L	LR	L	T	T	TR
Maximum Queue (ft)	134	72	99	314	24	38
Average Queue (ft)	22	5	13	76	8	3
95th Queue (ft)	107	74	80	587	85	19
Link Distance (ft)	1328	1328		1492	252	480
Upstream Blk Time (%)				2	2	
Queuing Penalty (veh)				0	0	
Storage Bay Dist (ft)			200			
Storage Blk Time (%)				4		
Queuing Penalty (veh)				1		

Intersection: 2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP

Movement	EB	EB	NB	B12	B12	B13	B13	B13	SB	
Directions Served	LT	R	TR	T		T	T		LT	
Maximum Queue (ft)	11407	29	388	160	52	234	159	139	465	
Average Queue (ft)	9737	2	56	20	6	54	45	39	421	
95th Queue (ft)	13796	33	439	143	68	295	271	268	549	
Link Distance (ft)	11393		1045	264	264	480	480	480	420	
Upstream Blk Time (%)	58		3	3	1	3	3	3	75	
Queuing Penalty (veh)	0		37	18	9	13	13	12	836	
Storage Bay Dist (ft)		100								
Storage Blk Time (%)	100									
Queuing Penalty (veh)	326									

Intersection: 3: I-580 WB ON RAMP/I-580 WB OFF RAMP & Corral Hollow Rd

Movement	WB	WB	NB	SB	B11	B11	
Directions Served	LT	R	LT	TR	T		
Maximum Queue (ft)	5787	73	376	652	814	820	
Average Queue (ft)	5433	6	50	579	703	664	
95th Queue (ft)	6704	57	245	816	1037	1093	
Link Distance (ft)	5770		420	550	780	780	
Upstream Blk Time (%)	78		4	77	55	53	
Queuing Penalty (veh)	0		41	565	202	197	
Storage Bay Dist (ft)		100					
Storage Blk Time (%)	100						
Queuing Penalty (veh)	153						

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	B21	B21	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B5	B44	
Directions Served	L	T	R	T	T	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T	
Maximum Queue (ft)	253	207	548	8	11	104	32	62	82	92	236	245	25	89	635	779	769	505	6262	610	
Average Queue (ft)	121	26	185	0	1	31	4	21	18	37	103	119	3	14	172	573	534	138	2427	112	
95th Queue (ft)	226	244	526	3	15	99	21	51	54	80	197	217	13	56	594	989	957	491	6610	573	
Link Distance (ft)		866	866	924	924		1078				780	780				693	693		6428	815	
Upstream Blk Time (%)		0	2													45	33		14	11	
Queuing Penalty (veh)		0	0													0	0		0	0	
Storage Bay Dist (ft)	240					200		200	440	440			380	560	560			430			
Storage Blk Time (%)	2					1									1	61	61				
Queuing Penalty (veh)	0					0									3	52	101				

Intersection: 5: Bend

Movement	NB	NB	
Directions Served		T	
Maximum Queue (ft)	128	200	
Average Queue (ft)	10	26	
95th Queue (ft)	75	124	
Link Distance (ft)	693	693	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0
Total Delay (hr)	0.7	0	0.2	5.2	0	0.3	6.3
Total Stops	35	0	14	55	0	3	107
Travel Dist (mi)	114.5	1.3	9.6	256.9	1.2	31.1	414.6
Travel Time (hr)	4.7	0	0.4	10.8	0	1.3	17.2
Avg Speed (mph)	25	27	24	24	24	24	24
Fuel Used (gal)	3.4	0	0.3	8.7	0	0.7	13.2
HC Emissions (g)	59	0	7	192	0	13	271
CO Emissions (g)	1195	6	279	6976	9	286	8751
NOx Emissions (g)	166	1	21	544	1	36	768
Vehicles Exited	454	5	33	871	12	306	1681
Hourly Exit Rate	454	5	33	871	12	306	1681
Input Volume	462	5	34	863	47	1283	2694
% of Volume	98	100	97	101	26	24	62

2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	76.5	0.5	55.9	0	0	0	0	132.9
Total Delay (hr)	250.5	1.7	171.9	3.8	2.4	2.1	14.4	446.8
Total Stops	210	1	146	17	14	46	253	687
Travel Dist (mi)	145.6	0.7	103.2	146.9	128.2	3	29.5	557.1
Travel Time (hr)	331.2	2.2	230.8	6.8	5.8	2.2	15	593.9
Avg Speed (mph)	1	0	1	22	22	1	2	1
Fuel Used (gal)	77.3	0.5	53.8	3.4	2.8	0.6	4.2	142.6
HC Emissions (g)	511	0	352	60	46	2	32	1004
CO Emissions (g)	9791	26	6774	1209	902	58	709	19468
NOx Emissions (g)	497	0	345	163	120	4	66	1196
Vehicles Exited	2	0	1	704	614	33	316	1670
Hourly Exit Rate	2	0	1	704	614	33	316	1670
Input Volume	444	3	326	703	622	105	1003	3206
% of Volume	0	0	0	100	99	31	32	52

3: I-580 WB ON RAMP/I-580 WB OFF RAMP & Corral Hollow Rd Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	142.9	0.2	45.4	0	0	0	0	188.5
Total Delay (hr)	176.9	0.6	59	0.2	1.8	19.7	2.7	260.9
Total Stops	107	0	36	7	35	181	27	393
Travel Dist (mi)	33.8	0.1	12	3.5	62	39.9	6.4	157.6
Travel Time (hr)	320.8	0.8	104.7	0.3	3.1	20.6	2.9	453.2
Avg Speed (mph)	0	0	0	12	20	2	2	1
Fuel Used (gal)	72.7	0.2	23.7	0.2	3.6	5.6	0.8	106.8
HC Emissions (g)	511	0	152	2	86	40	7	799
CO Emissions (g)	9549	9	2953	110	3416	879	146	17063
NOx Emissions (g)	404	0	122	8	251	79	14	878
Vehicles Exited	4	0	2	37	668	344	55	1110
Hourly Exit Rate	4	0	2	37	668	344	55	1110
Input Volume	471	1	153	66	1082	638	94	2504
% of Volume	1	0	1	56	62	54	59	44

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0	0	0	0	0	0.1
Total Delay (hr)	2.6	0	6.6	1	0.1	0.1	1.1	3.1	0	1.3	38.8	2	56.7
Total Stops	134	3	71	12	4	28	61	258	5	59	401	57	1093
Travel Dist (mi)	26.4	0.7	14.1	2.6	0.9	7.3	11.3	94.3	1.8	7.9	54.2	14.3	236
Travel Time (hr)	3.7	0.1	7.2	1.2	0.1	0.4	1.4	5.3	0.1	1.6	39.9	2.4	63.3
Avg Speed (mph)	7	11	2	2	9	22	8	18	29	5	1	6	4
Fuel Used (gal)	1.3	0	1.8	0.3	0	0.2	0.7	4.7	0.1	0.6	10	0.9	20.7
HC Emissions (g)	13	0	9	3	0	4	11	104	3	9	86	13	254
CO Emissions (g)	252	2	215	52	4	64	539	4467	107	312	1818	431	8264
NOx Emissions (g)	31	0	16	4	0	10	27	285	7	20	123	32	555
Vehicles Exited	149	4	73	12	4	36	71	588	11	55	355	100	1458
Hourly Exit Rate	149	4	73	12	4	36	71	588	11	55	355	100	1458
Input Volume	150	5	78	13	5	35	133	1079	23	84	640	165	2410
% of Volume	99	80	93	91	80	103	53	54	48	65	55	61	60

Total Network Performance

Denied Delay (hr)	334.1
Total Delay (hr)	925.2
Total Stops	3687
Travel Dist (mi)	4475
Travel Time (hr)	1383.7
Avg Speed (mph)	4
Fuel Used (gal)	419
HC Emissions (g)	4615
CO Emissions (g)	110632
NOx Emissions (g)	9844
Vehicles Exited	2108
Hourly Exit Rate	2108
Input Volume	27816
% of Volume	8

Appendix E. Opening Year (2028) Build SimTraffic and Sidra Outputs

Opening Year (2028) Build

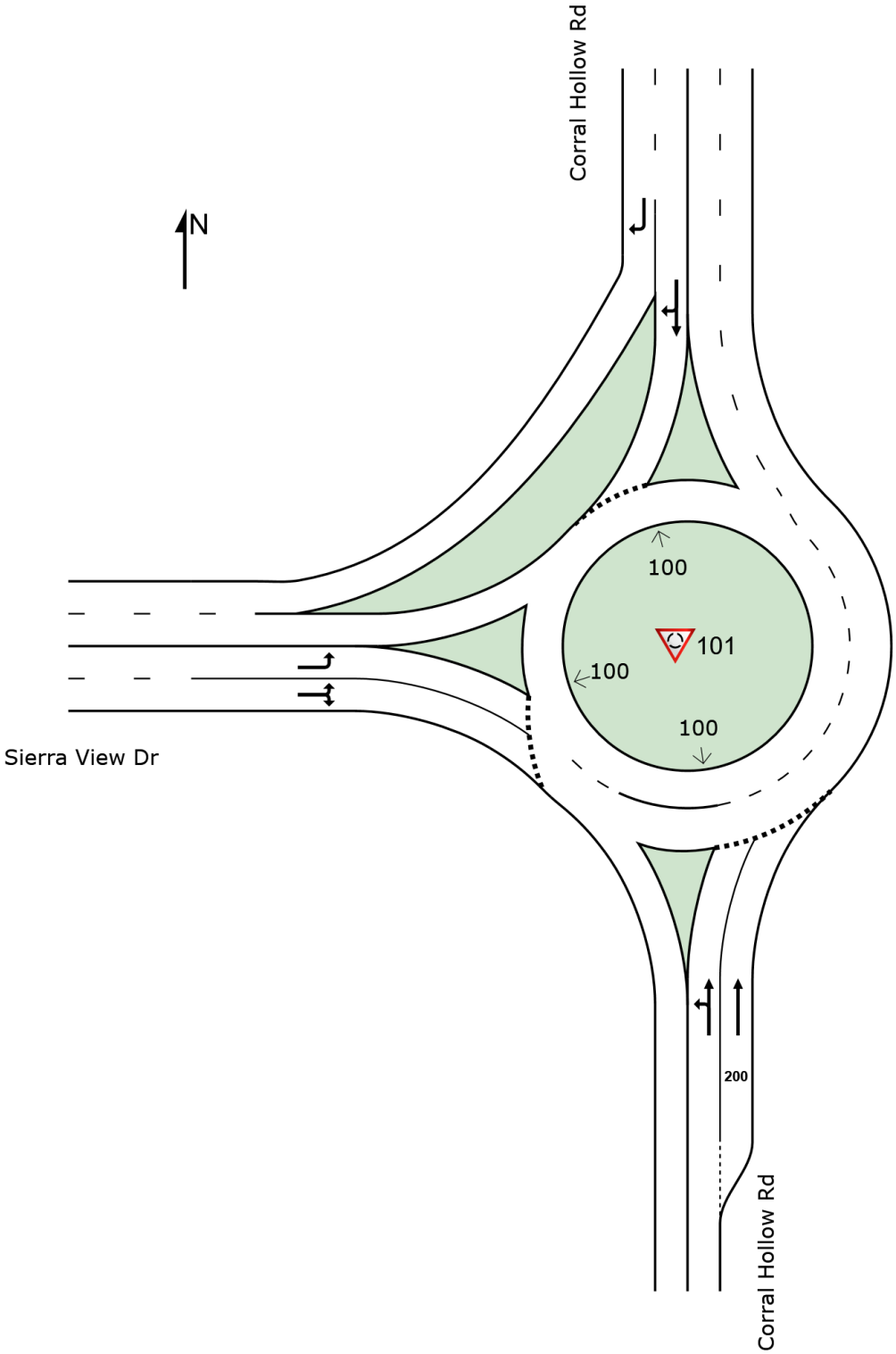
Sierra View Drive Sidra Outputs

SITE LAYOUT

Site: 101 [Build - AM (Site Folder: OY 2028)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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LANE SUMMARY

Site: 101 [Build - AM (Site Folder: OY 2028)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	34	5.0	34	5.0	454	0.075	100	9.9	LOS A	0.4	9.3	Full	1600	0.0	0.0
Lane 2[d]	44	5.0	44	5.0	589	0.075	100	8.1	LOS A	0.4	10.3	Short	200	0.0	NA
Approach	78	5.0	78	5.0		0.075		8.9	LOS A	0.4	10.3				
North: Corral Hollow Rd															
Lane 1[d]	449	5.0	449	5.0	1770	0.254	100	4.1	LOS A	1.8	45.7	Full	1600	0.0	0.0
Lane 2	215	5.0	215	5.0	1595	0.135	53[5]	3.6	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	664	5.0	664	5.0		0.254		3.9	LOS A	1.8	45.7				
West: Sierra View Dr															
Lane 1	668	5.0	668	5.0	969	0.689	100	16.9	LOS B	7.6	197.5	Full	1600	0.0	0.0
Lane 2[d]	822	5.0	822	5.0	1194	0.689	100	15.1	LOS B	8.0	209.0	Full	1600	0.0	0.0
Approach	1490	5.0	1490	5.0		0.689		15.9	LOS B	8.0	209.0				
All Vehicles	2233	5.0	2233	5.0		0.689		12.1	LOS B	8.0	209.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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	4	30	34	5.0	454	0.075	100	NA	NA
Lane 2	-	44	44	5.0	589	0.075	100	0.0	1
Approach	4	74	78	5.0		0.075			

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	449	-	449	5.0	1770	0.254	100	NA	NA
Lane 2	-	215	215	5.0	1595	0.135	53[5]	NA	NA

Approach	449	215	664	5.0		0.254			
West: Sierra View Dr									
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	668	-	668	5.0	969	0.689	100	NA	NA
Lane 2	762	61	822	5.0	1194	0.689	100	NA	NA
Approach	1429	61	1490	5.0		0.689			
	Total	%HV	Deg.Satn (v/c)						
All Vehicles	2233	5.0		0.689					

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

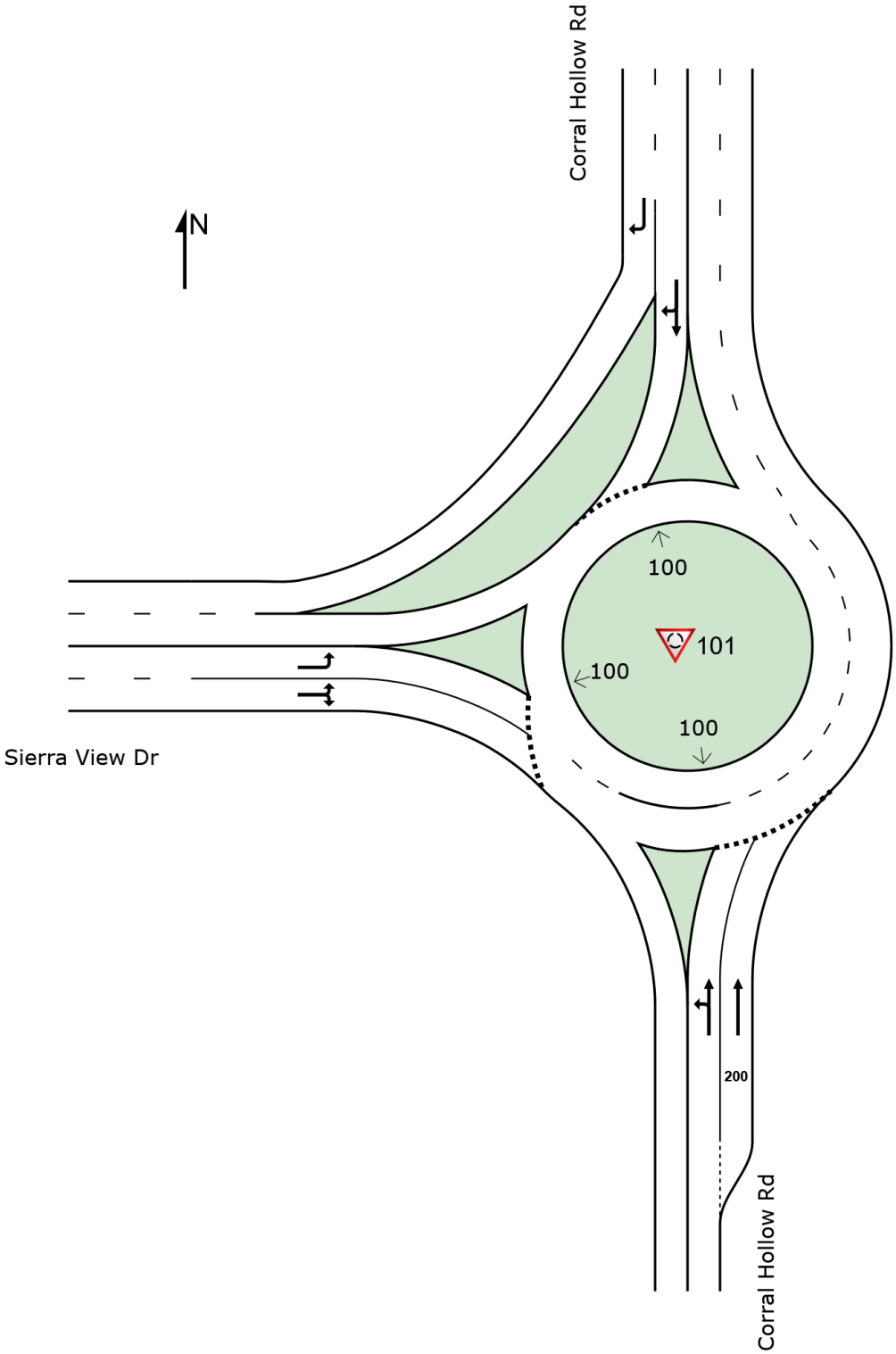
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Sierra View Dr				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

SITE LAYOUT

Site: 101 [Build - PM (Site Folder: OY 2028)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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LANE SUMMARY

Site: 101 [Build - PM (Site Folder: OY 2028)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	454	5.0	454	5.0	955	0.475	100	7.3	LOS A	2.8	72.9	Full	1600	0.0	0.0
Lane 2[d]	501	5.0	501	5.0	1053	0.475	100	6.4	LOS A	2.8	73.1	Short	200	0.0	NA
Approach	954	5.0	954	5.0		0.475		6.8	LOS A	2.8	73.1				
North: Corral Hollow Rd															
Lane 1[d]	243	5.0	243	5.0	1606	0.151	19[7]	4.0	LOS A	0.9	22.5	Full	1600	0.0	0.0
Lane 2	1245	5.0	1245	5.0	1595	0.781	100	4.2	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1488	5.0	1488	5.0		0.781		4.2	LOS A	0.9	22.5				
West: Sierra View Dr															
Lane 1	236	5.0	236	5.0	1314	0.179	100	10.4	LOS B	0.9	23.0	Full	1600	0.0	0.0
Lane 2[d]	273	5.0	273	5.0	1523	0.179	100	10.2	LOS B	0.9	23.5	Full	1600	0.0	0.0
Approach	509	5.0	509	5.0		0.179		10.3	LOS B	0.9	23.5				
All Vehicles	2951	5.0	2951	5.0		0.781		6.1	LOS A	2.8	73.1				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

7 Lane under-utilisation specified by the user
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	41	413	454	5.0	955	0.475	100	NA	NA
Lane 2	-	501	501	5.0	1053	0.475	100	0.0	1
Approach	41	913	954	5.0		0.475			

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	95	149	243	5.0	1606	0.151	19[7]	NA	NA
Lane 2	-	1245	1245	5.0	1595	0.781	100	NA	NA

Approach	95	1393	1488	5.0		0.781			
West: Sierra View Dr									
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	236	-	236	5.0	1314	0.179	100	NA	NA
Lane 2	268	5	273	5.0	1523	0.179	100	NA	NA
Approach	503	5	509	5.0		0.179			
	Total	%HV	Deg.Satn (v/c)						
All Vehicles	2951	5.0		0.781					

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

7 Lane under-utilisation specified by the user

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Sierra View Dr				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

Opening Year (2028) Build

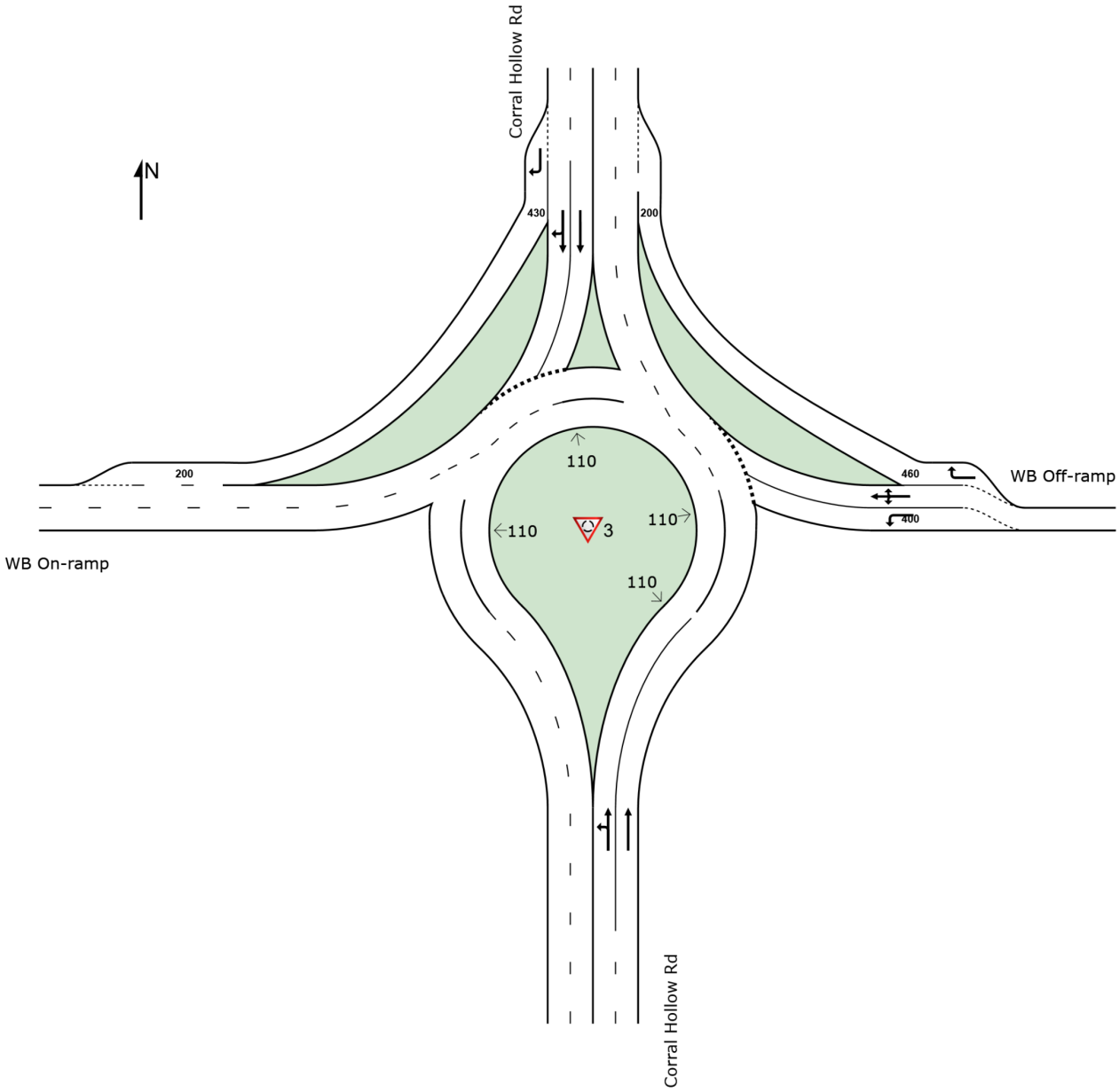
Roundabouts Sidra Output

SITE LAYOUT

Site: 3 [WB Ramp (Site Folder: 2028B AM Peak)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 3 [WB Ramp (Site Folder: 2028B AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	477	5.0	477	5.0	1510	0.316	100	9.6	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	570	5.0	570	5.0	1804	0.316	100	3.9	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1047	5.0	1047	5.0		0.316		6.5	LOS A	0.0	0.0				
East: WB Off-ramp															
Lane 1	117	5.0	117	5.0	791	0.148	100	13.6	LOS B	0.6	14.8	Short	400	0.0	NA
Lane 2[d]	169	5.0	169	5.0	1142	0.148	100	10.8	LOS B	0.6	16.0	Full	1600	0.0	0.0
Lane 3	88	5.0	88	5.0	1533	0.057	39[6]	5.3	LOS A	0.0	0.0	Short	460	0.0	NA
Approach	374	5.0	374	5.0		0.148		10.4	LOS B	0.6	16.0				
North: Corral Hollow Rd															
Lane 1	465	5.0	465	5.0	868	0.536	100	8.9	LOS A	3.7	96.6	Full	1600	0.0	0.0
Lane 2[d]	619	5.0	619	5.0	1156	0.536	100	7.2	LOS A	4.0	102.8	Full	1600	0.0	0.0
Lane 3	317	5.0	317	5.0	1533	0.207	39[6]	5.3	LOS A	0.0	0.0	Short	430	0.0	NA
Approach	1401	5.0	1401	5.0		0.536		7.4	LOS A	4.0	102.8				
All Vehicles	2822	5.0	2822	5.0		0.536		7.4	LOS A	4.0	102.8				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects
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	445	32	477	5.0	1510	0.316	100	NA	NA
Lane 2	-	570	570	5.0	1804	0.316	100	NA	NA
Approach	445	602	1047	5.0		0.316			

East: WB Off-ramp

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	117	-	-	117	5.0	791	0.148	100	0.0	2
Lane 2	127	2	40	169	5.0	1142	0.148	100	NA	NA
Lane 3	-	-	88	88	5.0	1533	0.057	39[6]	0.0	2
Approach	245	2	127	374	5.0		0.148			

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	465	-	465	5.0	868	0.536	100	NA	NA
Lane 2	100	519	619	5.0	1156	0.536	100	NA	NA
Lane 3	-	317	317	5.0	1533	0.207	39[6]	0.0	2
Approach	565	836	1401	5.0		0.536			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2822	5.0	0.536

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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
North Exit: Corral Hollow Rd Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	610	640	3.15	2.10	88	1056	0.083	1.3	1.6
Merge Lane	2	-	100.0	Merge Lane is not Opposed				610	1800	0.339	0.0	0.0
West Exit: WB On-ramp Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	521	547	3.15	2.10	317	1153	0.275	1.1	1.6
Merge Lane	2	-	100.0	Merge Lane is not Opposed				521	1800	0.290	0.0	0.0

Variable Demand Analysis

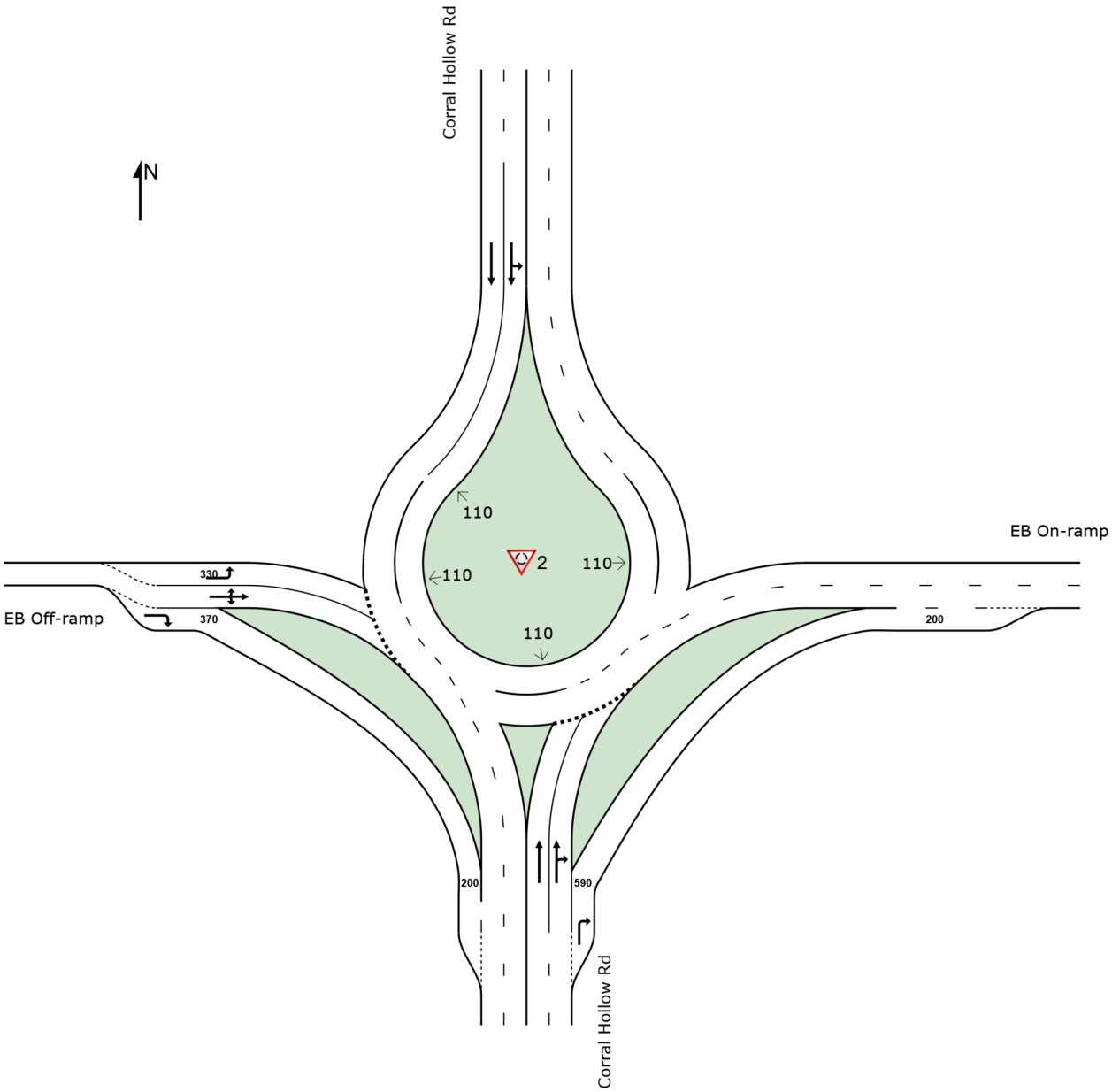
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: WB Off-ramp				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

SITE LAYOUT

Site: 2 [EB Ramp (Site Folder: 2028B AM Peak)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 2 [EB Ramp (Site Folder: 2028B AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	545	5.0	545	5.0	1122	0.485	100	5.7	LOS A	2.9	76.4	Full	1600	0.0	0.0
Lane 2[d]	672	5.0	672	5.0	1384	0.485	100	5.1	LOS A	3.0	79.1	Full	1600	0.0	0.0
Lane 3	287	5.0	287	5.0	1533	0.187	39[6]	4.5	LOS A	0.0	0.0	Short	590	0.0	NA
Approach	1503	5.0	1503	5.0		0.485		5.2	LOS A	3.0	79.1				
North: Corral Hollow Rd															
Lane 1	369	5.0	369	5.0	1510	0.244	100	6.8	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	441	5.0	441	5.0	1804	0.244	100	3.9	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	810	5.0	810	5.0		0.244		5.2	LOS A	0.0	0.0				
West: EB Off-ramp															
Lane 1	61	5.0	61	5.0	872	0.070	100	12.6	LOS B	0.3	6.7	Short	330	0.0	NA
Lane 2[d]	84	5.0	84	5.0	1200	0.070	100	11.6	LOS B	0.3	7.1	Full	1600	0.0	0.0
Lane 3	27	5.0	27	5.0	1533	0.018	25[5]	4.6	LOS A	0.0	0.0	Short	370	0.0	NA
Approach	172	5.0	172	5.0		0.070		10.9	LOS B	0.3	7.1				
All Vehicles	2485	5.0	2485	5.0		0.485		5.6	LOS A	3.0	79.1				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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: 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	545	-	545	5.0	1122	0.485	100	NA	NA
Lane 2	360	312	672	5.0	1384	0.485	100	NA	NA
Lane 3	-	287	287	5.0	1533	0.187	39[6]	0.0	2
Approach	904	599	1503	5.0		0.485			

North: Corral Hollow Rd

Mov.	L2	T1	Total	%HV		Deg.	Lane	Prob.	Ov.

From N To Exit:	E	S			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	173	196	369	5.0	1510	0.244	100	NA	NA
Lane 2	-	441	441	5.0	1804	0.244	100	NA	NA
Approach	173	637	810	5.0		0.244			

West: EB Off-ramp

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	61	-	-	61	5.0	872	0.070	100	0.0	2
Lane 2	82	2	-	84	5.0	1200	0.070	100	NA	NA
Lane 3	-	-	27	27	5.0	1533	0.018	25[5]	0.0	2
Approach	142	2	27	172	5.0		0.070			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2485	5.0	0.485

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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: Corral Hollow Rd Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	441	463	3.15	2.10	27	1241	0.022	0.8	1.0
Merge Lane	2	-	100.0	Merge Lane is not Opposed				441	1800	0.245	0.0	0.0
East Exit: EB On-ramp Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	314	330	3.15	2.10	287	1379	0.208	0.5	0.8
Merge Lane	2	-	100.0	Merge Lane is not Opposed				314	1800	0.175	0.0	0.0

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: EB Off-ramp				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

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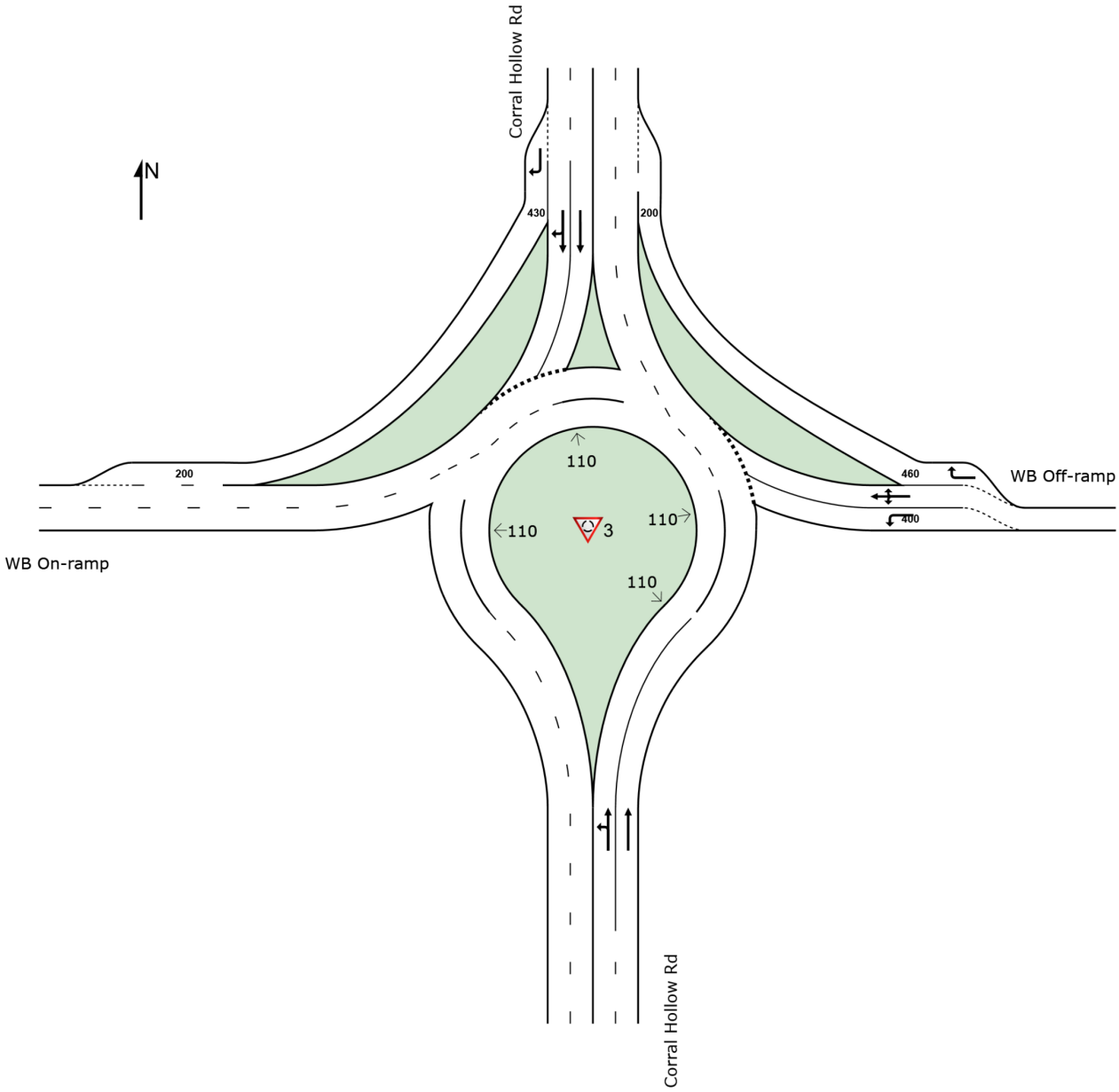
SITE LAYOUT

Site: 3 [WB Ramp (Site Folder: 2028B PM Peak)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 3 [WB Ramp (Site Folder: 2028B PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	606	5.0	606	5.0	1510	0.401	100	4.6	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	724	5.0	724	5.0	1804	0.401	100	3.9	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1330	5.0	1330	5.0		0.401		4.2	LOS A	0.0	0.0				
East: WB Off-ramp															
Lane 1	223	5.0	223	5.0	707	0.315	100	15.3	LOS B	1.4	35.3	Short	400	0.0	NA
Lane 2[d]	339	5.0	339	5.0	1078	0.315	100	13.4	LOS B	1.5	38.7	Full	1600	0.0	0.0
Lane 3	166	5.0	166	5.0	1533	0.108	34[5]	6.0	LOS A	0.0	0.0	Short	460	0.0	NA
Approach	728	5.0	728	5.0		0.315		12.3	LOS B	1.5	38.7				
North: Corral Hollow Rd															
Lane 1	297	5.0	297	5.0	861	0.345	100	6.5	LOS A	1.7	45.5	Full	1600	0.0	0.0
Lane 2[d]	394	5.0	394	5.0	1141	0.345	100	5.7	LOS A	1.9	49.2	Full	1600	0.0	0.0
Lane 3	102	5.0	102	5.0	1533	0.067	19[5]	3.6	LOS A	0.0	0.0	Short	430	0.0	NA
Approach	793	5.0	793	5.0		0.345		5.7	LOS A	1.9	49.2				
All Vehicles	2852	5.0	2852	5.0		0.401		6.7	LOS A	1.9	49.2				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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	72	534	606	5.0	1510	0.401	100	NA	NA
Lane 2	-	724	724	5.0	1804	0.401	100	NA	NA
Approach	72	1259	1330	5.0		0.401			

East: WB Off-ramp

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	223	-	-	223	5.0	707	0.315	100	0.0	2
Lane 2	338	1	-	339	5.0	1078	0.315	100	NA	NA
Lane 3	-	-	166	166	5.0	1533	0.108	34[5]	0.0	2
Approach	561	1	166	728	5.0		0.315			

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	297	-	297	5.0	861	0.345	100	NA	NA
Lane 2	394	-	394	5.0	1141	0.345	100	NA	NA
Lane 3	-	102	102	5.0	1533	0.067	19[5]	0.0	2
Approach	691	102	793	5.0		0.345			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2852	5.0	0.401

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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
North Exit: Corral Hollow Rd Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	724	761	3.15	2.10	166	930	0.179	1.8	2.3
Merge Lane	2	-	100.0	Merge Lane is not Opposed				724	1800	0.402	0.0	0.0
West Exit: WB On-ramp Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	1	1	3.15	2.10	102	1713	0.060	0.0	0.0
Merge Lane	2	-	100.0	Merge Lane is not Opposed				1	1800	0.001	0.0	0.0

Variable Demand Analysis

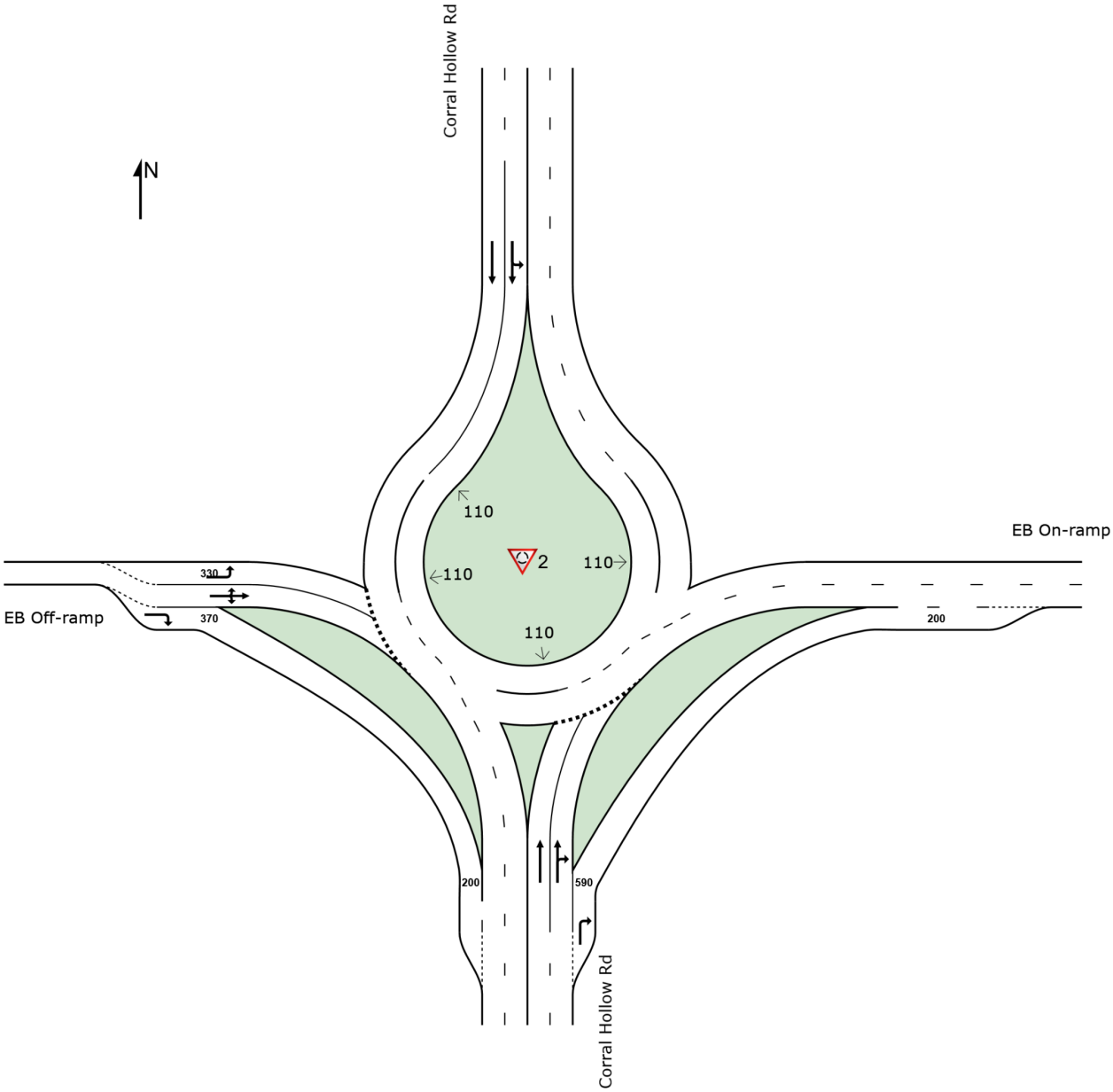
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: WB Off-ramp				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

SITE LAYOUT

Site: 2 [EB Ramp (Site Folder: 2028B PM Peak)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 2 [EB Ramp (Site Folder: 2028B PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	461	5.0	461	5.0	816	0.565	100	8.6	LOS A	3.9	100.7	Full	1600	0.0	0.0
Lane 2[d]	621	5.0	621	5.0	1099	0.565	100	7.0	LOS A	4.2	108.5	Full	1600	0.0	0.0
Lane 3	334	5.0	334	5.0	1533	0.218	39[6]	4.6	LOS A	0.0	0.0	Short	590	0.0	NA
Approach	1416	5.0	1416	5.0		0.565		6.9	LOS A	4.2	108.5				
North: Corral Hollow Rd															
Lane 1	570	5.0	570	5.0	1510	0.378	100	5.2	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	682	5.0	682	5.0	1804	0.378	100	3.9	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1252	5.0	1252	5.0		0.378		4.5	LOS A	0.0	0.0				
West: EB Off-ramp															
Lane 1	286	5.0	286	5.0	729	0.393	100	15.7	LOS B	1.9	48.8	Short	330	0.0	NA
Lane 2[d]	430	5.0	430	5.0	1096	0.393	100	11.8	LOS B	2.0	53.1	Full	1600	0.0	0.0
Lane 3	232	5.0	232	5.0	1533	0.151	39[6]	6.8	LOS A	0.0	0.0	Short	370	0.0	NA
Approach	949	5.0	949	5.0		0.393		11.8	LOS B	2.0	53.1				
All Vehicles	3617	5.0	3617	5.0		0.565		7.4	LOS A	4.2	108.5				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects
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	461	-	461	5.0	816	0.565	100	NA	NA
Lane 2	279	342	621	5.0	1099	0.565	100	NA	NA
Lane 3	-	334	334	5.0	1533	0.218	39[6]	0.0	2
Approach	740	676	1416	5.0		0.565			

North: Corral Hollow Rd

Mov. From N	L2	T1	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane

To Exit:	E	S			veh/h	v/c	%	%	No.
Lane 1	120	451	570	5.0	1510	0.378	100	NA	NA
Lane 2	-	682	682	5.0	1804	0.378	100	NA	NA
Approach	120	1133	1252	5.0		0.378			

West: EB Off-ramp

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	286	-	-	286	5.0	729	0.393	100	0.0	2
Lane 2	304	3	123	430	5.0	1096	0.393	100	NA	NA
Lane 3	-	-	232	232	5.0	1533	0.151	39[6]	0.0	2
Approach	590	3	355	949	5.0		0.393			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	3617	5.0	0.565

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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: Corral Hollow Rd Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	805	845	3.15	2.10	232	841	0.276	2.1	3.2
Merge Lane	2	-	100.0	Merge Lane is not Opposed				805	1800	0.447	0.0	0.0
East Exit: EB On-ramp Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	345	363	3.15	2.10	334	1345	0.248	0.6	0.9
Merge Lane	2	-	100.0	Merge Lane is not Opposed				345	1800	0.192	0.0	0.0

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: EB Off-ramp				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

Opening Year (2028) Build

Tight Diamond Interchange SimTraffic Outputs

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.4	0	0	0	0	0.2
Total Del/Veh (s)	10	6.8	15	4.4	9.6	2.9	9
Vehicles Exited	1325	60	3	67	412	198	2065
Hourly Exit Rate	1325	60	3	67	412	198	2065
Input Volume	1315	56	4	68	414	198	2054
% of Volume	101	108	75	99	100	100	101

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	35.4	23.9	4.6	22.7	8.4	38	17.4	19.5
Vehicles Exited	126	2	26	838	555	162	588	2297
Hourly Exit Rate	126	2	26	838	555	162	588	2297
Input Volume	131	2	25	832	551	159	586	2286
% of Volume	96	100	105	101	101	102	100	101

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	31.7	30.6	7.6	59.8	11.4	29.8	49.7	35.8
Vehicles Exited	223	2	116	408	558	524	766	2597
Hourly Exit Rate	223	2	116	408	558	524	766	2597
Input Volume	225	2	117	409	555	521	769	2598
% of Volume	99	100	99	100	101	101	100	100

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	4	0.2	4.1	0	0	0	0	0	0	0.1
Total Del/Veh (s)	39.9	34.2	24.3	33.4	51.2	5.6	47.9	18.7	3.3	49	26.1	4.5	25.4
Vehicles Exited	118	5	190	35	5	25	148	517	3	20	1064	122	2252
Hourly Exit Rate	118	5	190	35	5	25	148	517	3	20	1064	122	2252
Input Volume	120	5	188	38	5	23	147	523	2	22	1063	117	2253
% of Volume	98	100	101	92	100	110	101	99	150	92	100	104	100

Intersection: 1: CORRAL HOLLOW RD & SIERRA VIEW DR

Movement	EB	EB	NB	SB	SB
Directions Served	L	LR	L	TR	R
Maximum Queue (ft)	229	250	25	99	12
Average Queue (ft)	126	78	2	13	0
95th Queue (ft)	206	218	14	64	13
Link Distance (ft)	1339	1339		814	814
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			200		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: CORRAL HOLLOW RD & I-580 EB ON RAMP

Movement	EB	EB	EB	NB	NB	NB	B15	SB	SB	SB	
Directions Served	L	LT	R	T	T	R	T	L	T	T	
Maximum Queue (ft)	124	114	47	345	286	233	10	209	253	201	
Average Queue (ft)	50	42	14	221	149	109	0	108	111	88	
95th Queue (ft)	100	91	39	321	243	194	12	188	195	156	
Link Distance (ft)		432		993	993		814		421	421	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	330		370			590		180			
Storage Blk Time (%)								2	1		
Queuing Penalty (veh)								6	2		

Intersection: 3: CORRAL HOLLOW RD & I-580 WB ON RAMP

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	LT	R	L	T	T	T	T	R	
Maximum Queue (ft)	138	138	96	230	427	232	604	872	505	
Average Queue (ft)	73	68	42	219	246	64	179	298	377	
95th Queue (ft)	125	118	77	253	482	138	415	775	589	
Link Distance (ft)		502			421	421	1432	1432		
Upstream Blk Time (%)					4					
Queuing Penalty (veh)					18					
Storage Bay Dist (ft)	400		460	180					430	
Storage Blk Time (%)				47	0			0	19	
Queuing Penalty (veh)				130	0			2	48	

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	B21	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B279	
Directions Served	L	T	R	T	L	T	R	L	L	T	T	R	L	L	T	T	R	T	
Maximum Queue (ft)	192	33	212	3	79	32	47	114	130	222	229	14	25	54	433	482	206	3	
Average Queue (ft)	83	4	92	0	28	5	15	47	68	85	101	1	2	18	198	245	31	0	
95th Queue (ft)	158	19	171	0	66	24	42	96	113	184	198	7	13	45	354	406	130	3	
Link Distance (ft)		880	880	915		1040				1432	1432				658	658		509	
Upstream Blk Time (%)																			
Queuing Penalty (veh)																			
Storage Bay Dist (ft)	240				200		200	440	440			380	560	560			430		
Storage Blk Time (%)	0															1			
Queuing Penalty (veh)	0															1			

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.1	0	0	0	0	0	0.1
Total Delay (hr)	3.7	0.1	0	0.1	1.1	0.2	5.2
Total Stops	462	10	3	0	23	1	499
Travel Dist (mi)	336.4	15.2	0.9	18.2	68.1	32.9	471.7
Travel Time (hr)	15.5	0.6	0	0.5	2.5	1	20.2
Avg Speed (mph)	22	24	26	38	27	32	23
Fuel Used (gal)	10.2	0.5	0	0.7	1.3	0.7	13.4
HC Emissions (g)	177	8	0	18	24	16	243
CO Emissions (g)	3519	159	30	807	531	350	5396
NOx Emissions (g)	493	23	1	51	72	49	688
Vehicles Exited	1325	60	3	67	412	198	2065
Hourly Exit Rate	1325	60	3	67	412	198	2065
Input Volume	1315	56	4	68	414	198	2054
% of Volume	101	108	75	99	100	100	101

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	1.3	0	0	5.4	1.3	1.7	2.9	12.6
Total Stops	99	1	19	541	303	157	255	1375
Travel Dist (mi)	11.6	0.2	2.4	165.8	110.1	15.1	54.4	359.7
Travel Time (hr)	1.6	0	0.1	10.9	5.2	2.3	4.8	25.1
Avg Speed (mph)	7	10	21	15	21	6	11	14
Fuel Used (gal)	0.5	0	0	5.4	2.8	1	3.2	12.9
HC Emissions (g)	6	0	1	74	47	14	52	193
CO Emissions (g)	118	1	24	1346	853	339	1409	4090
NOx Emissions (g)	11	0	2	196	121	44	170	543
Vehicles Exited	126	2	26	838	555	162	588	2297
Hourly Exit Rate	126	2	26	838	555	162	588	2297
Input Volume	131	2	25	832	551	159	586	2286
% of Volume	96	100	105	101	101	102	100	101

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	2	0	0.2	6.9	1.8	4.4	10.8	26.2
Total Stops	177	1	82	434	144	369	880	2087
Travel Dist (mi)	23.6	0.2	12.2	37.9	51.5	150.6	221.3	497.3
Travel Time (hr)	2.7	0	0.6	8.4	3.5	9.6	18.8	43.7
Avg Speed (mph)	9	8	19	5	15	16	12	11
Fuel Used (gal)	0.9	0	0.3	3	2.8	6	9.4	22.4
HC Emissions (g)	8	0	6	32	54	96	151	347
CO Emissions (g)	230	1	176	722	1341	2180	3220	7870
NOx Emissions (g)	20	0	13	92	173	285	433	1015
Vehicles Exited	223	2	116	408	558	524	766	2597
Hourly Exit Rate	223	2	116	408	558	524	766	2597
Input Volume	225	2	117	409	555	521	769	2598
% of Volume	99	100	99	100	101	101	100	100

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0	0	0	0	0	0.1
Total Delay (hr)	1.3	0	1.3	0.3	0.1	0	2	2.7	0	0.3	7.8	0.2	16.1
Total Stops	101	4	140	29	5	20	135	213	1	19	605	41	1313
Travel Dist (mi)	21.2	0.9	33.9	7	1	4.9	42.4	147.3	0.9	2.7	142.9	16.4	421.5
Travel Time (hr)	2.2	0.1	2.8	0.6	0.1	0.2	3.2	6	0	0.4	10.7	0.7	27
Avg Speed (mph)	10	11	12	12	10	22	13	24	34	8	13	24	16
Fuel Used (gal)	0.9	0	1.2	0.3	0	0.1	2.2	6.9	0	0.1	4.5	0.5	16.8
HC Emissions (g)	10	0	14	3	0	2	46	176	0	1	68	9	330
CO Emissions (g)	183	3	260	61	3	41	1977	6724	31	71	1676	420	11451
NOx Emissions (g)	25	0	35	8	0	6	125	512	1	3	178	23	917
Vehicles Exited	118	5	190	35	5	25	148	517	3	20	1064	122	2252
Hourly Exit Rate	118	5	190	35	5	25	148	517	3	20	1064	122	2252
Input Volume	120	5	188	38	5	23	147	523	2	22	1063	117	2253
% of Volume	98	100	101	92	100	110	101	99	150	92	100	104	100

Total Network Performance

Denied Delay (hr)	0.3
Total Delay (hr)	76
Total Stops	6153
Travel Dist (mi)	5883.5
Travel Time (hr)	237.9
Avg Speed (mph)	25
Fuel Used (gal)	209.8
HC Emissions (g)	4466
CO Emissions (g)	129703
NOx Emissions (g)	14006
Vehicles Exited	3647
Hourly Exit Rate	3647
Input Volume	24760
% of Volume	15

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	0	0	0	0	0
Total Del/Veh (s)	3	2.9	9.4	11.5	10.2	7.1	7.9
Vehicles Exited	457	5	35	825	92	1283	2697
Hourly Exit Rate	457	5	35	825	92	1283	2697
Input Volume	463	5	38	840	88	1282	2716
% of Volume	99	100	92	98	105	100	99

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	24.2	30.3	14.5	17	8.9	51.2	18.8	18.1
Vehicles Exited	557	3	328	657	626	108	1044	3323
Hourly Exit Rate	557	3	328	657	626	108	1044	3323
Input Volume	543	3	327	682	622	110	1042	3329
% of Volume	103	100	100	96	101	98	100	100

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	25.2	24.2	11.8	36.4	19.1	19.1	7.7	19.9
Vehicles Exited	518	1	153	67	1144	638	95	2616
Hourly Exit Rate	518	1	153	67	1144	638	95	2616
Input Volume	516	1	153	66	1158	636	94	2624
% of Volume	100	100	100	102	99	100	101	100

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	4.3	0.3	4.1	0	0	0	0	0	0	0.1
Total Del/Veh (s)	40	28.8	11	33.3	43.8	11.7	33.3	27.2	10	38	26.2	3.7	26.1
Vehicles Exited	152	5	86	14	3	37	129	1149	22	90	637	161	2485
Hourly Exit Rate	152	5	86	14	3	37	129	1149	22	90	637	161	2485
Input Volume	152	5	78	13	5	35	133	1155	23	84	639	165	2488
% of Volume	100	100	110	106	60	106	97	99	97	107	100	98	100

Intersection: 1: CORRAL HOLLOW RD & SIERRA VIEW DR

Movement	EB	EB	NB	SB	SB	B15
Directions Served	L	LR	L	TR	R	T
Maximum Queue (ft)	57	8	42	114	81	2
Average Queue (ft)	15	0	11	22	4	0
95th Queue (ft)	46	3	35	76	42	3
Link Distance (ft)	1339	1339		814	814	993
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			200			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: CORRAL HOLLOW RD & I-580 EB ON RAMP

Movement	EB	EB	EB	NB	NB	NB	B15	B15	B15	SB	SB	SB	
Directions Served	L	LT	R	T	T	R	T	T		L	T	T	
Maximum Queue (ft)	208	227	231	208	211	260	2	67	5	226	306	321	
Average Queue (ft)	118	144	107	116	121	112	0	3	0	90	173	187	
95th Queue (ft)	187	209	189	181	188	197	2	29	5	182	275	287	
Link Distance (ft)		432		993	993		814	814	814		421	421	
Upstream Blk Time (%)											0	0	
Queuing Penalty (veh)											0	0	
Storage Bay Dist (ft)	330		370			590				180			
Storage Blk Time (%)										1	8		
Queuing Penalty (veh)										8	9		

Intersection: 3: CORRAL HOLLOW RD & I-580 WB ON RAMP

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	LT	R	L	T	T	T	T	R	
Maximum Queue (ft)	210	242	135	186	311	316	293	285	83	
Average Queue (ft)	116	137	59	54	186	198	119	124	25	
95th Queue (ft)	181	206	110	128	281	287	237	242	60	
Link Distance (ft)		502			421	421	1432	1432		
Upstream Blk Time (%)					0	0				
Queuing Penalty (veh)					0	0				
Storage Bay Dist (ft)	400		460	180					430	
Storage Blk Time (%)				0	9					
Queuing Penalty (veh)				0	6					

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B53	B53	
Directions Served	L	T	R	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T	
Maximum Queue (ft)	228	25	90	70	28	71	94	204	489	480	72	82	102	289	295	90	14	24	
Average Queue (ft)	100	4	32	13	3	23	29	53	208	218	9	20	48	132	147	32	0	1	
95th Queue (ft)	189	18	72	45	17	55	70	137	401	407	69	58	86	242	255	67	15	27	
Link Distance (ft)		880	880		1040				1432	1432				658	658		5933	5933	
Upstream Blk Time (%)																			
Queuing Penalty (veh)																			
Storage Bay Dist (ft)	240				200		200	440	440			380	560	560			430		
Storage Blk Time (%)	1								1	1									
Queuing Penalty (veh)	0								1	0									

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0
Total Delay (hr)	0.4	0	0.1	2.7	0.3	2.5	5.9
Total Stops	20	0	15	0	8	48	91
Travel Dist (mi)	116.1	1.3	9.6	224.9	15.1	212.1	579.1
Travel Time (hr)	4.4	0	0.3	7.6	0.6	8.2	21.2
Avg Speed (mph)	26	26	28	30	27	26	27
Fuel Used (gal)	3.4	0	0.3	7.7	0.3	4.3	16.1
HC Emissions (g)	57	0	6	191	5	90	349
CO Emissions (g)	1148	5	272	7171	107	1895	10597
NOx Emissions (g)	163	1	17	539	15	254	989
Vehicles Exited	457	5	35	825	92	1283	2697
Hourly Exit Rate	457	5	35	825	92	1283	2697
Input Volume	463	5	38	840	88	1282	2716
% of Volume	99	100	92	98	105	100	99

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	3.8	0	1.3	3.1	1.6	1.6	5.5	16.9
Total Stops	403	2	212	382	370	115	593	2077
Travel Dist (mi)	51.3	0.3	30.2	130.3	123.9	10.1	97.7	443.7
Travel Time (hr)	5.5	0	2.3	7.5	6	2	9.1	32.5
Avg Speed (mph)	9	8	13	17	21	5	11	14
Fuel Used (gal)	1.9	0	0.9	4	3.2	0.8	5.3	16
HC Emissions (g)	23	0	15	57	49	9	85	239
CO Emissions (g)	594	1	449	992	939	232	1997	5204
NOx Emissions (g)	56	0	35	152	127	27	272	670
Vehicles Exited	557	3	328	657	626	108	1044	3323
Hourly Exit Rate	557	3	328	657	626	108	1044	3323
Input Volume	543	3	327	682	622	110	1042	3329
% of Volume	103	100	100	96	101	98	100	100

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	3.7	0	0.5	0.7	6.1	3.5	0.2	14.6
Total Stops	384	1	95	66	654	353	49	1602
Travel Dist (mi)	54.4	0.1	16	6.2	107	185.1	27.6	396.5
Travel Time (hr)	5.4	0	1	0.9	10.1	9.8	1.2	28.4
Avg Speed (mph)	10	11	16	7	11	19	23	14
Fuel Used (gal)	1.8	0	0.5	0.4	5.8	6.8	1	16.2
HC Emissions (g)	23	0	9	4	92	113	23	263
CO Emissions (g)	571	0	335	119	2148	2360	471	6005
NOx Emissions (g)	52	0	20	14	294	339	65	784
Vehicles Exited	518	1	153	67	1144	638	95	2616
Hourly Exit Rate	518	1	153	67	1144	638	95	2616
Input Volume	516	1	153	66	1158	636	94	2624
% of Volume	100	100	100	102	99	100	101	100

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0	0	0	0	0	0.1
Total Delay (hr)	1.7	0	0.3	0.1	0	0.1	1.2	8.8	0.1	1	4.7	0.2	18.2
Total Stops	133	4	45	12	3	30	94	572	11	79	371	65	1419
Travel Dist (mi)	27	1	15.3	2.6	0.6	7.3	36.8	325.8	6.4	12	85.4	21.5	541.7
Travel Time (hr)	2.8	0.1	0.9	0.2	0.1	0.4	2.2	16	0.2	1.3	6.4	0.8	31.5
Avg Speed (mph)	10	12	16	12	11	19	17	20	27	9	13	26	17
Fuel Used (gal)	1.1	0	0.5	0.1	0	0.2	1.8	15.3	0.3	0.5	2.4	0.5	22.8
HC Emissions (g)	10	0	6	2	0	4	34	339	6	6	35	12	454
CO Emissions (g)	193	3	106	32	2	68	1469	11942	242	213	835	431	15535
NOx Emissions (g)	25	0	16	5	0	10	104	1039	19	14	88	29	1349
Vehicles Exited	152	5	86	14	3	37	129	1149	22	90	637	161	2485
Hourly Exit Rate	152	5	86	14	3	37	129	1149	22	90	637	161	2485
Input Volume	152	5	78	13	5	35	133	1155	23	84	639	165	2488
% of Volume	100	100	110	106	60	106	97	99	97	107	100	98	100

Total Network Performance

Denied Delay (hr)	0.6
Total Delay (hr)	76.7
Total Stops	5989
Travel Dist (mi)	7136.7
Travel Time (hr)	265.3
Avg Speed (mph)	27
Fuel Used (gal)	248.3
HC Emissions (g)	5410
CO Emissions (g)	158115
NOx Emissions (g)	17089
Vehicles Exited	4178
Hourly Exit Rate	4178
Input Volume	31863
% of Volume	13

Opening Year (2028) Build

Partial Cloverleaf/Tight Diamond Interchange SimTraffic Outputs

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.4	0	0	0	0	0.2
Total Del/Veh (s)	8.4	7.3	17.5	4.4	8.8	2.5	7.8
Vehicles Exited	1305	56	3	66	417	197	2044
Hourly Exit Rate	1305	56	3	66	417	197	2044
Input Volume	1315	56	4	68	414	198	2054
% of Volume	99	100	75	97	101	100	100

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	20.9	28.7	4.2	20	8.3	46.6	7.8	15.7
Vehicles Exited	128	2	25	821	548	155	589	2268
Hourly Exit Rate	128	2	25	821	548	155	589	2268
Input Volume	131	2	25	832	551	159	586	2286
% of Volume	98	100	101	99	99	98	100	99

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	22.3	13.2	5.2	17.9	12.4	10.8	15.3	14.7
Vehicles Exited	225	2	108	546	404	519	765	2569
Hourly Exit Rate	225	2	108	546	404	519	765	2569
Input Volume	225	2	117	555	409	521	769	2598
% of Volume	100	89	92	98	99	100	99	99

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	4.1	0.3	4.1	0	0	0	0	0	0	0.1
Total Del/Veh (s)	41.3	32.7	23.3	35.6	39.6	5.7	53.8	17.8	4.1	52.1	27.5	4.5	26.3
Vehicles Exited	120	5	193	39	5	24	144	505	3	19	1052	120	2229
Hourly Exit Rate	120	5	193	39	5	24	144	505	3	19	1052	120	2229
Input Volume	120	5	188	38	5	23	147	523	2	22	1063	117	2253
% of Volume	100	100	103	103	100	105	98	97	150	87	99	102	99

7: I-580 WB OFF RAMP Performance by movement

Movement	NBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.2	0.6	0.4
Vehicles Exited	335	404	739
Hourly Exit Rate	335	404	739
Input Volume	344	409	753
% of Volume	97	99	98

Intersection: 1: CORRAL HOLLOW RD & SIERRA VIEW DR

Movement	EB	EB	NB	SB	SB
Directions Served	L	LR	L	TR	R
Maximum Queue (ft)	213	222	24	70	14
Average Queue (ft)	93	45	2	6	1
95th Queue (ft)	173	163	13	36	11
Link Distance (ft)	1339	1339		814	814
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			200		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: CORRAL HOLLOW RD & I-580 EB ON RAMP

Movement	EB	EB	EB	NB	NB	NB	B15	B15	SB	SB	SB	
Directions Served	L	LT	R	T	T	R	T		L	T	T	
Maximum Queue (ft)	90	124	47	266	302	206	12	5	200	163	146	
Average Queue (ft)	20	52	12	142	185	98	1	0	98	74	55	
95th Queue (ft)	59	100	36	228	273	168	12	5	172	138	114	
Link Distance (ft)		448		993	993		814	814		881	881	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	330		370			590			550			
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 3: CORRAL HOLLOW RD & I-580 WB ON RAMP

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	LT	R	T	T	R	T	T	R	
Maximum Queue (ft)	117	112	73	199	191	230	197	392	372	
Average Queue (ft)	57	53	27	103	104	121	89	88	190	
95th Queue (ft)	104	95	55	168	171	199	163	239	349	
Link Distance (ft)		495		881	881		936	936		
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	400		460			250			300	
Storage Blk Time (%)						0		0	2	
Queuing Penalty (veh)						0		0	6	

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B279	B279	
Directions Served	L	T	R	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T	
Maximum Queue (ft)	201	43	228	87	36	57	125	136	211	211	7	26	60	420	488	144	8	7	
Average Queue (ft)	83	4	95	31	5	16	43	61	73	87	0	2	16	185	264	25	0	0	
95th Queue (ft)	156	25	175	71	24	45	98	111	163	178	3	12	45	347	437	94	9	8	
Link Distance (ft)		877	877		1037				936	936				658	658		509	509	
Upstream Blk Time (%)																			
Queuing Penalty (veh)																			
Storage Bay Dist (ft)	240			200		200	400	400			380	560	560			430			
Storage Blk Time (%)	0								0	0					1				
Queuing Penalty (veh)	0								0	0					1				

Intersection: 5: Corral Hollow Rd & W. Linne Rd

Movement	WB	NB	NB	SB	SB	SB	B10	B10	
Directions Served	LR	T	TR	L	LT	T	T	T	
Maximum Queue (ft)	131	133	144	253	384	358	6	6	
Average Queue (ft)	56	29	39	78	209	191	0	0	
95th Queue (ft)	101	87	103	199	330	313	0	0	
Link Distance (ft)	1067	5933	5933		807	807	357	357	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)				200					
Storage Blk Time (%)				0	12				
Queuing Penalty (veh)				0	4				

Intersection: 7: I-580 WB OFF RAMP

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.1	0	0	0	0	0	0.1
Total Delay (hr)	3.1	0.1	0	0.1	1	0.1	4.5
Total Stops	356	10	2	0	9	1	378
Travel Dist (mi)	331.5	14.1	0.7	17.8	68.8	32.6	465.5
Travel Time (hr)	14.7	0.6	0	0.5	2.4	1	19.2
Avg Speed (mph)	23	23	22	38	28	33	24
Fuel Used (gal)	9.9	0.4	0	0.7	1.3	0.7	13.1
HC Emissions (g)	163	9	0	17	26	18	234
CO Emissions (g)	3267	166	24	787	549	395	5187
NOx Emissions (g)	463	24	1	50	77	55	670
Vehicles Exited	1305	56	3	66	417	197	2044
Hourly Exit Rate	1305	56	3	66	417	197	2044
Input Volume	1315	56	4	68	414	198	2054
% of Volume	99	100	75	97	101	100	100

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	0.7	0	0	4.6	1.3	2	1.3	10
Total Stops	90	2	16	544	324	153	179	1308
Travel Dist (mi)	12.1	0.2	2.4	163.4	108.7	28.5	109	424.3
Travel Time (hr)	1.1	0	0.1	10.1	5.1	3.1	5.1	24.7
Avg Speed (mph)	11	11	22	16	21	9	21	17
Fuel Used (gal)	0.3	0	0	5.2	2.9	1.4	4.3	14.3
HC Emissions (g)	4	0	1	75	43	21	80	224
CO Emissions (g)	87	1	28	1393	877	512	1883	4780
NOx Emissions (g)	9	0	2	203	116	59	243	632
Vehicles Exited	128	2	25	821	548	155	589	2268
Hourly Exit Rate	128	2	25	821	548	155	589	2268
Input Volume	131	2	25	832	551	159	586	2286
% of Volume	98	100	101	99	99	98	100	99

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	1.4	0	0.2	2.7	1.4	1.6	3.3	10.6
Total Stops	165	1	72	328	295	207	407	1475
Travel Dist (mi)	23	0.2	11.1	98.2	72.9	100.8	148.7	455
Travel Time (hr)	2.1	0	0.5	6.1	4.2	5.1	8.7	26.8
Avg Speed (mph)	11	15	22	16	17	20	17	17
Fuel Used (gal)	0.7	0	0.2	4.2	2.8	3.9	5.6	17.4
HC Emissions (g)	10	0	4	77	44	67	100	301
CO Emissions (g)	249	4	145	1719	1032	1584	2204	6937
NOx Emissions (g)	23	0	10	234	143	206	306	923
Vehicles Exited	225	2	108	546	404	519	765	2569
Hourly Exit Rate	225	2	108	546	404	519	765	2569
Input Volume	225	2	117	555	409	521	769	2598
% of Volume	100	89	92	98	99	100	99	99

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0	0	0	0	0	0.1
Total Delay (hr)	1.4	0	1.3	0.4	0.1	0	2.2	2.5	0	0.3	8.1	0.1	16.5
Total Stops	103	3	142	33	4	20	136	205	1	18	618	37	1320
Travel Dist (mi)	21.3	1	34.4	7.6	0.9	4.7	28.1	98.6	0.6	2.6	141.4	16	357.1
Travel Time (hr)	2.3	0.1	2.8	0.7	0.1	0.2	3.1	4.8	0	0.4	11	0.7	26.1
Avg Speed (mph)	9	12	12	12	11	22	9	20	27	7	13	24	14
Fuel Used (gal)	0.9	0	1.2	0.3	0	0.1	1.8	5.6	0	0.1	4.6	0.5	15.2
HC Emissions (g)	10	0	14	4	0	3	36	133	0	1	66	9	276
CO Emissions (g)	179	3	259	75	4	50	1443	5405	23	68	1659	414	9582
NOx Emissions (g)	23	0	36	10	0	8	97	391	1	3	171	23	764
Vehicles Exited	120	5	193	39	5	24	144	505	3	19	1052	120	2229
Hourly Exit Rate	120	5	193	39	5	24	144	505	3	19	1052	120	2229
Input Volume	120	5	188	38	5	23	147	523	2	22	1063	117	2253
% of Volume	100	100	103	103	100	105	98	97	150	87	99	102	99

7: I-580 WB OFF RAMP Performance by movement

Movement	NBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0	0.1	0.1
Total Stops	0	0	0
Travel Dist (mi)	20.1	40.8	60.9
Travel Time (hr)	0.5	1.8	2.3
Avg Speed (mph)	43	23	27
Fuel Used (gal)	0.5	2.3	2.8
HC Emissions (g)	12	50	61
CO Emissions (g)	227	1504	1732
NOx Emissions (g)	42	152	195
Vehicles Exited	335	404	739
Hourly Exit Rate	335	404	739
Input Volume	344	409	753
% of Volume	97	99	98

Total Network Performance

Denied Delay (hr)	0.3
Total Delay (hr)	58.1
Total Stops	5423
Travel Dist (mi)	5856.8
Travel Time (hr)	220.8
Avg Speed (mph)	27
Fuel Used (gal)	204.8
HC Emissions (g)	4342
CO Emissions (g)	126114
NOx Emissions (g)	13691
Vehicles Exited	3616
Hourly Exit Rate	3616
Input Volume	25922
% of Volume	14

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	0	0	0	0	0
Total Del/Veh (s)	3	2.8	9.9	11.7	10.1	6.7	7.8
Vehicles Exited	460	6	40	834	89	1281	2710
Hourly Exit Rate	460	6	40	834	89	1281	2710
Input Volume	463	5	38	840	88	1282	2716
% of Volume	99	120	105	99	102	100	100

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	30.3	37.9	15.8	16.7	8.8	40.9	9.3	15.8
Vehicles Exited	533	2	324	674	621	110	1052	3316
Hourly Exit Rate	533	2	324	674	621	110	1052	3316
Input Volume	543	3	327	682	622	110	1042	3329
% of Volume	98	67	99	99	100	100	101	100

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	31.1	13.1	11.5	12.3	5.1	14	6.5	16
Vehicles Exited	516	2	157	1141	67	645	94	2622
Hourly Exit Rate	516	2	157	1141	67	645	94	2622
Input Volume	516	2	153	1158	66	636	94	2625
% of Volume	100	114	102	99	102	101	100	100

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	4.2	0.2	4.1	0	0	0	0	0	0	0.1
Total Del/Veh (s)	40.1	30.9	10.5	31.9	37.3	11	34.5	25.6	7.2	38.5	27.9	4.1	25.8
Vehicles Exited	152	4	75	12	5	37	135	1142	22	84	652	169	2489
Hourly Exit Rate	152	4	75	12	5	37	135	1142	22	84	652	169	2489
Input Volume	152	5	78	13	5	35	133	1155	23	84	639	165	2488
% of Volume	100	80	96	91	100	106	102	99	97	100	102	103	100

7: I-580 WB OFF RAMP Performance by movement

Movement	NBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.6	0.3	0.6
Vehicles Exited	677	67	744
Hourly Exit Rate	677	67	744
Input Volume	670	66	736
% of Volume	101	102	101

Intersection: 1: CORRAL HOLLOW RD & SIERRA VIEW DR

Movement	EB	EB	NB	SB	SB
Directions Served	L	LR	L	TR	R
Maximum Queue (ft)	59	3	51	99	84
Average Queue (ft)	13	0	13	23	3
95th Queue (ft)	43	4	40	69	34
Link Distance (ft)	1339	1339		814	814
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			200		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: CORRAL HOLLOW RD & I-580 EB ON RAMP

Movement	EB	EB	EB	NB	NB	NB	B15	B15	SB	SB	SB	
Directions Served	L	LT	R	T	T	R	T	T	L	T	T	
Maximum Queue (ft)	226	255	210	209	220	241	34	90	164	271	282	
Average Queue (ft)	132	161	106	119	129	115	1	5	71	101	112	
95th Queue (ft)	206	232	184	181	196	196	24	46	135	215	231	
Link Distance (ft)		448		993	993		814	814		881	881	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	330		370			590			550			
Storage Blk Time (%)		0										
Queuing Penalty (veh)		0										

Intersection: 3: CORRAL HOLLOW RD & I-580 WB ON RAMP

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	LT	R	T	T	R	T	T	R	
Maximum Queue (ft)	236	254	128	302	315	123	298	303	111	
Average Queue (ft)	125	142	46	143	157	21	107	114	28	
95th Queue (ft)	196	215	93	242	262	77	238	245	79	
Link Distance (ft)		495		881	881		936	936		
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	400		460			250			300	
Storage Blk Time (%)					1			0		
Queuing Penalty (veh)					1			0		

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	
Directions Served	L	T	R	L	T	R	L	L	T	T	R	L	L	T	T	R	
Maximum Queue (ft)	210	28	90	46	33	77	103	176	447	460	98	65	98	294	299	87	
Average Queue (ft)	103	3	27	10	4	23	29	50	196	210	5	17	47	139	155	35	
95th Queue (ft)	185	16	67	35	21	57	73	128	386	398	46	49	85	244	255	70	
Link Distance (ft)		877	877		1037				936	936				658	658		
Upstream Blk Time (%)																	
Queuing Penalty (veh)																	
Storage Bay Dist (ft)	240				200	200	400	400			380	560	560			430	
Storage Blk Time (%)	0								1	2							
Queuing Penalty (veh)	0								1	0							

Intersection: 7: I-580 WB OFF RAMP

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0
Total Delay (hr)	0.4	0	0.1	2.7	0.3	2.4	5.9
Total Stops	17	0	18	0	10	47	92
Travel Dist (mi)	116.8	1.5	10.9	227.7	14.6	212	583.6
Travel Time (hr)	4.5	0.1	0.4	7.8	0.5	8.1	21.3
Avg Speed (mph)	26	26	28	29	27	26	27
Fuel Used (gal)	3.4	0	0.4	7.8	0.3	4.2	16.1
HC Emissions (g)	59	0	11	188	6	84	348
CO Emissions (g)	1172	6	385	7113	123	1820	10620
NOx Emissions (g)	168	1	29	534	17	237	986
Vehicles Exited	460	6	40	834	89	1281	2710
Hourly Exit Rate	460	6	40	834	89	1281	2710
Input Volume	463	5	38	840	88	1282	2716
% of Volume	99	120	105	99	102	100	100

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	4.5	0	1.4	3.2	1.5	1.3	2.7	14.7
Total Stops	420	2	214	371	350	93	304	1754
Travel Dist (mi)	50.8	0.2	30.8	133.1	123	20.2	194.6	552.9
Travel Time (hr)	6.2	0	2.5	7.6	5.9	2	9.7	34
Avg Speed (mph)	8	9	13	17	21	10	20	16
Fuel Used (gal)	2	0	0.9	4.1	3.2	1	7.7	19.1
HC Emissions (g)	23	0	15	61	47	14	140	300
CO Emissions (g)	575	1	468	1071	917	362	3226	6619
NOx Emissions (g)	54	0	35	164	123	41	437	855
Vehicles Exited	533	2	324	674	621	110	1052	3316
Hourly Exit Rate	533	2	324	674	621	110	1052	3316
Input Volume	543	3	327	682	622	110	1042	3329
% of Volume	98	67	99	99	100	100	101	100

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	4.5	0	0.5	3.9	0.1	2.5	0.2	11.7
Total Stops	411	1	105	458	24	283	39	1321
Travel Dist (mi)	53	0.1	16.2	205.9	12.2	125.4	18.3	431.1
Travel Time (hr)	6.2	0	1	11.2	0.6	6.8	0.8	26.7
Avg Speed (mph)	8	14	16	18	21	18	22	16
Fuel Used (gal)	2	0	0.5	8.5	0.5	5	0.7	17.1
HC Emissions (g)	22	0	8	152	9	88	14	293
CO Emissions (g)	557	4	329	3544	225	1935	317	6912
NOx Emissions (g)	50	0	18	474	29	274	42	888
Vehicles Exited	516	2	157	1141	67	645	94	2622
Hourly Exit Rate	516	2	157	1141	67	645	94	2622
Input Volume	516	2	153	1158	66	636	94	2625
% of Volume	100	114	102	99	102	101	100	100

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0	0	0	0	0	0.1
Total Delay (hr)	1.7	0	0.2	0.1	0.1	0.1	1.3	8.2	0	0.9	5.1	0.2	18
Total Stops	135	3	38	10	4	29	104	586	10	74	405	76	1474
Travel Dist (mi)	27.1	0.7	13.4	2.4	0.9	7.3	26.3	223.3	4.2	11.3	87.3	22.8	426.9
Travel Time (hr)	2.9	0.1	0.8	0.2	0.1	0.4	2.1	13.4	0.2	1.2	6.9	0.9	29.1
Avg Speed (mph)	10	11	17	13	11	19	13	17	24	9	13	25	15
Fuel Used (gal)	1.1	0	0.4	0.1	0	0.2	1.4	11.3	0.2	0.4	2.6	0.5	18.4
HC Emissions (g)	15	0	7	1	0	5	27	227	4	6	35	12	338
CO Emissions (g)	269	2	114	17	3	80	1088	8048	175	210	825	450	11280
NOx Emissions (g)	36	0	17	2	0	12	78	697	13	13	87	29	984
Vehicles Exited	152	4	75	12	5	37	135	1142	22	84	652	169	2489
Hourly Exit Rate	152	4	75	12	5	37	135	1142	22	84	652	169	2489
Input Volume	152	5	78	13	5	35	133	1155	23	84	639	165	2488
% of Volume	100	80	96	91	100	106	102	99	97	100	102	103	100

7: I-580 WB OFF RAMP Performance by movement

Movement	NBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	0	0.1
Total Stops	0	0	0
Travel Dist (mi)	40.7	6.8	47.4
Travel Time (hr)	1	0.3	1.3
Avg Speed (mph)	40	23	36
Fuel Used (gal)	0.7	0.4	1.1
HC Emissions (g)	14	10	24
CO Emissions (g)	268	277	545
NOx Emissions (g)	45	28	73
Vehicles Exited	677	67	744
Hourly Exit Rate	677	67	744
Input Volume	670	66	736
% of Volume	101	102	101

Total Network Performance

Denied Delay (hr)	0.6
Total Delay (hr)	70.8
Total Stops	5432
Travel Dist (mi)	7228
Travel Time (hr)	263.7
Avg Speed (mph)	27
Fuel Used (gal)	249.4
HC Emissions (g)	5363
CO Emissions (g)	156749
NOx Emissions (g)	16969
Vehicles Exited	4178
Hourly Exit Rate	4178
Input Volume	32666
% of Volume	13

Opening Year (2028) Build

Diverging Diamond Interchange SimTraffic Outputs

1: Lammers Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0	0	0	0	0.1
Total Del/Veh (s)	9.6	6	21	5.4	9.3	1.9	8.6
Vehicles Exited	1318	57	4	63	418	202	2062
Hourly Exit Rate	1318	57	4	63	418	202	2062
Input Volume	1315	56	4	68	413	198	2054
% of Volume	100	102	100	93	101	102	100

2: Performance by movement

Movement	WBT	NBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	10	12.5	11.5
Vehicles Exited	587	846	1433
Hourly Exit Rate	587	846	1433
Input Volume	586	832	1418
% of Volume	100	102	101

3: Performance by movement

Movement	EBT	SBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	18.9	11.7	15.5
Vehicles Exited	553	517	1070
Hourly Exit Rate	553	517	1070
Input Volume	554	520	1074
% of Volume	100	99	100

4: Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	3.7	0.3	3.6	0	0	0	0	0	0	0.1
Total Del/Veh (s)	56.3	55.8	20.3	48.9	59.1	6.2	74.7	12.2	2.2	71.3	19.8	3.4	23.9
Vehicles Exited	122	5	188	37	6	22	152	524	2	21	1050	117	2246
Hourly Exit Rate	122	5	188	37	6	22	152	524	2	21	1050	117	2246
Input Volume	120	5	188	38	5	23	147	523	2	22	1065	117	2255
% of Volume	101	100	100	97	120	97	103	100	100	97	99	100	100

15: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.1	0	0	0
Total Del/Veh (s)	1.3	1.1	1	1
Vehicles Exited	39	1384	619	2042
Hourly Exit Rate	39	1384	619	2042
Input Volume	39	1383	612	2034
% of Volume	100	100	101	100

16: Performance by movement

Movement	WBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.6	9.9	1
Vehicles Exited	587	27	614
Hourly Exit Rate	587	27	614
Input Volume	586	25	611
% of Volume	100	109	101

18: Performance by movement

Movement	NBR	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.7	6.3	5.4
Vehicles Exited	680	1283	1963
Hourly Exit Rate	680	1283	1963
Input Volume	671	1295	1966
% of Volume	101	99	100

19: EB I-580 OFF RAMP Performance by movement

Movement	SEL	SER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1	0.5	0.9
Vehicles Exited	128	26	154
Hourly Exit Rate	128	26	154
Input Volume	131	25	156
% of Volume	98	105	99

25: EB I-580 ON RAMP Performance by movement

Movement	EBR	SBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.6	1.2	2.3
Vehicles Exited	544	156	700
Hourly Exit Rate	544	156	700
Input Volume	551	159	710
% of Volume	99	98	99

26: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NEL	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.7	13.9	2.4
Vehicles Exited	845	128	973
Hourly Exit Rate	845	128	973
Input Volume	832	131	963
% of Volume	102	98	101

28: Performance by movement

Movement	WBT	NBL	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.7	15.8	5.4
Vehicles Exited	517	233	750
Hourly Exit Rate	517	233	750
Input Volume	520	225	745
% of Volume	99	104	101

32: CORRAL HOLLOW RD Performance by movement

Movement	EBL	EBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	7.1	4.6	5.6
Vehicles Exited	409	558	967
Hourly Exit Rate	409	558	967
Input Volume	409	555	964
% of Volume	100	101	100

36: Performance by movement

Movement	SBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.5	1.6	2.4
Vehicles Exited	515	773	1288
Hourly Exit Rate	515	773	1288
Input Volume	521	769	1290
% of Volume	99	100	100

38: Performance by movement

Movement	EBT	NBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.8	10.7	2.5
Vehicles Exited	553	119	672
Hourly Exit Rate	553	119	672
Input Volume	554	117	671
% of Volume	100	101	100

39: WB I-580 OFF RAMP Performance by movement

Movement	NWT	NWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.3	0.7	1.8
Vehicles Exited	233	118	351
Hourly Exit Rate	233	118	351
Input Volume	225	117	342
% of Volume	104	101	103

40: WB I-580 ON RAMP Performance by movement

Movement	WBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.1	0.3	0.6
Vehicles Exited	408	773	1181
Hourly Exit Rate	408	773	1181
Input Volume	409	769	1178
% of Volume	100	100	100

41: Performance by movement

Movement	WBL	WBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.9	2.9	3.6
Vehicles Exited	156	589	745
Hourly Exit Rate	156	589	745
Input Volume	159	586	745
% of Volume	98	100	100

42: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	6	1.3	4.2
Vehicles Exited	840	544	1384
Hourly Exit Rate	840	544	1384
Input Volume	832	551	1383
% of Volume	101	99	100

Intersection: 1: Lammers Rd

Movement	EB	EB	NB	SB	SB
Directions Served	L	LR	L	TR	R
Maximum Queue (ft)	234	229	26	127	20
Average Queue (ft)	116	73	3	29	1
95th Queue (ft)	194	205	15	94	13
Link Distance (ft)	1339	1339		662	662
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			200		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2:

Movement	WB	WB	NB	NB
Directions Served	T	T	T	T
Maximum Queue (ft)	160	154	125	120
Average Queue (ft)	97	85	101	90
95th Queue (ft)	152	145	113	126
Link Distance (ft)	80	80	61	61
Upstream Blk Time (%)	10	5	39	20
Queuing Penalty (veh)	29	14	164	85
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3:

Movement	EB	EB	SB	SB
Directions Served	T	T	T	T
Maximum Queue (ft)	144	155	136	123
Average Queue (ft)	102	128	106	65
95th Queue (ft)	138	166	135	118
Link Distance (ft)	85	85	58	58
Upstream Blk Time (%)	12	24	26	10
Queuing Penalty (veh)	34	65	69	27
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Tracy Hills Dr

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B53	
Directions Served	L	T	R	L	T	R	L	L	T	T	R	L	L	T	T	R	T	
Maximum Queue (ft)	194	32	189	89	37	49	138	159	182	199	11	21	62	373	425	105	3	
Average Queue (ft)	98	5	76	32	6	15	67	85	71	83	0	2	22	169	214	19	0	
95th Queue (ft)	171	21	142	73	27	43	121	137	155	173	5	14	55	334	381	74	3	
Link Distance (ft)		860	860		1145				617	617				638	638		5945	
Upstream Blk Time (%)																		
Queuing Penalty (veh)																		
Storage Bay Dist (ft)	240			200		200	440	440			380	560	560			430		
Storage Blk Time (%)	0														0			
Queuing Penalty (veh)	0														0			

Intersection: 15: CORRAL HOLLOW RD

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 16:

Movement	WB	WB	SB
Directions Served	T	T	R
Maximum Queue (ft)	80	72	51
Average Queue (ft)	49	46	11
95th Queue (ft)	66	68	37
Link Distance (ft)	1	1	64
Upstream Blk Time (%)	0	0	0
Queuing Penalty (veh)	0	0	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 18:

Movement	SW	SW
Directions Served	T	T
Maximum Queue (ft)	2	28
Average Queue (ft)	0	1
95th Queue (ft)	2	14
Link Distance (ft)	617	617
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 19: EB I-580 OFF RAMP

Movement												
Directions Served												
Maximum Queue (ft)												
Average Queue (ft)												
95th Queue (ft)												
Link Distance (ft)												
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 25: EB I-580 ON RAMP

Movement	SB
Directions Served	T
Maximum Queue (ft)	11
Average Queue (ft)	0
95th Queue (ft)	13
Link Distance (ft)	44
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 26: CORRAL HOLLOW RD

Movement	NB	NB	NE	NE
Directions Served	T	T	L	L
Maximum Queue (ft)	66	57	67	88
Average Queue (ft)	43	42	17	40
95th Queue (ft)	53	54	50	80
Link Distance (ft)	2	2	56	56
Upstream Blk Time (%)	0	0	1	7
Queuing Penalty (veh)	0	0	1	5
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 28:

Movement	WB	WB	NB	NB
Directions Served	T	T	L	L
Maximum Queue (ft)	75	73	131	78
Average Queue (ft)	48	43	65	29
95th Queue (ft)	68	74	112	65
Link Distance (ft)	6	6	68	68
Upstream Blk Time (%)	0	0	8	1
Queuing Penalty (veh)	0	0	9	1
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 32: CORRAL HOLLOW RD

Movement	EB	EB
Directions Served	LT	T
Maximum Queue (ft)	150	96
Average Queue (ft)	21	22
95th Queue (ft)	88	71
Link Distance (ft)	303	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 34: Bend

Movement	NW	NW	B217	B217
Directions Served	T		T	T
Maximum Queue (ft)	119	39	30	48
Average Queue (ft)	6	2	1	2
95th Queue (ft)	63	25	12	43
Link Distance (ft)	620	620	1006	1006
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 36:

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	147	118
Average Queue (ft)	43	10
95th Queue (ft)	119	60
Link Distance (ft)	690	690
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 38:

Movement	EB	EB	NB
Directions Served	T	T	R
Maximum Queue (ft)	61	60	117
Average Queue (ft)	45	45	43
95th Queue (ft)	55	54	91
Link Distance (ft)	3	3	72
Upstream Blk Time (%)	0	0	2
Queuing Penalty (veh)	0	0	3
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 39: WB I-580 OFF RAMP

Movement	NW
Directions Served	T
Maximum Queue (ft)	1
Average Queue (ft)	0
95th Queue (ft)	2
Link Distance (ft)	535
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 40: WB I-580 ON RAMP

Movement	WB
Directions Served	T
Maximum Queue (ft)	101
Average Queue (ft)	11
95th Queue (ft)	68
Link Distance (ft)	48
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 41:

Movement	WB	WB
Directions Served	LT	T
Maximum Queue (ft)	116	31
Average Queue (ft)	11	1
95th Queue (ft)	61	17
Link Distance (ft)	295	295
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 42: CORRAL HOLLOW RD

Movement	NB	NB
Directions Served	T	T
Maximum Queue (ft)	202	138
Average Queue (ft)	95	37
95th Queue (ft)	175	108
Link Distance (ft)	470	470
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 215: Bend

Movement	SE
Directions Served	T
Maximum Queue (ft)	2
Average Queue (ft)	0
95th Queue (ft)	2
Link Distance (ft)	787
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

1: Lammers Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.1	0	0	0	0	0	0.1
Total Delay (hr)	3.6	0.1	0	0.1	1.1	0.1	5
Total Stops	477	11	4	0	56	3	551
Travel Dist (mi)	335.1	14.5	1	17.2	56.3	27.1	451.2
Travel Time (hr)	15.4	0.6	0	0.4	2.2	0.9	19.7
Avg Speed (mph)	22	24	21	39	25	30	23
Fuel Used (gal)	9.8	0.4	0	0.6	1	0.5	12.3
HC Emissions (g)	90	6	0	14	17	11	139
CO Emissions (g)	2068	119	30	639	366	245	3466
NOx Emissions (g)	266	16	1	41	46	32	403
Vehicles Exited	1318	57	4	63	418	202	2062
Hourly Exit Rate	1318	57	4	63	418	202	2062
Input Volume	1315	56	4	68	413	198	2054
% of Volume	100	102	100	93	101	102	100

2: Performance by movement

Movement	WBT	NBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	1.6	2.9	4.6
Total Stops	290	343	633
Travel Dist (mi)	16	13.8	29.8
Travel Time (hr)	2.2	3.4	5.6
Avg Speed (mph)	7	4	5
Fuel Used (gal)	0.9	1.2	2.1
HC Emissions (g)	12	7	19
CO Emissions (g)	247	177	424
NOx Emissions (g)	34	22	56
Vehicles Exited	587	846	1433
Hourly Exit Rate	587	846	1433
Input Volume	586	832	1418
% of Volume	100	102	101

3: Performance by movement

Movement	EBT	SBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	2.9	1.7	4.6
Total Stops	412	235	647
Travel Dist (mi)	13.8	9.7	23.5
Travel Time (hr)	3.4	2	5.4
Avg Speed (mph)	4	5	4
Fuel Used (gal)	1.2	0.7	1.9
HC Emissions (g)	7	8	16
CO Emissions (g)	182	170	352
NOx Emissions (g)	24	22	46
Vehicles Exited	553	517	1070
Hourly Exit Rate	553	517	1070
Input Volume	554	520	1074
% of Volume	100	99	100

4: Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0	0	0	0	0	0.1
Total Delay (hr)	1.9	0.1	1.1	0.5	0.1	0	3.2	1.8	0	0.4	5.9	0.1	15.1
Total Stops	106	4	150	30	5	20	153	171	1	20	437	25	1122
Travel Dist (mi)	21	0.9	32.8	7.8	1.2	4.8	19	66.8	0.3	2.7	137.9	15.2	310.4
Travel Time (hr)	2.8	0.1	2.5	0.8	0.1	0.2	4	4.1	0	0.5	8.7	0.6	24.5
Avg Speed (mph)	8	8	13	10	8	22	5	16	21	6	16	26	13
Fuel Used (gal)	1	0	1.1	0.3	0.1	0.1	1.7	4.9	0	0.2	4.5	0.4	14.3
HC Emissions (g)	4	0	8	2	0	2	22	88	0	2	80	11	219
CO Emissions (g)	104	3	179	53	4	31	875	4387	13	74	2209	394	8328
NOx Emissions (g)	12	0	24	6	0	4	60	270	1	4	230	27	638
Vehicles Exited	122	5	188	37	6	22	152	524	2	21	1050	117	2246
Hourly Exit Rate	122	5	188	37	6	22	152	524	2	21	1050	117	2246
Input Volume	120	5	188	38	5	23	147	523	2	22	1065	117	2255
% of Volume	101	100	100	97	120	97	103	100	100	97	99	100	100

15: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	SBT	All
Denied Delay (hr)	0	0	0	0
Total Delay (hr)	0	0.4	0.2	0.6
Total Stops	0	2	0	2
Travel Dist (mi)	2.4	271.6	76.5	350.5
Travel Time (hr)	0.1	11.7	1.7	13.5
Avg Speed (mph)	39	23	44	26
Fuel Used (gal)	0.1	17.1	2.6	19.8
HC Emissions (g)	52	266	69	386
CO Emissions (g)	1011	15198	2238	18446
NOx Emissions (g)	120	823	222	1165
Vehicles Exited	39	1384	619	2042
Hourly Exit Rate	39	1384	619	2042
Input Volume	39	1383	612	2034
% of Volume	100	100	101	100

16: Performance by movement

Movement	WBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	0.1	0.2
Total Stops	0	12	12
Travel Dist (mi)	3.6	0.7	4.3
Travel Time (hr)	0.2	0.1	0.3
Avg Speed (mph)	16	7	13
Fuel Used (gal)	0.3	0	0.3
HC Emissions (g)	5	1	6
CO Emissions (g)	114	30	144
NOx Emissions (g)	20	1	21
Vehicles Exited	587	27	614
Hourly Exit Rate	587	27	614
Input Volume	586	25	611
% of Volume	100	109	101

18: Performance by movement

Movement	NBR	SWT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.7	2.2	2.9
Total Stops	0	3	3
Travel Dist (mi)	101.9	174.4	276.3
Travel Time (hr)	4	6.2	10.2
Avg Speed (mph)	25	28	27
Fuel Used (gal)	4.7	7.6	12.3
HC Emissions (g)	87	170	257
CO Emissions (g)	4254	5976	10231
NOx Emissions (g)	263	522	785
Vehicles Exited	680	1283	1963
Hourly Exit Rate	680	1283	1963
Input Volume	671	1295	1966
% of Volume	101	99	100

19: EB I-580 OFF RAMP Performance by movement

Movement	SEL	SER	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0	0	0
Total Stops	0	0	0
Travel Dist (mi)	10.5	2.2	12.7
Travel Time (hr)	0.3	0.1	0.4
Avg Speed (mph)	35	37	35
Fuel Used (gal)	0.1	0	0.2
HC Emissions (g)	2	1	3
CO Emissions (g)	45	18	63
NOx Emissions (g)	5	2	7
Vehicles Exited	128	26	154
Hourly Exit Rate	128	26	154
Input Volume	131	25	156
% of Volume	98	105	99

25: EB I-580 ON RAMP Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.4	0.1	0.4
Total Stops	0	4	4
Travel Dist (mi)	13.3	3.6	16.9
Travel Time (hr)	0.8	0.2	1
Avg Speed (mph)	16	21	17
Fuel Used (gal)	0.7	0.3	1.1
HC Emissions (g)	9	7	15
CO Emissions (g)	282	271	553
NOx Emissions (g)	37	23	60
Vehicles Exited	544	156	700
Hourly Exit Rate	544	156	700
Input Volume	551	159	710
% of Volume	99	98	99

26: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NEL	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.2	0.5	0.7
Total Stops	0	72	72
Travel Dist (mi)	4.3	3.2	7.6
Travel Time (hr)	0.3	0.6	0.9
Avg Speed (mph)	14	5	8
Fuel Used (gal)	0.2	0.2	0.4
HC Emissions (g)	2	2	4
CO Emissions (g)	55	50	105
NOx Emissions (g)	9	5	15
Vehicles Exited	845	128	973
Hourly Exit Rate	845	128	973
Input Volume	832	131	963
% of Volume	102	98	101

28: Performance by movement

Movement	WBT	NBL	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	1	1.1
Total Stops	0	134	134
Travel Dist (mi)	3.1	6.3	9.4
Travel Time (hr)	0.2	1.2	1.4
Avg Speed (mph)	15	5	7
Fuel Used (gal)	0.2	0.4	0.6
HC Emissions (g)	4	4	8
CO Emissions (g)	75	98	174
NOx Emissions (g)	12	11	23
Vehicles Exited	517	233	750
Hourly Exit Rate	517	233	750
Input Volume	520	225	745
% of Volume	99	104	101

32: CORRAL HOLLOW RD Performance by movement

Movement	EBL	EBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.8	0.7	1.5
Total Stops	19	38	57
Travel Dist (mi)	29.1	38.8	67.9
Travel Time (hr)	1.8	2	3.8
Avg Speed (mph)	16	19	18
Fuel Used (gal)	1.3	1.6	3
HC Emissions (g)	14	23	37
CO Emissions (g)	400	732	1132
NOx Emissions (g)	57	84	141
Vehicles Exited	409	558	967
Hourly Exit Rate	409	558	967
Input Volume	409	555	964
% of Volume	100	101	100

36: Performance by movement

Movement	SBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.5	0.3	0.8
Total Stops	71	0	71
Travel Dist (mi)	71.7	106.9	178.6
Travel Time (hr)	2.9	3.9	6.9
Avg Speed (mph)	25	27	26
Fuel Used (gal)	1.9	3.3	5.2
HC Emissions (g)	32	61	93
CO Emissions (g)	611	1170	1782
NOx Emissions (g)	87	175	262
Vehicles Exited	515	773	1288
Hourly Exit Rate	515	773	1288
Input Volume	521	769	1290
% of Volume	99	100	100

38: Performance by movement

Movement	EBT	NBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	0.4	0.5
Total Stops	0	59	59
Travel Dist (mi)	3.1	3.4	6.4
Travel Time (hr)	0.2	0.5	0.7
Avg Speed (mph)	14	7	9
Fuel Used (gal)	0.3	0.2	0.5
HC Emissions (g)	3	3	7
CO Emissions (g)	79	129	208
NOx Emissions (g)	15	8	24
Vehicles Exited	553	119	672
Hourly Exit Rate	553	119	672
Input Volume	554	117	671
% of Volume	100	101	100

39: WB I-580 OFF RAMP Performance by movement

Movement	NWT	NWR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	0	0.2
Total Stops	0	0	0
Travel Dist (mi)	26.1	13.3	39.4
Travel Time (hr)	0.7	0.4	1.1
Avg Speed (mph)	35	38	36
Fuel Used (gal)	0.4	0.2	0.6
HC Emissions (g)	7	4	12
CO Emissions (g)	166	91	257
NOx Emissions (g)	21	14	35
Vehicles Exited	233	118	351
Hourly Exit Rate	233	118	351
Input Volume	225	117	342
% of Volume	104	101	103

40: WB I-580 ON RAMP Performance by movement

Movement	WBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	0.1	0.2
Total Stops	8	0	8
Travel Dist (mi)	8.1	24.3	32.4
Travel Time (hr)	0.4	0.9	1.3
Avg Speed (mph)	20	27	25
Fuel Used (gal)	0.8	0.7	1.5
HC Emissions (g)	11	12	24
CO Emissions (g)	516	189	705
NOx Emissions (g)	43	32	76
Vehicles Exited	408	773	1181
Hourly Exit Rate	408	773	1181
Input Volume	409	769	1178
% of Volume	100	100	100

41: Performance by movement

Movement	WBL	WBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.3	0.5	0.7
Total Stops	8	11	19
Travel Dist (mi)	10.5	38.1	48.6
Travel Time (hr)	0.6	1.8	2.4
Avg Speed (mph)	17	22	20
Fuel Used (gal)	0.5	1.9	2.3
HC Emissions (g)	7	43	50
CO Emissions (g)	187	1255	1442
NOx Emissions (g)	26	135	161
Vehicles Exited	156	589	745
Hourly Exit Rate	156	589	745
Input Volume	159	586	745
% of Volume	98	100	100

42: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	1.4	0.2	1.6
Total Stops	201	0	201
Travel Dist (mi)	83.2	54	137.2
Travel Time (hr)	4.2	2	6.2
Avg Speed (mph)	20	27	22
Fuel Used (gal)	2	1.2	3.2
HC Emissions (g)	17	12	29
CO Emissions (g)	424	303	727
NOx Emissions (g)	48	31	78
Vehicles Exited	840	544	1384
Hourly Exit Rate	840	544	1384
Input Volume	832	551	1383
% of Volume	101	99	100

Total Network Performance

Denied Delay (hr)	0.3
Total Delay (hr)	52.3
Total Stops	3983
Travel Dist (mi)	6341.9
Travel Time (hr)	221
Avg Speed (mph)	29
Fuel Used (gal)	220
HC Emissions (g)	4217
CO Emissions (g)	132499
NOx Emissions (g)	13972
Vehicles Exited	3677
Hourly Exit Rate	3677
Input Volume	39397
% of Volume	9

1: Lammers Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0	0	0	0	0
Total Del/Veh (s)	2.4	2.9	9.1	11.4	10.6	5.4	7
Vehicles Exited	457	6	35	851	83	1284	2716
Hourly Exit Rate	457	6	35	851	83	1284	2716
Input Volume	463	5	38	840	87	1282	2716
% of Volume	99	120	92	101	95	100	100

2: Performance by movement

Movement	WBT	NBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	18.4	11.8	15.8
Vehicles Exited	1055	682	1737
Hourly Exit Rate	1055	682	1737
Input Volume	1042	681	1723
% of Volume	101	100	101

3: Performance by movement

Movement	EBT	SBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	16.5	11.9	14.9
Vehicles Exited	1174	652	1826
Hourly Exit Rate	1174	652	1826
Input Volume	1158	636	1794
% of Volume	101	102	102

4: Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	3.6	0.2	3.8	0	0	0	0	0	0	0.1
Total Del/Veh (s)	76.6	55.8	7	52.6	57.6	13.4	28	16.9	2.8	67.8	51.6	5.5	30.8
Vehicles Exited	144	6	83	13	5	34	141	1170	25	85	647	166	2519
Hourly Exit Rate	144	6	83	13	5	34	141	1170	25	85	647	166	2519
Input Volume	152	5	78	13	5	35	133	1156	23	84	641	165	2490
% of Volume	95	120	106	98	100	97	106	101	110	101	101	101	101

15: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.1	0	0	0
Total Del/Veh (s)	1.2	1	1.4	1.2
Vehicles Exited	15	1307	1368	2690
Hourly Exit Rate	15	1307	1368	2690
Input Volume	14	1303	1370	2687
% of Volume	105	100	100	100

16: Performance by movement

Movement	WBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.7	12.5	3.5
Vehicles Exited	1055	323	1378
Hourly Exit Rate	1055	323	1378
Input Volume	1042	327	1370
% of Volume	101	99	101

18: Performance by movement

Movement	NBR	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	7	7.3	7.1
Vehicles Exited	1326	747	2073
Hourly Exit Rate	1326	747	2073
Input Volume	1311	732	2044
% of Volume	101	102	101

19: EB I-580 OFF RAMP Performance by movement

Movement	SEL	SER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.7	2.9	3.4
Vehicles Exited	551	326	877
Hourly Exit Rate	551	326	877
Input Volume	543	327	870
% of Volume	102	100	101

25: EB I-580 ON RAMP Performance by movement

Movement	EBR	SBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.6	1.5	2.5
Vehicles Exited	624	111	735
Hourly Exit Rate	624	111	735
Input Volume	622	110	732
% of Volume	100	101	100

26: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NEL	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.6	16.5	7.8
Vehicles Exited	681	554	1235
Hourly Exit Rate	681	554	1235
Input Volume	681	543	1224
% of Volume	100	102	101

28: Performance by movement

Movement	WBT	NBL	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.8	17.2	8
Vehicles Exited	652	510	1162
Hourly Exit Rate	652	510	1162
Input Volume	636	516	1152
% of Volume	102	99	101

32: CORRAL HOLLOW RD Performance by movement

Movement	EBL	EBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.8	7.6	7.5
Vehicles Exited	61	1173	1234
Hourly Exit Rate	61	1173	1234
Input Volume	66	1158	1224
% of Volume	92	101	101

36: Performance by movement

Movement	SBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	7.6	2.2	6.9
Vehicles Exited	654	97	751
Hourly Exit Rate	654	97	751
Input Volume	637	94	731
% of Volume	103	103	103

38: Performance by movement

Movement	EBT	NBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.6	11.2	1.8
Vehicles Exited	1173	154	1327
Hourly Exit Rate	1173	154	1327
Input Volume	1158	153	1311
% of Volume	101	100	101

39: WB I-580 OFF RAMP Performance by movement

Movement	NWT	NWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.2	0.9	2.6
Vehicles Exited	510	154	664
Hourly Exit Rate	510	154	664
Input Volume	516	153	669
% of Volume	99	100	99

40: WB I-580 ON RAMP Performance by movement

Movement	WBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2	0.1	0.8
Vehicles Exited	61	97	158
Hourly Exit Rate	61	97	158
Input Volume	66	94	160
% of Volume	92	103	99

41: Performance by movement

Movement	WBL	WBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	8.2	7.6	7.7
Vehicles Exited	111	1051	1162
Hourly Exit Rate	111	1051	1162
Input Volume	110	1042	1152
% of Volume	101	101	101

42: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.3	1.5	2
Vehicles Exited	684	624	1308
Hourly Exit Rate	684	624	1308
Input Volume	681	622	1303
% of Volume	100	100	100

Intersection: 1: Lammers Rd

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	LR	L	T	TR	R
Maximum Queue (ft)	54	18	48	32	126	114
Average Queue (ft)	14	1	13	2	50	21
95th Queue (ft)	43	10	38	23	109	84
Link Distance (ft)	1339	1339		1383	662	662
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			200			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2:

Movement	WB	WB	NB	NB
Directions Served	T	T	T	T
Maximum Queue (ft)	191	186	116	130
Average Queue (ft)	150	150	88	98
95th Queue (ft)	188	188	117	126
Link Distance (ft)	80	80	61	61
Upstream Blk Time (%)	40	41	19	24
Queuing Penalty (veh)	207	214	63	81
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3:

Movement	EB	EB	SB	SB
Directions Served	T	T	T	T
Maximum Queue (ft)	177	179	141	145
Average Queue (ft)	146	149	100	105
95th Queue (ft)	170	165	150	154
Link Distance (ft)	85	85	58	58
Upstream Blk Time (%)	34	41	21	22
Queuing Penalty (veh)	198	239	68	71
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Tracy Hills Dr

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	262	57	89	54	40	65	98	164	442	462	28	99	130	436	440	95
Average Queue (ft)	132	7	23	14	6	22	27	47	193	203	5	30	60	232	242	42
95th Queue (ft)	234	38	63	43	26	53	72	100	383	401	21	75	106	385	392	80
Link Distance (ft)		860	860		1145				617	617				638	638	
Upstream Blk Time (%)																
Queuing Penalty (veh)																
Storage Bay Dist (ft)	240			200		200	440	440			380	560	560			430
Storage Blk Time (%)	2							0	0	1					1	
Queuing Penalty (veh)	0							0	0	0					1	

Intersection: 15: CORRAL HOLLOW RD

Movement	NB	NB
Directions Served	R	R
Maximum Queue (ft)	3	3
Average Queue (ft)	0	0
95th Queue (ft)	4	4
Link Distance (ft)	662	662
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 16:

Movement	WB	WB	SB
Directions Served	T	T	R
Maximum Queue (ft)	76	74	171
Average Queue (ft)	49	50	104
95th Queue (ft)	60	61	166
Link Distance (ft)	1	1	64
Upstream Blk Time (%)	0	0	17
Queuing Penalty (veh)	0	0	57
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 18:

Movement	NB	NB
Directions Served	R	R
Maximum Queue (ft)	30	18
Average Queue (ft)	1	1
95th Queue (ft)	11	12
Link Distance (ft)	717	717
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 19: EB I-580 OFF RAMP

Movement	SE	SE	SE	
Directions Served	L	L	R	
Maximum Queue (ft)	21	90	64	
Average Queue (ft)	1	20	5	
95th Queue (ft)	13	64	34	
Link Distance (ft)		379		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	150		246	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 25: EB I-580 ON RAMP

Movement	SB
Directions Served	T
Maximum Queue (ft)	22
Average Queue (ft)	1
95th Queue (ft)	17
Link Distance (ft)	44
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 26: CORRAL HOLLOW RD

Movement	NB	NB	NE	NE	
Directions Served	T	T	L	L	
Maximum Queue (ft)	54	75	127	167	
Average Queue (ft)	43	44	61	131	
95th Queue (ft)	53	59	106	175	
Link Distance (ft)	2	2	56	56	
Upstream Blk Time (%)	0	0	13	40	
Queuing Penalty (veh)	0	0	37	108	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 28:

Movement	WB	WB	NB	NB	
Directions Served	T	T	L	L	
Maximum Queue (ft)	76	64	158	154	
Average Queue (ft)	43	44	102	85	
95th Queue (ft)	74	69	149	141	
Link Distance (ft)	6	6	68	68	
Upstream Blk Time (%)	0	0	22	14	
Queuing Penalty (veh)	0	0	57	36	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 32: CORRAL HOLLOW RD

Movement	EB	EB
Directions Served	LT	T
Maximum Queue (ft)	233	249
Average Queue (ft)	88	105
95th Queue (ft)	194	208
Link Distance (ft)	303	303
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	0	1
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 35: Bend

Movement	SE
Directions Served	T
Maximum Queue (ft)	4
Average Queue (ft)	0
95th Queue (ft)	2
Link Distance (ft)	618
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 36:

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	269	261	78
Average Queue (ft)	61	63	2
95th Queue (ft)	174	176	40
Link Distance (ft)	690	690	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			224
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 38:

Movement	EB	EB	NB
Directions Served	T	T	R
Maximum Queue (ft)	71	77	131
Average Queue (ft)	46	47	55
95th Queue (ft)	58	61	107
Link Distance (ft)	3	3	72
Upstream Blk Time (%)	0	0	5
Queuing Penalty (veh)	0	0	7
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 39: WB I-580 OFF RAMP

Movement	NW	NW	NW
Directions Served	T	T	R
Maximum Queue (ft)	28	13	6
Average Queue (ft)	2	1	0
95th Queue (ft)	15	7	5
Link Distance (ft)	535	535	535
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 40: WB I-580 ON RAMP

Movement	WB
Directions Served	T
Maximum Queue (ft)	20
Average Queue (ft)	1
95th Queue (ft)	16
Link Distance (ft)	48
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 41:

Movement	WB	WB
Directions Served	LT	T
Maximum Queue (ft)	233	244
Average Queue (ft)	62	66
95th Queue (ft)	175	184
Link Distance (ft)	295	295
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	1	1
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

1: Lammers Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0
Total Delay (hr)	0.3	0	0.1	2.7	0.2	1.9	5.3
Total Stops	20	0	17	3	19	148	207
Travel Dist (mi)	116.4	1.6	9.7	231.9	11.2	172.4	543.2
Travel Time (hr)	4.4	0.1	0.3	7.4	0.5	7.1	19.8
Avg Speed (mph)	26	26	29	31	24	24	27
Fuel Used (gal)	3.3	0	0.3	7.6	0.2	3.3	14.7
HC Emissions (g)	32	0	7	205	3	63	310
CO Emissions (g)	713	7	333	8204	68	1376	10700
NOx Emissions (g)	93	1	20	537	8	168	828
Vehicles Exited	457	6	35	851	83	1284	2716
Hourly Exit Rate	457	6	35	851	83	1284	2716
Input Volume	463	5	38	840	87	1282	2716
% of Volume	99	120	92	101	95	100	100

2: Performance by movement

Movement	WBT	NBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	5.4	2.2	7.7
Total Stops	510	319	829
Travel Dist (mi)	28.5	11.4	39.9
Travel Time (hr)	6.4	2.6	9
Avg Speed (mph)	4	4	4
Fuel Used (gal)	2.4	0.9	3.3
HC Emissions (g)	28	8	36
CO Emissions (g)	574	168	742
NOx Emissions (g)	78	23	101
Vehicles Exited	1055	682	1737
Hourly Exit Rate	1055	682	1737
Input Volume	1042	681	1723
% of Volume	101	100	101

3: Performance by movement

Movement	EBT	SBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	5.4	2.2	7.6
Total Stops	549	241	790
Travel Dist (mi)	29.1	12.4	41.6
Travel Time (hr)	6.4	2.6	9
Avg Speed (mph)	5	5	5
Fuel Used (gal)	2.4	0.9	3.3
HC Emissions (g)	25	11	36
CO Emissions (g)	498	211	709
NOx Emissions (g)	72	28	99
Vehicles Exited	1174	652	1826
Hourly Exit Rate	1174	652	1826
Input Volume	1158	636	1794
% of Volume	101	102	102

4: Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Delay (hr)	3.1	0.1	0.2	0.2	0.1	0.1	1.1	5.5	0	1.7	9.5	0.3	21.8
Total Stops	142	5	33	11	5	28	75	453	9	80	478	95	1414
Travel Dist (mi)	25.1	1	14.6	2.8	1.2	7.4	17.6	148.4	3.2	11.3	84.7	21.8	339
Travel Time (hr)	4.1	0.1	0.8	0.3	0.1	0.4	1.9	10.7	0.2	2	11.2	0.9	32.8
Avg Speed (mph)	6	8	18	10	9	19	10	14	20	6	8	23	10
Fuel Used (gal)	1.4	0	0.4	0.1	0.1	0.2	1.2	10.7	0.2	0.6	3.6	0.6	19.1
HC Emissions (g)	7	0	5	0	0	3	24	227	4	8	44	12	333
CO Emissions (g)	168	3	87	11	5	50	930	9087	178	285	974	475	12253
NOx Emissions (g)	18	0	13	1	0	7	67	674	13	16	99	29	938
Vehicles Exited	144	6	83	13	5	34	141	1170	25	85	647	166	2519
Hourly Exit Rate	144	6	83	13	5	34	141	1170	25	85	647	166	2519
Input Volume	152	5	78	13	5	35	133	1156	23	84	641	165	2490
% of Volume	95	120	106	98	100	97	106	101	110	101	101	101	101

15: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	SBT	All
Denied Delay (hr)	0	0	0	0
Total Delay (hr)	0	0.3	0.5	0.9
Total Stops	0	2	0	2
Travel Dist (mi)	0.9	238.9	169.9	409.8
Travel Time (hr)	0	9.9	4	13.9
Avg Speed (mph)	39	24	43	30
Fuel Used (gal)	0.1	14.6	5.2	19.9
HC Emissions (g)	20	316	144	480
CO Emissions (g)	394	14551	4562	19507
NOx Emissions (g)	47	906	448	1400
Vehicles Exited	15	1307	1368	2690
Hourly Exit Rate	15	1307	1368	2690
Input Volume	14	1303	1370	2687
% of Volume	105	100	100	100

16: Performance by movement

Movement	WBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.2	1.1	1.3
Total Stops	0	168	168
Travel Dist (mi)	6.4	8.9	15.4
Travel Time (hr)	0.4	1.4	1.8
Avg Speed (mph)	16	6	8
Fuel Used (gal)	0.5	0.6	1.1
HC Emissions (g)	9	8	18
CO Emissions (g)	190	263	453
NOx Emissions (g)	36	23	59
Vehicles Exited	1055	323	1378
Hourly Exit Rate	1055	323	1378
Input Volume	1042	327	1370
% of Volume	101	99	101

18: Performance by movement

Movement	NBR	SWT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	2.6	1.5	4.1
Total Stops	8	2	10
Travel Dist (mi)	200	101.9	301.9
Travel Time (hr)	9.3	3.7	13
Avg Speed (mph)	22	27	23
Fuel Used (gal)	7.8	5.1	12.8
HC Emissions (g)	163	115	278
CO Emissions (g)	5585	3964	9548
NOx Emissions (g)	493	365	858
Vehicles Exited	1326	747	2073
Hourly Exit Rate	1326	747	2073
Input Volume	1311	732	2044
% of Volume	101	102	101

19: EB I-580 OFF RAMP Performance by movement

Movement	SEL	SER	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.6	0.3	0.8
Total Stops	28	8	36
Travel Dist (mi)	45.1	26.7	71.9
Travel Time (hr)	1.7	1	2.7
Avg Speed (mph)	26	28	27
Fuel Used (gal)	0.7	0.6	1.3
HC Emissions (g)	13	13	27
CO Emissions (g)	391	496	887
NOx Emissions (g)	31	33	64
Vehicles Exited	551	326	877
Hourly Exit Rate	551	326	877
Input Volume	543	327	870
% of Volume	102	100	101

25: EB I-580 ON RAMP Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.5	0	0.5
Total Stops	0	1	1
Travel Dist (mi)	15.3	2.6	17.9
Travel Time (hr)	1	0.1	1.1
Avg Speed (mph)	16	19	16
Fuel Used (gal)	0.8	0.2	1.1
HC Emissions (g)	15	4	18
CO Emissions (g)	402	169	571
NOx Emissions (g)	54	15	68
Vehicles Exited	624	111	735
Hourly Exit Rate	624	111	735
Input Volume	622	110	732
% of Volume	100	101	100

26: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NEL	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	2.6	2.7
Total Stops	0	308	308
Travel Dist (mi)	3.5	13.9	17.4
Travel Time (hr)	0.2	3	3.2
Avg Speed (mph)	15	5	5
Fuel Used (gal)	0.2	1.1	1.3
HC Emissions (g)	3	12	16
CO Emissions (g)	64	275	339
NOx Emissions (g)	11	35	46
Vehicles Exited	681	554	1235
Hourly Exit Rate	681	554	1235
Input Volume	681	543	1224
% of Volume	100	102	101

28: Performance by movement

Movement	WBT	NBL	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	2.4	2.6
Total Stops	0	306	306
Travel Dist (mi)	3.9	13.7	17.7
Travel Time (hr)	0.3	2.7	3
Avg Speed (mph)	14	5	6
Fuel Used (gal)	0.2	0.9	1.2
HC Emissions (g)	4	11	15
CO Emissions (g)	81	240	321
NOx Emissions (g)	13	29	42
Vehicles Exited	652	510	1162
Hourly Exit Rate	652	510	1162
Input Volume	636	516	1152
% of Volume	102	99	101

32: CORRAL HOLLOW RD Performance by movement

Movement	EBL	EBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	2.5	2.6
Total Stops	4	310	314
Travel Dist (mi)	4.3	80.4	84.7
Travel Time (hr)	0.2	5.2	5.4
Avg Speed (mph)	18	16	16
Fuel Used (gal)	0.2	3.6	3.8
HC Emissions (g)	2	63	65
CO Emissions (g)	66	1637	1703
NOx Emissions (g)	8	208	216
Vehicles Exited	61	1173	1234
Hourly Exit Rate	61	1173	1234
Input Volume	66	1158	1224
% of Volume	92	101	101

36: Performance by movement

Movement	SBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	1.4	0.1	1.4
Total Stops	166	1	167
Travel Dist (mi)	90.8	13.5	104.3
Travel Time (hr)	4.4	0.5	4.9
Avg Speed (mph)	20	26	21
Fuel Used (gal)	2.4	0.5	2.9
HC Emissions (g)	38	12	49
CO Emissions (g)	678	274	952
NOx Emissions (g)	101	32	133
Vehicles Exited	654	97	751
Hourly Exit Rate	654	97	751
Input Volume	637	94	731
% of Volume	103	103	103

38: Performance by movement

Movement	EBT	NBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.2	0.5	0.7
Total Stops	0	76	76
Travel Dist (mi)	6.5	4.4	10.8
Travel Time (hr)	0.4	0.6	1
Avg Speed (mph)	16	7	10
Fuel Used (gal)	0.5	0.3	0.8
HC Emissions (g)	8	4	12
CO Emissions (g)	156	166	321
NOx Emissions (g)	31	11	42
Vehicles Exited	1173	154	1327
Hourly Exit Rate	1173	154	1327
Input Volume	1158	153	1311
% of Volume	101	100	101

39: WB I-580 OFF RAMP Performance by movement

Movement	NWT	NWR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.5	0	0.5
Total Stops	3	0	3
Travel Dist (mi)	57	17.4	74.4
Travel Time (hr)	1.7	0.5	2.2
Avg Speed (mph)	33	37	34
Fuel Used (gal)	0.8	0.3	1.1
HC Emissions (g)	16	6	21
CO Emissions (g)	372	141	513
NOx Emissions (g)	42	17	59
Vehicles Exited	510	154	664
Hourly Exit Rate	510	154	664
Input Volume	516	153	669
% of Volume	99	100	99

40: WB I-580 ON RAMP Performance by movement

Movement	WBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0	0	0
Total Stops	2	0	2
Travel Dist (mi)	1.2	3.1	4.3
Travel Time (hr)	0.1	0.1	0.2
Avg Speed (mph)	16	29	24
Fuel Used (gal)	0.1	0.1	0.2
HC Emissions (g)	2	2	4
CO Emissions (g)	91	34	125
NOx Emissions (g)	6	6	12
Vehicles Exited	61	97	158
Hourly Exit Rate	61	97	158
Input Volume	66	94	160
% of Volume	92	103	99

41: Performance by movement

Movement	WBL	WBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.3	2.2	2.5
Total Stops	15	191	206
Travel Dist (mi)	7.4	67.5	74.9
Travel Time (hr)	0.5	4.5	5
Avg Speed (mph)	15	15	15
Fuel Used (gal)	0.3	3.1	3.4
HC Emissions (g)	4	61	65
CO Emissions (g)	102	1522	1624
NOx Emissions (g)	14	191	205
Vehicles Exited	111	1051	1162
Hourly Exit Rate	111	1051	1162
Input Volume	110	1042	1152
% of Volume	101	101	101

42: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.4	0.3	0.7
Total Stops	58	0	58
Travel Dist (mi)	67.9	62	129.9
Travel Time (hr)	2.7	2.3	5.1
Avg Speed (mph)	25	26	26
Fuel Used (gal)	1.5	1.3	2.8
HC Emissions (g)	19	20	40
CO Emissions (g)	357	460	817
NOx Emissions (g)	50	52	102
Vehicles Exited	684	624	1308
Hourly Exit Rate	684	624	1308
Input Volume	681	622	1303
% of Volume	100	100	100

Total Network Performance

Denied Delay (hr)	0.6
Total Delay (hr)	79
Total Stops	5315
Travel Dist (mi)	7382.2
Travel Time (hr)	268.3
Avg Speed (mph)	28
Fuel Used (gal)	260.1
HC Emissions (g)	5529
CO Emissions (g)	168106
NOx Emissions (g)	17893
Vehicles Exited	4216
Hourly Exit Rate	4216
Input Volume	46294
% of Volume	9

Appendix F. Interim Year (2035) No Build SimTraffic and Sidra Outputs

Interim Year (2035) No Build

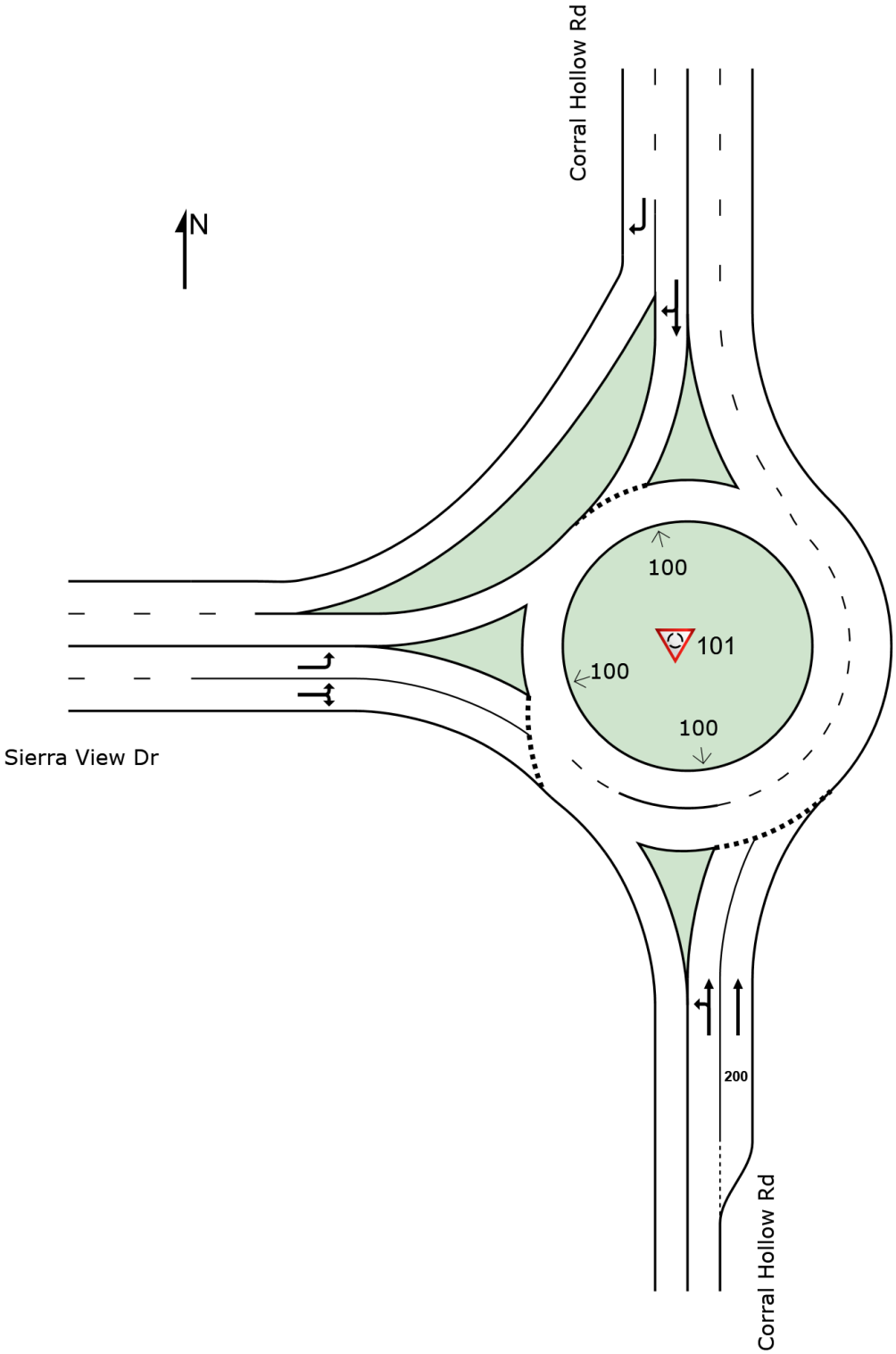
Sierra View Drive Sidra Outputs

SITE LAYOUT

Site: 101 [No Build - AM (Site Folder: IY 2035)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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LANE SUMMARY

Site: 101 [No Build - AM (Site Folder: IY 2035)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	57	5.0	57	5.0	351	0.161	100	10.6	LOS B	0.8	19.7	Full	1600	0.0	0.0
Lane 2[d]	76	5.0	76	5.0	470	0.161	100	9.1	LOS A	0.9	22.2	Short	200	0.0	NA
Approach	133	5.0	133	5.0		0.161		9.7	LOS A	0.9	22.2				
North: Corral Hollow Rd															
Lane 1[d]	709	5.0	709	5.0	1776	0.399	100	4.1	LOS A	3.3	87.0	Full	1600	0.0	0.0
Lane 2	226	5.0	226	5.0	1595	0.142	36[5]	3.6	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	935	5.0	935	5.0		0.399		4.0	LOS A	3.3	87.0				
West: Sierra View Dr															
Lane 1	682	5.0	682	5.0	776	0.879	100	35.4	LOS D	18.2	474.0	Full	1600	0.0	0.0
Lane 2[d]	878	5.0	878	5.0	999	0.879	100	31.5	LOS C	21.4	557.4	Full	1600	0.0	0.0
Approach	1560	5.0	1560	5.0		0.879		33.2	LOS C	21.4	557.4				
All Vehicles	2627	5.0	2627	5.0		0.879		21.6	LOS C	21.4	557.4				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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	4	52	57	5.0	351	0.161	100	NA	NA
Lane 2	-	76	76	5.0	470	0.161	100	0.0	1
Approach	4	128	133	5.0		0.161			

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	709	-	709	5.0	1776	0.399	100	NA	NA
Lane 2	-	226	226	5.0	1595	0.142	36[5]	NA	NA

Approach	709	226	935	5.0		0.399			
West: Sierra View Dr									
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	682	-	682	5.0	776	0.879	100	NA	NA
Lane 2	816	62	878	5.0	999	0.879	100	NA	NA
Approach	1498	62	1560	5.0		0.879			
	Total	%HV	Deg.Satn (v/c)						
All Vehicles	2627	5.0		0.879					

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

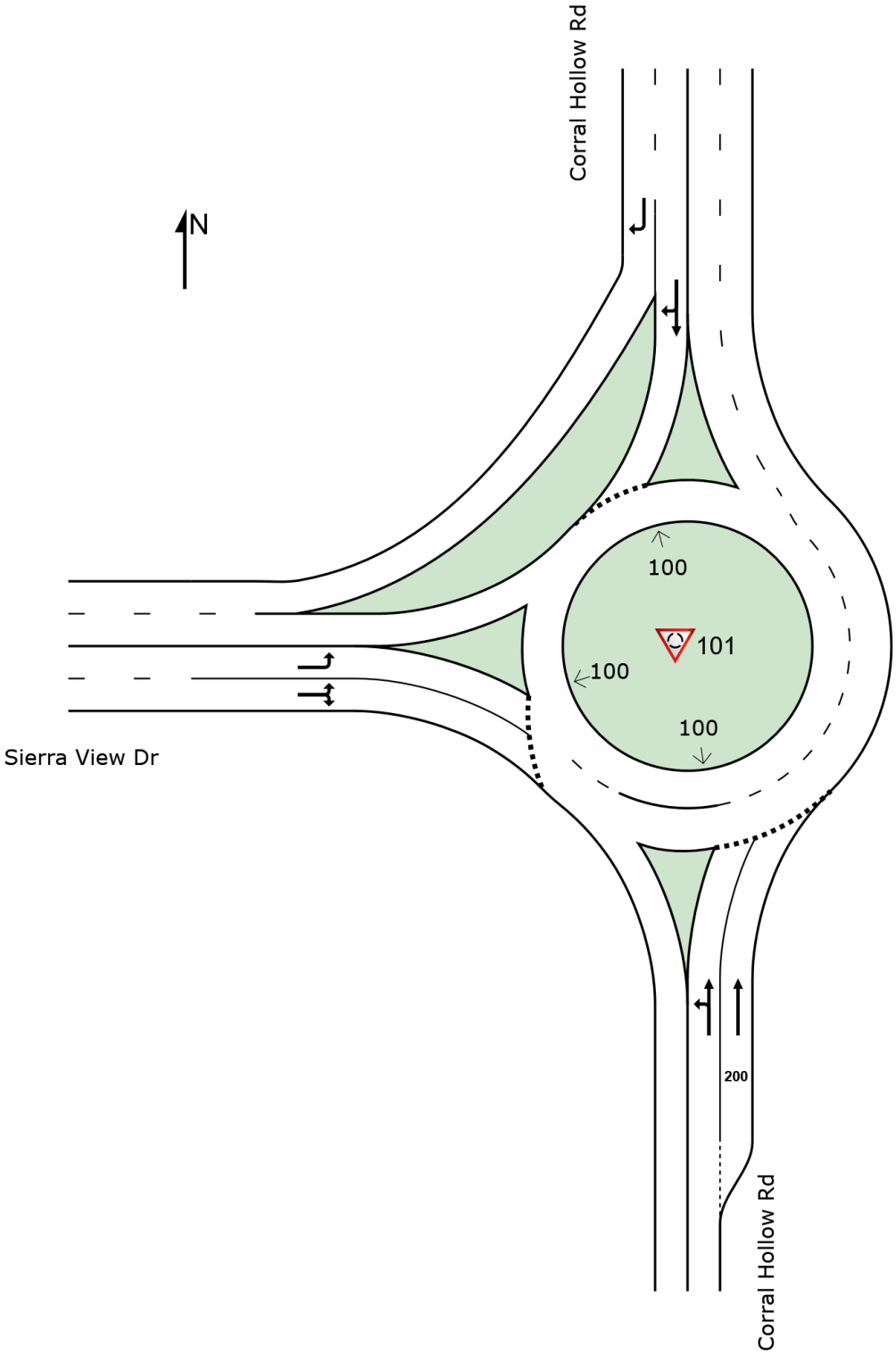
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Sierra View Dr				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

SITE LAYOUT

Site: 101 [No Build - PM (Site Folder: IY 2035)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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LANE SUMMARY

Site: 101 [No Build - PM (Site Folder: IY 2035)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	541	5.0	541	5.0	930	0.582	100	8.3	LOS A	4.3	111.0	Full	1600	0.0	0.0
Lane 2[d]	599	5.0	599	5.0	1030	0.582	100	7.4	LOS A	4.3	112.7	Short	200	0.0	NA
Approach	1140	5.0	1140	5.0		0.582		7.8	LOS A	4.3	112.7				
North: Corral Hollow Rd															
Lane 1[d]	268	5.0	268	5.0	1611	0.166	19[7]	4.1	LOS A	1.0	25.7	Full	1600	0.0	0.0
Lane 2	1366	5.0	1366	5.0	1595	0.856	100	4.6	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1634	5.0	1634	5.0		0.856		4.5	LOS A	1.0	25.7				
West: Sierra View Dr															
Lane 1	247	5.0	247	5.0	1225	0.201	100	10.8	LOS B	1.0	26.4	Full	1600	0.0	0.0
Lane 2[d]	288	5.0	288	5.0	1430	0.201	100	10.5	LOS B	1.0	27.2	Full	1600	0.0	0.0
Approach	535	5.0	535	5.0		0.201		10.7	LOS B	1.0	27.2				
All Vehicles	3309	5.0	3309	5.0		0.856		6.7	LOS A	4.3	112.7				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

7 Lane under-utilisation specified by the user
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	40	501	541	5.0	930	0.582	100	NA	NA
Lane 2	-	599	599	5.0	1030	0.582	100	0.0	1
Approach	40	1100	1140	5.0		0.582			

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	164	104	268	5.0	1611	0.166	19[7]	NA	NA
Lane 2	-	1366	1366	5.0	1595	0.856	100	NA	NA

Approach	164	1470	1634	5.0		0.856			
West: Sierra View Dr									
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	247	-	247	5.0	1225	0.201	100	NA	NA
Lane 2	283	5	288	5.0	1430	0.201	100	NA	NA
Approach	529	5	535	5.0		0.201			
	Total	%HV	Deg.Satn (v/c)						
All Vehicles	3309	5.0		0.856					

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

7 Lane under-utilisation specified by the user

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Sierra View Dr				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

Interim Year (2035) No Build

SimTraffic Outputs

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	1153.7	1229.6	0	0	0	0	927.8
Total Del/Veh (s)	368.7	358.9	407.7	276.7	178.2	50.7	316.4
Vehicles Exited	806	34	5	115	197	59	1216
Hourly Exit Rate	806	34	5	115	197	59	1216
Input Volume	1378	57	4	118	652	208	2417
% of Volume	58	60	125	97	30	28	50

2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.2	0.2	0	0	0	0	0
Total Del/Veh (s)	1998.1	1577.4	1888.5	97.6	84.4	162.7	129.8	352
Vehicles Exited	2	0	0	638	345	70	229	1284
Hourly Exit Rate	2	0	0	638	345	70	229	1284
Input Volume	142	2	24	974	522	257	836	2757
% of Volume	1	0	0	66	66	27	27	47

3: I-580 WB ON RAMP/I-580 WB OFF RAMP & Corral Hollow Rd Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	573.5	571.6	609.7	0.3	1.7	0	0	134.6
Total Del/Veh (s)	3036.6	4245.1	3029.6	55.2	48.1	95.3	93.3	552.7
Vehicles Exited	1	0	0	247	406	311	328	1293
Hourly Exit Rate	1	0	0	247	406	311	328	1293
Input Volume	277	2	117	429	688	816	869	3198
% of Volume	0	0	0	58	59	38	38	40

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	495.1	536.7	473.4	0	0	0	0	0	0	97.5
Total Del/Veh (s)	262.8	277.5	534.9	573.6	536.4	354.2	66	24.6	2.8	62.9	292.4	69.2	237.5
Vehicles Exited	100	6	127	115	4	44	70	307	20	268	443	49	1553
Hourly Exit Rate	100	6	127	115	4	44	70	307	20	268	443	49	1553
Input Volume	180	10	267	270	10	85	148	618	38	645	1148	121	3540
% of Volume	56	60	48	43	40	52	47	50	53	42	39	40	44

Intersection: 1: CORRAL HOLLOW RD & SIERRA VIEW DR

Movement	EB	EB	NB	NB	B198	SB	SB	B13	B13	B12	
Directions Served	L	LR	L	T	T	TR	R	T	T	T	
Maximum Queue (ft)	1384	1384	212	784	24	586	527	366	286	1079	
Average Queue (ft)	1349	1352	17	250	5	262	135	126	68	238	
95th Queue (ft)	1380	1382	105	941	61	705	473	384	250	882	
Link Distance (ft)	1328	1328		1492	252	480	480	264	264	1045	
Upstream Blk Time (%)	99	97		2	1	39	7	26	1	7	
Queuing Penalty (veh)	0	0		0	0	168	29	112	5	56	
Storage Bay Dist (ft)			200								
Storage Blk Time (%)				28							
Queuing Penalty (veh)				1							

Intersection: 2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP

Movement	EB	EB	NB	B12	B12	B13	B13	B13	SB	
Directions Served	LT	R	TR	T		T	T		LT	
Maximum Queue (ft)	4380	58	1140	355	188	553	542	545	438	
Average Queue (ft)	2576	2	508	157	20	337	316	269	283	
95th Queue (ft)	4380	32	1423	428	126	732	713	691	618	
Link Distance (ft)	11393		1045	264	264	480	480	480	420	
Upstream Blk Time (%)			42	43	2	53	46	44	59	
Queuing Penalty (veh)			632	320	17	264	231	218	642	
Storage Bay Dist (ft)		100								
Storage Blk Time (%)	100									
Queuing Penalty (veh)	24									

Intersection: 3: I-580 WB ON RAMP/I-580 WB OFF RAMP & Corral Hollow Rd

Movement	WB	WB	NB	SB	B11	B11	
Directions Served	LT	R	LT	TR	T		
Maximum Queue (ft)	5780	15	451	588	806	808	
Average Queue (ft)	4956	0	211	378	671	644	
95th Queue (ft)	6894	16	548	865	1058	1098	
Link Distance (ft)	5770		420	550	780	780	
Upstream Blk Time (%)	56		40	58	56	55	
Queuing Penalty (veh)	0		445	976	471	464	
Storage Bay Dist (ft)		100					
Storage Blk Time (%)	100						
Queuing Penalty (veh)	117						

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	B21	B21	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B5	B44	
Directions Served	L	T	R	T	T	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T	
Maximum Queue (ft)	254	864	886	804	802	274	1076	101	86	110	202	220	33	419	634	766	727	353	5990	770	
Average Queue (ft)	96	434	567	311	315	238	696	14	23	42	65	76	4	87	193	628	544	51	3451	360	
95th Queue (ft)	253	1178	1186	983	980	325	1453	59	70	105	164	187	20	272	580	919	844	281	8476	1026	
Link Distance (ft)		866	866	924	924		1078				780	780				693	693		6428	815	
Upstream Blk Time (%)		40	46	21	23		48									50	15		43	41	
Queuing Penalty (veh)		0	0	0	0		0									0	0		0	0	
Storage Bay Dist (ft)	240					200		200	440	440			380	560	560			430			
Storage Blk Time (%)	5	0				73								0	1	61	60				
Queuing Penalty (veh)	1	1				69								0	3	391	73				

Intersection: 5: Bend

Movement	NB	NB
Directions Served		T
Maximum Queue (ft)	87	136
Average Queue (ft)	3	9
95th Queue (ft)	39	65
Link Distance (ft)	693	693
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	457.6	19.1	0	0	0	0	476.8
Total Delay (hr)	92	3.7	0.7	9.5	10	0.8	116.6
Total Stops	414	25	5	45	51	27	567
Travel Dist (mi)	201.1	8.6	1.5	34.7	19.3	6	271.2
Travel Time (hr)	556.6	23.1	0.7	10.2	10.4	1	602
Avg Speed (mph)	2	2	2	3	2	6	2
Fuel Used (gal)	129.3	5.4	0.2	3.4	2.6	0.4	141.3
HC Emissions (g)	898	35	1	41	17	4	995
CO Emissions (g)	17399	707	52	1540	367	112	20177
NOx Emissions (g)	811	34	2	91	18	11	967
Vehicles Exited	806	34	5	115	197	59	1216
Hourly Exit Rate	806	34	5	115	197	59	1216
Input Volume	1378	57	4	118	652	208	2417
% of Volume	58	60	125	97	30	28	50

2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	93.8	1.3	15.7	17.7	8.3	3.4	8.7	148.9
Total Stops	139	2	25	25	10	15	36	252
Travel Dist (mi)	229.6	3.5	40.3	131.4	71.2	6.8	21.9	504.7
Travel Time (hr)	100.4	1.4	16.9	20.4	10.2	3.6	9.1	162
Avg Speed (mph)	2	3	2	6	7	2	2	3
Fuel Used (gal)	27.1	0.4	4.6	6.9	3.5	1	3.2	46.8
HC Emissions (g)	228	0	30	72	35	15	36	416
CO Emissions (g)	4124	22	601	1401	705	361	1362	8576
NOx Emissions (g)	402	2	65	165	84	29	96	842
Vehicles Exited	2	0	0	638	345	70	229	1284
Hourly Exit Rate	2	0	0	638	345	70	229	1284
Input Volume	142	2	24	974	522	257	836	2757
% of Volume	1	0	0	66	66	27	27	47

3: I-580 WB ON RAMP/I-580 WB OFF RAMP & Corral Hollow Rd Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	43.8	0.3	18.5	0	0.2	0	0	62.8
Total Delay (hr)	156.9	1.2	57.2	3.8	5.5	8.6	8.8	242
Total Stops	124	1	47	52	35	25	25	309
Travel Dist (mi)	43.8	0.4	16.7	22.5	37.2	36.2	38	194.8
Travel Time (hr)	202	1.5	76.2	4.6	6.4	9.4	10.1	310.1
Avg Speed (mph)	0	0	0	5	6	4	4	1
Fuel Used (gal)	46.3	0.4	17.4	1.7	2.7	2.9	3.1	74.5
HC Emissions (g)	278	0	119	21	43	37	34	532
CO Emissions (g)	5565	18	2270	558	1100	683	663	10855
NOx Emissions (g)	239	0	104	62	119	73	71	667
Vehicles Exited	1	0	0	247	406	311	328	1293
Hourly Exit Rate	1	0	0	247	406	311	328	1293
Input Volume	277	2	117	429	688	816	869	3198
% of Volume	0	0	0	58	59	38	38	40

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	36.6	1.5	11.8	0	0	0	0	0	0	49.9
Total Delay (hr)	8.4	0.5	25.1	24.4	0.7	5.1	1.3	2.1	0	4.8	40.2	1	113.6
Total Stops	101	4	142	166	5	38	67	158	10	211	484	24	1410
Travel Dist (mi)	18.3	1	25.3	26.8	0.9	9.5	11.4	49.8	3.2	37.4	65.4	6.9	255.9
Travel Time (hr)	9.2	0.5	26.2	61.9	2.3	17.3	1.7	3.3	0.1	5.9	41.5	1.2	171
Avg Speed (mph)	2	2	1	1	1	2	7	15	28	6	2	6	2
Fuel Used (gal)	2.4	0.1	6.3	14.5	0.5	4.1	0.7	2.6	0.1	2.3	10.8	0.5	45
HC Emissions (g)	18	1	41	97	6	25	14	58	4	35	112	7	417
CO Emissions (g)	348	18	823	1957	104	551	560	2427	171	1091	2368	275	10693
NOx Emissions (g)	27	2	50	98	6	29	32	154	10	84	164	19	675
Vehicles Exited	100	6	127	115	4	44	70	307	20	268	443	49	1553
Hourly Exit Rate	100	6	127	115	4	44	70	307	20	268	443	49	1553
Input Volume	180	10	267	270	10	85	148	618	38	645	1148	121	3540
% of Volume	56	60	48	43	40	52	47	50	53	42	39	40	44

Total Network Performance

Denied Delay (hr)	962.7
Total Delay (hr)	911
Total Stops	4597
Travel Dist (mi)	4135
Travel Time (hr)	1988
Avg Speed (mph)	4
Fuel Used (gal)	548.2
HC Emissions (g)	5306
CO Emissions (g)	117590
NOx Emissions (g)	10107
Vehicles Exited	2147
Hourly Exit Rate	2147
Input Volume	31131
% of Volume	7

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	47.9	37.9	0	0	0	0	15.2
Total Del/Veh (s)	47.9	77.8	20.5	31	884.1	14	38.2
Vehicles Exited	477	5	36	1005	3	52	1578
Hourly Exit Rate	477	5	36	1005	3	52	1578
Input Volume	518	5	39	1078	161	1440	3242
% of Volume	92	100	92	93	2	4	49

2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	854	1215.3	834	0.1	0	0	0	321
Total Del/Veh (s)	3210.5	4218.9	3219.4	19.6	15.2	842.2	753.6	829.2
Vehicles Exited	3	0	1	800	659	6	61	1530
Hourly Exit Rate	3	0	1	800	659	6	61	1530
Input Volume	578	3	366	873	724	112	1235	3892
% of Volume	1	0	0	92	91	5	5	39

3: I-580 WB ON RAMP/I-580 WB OFF RAMP & Corral Hollow Rd Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	1424.7	2112.5	1408.6	0	0	11.6	26.4	686
Total Del/Veh (s)	3519.1		3497.7	4.4	5.1	906.8	852	857.8
Vehicles Exited	1	0	0	42	761	67	11	882
Hourly Exit Rate	1	0	0	42	761	67	11	882
Input Volume	527	1	289	72	1380	820	109	3198
% of Volume	0	0	0	58	55	8	10	28

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	1306.8	1265.6	1299.8	0	0	0	0	0	0	505.5
Total Del/Veh (s)	261.5	215	1736.8	1989.1	904.2	830.3	57.3	19.5	2.4	328.5	1844.5	359.8	408.2
Vehicles Exited	106	46	18	14	3	81	107	582	75	49	49	18	1148
Hourly Exit Rate	106	46	18	14	3	81	107	582	75	49	49	18	1148
Input Volume	170	81	83	134	22	536	224	1284	160	506	710	228	4138
% of Volume	63	57	22	10	14	15	48	45	47	10	7	8	28

Intersection: 1: CORRAL HOLLOW RD & SIERRA VIEW DR

Movement	EB	EB	NB	NB	B198	SB	SB	B13	B13	B12
Directions Served	L	LR	L	T	T	TR	R	T	T	T
Maximum Queue (ft)	183	141	137	399	22	48	35	28	21	96
Average Queue (ft)	90	76	15	130	16	30	3	15	11	50
95th Queue (ft)	584	567	81	772	120	231	59	129	93	433
Link Distance (ft)	1328	1328		1492	252	480	480	264	264	1045
Upstream Blk Time (%)	5	5		6	6	5		5	0	4
Queuing Penalty (veh)	0	0		0	0	40		37	0	70
Storage Bay Dist (ft)			200							
Storage Blk Time (%)				10						
Queuing Penalty (veh)				4						

Intersection: 2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP

Movement	EB	EB	B12	B12	B13	B13	B13	SB
Directions Served	LT	R	T		T	T		LT
Maximum Queue (ft)	11406	15	239	56	490	455	400	446
Average Queue (ft)	10305	9	13	3	185	154	100	421
95th Queue (ft)	13644	71	94	31	541	495	438	523
Link Distance (ft)	11393		264	264	480	480	480	420
Upstream Blk Time (%)	64		0		9	9	9	95
Queuing Penalty (veh)	0		1		49	46	46	1284
Storage Bay Dist (ft)		100						
Storage Blk Time (%)	96							
Queuing Penalty (veh)	351							

Intersection: 3: I-580 WB ON RAMP/I-580 WB OFF RAMP & Corral Hollow Rd

Movement	WB	WB	NB	SB	B11	B11
Directions Served	LT	R	LT	TR	T	
Maximum Queue (ft)	5786	15	111	637	801	813
Average Queue (ft)	5681	1	6	602	771	769
95th Queue (ft)	6224	16	70	748	898	907
Link Distance (ft)	5770		420	550	780	780
Upstream Blk Time (%)	90		0	96	94	91
Queuing Penalty (veh)	0		0	892	437	422
Storage Bay Dist (ft)		100				
Storage Blk Time (%)	100					
Queuing Penalty (veh)	289					

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	B21	B21	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B5	B44
Directions Served	L	T	R	T	T	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T
Maximum Queue (ft)	262	941	948	898	866	272	1105	244	85	114	199	219	45	234	618	768	706	421	6514	847
Average Queue (ft)	106	466	672	257	242	257	1019	36	30	58	106	121	12	22	144	734	632	35	5787	644
95th Queue (ft)	285	1153	1160	867	826	305	1389	178	72	104	189	207	31	137	527	828	753	240	8537	1197
Link Distance (ft)		866	866	924	924		1078				780	780				693	693		6428	815
Upstream Blk Time (%)		38	43	14	6		88									92	24		79	77
Queuing Penalty (veh)		0	0	0	0		0									0	0		0	0
Storage Bay Dist (ft)	240					200		200	440	440			380	560	560			430		
Storage Blk Time (%)	11	1				95		3						0	8	96	96			
Queuing Penalty (veh)	9	1				529		4						0	28	485	220			

Intersection: 5: Bend

Movement	NB	NB
Directions Served		T
Maximum Queue (ft)	99	188
Average Queue (ft)	7	25
95th Queue (ft)	52	109
Link Distance (ft)	693	693
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	6.8	0.1	0	0	0	0	6.9
Total Delay (hr)	6.5	0.1	0.2	8.8	1.2	0.2	17.1
Total Stops	35	0	16	73	2	3	129
Travel Dist (mi)	121.4	1.3	10.7	296.8	0.4	5.3	436
Travel Time (hr)	17.6	0.2	0.5	15.3	1.2	0.4	35.2
Avg Speed (mph)	11	8	22	19	0	15	15
Fuel Used (gal)	6.5	0.1	0.4	10	0.3	0.2	17.4
HC Emissions (g)	78	0	7	208	2	3	298
CO Emissions (g)	1575	9	242	6646	37	59	8567
NOx Emissions (g)	181	1	20	570	2	8	780
Vehicles Exited	477	5	36	1005	3	52	1578
Hourly Exit Rate	477	5	36	1005	3	52	1578
Input Volume	518	5	39	1078	161	1440	3242
% of Volume	92	100	92	93	2	4	49

2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	135	0.7	83.6	0	0	0	0	219.3
Total Delay (hr)	272	1.2	176.2	4.4	2.8	1.9	16.5	475
Total Stops	197	1	130	1	0	5	35	369
Travel Dist (mi)	125.6	0.4	84.2	166.8	137.5	0.6	5.8	520.8
Travel Time (hr)	410.6	1.9	262.2	7.8	6.4	1.9	16.7	707.5
Avg Speed (mph)	0	0	0	21	21	0	0	1
Fuel Used (gal)	94.8	0.4	60.5	4.4	3.6	0.4	3.9	168.1
HC Emissions (g)	586	0	420	63	53	7	25	1155
CO Emissions (g)	11492	21	7893	1217	1009	110	517	22259
NOx Emissions (g)	530	0	381	178	147	6	27	1269
Vehicles Exited	3	0	1	800	659	6	61	1530
Hourly Exit Rate	3	0	1	800	659	6	61	1530
Input Volume	578	3	366	873	724	112	1235	3892
% of Volume	1	0	0	92	91	5	5	39

3: I-580 WB ON RAMP/I-580 WB OFF RAMP & Corral Hollow Rd Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	210.9	0.6	113.1	0	0	0.2	0.1	324.9
Total Delay (hr)	165.2	0.5	84.5	0.1	1.1	22.9	3.5	277.8
Total Stops	59	0	34	1	4	26	4	128
Travel Dist (mi)	12.1	0	6.8	3.9	70.6	7.7	1.3	102.4
Travel Time (hr)	376.5	1.1	197.8	0.2	2.5	23.3	3.7	605
Avg Speed (mph)	0	0	0	21	28	0	0	0
Fuel Used (gal)	85	0.2	44.6	0.2	4.2	5.4	0.8	140.5
HC Emissions (g)	535	0	285	4	97	42	8	971
CO Emissions (g)	10351	12	5473	151	3957	777	140	20860
NOx Emissions (g)	390	0	208	13	293	40	7	951
Vehicles Exited	1	0	0	42	761	67	11	882
Hourly Exit Rate	1	0	0	42	761	67	11	882
Input Volume	527	1	289	72	1380	820	109	3198
% of Volume	0	0	0	58	55	8	10	28

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	48.3	8.1	195	0	0	0	0	0	0	251.3
Total Delay (hr)	8.6	3.2	28.5	19.3	1.3	24.7	1.7	3.2	0.1	4.8	52.8	2	150.1
Total Stops	117	43	53	32	5	104	94	256	35	44	63	16	862
Travel Dist (mi)	18.4	8.3	6.2	4	0.7	17.2	17.1	93	12	5.8	7.4	2.5	192.7
Travel Time (hr)	9.4	3.5	28.7	67.8	9.4	220.3	2.3	5.4	0.4	5	52.9	2.1	407.1
Avg Speed (mph)	2	2	0	0	1	1	8	17	28	1	0	1	1
Fuel Used (gal)	2.5	0.9	6.5	15.3	2.1	50	1.1	4.7	0.5	1.3	12.1	0.6	97.6
HC Emissions (g)	21	10	55	82	15	314	15	98	12	17	97	4	740
CO Emissions (g)	394	174	970	1701	284	6102	763	4370	582	363	1774	118	17594
NOx Emissions (g)	32	15	43	62	12	235	38	272	31	24	80	8	851
Vehicles Exited	106	46	18	14	3	81	107	582	75	49	49	18	1148
Hourly Exit Rate	106	46	18	14	3	81	107	582	75	49	49	18	1148
Input Volume	170	81	83	134	22	536	224	1284	160	506	710	228	4138
% of Volume	63	57	22	10	14	15	48	45	47	10	7	8	28

Total Network Performance

Denied Delay (hr)	1256.8
Total Delay (hr)	1293.5
Total Stops	2947
Travel Dist (mi)	3610.4
Travel Time (hr)	2655.4
Avg Speed (mph)	3
Fuel Used (gal)	686.3
HC Emissions (g)	5747
CO Emissions (g)	127938
NOx Emissions (g)	8878
Vehicles Exited	1920
Hourly Exit Rate	1920
Input Volume	38294
% of Volume	5

Appendix G. Interim Year (2035) Build SimTraffic and Sidra Outputs

Interim Year (2035) Build

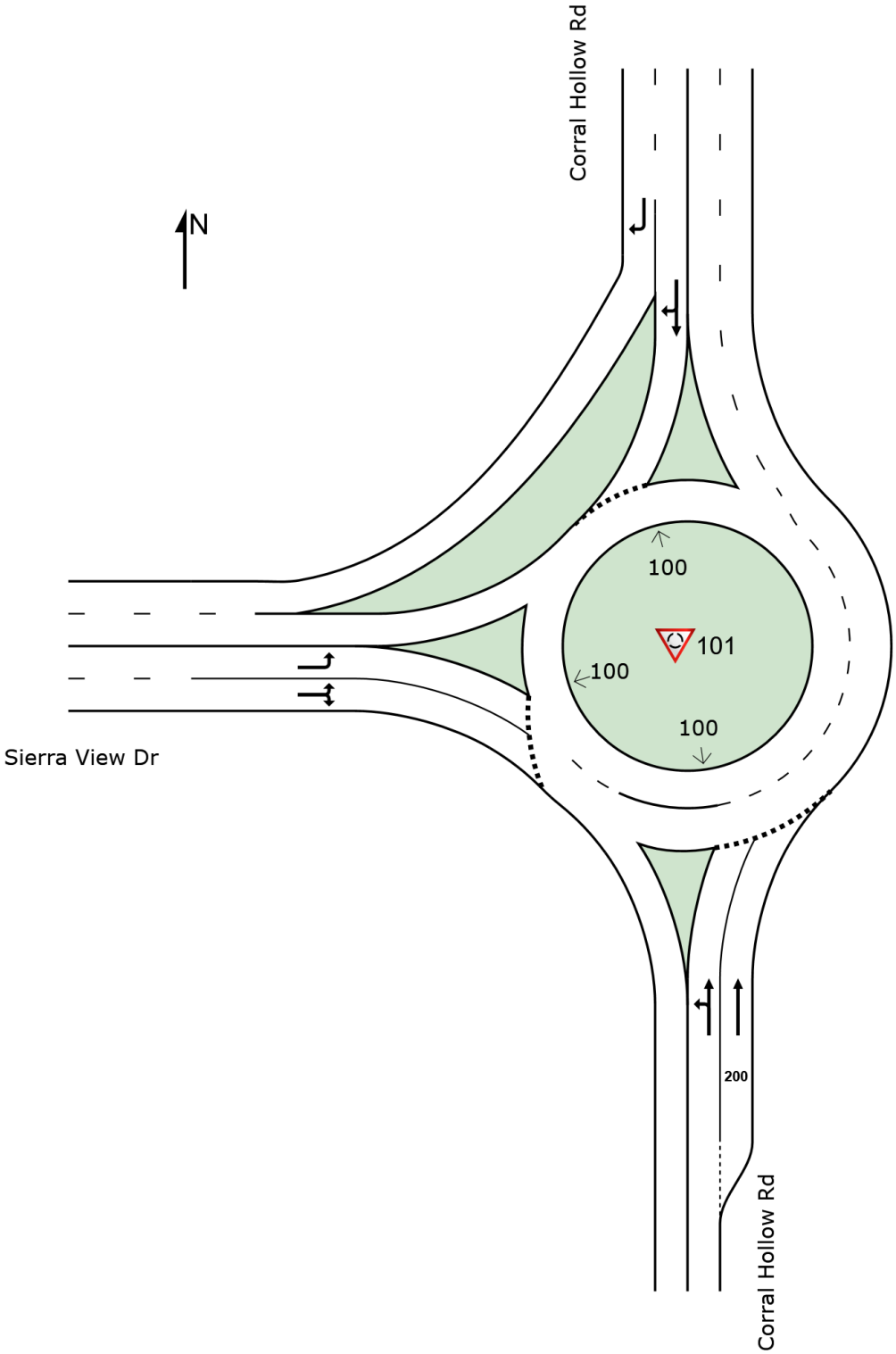
Sierra View Drive Sidra Outputs

SITE LAYOUT

Site: 101 [Build - AM (Site Folder: IY 2035)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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LANE SUMMARY

Site: 101 [Build - AM (Site Folder: IY 2035)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	81	5.0	81	5.0	349	0.232	100	10.7	LOS B	1.1	28.7	Full	1600	0.0	0.0
Lane 2[d]	108	5.0	108	5.0	467	0.232	100	9.2	LOS A	1.2	32.3	Short	200	0.0	NA
Approach	189	5.0	189	5.0		0.232		9.8	LOS A	1.2	32.3				
North: Corral Hollow Rd															
Lane 1[d]	716	5.0	716	5.0	1776	0.403	100	4.1	LOS A	3.4	88.8	Full	1600	0.0	0.0
Lane 2	226	5.0	226	5.0	1595	0.142	35[5]	3.6	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	942	5.0	942	5.0		0.403		4.0	LOS A	3.4	88.8				
West: Sierra View Dr															
Lane 1	682	5.0	682	5.0	771	0.885	100	36.5	LOS D	18.8	488.5	Full	1600	0.0	0.0
Lane 2[d]	879	5.0	879	5.0	994	0.885	100	32.6	LOS C	22.2	576.4	Full	1600	0.0	0.0
Approach	1561	5.0	1561	5.0		0.885		34.3	LOS C	22.2	576.4				
All Vehicles	2692	5.0	2692	5.0		0.885		21.9	LOS C	22.2	576.4				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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	4	77	81	5.0	349	0.232	100	NA	NA
Lane 2	-	108	108	5.0	467	0.232	100	0.0	1
Approach	4	185	189	5.0		0.232			

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	716	-	716	5.0	1776	0.403	100	NA	NA
Lane 2	-	226	226	5.0	1595	0.142	35[5]	NA	NA

Approach	716	226	942	5.0		0.403			
West: Sierra View Dr									
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	682	-	682	5.0	771	0.885	100	NA	NA
Lane 2	816	63	879	5.0	994	0.885	100	NA	NA
Approach	1498	63	1561	5.0		0.885			
	Total	%HV	Deg.Satn (v/c)						
All Vehicles	2692	5.0		0.885					

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

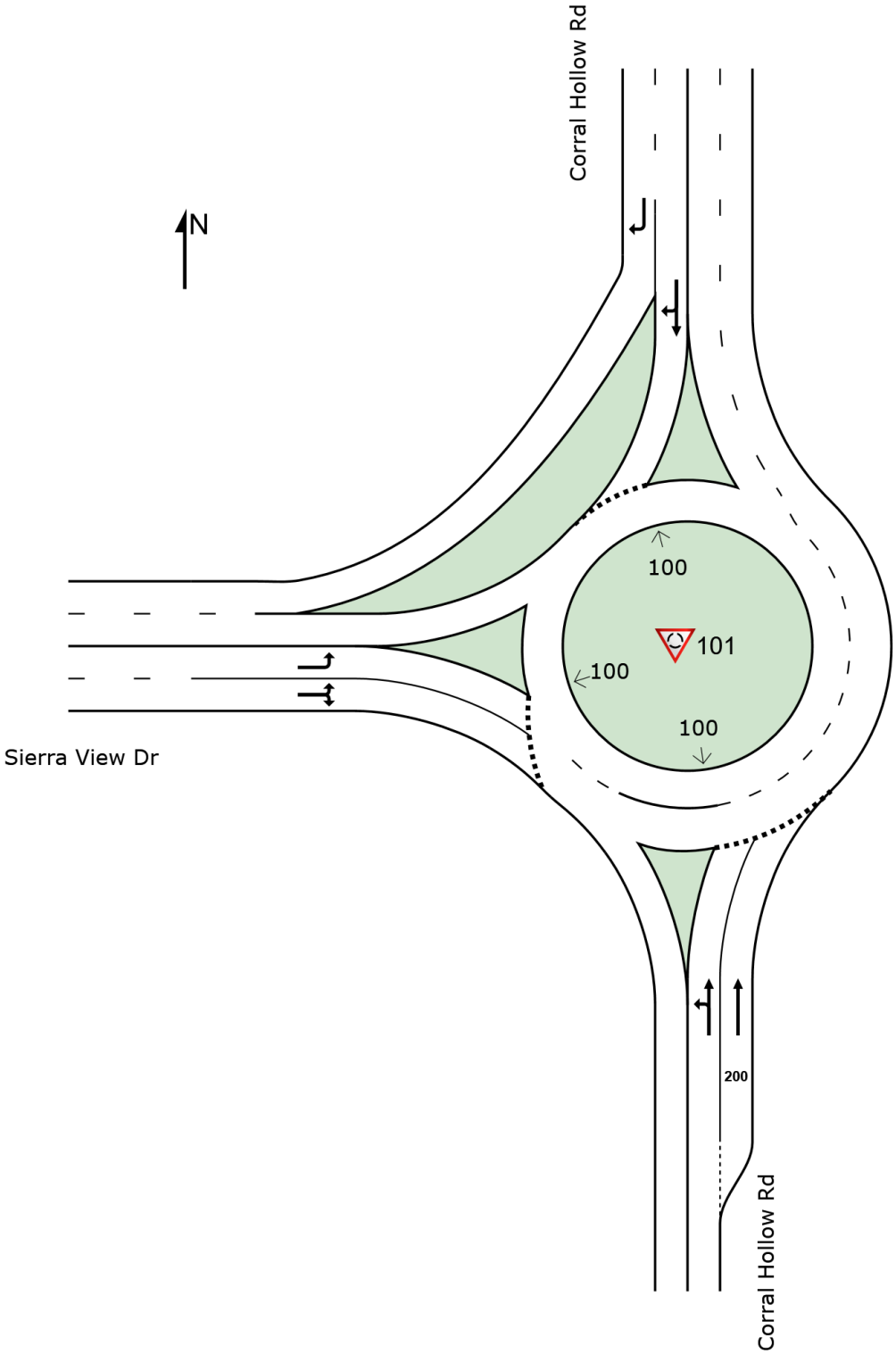
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Sierra View Dr				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

SITE LAYOUT

Site: 101 [Build - PM (Site Folder: IY 2035)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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LANE SUMMARY

Site: 101 [Build - PM (Site Folder: IY 2035)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	530	5.0	530	5.0	923	0.574	100	8.3	LOS A	4.2	108.1	Full	1600	0.0	0.0
Lane 2[d]	587	5.0	587	5.0	1023	0.574	100	7.3	LOS A	4.2	109.8	Short	200	0.0	NA
Approach	1117	5.0	1117	5.0		0.574		7.8	LOS A	4.2	109.8				
North: Corral Hollow Rd															
Lane 1[d]	274	5.0	274	5.0	1604	0.171	19[7]	4.1	LOS A	1.0	26.5	Full	1600	0.0	0.0
Lane 2	1404	5.0	1404	5.0	1595	0.881	100	4.8	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1678	5.0	1678	5.0		0.881		4.7	LOS A	1.0	26.5				
West: Sierra View Dr															
Lane 1	247	5.0	247	5.0	1175	0.210	100	11.1	LOS B	1.1	27.9	Full	1600	0.0	0.0
Lane 2[d]	289	5.0	289	5.0	1378	0.210	100	10.8	LOS B	1.1	28.9	Full	1600	0.0	0.0
Approach	536	5.0	536	5.0		0.210		10.9	LOS B	1.1	28.9				
All Vehicles	3332	5.0	3332	5.0		0.881		6.8	LOS A	4.2	109.8				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

7 Lane under-utilisation specified by the user
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	43	486	530	5.0	923	0.574	100	NA	NA
Lane 2	-	587	587	5.0	1023	0.574	100	0.0	1
Approach	43	1074	1117	5.0		0.574			

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	209	65	274	5.0	1604	0.171	19[7]	NA	NA
Lane 2	-	1404	1404	5.0	1595	0.881	100	NA	NA

Approach	209	1470	1678	5.0		0.881			
West: Sierra View Dr									
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	247	-	247	5.0	1175	0.210	100	NA	NA
Lane 2	284	5	289	5.0	1378	0.210	100	NA	NA
Approach	530	5	536	5.0		0.210			
	Total	%HV	Deg.Satn (v/c)						
All Vehicles	3332	5.0		0.881					

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

7 Lane under-utilisation specified by the user

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Sierra View Dr				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

Interim Year (2035) Build

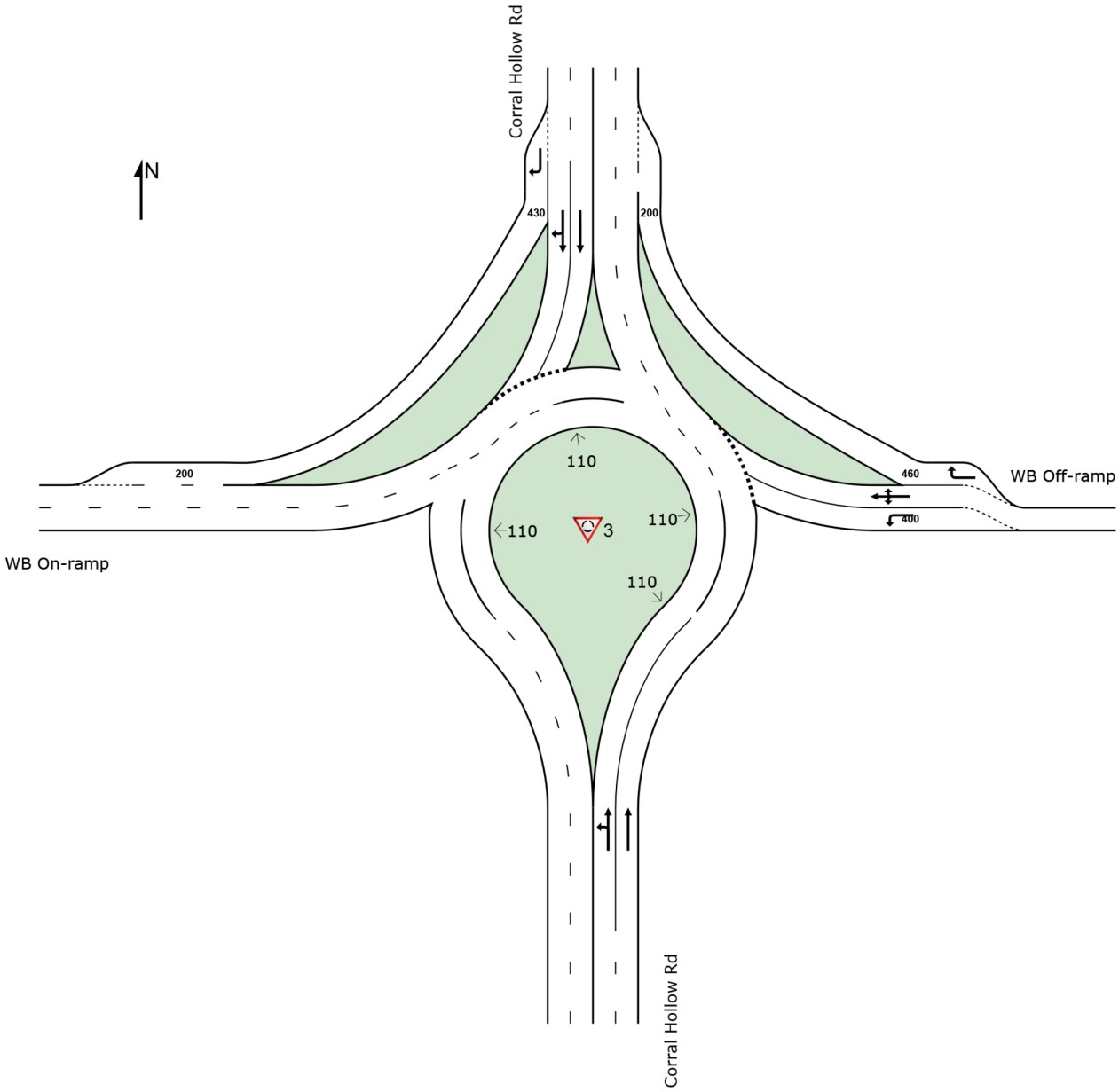
Roundabouts Sidra Output

SITE LAYOUT

Site: 3 [WB Ramp (Site Folder: 2035B AM Peak)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 3 [WB Ramp (Site Folder: 2035B AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	553	5.0	553	5.0	1510	0.366	100	9.0	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	660	5.0	660	5.0	1804	0.366	100	3.9	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1213	5.0	1213	5.0		0.366		6.2	LOS A	0.0	0.0				
East: WB Off-ramp															
Lane 1	131	5.0	131	5.0	741	0.177	100	14.3	LOS B	0.7	18.0	Short	400	0.0	NA
Lane 2[d]	195	5.0	195	5.0	1105	0.177	100	12.0	LOS B	0.8	19.9	Full	1600	0.0	0.0
Lane 3	104	5.0	104	5.0	1533	0.068	39[6]	5.6	LOS A	0.0	0.0	Short	460	0.0	NA
Approach	430	5.0	430	5.0		0.177		11.1	LOS B	0.8	19.9				
North: Corral Hollow Rd															
Lane 1	597	5.0	597	5.0	818	0.730	100	12.5	LOS B	7.0	182.0	Full	1600	0.0	0.0
Lane 2[d]	809	5.0	809	5.0	1109	0.730	100	10.2	LOS B	7.7	201.3	Full	1600	0.0	0.0
Lane 3	431	5.0	431	5.0	1533	0.281	39[6]	5.7	LOS A	0.0	0.0	Short	430	0.0	NA
Approach	1837	5.0	1837	5.0		0.730		9.9	LOS A	7.7	201.3				
All Vehicles	3480	5.0	3480	5.0		0.730		8.8	LOS A	7.7	201.3				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects
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	466	86	553	5.0	1510	0.366	100	NA	NA
Lane 2	-	660	660	5.0	1804	0.366	100	NA	NA
Approach	466	747	1213	5.0		0.366			

East: WB Off-ramp

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	131	-	-	131	5.0	741	0.177	100	0.0	2
Lane 2	170	2	23	195	5.0	1105	0.177	100	NA	NA
Lane 3	-	-	104	104	5.0	1533	0.068	39[6]	0.0	2
Approach	301	2	127	430	5.0		0.177			

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	597	-	597	5.0	818	0.730	100	NA	NA
Lane 2	295	513	809	5.0	1109	0.730	100	NA	NA
Lane 3	-	431	431	5.0	1533	0.281	39[6]	0.0	2
Approach	892	945	1837	5.0		0.730			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	3480	5.0	0.730

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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
North Exit: Corral Hollow Rd Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	683	717	3.15	2.10	104	975	0.107	1.6	2.0
Merge Lane	2	-	100.0	Merge Lane is not Opposed				683	1800	0.380	0.0	0.0
West Exit: WB On-ramp Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	516	541	3.15	2.10	431	1159	0.372	1.0	2.0
Merge Lane	2	-	100.0	Merge Lane is not Opposed				516	1800	0.286	0.0	0.0

Variable Demand Analysis

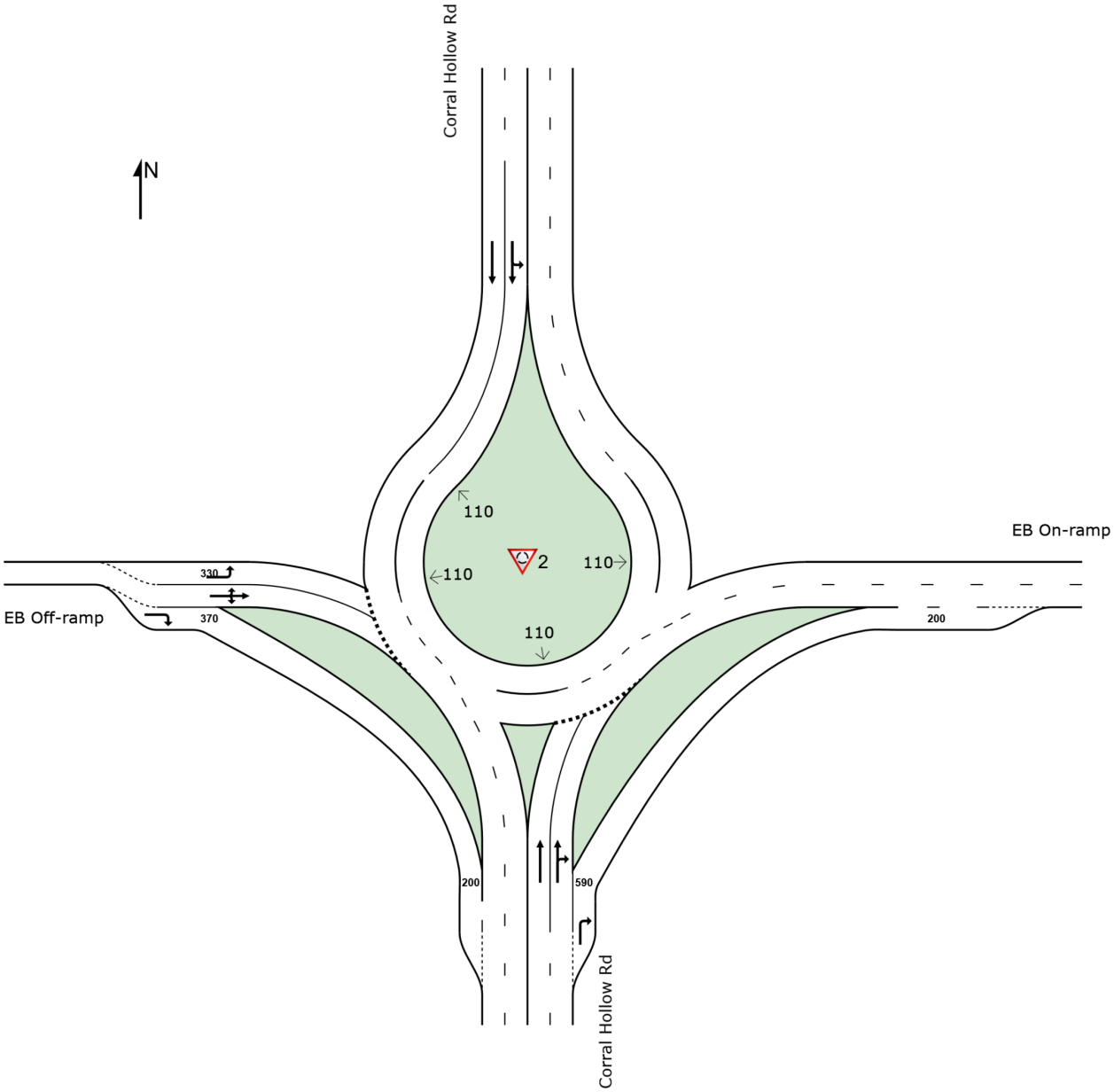
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: WB Off-ramp				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

SITE LAYOUT

Site: 2 [EB Ramp (Site Folder: 2035B AM Peak)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 2 [EB Ramp (Site Folder: 2035B AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	594	5.0	594	5.0	1034	0.574	100	7.3	LOS A	4.3	110.7	Full	1600	0.0	0.0
Lane 2[d]	749	5.0	749	5.0	1304	0.574	100	6.2	LOS A	4.3	111.7	Full	1600	0.0	0.0
Lane 3	339	5.0	339	5.0	1533	0.221	39[6]	4.4	LOS A	0.0	0.0	Short	590	0.0	NA
Approach	1683	5.0	1683	5.0		0.574		6.3	LOS A	4.3	111.7				
North: Corral Hollow Rd															
Lane 1	544	5.0	544	5.0	1510	0.360	100	7.0	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	650	5.0	650	5.0	1804	0.360	100	3.9	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1193	5.0	1193	5.0		0.360		5.3	LOS A	0.0	0.0				
West: EB Off-ramp															
Lane 1	63	5.0	63	5.0	747	0.084	100	13.9	LOS B	0.3	8.3	Short	330	0.0	NA
Lane 2[d]	94	5.0	94	5.0	1109	0.084	100	12.4	LOS B	0.3	9.1	Full	1600	0.0	0.0
Lane 3	28	5.0	28	5.0	1533	0.018	22[5]	5.3	LOS A	0.0	0.0	Short	370	0.0	NA
Approach	185	5.0	185	5.0		0.084		11.8	LOS B	0.3	9.1				
All Vehicles	3061	5.0	3061	5.0		0.574		6.2	LOS A	4.3	111.7				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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: 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	594	-	594	5.0	1034	0.574	100	NA	NA
Lane 2	465	284	749	5.0	1304	0.574	100	NA	NA
Lane 3	-	339	339	5.0	1533	0.221	39[6]	0.0	2
Approach	1059	624	1683	5.0		0.574			

North: Corral Hollow Rd

Mov.	L2	T1	Total	%HV		Deg.	Lane	Prob.	Ov.

From N To Exit:	E	S			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	279	264	544	5.0	1510	0.360	100	NA	NA
Lane 2	-	650	650	5.0	1804	0.360	100	NA	NA
Approach	279	914	1193	5.0		0.360			

West: EB Off-ramp

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	63	-	-	63	5.0	747	0.084	100	0.0	2
Lane 2	91	2	-	94	5.0	1109	0.084	100	NA	NA
Lane 3	-	-	28	28	5.0	1533	0.018	22[5]	0.0	2
Approach	154	2	28	185	5.0		0.084			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	3061	5.0	0.574

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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: Corral Hollow Rd Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	650	682	3.15	2.10	28	1012	0.028	1.5	1.7
Merge Lane	2	-	100.0	Merge Lane is not Opposed				650	1800	0.361	0.0	0.0
East Exit: EB On-ramp Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	287	301	3.15	2.10	339	1409	0.241	0.5	0.7
Merge Lane	2	-	100.0	Merge Lane is not Opposed				287	1800	0.159	0.0	0.0

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: EB Off-ramp				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

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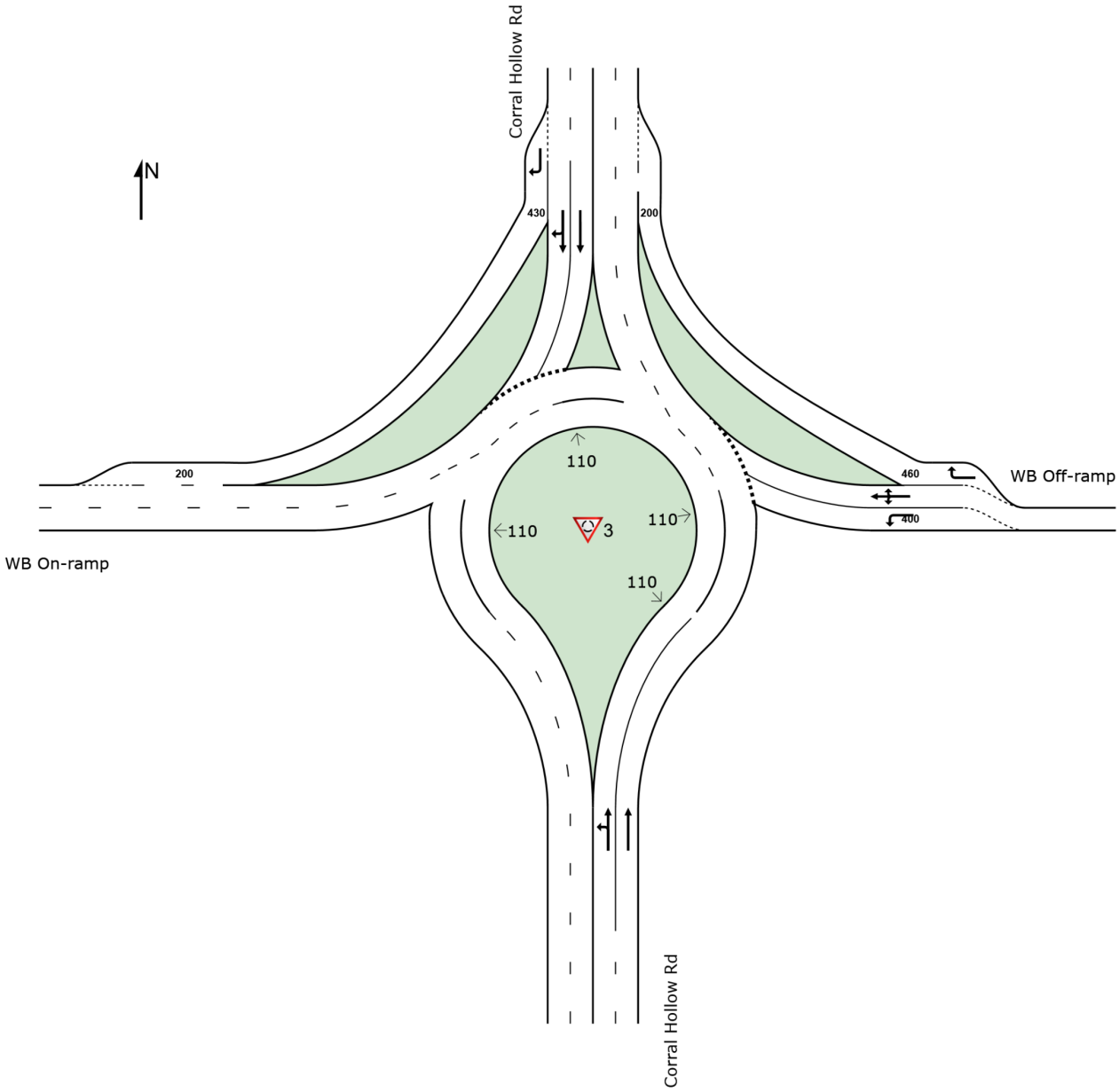
SITE LAYOUT

Site: 3 [WB Ramp (Site Folder: 2035B PM Peak)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 3 [WB Ramp (Site Folder: 2035B PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	712	5.0	712	5.0	1510	0.472	100	4.5	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	851	5.0	851	5.0	1804	0.472	100	3.9	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1563	5.0	1563	5.0		0.472		4.2	LOS A	0.0	0.0				
East: WB Off-ramp															
Lane 1	252	5.0	252	5.0	644	0.392	100	17.4	LOS B	1.9	50.0	Short	400	0.0	NA
Lane 2[d]	400	5.0	400	5.0	1021	0.392	100	13.8	LOS B	2.2	56.8	Full	1600	0.0	0.0
Lane 3	232	5.0	232	5.0	1533	0.151	39[6]	7.9	LOS A	0.0	0.0	Short	460	0.0	NA
Approach	885	5.0	885	5.0		0.392		13.3	LOS B	2.2	56.8				
North: Corral Hollow Rd															
Lane 1	358	5.0	358	5.0	836	0.428	100	7.1	LOS A	2.4	62.7	Full	1600	0.0	0.0
Lane 2[d]	477	5.0	477	5.0	1116	0.428	100	6.0	LOS A	2.5	66.2	Full	1600	0.0	0.0
Lane 3	111	5.0	111	5.0	1533	0.072	17[5]	3.6	LOS A	0.0	0.0	Short	430	0.0	NA
Approach	946	5.0	946	5.0		0.428		6.1	LOS A	2.5	66.2				
All Vehicles	3393	5.0	3393	5.0		0.472		7.1	LOS A	2.5	66.2				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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: 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	74	638	712	5.0	1510	0.472	100	NA	NA
Lane 2	-	851	851	5.0	1804	0.472	100	NA	NA
Approach	74	1489	1563	5.0		0.472			

East: WB Off-ramp

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	252	-	-	252	5.0	644	0.392	100	0.0	2
Lane 2	336	1	64	400	5.0	1021	0.392	100	NA	NA
Lane 3	-	-	232	232	5.0	1533	0.151	39[6]	0.0	2
Approach	588	1	296	885	5.0		0.392			

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	358	-	358	5.0		836	0.428	100	NA	NA
Lane 2	477	-	477	5.0		1116	0.428	100	NA	NA
Lane 3	-	111	111	5.0		1533	0.072	17[5]	0.0	2
Approach	835	111	946	5.0			0.428			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	3393	5.0	0.472

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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
North Exit: Corral Hollow Rd Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	915	961	3.15	2.10	232	722	0.321	2.8	4.3
Merge Lane	2	-	100.0	Merge Lane is not Opposed				915	1800	0.508	0.0	0.0
West Exit: WB On-ramp Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	1	1	3.15	2.10	111	1713	0.065	0.0	0.0
Merge Lane	2	-	100.0	Merge Lane is not Opposed				1	1800	0.001	0.0	0.0

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: WB Off-ramp				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

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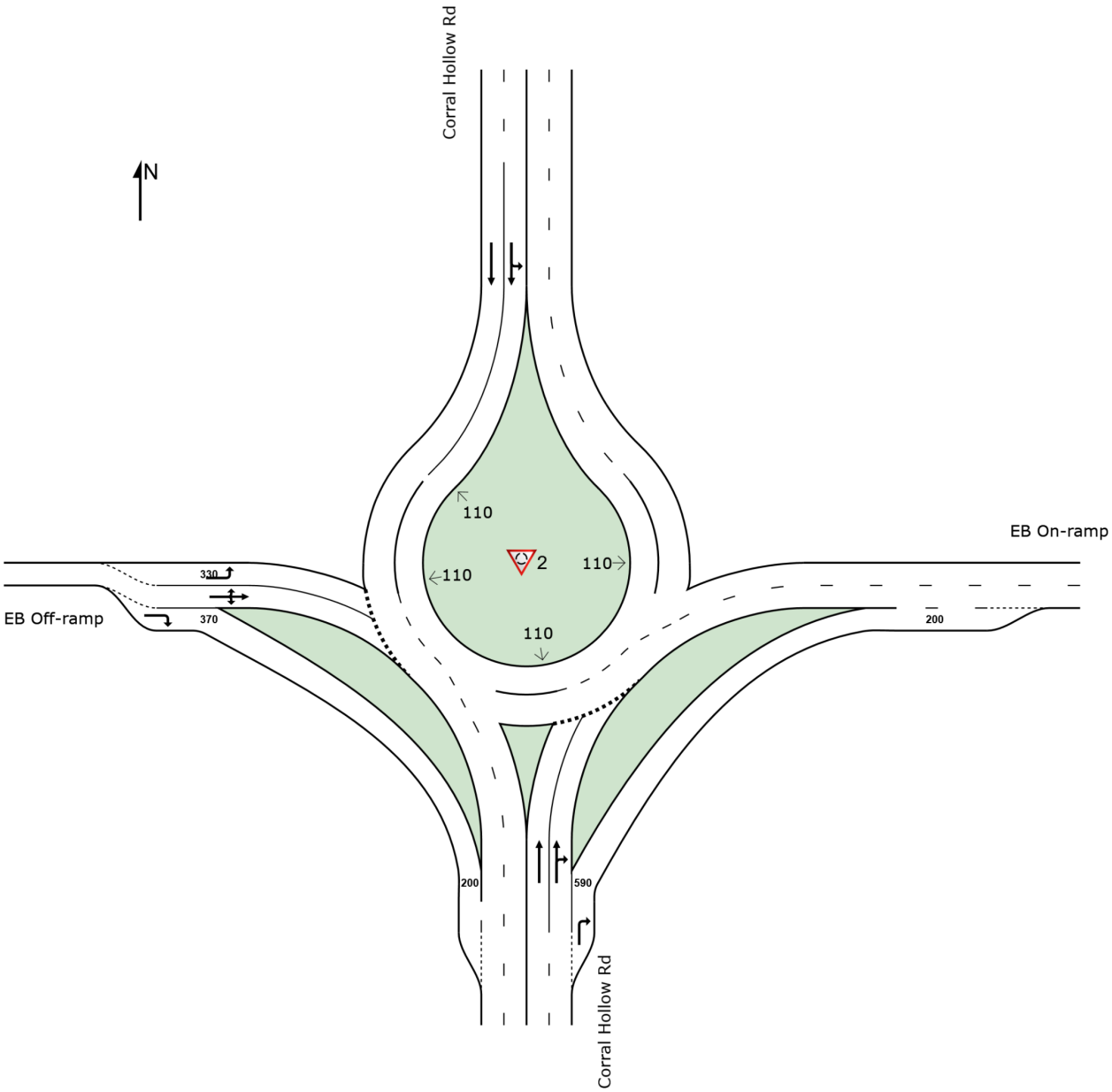
SITE LAYOUT

Site: 2 [EB Ramp (Site Folder: 2035B PM Peak)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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LANE SUMMARY

Site: 2 [EB Ramp (Site Folder: 2035B PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	507	5.0	507	5.0	751	0.674	100	10.4	LOS B	5.2	136.3	Full	1600	0.0	0.0
Lane 2[d]	699	5.0	699	5.0	1037	0.674	100	8.3	LOS A	5.8	150.8	Full	1600	0.0	0.0
Lane 3	398	5.0	398	5.0	1533	0.260	39[6]	4.7	LOS A	0.0	0.0	Short	590	0.0	NA
Approach	1604	5.0	1604	5.0		0.674		8.1	LOS A	5.8	150.8				
North: Corral Hollow Rd															
Lane 1	648	5.0	648	5.0	1510	0.429	100	5.0	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	775	5.0	775	5.0	1804	0.429	100	3.9	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1423	5.0	1423	5.0		0.429		4.4	LOS A	0.0	0.0				
West: EB Off-ramp															
Lane 1	315	5.0	315	5.0	682	0.462	100	17.4	LOS B	2.4	63.4	Short	330	0.0	NA
Lane 2[d]	488	5.0	488	5.0	1056	0.462	100	13.5	LOS B	2.8	72.1	Full	1600	0.0	0.0
Lane 3	273	5.0	273	5.0	1533	0.178	39[6]	7.8	LOS A	0.0	0.0	Short	370	0.0	NA
Approach	1076	5.0	1076	5.0		0.462		13.2	LOS B	2.8	72.1				
All Vehicles	4103	5.0	4103	5.0		0.674		8.1	LOS A	5.8	150.8				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects
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	507	-	507	5.0	751	0.674	100	NA	NA
Lane 2	359	341	699	5.0	1037	0.674	100	NA	NA
Lane 3	-	398	398	5.0	1533	0.260	39[6]	0.0	2
Approach	865	739	1604	5.0		0.674			

North: Corral Hollow Rd

Mov. From N	L2	T1	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane

To Exit:	E	S			veh/h	v/c	%	%	No.
Lane 1	120	529	648	5.0	1510	0.429	100	NA	NA
Lane 2	-	775	775	5.0	1804	0.429	100	NA	NA
Approach	120	1303	1423	5.0		0.429			

West: EB Off-ramp

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	315	-	-	315	5.0	682	0.462	100	0.0	2
Lane 2	383	3	102	488	5.0	1056	0.462	100	NA	NA
Lane 3	-	-	273	273	5.0	1533	0.178	39[6]	0.0	2
Approach	698	3	375	1076	5.0		0.462			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	4103	5.0	0.674

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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: Corral Hollow Rd Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	877	920	3.15	2.10	273	764	0.358	2.5	4.1
Merge Lane	2	-	100.0	Merge Lane is not Opposed				877	1800	0.487	0.0	0.0
East Exit: EB On-ramp Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	344	361	3.15	2.10	398	1347	0.296	0.6	1.0
Merge Lane	2	-	100.0	Merge Lane is not Opposed				344	1800	0.191	0.0	0.0

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: EB Off-ramp				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

Interim Year (2035) Build

Tight Diamond Interchange SimTraffic Outputs

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.4	0	0	0	0	0.2
Total Del/Veh (s)	18	10.3	17.3	5.4	14.5	3.7	14.8
Vehicles Exited	1369	57	3	173	652	205	2459
Hourly Exit Rate	1369	57	3	173	652	205	2459
Input Volume	1378	58	4	170	659	208	2477
% of Volume	99	99	75	102	99	99	99

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	85.1	62.1	7.3	30.7	9.7	43.9	27.4	29.2
Vehicles Exited	132	1	28	978	561	253	827	2780
Hourly Exit Rate	132	1	28	978	561	253	827	2780
Input Volume	142	2	26	974	574	257	841	2816
% of Volume	93	50	109	100	98	98	98	99

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	32.4	39	9.9	67.2	16.6	50.9	127.8	63.3
Vehicles Exited	283	1	117	422	683	799	819	3124
Hourly Exit Rate	283	1	117	422	683	799	819	3124
Input Volume	277	2	117	429	687	821	869	3203
% of Volume	102	50	100	98	99	97	94	98

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	12.5	10.8	13.6	0	0	0	0	0	0	1.3
Total Del/Veh (s)	50.2	36.6	40.6	108.4	72.3	43.6	64.8	42.4	11.1	69.6	70	15.2	61.2
Vehicles Exited	184	12	272	257	10	89	139	621	40	629	1125	121	3499
Hourly Exit Rate	184	12	272	257	10	89	139	621	40	629	1125	121	3499
Input Volume	180	10	272	270	10	85	148	618	38	645	1148	121	3546
% of Volume	102	117	100	95	98	104	94	100	105	98	98	100	99

Intersection: 1: CORRAL HOLLOW RD & SIERRA VIEW DR

Movement	EB	EB	NB	SB	SB
Directions Served	L	LR	L	TR	R
Maximum Queue (ft)	431	428	26	258	112
Average Queue (ft)	198	177	2	60	6
95th Queue (ft)	343	357	14	193	47
Link Distance (ft)	1339	1339		814	814
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			200		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: CORRAL HOLLOW RD & I-580 EB ON RAMP

Movement	EB	EB	EB	B26	NB	NB	NB	B15	SB	SB	SB	
Directions Served	L	LT	R	T	T	T	R	T	L	T	T	
Maximum Queue (ft)	209	240	82	17	474	397	253	2	230	356	336	
Average Queue (ft)	80	74	17	0	288	222	117	0	175	202	166	
95th Queue (ft)	218	231	63	7	436	354	203	2	261	325	272	
Link Distance (ft)		432		149	993	993		814		421	421	
Upstream Blk Time (%)		1	0	0						0	0	
Queuing Penalty (veh)		0	0	0						0	0	
Storage Bay Dist (ft)	330		370				590		180			
Storage Blk Time (%)	2	4							12	14		
Queuing Penalty (veh)	2	4							52	37		

Intersection: 3: CORRAL HOLLOW RD & I-580 WB ON RAMP

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	LT	R	L	T	T	T	T	R	
Maximum Queue (ft)	178	164	114	230	442	374	1451	1446	505	
Average Queue (ft)	92	80	44	223	312	101	809	1002	485	
95th Queue (ft)	149	135	85	252	532	238	1627	1741	591	
Link Distance (ft)		502			421	421	1432	1432		
Upstream Blk Time (%)					11	0	1	2		
Queuing Penalty (veh)					64	0	6	19		
Storage Bay Dist (ft)	400		460	180					430	
Storage Blk Time (%)				51	0			3	62	
Queuing Penalty (veh)				176	1			29	253	

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	B21	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B279	B279	B53	B53	
Directions Served	L	T	R	T	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T	T	T	
Maximum Queue (ft)	272	103	336	4	274	740	188	126	155	293	289	66	488	629	733	742	505	425	394	966	1711	
Average Queue (ft)	138	12	162	0	203	204	39	52	74	176	188	17	259	363	448	472	163	106	106	145	189	
95th Queue (ft)	244	62	302	4	308	756	112	107	130	276	284	46	422	664	788	797	525	447	448	784	1175	
Link Distance (ft)		880	880	915		1040				1432	1432				658	658		509	509	5933	5933	
Upstream Blk Time (%)						6									10	14		6	8			
Queuing Penalty (veh)						0									94	132		61	72			
Storage Bay Dist (ft)	240				200		200	440	440			380	560	560			430					
Storage Blk Time (%)	2				31								0	0	13	26						
Queuing Penalty (veh)	0				30								0	0	83	31						

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.1	0	0	0	0	0	0.1
Total Delay (hr)	6.9	0.2	0	0.3	2.6	0.2	10.2
Total Stops	687	20	2	0	122	5	836
Travel Dist (mi)	347.9	14.5	0.8	47.1	107.8	33.9	551.9
Travel Time (hr)	19.1	0.7	0	1.3	4.8	1.1	27.1
Avg Speed (mph)	18	22	22	36	22	31	20
Fuel Used (gal)	11.2	0.4	0	1.9	2.3	0.7	16.6
HC Emissions (g)	172	9	0	53	41	15	290
CO Emissions (g)	3522	171	26	2147	894	395	7156
NOx Emissions (g)	478	24	1	148	111	47	810
Vehicles Exited	1369	57	3	173	652	205	2459
Hourly Exit Rate	1369	57	3	173	652	205	2459
Input Volume	1378	58	4	170	659	208	2477
% of Volume	99	99	75	102	99	99	99

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	3.3	0	0.1	8.5	1.5	3.1	6.4	22.9
Total Stops	116	1	20	764	333	266	457	1957
Travel Dist (mi)	12.5	0.1	2.6	194.3	111.3	23.7	76.9	421.4
Travel Time (hr)	3.7	0	0.1	15	5.5	4.1	9.1	37.6
Avg Speed (mph)	3	5	18	13	20	6	8	11
Fuel Used (gal)	1	0	0.1	6.8	3	1.7	5	17.4
HC Emissions (g)	9	0	1	90	44	23	74	241
CO Emissions (g)	184	1	38	1676	847	501	1890	5135
NOx Emissions (g)	14	0	3	234	116	68	240	674
Vehicles Exited	132	1	28	978	561	253	827	2780
Hourly Exit Rate	132	1	28	978	561	253	827	2780
Input Volume	142	2	26	974	574	257	841	2816
% of Volume	93	50	109	100	98	98	98	99

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	2.6	0	0.3	8.1	3.2	11.6	30.8	56.6
Total Stops	222	1	83	489	228	937	1479	3439
Travel Dist (mi)	29.7	0.1	12.3	39.2	63.4	231.5	240.9	617.2
Travel Time (hr)	3.5	0	0.7	9.6	5.4	19.7	39.6	78.5
Avg Speed (mph)	8	10	17	4	12	12	6	8
Fuel Used (gal)	1.1	0	0.3	3.3	3.6	10.7	14.2	33.3
HC Emissions (g)	12	0	6	37	63	166	162	445
CO Emissions (g)	311	1	183	788	1532	3815	3528	10157
NOx Emissions (g)	27	0	13	98	208	499	405	1250
Vehicles Exited	283	1	117	422	683	799	819	3124
Hourly Exit Rate	283	1	117	422	683	799	819	3124
Input Volume	277	2	117	429	687	821	869	3203
% of Volume	102	50	100	98	99	97	94	98

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	1	0	0.4	0	0	0	0	0	0	1.3
Total Delay (hr)	2.6	0.1	3.1	8.3	0.2	1.1	2.6	7.4	0.1	12.5	22.6	0.5	61.3
Total Stops	158	10	236	314	9	68	131	442	27	656	1101	60	3212
Travel Dist (mi)	32.8	2.2	49.2	52.2	2	17.7	39.4	176.6	11.3	85.5	153.3	16.4	638.8
Travel Time (hr)	4	0.2	5.3	11.1	0.3	2.1	3.6	11.4	0.4	15.1	25.7	1.1	80.3
Avg Speed (mph)	8	10	9	5	7	10	11	16	26	6	6	16	8
Fuel Used (gal)	1.5	0.1	2	3.6	0.1	0.8	2.2	8.6	0.5	5.4	8.9	0.7	34.4
HC Emissions (g)	17	2	21	36	2	11	45	177	15	65	102	14	506
CO Emissions (g)	317	29	402	814	34	257	1815	6944	532	1857	2308	515	15824
NOx Emissions (g)	40	4	50	79	4	25	121	508	41	167	249	38	1325
Vehicles Exited	184	12	272	257	10	89	139	621	40	629	1125	121	3499
Hourly Exit Rate	184	12	272	257	10	89	139	621	40	629	1125	121	3499
Input Volume	180	10	272	270	10	85	148	618	38	645	1148	121	3546
% of Volume	102	117	100	95	98	104	94	100	105	98	98	100	99

Total Network Performance

Denied Delay (hr)	3.7
Total Delay (hr)	207.2
Total Stops	11747
Travel Dist (mi)	8218
Travel Time (hr)	433.2
Avg Speed (mph)	19
Fuel Used (gal)	316.9
HC Emissions (g)	6137
CO Emissions (g)	177485
NOx Emissions (g)	19110
Vehicles Exited	4928
Hourly Exit Rate	4928
Input Volume	33780
% of Volume	15

SimTraffic Performance Report
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1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0	0	0	0	0
Total Del/Veh (s)	3.2	3	11.6	13.6	11.9	8.2	9.4
Vehicles Exited	488	5	35	986	191	1356	3061
Hourly Exit Rate	488	5	35	986	191	1356	3061
Input Volume	488	5	40	988	192	1352	3065
% of Volume	100	100	88	100	100	100	100

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	33	40.7	18.2	18.6	9.7	46.6	20.4	20.8
Vehicles Exited	636	3	344	802	674	106	1205	3770
Hourly Exit Rate	636	3	344	802	674	106	1205	3770
Input Volume	642	3	345	796	680	110	1199	3775
% of Volume	99	100	100	101	99	96	101	100

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	30.7	51.4	18.7	42.5	22.4	22.1	8.7	23.4
Vehicles Exited	532	1	274	69	1370	779	101	3126
Hourly Exit Rate	532	1	274	69	1370	779	101	3126
Input Volume	541	1	272	68	1370	768	102	3122
% of Volume	98	100	101	101	100	101	99	100

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	3.4	1.5	3.4	0	0	0	0	0	0	0.5
Total Del/Veh (s)	92.4	49.6	12.1	48.1	51.4	39.2	61.4	73.5	31.4	89.5	52.3	6.6	60.1
Vehicles Exited	159	76	80	122	20	492	205	1273	148	478	675	206	3934
Hourly Exit Rate	159	76	80	122	20	492	205	1273	148	478	675	206	3934
Input Volume	161	76	78	126	20	503	211	1282	150	475	667	214	3963
% of Volume	99	100	102	97	101	98	97	99	99	101	101	96	99

Intersection: 1: CORRAL HOLLOW RD & SIERRA VIEW DR

Movement	EB	NB	SB	SB
Directions Served	L	L	TR	R
Maximum Queue (ft)	66	48	130	111
Average Queue (ft)	25	13	36	7
95th Queue (ft)	57	38	104	49
Link Distance (ft)	1339		814	814
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		200		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: CORRAL HOLLOW RD & I-580 EB ON RAMP

Movement	EB	EB	EB	NB	NB	NB	B15	B15	B15	SB	SB	SB	
Directions Served	L	LT	R	T	T	R	T	T		L	T	T	
Maximum Queue (ft)	279	294	271	250	257	305	34	119	5	229	372	376	
Average Queue (ft)	161	184	127	147	154	126	1	9	0	95	212	222	
95th Queue (ft)	243	264	223	230	235	234	28	64	5	200	333	339	
Link Distance (ft)		432		993	993		814	814	814		421	421	
Upstream Blk Time (%)											0	0	
Queuing Penalty (veh)											0	0	
Storage Bay Dist (ft)	330		370			590				180			
Storage Blk Time (%)	0	0								1	14		
Queuing Penalty (veh)	0	1								6	16		

Intersection: 3: CORRAL HOLLOW RD & I-580 WB ON RAMP

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	LT	R	L	T	T	T	T	R	
Maximum Queue (ft)	225	252	206	220	389	410	404	395	76	
Average Queue (ft)	133	154	106	69	240	255	166	171	25	
95th Queue (ft)	199	223	177	167	363	380	339	348	59	
Link Distance (ft)		502			421	421	1432	1432		
Upstream Blk Time (%)					0	1				
Queuing Penalty (veh)					3	4				
Storage Bay Dist (ft)	400		460	180					430	
Storage Blk Time (%)					19			0		
Queuing Penalty (veh)					13			0		

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B53	B53	
Directions Served	L	T	R	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T	
Maximum Queue (ft)	275	270	107	240	644	275	167	515	965	972	455	457	477	471	463	176	462	563	
Average Queue (ft)	169	80	29	93	195	237	63	200	551	566	204	256	271	258	262	51	19	30	
95th Queue (ft)	279	212	76	185	553	316	131	521	913	929	540	406	423	404	400	122	232	312	
Link Distance (ft)		880	880		1040				1432	1432				658	658		5933	5933	
Upstream Blk Time (%)														0	0				
Queuing Penalty (veh)														0	0				
Storage Bay Dist (ft)	240			200		200	440	440			380	560	560			430			
Storage Blk Time (%)	6	0		0	1	26		0	18	28		0	0	0	1				
Queuing Penalty (veh)	5	0		2	3	39		0	39	42		0	0	0	1				

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0
Total Delay (hr)	0.4	0	0.1	3.8	0.6	3.1	8
Total Stops	37	0	15	0	27	81	160
Travel Dist (mi)	125.3	1.3	9.5	268	30.5	220.4	655
Travel Time (hr)	4.8	0.1	0.4	9.7	1.2	9	25.1
Avg Speed (mph)	26	26	26	28	25	25	26
Fuel Used (gal)	3.6	0	0.3	8.9	0.6	4.7	18.2
HC Emissions (g)	69	0	8	206	12	96	391
CO Emissions (g)	1352	7	288	7263	242	2006	11157
NOx Emissions (g)	194	1	23	594	34	270	1116
Vehicles Exited	493	5	35	983	185	1333	3034
Hourly Exit Rate	493	5	35	983	185	1333	3034
Input Volume	488	5	40	988	192	1352	3065
% of Volume	101	100	88	100	96	99	99

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	5.7	0	1.7	4	1.9	1.4	6.8	21.6
Total Stops	511	2	240	452	400	112	670	2387
Travel Dist (mi)	58.2	0.2	31.4	156.9	135.9	9.7	109.8	502.1
Travel Time (hr)	7.6	0	2.8	9.3	6.8	1.8	10.8	39.2
Avg Speed (mph)	8	7	11	17	20	5	10	13
Fuel Used (gal)	2.5	0	1.1	4.9	3.7	0.7	5.9	18.8
HC Emissions (g)	30	0	16	76	55	9	93	280
CO Emissions (g)	736	1	497	1331	1095	217	2084	5961
NOx Emissions (g)	73	0	40	199	145	26	291	775
Vehicles Exited	630	2	339	793	686	104	1180	3734
Hourly Exit Rate	630	2	339	793	686	104	1180	3734
Input Volume	642	3	345	796	680	110	1199	3775
% of Volume	98	67	98	100	101	94	98	99

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	4.8	0	1.5	0.8	8	4.6	0.2	19.9
Total Stops	435	1	198	72	769	399	49	1923
Travel Dist (mi)	57.9	0.1	29.5	6.4	126.2	210.1	27.5	457.8
Travel Time (hr)	6.7	0	2.4	1.1	12.6	11.8	1.2	35.9
Avg Speed (mph)	9	8	12	6	10	18	22	13
Fuel Used (gal)	2.2	0	0.9	0.4	6.8	8.2	1	19.5
HC Emissions (g)	27	0	14	5	108	144	17	315
CO Emissions (g)	667	1	458	135	2364	3027	405	7057
NOx Emissions (g)	60	0	32	16	336	433	53	929
Vehicles Exited	549	1	280	70	1354	731	96	3081
Hourly Exit Rate	549	1	280	70	1354	731	96	3081
Input Volume	541	1	272	68	1370	768	102	3122
% of Volume	102	100	103	103	99	95	94	99

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0.1	0	0.5	0	0	0	0	0	0	0.6
Total Delay (hr)	4.1	1	0.3	1.6	0.3	5.3	3.5	26.1	1.3	12.1	9.2	0.4	65.1
Total Stops	173	61	36	120	17	377	174	1162	137	476	477	115	3325
Travel Dist (mi)	28.8	14.4	14.8	24.8	3.7	97.8	58.1	360.1	43.3	58.8	82.9	25.5	813
Travel Time (hr)	5.2	1.6	0.9	2.6	0.4	9.5	5	34.1	2.5	13.9	10.9	1.2	87.8
Avg Speed (mph)	5	9	16	10	9	11	12	11	17	4	8	21	9
Fuel Used (gal)	1.7	0.6	0.4	1.1	0.2	3.9	3.1	19	1.9	4.1	3.6	0.7	40.4
HC Emissions (g)	15	7	6	16	2	52	53	351	34	38	44	14	632
CO Emissions (g)	303	139	101	379	47	1142	1960	10173	1195	1032	1039	530	18037
NOx Emissions (g)	35	18	15	41	5	127	158	1014	106	78	101	35	1731
Vehicles Exited	160	80	82	126	19	495	204	1259	152	433	612	191	3813
Hourly Exit Rate	160	80	82	126	19	495	204	1259	152	433	612	191	3813
Input Volume	161	76	78	126	20	503	211	1282	150	475	667	214	3963
% of Volume	100	105	105	100	96	98	97	98	101	91	92	89	96

Total Network Performance

Denied Delay (hr)	63.6
Total Delay (hr)	160.5
Total Stops	9032
Travel Dist (mi)	9424.5
Travel Time (hr)	471.8
Avg Speed (mph)	23
Fuel Used (gal)	353.1
HC Emissions (g)	7267
CO Emissions (g)	204483
NOx Emissions (g)	22573
Vehicles Exited	5623
Hourly Exit Rate	5623
Input Volume	41830
% of Volume	13

Interim Year (2035) Build

Partial Cloverleaf/Tight Diamond Interchange SimTraffic Outputs

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.4	0	0	0	0	0.2
Total Del/Veh (s)	17	13.7	16.8	5.4	11.8	2.8	13.7
Vehicles Exited	1380	59	4	171	608	201	2423
Hourly Exit Rate	1380	59	4	171	608	201	2423
Input Volume	1378	58	4	170	659	208	2477
% of Volume	100	102	100	101	92	97	98

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	26.1	40.9	5.1	33.9	11.5	42.6	8	22
Vehicles Exited	139	1	26	971	579	247	783	2746
Hourly Exit Rate	139	1	26	971	579	247	783	2746
Input Volume	142	2	26	974	574	257	841	2816
% of Volume	98	50	101	100	101	96	93	98

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	28.3	25.1	6.5	20.4	13.8	11.8	14.4	16
Vehicles Exited	280	3	116	680	427	749	821	3076
Hourly Exit Rate	280	3	116	680	427	749	821	3076
Input Volume	277	2	117	687	429	821	869	3203
% of Volume	101	133	99	99	99	91	94	96

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	3.6	0.9	3.6	0	0	0	0	0	0	0.4
Total Del/Veh (s)	49	34.2	32.7	62	58.7	13.9	59.5	41.9	9.6	70.2	51	9.6	49.6
Vehicles Exited	177	11	270	262	10	83	149	604	38	586	1039	112	3341
Hourly Exit Rate	177	11	270	262	10	83	149	604	38	586	1039	112	3341
Input Volume	180	10	272	270	10	85	148	618	38	645	1148	121	3546
% of Volume	98	107	99	97	98	97	101	98	100	91	90	93	94

7: I-580 WB OFF RAMP Performance by movement

Movement	NBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.2	0.6	0.4
Vehicles Exited	399	427	826
Hourly Exit Rate	399	427	826
Input Volume	396	429	826
% of Volume	101	99	100

Intersection: 1: CORRAL HOLLOW RD & SIERRA VIEW DR

Movement	EB	EB	NB	SB	SB
Directions Served	L	LR	L	TR	R
Maximum Queue (ft)	418	444	27	214	31
Average Queue (ft)	168	148	2	35	1
95th Queue (ft)	385	416	14	138	13
Link Distance (ft)	1339	1339		814	814
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			200		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: CORRAL HOLLOW RD & I-580 EB ON RAMP

Movement	EB	EB	EB	NB	NB	NB	B15	B15	SB	SB	SB	
Directions Served	L	LT	R	T	T	R	T	T	L	T	T	
Maximum Queue (ft)	101	134	47	420	474	336	25	59	278	193	158	
Average Queue (ft)	28	60	12	225	275	136	1	3	149	89	67	
95th Queue (ft)	74	109	37	380	434	280	25	40	252	166	140	
Link Distance (ft)		448		993	993		814	814		881	881	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	330		370			590			550			
Storage Blk Time (%)					1							
Queuing Penalty (veh)					4							

Intersection: 3: CORRAL HOLLOW RD & I-580 WB ON RAMP

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	LT	R	T	T	R	T	T	R	
Maximum Queue (ft)	153	137	87	238	238	247	275	346	345	
Average Queue (ft)	80	70	30	140	144	134	125	106	180	
95th Queue (ft)	135	124	64	223	221	218	236	247	346	
Link Distance (ft)		495		881	881		936	936		
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	400		460			250			300	
Storage Blk Time (%)					0	0		0	2	
Queuing Penalty (veh)					1	1		0	9	

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	B21	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B279	B279	B53	B53	
Directions Served	L	T	R	T	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T	T	T	
Maximum Queue (ft)	270	138	302	3	267	458	117	118	142	288	295	44	473	535	610	631	462	125	133	632	654	
Average Queue (ft)	129	12	142	0	179	83	34	47	66	163	173	9	245	279	334	374	100	14	15	74	83	
95th Queue (ft)	234	71	264	3	286	385	80	99	119	264	273	30	464	531	658	695	393	121	125	568	593	
Link Distance (ft)		877	877	915		1037				936	936				658	658		509	509	5933	5933	
Upstream Blk Time (%)															1	3		0	0			
Queuing Penalty (veh)															13	30		1	1			
Storage Bay Dist (ft)	240				200		200	400	400			380	560	560			430					
Storage Blk Time (%)	2				18								0	1	3	13						
Queuing Penalty (veh)	0				17								0	3	18	16						

Intersection: 7: I-580 WB OFF RAMP

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.1	0	0	0	0	0	0.1
Total Delay (hr)	6.6	0.2	0	0.3	2	0.2	9.3
Total Stops	612	21	3	0	72	2	710
Travel Dist (mi)	350.5	15	1	46.5	100.6	33.3	546.9
Travel Time (hr)	18.9	0.8	0	1.3	4.1	1	26.1
Avg Speed (mph)	19	20	22	36	25	32	21
Fuel Used (gal)	11.2	0.5	0	1.9	1.9	0.7	16.2
HC Emissions (g)	182	8	0	42	38	15	286
CO Emissions (g)	3632	161	33	1946	786	371	6929
NOx Emissions (g)	501	23	1	121	103	48	797
Vehicles Exited	1380	59	4	171	608	201	2423
Hourly Exit Rate	1380	59	4	171	608	201	2423
Input Volume	1378	58	4	170	659	208	2477
% of Volume	100	102	100	101	92	97	98

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	1	0	0	9.3	1.9	3	1.7	17
Total Stops	102	1	18	819	390	228	219	1777
Travel Dist (mi)	13.1	0.1	2.5	193.2	114.9	45.8	144.9	514.5
Travel Time (hr)	1.4	0	0.1	15.8	6	4.7	6.8	34.8
Avg Speed (mph)	9	8	21	12	19	10	21	15
Fuel Used (gal)	0.4	0	0.1	7.2	3.3	2.3	5.7	18.9
HC Emissions (g)	5	0	1	92	54	33	105	290
CO Emissions (g)	112	1	33	1815	1124	779	2438	6301
NOx Emissions (g)	11	0	2	246	145	95	322	821
Vehicles Exited	139	1	26	971	579	247	783	2746
Hourly Exit Rate	139	1	26	971	579	247	783	2746
Input Volume	142	2	26	974	574	257	841	2816
% of Volume	98	50	101	100	101	96	93	98

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	2.2	0	0.2	3.9	1.7	2.5	3.3	13.8
Total Stops	214	2	80	448	310	298	391	1743
Travel Dist (mi)	28.6	0.3	12	123.1	77	146	159.4	546.2
Travel Time (hr)	3.2	0	0.6	8.1	4.6	7.7	9.3	33.4
Avg Speed (mph)	9	10	20	15	17	19	17	16
Fuel Used (gal)	1	0	0.3	5.4	3	6	6.2	21.9
HC Emissions (g)	12	0	5	90	50	109	108	374
CO Emissions (g)	311	2	180	2037	1110	2622	2509	8770
NOx Emissions (g)	28	0	12	285	164	339	337	1164
Vehicles Exited	280	3	116	680	427	749	821	3076
Hourly Exit Rate	280	3	116	680	427	749	821	3076
Input Volume	277	2	117	687	429	821	869	3203
% of Volume	101	133	99	99	99	91	94	96

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0.3	0	0.1	0	0	0	0	0	0	0.4
Total Delay (hr)	2.5	0.1	2.5	4.7	0.2	0.3	2.5	7.2	0.1	11.6	14.9	0.3	46.9
Total Stops	151	8	221	280	10	60	135	426	26	599	871	50	2837
Travel Dist (mi)	31.5	1.9	48.5	52.3	2	16.4	29.3	118.3	7.4	78.8	139.6	15	540.9
Travel Time (hr)	3.8	0.2	4.6	6.8	0.2	1	3.4	9.9	0.3	14	17.7	0.8	62.8
Avg Speed (mph)	8	10	11	8	9	17	9	12	22	6	8	19	9
Fuel Used (gal)	1.4	0.1	1.8	2.6	0.1	0.6	1.9	6.9	0.4	4.7	6.7	0.5	27.7
HC Emissions (g)	16	1	23	28	2	11	30	136	9	59	86	13	415
CO Emissions (g)	297	21	428	657	39	245	1289	5072	356	1590	2017	476	12485
NOx Emissions (g)	38	3	56	69	4	30	86	393	25	139	219	34	1097
Vehicles Exited	177	11	270	262	10	83	149	604	38	586	1039	112	3341
Hourly Exit Rate	177	11	270	262	10	83	149	604	38	586	1039	112	3341
Input Volume	180	10	272	270	10	85	148	618	38	645	1148	121	3546
% of Volume	98	107	99	97	98	97	101	98	100	91	90	93	94

7: I-580 WB OFF RAMP Performance by movement

Movement	NBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0	0.1	0.1
Total Stops	0	0	0
Travel Dist (mi)	24	43.1	67
Travel Time (hr)	0.6	1.9	2.5
Avg Speed (mph)	43	22	27
Fuel Used (gal)	0.5	2.4	3
HC Emissions (g)	12	55	68
CO Emissions (g)	250	1618	1868
NOx Emissions (g)	45	169	213
Vehicles Exited	399	427	826
Hourly Exit Rate	399	427	826
Input Volume	396	429	826
% of Volume	101	99	100

Total Network Performance

Denied Delay (hr)	102.8
Total Delay (hr)	135.6
Total Stops	8865
Travel Dist (mi)	7817
Travel Time (hr)	453.1
Avg Speed (mph)	22
Fuel Used (gal)	311.6
HC Emissions (g)	6112
CO Emissions (g)	173085
NOx Emissions (g)	18728
Vehicles Exited	4821
Hourly Exit Rate	4821
Input Volume	35035
% of Volume	14

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0	0	0	0	0
Total Del/Veh (s)	3.2	3.2	11.9	13.7	11.2	7.5	9.1
Vehicles Exited	482	6	37	992	186	1311	3014
Hourly Exit Rate	482	6	37	992	186	1311	3014
Input Volume	488	5	40	988	192	1352	3065
% of Volume	99	120	92	100	97	97	98

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	32.1	34	17.8	18.3	10.4	42.9	12.3	18.1
Vehicles Exited	654	4	342	797	677	102	1155	3731
Hourly Exit Rate	654	4	342	797	677	102	1155	3731
Input Volume	642	3	345	796	680	110	1199	3775
% of Volume	102	133	99	100	100	93	96	99

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	30.8	25.8	23.7	26.8	10.8	15	7	23.5
Vehicles Exited	532	2	282	1379	69	724	96	3084
Hourly Exit Rate	532	2	282	1379	69	724	96	3084
Input Volume	541	2	272	1370	68	768	102	3123
% of Volume	98	114	104	101	101	94	94	99

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	3.4	1.7	3.4	0	0	0	0	0	0	0.6
Total Del/Veh (s)	86.1	46.3	11.1	46.5	56.3	39.4	59	74.6	27.6	91.9	55.1	6.7	60.6
Vehicles Exited	156	71	77	128	21	511	216	1284	145	443	617	194	3863
Hourly Exit Rate	156	71	77	128	21	511	216	1284	145	443	617	194	3863
Input Volume	161	76	78	126	20	503	211	1282	150	475	667	214	3963
% of Volume	97	93	98	102	106	102	102	100	97	93	93	91	97

7: I-580 WB OFF RAMP Performance by movement

Movement	NBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.7	0.3	0.7
Vehicles Exited	815	69	884
Hourly Exit Rate	815	69	884
Input Volume	814	68	882
% of Volume	100	101	100

Intersection: 1: CORRAL HOLLOW RD & SIERRA VIEW DR

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	LR	L	T	TR	R
Maximum Queue (ft)	68	4	72	41	112	96
Average Queue (ft)	21	0	13	2	28	6
95th Queue (ft)	54	3	48	30	84	45
Link Distance (ft)	1339	1339		1382	814	814
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			200			
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 2: CORRAL HOLLOW RD & I-580 EB ON RAMP

Movement	EB	EB	EB	NB	NB	NB	B15	B15	SB	SB	SB	
Directions Served	L	LT	R	T	T	R	T	T	L	T	T	
Maximum Queue (ft)	279	314	250	261	278	309	30	187	164	338	335	
Average Queue (ft)	161	190	115	146	155	132	2	13	68	147	157	
95th Queue (ft)	243	274	203	230	236	245	22	108	135	295	310	
Link Distance (ft)		448		993	993		814	814		881	881	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	330		370			590			550			
Storage Blk Time (%)	0	0										
Queuing Penalty (veh)	0	1										

Intersection: 3: CORRAL HOLLOW RD & I-580 WB ON RAMP

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	LT	R	T	T	R	T	T	R	
Maximum Queue (ft)	260	275	252	549	583	281	330	344	198	
Average Queue (ft)	130	147	113	270	287	58	127	133	30	
95th Queue (ft)	216	231	210	557	580	230	296	310	121	
Link Distance (ft)		495		881	881		936	936		
Upstream Blk Time (%)		0		0	0					
Queuing Penalty (veh)		0		1	1					
Storage Bay Dist (ft)	400		460			250			300	
Storage Blk Time (%)	0	0			13			1		
Queuing Penalty (veh)	0	1			9			1		

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B53	B53	
Directions Served	L	T	R	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T	
Maximum Queue (ft)	281	251	93	235	618	275	144	475	844	854	455	423	415	428	418	143	263	367	
Average Queue (ft)	161	61	28	95	214	239	59	214	580	589	202	236	246	235	243	45	18	28	
95th Queue (ft)	262	150	70	187	570	315	118	530	944	955	548	422	425	409	408	104	245	291	
Link Distance (ft)		877	877		1037				936	936				658	658		5933	5933	
Upstream Blk Time (%)					0				1	2									
Queuing Penalty (veh)					0				10	19									
Storage Bay Dist (ft)	240			200		200	400	400			380	560	560			430			
Storage Blk Time (%)	4	0		0	0	29		0	24	30		0	0		0				
Queuing Penalty (veh)	3	0		2	3	42		0	51	45		0	0		1				

Intersection: 7: I-580 WB OFF RAMP

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0
Total Delay (hr)	0.4	0	0.1	3.8	0.6	2.7	7.7
Total Stops	34	0	17	4	23	62	140
Travel Dist (mi)	122.6	1.5	10.2	270.4	30.8	216.8	652.2
Travel Time (hr)	4.7	0.1	0.4	9.7	1.2	8.5	24.6
Avg Speed (mph)	26	26	26	28	26	25	26
Fuel Used (gal)	3.6	0	0.3	8.9	0.6	4.5	18
HC Emissions (g)	67	0	6	215	12	89	389
CO Emissions (g)	1312	7	259	7469	245	1891	11182
NOx Emissions (g)	188	1	19	617	34	251	1109
Vehicles Exited	482	6	37	992	186	1311	3014
Hourly Exit Rate	482	6	37	992	186	1311	3014
Input Volume	488	5	40	988	192	1352	3065
% of Volume	99	120	92	100	97	97	98

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	5.9	0	1.7	4.1	2	1.2	4	18.9
Total Stops	531	3	232	456	400	89	415	2126
Travel Dist (mi)	62.1	0.3	32.6	158	134.5	18.9	213.6	620.1
Travel Time (hr)	8	0	2.8	9.4	6.8	2	11.6	40.5
Avg Speed (mph)	8	8	12	17	20	10	18	15
Fuel Used (gal)	2.7	0	1.1	5	3.7	1	8.6	22.1
HC Emissions (g)	33	0	18	79	55	14	151	350
CO Emissions (g)	787	2	550	1392	1099	354	3434	7619
NOx Emissions (g)	80	0	44	211	145	41	472	994
Vehicles Exited	654	4	342	797	677	102	1155	3731
Hourly Exit Rate	654	4	342	797	677	102	1155	3731
Input Volume	642	3	345	796	680	110	1199	3775
% of Volume	102	133	99	100	100	93	96	99

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	4.6	0	1.9	10.4	0.2	3.1	0.2	20.4
Total Stops	416	1	206	878	35	310	36	1882
Travel Dist (mi)	54.5	0.2	28.9	250	12.5	141.4	18.7	506.2
Travel Time (hr)	6.4	0	2.8	19.3	0.7	8	0.9	38.1
Avg Speed (mph)	9	10	10	13	18	18	21	13
Fuel Used (gal)	2.1	0	1	11.3	0.5	5.9	0.7	21.6
HC Emissions (g)	26	0	13	197	10	98	15	359
CO Emissions (g)	651	3	428	4393	241	2248	364	8329
NOx Emissions (g)	58	0	30	596	31	315	47	1077
Vehicles Exited	532	2	282	1379	69	724	96	3084
Hourly Exit Rate	532	2	282	1379	69	724	96	3084
Input Volume	541	2	272	1370	68	768	102	3123
% of Volume	98	114	104	101	101	94	94	99

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0.1	0	0.5	0	0	0	0	0	0	0.6
Total Delay (hr)	3.9	0.9	0.2	1.7	0.3	5.7	3.7	27.4	1.1	11.7	9.6	0.4	66.6
Total Stops	167	53	35	123	18	392	194	1243	134	484	491	118	3452
Travel Dist (mi)	28.1	12.6	13.8	25	4.1	100.4	42.2	251.8	28.3	60	82.8	26	675
Travel Time (hr)	5.1	1.4	0.8	2.7	0.5	9.9	4.9	33.2	2	13.5	11.3	1.2	86.6
Avg Speed (mph)	6	9	16	10	9	11	9	8	14	4	7	22	8
Fuel Used (gal)	1.7	0.5	0.4	1.1	0.2	4	2.5	15.2	1.4	4	3.7	0.7	35.5
HC Emissions (g)	16	6	4	16	3	56	45	228	28	42	41	14	499
CO Emissions (g)	310	115	80	374	70	1217	1391	5772	879	1093	980	551	12831
NOx Emissions (g)	35	15	12	41	7	136	128	659	83	86	93	35	1330
Vehicles Exited	156	71	77	128	21	511	216	1284	145	443	617	194	3863
Hourly Exit Rate	156	71	77	128	21	511	216	1284	145	443	617	194	3863
Input Volume	161	76	78	126	20	503	211	1282	150	475	667	214	3963
% of Volume	97	93	98	102	106	102	102	100	97	93	93	91	97

5: Corral Hollow Rd & W. Linne Rd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0	0	0	0	0	0	0
Total Delay (hr)	0.8	0.5	9.2	0.2	2	11.5	24.2
Total Stops	50	46	238	5	78	690	1107
Travel Dist (mi)	11.5	10.8	2169.4	40.8	9.3	195.9	2437.7
Travel Time (hr)	1.3	0.9	53.8	1.1	2.3	18.1	77.5
Avg Speed (mph)	9	12	40	38	4	11	31
Fuel Used (gal)	0.5	0.4	67.1	1.2	0.7	8.1	77.9
HC Emissions (g)	6	6	1623	35	7	118	1795
CO Emissions (g)	97	94	44428	866	140	2248	47873
NOx Emissions (g)	14	15	5663	114	13	301	6119
Vehicles Exited	54	51	1910	36	57	1196	3304
Hourly Exit Rate	54	51	1910	36	57	1196	3304
Input Volume	55	49	1909	36	64	1300	3413
% of Volume	99	104	100	100	89	92	97

7: I-580 WB OFF RAMP Performance by movement

Movement	NBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.2	0	0.2
Total Stops	0	0	0
Travel Dist (mi)	49	7	55.9
Travel Time (hr)	1.3	0.3	1.6
Avg Speed (mph)	39	23	36
Fuel Used (gal)	0.8	0.4	1.2
HC Emissions (g)	18	10	28
CO Emissions (g)	341	278	620
NOx Emissions (g)	55	29	84
Vehicles Exited	815	69	884
Hourly Exit Rate	815	69	884
Input Volume	814	68	882
% of Volume	100	101	100

Total Network Performance

Denied Delay (hr)	48

SimTraffic Performance Report		
2035 Build PM		8/25/2025
Total Delay (hr)	157.3	
Total Stops	8755	
Travel Dist (mi)	9554.3	
Travel Time (hr)	458.1	
Avg Speed (mph)	23	
Fuel Used (gal)	352.1	
HC Emissions (g)	7231	
CO Emissions (g)	202922	
NOx Emissions (g)	22587	
Vehicles Exited	5629	
Hourly Exit Rate	5629	
Input Volume	42781	
% of Volume	13	

Interim Year (2035) Build

Diverging Diamond Interchange SimTraffic Outputs

1: Lammers Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	1.2	1.2	0	0	0	0	0.7
Total Del/Veh (s)	88.7	61.4	78.9	6.4	14	2.3	55.4
Vehicles Exited	1330	57	2	160	666	210	2425
Hourly Exit Rate	1330	57	2	160	666	210	2425
Input Volume	1378	58	4	170	659	208	2477
% of Volume	97	99	50	94	101	101	98

2: Performance by movement

Movement	WBT	NBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	11	12.1	11.6
Vehicles Exited	843	927	1770
Hourly Exit Rate	843	927	1770
Input Volume	841	974	1816
% of Volume	100	95	97

3: Performance by movement

Movement	EBT	SBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	19.1	13.1	15.8
Vehicles Exited	647	822	1469
Hourly Exit Rate	647	822	1469
Input Volume	687	821	1508
% of Volume	94	100	97

4: Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	3.6	1	3.7	0	0	0	0	0	0	0.4
Total Del/Veh (s)	62.3	59	49.6	86.2	68.5	18.9	67.7	36.8	7.9	61.1	27.6	4.2	43.8
Vehicles Exited	175	11	268	271	11	85	137	600	38	639	1152	122	3509
Hourly Exit Rate	175	11	268	271	11	85	137	600	38	639	1152	122	3509
Input Volume	180	10	272	270	10	85	148	618	38	645	1150	121	3548
% of Volume	97	107	99	100	107	100	92	97	100	99	100	101	99

15: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.1	0	0	0
Total Del/Veh (s)	1.3	1.5	2	1.7
Vehicles Exited	43	1490	879	2412
Hourly Exit Rate	43	1490	879	2412
Input Volume	41	1548	867	2456
% of Volume	104	96	101	98

16: Performance by movement

Movement	WBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.6	10	0.9
Vehicles Exited	844	26	870
Hourly Exit Rate	844	26	870
Input Volume	841	26	867
% of Volume	100	101	100

18: Performance by movement

Movement	NBR	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.3	6.3	5.7
Vehicles Exited	777	1706	2483
Hourly Exit Rate	777	1706	2483
Input Volume	804	1706	2511
% of Volume	97	100	99

19: EB I-580 OFF RAMP Performance by movement

Movement	SEL	SER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1	0.5	1
Vehicles Exited	136	26	162
Hourly Exit Rate	136	26	162
Input Volume	142	26	168
% of Volume	96	101	97

25: EB I-580 ON RAMP Performance by movement

Movement	EBR	SBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.6	1.7	2.3
Vehicles Exited	568	251	819
Hourly Exit Rate	568	251	819
Input Volume	574	257	831
% of Volume	99	98	99

26: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NEL	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.7	14.2	2.5
Vehicles Exited	927	135	1062
Hourly Exit Rate	927	135	1062
Input Volume	974	142	1116
% of Volume	95	95	95

28: Performance by movement

Movement	WBT	NBL	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.8	15.9	4.7
Vehicles Exited	821	281	1102
Hourly Exit Rate	821	281	1102
Input Volume	821	277	1098
% of Volume	100	101	100

32: CORRAL HOLLOW RD Performance by movement

Movement	EBL	EBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	7.7	6	6.6
Vehicles Exited	404	650	1054
Hourly Exit Rate	404	650	1054
Input Volume	429	687	1116
% of Volume	94	95	94

36: Performance by movement

Movement	SBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	6.9	1.9	4.4
Vehicles Exited	821	872	1693
Hourly Exit Rate	821	872	1693
Input Volume	821	869	1690
% of Volume	100	100	100

38: Performance by movement

Movement	EBT	NBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.7	10.8	2.3
Vehicles Exited	647	121	768
Hourly Exit Rate	647	121	768
Input Volume	687	117	804
% of Volume	94	103	95

39: WB I-580 OFF RAMP Performance by movement

Movement	NWT	NWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.5	0.7	2
Vehicles Exited	283	120	403
Hourly Exit Rate	283	120	403
Input Volume	277	117	394
% of Volume	102	102	102

40: WB I-580 ON RAMP Performance by movement

Movement	WBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.4	0.3	0.6
Vehicles Exited	404	872	1276
Hourly Exit Rate	404	872	1276
Input Volume	429	869	1298
% of Volume	94	100	98

41: Performance by movement

Movement	WBL	WBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	8.8	4.8	5.7
Vehicles Exited	251	845	1096
Hourly Exit Rate	251	845	1096
Input Volume	257	841	1098
% of Volume	98	100	100

42: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	6.7	1.3	4.6
Vehicles Exited	921	568	1489
Hourly Exit Rate	921	568	1489
Input Volume	974	574	1548
% of Volume	95	99	96

Intersection: 1: Lammers Rd

Movement	EB	EB	NB	SB	SB
Directions Served	L	LR	L	TR	R
Maximum Queue (ft)	1073	1058	24	223	31
Average Queue (ft)	561	546	2	100	2
95th Queue (ft)	1250	1229	13	205	23
Link Distance (ft)	1339	1339		662	662
Upstream Blk Time (%)	5	4			
Queuing Penalty (veh)	0	0			
Storage Bay Dist (ft)			200		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2:

Movement	WB	WB	NB	NB
Directions Served	T	T	T	T
Maximum Queue (ft)	170	169	128	132
Average Queue (ft)	122	109	102	102
95th Queue (ft)	176	167	113	127
Link Distance (ft)	80	80	61	61
Upstream Blk Time (%)	21	10	37	26
Queuing Penalty (veh)	89	42	182	125
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3:

Movement	EB	EB	SB	SB
Directions Served	T	T	T	T
Maximum Queue (ft)	147	166	141	133
Average Queue (ft)	109	142	116	90
95th Queue (ft)	145	167	131	138
Link Distance (ft)	85	85	58	58
Upstream Blk Time (%)	15	32	44	20
Queuing Penalty (veh)	51	109	181	83
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Tracy Hills Dr

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B279	B53	B53
Directions Served	L	T	R	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T	T
Maximum Queue (ft)	260	76	364	274	521	131	132	174	330	334	53	417	432	473	487	142	13	189	213
Average Queue (ft)	146	11	164	208	137	35	57	78	167	182	13	255	272	248	271	24	0	11	13
95th Queue (ft)	244	51	318	304	513	95	110	135	277	292	37	381	394	428	447	92	0	141	157
Link Distance (ft)		860	860		1145				617	617				638	638		511	5945	5945
Upstream Blk Time (%)					1								0	0	0				
Queuing Penalty (veh)					0								0	1	0				
Storage Bay Dist (ft)	240			200		200	440	440			380	560	560			430			
Storage Blk Time (%)	2			29	0					0		0	0	0	1				
Queuing Penalty (veh)	0			28	0					0		0	1	0	1				

Intersection: 15: CORRAL HOLLOW RD

Movement				
Directions Served				
Maximum Queue (ft)				
Average Queue (ft)				
95th Queue (ft)				
Link Distance (ft)				
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 16:

Movement	WB	WB	SB	
Directions Served	T	T	R	
Maximum Queue (ft)	82	83	52	
Average Queue (ft)	50	50	11	
95th Queue (ft)	67	67	37	
Link Distance (ft)	1	1	64	
Upstream Blk Time (%)	0	0	0	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 18:

Movement	SW	SW	
Directions Served	T	T	
Maximum Queue (ft)	9	42	
Average Queue (ft)	0	1	
95th Queue (ft)	8	18	
Link Distance (ft)	617	617	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 19: EB I-580 OFF RAMP

Movement				
Directions Served				
Maximum Queue (ft)				
Average Queue (ft)				
95th Queue (ft)				
Link Distance (ft)				
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 25: EB I-580 ON RAMP

Movement	SB
Directions Served	T
Maximum Queue (ft)	56
Average Queue (ft)	2
95th Queue (ft)	29
Link Distance (ft)	44
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 26: CORRAL HOLLOW RD

Movement	NB	NB	NE	NE
Directions Served	T	T	L	L
Maximum Queue (ft)	63	63	63	91
Average Queue (ft)	44	43	16	43
95th Queue (ft)	52	53	46	83
Link Distance (ft)	2	2	56	56
Upstream Blk Time (%)	0	0	1	7
Queuing Penalty (veh)	0	0	1	5
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 28:

Movement	WB	WB	NB	NB
Directions Served	T	T	L	L
Maximum Queue (ft)	79	68	148	92
Average Queue (ft)	49	47	77	38
95th Queue (ft)	60	64	129	78
Link Distance (ft)	6	6	68	68
Upstream Blk Time (%)	0	0	12	2
Queuing Penalty (veh)	0	0	16	2
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 32: CORRAL HOLLOW RD

Movement	EB	EB
Directions Served	LT	T
Maximum Queue (ft)	174	152
Average Queue (ft)	45	50
95th Queue (ft)	136	120
Link Distance (ft)	303	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 34: Bend

Movement	NW	NW	B217	
Directions Served	T		T	
Maximum Queue (ft)	127	31	24	
Average Queue (ft)	9	1	1	
95th Queue (ft)	85	23	12	
Link Distance (ft)	620	620	1006	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 36:

Movement	SB	SB	SB	
Directions Served	T	T	R	
Maximum Queue (ft)	251	227	50	
Average Queue (ft)	114	53	2	
95th Queue (ft)	225	172	39	
Link Distance (ft)	690	690		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				224
Storage Blk Time (%)			0	
Queuing Penalty (veh)			1	

Intersection: 38:

Movement	EB	EB	NB	
Directions Served	T	T	R	
Maximum Queue (ft)	64	68	110	
Average Queue (ft)	45	46	45	
95th Queue (ft)	53	55	91	
Link Distance (ft)	3	3	72	
Upstream Blk Time (%)	0	0	3	
Queuing Penalty (veh)	0	0	4	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 39: WB I-580 OFF RAMP

Movement	NW
Directions Served	T
Maximum Queue (ft)	17
Average Queue (ft)	1
95th Queue (ft)	9
Link Distance (ft)	535
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 40: WB I-580 ON RAMP

Movement	WB
Directions Served	T
Maximum Queue (ft)	121
Average Queue (ft)	18
95th Queue (ft)	89
Link Distance (ft)	48
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 41:

Movement	WB	WB
Directions Served	LT	T
Maximum Queue (ft)	275	245
Average Queue (ft)	67	31
95th Queue (ft)	214	145
Link Distance (ft)	295	295
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	1	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 42: CORRAL HOLLOW RD

Movement	NB	NB
Directions Served	T	T
Maximum Queue (ft)	217	165
Average Queue (ft)	112	66
95th Queue (ft)	191	145
Link Distance (ft)	470	470
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 215: Bend

Movement	SE
Directions Served	T
Maximum Queue (ft)	2
Average Queue (ft)	0
95th Queue (ft)	2
Link Distance (ft)	787
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 217: Bend

Movement	NW
Directions Served	T
Maximum Queue (ft)	24
Average Queue (ft)	1
95th Queue (ft)	12
Link Distance (ft)	1006
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

1: Lammers Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.4	0	0	0	0	0	0.5
Total Delay (hr)	34.5	1	0	0.3	2.6	0.1	38.6
Total Stops	1132	46	2	0	256	5	1441
Travel Dist (mi)	344.9	14.6	0.7	43.7	89.9	28.3	522
Travel Time (hr)	47.1	1.5	0.1	1.2	4.4	1	55.2
Avg Speed (mph)	7	10	11	37	20	30	10
Fuel Used (gal)	16.6	0.6	0	1.6	1.7	0.5	21.1
HC Emissions (g)	98	5	0	45	27	11	187
CO Emissions (g)	2768	130	22	1796	588	263	5568
NOx Emissions (g)	256	13	1	127	67	32	496
Vehicles Exited	1330	57	2	160	666	210	2425
Hourly Exit Rate	1330	57	2	160	666	210	2425
Input Volume	1378	58	4	170	659	208	2477
% of Volume	97	99	50	94	101	101	98

2: Performance by movement

Movement	WBT	NBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	2.6	3.1	5.7
Total Stops	399	368	767
Travel Dist (mi)	22.9	15.2	38.2
Travel Time (hr)	3.4	3.6	7
Avg Speed (mph)	7	4	5
Fuel Used (gal)	1.5	1.3	2.8
HC Emissions (g)	19	9	28
CO Emissions (g)	418	210	629
NOx Emissions (g)	56	28	83
Vehicles Exited	843	927	1770
Hourly Exit Rate	843	927	1770
Input Volume	841	974	1816
% of Volume	100	95	97

3: Performance by movement

Movement	EBT	SBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	3.5	3	6.5
Total Stops	463	342	805
Travel Dist (mi)	16.1	15.5	31.6
Travel Time (hr)	4	3.5	7.5
Avg Speed (mph)	4	4	4
Fuel Used (gal)	1.4	1.3	2.7
HC Emissions (g)	10	12	22
CO Emissions (g)	234	277	511
NOx Emissions (g)	32	35	67
Vehicles Exited	647	822	1469
Hourly Exit Rate	647	822	1469
Input Volume	687	821	1508
% of Volume	94	100	97

4: Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0.3	0	0.1	0	0	0	0	0	0	0.4
Total Delay (hr)	3.1	0.2	3.8	6.6	0.2	0.4	2.6	6.2	0.1	11.1	8.9	0.1	43.4
Total Stops	161	9	243	297	10	60	138	407	23	577	603	33	2561
Travel Dist (mi)	30.3	1.8	46.4	58.3	2.3	18.4	17.2	75.9	4.9	84.4	151.1	15.9	506.9
Travel Time (hr)	4.3	0.3	5.8	8.9	0.3	1.2	3.4	8.9	0.3	13.6	12	0.6	59.6
Avg Speed (mph)	7	7	8	7	8	16	5	9	16	6	13	25	9
Fuel Used (gal)	1.5	0.1	2	3.2	0.1	0.6	1.5	5.4	0.3	4.5	5.6	0.5	25.5
HC Emissions (g)	8	0	10	19	0	7	17	87	6	54	91	10	311
CO Emissions (g)	206	7	263	542	16	190	746	3315	259	1504	2498	421	9966
NOx Emissions (g)	24	1	30	51	1	20	48	264	18	124	250	26	858
Vehicles Exited	175	11	268	271	11	85	137	600	38	639	1152	122	3509
Hourly Exit Rate	175	11	268	271	11	85	137	600	38	639	1152	122	3509
Input Volume	180	10	272	270	10	85	148	618	38	645	1150	121	3548
% of Volume	97	107	99	100	107	100	92	97	100	99	100	101	99

15: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	SBT	All
Denied Delay (hr)	0	0	0	0
Total Delay (hr)	0	0.6	0.5	1.1
Total Stops	0	3	0	3
Travel Dist (mi)	2.7	291.3	108.6	402.6
Travel Time (hr)	0.1	12.7	2.7	15.4
Avg Speed (mph)	38	23	40	26
Fuel Used (gal)	0.1	18.5	4	22.7
HC Emissions (g)	57	308	98	463
CO Emissions (g)	1108	16432	3451	20990
NOx Emissions (g)	133	945	315	1393
Vehicles Exited	43	1490	879	2412
Hourly Exit Rate	43	1490	879	2412
Input Volume	41	1548	867	2456
% of Volume	104	96	101	98

16: Performance by movement

Movement	WBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	0.1	0.2
Total Stops	0	13	13
Travel Dist (mi)	5.1	0.7	5.9
Travel Time (hr)	0.3	0.1	0.4
Avg Speed (mph)	16	8	14
Fuel Used (gal)	0.4	0	0.4
HC Emissions (g)	7	1	7
CO Emissions (g)	143	27	170
NOx Emissions (g)	26	2	28
Vehicles Exited	844	26	870
Hourly Exit Rate	844	26	870
Input Volume	841	26	867
% of Volume	100	101	100

18: Performance by movement

Movement	NBR	SWT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.9	3	3.9
Total Stops	1	5	6
Travel Dist (mi)	116.7	231.2	347.9
Travel Time (hr)	4.7	8.7	13.4
Avg Speed (mph)	25	27	26
Fuel Used (gal)	5.3	11.1	16.4
HC Emissions (g)	100	235	336
CO Emissions (g)	4569	8559	13128
NOx Emissions (g)	305	734	1040
Vehicles Exited	777	1706	2483
Hourly Exit Rate	777	1706	2483
Input Volume	804	1706	2511
% of Volume	97	100	99

19: EB I-580 OFF RAMP Performance by movement

Movement	SEL	SER	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0	0	0
Total Stops	0	0	0
Travel Dist (mi)	11.2	2.2	13.3
Travel Time (hr)	0.3	0.1	0.4
Avg Speed (mph)	34	37	35
Fuel Used (gal)	0.1	0	0.2
HC Emissions (g)	3	1	3
CO Emissions (g)	52	17	69
NOx Emissions (g)	6	2	8
Vehicles Exited	136	26	162
Hourly Exit Rate	136	26	162
Input Volume	142	26	168
% of Volume	96	101	97

25: EB I-580 ON RAMP Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.4	0.1	0.5
Total Stops	0	7	7
Travel Dist (mi)	13.9	5.8	19.7
Travel Time (hr)	0.9	0.3	1.2
Avg Speed (mph)	16	18	17
Fuel Used (gal)	0.8	0.5	1.3
HC Emissions (g)	9	11	20
CO Emissions (g)	303	388	691
NOx Emissions (g)	39	38	77
Vehicles Exited	568	251	819
Hourly Exit Rate	568	251	819
Input Volume	574	257	831
% of Volume	99	98	99

26: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NEL	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.2	0.5	0.7
Total Stops	0	77	77
Travel Dist (mi)	4.8	3.4	8.2
Travel Time (hr)	0.3	0.6	1
Avg Speed (mph)	14	5	8
Fuel Used (gal)	0.2	0.2	0.5
HC Emissions (g)	3	2	5
CO Emissions (g)	63	55	118
NOx Emissions (g)	11	6	17
Vehicles Exited	927	135	1062
Hourly Exit Rate	927	135	1062
Input Volume	974	142	1116
% of Volume	95	95	95

28: Performance by movement

Movement	WBT	NBL	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.2	1.3	1.4
Total Stops	0	164	164
Travel Dist (mi)	5	7.6	12.6
Travel Time (hr)	0.4	1.4	1.8
Avg Speed (mph)	14	5	7
Fuel Used (gal)	0.3	0.5	0.8
HC Emissions (g)	4	6	10
CO Emissions (g)	90	134	224
NOx Emissions (g)	15	15	30
Vehicles Exited	821	281	1102
Hourly Exit Rate	821	281	1102
Input Volume	821	277	1098
% of Volume	100	101	100

32: CORRAL HOLLOW RD Performance by movement

Movement	EBL	EBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.9	1.1	2
Total Stops	34	88	122
Travel Dist (mi)	28.8	45.3	74.1
Travel Time (hr)	1.8	2.6	4.4
Avg Speed (mph)	16	17	17
Fuel Used (gal)	1.4	2	3.3
HC Emissions (g)	15	29	44
CO Emissions (g)	414	851	1265
NOx Emissions (g)	59	102	161
Vehicles Exited	404	650	1054
Hourly Exit Rate	404	650	1054
Input Volume	429	687	1116
% of Volume	94	95	94

36: Performance by movement

Movement	SBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	1.6	0.5	2.1
Total Stops	233	1	234
Travel Dist (mi)	114.2	120.9	235.1
Travel Time (hr)	5.4	4.5	10
Avg Speed (mph)	21	27	24
Fuel Used (gal)	3.2	3.9	7.1
HC Emissions (g)	46	66	112
CO Emissions (g)	984	1389	2373
NOx Emissions (g)	127	195	322
Vehicles Exited	821	872	1693
Hourly Exit Rate	821	872	1693
Input Volume	821	869	1690
% of Volume	100	100	100

38: Performance by movement

Movement	EBT	NBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	0.4	0.5
Total Stops	0	60	60
Travel Dist (mi)	3.6	3.4	7
Travel Time (hr)	0.3	0.5	0.7
Avg Speed (mph)	14	7	10
Fuel Used (gal)	0.3	0.2	0.5
HC Emissions (g)	4	4	8
CO Emissions (g)	96	135	231
NOx Emissions (g)	18	9	28
Vehicles Exited	647	121	768
Hourly Exit Rate	647	121	768
Input Volume	687	117	804
% of Volume	94	103	95

39: WB I-580 OFF RAMP Performance by movement

Movement	NWT	NWR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.2	0	0.2
Total Stops	1	0	1
Travel Dist (mi)	31.6	13.5	45.2
Travel Time (hr)	0.9	0.4	1.3
Avg Speed (mph)	35	38	36
Fuel Used (gal)	0.5	0.2	0.7
HC Emissions (g)	10	5	16
CO Emissions (g)	234	113	348
NOx Emissions (g)	29	16	45
Vehicles Exited	283	120	403
Hourly Exit Rate	283	120	403
Input Volume	277	117	394
% of Volume	102	102	102

40: WB I-580 ON RAMP Performance by movement

Movement	WBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.2	0.1	0.2
Total Stops	10	0	10
Travel Dist (mi)	8	27.5	35.5
Travel Time (hr)	0.4	1	1.4
Avg Speed (mph)	19	28	25
Fuel Used (gal)	0.8	0.8	1.5
HC Emissions (g)	12	12	24
CO Emissions (g)	501	200	701
NOx Emissions (g)	45	34	79
Vehicles Exited	404	872	1276
Hourly Exit Rate	404	872	1276
Input Volume	429	869	1298
% of Volume	94	100	98

41: Performance by movement

Movement	WBL	WBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.6	1.1	1.8
Total Stops	54	72	126
Travel Dist (mi)	16.8	54.9	71.7
Travel Time (hr)	1.2	3	4.2
Avg Speed (mph)	14	18	17
Fuel Used (gal)	0.8	2.7	3.5
HC Emissions (g)	11	55	66
CO Emissions (g)	259	1560	1819
NOx Emissions (g)	37	178	215
Vehicles Exited	251	845	1096
Hourly Exit Rate	251	845	1096
Input Volume	257	841	1098
% of Volume	98	100	100

42: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	1.7	0.2	1.9
Total Stops	268	0	268
Travel Dist (mi)	91.3	56.4	147.6
Travel Time (hr)	4.8	2.1	6.9
Avg Speed (mph)	19	27	21
Fuel Used (gal)	2.2	1.2	3.5
HC Emissions (g)	21	13	34
CO Emissions (g)	479	360	839
NOx Emissions (g)	57	35	92
Vehicles Exited	921	568	1489
Hourly Exit Rate	921	568	1489
Input Volume	974	574	1548
% of Volume	95	99	96

Total Network Performance

Denied Delay (hr)	1.2
Total Delay (hr)	133.4
Total Stops	7255
Travel Dist (mi)	8659.2
Travel Time (hr)	360.7
Avg Speed (mph)	24
Fuel Used (gal)	315.4
HC Emissions (g)	5904
CO Emissions (g)	182773
NOx Emissions (g)	19493
Vehicles Exited	5032
Hourly Exit Rate	5032
Input Volume	51775
% of Volume	10

1: Lammers Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0	0	0	0	0
Total Del/Veh (s)	2.8	2.6	10.7	13.2	13.1	6.7	8.6
Vehicles Exited	486	4	39	997	188	1355	3069
Hourly Exit Rate	486	4	39	997	188	1355	3069
Input Volume	488	5	40	988	192	1352	3065
% of Volume	100	80	98	101	98	100	100

2: Performance by movement

Movement	WBT	NBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	19.7	12.7	16.9
Vehicles Exited	1192	805	1997
Hourly Exit Rate	1192	805	1997
Input Volume	1199	796	1995
% of Volume	99	101	100

3: Performance by movement

Movement	EBT	SBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	18.6	12.2	16.3
Vehicles Exited	1378	759	2137
Hourly Exit Rate	1378	759	2137
Input Volume	1370	768	2138
% of Volume	101	99	100

4: Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	3.2	1.2	3.2	0	0	0	0	0	0	0.5
Total Del/Veh (s)	79.3	56.5	6.8	86.1	74.3	44.3	36.2	51	13.5	60.7	56.6	6.7	49.3
Vehicles Exited	160	73	76	125	19	509	204	1266	146	480	674	218	3950
Hourly Exit Rate	160	73	76	125	19	509	204	1266	146	480	674	218	3950
Input Volume	161	76	78	126	20	503	211	1282	150	475	667	214	3962
% of Volume	100	96	97	99	96	101	97	99	97	101	101	102	100

15: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.1	0	0	0
Total Del/Veh (s)	1.4	1.4	1.7	1.6
Vehicles Exited	15	1485	1544	3044
Hourly Exit Rate	15	1485	1544	3044
Input Volume	15	1476	1544	3034
% of Volume	100	101	100	100

16: Performance by movement

Movement	WBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.7	13.6	3.6
Vehicles Exited	1192	350	1542
Hourly Exit Rate	1192	350	1542
Input Volume	1199	345	1544
% of Volume	99	101	100

18: Performance by movement

Movement	NBR	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	11.3	6.9	9.8
Vehicles Exited	1653	872	2525
Hourly Exit Rate	1653	872	2525
Input Volume	1642	876	2518
% of Volume	101	100	100

19: EB I-580 OFF RAMP Performance by movement

Movement	SEL	SER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	13.1	4.3	10
Vehicles Exited	638	349	987
Hourly Exit Rate	638	349	987
Input Volume	642	345	987
% of Volume	99	101	100

25: EB I-580 ON RAMP Performance by movement

Movement	EBR	SBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.7	2.1	2.6
Vehicles Exited	679	108	787
Hourly Exit Rate	679	108	787
Input Volume	680	110	790
% of Volume	100	98	100

26: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NEL	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.7	25.2	11.6
Vehicles Exited	805	636	1441
Hourly Exit Rate	805	636	1441
Input Volume	796	642	1438
% of Volume	101	99	100

28: Performance by movement

Movement	WBT	NBL	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.9	18.5	8.3
Vehicles Exited	759	539	1298
Hourly Exit Rate	759	539	1298
Input Volume	768	541	1309
% of Volume	99	100	99

32: CORRAL HOLLOW RD Performance by movement

Movement	EBL	EBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	18.3	21.4	21.3
Vehicles Exited	64	1378	1442
Hourly Exit Rate	64	1378	1442
Input Volume	68	1370	1438
% of Volume	94	101	100

36: Performance by movement

Movement	SBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	10.8	2.4	9.8
Vehicles Exited	760	104	864
Hourly Exit Rate	760	104	864
Input Volume	768	102	870
% of Volume	99	102	99

38: Performance by movement

Movement	EBT	NBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.6	13.4	2.7
Vehicles Exited	1378	277	1655
Hourly Exit Rate	1378	277	1655
Input Volume	1370	272	1642
% of Volume	101	102	101

39: WB I-580 OFF RAMP Performance by movement

Movement	NWT	NWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.4	1.8	2.8
Vehicles Exited	539	277	816
Hourly Exit Rate	539	277	816
Input Volume	541	272	813
% of Volume	100	102	100

40: WB I-580 ON RAMP Performance by movement

Movement	WBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.6	0.1	2.2
Vehicles Exited	64	104	168
Hourly Exit Rate	64	104	168
Input Volume	68	102	170
% of Volume	94	102	99

41: Performance by movement

Movement	WBL	WBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	11.7	12.6	12.6
Vehicles Exited	107	1191	1298
Hourly Exit Rate	107	1191	1298
Input Volume	110	1199	1309
% of Volume	97	99	99

42: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.8	1.7	2.8
Vehicles Exited	804	679	1483
Hourly Exit Rate	804	679	1483
Input Volume	796	680	1476
% of Volume	101	100	100

Intersection: 1: Lammers Rd

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	LR	L	T	TR	R
Maximum Queue (ft)	64	3	70	159	184	173
Average Queue (ft)	26	0	17	13	77	38
95th Queue (ft)	57	4	65	114	151	130
Link Distance (ft)	1339	1339		1383	662	662
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			200			
Storage Blk Time (%)				1		
Queuing Penalty (veh)				1		

Intersection: 2:

Movement	WB	WB	NB	NB
Directions Served	T	T	T	T
Maximum Queue (ft)	187	191	125	130
Average Queue (ft)	158	159	96	105
95th Queue (ft)	182	185	120	129
Link Distance (ft)	80	80	61	61
Upstream Blk Time (%)	46	47	27	30
Queuing Penalty (veh)	275	280	108	121
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3:

Movement	EB	EB	SB	SB
Directions Served	T	T	T	T
Maximum Queue (ft)	176	181	138	147
Average Queue (ft)	150	151	107	112
95th Queue (ft)	167	168	145	153
Link Distance (ft)	85	85	58	58
Upstream Blk Time (%)	49	53	24	25
Queuing Penalty (veh)	338	366	91	97
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Tracy Hills Dr

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B53	B53
Directions Served	L	T	R	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T
Maximum Queue (ft)	275	232	78	258	641	275	168	515	668	678	455	330	346	454	436	227	37	58
Average Queue (ft)	153	70	22	127	231	239	54	160	465	476	189	199	214	252	263	53	1	2
95th Queue (ft)	257	174	58	228	585	317	122	457	692	699	524	301	317	396	400	136	37	47
Link Distance (ft)		860	860		1145				617	617				638	638		5945	5945
Upstream Blk Time (%)									5	6								
Queuing Penalty (veh)									40	46								
Storage Bay Dist (ft)	240			200		200	440	440			380	560	560			430		
Storage Blk Time (%)	4	0		5	1	31		0	14	22				0	1			
Queuing Penalty (veh)	3	0		28	5	45		0	30	34				0	1			

Intersection: 15: CORRAL HOLLOW RD

Movement	NB	NB
Directions Served	R	R
Maximum Queue (ft)	24	21
Average Queue (ft)	1	1
95th Queue (ft)	15	13
Link Distance (ft)	662	662
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 16:

Movement	WB	WB	SB
Directions Served	T	T	R
Maximum Queue (ft)	77	69	176
Average Queue (ft)	49	49	114
95th Queue (ft)	61	60	177
Link Distance (ft)	1	1	64
Upstream Blk Time (%)	0	0	21
Queuing Penalty (veh)	0	0	73
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 18:

Movement	NB	NB
Directions Served	R	R
Maximum Queue (ft)	179	202
Average Queue (ft)	32	38
95th Queue (ft)	218	237
Link Distance (ft)	717	717
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 19: EB I-580 OFF RAMP

Movement	SE	SE	SE	B210
Directions Served	L	L	R	T
Maximum Queue (ft)	176	259	144	165
Average Queue (ft)	38	85	31	29
95th Queue (ft)	158	267	163	267
Link Distance (ft)		379		855
Upstream Blk Time (%)		2		1
Queuing Penalty (veh)		0		0
Storage Bay Dist (ft)	150		246	
Storage Blk Time (%)	4	7		
Queuing Penalty (veh)	26	50		

Intersection: 21: Bend

Movement	WB
Directions Served	T
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: EB I-580 ON RAMP

Movement	SB
Directions Served	T
Maximum Queue (ft)	22
Average Queue (ft)	1
95th Queue (ft)	17
Link Distance (ft)	44
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 26: CORRAL HOLLOW RD

Movement	NB	NB	NE	NE	
Directions Served	T	T	L	L	
Maximum Queue (ft)	68	71	156	180	
Average Queue (ft)	44	44	93	146	
95th Queue (ft)	56	56	160	180	
Link Distance (ft)	2	2	56	56	
Upstream Blk Time (%)	0	0	31	53	
Queuing Penalty (veh)	0	0	100	172	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 28:

Movement	WB	WB	NB	NB	
Directions Served	T	T	L	L	
Maximum Queue (ft)	66	74	163	163	
Average Queue (ft)	43	44	113	90	
95th Queue (ft)	70	71	161	149	
Link Distance (ft)	6	6	68	68	
Upstream Blk Time (%)	1	0	27	17	
Queuing Penalty (veh)	2	2	72	45	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 32: CORRAL HOLLOW RD

Movement	EB	EB
Directions Served	LT	T
Maximum Queue (ft)	343	360
Average Queue (ft)	222	243
95th Queue (ft)	374	396
Link Distance (ft)	303	303
Upstream Blk Time (%)	6	10
Queuing Penalty (veh)	42	70
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 36:

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	305	298	25
Average Queue (ft)	120	122	2
95th Queue (ft)	262	262	39
Link Distance (ft)	690	690	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			224
Storage Blk Time (%)		1	
Queuing Penalty (veh)		1	

Intersection: 38:

Movement	EB	EB	NB
Directions Served	T	T	R
Maximum Queue (ft)	76	70	170
Average Queue (ft)	47	46	96
95th Queue (ft)	59	58	161
Link Distance (ft)	3	3	72
Upstream Blk Time (%)	0	0	15
Queuing Penalty (veh)	0	0	42
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 39: WB I-580 OFF RAMP

Movement	NW	NW	NW
Directions Served	T	T	R
Maximum Queue (ft)	41	21	49
Average Queue (ft)	2	1	3
95th Queue (ft)	17	13	27
Link Distance (ft)	535	535	535
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 40: WB I-580 ON RAMP

Movement	WB
Directions Served	T
Maximum Queue (ft)	20
Average Queue (ft)	1
95th Queue (ft)	22
Link Distance (ft)	48
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 41:

Movement	WB	WB
Directions Served	LT	T
Maximum Queue (ft)	354	364
Average Queue (ft)	139	137
95th Queue (ft)	302	306
Link Distance (ft)	295	295
Upstream Blk Time (%)	2	2
Queuing Penalty (veh)	12	14
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 42: CORRAL HOLLOW RD

Movement	NB	NB
Directions Served	T	T
Maximum Queue (ft)	126	150
Average Queue (ft)	46	54
95th Queue (ft)	108	120
Link Distance (ft)	470	470
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

1: Lammers Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0
Total Delay (hr)	0.4	0	0.1	3.7	0.7	2.5	7.4
Total Stops	44	0	20	28	76	237	405
Travel Dist (mi)	123.2	1.1	10.7	271.5	25.3	182.2	614
Travel Time (hr)	4.7	0	0.4	9.2	1.2	8	23.5
Avg Speed (mph)	26	27	28	30	21	23	26
Fuel Used (gal)	3.5	0	0.4	8.8	0.5	3.6	16.6
HC Emissions (g)	33	0	10	220	7	64	333
CO Emissions (g)	744	4	388	8981	151	1359	11628
NOx Emissions (g)	97	1	24	577	18	167	885
Vehicles Exited	486	4	39	997	188	1355	3069
Hourly Exit Rate	486	4	39	997	188	1355	3069
Input Volume	488	5	40	988	192	1352	3065
% of Volume	100	80	98	101	98	100	100

2: Performance by movement

Movement	WBT	NBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	6.5	2.9	9.4
Total Stops	506	323	829
Travel Dist (mi)	32.3	13.4	45.7
Travel Time (hr)	7.6	3.3	10.9
Avg Speed (mph)	4	4	4
Fuel Used (gal)	2.9	1.1	4
HC Emissions (g)	33	9	43
CO Emissions (g)	672	191	863
NOx Emissions (g)	94	24	118
Vehicles Exited	1192	805	1997
Hourly Exit Rate	1192	805	1997
Input Volume	1199	796	1995
% of Volume	99	101	100

3: Performance by movement

Movement	EBT	SBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	7.2	2.6	9.7
Total Stops	497	251	748
Travel Dist (mi)	34.3	14.5	48.8
Travel Time (hr)	8.3	3.1	11.4
Avg Speed (mph)	4	5	4
Fuel Used (gal)	3.2	1.1	4.3
HC Emissions (g)	32	12	44
CO Emissions (g)	624	248	872
NOx Emissions (g)	91	33	124
Vehicles Exited	1378	759	2137
Hourly Exit Rate	1378	759	2137
Input Volume	1370	768	2138
% of Volume	101	99	100

4: Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0.1	0	0.4	0	0	0	0	0	0	0.6
Total Delay (hr)	3.6	1.2	0.1	3.1	0.4	6.3	2.1	18.5	0.6	8.2	10.7	0.4	55.2
Total Stops	158	59	33	145	20	404	139	998	109	399	506	120	3090
Travel Dist (mi)	27.7	12.5	13.5	26.9	4	108.9	26.2	163	18.7	61.8	86.9	28.5	578.5
Travel Time (hr)	4.8	1.7	0.7	4.1	0.5	10.8	3.2	24	1.4	10	12.5	1.3	75.1
Avg Speed (mph)	6	7	19	7	8	11	8	7	13	6	7	22	8
Fuel Used (gal)	1.6	0.6	0.4	1.5	0.2	4.4	1.8	11.8	1	3.2	4.1	0.8	31.4
HC Emissions (g)	7	3	3	8	1	31	30	175	24	38	44	16	380
CO Emissions (g)	184	79	58	261	31	838	1115	4938	758	1090	1058	614	11023
NOx Emissions (g)	19	9	9	23	2	85	88	525	70	82	101	41	1056
Vehicles Exited	160	73	76	125	19	509	204	1266	146	480	674	218	3950
Hourly Exit Rate	160	73	76	125	19	509	204	1266	146	480	674	218	3950
Input Volume	161	76	78	126	20	503	211	1282	150	475	667	214	3962
% of Volume	100	96	97	99	96	101	97	99	97	101	101	102	100

15: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	SBT	All
Denied Delay (hr)	0	0	0	0
Total Delay (hr)	0	0.6	0.7	1.3
Total Stops	0	6	0	6
Travel Dist (mi)	1	270.6	191.3	462.9
Travel Time (hr)	0	11.3	4.6	16
Avg Speed (mph)	38	24	42	29
Fuel Used (gal)	0.1	16.1	5.8	22
HC Emissions (g)	21	327	159	506
CO Emissions (g)	400	15207	5052	20660
NOx Emissions (g)	48	956	491	1494
Vehicles Exited	15	1485	1544	3044
Hourly Exit Rate	15	1485	1544	3044
Input Volume	15	1476	1544	3034
% of Volume	100	101	100	100

16: Performance by movement

Movement	WBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.2	1.3	1.5
Total Stops	0	175	175
Travel Dist (mi)	7.3	9.6	16.9
Travel Time (hr)	0.5	1.6	2.1
Avg Speed (mph)	16	6	8
Fuel Used (gal)	0.6	0.7	1.3
HC Emissions (g)	10	10	19
CO Emissions (g)	194	300	494
NOx Emissions (g)	37	26	64
Vehicles Exited	1192	350	1542
Hourly Exit Rate	1192	350	1542
Input Volume	1199	345	1544
% of Volume	99	101	100

18: Performance by movement

Movement	NBR	SWT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	5.2	1.7	6.9
Total Stops	114	1	115
Travel Dist (mi)	249.3	119.9	369.2
Travel Time (hr)	13.6	4.5	18.1
Avg Speed (mph)	18	27	20
Fuel Used (gal)	9.3	6.1	15.4
HC Emissions (g)	179	127	306
CO Emissions (g)	5330	4706	10037
NOx Emissions (g)	544	407	951
Vehicles Exited	1653	872	2525
Hourly Exit Rate	1653	872	2525
Input Volume	1642	876	2518
% of Volume	101	100	100

19: EB I-580 OFF RAMP Performance by movement

Movement	SEL	SER	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	2.3	0.4	2.7
Total Stops	159	20	179
Travel Dist (mi)	52.3	28.6	80.9
Travel Time (hr)	3.7	1.2	4.8
Avg Speed (mph)	14	25	17
Fuel Used (gal)	1.4	0.8	2.2
HC Emissions (g)	19	17	36
CO Emissions (g)	519	635	1154
NOx Emissions (g)	45	46	91
Vehicles Exited	638	349	987
Hourly Exit Rate	638	349	987
Input Volume	642	345	987
% of Volume	99	101	100

25: EB I-580 ON RAMP Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.5	0.1	0.6
Total Stops	0	2	2
Travel Dist (mi)	16.7	2.5	19.1
Travel Time (hr)	1.1	0.1	1.2
Avg Speed (mph)	16	17	16
Fuel Used (gal)	0.9	0.2	1.2
HC Emissions (g)	14	3	18
CO Emissions (g)	408	151	559
NOx Emissions (g)	55	14	69
Vehicles Exited	679	108	787
Hourly Exit Rate	679	108	787
Input Volume	680	110	790
% of Volume	100	98	100

26: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NEL	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.2	4.5	4.6
Total Stops	0	352	352
Travel Dist (mi)	4.1	16.1	20.2
Travel Time (hr)	0.3	5	5.3
Avg Speed (mph)	14	3	4
Fuel Used (gal)	0.2	1.6	1.8
HC Emissions (g)	3	17	20
CO Emissions (g)	59	347	406
NOx Emissions (g)	10	42	52
Vehicles Exited	805	636	1441
Hourly Exit Rate	805	636	1441
Input Volume	796	642	1438
% of Volume	101	99	100

28: Performance by movement

Movement	WBT	NBL	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.2	2.8	3
Total Stops	5	318	323
Travel Dist (mi)	4.6	14.5	19.1
Travel Time (hr)	0.4	3.1	3.5
Avg Speed (mph)	13	5	5
Fuel Used (gal)	0.2	1.1	1.3
HC Emissions (g)	4	12	16
CO Emissions (g)	83	264	347
NOx Emissions (g)	13	32	45
Vehicles Exited	759	539	1298
Hourly Exit Rate	759	539	1298
Input Volume	768	541	1309
% of Volume	99	100	99

32: CORRAL HOLLOW RD Performance by movement

Movement	EBL	EBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.3	8.3	8.6
Total Stops	22	828	850
Travel Dist (mi)	4.5	94.3	98.8
Travel Time (hr)	0.5	11.4	11.9
Avg Speed (mph)	9	8	8
Fuel Used (gal)	0.2	5	5.2
HC Emissions (g)	2	64	66
CO Emissions (g)	57	1454	1510
NOx Emissions (g)	8	191	199
Vehicles Exited	64	1378	1442
Hourly Exit Rate	64	1378	1442
Input Volume	68	1370	1438
% of Volume	94	101	100

36: Performance by movement

Movement	SBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	2.3	0.1	2.4
Total Stops	299	1	300
Travel Dist (mi)	106.2	14.4	120.6
Travel Time (hr)	5.9	0.6	6.4
Avg Speed (mph)	18	26	19
Fuel Used (gal)	3	0.5	3.5
HC Emissions (g)	43	10	53
CO Emissions (g)	776	262	1038
NOx Emissions (g)	111	29	140
Vehicles Exited	760	104	864
Hourly Exit Rate	760	104	864
Input Volume	768	102	870
% of Volume	99	102	99

38: Performance by movement

Movement	EBT	NBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.2	1	1.3
Total Stops	0	140	140
Travel Dist (mi)	7.6	7.9	15.5
Travel Time (hr)	0.5	1.3	1.8
Avg Speed (mph)	16	6	9
Fuel Used (gal)	0.5	0.6	1.1
HC Emissions (g)	9	8	17
CO Emissions (g)	164	266	430
NOx Emissions (g)	33	21	54
Vehicles Exited	1378	277	1655
Hourly Exit Rate	1378	277	1655
Input Volume	1370	272	1642
% of Volume	101	102	101

39: WB I-580 OFF RAMP Performance by movement

Movement	NWT	NWR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.5	0.1	0.6
Total Stops	6	4	10
Travel Dist (mi)	60.4	31.2	91.6
Travel Time (hr)	1.9	0.9	2.8
Avg Speed (mph)	32	34	33
Fuel Used (gal)	0.9	0.5	1.3
HC Emissions (g)	17	11	28
CO Emissions (g)	423	243	666
NOx Emissions (g)	44	30	74
Vehicles Exited	539	277	816
Hourly Exit Rate	539	277	816
Input Volume	541	272	813
% of Volume	100	102	100

40: WB I-580 ON RAMP Performance by movement

Movement	WBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	0	0.1
Total Stops	5	0	5
Travel Dist (mi)	1.3	3.3	4.5
Travel Time (hr)	0.1	0.1	0.3
Avg Speed (mph)	9	29	18
Fuel Used (gal)	0.1	0.1	0.2
HC Emissions (g)	2	2	4
CO Emissions (g)	95	29	123
NOx Emissions (g)	8	5	13
Vehicles Exited	64	104	168
Hourly Exit Rate	64	104	168
Input Volume	68	102	170
% of Volume	94	102	99

41: Performance by movement

Movement	WBL	WBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.4	4.2	4.5
Total Stops	36	426	462
Travel Dist (mi)	7.2	76.6	83.7
Travel Time (hr)	0.6	6.8	7.4
Avg Speed (mph)	12	11	11
Fuel Used (gal)	0.3	3.7	4
HC Emissions (g)	3	62	65
CO Emissions (g)	77	1529	1606
NOx Emissions (g)	11	190	200
Vehicles Exited	107	1191	1298
Hourly Exit Rate	107	1191	1298
Input Volume	110	1199	1309
% of Volume	97	99	99

42: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.8	0.3	1.2
Total Stops	134	0	134
Travel Dist (mi)	79.9	67.5	147.4
Travel Time (hr)	3.5	2.6	6.1
Avg Speed (mph)	23	26	24
Fuel Used (gal)	1.8	1.5	3.3
HC Emissions (g)	22	21	42
CO Emissions (g)	422	514	935
NOx Emissions (g)	55	54	109
Vehicles Exited	804	679	1483
Hourly Exit Rate	804	679	1483
Input Volume	796	680	1476
% of Volume	101	100	100

Total Network Performance

Denied Delay (hr)	1.6
Total Delay (hr)	150.7
Total Stops	8850
Travel Dist (mi)	9927.1
Travel Time (hr)	404.2
Avg Speed (mph)	25
Fuel Used (gal)	357.2
HC Emissions (g)	7128
CO Emissions (g)	215792
NOx Emissions (g)	23245
Vehicles Exited	5752
Hourly Exit Rate	5752
Input Volume	58532
% of Volume	10

Appendix H. Design Year (2048) No Build SimTraffic and Sidra Outputs

Design Year (2048) No Build

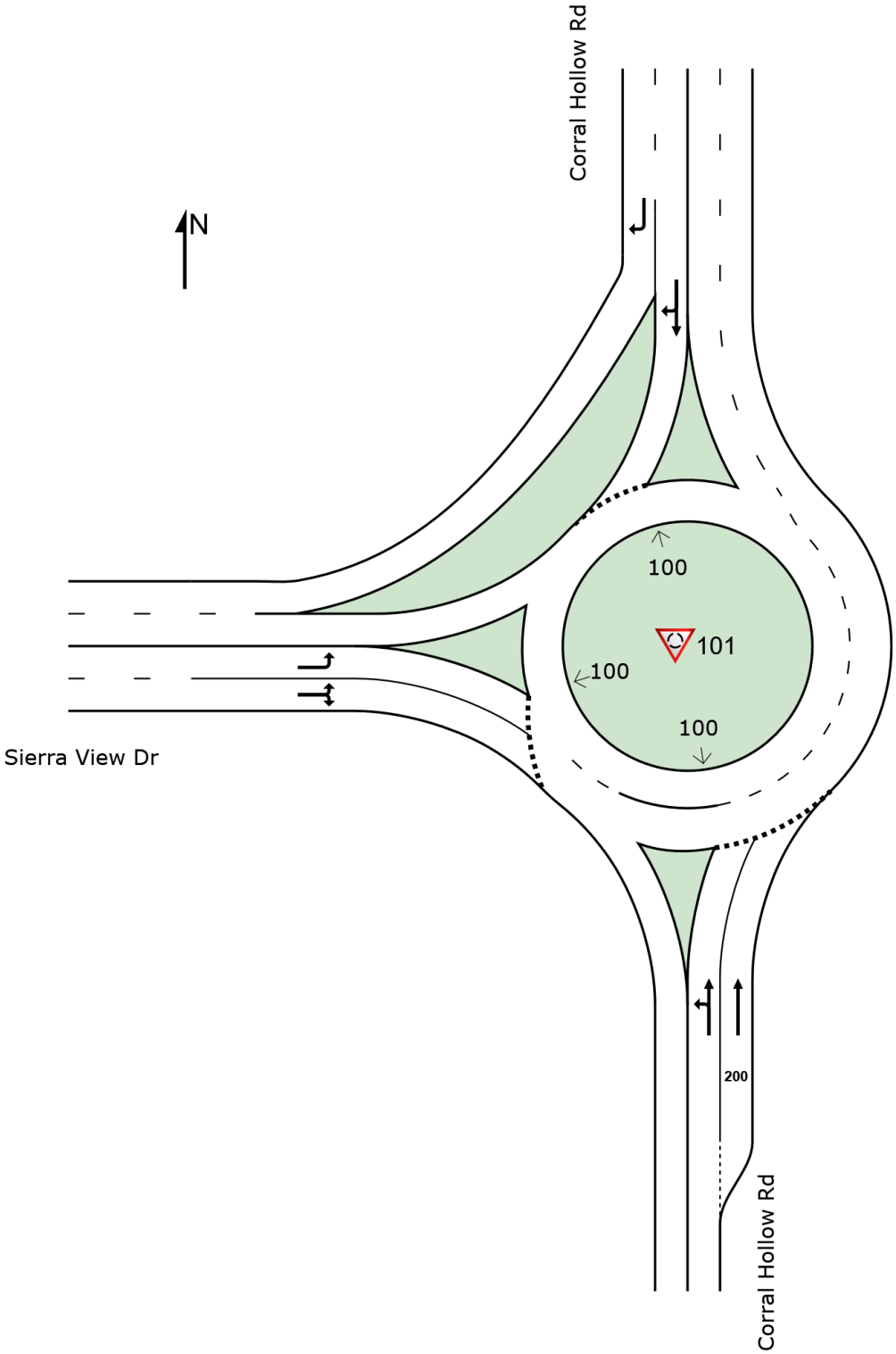
Sierra View Drive Sidra Outputs

SITE LAYOUT

Site: 101 [No Build - AM (Site Folder: DY 2048)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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LANE SUMMARY

Site: 101 [No Build - AM (Site Folder: DY 2048)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	48	5.0	48	5.0	740	0.065	100	6.9	LOS A	0.3	7.3	Full	1600	0.0	0.0
Lane 2[d]	55	5.0	55	5.0	851	0.065	100	6.1	LOS A	0.3	7.6	Short	200	0.0	NA
Approach	103	5.0	103	5.0		0.065		6.4	LOS A	0.3	7.6				
North: Corral Hollow Rd															
Lane 1[d]	785	5.0	785	5.0	1782	0.440	100	4.1	LOS A	3.6	94.6	Full	1600	0.0	0.0
Lane 2	11	5.0	11	5.0	1595	0.007	2[5]	3.6	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	796	5.0	796	5.0		0.440		4.1	LOS A	3.6	94.6				
West: Sierra View Dr															
Lane 1	322	5.0	322	5.0	727	0.442	100	18.4	LOS B	3.2	83.2	Full	1600	0.0	0.0
Lane 2[d]	419	5.0	419	5.0	946	0.442	100	16.6	LOS B	3.7	95.0	Full	1600	0.0	0.0
Approach	740	5.0	740	5.0		0.442		17.4	LOS B	3.7	95.0				
All Vehicles	1639	5.0	1639	5.0		0.442		10.2	LOS B	3.7	95.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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	3	45	48	5.0	740	0.065	100	NA	NA
Lane 2	-	55	55	5.0	851	0.065	100	0.0	1
Approach	3	100	103	5.0		0.065			

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	785	-	785	5.0	1782	0.440	100	NA	NA
Lane 2	-	11	11	5.0	1595	0.007	2[5]	NA	NA

Approach	785	11	796	5.0		0.440			
West: Sierra View Dr									
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	322	-	322	5.0	727	0.442	100	NA	NA
Lane 2	391	27	419	5.0	946	0.442	100	NA	NA
Approach	713	27	740	5.0		0.442			
	Total	%HV	Deg.Satn (v/c)						
All Vehicles	1639	5.0		0.442					

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

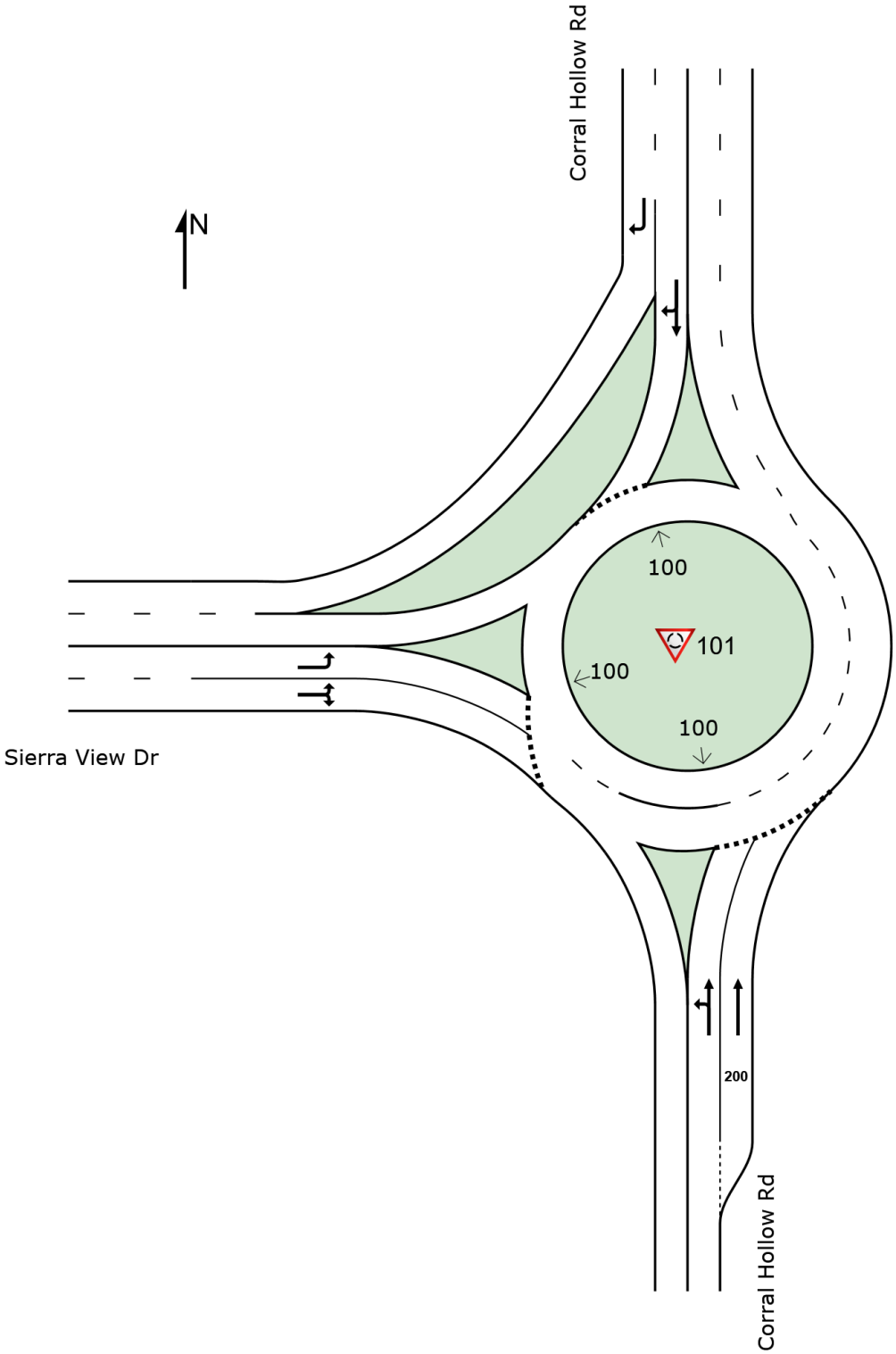
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Sierra View Dr				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

SITE LAYOUT

Site: 101 [No Build - PM (Site Folder: DY 2048)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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LANE SUMMARY

Site: 101 [No Build - PM (Site Folder: DY 2048)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	590	5.0	590	5.0	1398	0.422	100	4.4	LOS A	2.9	74.3	Full	1600	0.0	0.0
Lane 2[d]	664	5.0	664	5.0	1574	0.422	100	4.2	LOS A	2.9	75.0	Short	200	0.0	NA
Approach	1253	5.0	1253	5.0		0.422		4.3	LOS A	2.9	75.0				
North: Corral Hollow Rd															
Lane 1[d]	202	5.0	202	5.0	1684	0.120	43[5]	4.1	LOS A	0.6	14.7	Full	1600	0.0	0.0
Lane 2	447	5.0	447	5.0	1595	0.280	100	3.7	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	649	5.0	649	5.0		0.280		3.8	LOS A	0.6	14.7				
West: Sierra View Dr															
Lane 1	12	5.0	12	5.0	1191	0.010	100	10.8	LOS B	0.0	1.1	Full	1600	0.0	0.0
Lane 2[d]	13	5.0	13	5.0	1390	0.010	100	9.2	LOS A	0.0	1.1	Full	1600	0.0	0.0
Approach	25	5.0	25	5.0		0.010		9.9	LOS A	0.0	1.1				
All Vehicles	1927	5.0	1927	5.0		0.422		4.2	LOS A	2.9	75.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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	16	573	590	5.0	1398	0.422	100	NA	NA
Lane 2	-	664	664	5.0	1574	0.422	100	0.0	1
Approach	16	1237	1253	5.0		0.422			

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	202	-	202	5.0	1684	0.120	43[5]	NA	NA
Lane 2	-	447	447	5.0	1595	0.280	100	NA	NA

Approach	202	447	649	5.0		0.280			
West: Sierra View Dr									
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	12	-	12	5.0	1191	0.010	100	NA	NA
Lane 2	10	3	13	5.0	1390	0.010	100	NA	NA
Approach	22	3	25	5.0		0.010			
	Total	%HV	Deg.Satn (v/c)						
All Vehicles	1927	5.0		0.422					

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Sierra View Dr				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

Design Year (2048) No Build

SimTraffic Outputs

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	245.7	253.7	0	0	0	0	156.2
Total Del/Veh (s)	386.9	406.6	160.5	110.4	122.2	32.1	283.4
Vehicles Exited	551	19	3	83	286	5	947
Hourly Exit Rate	551	19	3	83	286	5	947
Input Volume	656	25	3	92	722	10	1508
% of Volume	84	77	100	90	40	49	63

2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.2	0.2	0.9	1.5	0.9	0.1	0.7
Total Del/Veh (s)	1937.7	1477.7	1925.4	157.8	146.7	69.5	61.1	430.6
Vehicles Exited	2	0	0	420	219	188	309	1138
Hourly Exit Rate	2	0	0	420	219	188	309	1138
Input Volume	158	2	41	490	259	426	691	2067
% of Volume	1	0	0	86	85	44	45	55

3: I-580 WB ON RAMP/I-580 WB OFF RAMP & Corral Hollow Rd Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	419.6	394.6	432.5	2.8	1.5	0.2	0.3	84.9
Total Del/Veh (s)	2832.4	2871.3	2831.6	116	89.8	50.2	44.4	481.6
Vehicles Exited	5	0	2	100	327	494	513	1441
Hourly Exit Rate	5	0	2	100	327	494	513	1441
Input Volume	236	2	117	155	492	881	910	2794
% of Volume	2	0	2	64	66	56	56	52

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	263.9	249.8	278.9	0	0	0	0	0	0	41.9
Total Del/Veh (s)	143.1	98.9	244.9	371.4	290.3	210.6	86.4	34.5	3.6	59.5	198.4	31	163.2
Vehicles Exited	313	8	241	186	8	59	75	230	21	328	601	96	2166
Hourly Exit Rate	313	8	241	186	8	59	75	230	21	328	601	96	2166
Input Volume	387	10	300	270	10	85	147	424	38	645	1221	183	3721
% of Volume	81	78	80	69	78	69	51	54	55	51	49	52	58

Intersection: 1: CORRAL HOLLOW RD & SIERRA VIEW DR

Movement	EB	EB	NB	NB	SB	SB	B13	B13	B12
Directions Served	L	LR	L	T	TR	R	T	T	T
Maximum Queue (ft)	1384	1379	86	357	583	326	364	264	1083
Average Queue (ft)	969	945	5	72	272	29	108	40	189
95th Queue (ft)	1785	1802	49	354	694	196	359	190	800
Link Distance (ft)	1328	1328		1492	480	480	264	264	1045
Upstream Blk Time (%)	52	49			35	0	23	1	7
Queuing Penalty (veh)	0	0			124	1	81	3	48
Storage Bay Dist (ft)			200						
Storage Blk Time (%)				13					
Queuing Penalty (veh)				0					

Intersection: 2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP

Movement	EB	EB	NB	B12	B12	B13	B13	B13	SB
Directions Served	LT	R	TR	T		T	T		LT
Maximum Queue (ft)	5438	44	1140	357	277	549	534	538	455
Average Queue (ft)	3055	2	655	189	59	311	275	218	227
95th Queue (ft)	5395	33	1543	459	237	719	664	636	563
Link Distance (ft)	11393		1045	264	264	480	480	480	420
Upstream Blk Time (%)			53	53	11	52	35	36	37
Queuing Penalty (veh)			391	194	42	127	86	87	421
Storage Bay Dist (ft)		100							
Storage Blk Time (%)	100								
Queuing Penalty (veh)	41								

Intersection: 3: I-580 WB ON RAMP/I-580 WB OFF RAMP & Corral Hollow Rd

Movement	WB	WB	NB	SB	B11	B11
Directions Served	LT	R	LT	TR	T	
Maximum Queue (ft)	5784	102	455	638	816	837
Average Queue (ft)	4699	5	292	279	650	592
95th Queue (ft)	6931	54	603	783	1042	1078
Link Distance (ft)	5770		420	550	780	780
Upstream Blk Time (%)	43		53	37	33	33
Queuing Penalty (veh)	0		339	671	298	304
Storage Bay Dist (ft)		100				
Storage Blk Time (%)	100					
Queuing Penalty (veh)	117					

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	B21	B21	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B5	B44	
Directions Served	L	T	R	T	T	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T	
Maximum Queue (ft)	315	940	945	797	785	275	1128	148	133	156	237	240	34	386	635	779	750	467	6228	789	
Average Queue (ft)	230	511	492	288	280	242	660	24	34	46	62	69	5	119	293	594	520	122	3109	307	
95th Queue (ft)	419	1171	1078	963	938	331	1455	84	107	135	181	198	22	307	709	906	860	458	8093	965	
Link Distance (ft)		866	866	924	924		1078				780	780				693	693		6428	815	
Upstream Blk Time (%)		32	25	22	13		47									37	17		33	32	
Queuing Penalty (veh)		0	0	0	0		0									0	0		0	0	
Storage Bay Dist (ft)	240					200		200	440	440			380	560	560			430			
Storage Blk Time (%)	33	0				70								0	0	50	50				
Queuing Penalty (veh)	3	2				67								0	2	330	93				

Intersection: 5: Bend

Movement	NB	NB	
Directions Served		T	
Maximum Queue (ft)		96	232
Average Queue (ft)		6	17
95th Queue (ft)		58	111
Link Distance (ft)		693	693
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	44.8	1.7	0	0	0	0	46.5
Total Delay (hr)	64.7	2.4	0.1	2.8	10	0	80.1
Total Stops	462	20	3	19	92	1	597
Travel Dist (mi)	144.1	5.1	1	25.9	29.6	0.6	206.2
Travel Time (hr)	114.5	4.2	0.2	3.3	10.6	0.1	132.9
Avg Speed (mph)	2	2	6	8	3	9	2
Fuel Used (gal)	28.7	1.1	0.1	1.6	2.7	0	34.1
HC Emissions (g)	222	12	0	28	24	2	288
CO Emissions (g)	4591	213	31	1137	484	31	6487
NOx Emissions (g)	315	14	1	72	32	4	439
Vehicles Exited	551	19	3	83	286	5	947
Hourly Exit Rate	551	19	3	83	286	5	947
Input Volume	656	25	3	92	722	10	1508
% of Volume	84	77	100	90	40	49	63

2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0	0	0	0.1	0.1	0	0	0.3
Total Delay (hr)	104.4	0.8	27.8	19.5	9.5	3.7	5.3	170.9
Total Stops	164	2	46	45	21	69	79	426
Travel Dist (mi)	253.2	2.2	71.8	86.5	45.2	17.6	29	505.5
Travel Time (hr)	111.7	0.9	29.9	21.3	10.7	4.3	5.9	184.8
Avg Speed (mph)	2	2	2	4	4	4	5	3
Fuel Used (gal)	30.1	0.2	8.1	6.2	3.1	1.5	2.6	51.8
HC Emissions (g)	218	0	83	68	34	17	45	465
CO Emissions (g)	4138	14	1423	1304	634	530	1413	9456
NOx Emissions (g)	404	1	140	124	63	50	119	901
Vehicles Exited	2	0	0	420	219	188	309	1138
Hourly Exit Rate	2	0	0	420	219	188	309	1138
Input Volume	158	2	41	490	259	426	691	2067
% of Volume	1	0	0	86	85	44	45	55

3: I-580 WB ON RAMP/I-580 WB OFF RAMP & Corral Hollow Rd Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	27.5	0.2	14.2	0.1	0.1	0	0	42.2
Total Delay (hr)	138.5	0.8	66.1	3.4	8.4	7	6.4	230.5
Total Stops	126	1	62	37	69	49	48	392
Travel Dist (mi)	53.4	0.3	26.6	9.2	30.1	56.9	59.1	235.5
Travel Time (hr)	167.5	1	81	3.7	9.2	8.3	8.4	279.2
Avg Speed (mph)	0	0	0	3	3	7	7	1
Fuel Used (gal)	38.8	0.2	18.7	1.1	3.1	3.2	3.2	68.4
HC Emissions (g)	222	0	131	10	38	36	31	467
CO Emissions (g)	4605	13	2521	272	1049	737	657	9855
NOx Emissions (g)	218	0	131	25	95	98	85	652
Vehicles Exited	5	0	2	100	327	494	513	1441
Hourly Exit Rate	5	0	2	100	327	494	513	1441
Input Volume	236	2	117	155	492	881	910	2794
% of Volume	2	0	2	64	66	56	56	52

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	20	0.8	6.5	0	0	0	0	0	0	27.3
Total Delay (hr)	13.4	0.2	17.9	22.9	0.6	3.9	1.8	2.2	0	5.6	35.6	0.8	105
Total Stops	378	8	211	213	9	47	77	142	12	277	644	46	2064
Travel Dist (mi)	55.1	1.4	44.1	40.9	1.6	12.5	12.2	37	3.4	46.5	87.9	13.6	356.3
Travel Time (hr)	15.6	0.3	19.8	44.4	1.5	10.9	2.2	3.1	0.1	6.9	37.4	1.3	143.4
Avg Speed (mph)	4	5	2	2	2	3	5	12	26	7	2	11	3
Fuel Used (gal)	4.6	0.1	5.2	10.8	0.4	2.7	0.9	2	0.1	2.8	10.3	0.7	40.6
HC Emissions (g)	37	3	39	75	9	25	14	38	4	44	105	17	411
CO Emissions (g)	774	48	785	1555	136	503	544	1596	178	1415	2379	558	10471
NOx Emissions (g)	77	5	60	91	10	34	31	101	10	110	180	41	750
Vehicles Exited	313	8	241	186	8	59	75	230	21	328	601	96	2166
Hourly Exit Rate	313	8	241	186	8	59	75	230	21	328	601	96	2166
Input Volume	387	10	300	270	10	85	147	424	38	645	1221	183	3721
% of Volume	81	78	80	69	78	69	51	54	55	51	49	52	58

Total Network Performance

Denied Delay (hr)	497.1
Total Delay (hr)	836.3
Total Stops	6088
Travel Dist (mi)	4905.6
Travel Time (hr)	1469.1
Avg Speed (mph)	5
Fuel Used (gal)	449.4
HC Emissions (g)	4830
CO Emissions (g)	112323
NOx Emissions (g)	10707
Vehicles Exited	2475
Hourly Exit Rate	2475
Input Volume	27667
% of Volume	9

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0	0	0	0	0
Total Del/Veh (s)	2.7	2.2	10.1	15.9	7.3	2.9	13.3
Vehicles Exited	19	3	13	1130	90	207	1462
Hourly Exit Rate	19	3	13	1130	90	207	1462
Input Volume	20	3	15	1138	186	411	1773
% of Volume	96	100	85	99	48	50	82

2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	283.1	301	262.1	0	0	0	0	79.6
Total Del/Veh (s)	2673.5	2552.3	2725.4	10.2	6.2	182.2	151.6	694.7
Vehicles Exited	4	0	1	349	801	59	296	1510
Hourly Exit Rate	4	0	1	349	801	59	296	1510
Input Volume	513	3	78	352	806	105	519	2377
% of Volume	1	0	1	99	99	56	57	64

3: I-580 WB ON RAMP/I-580 WB OFF RAMP & Corral Hollow Rd Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	663.4	486	652	0	0	0	0	309.6
Total Del/Veh (s)	2085.4	2009.3	2026.4	6.5	3.8	153.2	156.2	733
Vehicles Exited	49	0	72	8	346	307	75	857
Hourly Exit Rate	49	0	72	8	346	307	75	857
Input Volume	269	1	397	20	846	355	87	1974
% of Volume	18	0	18	41	41	86	86	43

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	36.4	45.9	34.3	0	0	0	0	0	0	8.9
Total Del/Veh (s)	63.9	35.1	32.2	82	55.1	25.1	42.7	40.9	5.4	64.5	107.5	8.3	48.6
Vehicles Exited	327	76	71	119	19	488	118	255	48	460	232	315	2528
Hourly Exit Rate	327	76	71	119	19	488	118	255	48	460	232	315	2528
Input Volume	329	76	70	126	20	503	355	738	150	475	246	323	3410
% of Volume	99	100	101	95	96	97	33	35	32	97	94	97	74

Intersection: 1: CORRAL HOLLOW RD & SIERRA VIEW DR

Movement	EB	NB	SB
Directions Served	L	L	TR
Maximum Queue (ft)	35	6	32
Average Queue (ft)	2	0	2
95th Queue (ft)	17	5	15
Link Distance (ft)	1328		480
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		200	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP

Movement	EB	EB	NB	SB	
Directions Served	LT	R	TR	LT	
Maximum Queue (ft)	11408	58	30	465	
Average Queue (ft)	8620	2	3	436	
95th Queue (ft)	13502	29	17	495	
Link Distance (ft)	11393		1045	420	
Upstream Blk Time (%)	38			70	
Queuing Penalty (veh)	0			438	
Storage Bay Dist (ft)		100			
Storage Blk Time (%)	100				
Queuing Penalty (veh)	78				

Intersection: 3: I-580 WB ON RAMP/I-580 WB OFF RAMP & Corral Hollow Rd

Movement	WB	WB	NB	SB	B11	B11	
Directions Served	LT	R	LT	TR	T		
Maximum Queue (ft)	5811	175	61	658	803	809	
Average Queue (ft)	5025	53	4	488	397	295	
95th Queue (ft)	7175	185	31	844	971	885	
Link Distance (ft)	5770		420	550	780	780	
Upstream Blk Time (%)	66			54	18	11	
Queuing Penalty (veh)	0			242	41	23	
Storage Bay Dist (ft)		100					
Storage Blk Time (%)	98	0					
Queuing Penalty (veh)	391	1					

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	B21	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B5	B44	
Directions Served	L	T	R	T	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T	
Maximum Queue (ft)	311	507	173	26	229	574	274	102	114	182	188	61	413	466	506	419	146	546	71	
Average Queue (ft)	233	145	40	2	97	114	145	34	46	77	77	15	189	220	174	138	59	197	16	
95th Queue (ft)	338	482	130	36	218	576	267	77	91	147	152	39	361	421	439	387	150	1916	202	
Link Distance (ft)		866	866	924		1078				780	780				693	693		6428	815	
Upstream Blk Time (%)		1				5									2	3		2	2	
Queuing Penalty (veh)		0				0									0	0		0	0	
Storage Bay Dist (ft)	240				200		200	440	440			380	560	560			430			
Storage Blk Time (%)	18	0			12		5						0	2	4	4				
Queuing Penalty (veh)	14	0			60		7						0	2	18	12				

Intersection: 5: Bend

Movement	NB	NB
Directions Served		T
Maximum Queue (ft)	61	93
Average Queue (ft)	3	7
95th Queue (ft)	30	44
Link Distance (ft)	693	693
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0
Total Delay (hr)	0	0	0	5	0.2	0.2	5.4
Total Stops	2	0	0	0	2	1	5
Travel Dist (mi)	4.8	0.8	3.9	331.5	9.1	21.2	371.3
Travel Time (hr)	0.2	0	0.1	12.3	0.4	0.8	13.8
Avg Speed (mph)	27	27	28	27	25	26	27
Fuel Used (gal)	0.1	0	0.1	10.2	0.2	0.4	11.1
HC Emissions (g)	3	0	3	232	3	9	250
CO Emissions (g)	50	2	102	7444	63	199	7858
NOx Emissions (g)	8	0	9	665	8	25	716
Vehicles Exited	19	3	13	1130	90	207	1462
Hourly Exit Rate	19	3	13	1130	90	207	1462
Input Volume	20	3	15	1138	186	411	1773
% of Volume	96	100	85	99	48	50	82

2: CORRAL HOLLOW RD & I-580 EB OFF RAMP/I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	40.6	0.3	5.7	0	0	0	0	46.5
Total Delay (hr)	320.8	2.1	50.7	1	1.4	3.2	13.1	392.3
Total Stops	340	2	52	0	4	99	338	835
Travel Dist (mi)	273.6	2	42.8	72.8	166.9	5.5	27.6	591.1
Travel Time (hr)	369.3	2.4	57.6	2.5	5.8	3.4	13.7	454.6
Avg Speed (mph)	1	1	1	29	29	2	2	1
Fuel Used (gal)	88.2	0.6	13.7	1.1	2.2	0.9	3.8	110.6
HC Emissions (g)	680	0	100	28	51	6	31	897
CO Emissions (g)	12625	32	1890	532	850	128	665	16721
NOx Emissions (g)	821	1	120	67	113	10	62	1194
Vehicles Exited	4	0	1	349	801	59	296	1510
Hourly Exit Rate	4	0	1	349	801	59	296	1510
Input Volume	513	3	78	352	806	105	519	2377
% of Volume	1	0	1	99	99	56	57	64

3: I-580 WB ON RAMP/I-580 WB OFF RAMP & Corral Hollow Rd Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	50.1	0.3	71.5	0	0	0	0	121.9
Total Delay (hr)	90.4	0.6	122.7	0	0.4	13.9	3.4	231.3
Total Stops	136	1	174	2	2	197	43	555
Travel Dist (mi)	81.8	0.5	118.9	0.7	32	35.7	8.8	278.5
Travel Time (hr)	142.9	0.8	197.7	0	1	14.7	3.7	360.9
Avg Speed (mph)	1	1	1	19	32	2	2	1
Fuel Used (gal)	33.5	0.2	46.5	0	2	4.1	1	87.3
HC Emissions (g)	194	0	316	0	54	31	12	607
CO Emissions (g)	4058	11	6216	27	2382	758	237	13690
NOx Emissions (g)	205	0	327	1	148	61	18	761
Vehicles Exited	49	0	72	8	346	307	75	857
Hourly Exit Rate	49	0	72	8	346	307	75	857
Input Volume	269	1	397	20	846	355	87	1974
% of Volume	18	0	18	41	41	86	86	43

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	1.3	0.3	4.8	0	0	0	0	0	0	6.3
Total Delay (hr)	6	0.8	0.6	2.8	0.3	3.5	1.4	2.9	0.1	8.5	7.3	0.7	35
Total Stops	335	54	36	108	15	336	93	188	36	454	214	165	2034
Travel Dist (mi)	57.6	13.5	12.4	24.9	4	100.4	18.7	40.5	7.8	66.1	34	44.8	424.6
Travel Time (hr)	8.4	1.3	1.2	5	0.7	12.1	2	3.9	0.3	10.4	8	2.2	55.4
Avg Speed (mph)	7	10	11	7	9	14	9	10	24	6	4	21	9
Fuel Used (gal)	3	0.6	0.5	1.6	0.2	4.5	1.1	2.2	0.3	3.3	2.4	1.1	20.8
HC Emissions (g)	28	6	5	20	2	64	20	46	10	34	23	22	281
CO Emissions (g)	580	131	96	426	47	1292	891	1884	426	1025	720	818	8336
NOx Emissions (g)	70	17	13	42	4	143	48	113	24	77	49	58	658
Vehicles Exited	327	76	71	119	19	488	118	255	48	460	232	315	2528
Hourly Exit Rate	327	76	71	119	19	488	118	255	48	460	232	315	2528
Input Volume	329	76	70	126	20	503	355	738	150	475	246	323	3410
% of Volume	99	100	101	95	96	97	33	35	32	97	94	97	74

Total Network Performance

Denied Delay (hr)	176.6
Total Delay (hr)	703.1
Total Stops	3807
Travel Dist (mi)	5947.9
Travel Time (hr)	1048.5
Avg Speed (mph)	7
Fuel Used (gal)	376.8
HC Emissions (g)	5039
CO Emissions (g)	123287
NOx Emissions (g)	12540
Vehicles Exited	3370
Hourly Exit Rate	3370
Input Volume	27074
% of Volume	12

Appendix I. Design Year (2048) Build SimTraffic and Sidra Outputs

Design Year (2048) Build

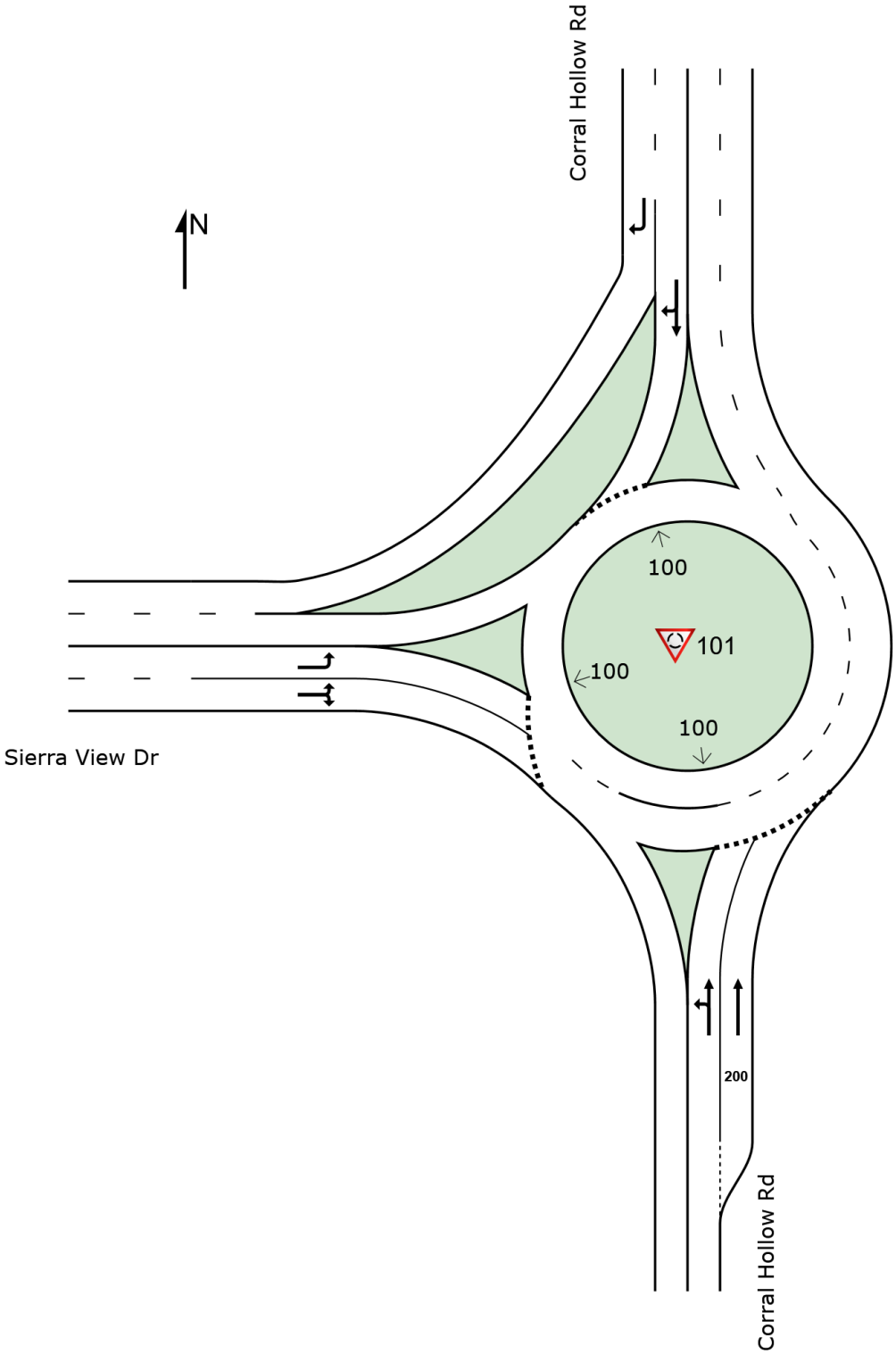
Sierra View Drive Sidra Outputs

SITE LAYOUT

Site: 101 [Build - AM (Site Folder: DY 2048)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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LANE SUMMARY

Site: 101 [Build - AM (Site Folder: DY 2048)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	49	5.0	49	5.0	727	0.067	100	7.0	LOS A	0.3	7.6	Full	1600	0.0	0.0
Lane 2[d]	56	5.0	56	5.0	837	0.067	100	6.1	LOS A	0.3	7.9	Short	200	0.0	NA
Approach	105	5.0	105	5.0		0.067		6.5	LOS A	0.3	7.9				
North: Corral Hollow Rd															
Lane 1[d]	865	5.0	865	5.0	1779	0.486	100	4.1	LOS A	4.4	114.0	Full	1600	0.0	0.0
Lane 2	11	5.0	11	5.0	1595	0.007	1[5]	3.6	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	876	5.0	876	5.0		0.486		4.1	LOS A	4.4	114.0				
West: Sierra View Dr															
Lane 1	320	5.0	320	5.0	670	0.477	100	21.3	LOS C	4.0	103.2	Full	1600	0.0	0.0
Lane 2[d]	420	5.0	420	5.0	881	0.477	100	18.5	LOS B	4.3	111.4	Full	1600	0.0	0.0
Approach	740	5.0	740	5.0		0.477		19.7	LOS B	4.3	111.4				
All Vehicles	1722	5.0	1722	5.0		0.486		11.0	LOS B	4.4	114.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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	4	45	49	5.0	727	0.067	100	NA	NA
Lane 2	-	56	56	5.0	837	0.067	100	0.0	1
Approach	4	101	105	5.0		0.067			

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	865	-	865	5.0	1779	0.486	100	NA	NA
Lane 2	-	11	11	5.0	1595	0.007	1[5]	NA	NA

Approach	865	11	876	5.0		0.486			
West: Sierra View Dr									
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	320	-	320	5.0	670	0.477	100	NA	NA
Lane 2	393	27	420	5.0	881	0.477	100	NA	NA
Approach	713	27	740	5.0		0.477			
	Total	%HV	Deg.Satn (v/c)						
All Vehicles	1722	5.0		0.486					

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

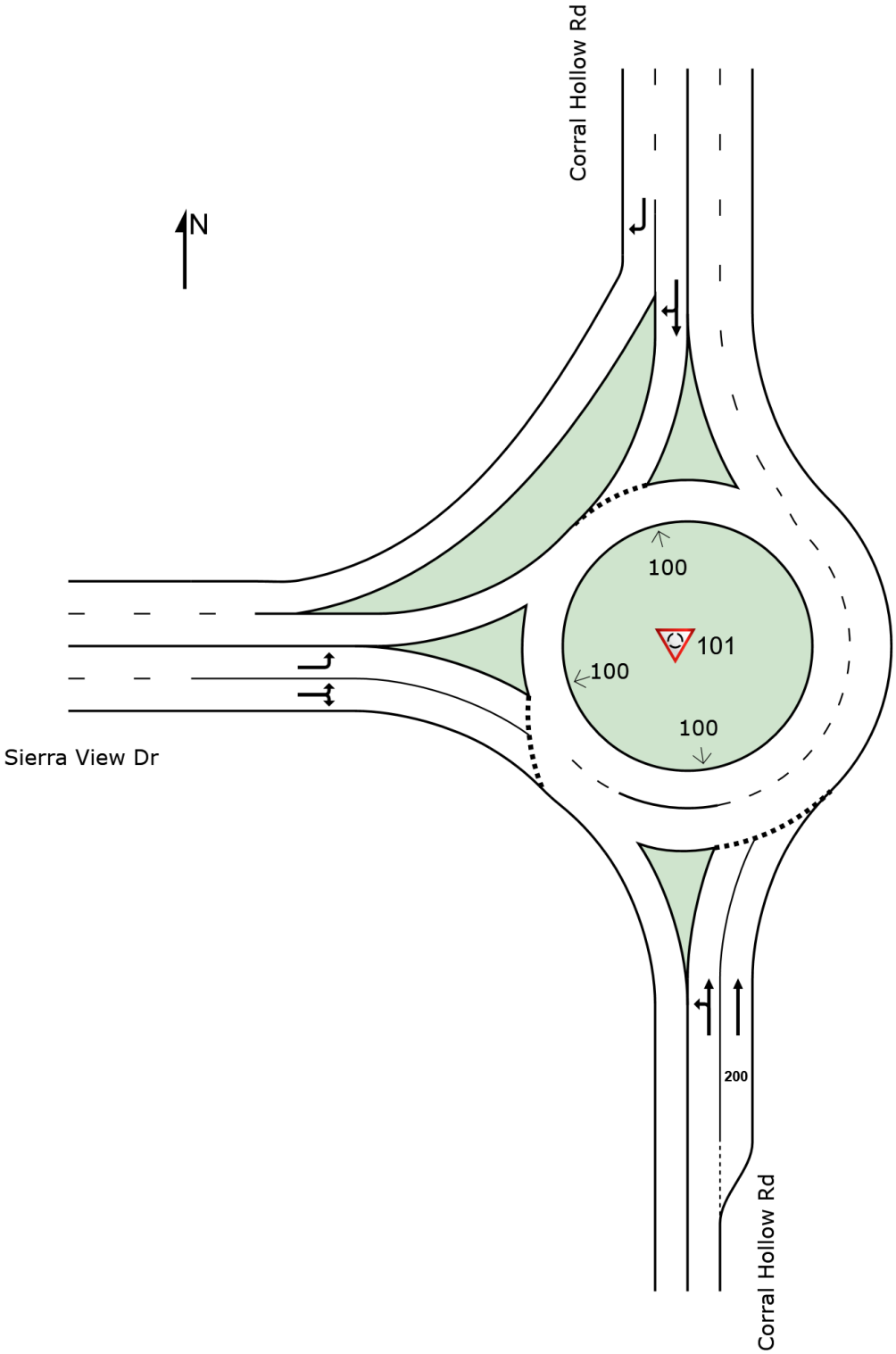
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Sierra View Dr				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

SITE LAYOUT

Site: 101 [Build - PM (Site Folder: DY 2048)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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LANE SUMMARY

Site: 101 [Build - PM (Site Folder: DY 2048)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	612	5.0	612	5.0	1399	0.437	100	4.4	LOS A	3.0	79.0	Full	1600	0.0	0.0
Lane 2[d]	689	5.0	689	5.0	1576	0.437	100	4.2	LOS A	3.1	79.7	Short	200	0.0	NA
Approach	1301	5.0	1301	5.0		0.437		4.3	LOS A	3.1	79.7				
North: Corral Hollow Rd															
Lane 1[d]	209	5.0	209	5.0	1686	0.124	42[5]	4.1	LOS A	0.6	15.3	Full	1600	0.0	0.0
Lane 2	474	5.0	474	5.0	1595	0.297	100	3.7	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	683	5.0	683	5.0		0.297		3.8	LOS A	0.6	15.3				
West: Sierra View Dr															
Lane 1	12	5.0	12	5.0	1184	0.010	100	10.8	LOS B	0.0	1.1	Full	1600	0.0	0.0
Lane 2[d]	13	5.0	13	5.0	1384	0.010	100	9.2	LOS A	0.0	1.1	Full	1600	0.0	0.0
Approach	25	5.0	25	5.0		0.010		10.0	LOS A	0.0	1.1				
All Vehicles	2009	5.0	2009	5.0		0.437		4.2	LOS A	3.1	79.7				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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	16	595	612	5.0	1399	0.437	100	NA	NA
Lane 2	-	689	689	5.0	1576	0.437	100	0.0	1
Approach	16	1285	1301	5.0		0.437			

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	209	-	209	5.0	1686	0.124	42[5]	NA	NA
Lane 2	-	474	474	5.0	1595	0.297	100	NA	NA

Approach	209	474	683	5.0		0.297			
West: Sierra View Dr									
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	12	-	12	5.0	1184	0.010	100	NA	NA
Lane 2	10	3	13	5.0	1384	0.010	100	NA	NA
Approach	22	3	25	5.0		0.010			
	Total	%HV	Deg.Satn (v/c)						
All Vehicles	2009	5.0		0.437					

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Sierra View Dr				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

Design Year (2048) Build

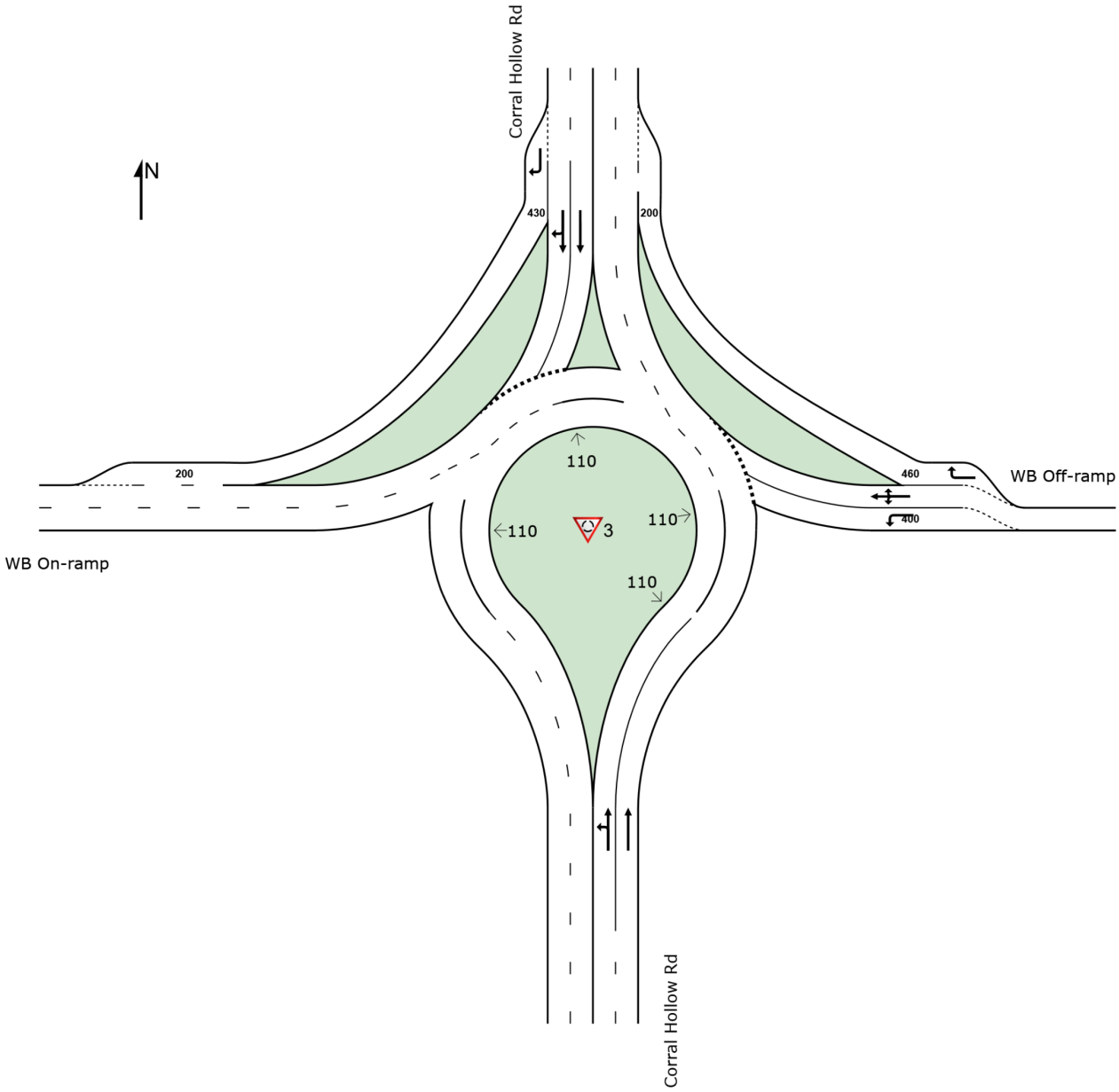
Roundabouts Sidra Output

SITE LAYOUT

Site: 3 [WB Ramp (Site Folder: 2048B AM Peak)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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LANE SUMMARY

Site: 3 [WB Ramp (Site Folder: 2048B AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	321	5.0	321	5.0	1510	0.213	100	7.2	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	384	5.0	384	5.0	1804	0.213	100	3.9	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	705	5.0	705	5.0		0.213		5.4	LOS A	0.0	0.0				
East: WB Off-ramp															
Lane 1	141	5.0	141	5.0	915	0.154	100	12.5	LOS B	0.6	15.5	Short	400	0.0	NA
Lane 2[d]	190	5.0	190	5.0	1230	0.154	100	10.4	LOS B	0.6	16.3	Full	1600	0.0	0.0
Lane 3	91	5.0	91	5.0	1533	0.059	39[6]	4.6	LOS A	0.0	0.0	Short	460	0.0	NA
Approach	422	5.0	422	5.0		0.154		9.9	LOS A	0.6	16.3				
North: Corral Hollow Rd															
Lane 1	689	5.0	689	5.0	1002	0.688	100	8.8	LOS A	6.3	164.1	Full	1600	0.0	0.0
Lane 2[d]	877	5.0	877	5.0	1274	0.688	100	7.3	LOS A	6.5	168.9	Full	1600	0.0	0.0
Lane 3	407	5.0	407	5.0	1533	0.265	39[6]	5.9	LOS A	0.0	0.0	Short	430	0.0	NA
Approach	1973	5.0	1973	5.0		0.688		7.5	LOS A	6.5	168.9				
All Vehicles	3100	5.0	3100	5.0		0.688		7.4	LOS A	6.5	168.9				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects
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	173	149	321	5.0	1510	0.213	100	NA	NA
Lane 2	-	384	384	5.0	1804	0.213	100	NA	NA
Approach	173	533	705	5.0		0.213			

East: WB Off-ramp

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	141	-	-	141	5.0	915	0.154	100	0.0	2
Lane 2	151	2	36	190	5.0	1230	0.154	100	NA	NA
Lane 3	-	-	91	91	5.0	1533	0.059	39[6]	0.0	2
Approach	292	2	127	422	5.0		0.154			

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	689	-	689	5.0	1002	0.688	100	NA	NA
Lane 2	304	573	877	5.0	1274	0.688	100	NA	NA
Lane 3	-	407	407	5.0	1533	0.265	39[6]	0.0	2
Approach	993	979	1973	5.0		0.688			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	3100	5.0	0.688

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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
North Exit: Corral Hollow Rd Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	420	441	3.15	2.10	91	1264	0.072	0.8	1.0
Merge Lane	2	-	100.0	Merge Lane is not Opposed				420	1800	0.233	0.0	0.0
West Exit: WB On-ramp Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	575	604	3.15	2.10	407	1094	0.372	1.2	2.2
Merge Lane	2	-	100.0	Merge Lane is not Opposed				575	1800	0.319	0.0	0.0

Variable Demand Analysis

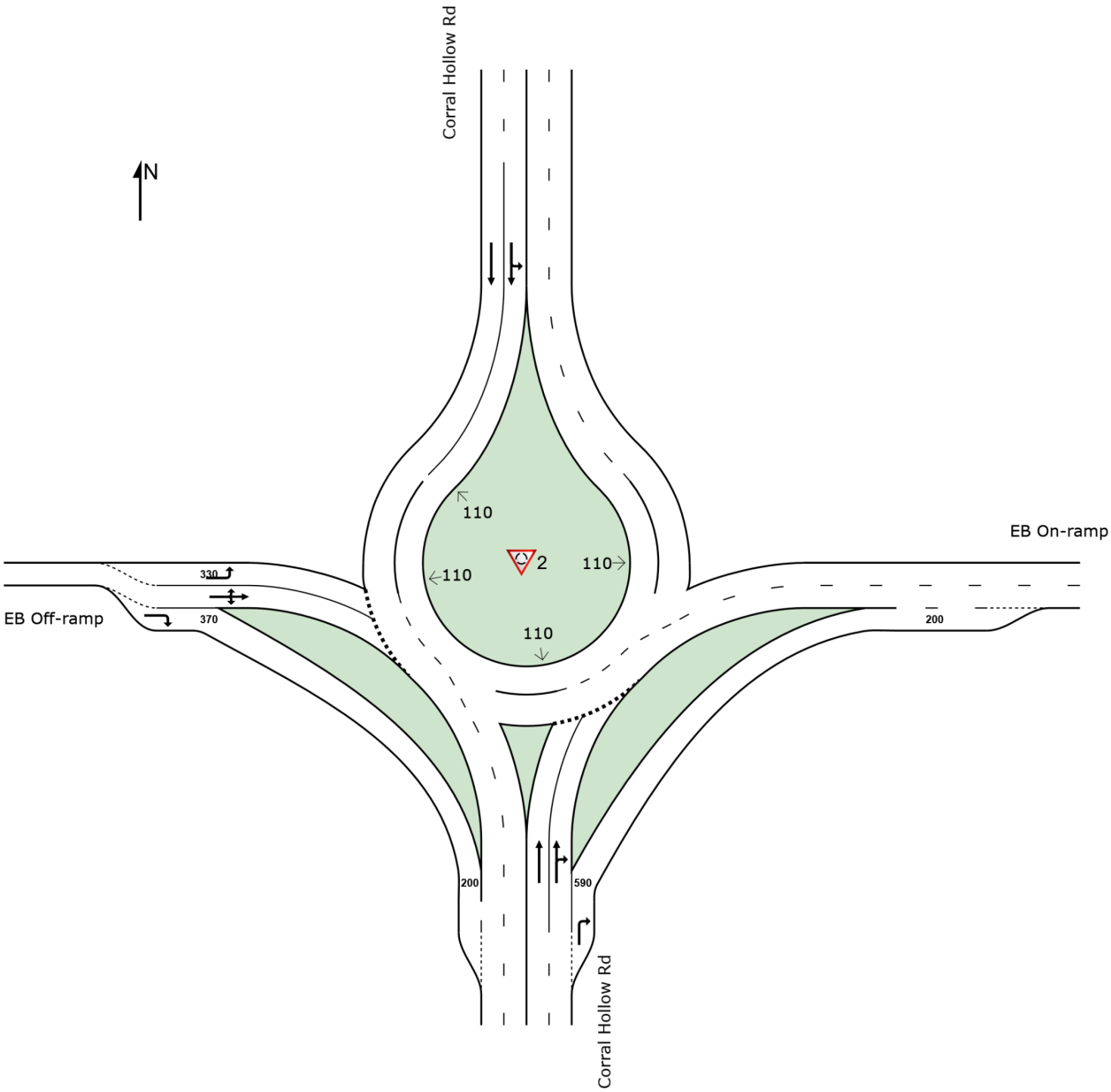
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: WB Off-ramp				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

SITE LAYOUT

Site: 2 [EB Ramp (Site Folder: 2048B AM Peak)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 2 [EB Ramp (Site Folder: 2048B AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	274	5.0	274	5.0	904	0.303	100	6.9	LOS A	1.5	39.5	Full	1600	0.0	0.0
Lane 2[d]	361	5.0	361	5.0	1189	0.303	100	6.0	LOS A	1.6	42.5	Full	1600	0.0	0.0
Lane 3	179	5.0	179	5.0	1533	0.117	39[6]	3.9	LOS A	0.0	0.0	Short	590	0.0	NA
Approach	814	5.0	814	5.0		0.303		5.8	LOS A	1.6	42.5				
North: Corral Hollow Rd															
Lane 1	586	5.0	586	5.0	1510	0.388	100	8.6	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	700	5.0	700	5.0	1804	0.388	100	3.9	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1286	5.0	1286	5.0		0.388		6.0	LOS A	0.0	0.0				
West: EB Off-ramp															
Lane 1	71	5.0	71	5.0	720	0.099	100	14.3	LOS B	0.4	9.8	Short	330	0.0	NA
Lane 2[d]	107	5.0	107	5.0	1088	0.099	100	12.7	LOS B	0.4	10.9	Full	1600	0.0	0.0
Lane 3	45	5.0	45	5.0	1533	0.029	29[5]	5.6	LOS A	0.0	0.0	Short	370	0.0	NA
Approach	223	5.0	223	5.0		0.099		11.8	LOS B	0.4	10.9				
All Vehicles	2323	5.0	2323	5.0		0.388		6.5	LOS A	1.6	42.5				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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: 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	274	-	274	5.0	904	0.303	100	NA	NA
Lane 2	255	106	361	5.0	1189	0.303	100	NA	NA
Lane 3	-	179	179	5.0	1533	0.117	39[6]	0.0	2
Approach	529	285	814	5.0		0.303			

North: Corral Hollow Rd

Mov.	L2	T1	Total	%HV		Deg.	Lane	Prob.	Ov.

From N To Exit:	E	S			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	454	131	586	5.0	1510	0.388	100	NA	NA
Lane 2	-	700	700	5.0	1804	0.388	100	NA	NA
Approach	454	832	1286	5.0		0.388			

West: EB Off-ramp

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	71	-	-	71	5.0	720	0.099	100	0.0	2
Lane 2	105	2	-	107	5.0	1088	0.099	100	NA	NA
Lane 3	-	-	45	45	5.0	1533	0.029	29[5]	0.0	2
Approach	176	2	45	223	5.0		0.099			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2323	5.0	0.388

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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: Corral Hollow Rd Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	700	735	3.15	2.10	45	957	0.047	1.7	2.0
Merge Lane	2	-	100.0	Merge Lane is not Opposed				700	1800	0.389	0.0	0.0
East Exit: EB On-ramp Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	108	113	3.15	2.10	179	1601	0.112	0.2	0.2
Merge Lane	2	-	100.0	Merge Lane is not Opposed				108	1800	0.060	0.0	0.0

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: EB Off-ramp				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

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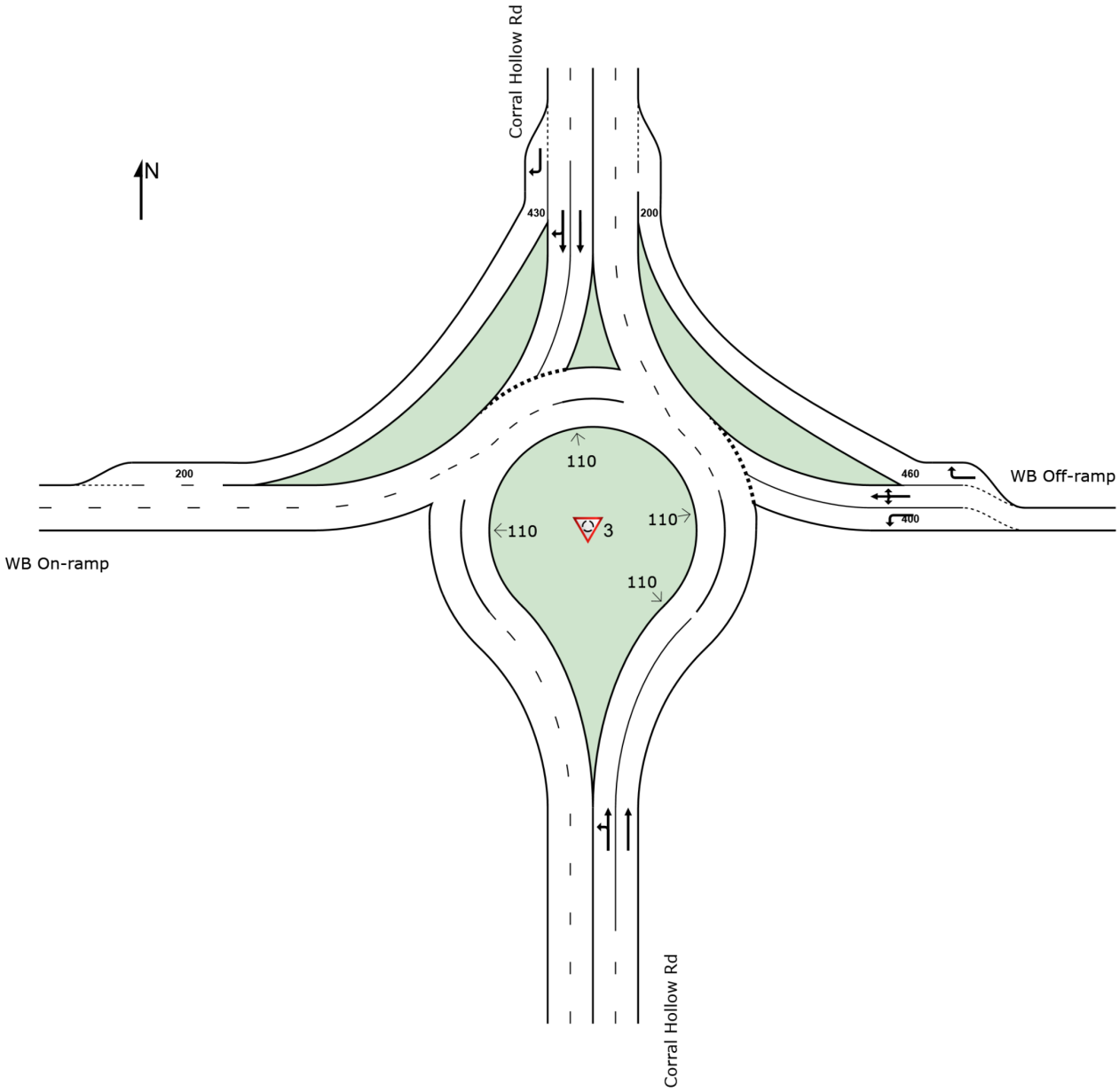
SITE LAYOUT

Site: 3 [WB Ramp (Site Folder: 2048B PM Peak)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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LANE SUMMARY

Site: 3 [WB Ramp (Site Folder: 2048B PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	452	5.0	452	5.0	1510	0.299	100	4.2	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	540	5.0	540	5.0	1804	0.299	100	3.9	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	991	5.0	991	5.0		0.299		4.0	LOS A	0.0	0.0				
East: WB Off-ramp															
Lane 1	237	5.0	237	5.0	808	0.294	100	13.8	LOS B	1.2	31.6	Short	400	0.0	NA
Lane 2[d]	339	5.0	339	5.0	1155	0.294	100	7.7	LOS A	1.3	34.2	Full	1600	0.0	0.0
Lane 3	174	5.0	174	5.0	1533	0.113	39[6]	6.5	LOS A	0.0	0.0	Short	460	0.0	NA
Approach	750	5.0	750	5.0		0.294		9.3	LOS A	1.3	34.2				
North: Corral Hollow Rd															
Lane 1	177	5.0	177	5.0	1074	0.165	100	5.3	LOS A	0.8	21.2	Full	1600	0.0	0.0
Lane 2[d]	218	5.0	218	5.0	1325	0.165	100	4.9	LOS A	0.9	22.2	Full	1600	0.0	0.0
Lane 3	97	5.0	97	5.0	1533	0.063	39[6]	3.6	LOS A	0.0	0.0	Short	430	0.0	NA
Approach	492	5.0	492	5.0		0.165		4.8	LOS A	0.9	22.2				
All Vehicles	2234	5.0	2234	5.0		0.299		6.0	LOS A	1.3	34.2				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects
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	430	452	5.0	1510	0.299	100	NA	NA
Lane 2	-	540	540	5.0	1804	0.299	100	NA	NA
Approach	22	970	991	5.0		0.299			

East: WB Off-ramp

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	237	-	-	237	5.0	808	0.294	100	0.0	2
Lane 2	80	1	258	339	5.0	1155	0.294	100	NA	NA
Lane 3	-	-	174	174	5.0	1533	0.113	39[6]	0.0	2
Approach	317	1	432	750	5.0		0.294			

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	177	-	177	5.0	1074	0.165	100	NA	NA
Lane 2	217	2	218	5.0	1325	0.165	100	NA	NA
Lane 3	-	97	97	5.0	1533	0.063	39[6]	0.0	2
Approach	393	99	492	5.0		0.165			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2234	5.0	0.299

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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
North Exit: Corral Hollow Rd Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	798	838	3.15	2.10	174	849	0.204	2.1	2.8
Merge Lane	2	-	100.0	Merge Lane is not Opposed				798	1800	0.443	0.0	0.0
West Exit: WB On-ramp Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	3	3	3.15	2.10	97	1711	0.057	0.0	0.0
Merge Lane	2	-	100.0	Merge Lane is not Opposed				3	1800	0.001	0.0	0.0

Variable Demand Analysis

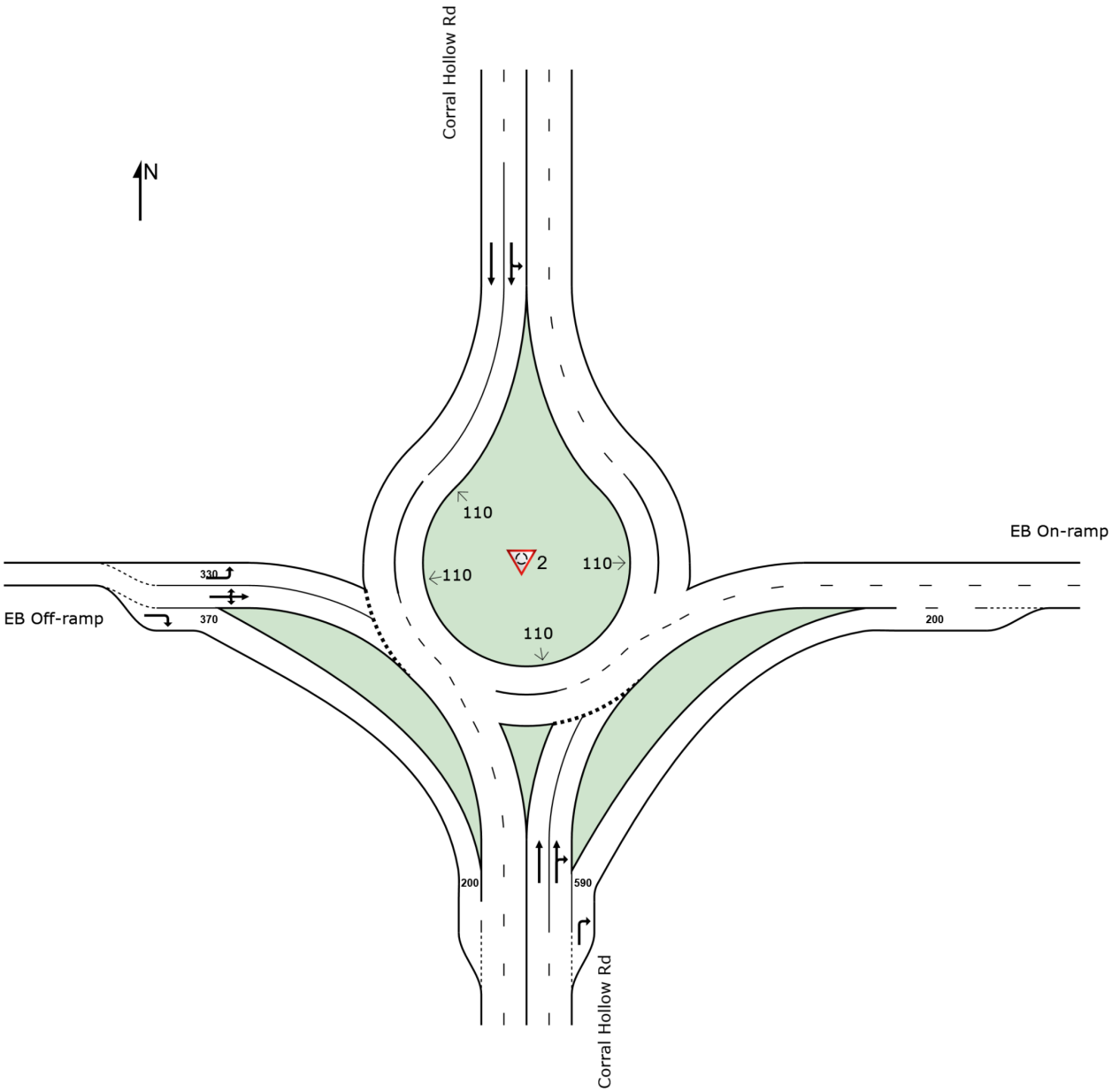
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: WB Off-ramp				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

SITE LAYOUT

Site: 2 [EB Ramp (Site Folder: 2048B PM Peak)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 2 [EB Ramp (Site Folder: 2048B PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	354	5.0	354	5.0	806	0.439	79[5]	7.6	LOS A	2.4	62.9	Full	1600	0.0	0.0
Lane 2[d]	621	5.0	621	5.0	1111	0.560	100	6.8	LOS A	3.9	102.1	Full	1600	0.0	0.0
Lane 3	331	5.0	331	5.0	1533	0.216	39[6]	6.0	LOS A	0.0	0.0	Short	590	0.0	NA
Approach	1307	5.0	1307	5.0		0.560		6.8	LOS A	3.9	102.1				
North: Corral Hollow Rd															
Lane 1	324	5.0	324	5.0	1510	0.215	100	6.0	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	387	5.0	387	5.0	1804	0.215	100	3.9	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	711	5.0	711	5.0		0.215		4.9	LOS A	0.0	0.0				
West: EB Off-ramp															
Lane 1	273	5.0	273	5.0	912	0.299	100	12.9	LOS B	1.3	32.9	Short	330	0.0	NA
Lane 2[d]	367	5.0	367	5.0	1229	0.299	100	11.9	LOS B	1.3	34.7	Full	1600	0.0	0.0
Lane 3	86	5.0	86	5.0	1533	0.056	19[5]	4.5	LOS A	0.0	0.0	Short	370	0.0	NA
Approach	726	5.0	726	5.0		0.299		11.4	LOS B	1.3	34.7				
All Vehicles	2743	5.0	2743	5.0		0.560		7.5	LOS A	3.9	102.1				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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: 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	354	-	354	5.0	806	0.439	79[5]	NA	NA
Lane 2	-	621	621	5.0	1111	0.560	100	NA	NA
Lane 3	-	331	331	5.0	1533	0.216	39[6]	0.0	2
Approach	354	952	1307	5.0		0.560			

North: Corral Hollow Rd

Mov.	L2	T1	Total	%HV		Deg.	Lane	Prob.	Ov.

From N To Exit:	E	S			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	114	210	324	5.0	1510	0.215	100	NA	NA
Lane 2	-	387	387	5.0	1804	0.215	100	NA	NA
Approach	114	597	711	5.0		0.215			

West: EB Off-ramp

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	273	-	-	273	5.0	912	0.299	100	0.0	2
Lane 2	364	3	-	367	5.0	1229	0.299	100	NA	NA
Lane 3	-	-	86	86	5.0	1533	0.056	19[5]	0.0	2
Approach	637	3	86	726	5.0		0.299			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2743	5.0	0.560

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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: Corral Hollow Rd Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	387	406	3.15	2.10	86	1300	0.066	0.7	0.9
Merge Lane	2	-	100.0	Merge Lane is not Opposed				387	1800	0.215	0.0	0.0
East Exit: EB On-ramp Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	625	656	3.15	2.10	331	1039	0.318	1.4	2.3
Merge Lane	2	-	100.0	Merge Lane is not Opposed				625	1800	0.347	0.0	0.0

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: EB Off-ramp				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

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Design Year (2048) Build

Tight Diamond Interchange SimTraffic Outputs

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0	0	0	0	0.1
Total Del/Veh (s)	11.2	4.5	3.4	4.7	14.5	1.8	12.3
Vehicles Exited	682	29	1	82	792	8	1594
Hourly Exit Rate	682	29	1	82	792	8	1594
Input Volume	656	25	4	93	797	10	1585
% of Volume	104	117	25	88	99	78	101

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	29.9	2.7	5.4	30.4	10	56.1	15.8	27
Vehicles Exited	154	1	30	477	286	414	779	2141
Hourly Exit Rate	154	1	30	477	286	414	779	2141
Input Volume	162	2	41	487	262	418	765	2137
% of Volume	95	50	73	98	109	99	102	100

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	33.9	23.2	6.4	46.2	13.3	25.4	22.9	23.5
Vehicles Exited	266	4	136	145	489	916	893	2849
Hourly Exit Rate	266	4	136	145	489	916	893	2849
Input Volume	269	2	117	159	490	914	901	2852
% of Volume	99	200	116	91	100	100	99	100

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	3.5	0.8	3.6	0	0	0	0.3	0	0	0.4
Total Del/Veh (s)	94.2	58.2	31.8	50.4	72.8	8.1	72	40.7	11	105.7	66	13.8	64.1
Vehicles Exited	362	7	321	277	13	102	147	436	48	617	1210	172	3712
Hourly Exit Rate	362	7	321	277	13	102	147	436	48	617	1210	172	3712
Input Volume	387	10	324	270	10	85	148	422	38	645	1222	183	3745
% of Volume	93	68	99	103	127	120	99	103	126	96	99	94	99

Intersection: 1: CORRAL HOLLOW RD & SIERRA VIEW DR

Movement	EB	EB	SB
Directions Served	L	LR	TR
Maximum Queue (ft)	207	158	235
Average Queue (ft)	107	37	23
95th Queue (ft)	180	133	108
Link Distance (ft)	1339	1339	814
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: CORRAL HOLLOW RD & I-580 EB ON RAMP

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB	
Directions Served	L	LT	R	T	T	R	L	T	T	
Maximum Queue (ft)	116	94	68	188	219	137	230	461	432	
Average Queue (ft)	41	52	19	139	119	82	207	299	216	
95th Queue (ft)	94	92	49	197	196	141	265	500	455	
Link Distance (ft)		432		993	993			421	421	
Upstream Blk Time (%)								5	0	
Queuing Penalty (veh)								27	3	
Storage Bay Dist (ft)	330		370			590	180			
Storage Blk Time (%)							37	2		
Queuing Penalty (veh)							138	10		

Intersection: 3: CORRAL HOLLOW RD & I-580 WB ON RAMP

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	LT	R	L	T	T	T	T	R	
Maximum Queue (ft)	219	163	113	192	117	131	431	308	416	
Average Queue (ft)	107	76	46	100	60	78	249	141	242	
95th Queue (ft)	178	146	84	178	103	116	407	262	395	
Link Distance (ft)		502			421	421	1432	1432		
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	400		460	180					430	
Storage Blk Time (%)				1					0	
Queuing Penalty (veh)				3					0	

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B279	B279	B53	B53	
Directions Served	L	T	R	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T	T	T	
Maximum Queue (ft)	315	736	313	275	498	272	125	136	201	241	71	597	634	728	744	505	532	580	2044	5977	
Average Queue (ft)	279	241	168	189	57	42	59	78	123	135	24	327	363	504	529	232	81	72	272	509	
95th Queue (ft)	359	691	292	275	255	122	104	123	187	206	56	633	702	792	797	621	341	337	1314	2618	
Link Distance (ft)		880	880		1040				1432	1432				658	658		509	509	5933	5933	
Upstream Blk Time (%)														7	7		0	2		0	
Queuing Penalty (veh)														70	75		5	16		0	
Storage Bay Dist (ft)	240			200		200	440	440			380	560	560			430					
Storage Blk Time (%)	40			11								4	11	6	22						
Queuing Penalty (veh)	4			10								23	66	40	41						

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0
Total Delay (hr)	2.1	0	0	0.1	4.2	0	6.5
Total Stops	233	4	2	0	208	0	447
Travel Dist (mi)	166.6	6.9	1	25.6	130.2	1.7	332.1
Travel Time (hr)	8	0.3	0	0.7	6.8	0.1	15.8
Avg Speed (mph)	21	26	34	37	19	33	21
Fuel Used (gal)	5.1	0.2	0	1	3.1	0	9.6
HC Emissions (g)	92	5	0	24	54	1	177
CO Emissions (g)	1841	95	32	1102	1249	36	4355
NOx Emissions (g)	249	14	1	70	143	4	482
Vehicles Exited	656	27	4	94	785	10	1576
Hourly Exit Rate	656	27	4	94	785	10	1576
Input Volume	656	25	4	93	797	10	1585
% of Volume	100	109	100	101	98	98	99

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	1.4	0	0.1	4.3	0.6	6.7	3.6	16.6
Total Stops	122	1	31	372	177	446	346	1495
Travel Dist (mi)	14.8	0.1	3.9	97.2	51.4	38.7	70.2	276.4
Travel Time (hr)	1.8	0	0.2	7.5	2.4	8.3	6	26.3
Avg Speed (mph)	8	9	20	13	21	5	12	11
Fuel Used (gal)	0.5	0	0.1	3.4	1.3	3	4	12.3
HC Emissions (g)	6	0	1	46	21	31	70	175
CO Emissions (g)	141	1	46	792	360	669	1840	3850
NOx Emissions (g)	13	0	3	117	54	86	223	496
Vehicles Exited	162	2	43	490	259	413	755	2124
Hourly Exit Rate	162	2	43	490	259	413	755	2124
Input Volume	162	2	41	487	262	418	765	2137
% of Volume	100	100	104	101	99	99	99	99

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	3.5	0	0.2	2.3	1.9	6.6	6.6	21.1
Total Stops	233	1	82	171	175	565	662	1889
Travel Dist (mi)	28.7	0.2	12	14.9	45.5	260.7	255.5	617.5
Travel Time (hr)	4.4	0	0.6	2.9	3.5	15.7	15.9	43
Avg Speed (mph)	7	10	20	5	13	17	16	14
Fuel Used (gal)	1.3	0	0.3	1.2	2.6	10.6	9.9	25.8
HC Emissions (g)	13	0	5	13	52	177	171	432
CO Emissions (g)	341	1	188	353	1289	4105	3717	9994
NOx Emissions (g)	30	0	13	43	165	539	515	1305
Vehicles Exited	273	2	115	159	489	900	881	2819
Hourly Exit Rate	273	2	115	159	489	900	881	2819
Input Volume	269	2	117	159	490	914	901	2852
% of Volume	102	100	98	100	100	98	98	99

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0.4	0	0.1	0	0	0	0	0	0	0.5
Total Delay (hr)	9.3	0.1	3	5.9	0.2	0.4	2.5	5	0.1	13.3	21.7	0.7	62.2
Total Stops	434	8	264	321	10	61	137	302	26	663	1115	86	3427
Travel Dist (mi)	67.3	1.5	58.1	54.8	2.1	16.5	41.3	120.3	10.1	84.7	160.8	23.8	641.2
Travel Time (hr)	12.1	0.2	5.5	8.2	0.3	1.1	3.7	7.8	0.4	15.8	24.9	1.5	81.4
Avg Speed (mph)	6	8	11	7	8	17	11	16	26	5	6	16	8
Fuel Used (gal)	4	0.1	2.2	3	0.1	0.6	2.3	6.1	0.5	5.6	9.1	1	34.4
HC Emissions (g)	33	2	24	39	3	10	48	140	14	72	113	20	517
CO Emissions (g)	693	37	467	847	49	232	1956	5393	513	1937	2471	676	15271
NOx Emissions (g)	78	5	60	90	6	26	130	392	38	178	288	54	1344
Vehicles Exited	375	8	324	276	10	83	145	423	36	624	1189	177	3670
Hourly Exit Rate	375	8	324	276	10	83	145	423	36	624	1189	177	3670
Input Volume	387	10	324	270	10	85	148	422	38	645	1222	183	3745
% of Volume	97	78	100	102	98	97	98	100	95	97	97	97	98

Total Network Performance

Denied Delay (hr)	10.1
Total Delay (hr)	185.4
Total Stops	10182
Travel Dist (mi)	7788.5
Travel Time (hr)	403
Avg Speed (mph)	20
Fuel Used (gal)	298.8
HC Emissions (g)	6017
CO Emissions (g)	170614
NOx Emissions (g)	18596
Vehicles Exited	4538
Hourly Exit Rate	4538
Input Volume	31770
% of Volume	14

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0	0	0	0	0
Total Del/Veh (s)	2.4	2.6	10.6	16.3	7.9	3.9	12.2
Vehicles Exited	20	3	17	1146	222	421	1829
Hourly Exit Rate	20	3	17	1146	222	421	1829
Input Volume	20	3	15	1182	192	436	1848
% of Volume	101	100	111	97	115	97	99

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	21.5	34.4	4.7	16.6	23.2	90.7	11.7	22.3
Vehicles Exited	561	1	88	288	878	128	562	2506
Hourly Exit Rate	561	1	88	288	878	128	562	2506
Input Volume	586	3	79	327	876	105	550	2526
% of Volume	96	33	111	88	100	122	102	99

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	19.1	23	12.5	32.5	14.8	16.9	6.7	15.3
Vehicles Exited	313	2	384	17	841	380	83	2020
Hourly Exit Rate	313	2	384	17	841	380	83	2020
Input Volume	292	1	397	20	893	362	91	2056
% of Volume	107	200	97	86	94	105	91	98

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	3.6	1.2	3.4	0	0	0	0	0	0	0.7
Total Del/Veh (s)	132.9	94.2	10.7	24.4	36.9	27.6	49	58.9	12.7	73.2	48.8	8.7	53
Vehicles Exited	360	75	66	133	14	527	344	751	145	460	266	392	3533
Hourly Exit Rate	360	75	66	133	14	527	344	751	145	460	266	392	3533
Input Volume	341	76	73	126	20	503	355	784	150	475	254	403	3560
% of Volume	106	98	90	106	71	105	97	96	97	97	105	97	99

Intersection: 1: CORRAL HOLLOW RD & SIERRA VIEW DR

Movement	EB	SB
Directions Served	L	TR
Maximum Queue (ft)	28	50
Average Queue (ft)	1	3
95th Queue (ft)	10	19
Link Distance (ft)	1339	814
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: CORRAL HOLLOW RD & I-580 EB ON RAMP

Movement	EB	EB	EB	NB	NB	NB	B15	SB	SB	SB
Directions Served	L	LT	R	T	T	R	T	L	T	T
Maximum Queue (ft)	179	217	52	515	796	664	23	230	276	186
Average Queue (ft)	113	139	29	79	112	263	1	119	102	89
95th Queue (ft)	167	197	49	224	364	510	8	204	206	154
Link Distance (ft)		432		993	993		814		421	421
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	330		370			590		180		
Storage Blk Time (%)						2		9	0	
Queuing Penalty (veh)						3		25	0	

Intersection: 3: CORRAL HOLLOW RD & I-580 WB ON RAMP

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	LT	R	L	T	T	T	T	R	
Maximum Queue (ft)	96	118	251	72	218	245	305	265	70	
Average Queue (ft)	64	77	104	17	156	160	101	90	25	
95th Queue (ft)	101	122	190	47	212	223	210	189	55	
Link Distance (ft)		502			421	421	1432	1432		
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	400		460	180					430	
Storage Blk Time (%)					2					
Queuing Penalty (veh)					0					

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B53	
Directions Served	L	T	R	L	T	R	L	L	T	T	R	L	L	T	T	R	T	
Maximum Queue (ft)	315	938	63	172	386	275	278	420	472	464	455	388	368	196	179	178	34	
Average Queue (ft)	287	439	20	69	62	221	119	139	257	271	55	210	225	92	101	92	1	
95th Queue (ft)	357	1014	49	126	263	291	207	270	381	393	187	339	342	164	164	160	12	
Link Distance (ft)		880	880		1040				1432	1432				658	658		5933	
Upstream Blk Time (%)		5																
Queuing Penalty (veh)		0																
Storage Bay Dist (ft)	240			200		200	440	440			380	560	560			430		
Storage Blk Time (%)	49					18			1	2								
Queuing Penalty (veh)	37					25			3	4								

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0
Total Delay (hr)	0	0	0.1	5.2	0.5	0.5	6.2
Total Stops	1	0	0	0	5	1	7
Travel Dist (mi)	5.1	0.8	4.8	312.5	36.7	69.7	429.4
Travel Time (hr)	0.2	0	0.2	12.1	1.2	2.3	16
Avg Speed (mph)	27	28	27	26	30	30	27
Fuel Used (gal)	0.1	0	0.2	9.9	0.7	1.3	12.3
HC Emissions (g)	3	0	1	218	16	30	268
CO Emissions (g)	50	6	84	7129	342	644	8256
NOx Emissions (g)	8	0	6	640	47	92	792
Vehicles Exited	20	3	17	1146	222	421	1829
Hourly Exit Rate	20	3	17	1146	222	421	1829
Input Volume	20	3	15	1182	192	436	1848
% of Volume	101	100	111	97	115	97	99

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	3.4	0	0.1	1.3	5.7	3.3	1.9	15.7
Total Stops	390	1	45	181	774	131	270	1792
Travel Dist (mi)	51.7	0.1	8	57.5	174.2	11.6	52.7	355.8
Travel Time (hr)	5.1	0	0.4	3.3	11.9	3.7	3.8	28.3
Avg Speed (mph)	10	8	21	18	15	3	14	13
Fuel Used (gal)	1.7	0	0.2	1.7	5.2	1.2	2.8	12.9
HC Emissions (g)	23	0	5	31	69	19	48	194
CO Emissions (g)	558	0	205	545	1379	419	1293	4399
NOx Emissions (g)	52	0	11	78	168	46	159	515
Vehicles Exited	561	1	88	288	878	128	562	2506
Hourly Exit Rate	561	1	88	288	878	128	562	2506
Input Volume	586	3	79	327	876	105	550	2526
% of Volume	96	33	111	88	100	122	102	99

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	1.7	0	1.3	0.2	3.5	1.8	0.2	8.6
Total Stops	201	1	261	15	553	241	50	1322
Travel Dist (mi)	33	0.2	40.5	1.6	78.3	110.3	24.2	288.1
Travel Time (hr)	2.7	0	2.7	0.2	6.5	5.7	1	18.9
Avg Speed (mph)	12	12	15	7	12	19	23	15
Fuel Used (gal)	1	0	1	0.1	4.1	4.2	0.8	11.2
HC Emissions (g)	14	0	15	0	81	66	22	199
CO Emissions (g)	413	4	431	26	2022	1534	479	4909
NOx Emissions (g)	34	0	36	2	250	197	66	585
Vehicles Exited	313	2	384	17	841	380	83	2020
Hourly Exit Rate	313	2	384	17	841	380	83	2020
Input Volume	292	1	397	20	893	362	91	2056
% of Volume	107	200	97	86	94	105	91	98

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0.1	0	0.5	0	0	0	0	0	0	0.6
Total Delay (hr)	13.5	2	0.2	0.9	0.1	4.1	4.7	12.4	0.5	9.5	3.7	1	52.7
Total Stops	556	92	28	97	10	361	266	612	113	457	208	235	3035
Travel Dist (mi)	61.9	13.9	11.6	26.5	2.8	105.2	94.9	210.2	40.5	61.7	36.3	52.6	718.2
Travel Time (hr)	16.1	2.6	0.7	2	0.2	8.6	7.3	17.2	1.7	11.4	4.4	2.7	74.9
Avg Speed (mph)	4	5	17	14	12	13	13	12	24	5	8	20	10
Fuel Used (gal)	4.9	0.9	0.3	1	0.1	3.8	5	11.4	1.9	3.5	1.5	1.1	35.3
HC Emissions (g)	50	5	4	15	0	63	127	222	53	48	18	24	628
CO Emissions (g)	956	149	70	352	17	1302	4445	8290	1832	1179	506	685	19783
NOx Emissions (g)	97	15	10	38	1	154	349	633	147	96	42	58	1640
Vehicles Exited	360	75	66	133	14	527	344	751	145	460	266	392	3533
Hourly Exit Rate	360	75	66	133	14	527	344	751	145	460	266	392	3533
Input Volume	341	76	73	126	20	503	355	784	150	475	254	403	3560
% of Volume	106	98	90	106	71	105	97	96	97	97	105	97	99

Total Network Performance

Denied Delay (hr)	1.5
Total Delay (hr)	107.3
Total Stops	7075
Travel Dist (mi)	7726
Travel Time (hr)	312.9
Avg Speed (mph)	25
Fuel Used (gal)	272.5
HC Emissions (g)	6226
CO Emissions (g)	176781
NOx Emissions (g)	19325
Vehicles Exited	4959
Hourly Exit Rate	4959
Input Volume	33538
% of Volume	15

Design Year (2048) Build

Partial Cloverleaf/Tight Diamond Interchange SimTraffic Outputs

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0	0	0	0	0.1
Total Del/Veh (s)	8.4	4.2	3.4	4.7	16.7	2.1	12.1
Vehicles Exited	662	26	4	91	751	11	1545
Hourly Exit Rate	662	26	4	91	751	11	1545
Input Volume	656	25	4	93	797	10	1585
% of Volume	101	105	100	98	94	107	97

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	29.8	28.1	4.8	27.5	8	53.1	9	23.3
Vehicles Exited	158	2	39	487	266	395	722	2069
Hourly Exit Rate	158	2	39	487	266	395	722	2069
Input Volume	162	2	41	487	262	418	765	2137
% of Volume	98	100	95	100	102	94	94	97

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	32.5	15.6	5.7	16.1	7.4	11.5	12.8	14.3
Vehicles Exited	266	3	112	486	160	851	826	2704
Hourly Exit Rate	266	3	112	486	160	851	826	2704
Input Volume	269	2	117	490	159	914	901	2852
% of Volume	99	133	96	99	101	93	92	95

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	3.7	1.2	3.7	0	0	0	0	0	0	0.4
Total Del/Veh (s)	85.1	55.3	32.5	70.7	69.1	17	64.7	42.5	8.8	76.5	70.6	16.6	61.7
Vehicles Exited	386	9	327	264	9	82	150	414	38	584	1091	165	3519
Hourly Exit Rate	386	9	327	264	9	82	150	414	38	584	1091	165	3519
Input Volume	387	10	324	270	10	85	148	422	38	645	1222	183	3745
% of Volume	100	88	101	98	88	96	101	98	100	91	89	90	94

7: I-580 WB OFF RAMP Performance by movement

Movement	NBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.2	0.4	0.3
Vehicles Exited	379	160	539
Hourly Exit Rate	379	160	539
Input Volume	388	159	547
% of Volume	98	101	99

Intersection: 1: CORRAL HOLLOW RD & SIERRA VIEW DR

Movement	EB	EB	NB	SB	SB
Directions Served	L	LR	L	TR	R
Maximum Queue (ft)	158	134	18	329	96
Average Queue (ft)	77	16	1	66	7
95th Queue (ft)	137	81	9	271	110
Link Distance (ft)	1339	1339		814	814
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			200		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: CORRAL HOLLOW RD & I-580 EB ON RAMP

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB	
Directions Served	L	LT	R	T	T	R	L	T	T	
Maximum Queue (ft)	106	136	57	211	237	143	438	363	284	
Average Queue (ft)	39	70	19	113	133	66	260	112	73	
95th Queue (ft)	90	122	48	184	212	111	429	286	228	
Link Distance (ft)		448		993	993			881	881	
Upstream Blk Time (%)								0	0	
Queuing Penalty (veh)								0	0	
Storage Bay Dist (ft)	330		370			590	550			
Storage Blk Time (%)							1	0		
Queuing Penalty (veh)							3	2		

Intersection: 3: CORRAL HOLLOW RD & I-580 WB ON RAMP

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	LT	R	T	T	R	T	T	R	
Maximum Queue (ft)	159	142	68	208	198	120	296	356	352	
Average Queue (ft)	86	67	29	96	98	50	144	100	165	
95th Queue (ft)	143	125	58	175	176	98	267	238	327	
Link Distance (ft)		495		881	881		936	936		
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	400		460			250			300	
Storage Blk Time (%)					0			0	2	
Queuing Penalty (veh)					0			0	7	

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	B21	B21	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B279	B279	B53	B53
Directions Served	L	T	R	T	T	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T	T	T
Maximum Queue (ft)	315	738	333	34	10	274	556	125	129	150	230	230	54	503	594	717	735	505	385	399	1426	1104
Average Queue (ft)	270	261	169	2	0	185	115	33	54	73	117	129	9	261	359	444	480	211	120	124	258	267
95th Queue (ft)	367	737	294	25	5	293	493	79	111	131	201	214	30	472	686	819	851	595	481	486	1183	1223
Link Distance (ft)		877	877	915	915		1037				936	936				658	658		509	509	5933	5933
Upstream Blk Time (%)		2					1									8	14		6	8		
Queuing Penalty (veh)		0					0									79	147		60	84		
Storage Bay Dist (ft)	240					200		200	400	400			380	560	560			430				
Storage Blk Time (%)	37	0				21								0	0	11	25					
Queuing Penalty (veh)	4	0				20								2	3	73	46					

Intersection: 7: I-580 WB OFF RAMP

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0
Total Delay (hr)	1.6	0	0	0.1	3.5	0	5.2
Total Stops	183	4	2	0	154	0	343
Travel Dist (mi)	168.5	6.7	1	24.7	124.1	1.9	326.9
Travel Time (hr)	7.4	0.3	0	0.7	6	0.1	14.5
Avg Speed (mph)	23	26	34	37	21	34	23
Fuel Used (gal)	5	0.2	0	1	2.7	0	9
HC Emissions (g)	87	5	0	26	45	2	165
CO Emissions (g)	1745	98	31	1092	1012	37	4016
NOx Emissions (g)	242	14	1	73	120	5	456
Vehicles Exited	662	26	4	91	751	11	1545
Hourly Exit Rate	662	26	4	91	751	11	1545
Input Volume	656	25	4	93	797	10	1585
% of Volume	101	105	100	98	94	107	97

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	1.3	0	0.1	3.8	0.6	6	1.8	13.5
Total Stops	121	2	28	341	178	379	218	1267
Travel Dist (mi)	15	0.2	3.7	96.8	52.6	73.1	133.7	375.1
Travel Time (hr)	1.8	0	0.2	7	2.5	8.7	6.4	26.6
Avg Speed (mph)	8	9	21	14	21	8	21	14
Fuel Used (gal)	0.5	0	0.1	3.3	1.4	3.8	5.3	14.3
HC Emissions (g)	6	0	2	45	21	54	89	217
CO Emissions (g)	132	1	61	778	371	1227	2175	4745
NOx Emissions (g)	12	0	4	116	54	153	280	619
Vehicles Exited	158	2	39	487	266	395	722	2069
Hourly Exit Rate	158	2	39	487	266	395	722	2069
Input Volume	162	2	41	487	262	418	765	2137
% of Volume	98	100	95	100	102	94	94	97

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	2.4	0	0.2	2.2	0.3	2.8	3	10.9
Total Stops	212	1	80	261	94	309	337	1294
Travel Dist (mi)	27.2	0.3	11.4	87.8	28.9	165.4	160.7	481.7
Travel Time (hr)	3.3	0	0.5	5.2	1.5	8.6	9	28.2
Avg Speed (mph)	8	14	21	17	20	19	18	17
Fuel Used (gal)	1	0	0.3	3.8	1.1	6.9	6.2	19.2
HC Emissions (g)	12	0	5	69	22	119	117	344
CO Emissions (g)	304	2	179	1589	502	2949	2673	8200
NOx Emissions (g)	27	0	13	212	68	376	363	1058
Vehicles Exited	266	3	112	486	160	851	826	2704
Hourly Exit Rate	266	3	112	486	160	851	826	2704
Input Volume	269	2	117	490	159	914	901	2852
% of Volume	99	133	96	99	101	93	92	95

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0.3	0	0.1	0	0	0	0	0	0	0.4
Total Delay (hr)	9.4	0.1	3	5.3	0.2	0.4	2.8	5	0.1	12.7	22	0.8	61.7
Total Stops	443	8	261	293	9	60	139	294	27	627	1110	78	3349
Travel Dist (mi)	68.6	1.5	58.3	52.2	1.7	16.2	29	80	7.4	78.3	147.2	22.2	562.7
Travel Time (hr)	12.2	0.2	5.6	7.5	0.2	1.1	3.6	6.9	0.3	15	25	1.5	79.1
Avg Speed (mph)	6	8	10	7	8	16	8	12	22	5	6	15	7
Fuel Used (gal)	4.1	0.1	2.2	2.8	0.1	0.6	2	4.8	0.4	5.3	8.9	0.9	32
HC Emissions (g)	42	3	24	35	2	10	35	99	11	68	103	18	449
CO Emissions (g)	823	44	470	768	40	234	1399	3850	421	1829	2268	636	12783
NOx Emissions (g)	94	5	60	83	5	27	93	277	30	168	261	49	1154
Vehicles Exited	386	9	327	264	9	82	150	414	38	584	1091	165	3519
Hourly Exit Rate	386	9	327	264	9	82	150	414	38	584	1091	165	3519
Input Volume	387	10	324	270	10	85	148	422	38	645	1222	183	3745
% of Volume	100	88	101	98	88	96	101	98	100	91	89	90	94

7: I-580 WB OFF RAMP Performance by movement

Movement	NBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0	0	0
Total Stops	0	0	0
Travel Dist (mi)	22.8	16.1	38.9
Travel Time (hr)	0.5	0.7	1.2
Avg Speed (mph)	43	23	31
Fuel Used (gal)	0.5	0.9	1.4
HC Emissions (g)	12	22	34
CO Emissions (g)	249	646	895
NOx Emissions (g)	44	66	111
Vehicles Exited	379	160	539
Hourly Exit Rate	379	160	539
Input Volume	388	159	547
% of Volume	98	101	99

Total Network Performance

Denied Delay (hr)	90.3
Total Delay (hr)	167.1
Total Stops	8936
Travel Dist (mi)	7399.5
Travel Time (hr)	456.1
Avg Speed (mph)	20
Fuel Used (gal)	299
HC Emissions (g)	5780
CO Emissions (g)	163201
NOx Emissions (g)	17595
Vehicles Exited	4390
Hourly Exit Rate	4390
Input Volume	32476
% of Volume	14

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0	0	0	0	0
Total Del/Veh (s)	2.3	2.3	12.5	17.1	7.5	3.4	12.7
Vehicles Exited	20	4	14	1193	189	434	1854
Hourly Exit Rate	20	4	14	1193	189	434	1854
Input Volume	20	3	15	1182	192	436	1848
% of Volume	101	133	92	101	98	100	100

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	22.5	23.4	5.3	15.1	21.2	66.6	8.5	19.3
Vehicles Exited	585	4	81	328	889	101	545	2533
Hourly Exit Rate	585	4	81	328	889	101	545	2533
Input Volume	586	3	79	327	876	105	550	2526
% of Volume	100	133	102	100	101	96	99	100

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	18.5	7.5	13.2	11.1	3.9	11.6	5.4	12.3
Vehicles Exited	280	2	398	895	19	363	91	2048
Hourly Exit Rate	280	2	398	895	19	363	91	2048
Input Volume	292	2	397	893	20	362	91	2056
% of Volume	96	114	100	100	96	100	100	100

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	3.4	1.6	3.4	0	0	0	0	0	0	0.6
Total Del/Veh (s)	91.9	53.3	10.8	27.7	43	25.4	49.4	65.3	11.9	86.5	52.8	11.2	51.6
Vehicles Exited	343	76	74	129	17	503	357	785	146	477	252	403	3562
Hourly Exit Rate	343	76	74	129	17	503	357	785	146	477	252	403	3562
Input Volume	341	76	73	126	20	503	355	784	150	475	254	403	3560
% of Volume	101	100	101	103	86	100	100	100	97	100	99	100	100

7: I-580 WB OFF RAMP Performance by movement

Movement	NBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.4	0.3	0.4
Vehicles Exited	681	19	700
Hourly Exit Rate	681	19	700
Input Volume	690	20	710
% of Volume	99	96	99

Intersection: 1: CORRAL HOLLOW RD & SIERRA VIEW DR

Movement	EB	EB	NB	SB	SB
Directions Served	L	LR	L	TR	R
Maximum Queue (ft)	20	8	11	46	12
Average Queue (ft)	1	0	1	4	0
95th Queue (ft)	10	4	7	23	9
Link Distance (ft)	1339	1339		814	814
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			200		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: CORRAL HOLLOW RD & I-580 EB ON RAMP

Movement	EB	EB	EB	NB	NB	NB	B15	SB	SB	SB
Directions Served	L	LT	R	T	T	R	T	L	T	T
Maximum Queue (ft)	221	229	82	193	402	510	10	187	175	169
Average Queue (ft)	115	138	28	68	99	243	0	82	63	69
95th Queue (ft)	184	203	60	136	295	461	8	168	129	131
Link Distance (ft)		448		993	993		814		881	881
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	330		370			590		550		
Storage Blk Time (%)					0	1				
Queuing Penalty (veh)					1	1				

Intersection: 3: CORRAL HOLLOW RD & I-580 WB ON RAMP

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	T	T	R	T	T	R
Maximum Queue (ft)	118	130	239	221	217	43	166	158	80
Average Queue (ft)	52	63	108	110	116	7	65	61	27
95th Queue (ft)	98	110	202	186	191	29	135	134	65
Link Distance (ft)		495		881	881		936	936	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	400		460			250			300
Storage Blk Time (%)					0				
Queuing Penalty (veh)					0				

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	B21	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B53	B53
Directions Served	L	T	R	T	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T
Maximum Queue (ft)	315	691	97	8	175	432	275	260	427	560	534	302	433	435	266	218	310	418	630
Average Queue (ft)	270	280	26	0	71	83	202	118	151	303	309	50	238	252	101	109	104	25	48
95th Queue (ft)	361	728	73	9	134	311	303	208	311	463	461	193	393	405	207	176	219	279	398
Link Distance (ft)		877	877	915		1037				936	936				658	658		5933	5933
Upstream Blk Time (%)		0													0				
Queuing Penalty (veh)		0													0				
Storage Bay Dist (ft)	240					200		200	400	400			380	560	560		430		
Storage Blk Time (%)	35	0				0	0	14	0	0	3	5		0	0	0	0		
Queuing Penalty (veh)	27	0				0	0	21	0	0	11	7		0	0	0	0		

Intersection: 7: I-580 WB OFF RAMP

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0
Total Delay (hr)	0	0	0	5.7	0.4	0.4	6.6
Total Stops	1	0	1	0	5	2	9
Travel Dist (mi)	5	1.1	3.7	324.6	31.2	71.5	437.2
Travel Time (hr)	0.2	0	0.1	12.8	1	2.3	16.5
Avg Speed (mph)	27	27	26	25	30	31	26
Fuel Used (gal)	0.1	0	0.1	10.3	0.6	1.4	12.6
HC Emissions (g)	2	0	3	227	14	35	281
CO Emissions (g)	40	3	89	7021	293	735	8181
NOx Emissions (g)	7	0	8	669	43	103	830
Vehicles Exited	20	4	14	1193	189	434	1854
Hourly Exit Rate	20	4	14	1193	189	434	1854
Input Volume	20	3	15	1182	192	436	1848
% of Volume	101	133	92	101	98	100	100

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	3.7	0	0.1	1.4	5.3	1.9	1.3	13.7
Total Stops	415	2	45	189	742	98	189	1680
Travel Dist (mi)	55.6	0.4	7.7	64.7	176.2	18.6	100.7	423.8
Travel Time (hr)	5.5	0	0.4	3.6	11.6	2.6	4.9	28.5
Avg Speed (mph)	10	10	21	18	15	7	21	15
Fuel Used (gal)	1.9	0	0.2	2	5.2	1.1	4	14.3
HC Emissions (g)	21	0	5	29	74	12	81	223
CO Emissions (g)	545	2	189	529	1438	333	1910	4947
NOx Emissions (g)	51	0	11	78	181	35	239	596
Vehicles Exited	585	4	81	328	889	101	545	2533
Hourly Exit Rate	585	4	81	328	889	101	545	2533
Input Volume	586	3	79	327	876	105	550	2526
% of Volume	100	133	102	100	101	96	99	100

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	1.5	0	1.5	2.8	0	1.2	0.1	7.1
Total Stops	186	0	255	363	7	159	40	1010
Travel Dist (mi)	28.8	0.1	41	162	3.5	70.8	17.8	323.9
Travel Time (hr)	2.4	0	2.8	8.6	0.2	3.7	0.8	18.6
Avg Speed (mph)	12	17	15	19	22	19	22	17
Fuel Used (gal)	0.9	0	1	6.7	0.1	3	0.7	12.5
HC Emissions (g)	12	0	17	123	3	61	13	229
CO Emissions (g)	360	6	467	3056	72	1476	330	5768
NOx Emissions (g)	29	1	39	382	9	184	39	683
Vehicles Exited	280	2	398	895	19	363	91	2048
Hourly Exit Rate	280	2	398	895	19	363	91	2048
Input Volume	292	2	397	893	20	362	91	2056
% of Volume	96	114	100	100	96	100	100	100

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0.1	0	0.5	0	0	0	0	0	0	0.6
Total Delay (hr)	9.1	1.2	0.2	1	0.2	3.6	5	14.6	0.5	11.8	3.7	1.3	52.1
Total Stops	430	70	32	98	14	344	281	709	114	518	206	257	3073
Travel Dist (mi)	61.2	13.5	13.3	25.5	3.4	98.8	69	152.1	28.5	64.1	33.8	53.8	616.9
Travel Time (hr)	11.6	1.7	0.8	2	0.3	7.8	7.1	18.2	1.4	13.7	4.4	3	72.1
Avg Speed (mph)	5	8	17	13	10	14	10	8	20	5	8	18	9
Fuel Used (gal)	3.8	0.7	0.4	1	0.1	3.5	4.1	9.4	1.3	4	1.4	1.2	31
HC Emissions (g)	39	7	5	15	1	54	69	169	27	41	19	20	467
CO Emissions (g)	765	154	96	346	39	1138	2557	5313	1052	1090	512	598	13662
NOx Emissions (g)	87	18	14	38	4	133	201	478	81	83	40	49	1226
Vehicles Exited	343	76	74	129	17	503	357	785	146	477	252	403	3562
Hourly Exit Rate	343	76	74	129	17	503	357	785	146	477	252	403	3562
Input Volume	341	76	73	126	20	503	355	784	150	475	254	403	3560
% of Volume	101	100	101	103	86	100	100	100	97	100	99	100	100

7: I-580 WB OFF RAMP Performance by movement

Movement	NBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	0	0.1
Total Stops	0	0	0
Travel Dist (mi)	40.9	1.9	42.9
Travel Time (hr)	1	0.1	1.1
Avg Speed (mph)	41	23	40
Fuel Used (gal)	0.9	0.1	1
HC Emissions (g)	22	3	26
CO Emissions (g)	461	86	547
NOx Emissions (g)	78	9	86
Vehicles Exited	681	19	700
Hourly Exit Rate	681	19	700
Input Volume	690	20	710
% of Volume	99	96	99

Total Network Performance

Denied Delay (hr)	1.5
Total Delay (hr)	104.7
Total Stops	6781
Travel Dist (mi)	7803.8
Travel Time (hr)	313.3
Avg Speed (mph)	25
Fuel Used (gal)	274.8
HC Emissions (g)	5965
CO Emissions (g)	170562
NOx Emissions (g)	18773
Vehicles Exited	4975
Hourly Exit Rate	4975
Input Volume	34268
% of Volume	15

Design Year (2048) Build

Diverging Diamond Interchange SimTraffic Outputs

1: Lammers Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0	0	0	0	0.1
Total Del/Veh (s)	14.5	3.6	6.7	5.7	22.6	2.1	17.8
Vehicles Exited	652	25	3	95	796	13	1584
Hourly Exit Rate	652	25	3	95	796	13	1584
Input Volume	656	25	4	93	797	10	1584
% of Volume	99	101	75	102	100	127	100

2: Performance by movement

Movement	WBT	NBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	12.6	13.7	13
Vehicles Exited	772	489	1261
Hourly Exit Rate	772	489	1261
Input Volume	765	487	1252
% of Volume	101	100	101

3: Performance by movement

Movement	EBT	SBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	19.1	13.1	15.2
Vehicles Exited	496	899	1395
Hourly Exit Rate	496	899	1395
Input Volume	490	914	1404
% of Volume	101	98	99

4: Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	3.3	0.8	3.3	0	0	0	0	0	0	0.3
Total Del/Veh (s)	197.2	151.2	96.7	77.5	81.1	15.7	74.6	37.4	8	67.5	38.3	6.6	67
Vehicles Exited	358	10	321	263	12	88	149	421	36	633	1212	180	3683
Hourly Exit Rate	358	10	321	263	12	88	149	421	36	633	1212	180	3683
Input Volume	387	10	324	270	10	85	148	421	38	645	1222	183	3744
% of Volume	92	98	99	97	117	103	101	100	95	98	99	98	98

15: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.1	0	0	0
Total Del/Veh (s)	1.3	0.7	3.2	2
Vehicles Exited	17	744	813	1574
Hourly Exit Rate	17	744	813	1574
Input Volume	19	749	806	1574
% of Volume	89	99	101	100

16: Performance by movement

Movement	WBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.6	10.7	1.2
Vehicles Exited	772	44	816
Hourly Exit Rate	772	44	816
Input Volume	765	41	806
% of Volume	101	107	101

18: Performance by movement

Movement	NBR	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.4	7	6.1
Vehicles Exited	610	1816	2426
Hourly Exit Rate	610	1816	2426
Input Volume	607	1834	2441
% of Volume	101	99	99

19: EB I-580 OFF RAMP Performance by movement

Movement	SEL	SER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.2	0.6	1.1
Vehicles Exited	161	44	205
Hourly Exit Rate	161	44	205
Input Volume	162	41	203
% of Volume	100	107	101

25: EB I-580 ON RAMP Performance by movement

Movement	EBR	SBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.5	1.8	2.1
Vehicles Exited	256	412	668
Hourly Exit Rate	256	412	668
Input Volume	262	418	680
% of Volume	98	99	98

26: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NEL	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.7	14.6	4.2
Vehicles Exited	488	162	650
Hourly Exit Rate	488	162	650
Input Volume	487	162	649
% of Volume	100	100	100

28: Performance by movement

Movement	WBT	NBL	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.9	16.8	4.6
Vehicles Exited	900	272	1172
Hourly Exit Rate	900	272	1172
Input Volume	914	269	1183
% of Volume	98	101	99

32: CORRAL HOLLOW RD Performance by movement

Movement	EBL	EBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.2	3.2	3.7
Vehicles Exited	154	491	645
Hourly Exit Rate	154	491	645
Input Volume	159	490	649
% of Volume	97	100	99

36: Performance by movement

Movement	SBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	12.9	2.9	7.9
Vehicles Exited	903	896	1799
Hourly Exit Rate	903	896	1799
Input Volume	914	901	1816
% of Volume	99	99	99

38: Performance by movement

Movement	EBT	NBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.8	11.1	2.7
Vehicles Exited	496	116	612
Hourly Exit Rate	496	116	612
Input Volume	490	117	608
% of Volume	101	99	101

39: WB I-580 OFF RAMP Performance by movement

Movement	NWT	NWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.5	0.7	2
Vehicles Exited	270	117	387
Hourly Exit Rate	270	117	387
Input Volume	269	117	386
% of Volume	100	100	100

40: WB I-580 ON RAMP Performance by movement

Movement	WBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.1	0.3	0.4
Vehicles Exited	154	896	1050
Hourly Exit Rate	154	896	1050
Input Volume	159	901	1060
% of Volume	97	99	99

41: Performance by movement

Movement	WBL	WBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	11.3	6.5	8.1
Vehicles Exited	411	768	1179
Hourly Exit Rate	411	768	1179
Input Volume	418	765	1183
% of Volume	98	100	100

42: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.2	0.8	1.7
Vehicles Exited	489	256	745
Hourly Exit Rate	489	256	745
Input Volume	488	262	750
% of Volume	100	98	99

Intersection: 1: Lammers Rd

Movement	EB	EB	NB	SB	SB
Directions Served	L	LR	L	TR	R
Maximum Queue (ft)	198	187	20	418	189
Average Queue (ft)	108	49	2	172	14
95th Queue (ft)	178	156	11	395	145
Link Distance (ft)	1339	1339		662	662
Upstream Blk Time (%)				0	
Queuing Penalty (veh)				1	
Storage Bay Dist (ft)			200		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2:

Movement	WB	WB	NB	NB
Directions Served	T	T	T	T
Maximum Queue (ft)	170	157	114	118
Average Queue (ft)	125	96	88	74
95th Queue (ft)	177	149	117	118
Link Distance (ft)	80	80	61	61
Upstream Blk Time (%)	29	7	21	12
Queuing Penalty (veh)	111	28	52	30
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3:

Movement	EB	EB	SB	SB
Directions Served	T	T	T	T
Maximum Queue (ft)	148	154	144	128
Average Queue (ft)	95	105	116	81
95th Queue (ft)	138	153	131	130
Link Distance (ft)	85	85	58	58
Upstream Blk Time (%)	12	16	49	18
Queuing Penalty (veh)	29	41	225	82
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Tracy Hills Dr

Movement	EB	EB	EB	B21	B21	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B279	B279	B53	B53
Directions Served	L	T	R	T	T	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T	T	T
Maximum Queue (ft)	315	885	834	361	292	274	573	201	133	166	239	241	55	512	554	624	653	504	141	139	264	278
Average Queue (ft)	301	581	348	118	80	196	127	39	69	85	125	134	13	276	303	330	358	87	13	14	11	12
95th Queue (ft)	357	1166	752	497	433	302	473	107	124	142	210	217	37	437	492	572	596	346	123	129	185	192
Link Distance (ft)		860	860	915	915		1145				617	617				638	638		511	511	5945	5945
Upstream Blk Time (%)		30	1	2	1										0	1	2		0	0		
Queuing Penalty (veh)		0	0	0	0										0	10	21		0	0		
Storage Bay Dist (ft)	240					200		200	440	440			380	560	560			430				
Storage Blk Time (%)	64					25	0							0	0	2	7					
Queuing Penalty (veh)	7					24	0							0	3	12	13					

Intersection: 15: CORRAL HOLLOW RD

Movement	SB
Directions Served	T
Maximum Queue (ft)	2
Average Queue (ft)	0
95th Queue (ft)	2
Link Distance (ft)	598
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 16:

Movement	WB	WB	SB
Directions Served	T	T	R
Maximum Queue (ft)	80	76	74
Average Queue (ft)	50	49	18
95th Queue (ft)	66	65	51
Link Distance (ft)	1	1	64
Upstream Blk Time (%)	0	0	0
Queuing Penalty (veh)	0	0	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 18:

Movement	SW	SW
Directions Served	T	T
Maximum Queue (ft)	5	37
Average Queue (ft)	0	2
95th Queue (ft)	4	22
Link Distance (ft)	617	617
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 19: EB I-580 OFF RAMP

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25: EB I-580 ON RAMP

Movement	SB
Directions Served	T
Maximum Queue (ft)	114
Average Queue (ft)	12
95th Queue (ft)	76
Link Distance (ft)	44
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 26: CORRAL HOLLOW RD

Movement	NB	NB	NE	NE
Directions Served	T	T	L	L
Maximum Queue (ft)	63	61	68	106
Average Queue (ft)	44	42	21	49
95th Queue (ft)	54	58	54	94
Link Distance (ft)	2	2	56	56
Upstream Blk Time (%)	0	0	2	9
Queuing Penalty (veh)	0	0	2	8
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 28:

Movement	WB	WB	NB	NB
Directions Served	T	T	L	L
Maximum Queue (ft)	76	77	152	83
Average Queue (ft)	49	45	79	33
95th Queue (ft)	62	73	130	71
Link Distance (ft)	6	6	68	68
Upstream Blk Time (%)	0	0	12	1
Queuing Penalty (veh)	0	0	17	1
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 32: CORRAL HOLLOW RD

Movement	EB	EB
Directions Served	LT	T
Maximum Queue (ft)	86	65
Average Queue (ft)	6	6
95th Queue (ft)	38	35
Link Distance (ft)	303	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 34: Bend

Movement	NW	NW	B217
Directions Served	T	T	
Maximum Queue (ft)	32	12	4
Average Queue (ft)	1	0	0
95th Queue (ft)	16	10	3
Link Distance (ft)	620	620	1006
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 35: Bend

Movement	SE	B215
Directions Served	T	T
Maximum Queue (ft)	3	2
Average Queue (ft)	0	0
95th Queue (ft)	0	2
Link Distance (ft)	618	787
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 36:

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	374	388	147
Average Queue (ft)	177	106	7
95th Queue (ft)	322	296	81
Link Distance (ft)	690	690	
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)			224
Storage Blk Time (%)		0	
Queuing Penalty (veh)		4	

Intersection: 38:

Movement	EB	EB	NB
Directions Served	T	T	R
Maximum Queue (ft)	62	63	110
Average Queue (ft)	45	45	44
95th Queue (ft)	56	56	90
Link Distance (ft)	3	3	72
Upstream Blk Time (%)	0	0	3
Queuing Penalty (veh)	0	0	3
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 39: WB I-580 OFF RAMP

Movement	NW	NW
Directions Served	T	R
Maximum Queue (ft)	12	2
Average Queue (ft)	0	0
95th Queue (ft)	6	3
Link Distance (ft)	535	535
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 40: WB I-580 ON RAMP

Movement	WB
Directions Served	T
Maximum Queue (ft)	69
Average Queue (ft)	3
95th Queue (ft)	33
Link Distance (ft)	48
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 41:

Movement	WB	WB
Directions Served	LT	T
Maximum Queue (ft)	362	302
Average Queue (ft)	125	69
95th Queue (ft)	328	252
Link Distance (ft)	295	295
Upstream Blk Time (%)	1	0
Queuing Penalty (veh)	8	2
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 42: CORRAL HOLLOW RD

Movement	NB	NB
Directions Served	T	T
Maximum Queue (ft)	96	53
Average Queue (ft)	22	6
95th Queue (ft)	70	31
Link Distance (ft)	470	470
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

1: Lammers Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0
Total Delay (hr)	2.7	0	0	0.2	5.1	0	7.9
Total Stops	240	6	2	0	446	0	694
Travel Dist (mi)	165.4	6.4	0.9	25.7	107	1.8	307.1
Travel Time (hr)	8.5	0.2	0	0.7	7.2	0.1	16.7
Avg Speed (mph)	19	26	33	38	15	31	18
Fuel Used (gal)	5.1	0.2	0	1	2.6	0	8.9
HC Emissions (g)	47	1	0	23	35	2	108
CO Emissions (g)	1121	31	26	1003	806	43	3031
NOx Emissions (g)	136	4	1	67	79	5	291
Vehicles Exited	652	25	3	95	796	13	1584
Hourly Exit Rate	652	25	3	95	796	13	1584
Input Volume	656	25	4	93	797	10	1584
% of Volume	99	101	75	102	100	127	100

2: Performance by movement

Movement	WBT	NBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	2.7	1.9	4.6
Total Stops	378	263	641
Travel Dist (mi)	20.9	8	28.9
Travel Time (hr)	3.4	2.1	5.6
Avg Speed (mph)	6	4	5
Fuel Used (gal)	1.5	0.7	2.2
HC Emissions (g)	19	4	23
CO Emissions (g)	480	105	585
NOx Emissions (g)	58	13	71
Vehicles Exited	772	489	1261
Hourly Exit Rate	772	489	1261
Input Volume	765	487	1252
% of Volume	101	100	101

3: Performance by movement

Movement	EBT	SBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	2.6	3.3	5.9
Total Stops	335	319	654
Travel Dist (mi)	12.2	17	29.2
Travel Time (hr)	3	3.9	6.9
Avg Speed (mph)	4	4	4
Fuel Used (gal)	1	1.4	2.4
HC Emissions (g)	7	15	22
CO Emissions (g)	158	345	502
NOx Emissions (g)	21	41	62
Vehicles Exited	496	899	1395
Hourly Exit Rate	496	899	1395
Input Volume	490	914	1404
% of Volume	101	98	99

4: Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0.2	0	0.1	0	0	0	0	0	0	0.3
Total Delay (hr)	21.3	0.4	9	5.7	0.3	0.4	3.2	4.5	0.1	12.2	13.1	0.3	70.4
Total Stops	512	12	317	270	13	66	148	274	24	587	765	55	3043
Travel Dist (mi)	63.4	1.7	56.5	56.7	2.5	19	18.7	53.6	4.6	83.2	158.9	23.6	542.5
Travel Time (hr)	23.9	0.5	11.4	8	0.4	1.2	4	6.4	0.3	14.6	16.3	1.1	88
Avg Speed (mph)	3	4	5	7	7	17	5	8	16	6	10	22	6
Fuel Used (gal)	6.7	0.1	3.5	3	0.1	0.6	1.7	4	0.3	4.9	6.9	0.8	32.6
HC Emissions (g)	19	0	15	19	0	8	23	65	6	57	98	17	327
CO Emissions (g)	650	16	426	536	16	195	881	2658	262	1599	2563	643	10445
NOx Emissions (g)	50	1	41	52	1	21	62	192	18	133	267	46	884
Vehicles Exited	358	10	321	263	12	88	149	421	36	633	1212	180	3683
Hourly Exit Rate	358	10	321	263	12	88	149	421	36	633	1212	180	3683
Input Volume	387	10	324	270	10	85	148	421	38	645	1222	183	3744
% of Volume	92	98	99	97	117	103	101	100	95	98	99	98	98

15: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	SBT	All
Denied Delay (hr)	0	0	0	0
Total Delay (hr)	0	0.2	0.7	0.9
Total Stops	0	0	1	1
Travel Dist (mi)	1.1	145	101	247.1
Travel Time (hr)	0	6.2	2.8	9
Avg Speed (mph)	39	24	36	28
Fuel Used (gal)	0.1	9.4	4	13.4
HC Emissions (g)	22	154	90	266
CO Emissions (g)	440	8717	3340	12497
NOx Emissions (g)	52	465	285	802
Vehicles Exited	17	744	813	1574
Hourly Exit Rate	17	744	813	1574
Input Volume	19	749	806	1574
% of Volume	89	99	101	100

16: Performance by movement

Movement	WBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	0.1	0.3
Total Stops	0	22	22
Travel Dist (mi)	4.7	1.2	5.9
Travel Time (hr)	0.3	0.2	0.5
Avg Speed (mph)	16	7	13
Fuel Used (gal)	0.4	0.1	0.4
HC Emissions (g)	6	2	8
CO Emissions (g)	137	56	193
NOx Emissions (g)	24	4	28
Vehicles Exited	772	44	816
Hourly Exit Rate	772	44	816
Input Volume	765	41	806
% of Volume	101	107	101

18: Performance by movement

Movement	NBR	SWT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.6	3.5	4.1
Total Stops	0	6	6
Travel Dist (mi)	92.2	245.6	337.8
Travel Time (hr)	3.5	9.6	13.1
Avg Speed (mph)	26	26	26
Fuel Used (gal)	4.3	12	16.3
HC Emissions (g)	88	246	334
CO Emissions (g)	4149	8849	12997
NOx Emissions (g)	260	778	1038
Vehicles Exited	610	1816	2426
Hourly Exit Rate	610	1816	2426
Input Volume	607	1834	2441
% of Volume	101	99	99

19: EB I-580 OFF RAMP Performance by movement

Movement	SEL	SER	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	0	0.1
Total Stops	0	0	0
Travel Dist (mi)	13.2	3.6	16.8
Travel Time (hr)	0.4	0.1	0.5
Avg Speed (mph)	34	36	34
Fuel Used (gal)	0.2	0.1	0.2
HC Emissions (g)	3	2	4
CO Emissions (g)	62	43	105
NOx Emissions (g)	7	4	11
Vehicles Exited	161	44	205
Hourly Exit Rate	161	44	205
Input Volume	162	41	203
% of Volume	100	107	101

25: EB I-580 ON RAMP Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.2	0.2	0.4
Total Stops	0	11	11
Travel Dist (mi)	6.3	9.5	15.8
Travel Time (hr)	0.4	0.5	0.9
Avg Speed (mph)	16	18	17
Fuel Used (gal)	0.3	0.9	1.2
HC Emissions (g)	4	16	20
CO Emissions (g)	137	564	701
NOx Emissions (g)	17	60	77
Vehicles Exited	256	412	668
Hourly Exit Rate	256	412	668
Input Volume	262	418	680
% of Volume	98	99	98

26: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NEL	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	0.7	0.8
Total Stops	0	91	91
Travel Dist (mi)	2.5	4.1	6.6
Travel Time (hr)	0.2	0.8	1
Avg Speed (mph)	14	5	7
Fuel Used (gal)	0.2	0.3	0.4
HC Emissions (g)	2	3	5
CO Emissions (g)	45	66	111
NOx Emissions (g)	8	7	15
Vehicles Exited	488	162	650
Hourly Exit Rate	488	162	650
Input Volume	487	162	649
% of Volume	100	100	100

28: Performance by movement

Movement	WBT	NBL	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.2	1.3	1.5
Total Stops	1	158	159
Travel Dist (mi)	5.4	7.2	12.7
Travel Time (hr)	0.4	1.4	1.8
Avg Speed (mph)	14	5	7
Fuel Used (gal)	0.3	0.5	0.8
HC Emissions (g)	5	5	10
CO Emissions (g)	105	118	223
NOx Emissions (g)	16	13	29
Vehicles Exited	900	272	1172
Hourly Exit Rate	900	272	1172
Input Volume	914	269	1183
% of Volume	98	101	99

32: CORRAL HOLLOW RD Performance by movement

Movement	EBL	EBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.2	0.4	0.7
Total Stops	3	12	15
Travel Dist (mi)	11	34.1	45
Travel Time (hr)	0.6	1.6	2.2
Avg Speed (mph)	19	21	21
Fuel Used (gal)	0.5	1.5	2
HC Emissions (g)	6	25	31
CO Emissions (g)	189	803	993
NOx Emissions (g)	25	86	111
Vehicles Exited	154	491	645
Hourly Exit Rate	154	491	645
Input Volume	159	490	649
% of Volume	97	100	99

36: Performance by movement

Movement	SBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	3.3	0.7	4
Total Stops	405	12	417
Travel Dist (mi)	125.9	124	249.9
Travel Time (hr)	7.5	4.9	12.4
Avg Speed (mph)	17	25	20
Fuel Used (gal)	3.9	4.2	8.2
HC Emissions (g)	55	68	123
CO Emissions (g)	1277	1557	2834
NOx Emissions (g)	153	210	363
Vehicles Exited	903	896	1799
Hourly Exit Rate	903	896	1799
Input Volume	914	901	1816
% of Volume	99	99	99

38: Performance by movement

Movement	EBT	NBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	0.4	0.5
Total Stops	0	58	58
Travel Dist (mi)	2.7	3.3	6.1
Travel Time (hr)	0.2	0.5	0.7
Avg Speed (mph)	14	7	9
Fuel Used (gal)	0.3	0.2	0.5
HC Emissions (g)	3	3	7
CO Emissions (g)	74	131	206
NOx Emissions (g)	14	9	23
Vehicles Exited	496	116	612
Hourly Exit Rate	496	116	612
Input Volume	490	117	608
% of Volume	101	99	101

39: WB I-580 OFF RAMP Performance by movement

Movement	NWT	NWR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.2	0	0.2
Total Stops	0	0	0
Travel Dist (mi)	30.2	13.2	43.4
Travel Time (hr)	0.9	0.4	1.2
Avg Speed (mph)	35	38	36
Fuel Used (gal)	0.4	0.2	0.7
HC Emissions (g)	8	5	14
CO Emissions (g)	199	106	305
NOx Emissions (g)	24	16	40
Vehicles Exited	270	117	387
Hourly Exit Rate	270	117	387
Input Volume	269	117	386
% of Volume	100	100	100

40: WB I-580 ON RAMP Performance by movement

Movement	WBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0	0.1	0.1
Total Stops	2	0	2
Travel Dist (mi)	3.1	28.2	31.3
Travel Time (hr)	0.1	1	1.2
Avg Speed (mph)	21	28	27
Fuel Used (gal)	0.3	0.8	1.1
HC Emissions (g)	5	13	18
CO Emissions (g)	231	213	444
NOx Emissions (g)	17	36	53
Vehicles Exited	154	896	1050
Hourly Exit Rate	154	896	1050
Input Volume	159	901	1060
% of Volume	97	99	99

41: Performance by movement

Movement	WBL	WBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	1.3	1.4	2.7
Total Stops	136	114	250
Travel Dist (mi)	27.3	49.6	76.8
Travel Time (hr)	2.2	3	5.2
Avg Speed (mph)	12	16	15
Fuel Used (gal)	1.3	2.5	3.9
HC Emissions (g)	18	47	65
CO Emissions (g)	417	1360	1777
NOx Emissions (g)	60	154	214
Vehicles Exited	411	768	1179
Hourly Exit Rate	411	768	1179
Input Volume	418	765	1183
% of Volume	98	100	100

42: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.3	0.1	0.4
Total Stops	31	0	31
Travel Dist (mi)	48.5	25.5	73.9
Travel Time (hr)	1.9	0.9	2.8
Avg Speed (mph)	25	28	26
Fuel Used (gal)	1.1	0.5	1.6
HC Emissions (g)	10	5	15
CO Emissions (g)	190	111	301
NOx Emissions (g)	27	14	41
Vehicles Exited	489	256	745
Hourly Exit Rate	489	256	745
Input Volume	488	262	750
% of Volume	100	98	99

Total Network Performance

Denied Delay (hr)	0.9
Total Delay (hr)	133.2
Total Stops	6851
Travel Dist (mi)	8204.2
Travel Time (hr)	342.5
Avg Speed (mph)	24
Fuel Used (gal)	297.3
HC Emissions (g)	5522
CO Emissions (g)	169553
NOx Emissions (g)	18373
Vehicles Exited	4603
Hourly Exit Rate	4603
Input Volume	46315
% of Volume	10

1: Lammers Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0	0	0	0	0
Total Del/Veh (s)	2	2	29.9	40.4	7.8	2.9	27.4
Vehicles Exited	18	3	12	1153	186	447	1819
Hourly Exit Rate	18	3	12	1153	186	447	1819
Input Volume	20	3	15	1182	192	436	1848
% of Volume	91	100	79	98	97	103	98

2: Performance by movement

Movement	WBT	NBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	16.2	11.6	14.5
Vehicles Exited	563	312	875
Hourly Exit Rate	563	312	875
Input Volume	549	326	875
% of Volume	103	96	100

3: Performance by movement

Movement	EBT	SBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	9.7	13.8	10.9
Vehicles Exited	890	362	1252
Hourly Exit Rate	890	362	1252
Input Volume	892	362	1254
% of Volume	100	100	100

4: Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	3.1	1.4	3.1	0	0	0	0	0	0	0.6
Total Del/Veh (s)	78.1	56.4	2.8	68.8	67.7	28.5	33.4	54.7	9.3	54.7	56.6	11.6	44
Vehicles Exited	341	79	70	123	19	506	363	792	147	464	256	408	3568
Hourly Exit Rate	341	79	70	123	19	506	363	792	147	464	256	408	3568
Input Volume	341	76	73	126	20	503	355	784	150	475	256	403	3562
% of Volume	100	104	96	98	96	101	102	101	98	98	100	101	100

15: CORRAL HOLLOW RD Performance by movement

Movement	NBR	SBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1	0.7	0.9
Vehicles Exited	1172	638	1810
Hourly Exit Rate	1172	638	1810
Input Volume	1202	628	1831
% of Volume	98	102	99

16: Performance by movement

Movement	WBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.7	11.3	2
Vehicles Exited	563	76	639
Hourly Exit Rate	563	76	639
Input Volume	549	79	628
% of Volume	103	96	102

18: Performance by movement

Movement	NBR	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5.5	4.6	5.2
Vehicles Exited	1292	456	1748
Hourly Exit Rate	1292	456	1748
Input Volume	1289	460	1749
% of Volume	100	99	100

19: EB I-580 OFF RAMP Performance by movement

Movement	SEL	SER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.4	1.6	3.2
Vehicles Exited	594	77	671
Hourly Exit Rate	594	77	671
Input Volume	586	79	665
% of Volume	101	97	101

25: EB I-580 ON RAMP Performance by movement

Movement	EBR	SBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.7	0.8	2.5
Vehicles Exited	861	99	960
Hourly Exit Rate	861	99	960
Input Volume	876	105	981
% of Volume	98	94	98

26: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NEL	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.7	16.2	10.9
Vehicles Exited	312	598	910
Hourly Exit Rate	312	598	910
Input Volume	326	586	912
% of Volume	96	102	100

28: Performance by movement

Movement	WBT	NBL	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.8	16.2	7.7
Vehicles Exited	363	295	658
Hourly Exit Rate	363	295	658
Input Volume	362	292	654
% of Volume	100	101	101

32: CORRAL HOLLOW RD Performance by movement

Movement	EBL	EBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.8	3.6	3.6
Vehicles Exited	16	892	908
Hourly Exit Rate	16	892	908
Input Volume	20	893	912
% of Volume	81	100	100

36: Performance by movement

Movement	SBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.7	0.6	2.2
Vehicles Exited	363	93	456
Hourly Exit Rate	363	93	456
Input Volume	362	91	453
% of Volume	100	102	101

38: Performance by movement

Movement	EBT	NBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.6	12.7	4.4
Vehicles Exited	890	405	1295
Hourly Exit Rate	890	405	1295
Input Volume	892	397	1289
% of Volume	100	102	100

39: WB I-580 OFF RAMP Performance by movement

Movement	NWT	NWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.4	2.8	2.7
Vehicles Exited	294	404	698
Hourly Exit Rate	294	404	698
Input Volume	292	397	689
% of Volume	101	102	101

40: WB I-580 ON RAMP Performance by movement

Movement	WBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.8	0.1	0.2
Vehicles Exited	16	92	108
Hourly Exit Rate	16	92	108
Input Volume	20	91	110
% of Volume	81	101	98

41: Performance by movement

Movement	WBL	WBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	5	2.8	3.2
Vehicles Exited	99	560	659
Hourly Exit Rate	99	560	659
Input Volume	105	550	655
% of Volume	94	102	101

42: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.1	2.1	1.9
Vehicles Exited	312	861	1173
Hourly Exit Rate	312	861	1173
Input Volume	327	876	1203
% of Volume	95	98	98

Intersection: 1: Lammers Rd

Movement	EB	EB	NB	NB	B198	SB	SB
Directions Served	L	LR	L	T	T	TR	R
Maximum Queue (ft)	21	6	206	1006	76	89	25
Average Queue (ft)	1	0	17	307	19	14	1
95th Queue (ft)	8	5	126	1179	104	57	11
Link Distance (ft)	1339	1339		1383	132	662	662
Upstream Blk Time (%)				9	7		
Queuing Penalty (veh)				0	0		
Storage Bay Dist (ft)			200				
Storage Blk Time (%)				21			
Queuing Penalty (veh)				3			

Intersection: 2:

Movement	WB	WB	NB	NB
Directions Served	T	T	T	T
Maximum Queue (ft)	156	151	101	106
Average Queue (ft)	98	90	55	59
95th Queue (ft)	145	135	96	99
Link Distance (ft)	80	80	61	61
Upstream Blk Time (%)	18	15	5	7
Queuing Penalty (veh)	49	40	9	11
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3:

Movement	EB	EB	SB	SB
Directions Served	T	T	T	T
Maximum Queue (ft)	166	163	137	136
Average Queue (ft)	123	129	86	70
95th Queue (ft)	171	172	137	131
Link Distance (ft)	85	85	58	58
Upstream Blk Time (%)	12	13	19	12
Queuing Penalty (veh)	52	57	34	22
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Tracy Hills Dr

Movement	EB	EB	EB	B21	B21	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B53	B53
Directions Served	L	T	R	T	T	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T
Maximum Queue (ft)	314	580	61	8	5	227	501	275	284	395	526	537	368	337	357	230	253	251	65	99
Average Queue (ft)	258	197	15	0	0	105	97	199	110	137	293	299	70	187	197	105	115	104	2	6
95th Queue (ft)	353	551	42	7	5	197	362	299	209	304	477	485	250	294	309	185	198	190	68	116
Link Distance (ft)		860	860	915	915		1145				617	617				638	638		5945	5945
Upstream Blk Time (%)		0									1	1					0			
Queuing Penalty (veh)		0									4	6					0			
Storage Bay Dist (ft)	240					200		200	440	440			380	560	560			430		
Storage Blk Time (%)	27	0				4	0	15	0	0	2	5						0		
Queuing Penalty (veh)	21	0				23	0	22	0	0	8	8						0		

Intersection: 15: CORRAL HOLLOW RD

| Movement | | |

Intersection: 25: EB I-580 ON RAMP

Movement												
Directions Served												
Maximum Queue (ft)												
Average Queue (ft)												
95th Queue (ft)												
Link Distance (ft)												
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 26: CORRAL HOLLOW RD

Movement	NB	NB	NE	NE
Directions Served	T	T	L	L
Maximum Queue (ft)	64	70	148	170
Average Queue (ft)	39	41	83	123
95th Queue (ft)	63	63	137	173
Link Distance (ft)	2	2	56	56
Upstream Blk Time (%)	0	0	23	37
Queuing Penalty (veh)	0	0	66	110
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 28:

Movement	WB	WB	NB	NB
Directions Served	T	T	L	L
Maximum Queue (ft)	67	63	137	103
Average Queue (ft)	47	43	73	44
95th Queue (ft)	64	69	120	86
Link Distance (ft)	6	6	68	68
Upstream Blk Time (%)	0	0	10	3
Queuing Penalty (veh)	0	0	14	4
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 32: CORRAL HOLLOW RD

Movement	EB	EB
Directions Served	LT	T
Maximum Queue (ft)	93	102
Average Queue (ft)	17	21
95th Queue (ft)	65	73
Link Distance (ft)	303	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 35: Bend

Movement	SE	B215
Directions Served	T	T
Maximum Queue (ft)	2	2
Average Queue (ft)	0	0
95th Queue (ft)	2	3
Link Distance (ft)	618	787
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 36:

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	111	78
Average Queue (ft)	17	7
95th Queue (ft)	69	40
Link Distance (ft)	690	690
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 38:

Movement	EB	EB	NB
Directions Served	T	T	R
Maximum Queue (ft)	73	74	176
Average Queue (ft)	47	46	122
95th Queue (ft)	61	62	184
Link Distance (ft)	3	3	72
Upstream Blk Time (%)	0	0	22
Queuing Penalty (veh)	0	0	87
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 39: WB I-580 OFF RAMP

Movement	NW	NW
Directions Served	T	R
Maximum Queue (ft)	3	108
Average Queue (ft)	0	14
95th Queue (ft)	3	67
Link Distance (ft)	535	535
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 40: WB I-580 ON RAMP

Movement		
Directions Served		
Maximum Queue (ft)		
Average Queue (ft)		
95th Queue (ft)		
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 41:

Movement	WB	WB	
Directions Served	LT	T	
Maximum Queue (ft)	35		18
Average Queue (ft)	2		1
95th Queue (ft)	16		10
Link Distance (ft)	295		295
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

1: Lammers Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0
Total Delay (hr)	0	0	0.1	13.3	0.4	0.4	14.2
Total Stops	1	0	3	340	12	10	366
Travel Dist (mi)	4.5	0.8	3.4	316.9	25.3	60.3	411.1
Travel Time (hr)	0.2	0	0.2	19.7	0.9	2.1	23.1
Avg Speed (mph)	27	27	18	16	27	28	18
Fuel Used (gal)	0.1	0	0.1	11.5	0.4	1.1	13.2
HC Emissions (g)	1	0	2	244	8	22	276
CO Emissions (g)	10	2	85	8904	163	468	9632
NOx Emissions (g)	2	0	5	597	22	63	688
Vehicles Exited	18	3	12	1153	186	447	1819
Hourly Exit Rate	18	3	12	1153	186	447	1819
Input Volume	20	3	15	1182	192	436	1848
% of Volume	91	100	79	98	97	103	98

2: Performance by movement

Movement	WBT	NBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	2.5	1	3.6
Total Stops	301	163	464
Travel Dist (mi)	15.2	5.2	20.4
Travel Time (hr)	3.1	1.2	4.2
Avg Speed (mph)	5	4	5
Fuel Used (gal)	1.1	0.4	1.5
HC Emissions (g)	12	4	15
CO Emissions (g)	257	78	336
NOx Emissions (g)	34	10	44
Vehicles Exited	563	312	875
Hourly Exit Rate	563	312	875
Input Volume	549	326	875
% of Volume	103	96	100

3: Performance by movement

Movement	EBT	SBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	2.4	1.4	3.8
Total Stops	437	205	642
Travel Dist (mi)	22.1	6.9	29
Travel Time (hr)	3.1	1.6	4.8
Avg Speed (mph)	7	4	6
Fuel Used (gal)	1.3	0.5	1.9
HC Emissions (g)	15	6	20
CO Emissions (g)	284	115	399
NOx Emissions (g)	42	15	56
Vehicles Exited	890	362	1252
Hourly Exit Rate	890	362	1252
Input Volume	892	362	1254
% of Volume	100	100	100

4: Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0.1	0	0.4	0	0	0	0	0	0	0.6
Total Delay (hr)	7.5	1.2	0.1	2.4	0.4	4.1	3.4	12.2	0.4	7.3	4.2	1.3	44.4
Total Stops	367	70	22	126	18	386	235	660	115	396	212	259	2866
Travel Dist (mi)	59	13.6	12.2	26.9	4.2	110.1	45.6	100.1	18.7	61.2	33.9	53.3	538.5
Travel Time (hr)	9.9	1.8	0.6	3.5	0.5	8.6	5.4	15.7	1.2	9.1	4.8	3.1	64.1
Avg Speed (mph)	6	8	21	8	8	14	8	6	15	7	7	17	8
Fuel Used (gal)	3.4	0.7	0.3	1.3	0.2	3.9	3.1	7.7	1	2.9	1.5	1.2	27.2
HC Emissions (g)	15	3	2	8	1	31	59	117	22	32	17	22	328
CO Emissions (g)	420	89	46	247	30	801	2008	3708	828	901	492	630	10199
NOx Emissions (g)	45	10	7	22	2	86	166	344	67	70	39	52	910
Vehicles Exited	341	79	70	123	19	506	363	792	147	464	256	408	3568
Hourly Exit Rate	341	79	70	123	19	506	363	792	147	464	256	408	3568
Input Volume	341	76	73	126	20	503	355	784	150	475	256	403	3562
% of Volume	100	104	96	98	96	101	102	101	98	98	100	101	100

15: CORRAL HOLLOW RD Performance by movement

Movement	NBR	SBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.3	0.1	0.4
Total Stops	0	0	0
Travel Dist (mi)	205.8	79.2	285
Travel Time (hr)	8.3	1.7	10
Avg Speed (mph)	25	46	28
Fuel Used (gal)	13	2.6	15.6
HC Emissions (g)	318	65	383
CO Emissions (g)	13564	2139	15703
NOx Emissions (g)	903	217	1120
Vehicles Exited	1172	638	1810
Hourly Exit Rate	1172	638	1810
Input Volume	1202	628	1831
% of Volume	98	102	99

16: Performance by movement

Movement	WBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	0.2	0.4
Total Stops	0	41	41
Travel Dist (mi)	3.4	2.1	5.5
Travel Time (hr)	0.2	0.3	0.5
Avg Speed (mph)	15	7	10
Fuel Used (gal)	0.3	0.1	0.4
HC Emissions (g)	5	2	7
CO Emissions (g)	113	83	197
NOx Emissions (g)	20	6	26
Vehicles Exited	563	76	639
Hourly Exit Rate	563	76	639
Input Volume	549	79	628
% of Volume	103	96	102

18: Performance by movement

Movement	NBR	SWT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	2	0.6	2.6
Total Stops	7	0	7
Travel Dist (mi)	192.9	61.5	254.4
Travel Time (hr)	8.4	2.2	10.6
Avg Speed (mph)	23	28	24
Fuel Used (gal)	7.4	3.5	10.9
HC Emissions (g)	164	74	238
CO Emissions (g)	5915	3358	9272
NOx Emissions (g)	484	221	704
Vehicles Exited	1292	456	1748
Hourly Exit Rate	1292	456	1748
Input Volume	1289	460	1749
% of Volume	100	99	100

19: EB I-580 OFF RAMP Performance by movement

Movement	SEL	SER	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.6	0	0.6
Total Stops	22	0	22
Travel Dist (mi)	48.7	6.3	54.9
Travel Time (hr)	1.8	0.2	2
Avg Speed (mph)	27	32	28
Fuel Used (gal)	0.7	0.2	0.9
HC Emissions (g)	12	4	16
CO Emissions (g)	333	164	497
NOx Emissions (g)	27	10	37
Vehicles Exited	594	77	671
Hourly Exit Rate	594	77	671
Input Volume	586	79	665
% of Volume	101	97	101

25: EB I-580 ON RAMP Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.7	0	0.7
Total Stops	0	0	0
Travel Dist (mi)	21.1	2.3	23.4
Travel Time (hr)	1.4	0.1	1.5
Avg Speed (mph)	15	23	16
Fuel Used (gal)	1.2	0.2	1.4
HC Emissions (g)	23	4	26
CO Emissions (g)	588	166	754
NOx Emissions (g)	83	13	95
Vehicles Exited	861	99	960
Hourly Exit Rate	861	99	960
Input Volume	876	105	981
% of Volume	98	94	98

26: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NEL	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	2.7	2.8
Total Stops	0	334	334
Travel Dist (mi)	1.6	15	16.6
Travel Time (hr)	0.1	3.2	3.3
Avg Speed (mph)	14	5	5
Fuel Used (gal)	0.1	1.1	1.3
HC Emissions (g)	2	11	13
CO Emissions (g)	41	267	309
NOx Emissions (g)	7	33	41
Vehicles Exited	312	598	910
Hourly Exit Rate	312	598	910
Input Volume	326	586	912
% of Volume	96	102	100

28: Performance by movement

Movement	WBT	NBL	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	1.3	1.4
Total Stops	0	172	172
Travel Dist (mi)	2.2	7.9	10.1
Travel Time (hr)	0.2	1.5	1.7
Avg Speed (mph)	14	5	6
Fuel Used (gal)	0.2	0.5	0.7
HC Emissions (g)	3	5	8
CO Emissions (g)	59	120	179
NOx Emissions (g)	10	14	24
Vehicles Exited	363	295	658
Hourly Exit Rate	363	295	658
Input Volume	362	292	654
% of Volume	100	101	101

32: CORRAL HOLLOW RD Performance by movement

Movement	EBL	EBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0	0.9	0.9
Total Stops	0	49	49
Travel Dist (mi)	1.2	60.3	61.5
Travel Time (hr)	0.1	2.9	3
Avg Speed (mph)	20	21	21
Fuel Used (gal)	0.1	2.7	2.8
HC Emissions (g)	0	55	56
CO Emissions (g)	19	1544	1564
NOx Emissions (g)	2	182	183
Vehicles Exited	16	892	908
Hourly Exit Rate	16	892	908
Input Volume	20	893	912
% of Volume	81	100	100

36: Performance by movement

Movement	SBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.3	0	0.3
Total Stops	33	0	33
Travel Dist (mi)	50.7	12.9	63.6
Travel Time (hr)	2	0.4	2.4
Avg Speed (mph)	26	29	26
Fuel Used (gal)	1.3	0.4	1.7
HC Emissions (g)	19	6	26
CO Emissions (g)	335	127	462
NOx Emissions (g)	52	17	69
Vehicles Exited	363	93	456
Hourly Exit Rate	363	93	456
Input Volume	362	91	453
% of Volume	100	102	101

38: Performance by movement

Movement	EBT	NBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	1.4	1.6
Total Stops	0	199	199
Travel Dist (mi)	4.9	11.5	16.4
Travel Time (hr)	0.3	1.8	2.1
Avg Speed (mph)	16	6	8
Fuel Used (gal)	0.4	0.8	1.2
HC Emissions (g)	6	11	18
CO Emissions (g)	128	351	479
NOx Emissions (g)	25	31	55
Vehicles Exited	890	405	1295
Hourly Exit Rate	890	405	1295
Input Volume	892	397	1289
% of Volume	100	102	100

39: WB I-580 OFF RAMP Performance by movement

Movement	NWT	NWR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.2	0.3	0.5
Total Stops	0	16	16
Travel Dist (mi)	32.9	45.4	78.3
Travel Time (hr)	0.9	1.4	2.4
Avg Speed (mph)	35	31	33
Fuel Used (gal)	0.5	0.6	1.1
HC Emissions (g)	9	12	21
CO Emissions (g)	259	231	490
NOx Emissions (g)	27	30	58
Vehicles Exited	294	404	698
Hourly Exit Rate	294	404	698
Input Volume	292	397	689
% of Volume	101	102	101

40: WB I-580 ON RAMP Performance by movement

Movement	WBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0	0	0
Total Stops	0	0	0
Travel Dist (mi)	0.3	2.9	3.2
Travel Time (hr)	0	0.1	0.1
Avg Speed (mph)	22	29	28
Fuel Used (gal)	0	0.1	0.1
HC Emissions (g)	0	1	2
CO Emissions (g)	24	19	43
NOx Emissions (g)	1	3	5
Vehicles Exited	16	92	108
Hourly Exit Rate	16	92	108
Input Volume	20	91	110
% of Volume	81	101	98

41: Performance by movement

Movement	WBL	WBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	0.4	0.6
Total Stops	1	3	4
Travel Dist (mi)	6.6	35.9	42.5
Travel Time (hr)	0.4	1.6	2
Avg Speed (mph)	18	22	21
Fuel Used (gal)	0.3	1.7	2
HC Emissions (g)	4	38	42
CO Emissions (g)	122	1126	1248
NOx Emissions (g)	16	122	138
Vehicles Exited	99	560	659
Hourly Exit Rate	99	560	659
Input Volume	105	550	655
% of Volume	94	102	101

42: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	0.5	0.6
Total Stops	3	0	3
Travel Dist (mi)	31	85.4	116.4
Travel Time (hr)	1.1	3.4	4.5
Avg Speed (mph)	27	25	26
Fuel Used (gal)	0.7	1.8	2.5
HC Emissions (g)	11	30	40
CO Emissions (g)	190	645	835
NOx Emissions (g)	28	73	101
Vehicles Exited	312	861	1173
Hourly Exit Rate	312	861	1173
Input Volume	327	876	1203
% of Volume	95	98	98

Total Network Performance

Denied Delay (hr)	3.4
Total Delay (hr)	98.5
Total Stops	5744
Travel Dist (mi)	8036.3
Travel Time (hr)	305.9
Avg Speed (mph)	27
Fuel Used (gal)	283.6
HC Emissions (g)	5782
CO Emissions (g)	176666
NOx Emissions (g)	18930
Vehicles Exited	4985
Hourly Exit Rate	4985
Input Volume	44663
% of Volume	11

Appendix J. Opening Year (2028) No Build HCS Outputs

HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/11/2024
Agency	Kimley-Horn	Analysis Year	2028
Jurisdiction	Caltrans D10	Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/ Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	18
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy	5280	2
2	Basic	Basic	Segment Starts	2000	2
3	Merge	Merge	Patterson Pass Rd On-Ramp	1500	2
4	Basic	Basic	Subsegment 1	3373	2
5	Basic	Basic	Subsegment 2	3373	2
6	Basic	Basic	Subsegment 3	3373	2
7	Basic	Basic	Subsegment 4	3373	2
8	Basic	Basic	Subsegment 5	3373	2
9	Basic	Basic	Subsegment 6	3373	2
10	Basic	Basic	Subsegment 7	3373	2
11	Diverge	Diverge	Corral Hollow Rd Off-Ramp	1500	2
12	Basic	Basic	Between Corral Hollow Rd OFF/ON	1730	2
13	Merge	Merge	Corral Hollow Rd On-Ramp	1500	2
14	Basic	Basic	Subsegment 1	4010	2
15	Basic	Basic	Subsegment 2	4010	2
16	Basic	Basic	Subsegment 3	4010	2
17	Diverge	Diverge	SR 132 Off-Ramp	1500	2
18	Basic	Basic	Segment Ends	5280	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	391	4507	0.09	71.2	2.8	A
3	1.00	0.877	601	4507	0.13	71.2	4.2	A

4	1.00	0.877	685	4507	0.15	71.2	4.8	A

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	391	4507	0.09	71.2	2.8	A
3	1.00	0.877	601	4507	0.13	71.2	4.2	A
4	1.00	0.877	685	4507	0.15	71.2	4.8	A

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	483	92	4507	1878	0.11	0.05	62.2	62.2	3.9	7.4	A
3	1.00	1.00	0.877	0.877	690	89	4507	1878	0.15	0.05	62.2	62.2	5.5	9.0	A
4	1.00	1.00	0.877	0.877	871	186	4507	1878	0.19	0.10	62.1	62.1	7.0	10.4	B

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	483	4507	0.11	71.0	3.4	A
3	1.00	0.877	690	4507	0.15	71.0	4.8	A
4	1.00	0.877	871	4507	0.19	71.0	6.1	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	483	4507	0.11	71.2	3.4	A
3	1.00	0.877	690	4507	0.15	71.2	4.8	A
4	1.00	0.877	871	4507	0.19	71.2	6.1	A

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	483	4507	0.11	71.2	3.4	A
3	1.00	0.877	690	4507	0.15	71.2	4.8	A
4	1.00	0.877	871	4507	0.19	71.2	6.1	A

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	483	4507	0.11	71.2	3.4	A
3	1.00	0.877	690	4507	0.15	71.2	4.8	A

4	1.00	0.877	871	4507	0.19	71.2	6.1	A

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	483	4507	0.11	71.2	3.4	A
3	1.00	0.877	690	4507	0.15	71.2	4.8	A
4	1.00	0.877	871	4507	0.19	71.2	6.1	A

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	483	4507	0.11	71.2	3.4	A
3	1.00	0.877	690	4507	0.15	71.2	4.8	A
4	1.00	0.877	871	4507	0.19	71.2	6.1	A

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	483	4507	0.11	71.2	3.4	A
3	1.00	0.877	690	4507	0.15	71.2	4.8	A
4	1.00	0.877	871	4507	0.19	71.2	6.1	A

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	3.4	A
2	1.00	1.00	0.877	0.877	483	74	4507	1878	0.11	0.04	57.8	57.8	4.2	7.5	A
3	1.00	1.00	0.877	0.877	690	139	4507	1878	0.15	0.07	57.7	57.7	6.0	9.3	A
4	1.00	1.00	0.877	0.877	871	178	4507	1878	0.19	0.09	57.6	57.6	7.6	10.8	B

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	409	4507	0.09	70.2	2.9	A
3	1.00	0.877	551	4507	0.12	70.2	3.9	A
4	1.00	0.877	693	4507	0.15	70.2	4.9	A

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	777	368	4507	1878	0.17	0.20	62.1	62.1	6.3	9.6	A

3	1.00	1.00	0.877	0.877	1004	453	4507	1878	0.22	0.24	62.1	62.1	8.1	11.3	B
4	1.00	1.00	0.877	0.877	1447	754	4507	1878	0.32	0.40	61.9	61.9	11.7	14.6	B

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	778	4507	0.17	71.1	5.5	A
3	1.00	0.877	1003	4507	0.22	71.1	7.1	A
4	1.00	0.877	1447	4507	0.32	71.1	10.2	A

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	778	4507	0.17	71.2	5.5	A
3	1.00	0.877	1003	4507	0.22	71.2	7.1	A
4	1.00	0.877	1447	4507	0.32	71.2	10.2	A

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	778	4507	0.17	71.2	5.5	A
3	1.00	0.877	1003	4507	0.22	71.2	7.1	A
4	1.00	0.877	1447	4507	0.32	71.2	10.2	A

Segment 17: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	2.5	A
2	1.00	1.00	0.877	0.877	778	213	4507	1878	0.17	0.11	57.4	57.4	6.8	9.1	A
3	1.00	1.00	0.877	0.877	1003	318	4507	1878	0.22	0.17	57.2	57.2	8.8	11.1	B
4	1.00	1.00	0.877	0.877	1447	560	4507	1878	0.32	0.30	56.5	56.5	12.8	14.9	B

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	564	4507	0.13	71.1	4.0	A
3	1.00	0.877	685	4507	0.15	71.1	4.8	A
4	1.00	0.877	887	4507	0.20	71.1	6.2	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	70.8	0.0	0.0	9.00	A
2	1291	1262	0.43	10.86	69.5	4.0	3.5	9.10	A

3	1760	1726	0.59	14.71	69.5	5.4	4.8	9.10	A
4	2317	2259	0.83	20.82	69.4	7.2	6.3	9.20	A

Facility Overall Results

Space Mean Speed, mi/h	69.5	Average Density, veh/mi/ln	3.6
Average Travel Time, min	9.10	Average Density, pc/mi/ln	4.2
Total VMT, veh-mi	5368	Total VHD, veh-h	1.86
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	46.39

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HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/11/2024
Agency	Kimley-Horn	Analysis Year	2028
Jurisdiction	Caltrans D10	Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/ Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	18
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy	5280	2
2	Basic	Basic	Segment Starts	2000	2
3	Merge	Merge	Patterson Pass Rd On-Ramp	1500	2
4	Basic	Basic	Subsegment 1	3373	2
5	Basic	Basic	Subsegment 2	3373	2
6	Basic	Basic	Subsegment 3	3373	2
7	Basic	Basic	Subsegment 4	3373	2
8	Basic	Basic	Subsegment 5	3373	2
9	Basic	Basic	Subsegment 6	3373	2
10	Basic	Basic	Subsegment 7	3373	2
11	Diverge	Diverge	Corral Hollow Rd Off-Ramp	1500	2
12	Basic	Basic	Between Corral Hollow Rd OFF/ON	1730	2
13	Merge	Merge	Corral Hollow Rd On-Ramp	1500	2
14	Basic	Basic	Subsegment 1	4010	2
15	Basic	Basic	Subsegment 2	4010	2
16	Basic	Basic	Subsegment 3	4010	2
17	Diverge	Diverge	SR 132 Off-Ramp	1500	2
18	Basic	Basic	Segment Ends	5280	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	2709	4507	0.60	69.6	19.5	C
3	1.00	0.877	2767	4507	0.61	69.3	20.0	C

4	1.00	0.877	2279	4507	0.51	71.0	16.1	B

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	2709	4507	0.60	69.6	19.5	C
3	1.00	0.877	2767	4507	0.61	69.3	20.0	C
4	1.00	0.877	2279	4507	0.51	71.0	16.1	B

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	3578	869	4507	1878	0.79	0.46	58.3	58.3	30.7	31.2	D
3	1.00	1.00	0.877	0.877	3561	794	4507	1878	0.79	0.42	58.4	58.4	30.5	31.1	D
4	1.00	1.00	0.877	0.877	3168	889	4507	1878	0.70	0.47	59.7	59.7	26.5	28.0	C

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	3578	4507	0.79	63.0	28.4	D
3	1.00	0.877	3561	4507	0.79	63.2	28.2	D
4	1.00	0.877	3169	4507	0.70	66.8	23.7	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3578	4507	0.79	63.0	28.4	D
3	1.00	0.877	3561	4507	0.79	63.2	28.2	D
4	1.00	0.877	3169	4507	0.70	66.8	23.7	C

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3578	4507	0.79	63.0	28.4	D
3	1.00	0.877	3561	4507	0.79	63.2	28.2	D
4	1.00	0.877	3169	4507	0.70	66.8	23.7	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3578	4507	0.79	63.0	28.4	D
3	1.00	0.877	3561	4507	0.79	63.2	28.2	D

4	1.00	0.877	3169	4507	0.70	66.8	23.7	C

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3578	4507	0.79	63.0	28.4	D
3	1.00	0.877	3561	4507	0.79	63.2	28.2	D
4	1.00	0.877	3169	4507	0.70	66.8	23.7	C

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3578	4507	0.79	63.0	28.4	D
3	1.00	0.877	3561	4507	0.79	63.2	28.2	D
4	1.00	0.877	3169	4507	0.70	66.8	23.7	C

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3578	4507	0.79	63.0	28.4	D
3	1.00	0.877	3561	4507	0.79	63.2	28.2	D
4	1.00	0.877	3169	4507	0.70	66.8	23.7	C

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	3.4	A
2	1.00	1.00	0.877	0.877	3578	792	4507	1878	0.79	0.42	55.9	55.9	32.0	34.1	D
3	1.00	1.00	0.877	0.877	3561	837	4507	1878	0.79	0.45	55.8	55.8	31.9	34.0	D
4	1.00	1.00	0.877	0.877	3169	881	4507	1878	0.70	0.47	55.7	55.7	28.4	30.6	D

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	2786	4507	0.62	69.2	20.1	C
3	1.00	0.877	2724	4507	0.60	69.5	19.6	C
4	1.00	0.877	2287	4507	0.51	70.1	16.1	B

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	3411	625	4507	1878	0.76	0.33	59.0	59.0	28.9	30.0	D

3	1.00	1.00	0.877	0.877	3498	774	4507	1878	0.78	0.41	58.6	58.6	29.8	30.6	D
4	1.00	1.00	0.877	0.877	3119	832	4507	1878	0.69	0.44	59.8	59.8	26.1	27.6	C

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	3410	4507	0.76	64.7	26.4	D
3	1.00	0.877	3498	4507	0.78	63.8	27.4	D
4	1.00	0.877	3120	4507	0.69	67.1	23.2	C

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3410	4507	0.76	64.7	26.4	D
3	1.00	0.877	3498	4507	0.78	63.8	27.4	D
4	1.00	0.877	3120	4507	0.69	67.1	23.2	C

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3410	4507	0.76	64.7	26.4	D
3	1.00	0.877	3498	4507	0.78	63.8	27.4	D
4	1.00	0.877	3120	4507	0.69	67.1	23.2	C

Segment 17: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	2.5	A
2	1.00	1.00	0.877	0.877	3410	1863	4507	1878	0.76	0.99	53.1	53.1	32.1	31.8	D
3	1.00	1.00	0.877	0.877	3498	1871	4507	1878	0.78	1.00	53.1	53.1	32.9	32.5	D
4	1.00	1.00	0.877	0.877	3120	1691	4507	1878	0.69	0.90	53.6	53.6	29.1	29.3	D

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	1547	4507	0.34	71.1	10.9	A
3	1.00	0.877	1627	4507	0.36	71.1	11.4	B
4	1.00	0.877	1429	4507	0.32	71.1	10.0	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	70.8	0.0	0.0	9.00	A
2	7441	7348	12.35	308.77	63.7	25.2	22.1	10.00	C

3	7507	7410	12.69	317.31	63.6	25.4	22.3	10.00	C
4	6615	6508	7.00	175.05	66.2	21.5	18.8	9.60	C

Facility Overall Results

Space Mean Speed, mi/h	64.4	Average Density, veh/mi/ln	15.8
Average Travel Time, min	9.90	Average Density, pc/mi/ln	18.0
Total VMT, veh-mi	21563	Total VHD, veh-h	32.05
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	801.13

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HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/11/2024
Agency	Kimley-Horn	Analysis Year	2028
Jurisdiction	Caltrans D10	Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.84		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy Link	5280	2
2	Basic	Basic	Segment Starts	3560	2
3	Merge	Merge	SR 132 On-ramp	1500	2
4	Basic	Basic	Subsegment 1	3768	2
5	Basic	Basic	Subsegment 2	3768	2
6	Basic	Basic	Subsegment 3	3768	2
7	Basic	Basic	Subsegment 4	3768	2
8	Diverge	Diverge	Corral Hollow Rd Off-ramp	1500	2
9	Basic	Basic	Between Hollow Rd OFF/ON	1755	2
10	Merge	Merge	Corral Hollow Rd On-ramp	1500	2
11	Basic	Basic	Subsegment 1	3382	2
12	Basic	Basic	Subsegment 2	3382	2
13	Basic	Basic	Subsegment 3	3382	2
14	Basic	Basic	Subsegment 4	3382	2
15	Basic	Basic	Subsegment 5	3382	2
16	Basic	Basic	Subsegment 6	3382	2
17	Basic	Basic	Subsegment 7	3382	2
18	Diverge	Diverge	Mountain House Pkwy Off-ramp	1500	2
19	Basic	Basic	Segment Ends	1910	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4800	0.00	71.1	0.0	A
2	1.00	0.877	1819	4800	0.38	50.5	18.0	C

3	1.00	0.877	1511	4800	0.31	41.2	18.3	C
4	1.00	0.877	1453	4800	0.30	54.0	13.5	B

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.8	0.0	A
2	1.00	0.877	1818	3360	0.54	51.0	17.8	F
3	1.00	0.877	1390	2477	0.61	30.3	22.9	F
4	1.00	0.877	1575	2189	0.66	44.6	17.7	B

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2200	0.00	0.00	72.0	69.0	0.0	0.0	A
2	1.00	1.00	0.877	0.888	3128	1818	3236	2200	1.12	0.83	33.7	41.3	46.5	24.9	F
3	1.00	1.00	0.877	0.888	1873	1615	2052	2200	1.52	0.73	22.2	27.2	55.3	20.1	F
4	1.00	1.00	0.877	0.888	2262	1544	2367	2200	1.27	0.70	45.6	45.6	34.2	21.0	F

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3128	3451	1.06	41.7	37.5	F
3	1.00	0.877	1873	2669	1.18	27.9	33.4	F
4	1.00	0.877	2262	2525	1.19	39.1	28.9	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3128	3451	1.06	42.7	36.6	F
3	1.00	0.877	1873	2904	1.08	27.1	34.6	F
4	1.00	0.877	2262	2525	1.19	39.0	29.0	F

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3065	3451	1.06	32.8	46.7	F
3	1.00	0.877	1937	2904	1.08	28.5	34.0	F
4	1.00	0.877	2262	2525	1.19	38.8	29.1	F

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2895	3451	1.06	24.3	59.4	F

3	1.00		0.877		2106		2904		1.08		27.6		38.2	F
4	1.00		0.877		2262		2669		1.13		42.0		26.9	F

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	3.4	A
2	1.00	1.00	0.877	0.842	2840	530	3191	2000	1.15	0.26	26.4	44.3	53.8	34.8	F
3	1.00	1.00	0.877	0.838	2161	452	2723	2000	1.16	0.23	23.6	32.2	33.6	21.9	F
4	1.00	1.00	0.877	0.842	2262	409	2502	2000	1.21	0.20	37.5	39.5	28.6	22.8	F

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	3547	0.00	70.0	0.0	A
2	1.00	0.877	2209	3000	1.05	14.5	76.0	F
3	1.00	0.877	1957	2525	1.07	23.4	41.8	F
4	1.00	0.877	1937	2381	1.10	33.0	29.3	F

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2000	0.00	0.00	70.0	65.0	0.0	3.7	A
2	1.00	1.00	0.877	0.888	2954	1173	3173	2000	1.36	0.59	43.7	44.3	38.2	29.5	F
3	1.00	1.00	0.877	0.888	2810	1301	2966	2000	1.35	0.65	28.8	34.3	47.5	28.5	F
4	1.00	1.00	0.877	0.888	2966	1329	2966	2000	1.33	0.66	37.1	39.2	41.7	28.5	F

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	74.9	0.0	A
2	1.00	0.877	2954	3643	1.19	54.2	27.3	F
3	1.00	0.877	2810	3547	1.14	39.9	35.0	F
4	1.00	0.877	2966	3163	1.25	38.9	38.1	F

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4123	1.05	63.1	23.4	F
3	1.00	0.877	2810	3547	1.14	43.4	32.4	F
4	1.00	0.877	2966	4027	0.99	50.5	29.4	D

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A

2	1.00	0.877	2954	4123	1.05	62.7	23.6	F
3	1.00	0.877	2810	3547	1.14	43.4	32.4	F
4	1.00	0.877	2966	4027	0.99	51.7	28.7	D

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4027	1.08	61.5	24.0	F
3	1.00	0.877	2810	3547	1.14	43.4	32.4	F
4	1.00	0.877	2966	4027	0.99	55.0	27.0	D

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4027	1.08	61.5	24.0	F
3	1.00	0.877	2810	3547	1.14	43.4	32.4	F
4	1.00	0.877	2966	4027	0.99	55.8	26.6	D

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4027	1.08	61.5	24.0	F
3	1.00	0.877	2810	3547	1.14	43.4	32.4	F
4	1.00	0.877	2966	4027	0.99	56.3	26.3	D

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4027	1.08	60.5	24.4	F
3	1.00	0.877	2810	3547	1.14	41.5	33.9	F
4	1.00	0.877	2966	4027	0.99	56.1	26.4	D

Segment 18: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	2.9	A
2	1.00	1.00	0.877	0.842	2954	860	3776	2000	1.15	0.43	48.1	48.1	30.7	28.3	F
3	1.00	1.00	0.877	0.842	2810	849	3326	2000	1.21	0.42	43.3	43.3	32.4	27.1	F
4	1.00	1.00	0.877	0.842	2966	783	3943	2000	1.01	0.39	55.8	55.8	26.6	28.4	F

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	72.1	0.0	A

2	1.00	0.877	2094	4027	0.87	50.7	20.6	C
3	1.00	0.877	2253	3547	0.91	43.1	26.1	D
4	1.00	0.877	2341	4027	0.80	56.7	20.6	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	73.8	0.0	0.0	8.80	A
2	6550	8539	32.60	814.95	43.0	32.2	28.2	15.10	F
3	5441	7649	0.78	19.59	35.1	32.6	28.6	18.50	F
4	5861	7458	19.62	490.55	46.4	26.8	23.5	14.00	F

Facility Overall Results

Space Mean Speed, mi/h	41.2	Average Density, veh/mi/ln	20.1
Average Travel Time, min	15.80	Average Density, pc/mi/ln	22.9
Total VMT, veh-mi	17852	Total VHD, veh-h	53.00
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	1325.09

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HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/11/2024
Agency	Kimley-Horn	Analysis Year	2028
Jurisdiction	Caltrans D10	Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.84		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy Link	5280	2
2	Basic	Basic	Segment Starts	3560	2
3	Merge	Merge	SR 132 On-ramp	1500	2
4	Basic	Basic	Subsegment 1	3768	2
5	Basic	Basic	Subsegment 2	3768	2
6	Basic	Basic	Subsegment 3	3768	2
7	Basic	Basic	Subsegment 4	3768	2
8	Diverge	Diverge	Corral Hollow Rd Off-ramp	1500	2
9	Basic	Basic	Between Hollow Rd OFF/ON	1755	2
10	Merge	Merge	Corral Hollow Rd On-ramp	1500	2
11	Basic	Basic	Subsegment 1	3382	2
12	Basic	Basic	Subsegment 2	3382	2
13	Basic	Basic	Subsegment 3	3382	2
14	Basic	Basic	Subsegment 4	3382	2
15	Basic	Basic	Subsegment 5	3382	2
16	Basic	Basic	Subsegment 6	3382	2
17	Basic	Basic	Subsegment 7	3382	2
18	Diverge	Diverge	Mountain House Pkwy Off-ramp	1500	2
19	Basic	Basic	Segment Ends	1910	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	69.8	0.0	A
2	1.00	0.877	1146	4507	0.25	72.3	7.9	A

3	1.00	0.877	1186	4507	0.26	71.8	8.3	A
4	1.00	0.877	1062	4507	0.24	71.3	7.4	A

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.5	0.0	A
2	1.00	0.877	1146	4507	0.25	73.0	7.8	A
3	1.00	0.877	1186	4507	0.26	72.5	8.2	A
4	1.00	0.877	1062	4507	0.24	72.0	7.4	A

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2200	0.00	0.00	72.0	69.0	0.0	0.0	A
2	1.00	1.00	0.877	0.888	1662	516	4507	2200	0.37	0.23	68.4	68.4	12.1	10.1	B
3	1.00	1.00	0.877	0.888	1706	520	4507	2200	0.38	0.24	68.4	68.4	12.5	10.5	B
4	1.00	1.00	0.877	0.888	1633	571	4507	2200	0.36	0.26	68.5	68.5	11.9	9.9	A

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	1668	4507	0.37	73.5	11.3	B
3	1.00	0.877	1713	4507	0.38	73.3	11.7	B
4	1.00	0.877	1640	4507	0.36	74.2	11.0	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	1668	4507	0.37	73.7	11.3	B
3	1.00	0.877	1713	4507	0.38	73.7	11.6	B
4	1.00	0.877	1640	4507	0.36	74.2	11.1	B

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.7	0.0	A
2	1.00	0.877	1668	4507	0.37	73.3	11.4	B
3	1.00	0.877	1713	4507	0.38	73.0	11.7	B
4	1.00	0.877	1640	4507	0.36	74.0	11.1	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.5	0.0	A
2	1.00	0.877	1668	4507	0.37	72.8	11.5	B

3	1.00		0.877		1713		4507		0.38		73.3		11.7		B
4	1.00		0.877		1640		4507		0.36		73.7		11.1		B
Segment 8: Diverge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	3.4	A
2	1.00	1.00	0.877	0.842	1668	810	4507	2000	0.37	0.40	58.5	58.5	14.3	17.7	B
3	1.00	1.00	0.877	0.838	1713	826	4507	2000	0.38	0.41	58.4	58.4	14.7	18.1	B
4	1.00	1.00	0.877	0.842	1640	742	4507	2000	0.36	0.37	58.7	58.7	14.0	17.5	B
Segment 9: Basic															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
1	1.00		0.877		0		4507		0.00		70.2		0.0		A
2	1.00		0.877		891		4507		0.20		72.0		6.1		A
3	1.00		0.877		924		4507		0.21		72.1		6.3		A
4	1.00		0.877		927		4507		0.21		72.4		6.3		A
Segment 10: Merge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	1.00	1.00	0.877	0.888	0	0	4507	2000	0.00	0.00	70.0	65.0	0.0	3.7	A
2	1.00	1.00	0.877	0.888	1076	185	4507	2000	0.24	0.09	64.7	64.7	8.3	12.0	B
3	1.00	1.00	0.877	0.888	1104	180	4507	2000	0.24	0.09	64.7	64.7	8.5	12.2	B
4	1.00	1.00	0.877	0.888	1108	181	4507	2000	0.25	0.09	64.7	64.7	8.6	12.2	B
Segment 11: Basic															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
1	1.00		0.877		0		4507		0.00		70.4		0.0		A
2	1.00		0.877		1078		4507		0.24		73.0		7.4		A
3	1.00		0.877		1106		4507		0.25		73.8		7.5		A
4	1.00		0.877		1111		4507		0.25		73.8		7.5		A
Segment 12: Basic															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
1	1.00		0.877		0		4507		0.00		71.0		0.0		A
2	1.00		0.877		1078		4507		0.24		73.3		7.4		A
3	1.00		0.877		1106		4507		0.25		73.7		7.5		A
4	1.00		0.877		1111		4507		0.25		73.7		7.5		A
Segment 13: Basic															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
1	1.00		0.877		0		4507		0.00		70.5		0.0		A

2	1.00	0.877	1078	4507	0.24	73.5	7.3	A
3	1.00	0.877	1106	4507	0.25	73.3	7.5	A
4	1.00	0.877	1111	4507	0.25	73.3	7.6	A

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	1078	4507	0.24	73.5	7.3	A
3	1.00	0.877	1106	4507	0.25	73.7	7.5	A
4	1.00	0.877	1111	4507	0.25	73.0	7.6	A

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.8	0.0	A
2	1.00	0.877	1078	4507	0.24	73.5	7.3	A
3	1.00	0.877	1106	4507	0.25	73.7	7.5	A
4	1.00	0.877	1111	4507	0.25	73.0	7.6	A

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.5	0.0	A
2	1.00	0.877	1078	4507	0.24	73.7	7.3	A
3	1.00	0.877	1106	4507	0.25	74.5	7.4	A
4	1.00	0.877	1111	4507	0.25	73.5	7.6	A

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	1078	4507	0.24	73.3	7.4	A
3	1.00	0.877	1106	4507	0.25	73.5	7.5	A
4	1.00	0.877	1111	4507	0.25	73.0	7.6	A

Segment 18: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	2.9	A
2	1.00	1.00	0.877	0.842	1078	169	4507	2000	0.24	0.08	60.4	60.4	8.9	12.2	B
3	1.00	1.00	0.877	0.842	1106	131	4507	2000	0.25	0.07	60.5	60.5	9.1	12.4	B
4	1.00	1.00	0.877	0.842	1111	165	4507	2000	0.25	0.08	60.4	60.4	9.2	12.5	B

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A

2	1.00	0.877	916	4507	0.20	72.8	6.2	A
3	1.00	0.877	981	4507	0.22	72.8	6.7	A
4	1.00	0.877	952	4507	0.21	72.8	6.5	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	70.8	0.0	0.0	9.20	A
2	3003	2959	0.91	22.87	71.8	8.8	7.7	9.10	A
3	3090	3047	0.94	23.53	71.9	9.0	8.0	9.00	A
4	2993	2946	0.91	22.76	71.9	8.7	7.7	9.00	A

Facility Overall Results

Space Mean Speed, mi/h	71.9	Average Density, veh/mi/ln	5.8
Average Travel Time, min	9.00	Average Density, pc/mi/ln	6.6
Total VMT, veh-mi	9086	Total VHD, veh-h	2.77
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	69.17

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Appendix K. Opening Year (2028) Build HCS Outputs

HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/11/2024
Agency	Kimley-Horn	Analysis Year	2028
Jurisdiction	Caltrans D10	Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/ Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	18
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy	5280	2
2	Basic	Basic	Segment Starts	2000	2
3	Merge	Merge	Patterson Pass Rd On-Ramp	1500	2
4	Basic	Basic	Subsegment 1	3373	2
5	Basic	Basic	Subsegment 2	3373	2
6	Basic	Basic	Subsegment 3	3373	2
7	Basic	Basic	Subsegment 4	3373	2
8	Basic	Basic	Subsegment 5	3373	2
9	Basic	Basic	Subsegment 6	3373	2
10	Basic	Basic	Subsegment 7	3373	2
11	Diverge	Diverge	Corral Hollow Rd Off-Ramp	1500	2
12	Basic	Basic	Between Corral Hollow Rd OFF/ON	1730	2
13	Merge	Merge	Corral Hollow Rd On-Ramp	1500	2
14	Basic	Basic	Subsegment 1	4010	2
15	Basic	Basic	Subsegment 2	4010	2
16	Basic	Basic	Subsegment 3	4010	2
17	Diverge	Diverge	SR 132 Off-Ramp	1500	2
18	Basic	Basic	Segment Ends	5280	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	391	4507	0.09	71.2	2.8	A
3	1.00	0.877	601	4507	0.13	71.2	4.2	A

4	1.00	0.877	685	4507	0.15	71.2	4.8	A

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	391	4507	0.09	71.2	2.8	A
3	1.00	0.877	601	4507	0.13	71.2	4.2	A
4	1.00	0.877	685	4507	0.15	71.2	4.8	A

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	485	94	4507	1878	0.11	0.05	62.2	62.2	3.9	7.4	A
3	1.00	1.00	0.877	0.877	691	90	4507	1878	0.15	0.05	62.2	62.2	5.6	9.0	A
4	1.00	1.00	0.877	0.877	873	188	4507	1878	0.19	0.10	62.1	62.1	7.0	10.4	B

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	485	4507	0.11	71.0	3.4	A
3	1.00	0.877	691	4507	0.15	71.0	4.9	A
4	1.00	0.877	873	4507	0.19	71.0	6.1	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	485	4507	0.11	71.2	3.4	A
3	1.00	0.877	691	4507	0.15	71.2	4.9	A
4	1.00	0.877	873	4507	0.19	71.2	6.1	A

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	485	4507	0.11	71.2	3.4	A
3	1.00	0.877	691	4507	0.15	71.2	4.9	A
4	1.00	0.877	873	4507	0.19	71.2	6.1	A

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	485	4507	0.11	71.2	3.4	A
3	1.00	0.877	691	4507	0.15	71.2	4.9	A

4	1.00	0.877	873	4507	0.19	71.2	6.1	A

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	485	4507	0.11	71.2	3.4	A
3	1.00	0.877	691	4507	0.15	71.2	4.9	A
4	1.00	0.877	873	4507	0.19	71.2	6.1	A

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	485	4507	0.11	71.2	3.4	A
3	1.00	0.877	691	4507	0.15	71.2	4.9	A
4	1.00	0.877	873	4507	0.19	71.2	6.1	A

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	485	4507	0.11	71.2	3.4	A
3	1.00	0.877	691	4507	0.15	71.2	4.9	A
4	1.00	0.877	873	4507	0.19	71.2	6.1	A

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	3.4	A
2	1.00	1.00	0.877	0.877	485	75	4507	1878	0.11	0.04	57.8	57.8	4.2	7.5	A
3	1.00	1.00	0.877	0.877	691	140	4507	1878	0.15	0.07	57.7	57.7	6.0	9.3	A
4	1.00	1.00	0.877	0.877	873	180	4507	1878	0.19	0.10	57.5	57.5	7.6	10.9	B

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	409	4507	0.09	70.2	2.9	A
3	1.00	0.877	551	4507	0.12	70.2	3.9	A
4	1.00	0.877	693	4507	0.15	70.2	4.9	A

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	806	397	4507	1878	0.18	0.21	62.1	62.1	6.5	9.8	A

3	1.00	1.00	0.877	0.877	1039	488	4507	1878	0.23	0.26	62.1	62.1	8.4	11.5	B
4	1.00	1.00	0.877	0.877	1505	812	4507	1878	0.33	0.43	61.9	61.9	12.2	15.0	B

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	806	4507	0.18	71.1	5.7	A
3	1.00	0.877	1039	4507	0.23	71.1	7.3	A
4	1.00	0.877	1505	4507	0.33	71.1	10.6	A

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	806	4507	0.18	71.2	5.7	A
3	1.00	0.877	1039	4507	0.23	71.2	7.3	A
4	1.00	0.877	1505	4507	0.33	71.2	10.6	A

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	806	4507	0.18	71.2	5.7	A
3	1.00	0.877	1039	4507	0.23	71.2	7.3	A
4	1.00	0.877	1505	4507	0.33	71.2	10.6	A

Segment 17: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	2.5	A
2	1.00	1.00	0.877	0.877	806	220	4507	1878	0.18	0.12	57.4	57.4	7.0	9.4	A
3	1.00	1.00	0.877	0.877	1039	328	4507	1878	0.23	0.17	57.2	57.2	9.1	11.4	B
4	1.00	1.00	0.877	0.877	1505	576	4507	1878	0.33	0.31	56.5	56.5	13.3	15.4	B

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	586	4507	0.13	71.1	4.1	A
3	1.00	0.877	710	4507	0.16	71.1	5.0	A
4	1.00	0.877	929	4507	0.21	71.1	6.5	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	70.8	0.0	0.0	9.00	A
2	1315	1284	0.44	11.12	69.5	4.1	3.6	9.10	A

3	1789	1753	0.60	15.02	69.5	5.6	4.9	9.10	A
4	2365	2303	0.86	21.41	69.4	7.3	6.4	9.20	A

Facility Overall Results

Space Mean Speed, mi/h	69.5	Average Density, veh/mi/ln	3.7
Average Travel Time, min	9.10	Average Density, pc/mi/ln	4.2
Total VMT, veh-mi	5469	Total VHD, veh-h	1.90
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	47.56

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HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/11/2024
Agency	Kimley-Horn	Analysis Year	2028
Jurisdiction	Caltrans D10	Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/ Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	18
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy	5280	2
2	Basic	Basic	Segment Starts	2000	2
3	Merge	Merge	Patterson Pass Rd On-Ramp	1500	2
4	Basic	Basic	Subsegment 1	3373	2
5	Basic	Basic	Subsegment 2	3373	2
6	Basic	Basic	Subsegment 3	3373	2
7	Basic	Basic	Subsegment 4	3373	2
8	Basic	Basic	Subsegment 5	3373	2
9	Basic	Basic	Subsegment 6	3373	2
10	Basic	Basic	Subsegment 7	3373	2
11	Diverge	Diverge	Corral Hollow Rd Off-Ramp	1500	2
12	Basic	Basic	Between Corral Hollow Rd OFF/ON	1730	2
13	Merge	Merge	Corral Hollow Rd On-Ramp	1500	2
14	Basic	Basic	Subsegment 1	4010	2
15	Basic	Basic	Subsegment 2	4010	2
16	Basic	Basic	Subsegment 3	4010	2
17	Diverge	Diverge	SR 132 Off-Ramp	1500	2
18	Basic	Basic	Segment Ends	5280	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	2830	4507	0.63	69.0	20.5	C
3	1.00	0.877	2900	4507	0.64	68.6	21.1	C

4	1.00	0.877	2409	4507	0.53	70.7	17.0	B

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	2830	4507	0.63	69.0	20.5	C
3	1.00	0.877	2900	4507	0.64	68.6	21.1	C
4	1.00	0.877	2409	4507	0.53	70.7	17.0	B

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	3685	855	4507	1878	0.82	0.46	57.9	57.9	31.8	32.0	D
3	1.00	1.00	0.877	0.877	3680	780	4507	1878	0.82	0.42	57.9	57.9	31.8	32.0	D
4	1.00	1.00	0.877	0.877	3284	875	4507	1878	0.73	0.47	59.4	59.4	27.6	28.9	D

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	3685	4507	0.82	61.8	29.8	D
3	1.00	0.877	3680	4507	0.82	61.8	29.8	D
4	1.00	0.877	3284	4507	0.73	65.8	25.0	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3685	4507	0.82	61.8	29.8	D
3	1.00	0.877	3680	4507	0.82	61.8	29.8	D
4	1.00	0.877	3284	4507	0.73	65.8	25.0	C

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3685	4507	0.82	61.8	29.8	D
3	1.00	0.877	3680	4507	0.82	61.8	29.8	D
4	1.00	0.877	3284	4507	0.73	65.8	25.0	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3685	4507	0.82	61.8	29.8	D
3	1.00	0.877	3680	4507	0.82	61.8	29.8	D

4	1.00	0.877	3284	4507	0.73	65.8	25.0	C

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3685	4507	0.82	61.8	29.8	D
3	1.00	0.877	3680	4507	0.82	61.8	29.8	D
4	1.00	0.877	3284	4507	0.73	65.8	25.0	C

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3685	4507	0.82	61.8	29.8	D
3	1.00	0.877	3680	4507	0.82	61.8	29.8	D
4	1.00	0.877	3284	4507	0.73	65.8	25.0	C

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3685	4507	0.82	61.8	29.8	D
3	1.00	0.877	3680	4507	0.82	61.8	29.8	D
4	1.00	0.877	3284	4507	0.73	65.8	25.0	C

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	3.4	A
2	1.00	1.00	0.877	0.877	3685	895	4507	1878	0.82	0.48	55.7	55.7	33.1	35.0	D
3	1.00	1.00	0.877	0.877	3680	945	4507	1878	0.82	0.50	55.5	55.5	33.2	35.0	D
4	1.00	1.00	0.877	0.877	3284	995	4507	1878	0.73	0.53	55.4	55.4	29.6	31.6	D

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	2790	4507	0.62	69.2	20.2	C
3	1.00	0.877	2734	4507	0.61	69.5	19.7	C
4	1.00	0.877	2288	4507	0.51	70.0	16.1	B

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	3419	629	4507	1878	0.76	0.34	58.9	58.9	29.0	30.0	D

3	1.00	1.00	0.877	0.877	3513	779	4507	1878	0.78	0.41	58.6	58.6	30.0	30.7	D
4	1.00	1.00	0.877	0.877	3126	838	4507	1878	0.69	0.45	59.8	59.8	26.1	27.7	C

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	3420	4507	0.76	64.6	26.5	D
3	1.00	0.877	3513	4507	0.78	63.6	27.6	D
4	1.00	0.877	3127	4507	0.69	67.1	23.3	C

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3420	4507	0.76	64.6	26.5	D
3	1.00	0.877	3513	4507	0.78	63.6	27.6	D
4	1.00	0.877	3127	4507	0.69	67.1	23.3	C

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3420	4507	0.76	64.6	26.5	D
3	1.00	0.877	3513	4507	0.78	63.6	27.6	D
4	1.00	0.877	3127	4507	0.69	67.1	23.3	C

Segment 17: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	2.5	A
2	1.00	1.00	0.877	0.877	3420	1815	4507	1878	0.76	0.97	53.2	53.2	32.1	31.9	D
3	1.00	1.00	0.877	0.877	3513	1824	4507	1878	0.78	0.97	53.2	53.2	33.0	32.7	D
4	1.00	1.00	0.877	0.877	3127	1648	4507	1878	0.69	0.88	53.7	53.7	29.1	29.3	D

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	1604	4507	0.36	71.1	11.3	B
3	1.00	0.877	1689	4507	0.37	71.1	11.9	B
4	1.00	0.877	1479	4507	0.33	71.1	10.4	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	70.8	0.0	0.0	9.00	A
2	7614	7522	13.91	347.85	63.0	26.0	22.8	10.10	D

3	7702	7605	14.54	363.56	62.8	26.4	23.2	10.10	D
4	6797	6690	7.97	199.23	65.7	22.3	19.5	9.70	C

Facility Overall Results

Space Mean Speed, mi/h	63.7	Average Density, veh/mi/ln	16.4
Average Travel Time, min	10.00	Average Density, pc/mi/ln	18.7
Total VMT, veh-mi	22113	Total VHD, veh-h	36.43
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	910.64

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HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/11/2024
Agency	Kimley-Horn	Analysis Year	2028
Jurisdiction	Caltrans D10	Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.84		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy Link	5280	2
2	Basic	Basic	Segment Starts	3560	2
3	Merge	Merge	SR 132 On-ramp	1500	2
4	Basic	Basic	Subsegment 1	3768	2
5	Basic	Basic	Subsegment 2	3768	2
6	Basic	Basic	Subsegment 3	3768	2
7	Basic	Basic	Subsegment 4	3768	2
8	Diverge	Diverge	Corral Hollow Rd Off-ramp	1500	2
9	Basic	Basic	Between Hollow Rd OFF/ON	1755	2
10	Merge	Merge	Corral Hollow Rd On-ramp	1500	2
11	Basic	Basic	Subsegment 1	3382	2
12	Basic	Basic	Subsegment 2	3382	2
13	Basic	Basic	Subsegment 3	3382	2
14	Basic	Basic	Subsegment 4	3382	2
15	Basic	Basic	Subsegment 5	3382	2
16	Basic	Basic	Subsegment 6	3382	2
17	Basic	Basic	Subsegment 7	3382	2
18	Diverge	Diverge	Mountain House Pkwy Off-ramp	1500	2
19	Basic	Basic	Segment Ends	1910	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4800	0.00	71.1	0.0	A
2	1.00	0.877	1827	4800	0.38	50.5	18.1	C

3	1.00		0.877		1519		4800		0.32		41.2		18.4	C
4	1.00		0.877		1460		4800		0.30		54.0		13.5	B
Segment 2: Basic														
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)	LOS
1	1.00		0.877		0		4507		0.00		71.8		0.0	A
2	1.00		0.877		1826		3360		0.54		51.0		17.9	F
3	1.00		0.877		1390		2477		0.61		30.3		22.9	F
4	1.00		0.877		1589		2189		0.67		44.3		17.9	B
Segment 3: Merge														
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)	LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2200	0.00	0.00	72.0	69.0	0.0	0.0	A
2	1.00	1.00	0.877	0.888	3128	1827	3236	2200	1.13	0.83	33.6	41.3	46.6	25.1	F
3	1.00	1.00	0.877	0.888	1873	1622	2052	2200	1.53	0.74	22.2	27.2	55.4	20.2	F
4	1.00	1.00	0.877	0.888	2254	1551	2367	2200	1.27	0.70	45.6	45.6	34.4	21.2	F
Segment 4: Basic														
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)	LOS
1	1.00		0.877		0		4507		0.00		75.0		0.0	A
2	1.00		0.877		3128		3451		1.07		41.7		37.5	F
3	1.00		0.877		1873		2669		1.18		27.9		33.4	F
4	1.00		0.877		2254		2525		1.20		39.4		28.6	F
Segment 5: Basic														
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)	LOS
1	1.00		0.877		0		4507		0.00		75.0		0.0	A
2	1.00		0.877		3128		3451		1.07		42.7		36.6	F
3	1.00		0.877		1873		2904		1.09		27.1		34.6	F
4	1.00		0.877		2254		2525		1.20		39.4		28.6	F
Segment 6: Basic														
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)	LOS
1	1.00		0.877		0		4507		0.00		75.0		0.0	A
2	1.00		0.877		3065		3451		1.07		32.8		46.7	F
3	1.00		0.877		1937		2904		1.09		28.5		34.0	F
4	1.00		0.877		2254		2525		1.20		39.1		28.8	F
Segment 7: Basic														
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)	LOS
1	1.00		0.877		0		4507		0.00		75.0		0.0	A
2	1.00		0.877		2895		3451		1.07		24.3		59.5	F

3	1.00		0.877		2107		2904		1.09		27.6		38.2		F
4	1.00		0.877		2254		2669		1.14		42.2		26.7		F
Segment 8: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	3.4	A
2	1.00	1.00	0.877	0.842	2840	530	3191	2000	1.15	0.26	26.3	44.3	53.9	35.0	F
3	1.00	1.00	0.877	0.838	2161	452	2723	2000	1.16	0.23	23.6	32.2	33.6	21.9	F
4	1.00	1.00	0.877	0.842	2254	409	2502	2000	1.21	0.20	37.5	39.5	28.5	22.7	F
Segment 9: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		3547		0.00		70.0		0.0		A
2	1.00		0.877		2209		3000		1.06		14.5		76.0		F
3	1.00		0.877		1959		2525		1.08		23.4		41.9		F
4	1.00		0.877		1932		2381		1.11		33.0		29.3		F
Segment 10: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2000	0.00	0.00	70.0	65.0	0.0	3.7	A
2	1.00	1.00	0.877	0.888	2954	1173	3173	2000	1.37	0.59	43.7	44.3	38.2	29.5	F
3	1.00	1.00	0.877	0.888	2810	1301	2966	2000	1.36	0.65	28.8	34.3	47.5	28.5	F
4	1.00	1.00	0.877	0.888	2966	1329	2966	2000	1.34	0.66	37.1	39.2	41.6	28.5	F
Segment 11: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		74.9		0.0		A
2	1.00		0.877		2954		3643		1.20		54.2		27.3		F
3	1.00		0.877		2810		3547		1.14		39.9		35.0		F
4	1.00		0.877		2966		3163		1.26		38.9		38.1		F
Segment 12: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		75.0		0.0		A
2	1.00		0.877		2954		4123		1.06		63.1		23.4		F
3	1.00		0.877		2810		3547		1.14		43.4		32.4		F
4	1.00		0.877		2966		4027		0.99		50.5		29.4		D
Segment 13: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		75.0		0.0		A

2	1.00	0.877	2954	4123	1.06	62.7	23.6	F
3	1.00	0.877	2810	3547	1.14	43.4	32.4	F
4	1.00	0.877	2966	4027	0.99	51.7	28.7	D

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4027	1.08	61.5	24.0	F
3	1.00	0.877	2810	3547	1.14	43.4	32.4	F
4	1.00	0.877	2966	4027	0.99	55.0	27.0	D

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4027	1.08	61.5	24.0	F
3	1.00	0.877	2810	3547	1.14	43.4	32.4	F
4	1.00	0.877	2966	4027	0.99	55.8	26.6	D

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4027	1.08	61.5	24.0	F
3	1.00	0.877	2810	3547	1.14	43.4	32.4	F
4	1.00	0.877	2966	4027	0.99	56.3	26.3	D

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4027	1.08	60.5	24.4	F
3	1.00	0.877	2810	3547	1.14	41.5	33.9	F
4	1.00	0.877	2966	4027	0.99	56.1	26.4	D

Segment 18: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	2.9	A
2	1.00	1.00	0.877	0.842	2954	786	3776	2000	1.15	0.39	48.2	48.2	30.6	28.3	F
3	1.00	1.00	0.877	0.842	2810	776	3326	2000	1.22	0.39	43.3	43.3	32.4	27.1	F
4	1.00	1.00	0.877	0.842	2966	715	3943	2000	1.01	0.36	55.9	55.9	26.5	28.4	F

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	72.1	0.0	A

2	1.00	0.877	2168	4027	0.89	50.7	21.3	C
3	1.00	0.877	2303	3547	0.93	43.1	26.7	D
4	1.00	0.877	2397	4027	0.82	56.7	21.1	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	73.8	0.0	0.0	8.80	A
2	6559	8581	32.63	815.72	43.0	32.2	28.3	15.10	F
3	5447	7687	0.78	19.59	35.1	32.6	28.6	18.50	F
4	5863	7493	19.34	483.44	46.5	26.8	23.5	14.00	F

Facility Overall Results

Space Mean Speed, mi/h	41.2	Average Density, veh/mi/ln	20.1
Average Travel Time, min	15.80	Average Density, pc/mi/ln	22.9
Total VMT, veh-mi	17869	Total VHD, veh-h	52.75
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	1318.75

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HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/11/2024
Agency	Kimley-Horn	Analysis Year	2028
Jurisdiction	Caltrans D10	Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.84		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy Link	5280	2
2	Basic	Basic	Segment Starts	3560	2
3	Merge	Merge	SR 132 On-ramp	1500	2
4	Basic	Basic	Subsegment 1	3768	2
5	Basic	Basic	Subsegment 2	3768	2
6	Basic	Basic	Subsegment 3	3768	2
7	Basic	Basic	Subsegment 4	3768	2
8	Diverge	Diverge	Corral Hollow Rd Off-ramp	1500	2
9	Basic	Basic	Between Hollow Rd OFF/ON	1755	2
10	Merge	Merge	Corral Hollow Rd On-ramp	1500	2
11	Basic	Basic	Subsegment 1	3382	2
12	Basic	Basic	Subsegment 2	3382	2
13	Basic	Basic	Subsegment 3	3382	2
14	Basic	Basic	Subsegment 4	3382	2
15	Basic	Basic	Subsegment 5	3382	2
16	Basic	Basic	Subsegment 6	3382	2
17	Basic	Basic	Subsegment 7	3382	2
18	Diverge	Diverge	Mountain House Pkwy Off-ramp	1500	2
19	Basic	Basic	Segment Ends	1910	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	69.8	0.0	A
2	1.00	0.877	1211	4507	0.27	72.3	8.4	A

3	1.00	0.877	1251	4507	0.28	71.8	8.7	A
4	1.00	0.877	1116	4507	0.25	71.3	7.8	A

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.5	0.0	A
2	1.00	0.877	1211	4507	0.27	73.0	8.3	A
3	1.00	0.877	1251	4507	0.28	72.5	8.6	A
4	1.00	0.877	1116	4507	0.25	72.0	7.8	A

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2200	0.00	0.00	72.0	69.0	0.0	0.0	A
2	1.00	1.00	0.877	0.888	1729	518	4507	2200	0.38	0.24	68.4	68.4	12.6	10.6	B
3	1.00	1.00	0.877	0.888	1772	521	4507	2200	0.39	0.24	68.4	68.4	13.0	11.0	B
4	1.00	1.00	0.877	0.888	1688	572	4507	2200	0.37	0.26	68.4	68.4	12.3	10.3	B

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	1735	4507	0.38	73.5	11.8	B
3	1.00	0.877	1779	4507	0.39	73.3	12.1	B
4	1.00	0.877	1696	4507	0.38	74.2	11.4	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	1735	4507	0.38	73.7	11.8	B
3	1.00	0.877	1779	4507	0.39	73.7	12.1	B
4	1.00	0.877	1696	4507	0.38	74.2	11.4	B

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.7	0.0	A
2	1.00	0.877	1735	4507	0.38	73.3	11.8	B
3	1.00	0.877	1779	4507	0.39	73.0	12.2	B
4	1.00	0.877	1696	4507	0.38	74.0	11.5	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.5	0.0	A
2	1.00	0.877	1735	4507	0.38	72.8	11.9	B

3	1.00		0.877		1779		4507		0.39		73.3		12.1		B
4	1.00		0.877		1696		4507		0.38		73.7		11.5		B
Segment 8: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	3.4	A
2	1.00	1.00	0.877	0.842	1735	868	4507	2000	0.39	0.43	58.3	58.3	14.9	18.3	B
3	1.00	1.00	0.877	0.838	1779	885	4507	2000	0.39	0.44	58.2	58.2	15.3	18.7	B
4	1.00	1.00	0.877	0.842	1696	796	4507	2000	0.38	0.40	58.5	58.5	14.5	17.9	B
Segment 9: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		70.2		0.0		A
2	1.00		0.877		902		4507		0.20		71.9		6.2		A
3	1.00		0.877		933		4507		0.21		72.1		6.4		A
4	1.00		0.877		932		4507		0.21		72.4		6.3		A
Segment 10: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2000	0.00	0.00	70.0	65.0	0.0	3.7	A
2	1.00	1.00	0.877	0.888	1087	185	4507	2000	0.24	0.09	64.7	64.7	8.4	12.1	B
3	1.00	1.00	0.877	0.888	1113	180	4507	2000	0.25	0.09	64.7	64.7	8.6	12.3	B
4	1.00	1.00	0.877	0.888	1113	181	4507	2000	0.25	0.09	64.7	64.7	8.6	12.3	B
Segment 11: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		70.4		0.0		A
2	1.00		0.877		1089		4507		0.24		73.0		7.4		A
3	1.00		0.877		1115		4507		0.25		73.8		7.5		A
4	1.00		0.877		1115		4507		0.25		73.8		7.5		A
Segment 12: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		71.0		0.0		A
2	1.00		0.877		1089		4507		0.24		73.3		7.4		A
3	1.00		0.877		1115		4507		0.25		73.7		7.6		A
4	1.00		0.877		1115		4507		0.25		73.7		7.6		A
Segment 13: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		70.5		0.0		A

2	1.00	0.877	1089	4507	0.24	73.5	7.4	A
3	1.00	0.877	1115	4507	0.25	73.3	7.6	A
4	1.00	0.877	1115	4507	0.25	73.3	7.6	A

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	1089	4507	0.24	73.5	7.4	A
3	1.00	0.877	1115	4507	0.25	73.7	7.6	A
4	1.00	0.877	1115	4507	0.25	73.0	7.6	A

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.8	0.0	A
2	1.00	0.877	1089	4507	0.24	73.5	7.4	A
3	1.00	0.877	1115	4507	0.25	73.7	7.6	A
4	1.00	0.877	1115	4507	0.25	73.0	7.6	A

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.5	0.0	A
2	1.00	0.877	1089	4507	0.24	73.7	7.4	A
3	1.00	0.877	1115	4507	0.25	74.5	7.5	A
4	1.00	0.877	1115	4507	0.25	73.5	7.6	A

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	1089	4507	0.24	73.3	7.4	A
3	1.00	0.877	1115	4507	0.25	73.5	7.6	A
4	1.00	0.877	1115	4507	0.25	73.0	7.6	A

Segment 18: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	2.9	A
2	1.00	1.00	0.877	0.842	1089	169	4507	2000	0.24	0.08	60.4	60.4	9.0	12.3	B
3	1.00	1.00	0.877	0.842	1115	131	4507	2000	0.25	0.07	60.5	60.5	9.2	12.5	B
4	1.00	1.00	0.877	0.842	1115	165	4507	2000	0.25	0.08	60.4	60.4	9.2	12.5	B

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A

2	1.00	0.877	927	4507	0.21	72.8	6.3	A
3	1.00	0.877	990	4507	0.22	72.8	6.7	A
4	1.00	0.877	957	4507	0.21	72.8	6.5	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	70.8	0.0	0.0	9.20	A
2	3092	3048	0.95	23.67	71.8	9.0	7.9	9.10	A
3	3175	3131	0.97	24.31	71.9	9.3	8.2	9.10	A
4	3060	3014	0.94	23.45	71.9	8.9	7.8	9.00	A

Facility Overall Results

Space Mean Speed, mi/h	71.9	Average Density, veh/mi/ln	6.0
Average Travel Time, min	9.10	Average Density, pc/mi/ln	6.8
Total VMT, veh-mi	9328	Total VHD, veh-h	2.86
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	71.43

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Appendix L. Interim Year (2035) No Build HCS Outputs

HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/15/2024
Agency	Kimley-Horn	Analysis Year	2035
Jurisdiction	Caltrans D10	Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/ Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	18
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy	5280	2
2	Basic	Basic	Segment Starts	2000	2
3	Merge	Merge	Patterson Pass Rd On-Ramp	1500	2
4	Basic	Basic	Subsegment 1	3373	2
5	Basic	Basic	Subsegment 2	3373	2
6	Basic	Basic	Subsegment 3	3373	2
7	Basic	Basic	Subsegment 4	3373	2
8	Basic	Basic	Subsegment 5	3373	2
9	Basic	Basic	Subsegment 6	3373	2
10	Basic	Basic	Subsegment 7	3373	2
11	Diverge	Diverge	Corral Hollow Rd Off-Ramp	1500	2
12	Basic	Basic	Between Corral Hollow Rd OFF/ON	1730	2
13	Merge	Merge	Corral Hollow Rd On-Ramp	1500	2
14	Basic	Basic	Subsegment 1	4010	2
15	Basic	Basic	Subsegment 2	4010	2
16	Basic	Basic	Subsegment 3	4010	2
17	Diverge	Diverge	SR 132 Off-Ramp	1500	2
18	Basic	Basic	Segment Ends	5280	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	420	4507	0.09	71.2	2.9	A
3	1.00	0.877	644	4507	0.14	71.2	4.5	A

4	1.00	0.877	739	4507	0.16	71.2	5.2	A

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	420	4507	0.09	71.2	2.9	A
3	1.00	0.877	644	4507	0.14	71.2	4.5	A
4	1.00	0.877	739	4507	0.16	71.2	5.2	A

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	537	117	4507	1878	0.12	0.06	62.2	62.2	4.3	7.8	A
3	1.00	1.00	0.877	0.877	757	113	4507	1878	0.17	0.06	62.2	62.2	6.1	9.5	A
4	1.00	1.00	0.877	0.877	975	236	4507	1878	0.22	0.13	62.1	62.1	7.9	11.2	B

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	537	4507	0.12	71.0	3.8	A
3	1.00	0.877	757	4507	0.17	71.0	5.3	A
4	1.00	0.877	975	4507	0.22	71.0	6.9	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	537	4507	0.12	71.2	3.8	A
3	1.00	0.877	757	4507	0.17	71.2	5.3	A
4	1.00	0.877	975	4507	0.22	71.2	6.9	A

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	537	4507	0.12	71.2	3.8	A
3	1.00	0.877	757	4507	0.17	71.2	5.3	A
4	1.00	0.877	975	4507	0.22	71.2	6.9	A

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	537	4507	0.12	71.2	3.8	A
3	1.00	0.877	757	4507	0.17	71.2	5.3	A

4	1.00	0.877	975	4507	0.22	71.2	6.9	A

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	537	4507	0.12	71.2	3.8	A
3	1.00	0.877	757	4507	0.17	71.2	5.3	A
4	1.00	0.877	975	4507	0.22	71.2	6.9	A

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	537	4507	0.12	71.2	3.8	A
3	1.00	0.877	757	4507	0.17	71.2	5.3	A
4	1.00	0.877	975	4507	0.22	71.2	6.9	A

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	537	4507	0.12	71.2	3.8	A
3	1.00	0.877	757	4507	0.17	71.2	5.3	A
4	1.00	0.877	975	4507	0.22	71.2	6.9	A

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	3.4	A
2	1.00	1.00	0.877	0.877	537	80	4507	1878	0.12	0.04	57.8	57.8	4.6	8.0	A
3	1.00	1.00	0.877	0.877	757	151	4507	1878	0.17	0.08	57.6	57.6	6.6	9.9	A
4	1.00	1.00	0.877	0.877	975	192	4507	1878	0.22	0.10	57.5	57.5	8.5	11.7	B

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	457	4507	0.10	70.2	3.2	A
3	1.00	0.877	607	4507	0.13	70.2	4.3	A
4	1.00	0.877	783	4507	0.17	70.2	5.5	A

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	893	436	4507	1878	0.20	0.23	62.1	62.1	7.2	10.4	B

3	1.00	1.00	0.877	0.877	1143	536	4507	1878	0.25	0.29	62.1	62.1	9.2	12.3	B
4	1.00	1.00	0.877	0.877	1674	891	4507	1878	0.37	0.47	61.8	61.8	13.5	16.3	B

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	893	4507	0.20	71.1	6.3	A
3	1.00	0.877	1143	4507	0.25	71.1	8.0	A
4	1.00	0.877	1674	4507	0.37	71.1	11.8	B

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	893	4507	0.20	71.2	6.3	A
3	1.00	0.877	1143	4507	0.25	71.2	8.0	A
4	1.00	0.877	1674	4507	0.37	71.2	11.8	B

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	893	4507	0.20	71.2	6.3	A
3	1.00	0.877	1143	4507	0.25	71.2	8.0	A
4	1.00	0.877	1674	4507	0.37	71.2	11.8	B

Segment 17: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	2.5	A
2	1.00	1.00	0.877	0.877	893	300	4507	1878	0.20	0.16	57.2	57.2	7.8	10.1	B
3	1.00	1.00	0.877	0.877	1143	447	4507	1878	0.25	0.24	56.8	56.8	10.1	12.3	B
4	1.00	1.00	0.877	0.877	1674	787	4507	1878	0.37	0.42	56.0	56.0	14.9	16.8	B

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	593	4507	0.13	71.1	4.2	A
3	1.00	0.877	696	4507	0.15	71.1	4.9	A
4	1.00	0.877	887	4507	0.20	71.1	6.2	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	70.8	0.0	0.0	9.00	A
2	1440	1406	0.50	12.40	69.5	4.5	3.9	9.10	A

3	1941	1900	0.67	16.75	69.5	6.0	5.2	9.10	A
4	2596	2526	0.97	24.32	69.4	8.1	7.1	9.20	A

Facility Overall Results

Space Mean Speed, mi/h	69.4	Average Density, veh/mi/ln	4.1
Average Travel Time, min	9.20	Average Density, pc/mi/ln	4.6
Total VMT, veh-mi	5977	Total VHD, veh-h	2.14
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	53.48

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HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/15/2024
Agency	Kimley-Horn	Analysis Year	2035
Jurisdiction	Caltrans D10	Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/ Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	18
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy	5280	2
2	Basic	Basic	Segment Starts	2000	2
3	Merge	Merge	Patterson Pass Rd On-Ramp	1500	2
4	Basic	Basic	Subsegment 1	3373	2
5	Basic	Basic	Subsegment 2	3373	2
6	Basic	Basic	Subsegment 3	3373	2
7	Basic	Basic	Subsegment 4	3373	2
8	Basic	Basic	Subsegment 5	3373	2
9	Basic	Basic	Subsegment 6	3373	2
10	Basic	Basic	Subsegment 7	3373	2
11	Diverge	Diverge	Corral Hollow Rd Off-Ramp	1500	2
12	Basic	Basic	Between Corral Hollow Rd OFF/ON	1730	2
13	Merge	Merge	Corral Hollow Rd On-Ramp	1500	2
14	Basic	Basic	Subsegment 1	4010	2
15	Basic	Basic	Subsegment 2	4010	2
16	Basic	Basic	Subsegment 3	4010	2
17	Diverge	Diverge	SR 132 Off-Ramp	1500	2
18	Basic	Basic	Segment Ends	5280	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3013	4507	0.67	67.9	22.2	C
3	1.00	0.877	3076	4507	0.68	67.4	22.8	C

4	1.00		0.877		2519		4507		0.56		70.4		17.9		B
Segment 2: Basic														
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		71.2		0.0		A
2	1.00		0.877		3013		4507		0.67		67.9		22.2		C
3	1.00		0.877		3076		4507		0.68		67.4		22.8		C
4	1.00		0.877		2519		4507		0.56		70.4		17.9		B
Segment 3: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	3969	956	4507	1878	0.88	0.51	56.4	56.4	35.2	34.2	D
3	1.00	1.00	0.877	0.877	3949	873	4507	1878	0.88	0.47	56.5	56.5	34.9	34.1	D
4	1.00	1.00	0.877	0.877	3497	978	4507	1878	0.78	0.52	58.6	58.6	29.8	30.5	D
Segment 4: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		71.1		0.0		A
2	1.00		0.877		3969		4507		0.88		58.3		34.0		D
3	1.00		0.877		3949		4507		0.88		58.5		33.8		D
4	1.00		0.877		3497		4507		0.78		63.8		27.4		D
Segment 5: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		71.2		0.0		A
2	1.00		0.877		3969		4507		0.88		58.3		34.0		D
3	1.00		0.877		3949		4507		0.88		58.5		33.8		D
4	1.00		0.877		3497		4507		0.78		63.8		27.4		D
Segment 6: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		71.2		0.0		A
2	1.00		0.877		3969		4507		0.88		58.3		34.0		D
3	1.00		0.877		3949		4507		0.88		58.5		33.8		D
4	1.00		0.877		3497		4507		0.78		63.8		27.4		D
Segment 7: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		71.2		0.0		A
2	1.00		0.877		3969		4507		0.88		58.3		34.0		D
3	1.00		0.877		3949		4507		0.88		58.5		33.8		D

4	1.00	0.877	3497	4507	0.78	63.8	27.4	D

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3969	4507	0.88	58.3	34.0	D
3	1.00	0.877	3949	4507	0.88	58.5	33.8	D
4	1.00	0.877	3497	4507	0.78	63.8	27.4	D

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3969	4507	0.88	58.3	34.0	D
3	1.00	0.877	3949	4507	0.88	58.5	33.8	D
4	1.00	0.877	3497	4507	0.78	63.8	27.4	D

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3969	4507	0.88	58.3	34.0	D
3	1.00	0.877	3949	4507	0.88	58.5	33.8	D
4	1.00	0.877	3497	4507	0.78	63.8	27.4	D

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	3.4	A
2	1.00	1.00	0.877	0.877	3969	913	4507	1878	0.88	0.49	55.6	55.6	35.7	37.5	E
3	1.00	1.00	0.877	0.877	3949	965	4507	1878	0.88	0.51	55.5	55.5	35.6	37.3	E
4	1.00	1.00	0.877	0.877	3497	1015	4507	1878	0.78	0.54	55.3	55.3	31.6	33.4	D

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	3056	4507	0.68	67.6	22.6	C
3	1.00	0.877	3040	4507	0.66	67.7	22.5	C
4	1.00	0.877	2643	4507	0.55	69.9	18.9	C

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	3731	675	4507	1878	0.83	0.36	57.7	57.7	32.3	32.5	D

3	1.00	1.00	0.877	0.877	3876	836	4507	1878	0.85	0.45	56.9	56.9	34.1	33.5	D
4	1.00	1.00	0.877	0.877	3542	899	4507	1878	0.75	0.48	58.5	58.5	30.3	30.9	D

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	3731	4507	0.83	61.2	30.5	D
3	1.00	0.877	3876	4507	0.85	59.5	32.6	D
4	1.00	0.877	3542	4507	0.75	63.3	28.0	D

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3731	4507	0.83	61.2	30.5	D
3	1.00	0.877	3876	4507	0.85	59.5	32.6	D
4	1.00	0.877	3542	4507	0.75	63.3	28.0	D

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3731	4507	0.83	61.2	30.5	D
3	1.00	0.877	3876	4507	0.85	59.5	32.6	D
4	1.00	0.877	3542	4507	0.75	63.3	28.0	D

Segment 17: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	2.5	A
2	1.00	1.00	0.877	0.877	3731	2007	4507	1878	0.83	1.07	52.7	52.7	35.4	34.5	F
3	1.00	1.00	0.877	0.877	3876	2015	4507	1878	0.85	1.07	52.7	52.7	36.8	35.8	F
4	1.00	1.00	0.877	0.877	3542	1821	4507	1878	0.75	0.97	53.2	53.2	33.3	32.9	D

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	1724	4507	0.38	71.1	12.1	B
3	1.00	0.877	1791	4507	0.40	71.1	12.6	B
4	1.00	0.877	1674	4507	0.35	71.1	11.8	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	70.8	0.0	0.0	9.00	A
2	8223	8119	20.96	523.97	60.3	29.4	25.8	10.50	F

3	8324	8183	21.97	549.35	59.9	29.9	26.2	10.60	F
4	7394	7139	12.12	303.07	63.8	25.0	21.9	10.00	C

Facility Overall Results

Space Mean Speed, mi/h	61.2	Average Density, veh/mi/ln	18.5
Average Travel Time, min	10.40	Average Density, pc/mi/ln	21.1
Total VMT, veh-mi	23942	Total VHD, veh-h	55.06
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	1376.38

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HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/15/2024
Agency	Kimley-Horn	Analysis Year	2035
Jurisdiction	Caltrans D10	Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.84		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy Link	5280	2
2	Basic	Basic	Segment Starts	3560	2
3	Merge	Merge	SR 132 On-ramp	1500	2
4	Basic	Basic	Subsegment 1	3768	2
5	Basic	Basic	Subsegment 2	3768	2
6	Basic	Basic	Subsegment 3	3768	2
7	Basic	Basic	Subsegment 4	3768	2
8	Diverge	Diverge	Corral Hollow Rd Off-ramp	1500	2
9	Basic	Basic	Between Hollow Rd OFF/ON	1755	2
10	Merge	Merge	Corral Hollow Rd On-ramp	1500	2
11	Basic	Basic	Subsegment 1	3382	2
12	Basic	Basic	Subsegment 2	3382	2
13	Basic	Basic	Subsegment 3	3382	2
14	Basic	Basic	Subsegment 4	3382	2
15	Basic	Basic	Subsegment 5	3382	2
16	Basic	Basic	Subsegment 6	3382	2
17	Basic	Basic	Subsegment 7	3382	2
18	Diverge	Diverge	Mountain House Pkwy Off-ramp	1500	2
19	Basic	Basic	Segment Ends	1910	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4800	0.00	71.1	0.0	A
2	1.00	0.877	2306	4800	0.48	50.5	22.8	C

3	1.00	0.877	1766	4800	0.40	41.2	21.4	F
4	1.00	0.877	1553	4800	0.39	12.6	61.7	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.8	0.0	A
2	1.00	0.877	2243	3360	0.69	50.3	22.3	F
3	1.00	0.877	1431	2477	0.78	8.3	85.7	F
4	1.00	0.877	1651	2189	0.84	10.2	80.6	F

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2200	0.00	0.00	72.0	69.0	0.0	0.0	A
2	1.00	1.00	0.877	0.888	3013	1825	3236	2200	1.28	0.83	41.2	41.4	49.1	28.3	F
3	1.00	1.00	0.877	0.888	1908	1809	2052	2200	1.82	0.82	21.9	27.6	58.7	21.8	F
4	1.00	1.00	0.877	0.888	2201	1733	2367	2200	1.51	0.79	45.5	45.5	37.2	23.0	F

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3013	3451	1.20	42.6	35.4	F
3	1.00	0.877	1908	2669	1.41	27.9	34.1	F
4	1.00	0.877	2201	2525	1.43	41.4	26.6	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3013	3451	1.20	43.9	34.3	F
3	1.00	0.877	1908	2904	1.29	27.1	35.2	F
4	1.00	0.877	2201	2525	1.43	41.4	26.6	F

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3013	3451	1.20	43.9	34.3	F
3	1.00	0.877	1908	2904	1.29	28.5	33.5	F
4	1.00	0.877	2201	2525	1.43	41.0	26.8	F

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2956	3451	1.20	30.5	48.4	F

3	1.00		0.877		1965		2904		1.29		27.6		35.6	F
4	1.00		0.877		2201		2669		1.35		43.6		25.2	F

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	3.4	A
2	1.00	1.00	0.877	0.842	2918	610	3191	2000	1.30	0.31	29.1	44.3	50.2	39.1	F
3	1.00	1.00	0.877	0.838	2003	521	2723	2000	1.38	0.26	23.6	32.3	31.0	20.6	F
4	1.00	1.00	0.877	0.842	2201	470	2502	2000	1.44	0.24	37.5	39.6	27.8	22.3	F

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	3547	0.00	70.0	0.0	A
2	1.00	0.877	2207	3000	1.19	15.3	72.3	F
3	1.00	0.877	1815	2525	1.29	23.4	38.8	F
4	1.00	0.877	1896	2381	1.32	33.4	28.4	F

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2000	0.00	0.00	70.0	65.0	0.0	3.7	A
2	1.00	1.00	0.877	0.888	2954	1293	3173	2000	1.53	0.65	43.8	44.3	39.5	30.4	F
3	1.00	1.00	0.877	0.888	2876	1434	2966	2000	1.58	0.72	28.8	34.3	47.4	28.4	F
4	1.00	1.00	0.877	0.888	2966	1464	2966	2000	1.56	0.73	37.1	39.3	42.8	29.2	F

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	74.9	0.0	A
2	1.00	0.877	2954	3643	1.34	54.2	27.3	F
3	1.00	0.877	2876	3547	1.33	39.9	36.0	F
4	1.00	0.877	2966	3163	1.47	38.9	38.1	F

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4123	1.18	63.1	23.4	F
3	1.00	0.877	2876	3547	1.33	43.2	33.3	F
4	1.00	0.877	2966	4027	1.15	50.5	29.4	F

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A

2	1.00	0.877	2954	4123	1.18	62.7	23.6	F
3	1.00	0.877	2876	3547	1.33	43.2	33.3	F
4	1.00	0.877	2966	4027	1.15	51.7	28.7	F

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4027	1.21	61.5	24.0	F
3	1.00	0.877	2876	3547	1.33	43.2	33.3	F
4	1.00	0.877	2966	4027	1.15	55.0	27.0	F

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4027	1.21	61.5	24.0	F
3	1.00	0.877	2876	3547	1.33	43.2	33.3	F
4	1.00	0.877	2966	4027	1.15	55.8	26.6	F

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4027	1.21	61.5	24.0	F
3	1.00	0.877	2876	3547	1.33	43.2	33.3	F
4	1.00	0.877	2966	4027	1.15	56.3	26.3	F

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4027	1.21	60.5	24.4	F
3	1.00	0.877	2876	3547	1.33	41.4	34.7	F
4	1.00	0.877	2966	4027	1.15	56.1	26.4	F

Segment 18: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	2.9	A
2	1.00	1.00	0.877	0.842	2954	1024	3776	2000	1.29	0.51	48.0	48.0	30.8	28.3	F
3	1.00	1.00	0.877	0.842	2876	1011	3326	2000	1.42	0.51	43.3	43.3	33.2	27.6	F
4	1.00	1.00	0.877	0.842	2966	932	3943	2000	1.18	0.47	55.4	55.4	26.8	28.4	F

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	72.1	0.0	A

2	1.00	0.877	1930	4027	0.97	50.7	19.0	C
3	1.00	0.877	2272	3547	1.05	43.1	26.4	F
4	1.00	0.877	2329	4027	0.93	56.7	20.5	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	73.8	0.0	0.0	8.80	A
2	6670	9738	22.57	564.16	46.1	30.9	27.1	14.10	F
3	5544	9073	19.49	487.36	31.6	37.0	32.4	20.60	F
4	5844	8842	56.61	1415.20	35.8	34.7	30.4	18.20	F

Facility Overall Results

Space Mean Speed, mi/h	37.4	Average Density, veh/mi/ln	22.5
Average Travel Time, min	17.40	Average Density, pc/mi/ln	25.6
Total VMT, veh-mi	18058	Total VHD, veh-h	98.67
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	2466.72

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HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/15/2024
Agency	Kimley-Horn	Analysis Year	2035
Jurisdiction	Caltrans D10	Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.84		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy Link	5280	2
2	Basic	Basic	Segment Starts	3560	2
3	Merge	Merge	SR 132 On-ramp	1500	2
4	Basic	Basic	Subsegment 1	3768	2
5	Basic	Basic	Subsegment 2	3768	2
6	Basic	Basic	Subsegment 3	3768	2
7	Basic	Basic	Subsegment 4	3768	2
8	Diverge	Diverge	Corral Hollow Rd Off-ramp	1500	2
9	Basic	Basic	Between Hollow Rd OFF/ON	1755	2
10	Merge	Merge	Corral Hollow Rd On-ramp	1500	2
11	Basic	Basic	Subsegment 1	3382	2
12	Basic	Basic	Subsegment 2	3382	2
13	Basic	Basic	Subsegment 3	3382	2
14	Basic	Basic	Subsegment 4	3382	2
15	Basic	Basic	Subsegment 5	3382	2
16	Basic	Basic	Subsegment 6	3382	2
17	Basic	Basic	Subsegment 7	3382	2
18	Diverge	Diverge	Mountain House Pkwy Off-ramp	1500	2
19	Basic	Basic	Segment Ends	1910	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	69.8	0.0	A
2	1.00	0.877	1486	4507	0.33	72.3	10.3	A

3	1.00	0.877	1538	4507	0.34	71.8	10.7	A
4	1.00	0.877	1367	4507	0.30	71.3	9.6	A

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.5	0.0	A
2	1.00	0.877	1486	4507	0.33	73.0	10.2	A
3	1.00	0.877	1538	4507	0.34	72.5	10.6	A
4	1.00	0.877	1367	4507	0.30	72.0	9.5	A

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2200	0.00	0.00	72.0	69.0	0.0	0.0	A
2	1.00	1.00	0.877	0.888	2221	735	4507	2200	0.49	0.33	67.9	67.9	16.4	14.4	B
3	1.00	1.00	0.877	0.888	2280	742	4507	2200	0.51	0.34	67.9	67.9	16.8	14.8	B
4	1.00	1.00	0.877	0.888	2181	814	4507	2200	0.48	0.37	68.0	68.0	16.0	14.0	B

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	2230	4507	0.49	73.1	15.3	B
3	1.00	0.877	2290	4507	0.51	72.8	15.7	B
4	1.00	0.877	2192	4507	0.49	73.8	14.9	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	2230	4507	0.49	73.2	15.2	B
3	1.00	0.877	2290	4507	0.51	73.1	15.7	B
4	1.00	0.877	2192	4507	0.49	73.7	14.9	B

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.7	0.0	A
2	1.00	0.877	2230	4507	0.49	72.9	15.3	B
3	1.00	0.877	2290	4507	0.51	72.5	15.8	B
4	1.00	0.877	2192	4507	0.49	73.6	14.9	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.5	0.0	A
2	1.00	0.877	2230	4507	0.49	72.5	15.4	B

3	1.00		0.877		2290		4507		0.51		72.7		15.7		B
4	1.00		0.877		2192		4507		0.49		73.3		15.0		B

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	3.4	A
2	1.00	1.00	0.877	0.842	2230	994	4507	2000	0.49	0.50	57.9	57.9	19.3	22.5	C
3	1.00	1.00	0.877	0.838	2290	1014	4507	2000	0.51	0.51	57.9	57.9	19.8	23.0	C
4	1.00	1.00	0.877	0.842	2192	911	4507	2000	0.49	0.46	58.2	58.2	18.8	22.2	C

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.2	0.0	A
2	1.00	0.877	1276	4507	0.28	71.9	8.7	A
3	1.00	0.877	1320	4507	0.29	72.1	9.0	A
4	1.00	0.877	1317	4507	0.29	72.4	9.0	A

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2000	0.00	0.00	70.0	65.0	0.0	3.7	A
2	1.00	1.00	0.877	0.888	1473	197	4507	2000	0.33	0.10	64.5	64.5	11.4	15.1	B
3	1.00	1.00	0.877	0.888	1511	191	4507	2000	0.34	0.10	64.5	64.5	11.7	15.4	B
4	1.00	1.00	0.877	0.888	1510	193	4507	2000	0.34	0.10	64.5	64.5	11.7	15.4	B

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.4	0.0	A
2	1.00	0.877	1475	4507	0.33	73.0	10.1	A
3	1.00	0.877	1514	4507	0.34	73.8	10.2	A
4	1.00	0.877	1512	4507	0.34	73.8	10.2	A

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	1475	4507	0.33	73.3	10.1	A
3	1.00	0.877	1514	4507	0.34	73.7	10.3	A
4	1.00	0.877	1512	4507	0.34	73.7	10.3	A

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.5	0.0	A

2	1.00	0.877	1475	4507	0.33	73.5	10.0	A
3	1.00	0.877	1514	4507	0.34	73.3	10.3	A
4	1.00	0.877	1512	4507	0.34	73.3	10.3	A

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	1475	4507	0.33	73.5	10.0	A
3	1.00	0.877	1514	4507	0.34	73.7	10.3	A
4	1.00	0.877	1512	4507	0.34	73.0	10.4	A

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.8	0.0	A
2	1.00	0.877	1475	4507	0.33	73.5	10.0	A
3	1.00	0.877	1514	4507	0.34	73.7	10.3	A
4	1.00	0.877	1512	4507	0.34	73.0	10.4	A

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.5	0.0	A
2	1.00	0.877	1475	4507	0.33	73.7	10.0	A
3	1.00	0.877	1514	4507	0.34	74.5	10.2	A
4	1.00	0.877	1512	4507	0.34	73.5	10.3	A

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	1475	4507	0.33	73.3	10.1	A
3	1.00	0.877	1514	4507	0.34	73.5	10.3	A
4	1.00	0.877	1512	4507	0.34	73.0	10.4	A

Segment 18: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	2.9	A
2	1.00	1.00	0.877	0.842	1475	169	4507	2000	0.33	0.08	60.4	60.4	12.2	15.6	B
3	1.00	1.00	0.877	0.842	1514	131	4507	2000	0.34	0.07	60.5	60.5	12.5	15.9	B
4	1.00	1.00	0.877	0.842	1512	165	4507	2000	0.34	0.08	60.4	60.4	12.5	15.9	B

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A

2	1.00	0.877	1314	4507	0.29	72.8	8.9	A
3	1.00	0.877	1389	4507	0.31	72.8	9.4	A
4	1.00	0.877	1353	4507	0.30	72.8	9.2	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	70.8	0.0	0.0	9.20	A
2	4050	3992	1.39	34.70	71.7	11.9	10.4	9.10	B
3	4166	4108	1.46	36.60	71.7	12.2	10.7	9.10	B
4	4024	3961	1.38	34.41	71.8	11.8	10.4	9.10	B

Facility Overall Results

Space Mean Speed, mi/h	71.7	Average Density, veh/mi/ln	7.9
Average Travel Time, min	9.10	Average Density, pc/mi/ln	9.0
Total VMT, veh-mi	12240	Total VHD, veh-h	4.23
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	105.71

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Appendix M. Interim Year (2035) Build HCS Outputs

HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/15/2024
Agency	Kimley-Horn	Analysis Year	2035
Jurisdiction	Caltrans D10	Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/ Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	18
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy	5280	2
2	Basic	Basic	Segment Starts	2000	2
3	Merge	Merge	Patterson Pass Rd On-Ramp	1500	2
4	Basic	Basic	Subsegment 1	3373	2
5	Basic	Basic	Subsegment 2	3373	2
6	Basic	Basic	Subsegment 3	3373	2
7	Basic	Basic	Subsegment 4	3373	2
8	Basic	Basic	Subsegment 5	3373	2
9	Basic	Basic	Subsegment 6	3373	2
10	Basic	Basic	Subsegment 7	3373	2
11	Diverge	Diverge	Corral Hollow Rd Off-Ramp	1500	2
12	Basic	Basic	Between Corral Hollow Rd OFF/ON	1730	2
13	Merge	Merge	Corral Hollow Rd On-Ramp	1500	2
14	Basic	Basic	Subsegment 1	4010	2
15	Basic	Basic	Subsegment 2	4010	2
16	Basic	Basic	Subsegment 3	4010	2
17	Diverge	Diverge	SR 132 Off-Ramp	1500	2
18	Basic	Basic	Segment Ends	5280	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	420	4507	0.09	71.2	2.9	A
3	1.00	0.877	644	4507	0.14	71.2	4.5	A

4	1.00	0.877	755	4507	0.17	71.2	5.3	A

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	420	4507	0.09	71.2	2.9	A
3	1.00	0.877	644	4507	0.14	71.2	4.5	A
4	1.00	0.877	755	4507	0.17	71.2	5.3	A

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	540	120	4507	1878	0.12	0.06	62.2	62.2	4.3	7.8	A
3	1.00	1.00	0.877	0.877	759	115	4507	1878	0.17	0.06	62.2	62.2	6.1	9.5	A
4	1.00	1.00	0.877	0.877	997	242	4507	1878	0.22	0.13	62.1	62.1	8.0	11.3	B

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	539	4507	0.12	71.0	3.8	A
3	1.00	0.877	759	4507	0.17	71.0	5.3	A
4	1.00	0.877	997	4507	0.22	71.0	7.0	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	539	4507	0.12	71.2	3.8	A
3	1.00	0.877	759	4507	0.17	71.2	5.3	A
4	1.00	0.877	997	4507	0.22	71.2	7.0	A

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	539	4507	0.12	71.2	3.8	A
3	1.00	0.877	759	4507	0.17	71.2	5.3	A
4	1.00	0.877	997	4507	0.22	71.2	7.0	A

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	539	4507	0.12	71.2	3.8	A
3	1.00	0.877	759	4507	0.17	71.2	5.3	A

4	1.00	0.877	997	4507	0.22	71.2	7.0	A

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	539	4507	0.12	71.2	3.8	A
3	1.00	0.877	759	4507	0.17	71.2	5.3	A
4	1.00	0.877	997	4507	0.22	71.2	7.0	A

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	539	4507	0.12	71.2	3.8	A
3	1.00	0.877	759	4507	0.17	71.2	5.3	A
4	1.00	0.877	997	4507	0.22	71.2	7.0	A

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	539	4507	0.12	71.2	3.8	A
3	1.00	0.877	759	4507	0.17	71.2	5.3	A
4	1.00	0.877	997	4507	0.22	71.2	7.0	A

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	3.4	A
2	1.00	1.00	0.877	0.877	539	82	4507	1878	0.12	0.04	57.8	57.8	4.7	8.0	A
3	1.00	1.00	0.877	0.877	759	152	4507	1878	0.17	0.08	57.6	57.6	6.6	9.9	A
4	1.00	1.00	0.877	0.877	997	194	4507	1878	0.22	0.10	57.5	57.5	8.7	11.9	B

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	457	4507	0.10	70.2	3.2	A
3	1.00	0.877	608	4507	0.13	70.2	4.3	A
4	1.00	0.877	803	4507	0.18	70.2	5.6	A

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	922	465	4507	1878	0.20	0.25	62.1	62.1	7.4	10.6	B

3	1.00	1.00	0.877	0.877	1179	571	4507	1878	0.26	0.30	62.0	62.0	9.5	12.6	B
4	1.00	1.00	0.877	0.877	1753	950	4507	1878	0.39	0.51	61.7	61.7	14.2	16.9	B

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	922	4507	0.20	71.1	6.5	A
3	1.00	0.877	1179	4507	0.26	71.1	8.3	A
4	1.00	0.877	1753	4507	0.39	71.1	12.3	B

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	922	4507	0.20	71.2	6.5	A
3	1.00	0.877	1179	4507	0.26	71.2	8.3	A
4	1.00	0.877	1753	4507	0.39	71.2	12.3	B

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	922	4507	0.20	71.2	6.5	A
3	1.00	0.877	1179	4507	0.26	71.2	8.3	A
4	1.00	0.877	1753	4507	0.39	71.2	12.3	B

Segment 17: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	2.5	A
2	1.00	1.00	0.877	0.877	922	315	4507	1878	0.20	0.17	57.2	57.2	8.1	10.4	B
3	1.00	1.00	0.877	0.877	1179	469	4507	1878	0.26	0.25	56.8	56.8	10.4	12.6	B
4	1.00	1.00	0.877	0.877	1753	822	4507	1878	0.39	0.44	55.9	55.9	15.7	17.5	B

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	608	4507	0.13	71.1	4.3	A
3	1.00	0.877	710	4507	0.16	71.1	5.0	A
4	1.00	0.877	930	4507	0.21	71.1	6.5	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	70.8	0.0	0.0	9.00	A
2	1465	1428	0.51	12.68	69.5	4.5	4.0	9.10	A

3	1969	1926	0.69	17.15	69.5	6.1	5.3	9.10	A
4	2685	2611	1.02	25.41	69.3	8.3	7.3	9.20	A

Facility Overall Results

Space Mean Speed, mi/h	69.4	Average Density, veh/mi/ln	4.1
Average Travel Time, min	9.20	Average Density, pc/mi/ln	4.7
Total VMT, veh-mi	6119	Total VHD, veh-h	2.21
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	55.24

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HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/15/2024
Agency	Kimley-Horn	Analysis Year	2035
Jurisdiction	Caltrans D10	Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/ Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	18
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy	5280	2
2	Basic	Basic	Segment Starts	2000	2
3	Merge	Merge	Patterson Pass Rd On-Ramp	1500	2
4	Basic	Basic	Subsegment 1	3373	2
5	Basic	Basic	Subsegment 2	3373	2
6	Basic	Basic	Subsegment 3	3373	2
7	Basic	Basic	Subsegment 4	3373	2
8	Basic	Basic	Subsegment 5	3373	2
9	Basic	Basic	Subsegment 6	3373	2
10	Basic	Basic	Subsegment 7	3373	2
11	Diverge	Diverge	Corral Hollow Rd Off-Ramp	1500	2
12	Basic	Basic	Between Corral Hollow Rd OFF/ON	1730	2
13	Merge	Merge	Corral Hollow Rd On-Ramp	1500	2
14	Basic	Basic	Subsegment 1	4010	2
15	Basic	Basic	Subsegment 2	4010	2
16	Basic	Basic	Subsegment 3	4010	2
17	Diverge	Diverge	SR 132 Off-Ramp	1500	2
18	Basic	Basic	Segment Ends	5280	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3149	4507	0.70	66.9	23.5	C
3	1.00	0.877	3225	4507	0.72	66.3	24.3	C

4	1.00	0.877	2676	4507	0.59	69.8	19.2	C

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3149	4507	0.70	66.9	23.5	C
3	1.00	0.877	3225	4507	0.72	66.3	24.3	C
4	1.00	0.877	2676	4507	0.59	69.8	19.2	C

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	4074	925	4507	1878	0.90	0.49	55.7	55.7	36.6	35.0	D
3	1.00	1.00	0.877	0.877	4069	844	4507	1878	0.90	0.45	55.8	55.8	36.5	35.0	D
4	1.00	1.00	0.877	0.877	3622	946	4507	1878	0.80	0.50	58.1	58.1	31.2	31.5	D

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	4074	4507	0.90	56.8	35.9	E
3	1.00	0.877	4069	4507	0.90	56.9	35.8	E
4	1.00	0.877	3622	4507	0.80	62.5	29.0	D

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	4074	4507	0.90	56.8	35.9	E
3	1.00	0.877	4069	4507	0.90	56.9	35.8	E
4	1.00	0.877	3622	4507	0.80	62.5	29.0	D

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	4074	4507	0.90	56.8	35.9	E
3	1.00	0.877	4069	4507	0.90	56.9	35.8	E
4	1.00	0.877	3622	4507	0.80	62.5	29.0	D

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	4074	4507	0.90	56.8	35.9	E
3	1.00	0.877	4069	4507	0.90	56.9	35.8	E

4	1.00	0.877	3622	4507	0.80	62.5	29.0	D

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	4074	4507	0.90	56.8	35.9	E
3	1.00	0.877	4069	4507	0.90	56.9	35.8	E
4	1.00	0.877	3622	4507	0.80	62.5	29.0	D

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	4074	4507	0.90	56.8	35.9	E
3	1.00	0.877	4069	4507	0.90	56.9	35.8	E
4	1.00	0.877	3622	4507	0.80	62.5	29.0	D

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	4074	4507	0.90	56.8	35.9	E
3	1.00	0.877	4069	4507	0.90	56.9	35.8	E
4	1.00	0.877	3622	4507	0.80	62.5	29.0	D

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	3.4	A
2	1.00	1.00	0.877	0.877	4074	1016	4507	1878	0.90	0.54	55.3	55.3	36.8	38.4	E
3	1.00	1.00	0.877	0.877	4069	1073	4507	1878	0.90	0.57	55.2	55.2	36.9	38.3	E
4	1.00	1.00	0.877	0.877	3622	1129	4507	1878	0.80	0.60	55.1	55.1	32.9	34.5	D

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	3058	4507	0.68	67.6	22.6	C
3	1.00	0.877	3054	4507	0.66	67.6	22.6	C
4	1.00	0.877	2667	4507	0.55	69.8	19.1	C

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	3738	680	4507	1878	0.83	0.36	57.6	57.6	32.4	32.5	D

3	1.00	1.00	0.877	0.877	3894	840	4507	1878	0.85	0.45	56.8	56.8	34.3	33.7	D
4	1.00	1.00	0.877	0.877	3571	904	4507	1878	0.75	0.48	58.4	58.4	30.6	31.1	D

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	3738	4507	0.83	61.2	30.5	D
3	1.00	0.877	3894	4507	0.85	59.2	32.9	D
4	1.00	0.877	3571	4507	0.75	63.0	28.3	D

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3738	4507	0.83	61.2	30.5	D
3	1.00	0.877	3894	4507	0.85	59.2	32.9	D
4	1.00	0.877	3571	4507	0.75	63.0	28.3	D

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3738	4507	0.83	61.2	30.5	D
3	1.00	0.877	3894	4507	0.85	59.2	32.9	D
4	1.00	0.877	3571	4507	0.75	63.0	28.3	D

Segment 17: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	2.5	A
2	1.00	1.00	0.877	0.877	3738	1903	4507	1878	0.83	1.01	53.0	53.0	35.3	34.6	F
3	1.00	1.00	0.877	0.877	3894	1913	4507	1878	0.85	1.02	53.0	53.0	36.7	35.9	F
4	1.00	1.00	0.877	0.877	3571	1727	4507	1878	0.75	0.92	53.5	53.5	33.4	33.2	D

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	1835	4507	0.41	71.1	12.9	B
3	1.00	0.877	1912	4507	0.43	71.1	13.4	B
4	1.00	0.877	1790	4507	0.37	71.1	12.6	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	70.8	0.0	0.0	9.00	A
2	8409	8309	23.45	586.27	59.4	30.5	26.7	10.70	F

3	8541	8396	24.85	621.29	59.0	31.2	27.3	10.80	F
4	7625	7363	13.85	346.27	63.1	26.0	22.8	10.10	D

Facility Overall Results

Space Mean Speed, mi/h	60.3	Average Density, veh/mi/ln	19.2
Average Travel Time, min	10.50	Average Density, pc/mi/ln	21.9
Total VMT, veh-mi	24575	Total VHD, veh-h	62.15
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	1553.83

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HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/15/2024
Agency	Kimley-Horn	Analysis Year	2035
Jurisdiction	Caltrans D10	Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.84		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy Link	5280	2
2	Basic	Basic	Segment Starts	3560	2
3	Merge	Merge	SR 132 On-ramp	1500	2
4	Basic	Basic	Subsegment 1	3768	2
5	Basic	Basic	Subsegment 2	3768	2
6	Basic	Basic	Subsegment 3	3768	2
7	Basic	Basic	Subsegment 4	3768	2
8	Diverge	Diverge	Corral Hollow Rd Off-ramp	1500	2
9	Basic	Basic	Between Hollow Rd OFF/ON	1755	2
10	Merge	Merge	Corral Hollow Rd On-ramp	1500	2
11	Basic	Basic	Subsegment 1	3382	2
12	Basic	Basic	Subsegment 2	3382	2
13	Basic	Basic	Subsegment 3	3382	2
14	Basic	Basic	Subsegment 4	3382	2
15	Basic	Basic	Subsegment 5	3382	2
16	Basic	Basic	Subsegment 6	3382	2
17	Basic	Basic	Subsegment 7	3382	2
18	Diverge	Diverge	Mountain House Pkwy Off-ramp	1500	2
19	Basic	Basic	Segment Ends	1910	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4800	0.00	71.1	0.0	A
2	1.00	0.877	2323	4800	0.48	50.5	23.0	C

3	1.00	0.877	1747	4800	0.40	41.2	21.2	F
4	1.00	0.877	1552	4800	0.39	11.5	67.4	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.8	0.0	A
2	1.00	0.877	2242	3360	0.69	50.3	22.3	F
3	1.00	0.877	1431	2477	0.78	8.1	88.6	F
4	1.00	0.877	1651	2189	0.85	10.2	80.6	F

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2200	0.00	0.00	72.0	69.0	0.0	0.0	A
2	1.00	1.00	0.877	0.888	3013	1867	3236	2200	1.29	0.85	41.2	41.4	49.6	28.6	F
3	1.00	1.00	0.877	0.888	1908	1814	2052	2200	1.83	0.82	21.9	27.6	58.8	21.9	F
4	1.00	1.00	0.877	0.888	2201	1736	2367	2200	1.52	0.79	45.5	45.5	37.2	23.0	F

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3013	3451	1.22	42.6	35.4	F
3	1.00	0.877	1908	2669	1.42	27.9	34.1	F
4	1.00	0.877	2201	2525	1.44	41.4	26.6	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3013	3451	1.22	43.9	34.3	F
3	1.00	0.877	1908	2904	1.30	27.1	35.2	F
4	1.00	0.877	2201	2525	1.44	41.4	26.6	F

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3013	3451	1.22	43.9	34.3	F
3	1.00	0.877	1908	2904	1.30	28.5	33.5	F
4	1.00	0.877	2201	2525	1.44	41.0	26.8	F

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2956	3451	1.22	30.5	48.4	F

3	1.00		0.877		1965		2904		1.30		27.6		35.6	F
4	1.00		0.877		2201		2669		1.36		43.6		25.2	F

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	3.4	A
2	1.00	1.00	0.877	0.842	2918	610	3191	2000	1.32	0.31	29.1	44.3	50.2	39.6	F
3	1.00	1.00	0.877	0.838	2003	521	2723	2000	1.39	0.26	23.6	32.3	31.0	20.6	F
4	1.00	1.00	0.877	0.842	2201	470	2502	2000	1.45	0.24	37.5	39.6	27.8	22.3	F

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	3547	0.00	70.0	0.0	A
2	1.00	0.877	2207	3000	1.21	15.3	72.3	F
3	1.00	0.877	1819	2525	1.30	23.4	38.9	F
4	1.00	0.877	1898	2381	1.33	33.4	28.4	F

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2000	0.00	0.00	70.0	65.0	0.0	3.7	A
2	1.00	1.00	0.877	0.888	2954	1293	3173	2000	1.55	0.65	43.8	44.3	39.5	30.4	F
3	1.00	1.00	0.877	0.888	2876	1434	2966	2000	1.59	0.72	28.8	34.3	47.4	28.4	F
4	1.00	1.00	0.877	0.888	2966	1464	2966	2000	1.56	0.73	37.1	39.3	42.8	29.2	F

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	74.9	0.0	A
2	1.00	0.877	2954	3643	1.35	54.2	27.3	F
3	1.00	0.877	2876	3547	1.33	39.9	36.0	F
4	1.00	0.877	2966	3163	1.47	38.9	38.1	F

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4123	1.20	63.1	23.4	F
3	1.00	0.877	2876	3547	1.33	43.2	33.3	F
4	1.00	0.877	2966	4027	1.16	50.5	29.4	F

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A

2	1.00	0.877	2954	4123	1.20	62.7	23.6	F
3	1.00	0.877	2876	3547	1.33	43.2	33.3	F
4	1.00	0.877	2966	4027	1.16	51.7	28.7	F

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4027	1.23	61.5	24.0	F
3	1.00	0.877	2876	3547	1.33	43.2	33.3	F
4	1.00	0.877	2966	4027	1.16	55.0	27.0	F

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4027	1.23	61.5	24.0	F
3	1.00	0.877	2876	3547	1.33	43.2	33.3	F
4	1.00	0.877	2966	4027	1.16	55.8	26.6	F

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4027	1.23	61.5	24.0	F
3	1.00	0.877	2876	3547	1.33	43.2	33.3	F
4	1.00	0.877	2966	4027	1.16	56.3	26.3	F

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4027	1.23	60.5	24.4	F
3	1.00	0.877	2876	3547	1.33	41.4	34.7	F
4	1.00	0.877	2966	4027	1.16	56.1	26.4	F

Segment 18: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	2.9	A
2	1.00	1.00	0.877	0.842	2954	863	3776	2000	1.31	0.43	48.1	48.1	30.7	28.3	F
3	1.00	1.00	0.877	0.842	2876	852	3326	2000	1.42	0.43	43.3	43.3	33.2	27.6	F
4	1.00	1.00	0.877	0.842	2966	785	3943	2000	1.18	0.39	55.7	55.7	26.6	28.4	F

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	72.1	0.0	A

2	1.00	0.877	2091	4027	1.02	50.7	20.5	F
3	1.00	0.877	2373	3547	1.10	43.1	27.5	F
4	1.00	0.877	2431	4027	0.97	56.7	21.4	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	73.8	0.0	0.0	8.80	A
2	6686	9873	22.56	563.98	46.1	31.0	27.2	14.10	F
3	5548	9132	20.35	508.63	31.4	37.2	32.6	20.70	F
4	5853	8898	59.07	1476.69	35.3	35.2	30.9	18.40	F

Facility Overall Results

Space Mean Speed, mi/h	37.1	Average Density, veh/mi/ln	22.7
Average Travel Time, min	17.50	Average Density, pc/mi/ln	25.8
Total VMT, veh-mi	18087	Total VHD, veh-h	101.97
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	2549.29

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HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/15/2024
Agency	Kimley-Horn	Analysis Year	2035
Jurisdiction	Caltrans D10	Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.84		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy Link	5280	2
2	Basic	Basic	Segment Starts	3560	2
3	Merge	Merge	SR 132 On-ramp	1500	2
4	Basic	Basic	Subsegment 1	3768	2
5	Basic	Basic	Subsegment 2	3768	2
6	Basic	Basic	Subsegment 3	3768	2
7	Basic	Basic	Subsegment 4	3768	2
8	Diverge	Diverge	Corral Hollow Rd Off-ramp	1500	2
9	Basic	Basic	Between Hollow Rd OFF/ON	1755	2
10	Merge	Merge	Corral Hollow Rd On-ramp	1500	2
11	Basic	Basic	Subsegment 1	3382	2
12	Basic	Basic	Subsegment 2	3382	2
13	Basic	Basic	Subsegment 3	3382	2
14	Basic	Basic	Subsegment 4	3382	2
15	Basic	Basic	Subsegment 5	3382	2
16	Basic	Basic	Subsegment 6	3382	2
17	Basic	Basic	Subsegment 7	3382	2
18	Diverge	Diverge	Mountain House Pkwy Off-ramp	1500	2
19	Basic	Basic	Segment Ends	1910	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	69.8	0.0	A
2	1.00	0.877	1548	4507	0.34	72.3	10.7	A

3	1.00	0.877	1601	4507	0.36	71.8	11.1	B
4	1.00	0.877	1423	4507	0.32	71.3	10.0	A

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.5	0.0	A
2	1.00	0.877	1548	4507	0.34	73.0	10.6	A
3	1.00	0.877	1601	4507	0.36	72.5	11.0	A
4	1.00	0.877	1423	4507	0.32	72.0	9.9	A

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2200	0.00	0.00	72.0	69.0	0.0	0.0	A
2	1.00	1.00	0.877	0.888	2288	740	4507	2200	0.51	0.34	67.9	67.9	16.8	14.9	B
3	1.00	1.00	0.877	0.888	2345	744	4507	2200	0.52	0.34	67.8	67.8	17.3	15.3	B
4	1.00	1.00	0.877	0.888	2239	816	4507	2200	0.50	0.37	67.9	67.9	16.5	14.5	B

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	2298	4507	0.51	73.0	15.7	B
3	1.00	0.877	2355	4507	0.52	72.6	16.2	B
4	1.00	0.877	2250	4507	0.50	73.7	15.3	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	2298	4507	0.51	73.0	15.7	B
3	1.00	0.877	2355	4507	0.52	72.9	16.2	B
4	1.00	0.877	2250	4507	0.50	73.6	15.3	B

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.7	0.0	A
2	1.00	0.877	2298	4507	0.51	72.7	15.8	B
3	1.00	0.877	2355	4507	0.52	72.3	16.3	B
4	1.00	0.877	2250	4507	0.50	73.4	15.3	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.5	0.0	A
2	1.00	0.877	2298	4507	0.51	72.3	15.9	B

3	1.00		0.877		2355		4507		0.52		72.5		16.2		B
4	1.00		0.877		2250		4507		0.50		73.2		15.4		B
Segment 8: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	3.4	A
2	1.00	1.00	0.877	0.842	2298	1056	4507	2000	0.51	0.53	57.7	57.7	19.9	23.1	C
3	1.00	1.00	0.877	0.838	2355	1076	4507	2000	0.52	0.54	57.7	57.7	20.4	23.6	C
4	1.00	1.00	0.877	0.842	2250	967	4507	2000	0.50	0.48	58.0	58.0	19.4	22.7	C
Segment 9: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		70.2		0.0		A
2	1.00		0.877		1284		4507		0.28		71.9		8.8		A
3	1.00		0.877		1326		4507		0.29		72.1		9.1		A
4	1.00		0.877		1322		4507		0.29		72.4		9.0		A
Segment 10: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2000	0.00	0.00	70.0	65.0	0.0	3.7	A
2	1.00	1.00	0.877	0.888	1481	197	4507	2000	0.33	0.10	64.5	64.5	11.5	15.1	B
3	1.00	1.00	0.877	0.888	1517	191	4507	2000	0.34	0.10	64.5	64.5	11.8	15.4	B
4	1.00	1.00	0.877	0.888	1515	193	4507	2000	0.34	0.10	64.5	64.5	11.7	15.4	B
Segment 11: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		70.4		0.0		A
2	1.00		0.877		1483		4507		0.33		73.0		10.1		A
3	1.00		0.877		1520		4507		0.34		73.8		10.3		A
4	1.00		0.877		1517		4507		0.34		73.8		10.2		A
Segment 12: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		71.0		0.0		A
2	1.00		0.877		1483		4507		0.33		73.3		10.1		A
3	1.00		0.877		1520		4507		0.34		73.7		10.3		A
4	1.00		0.877		1517		4507		0.34		73.7		10.3		A
Segment 13: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		70.5		0.0		A

2	1.00	0.877	1483	4507	0.33	73.5	10.1	A
3	1.00	0.877	1520	4507	0.34	73.3	10.4	A
4	1.00	0.877	1517	4507	0.34	73.3	10.3	A

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	1483	4507	0.33	73.5	10.1	A
3	1.00	0.877	1520	4507	0.34	73.7	10.3	A
4	1.00	0.877	1517	4507	0.34	73.0	10.4	A

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.8	0.0	A
2	1.00	0.877	1483	4507	0.33	73.5	10.1	A
3	1.00	0.877	1520	4507	0.34	73.7	10.3	A
4	1.00	0.877	1517	4507	0.34	73.0	10.4	A

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.5	0.0	A
2	1.00	0.877	1483	4507	0.33	73.7	10.1	A
3	1.00	0.877	1520	4507	0.34	74.5	10.2	A
4	1.00	0.877	1517	4507	0.34	73.5	10.3	A

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	1483	4507	0.33	73.3	10.1	A
3	1.00	0.877	1520	4507	0.34	73.5	10.3	A
4	1.00	0.877	1517	4507	0.34	73.0	10.4	A

Segment 18: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	2.9	A
2	1.00	1.00	0.877	0.842	1483	169	4507	2000	0.33	0.08	60.4	60.4	12.3	15.7	B
3	1.00	1.00	0.877	0.842	1520	131	4507	2000	0.34	0.07	60.5	60.5	12.6	16.0	B
4	1.00	1.00	0.877	0.842	1517	165	4507	2000	0.34	0.08	60.4	60.4	12.6	15.9	B

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A

2	1.00	0.877	1322	4507	0.29	72.8	9.0	A
3	1.00	0.877	1395	4507	0.31	72.8	9.5	A
4	1.00	0.877	1358	4507	0.30	72.8	9.2	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	70.8	0.0	0.0	9.20	A
2	4133	4075	1.47	36.82	71.6	12.1	10.7	9.10	B
3	4245	4186	1.56	39.00	71.6	12.5	10.9	9.10	B
4	4094	4031	1.44	36.11	71.7	12.0	10.5	9.10	B

Facility Overall Results

Space Mean Speed, mi/h	71.6	Average Density, veh/mi/ln	8.0
Average Travel Time, min	9.10	Average Density, pc/mi/ln	9.2
Total VMT, veh-mi	12472	Total VHD, veh-h	4.48
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	111.93

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Appendix N. Design Year (2048) No Build HCS Outputs

HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/15/2024
Agency	Kimley-Horn	Analysis Year	2048
Jurisdiction	Caltrans D10	Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/ Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	18
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy	5280	2
2	Basic	Basic	Segment Starts	2000	2
3	Merge	Merge	Patterson Pass Rd On-Ramp	1500	2
4	Basic	Basic	Subsegment 1	5169	2
5	Basic	Basic	Subsegment 2	5169	2
6	Basic	Basic	Subsegment 3	5169	2
7	Diverge	Diverge	Lammers Rd Off-Ramp	1500	2
8	Basic	Basic	Between Lammers Rd OFF/ON	1730	2
9	Merge	Merge	Lammers Rd On-Ramp	1500	2
10	Basic	Basic	Subsegment 1	3374	2
11	Diverge	Diverge	Corral Hollow Rd Off-Ramp	1500	2
12	Basic	Basic	Between Corral Hollow Rd OFF/ON	1730	2
13	Merge	Merge	Corral Hollow Rd On-Ramp	1500	2
14	Basic	Basic	Subsegment 1	4010	2
15	Basic	Basic	Subsegment 2	4010	2
16	Basic	Basic	Subsegment 3	4010	2
17	Diverge	Diverge	SR 132 Off-Ramp	1500	2
18	Basic	Basic	Segment Ends	5280	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	473	4507	0.10	71.2	3.3	A
3	1.00	0.877	724	4507	0.16	71.2	5.1	A

4	1.00		0.877		821		4507		0.18		71.2		5.8	A

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	473	4507	0.10	71.2	3.3	A
3	1.00	0.877	724	4507	0.16	71.2	5.1	A
4	1.00	0.877	821	4507	0.18	71.2	5.8	A

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	636	163	4507	1878	0.14	0.09	62.2	62.2	5.1	8.6	A
3	1.00	1.00	0.877	0.877	880	156	4507	1878	0.20	0.08	62.1	62.1	7.1	10.5	B
4	1.00	1.00	0.877	0.877	1148	327	4507	1878	0.25	0.17	62.1	62.1	9.2	12.5	B

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	636	4507	0.14	71.2	4.5	A
3	1.00	0.877	880	4507	0.20	71.2	6.2	A
4	1.00	0.877	1148	4507	0.25	71.2	8.1	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	636	4507	0.14	71.2	4.5	A
3	1.00	0.877	880	4507	0.20	71.2	6.2	A
4	1.00	0.877	1148	4507	0.25	71.2	8.1	A

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	636	4507	0.14	71.2	4.5	A
3	1.00	0.877	880	4507	0.20	71.2	6.2	A
4	1.00	0.877	1148	4507	0.25	71.2	8.1	A

Segment 7: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	2000	0.00	0.00	68.4	58.7	0.0	3.4	A
2	1.00	1.00	0.877	0.877	636	13	4507	2000	0.14	0.01	58.7	58.7	5.4	8.8	A

3	1.00	1.00	0.877	0.877	880	24	4507	2000	0.20	0.01	58.6	58.6	7.5	10.9	B
4	1.00	1.00	0.877	0.877	1148	30	4507	2000	0.25	0.01	58.6	58.6	9.8	13.2	B

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	624	4507	0.14	70.3	4.4	A
3	1.00	0.877	856	4507	0.19	70.3	6.0	A
4	1.00	0.877	1119	4507	0.25	70.3	7.9	A

Segment 9: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	2000	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	980	356	4507	2000	0.22	0.18	62.1	62.1	7.9	11.1	B
3	1.00	1.00	0.877	0.877	1294	438	4507	2000	0.29	0.22	62.0	62.0	10.4	13.6	B
4	1.00	1.00	0.877	0.877	1848	729	4507	2000	0.41	0.36	61.7	61.7	15.0	17.7	B

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	979	4507	0.22	71.0	6.9	A
3	1.00	0.877	1294	4507	0.29	71.0	9.1	A
4	1.00	0.877	1847	4507	0.41	71.0	13.0	B

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	3.4	A
2	1.00	1.00	0.877	0.877	979	95	4507	1878	0.22	0.05	57.8	57.8	8.5	11.8	B
3	1.00	1.00	0.877	0.877	1294	179	4507	1878	0.29	0.10	57.5	57.5	11.3	14.5	B
4	1.00	1.00	0.877	0.877	1847	229	4507	1878	0.41	0.12	57.4	57.4	16.1	19.2	B

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	885	4507	0.20	70.2	6.2	A
3	1.00	0.877	1115	4507	0.25	70.2	7.8	A
4	1.00	0.877	1618	4507	0.36	70.2	11.4	B

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	

1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	1267	382	4507	1878	0.28	0.20	62.0	62.0	10.2	13.4	B
3	1.00	1.00	0.877	0.877	1586	471	4507	1878	0.35	0.25	61.9	61.9	12.8	15.8	B
4	1.00	1.00	0.877	0.877	2401	783	4507	1878	0.53	0.42	61.2	61.2	19.6	22.0	C

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	1267	4507	0.28	71.1	8.9	A
3	1.00	0.877	1586	4507	0.35	71.1	11.1	B
4	1.00	0.877	2401	4507	0.53	70.7	17.0	B

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	1267	4507	0.28	71.2	8.9	A
3	1.00	0.877	1586	4507	0.35	71.2	11.1	B
4	1.00	0.877	2401	4507	0.53	70.7	17.0	B

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	1267	4507	0.28	71.2	8.9	A
3	1.00	0.877	1586	4507	0.35	71.2	11.1	B
4	1.00	0.877	2401	4507	0.53	70.7	17.0	B

Segment 17: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	2.5	A
2	1.00	1.00	0.877	0.877	1267	460	4507	1878	0.28	0.24	56.8	56.8	11.2	13.3	B
3	1.00	1.00	0.877	0.877	1586	685	4507	1878	0.35	0.36	56.2	56.2	14.1	16.1	B
4	1.00	1.00	0.877	0.877	2401	1206	4507	1878	0.53	0.64	54.8	54.8	21.9	23.1	C

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	807	4507	0.18	71.1	5.7	A
3	1.00	0.877	901	4507	0.20	71.1	6.3	A
4	1.00	0.877	1195	4507	0.27	71.1	8.4	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS

1	0	0	0.00	0.00	70.6	0.0	0.0	9.00	A
2	1967	1911	1.00	25.04	68.7	6.2	5.4	9.30	A
3	2567	2501	1.34	33.46	68.7	8.0	7.0	9.30	A
4	3577	3462	2.14	53.62	68.3	11.3	9.9	9.30	B

Facility Overall Results

Space Mean Speed, mi/h	68.5	Average Density, veh/mi/ln	5.6
Average Travel Time, min	9.30	Average Density, pc/mi/ln	6.4
Total VMT, veh-mi	8111	Total VHD, veh-h	4.48
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	112.12

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HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/15/2024
Agency	Kimley-Horn	Analysis Year	2048
Jurisdiction	Caltrans D10	Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/ Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	18
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy	5280	2
2	Basic	Basic	Segment Starts	2000	2
3	Merge	Merge	Patterson Pass Rd On-Ramp	1500	2
4	Basic	Basic	Subsegment 1	5169	2
5	Basic	Basic	Subsegment 2	5169	2
6	Basic	Basic	Subsegment 3	5169	2
7	Diverge	Diverge	Lammers Rd Off-Ramp	1500	2
8	Basic	Basic	Between Lammers Rd OFF/ON	1730	2
9	Merge	Merge	Lammers Rd On-Ramp	1500	2
10	Basic	Basic	Subsegment 1	3374	2
11	Diverge	Diverge	Corral Hollow Rd Off-Ramp	1500	2
12	Basic	Basic	Between Corral Hollow Rd OFF/ON	1730	2
13	Merge	Merge	Corral Hollow Rd On-Ramp	1500	2
14	Basic	Basic	Subsegment 1	4010	2
15	Basic	Basic	Subsegment 2	4010	2
16	Basic	Basic	Subsegment 3	4010	2
17	Diverge	Diverge	SR 132 Off-Ramp	1500	2
18	Basic	Basic	Segment Ends	5280	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3331	4507	0.79	65.4	25.5	F
3	1.00	0.877	3141	4507	0.81	17.7	88.9	F

4	1.00		0.877		3167		4507		0.66		18.0		88.1		F
Segment 2: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		71.2		0.0		A
2	1.00		0.877		3148		4507		0.79		20.7		76.0		F
3	1.00		0.877		3144		4507		0.81		17.7		88.8		F
4	1.00		0.877		3144		4507		0.66		17.7		88.6		F
Segment 3: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	4197	1115	4507	1878	1.04	0.59	54.3	54.3	39.3	36.4	F
3	1.00	1.00	0.877	0.877	4192	1019	4507	1878	1.04	0.54	55.1	55.1	37.8	35.7	F
4	1.00	1.00	0.877	0.877	4192	1141	4507	1878	0.91	0.61	54.1	54.1	39.6	36.6	E
Segment 4: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		71.2		0.0		A
2	1.00		0.877		4197		4507		1.04		55.0		38.2		F
3	1.00		0.877		4192		4507		1.04		55.1		38.0		F
4	1.00		0.877		4192		4507		0.91		55.1		38.0		E
Segment 5: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		71.2		0.0		A
2	1.00		0.877		4197		4507		1.04		55.0		38.2		F
3	1.00		0.877		4192		4507		1.04		55.1		38.0		F
4	1.00		0.877		4192		4507		0.91		55.1		38.0		E
Segment 6: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		71.2		0.0		A
2	1.00		0.877		4197		4507		1.04		55.0		38.2		F
3	1.00		0.877		4192		4507		1.04		55.1		38.0		F
4	1.00		0.877		4192		4507		0.91		55.1		38.0		E
Segment 7: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	2000	0.00	0.00	68.4	58.7	0.0	3.4	A
2	1.00	1.00	0.877	0.877	4197	802	4507	2000	1.04	0.40	56.6	56.6	37.1	39.4	F

3	1.00	1.00	0.877	0.877	4192	847	4507	2000	1.04	0.42	56.5	56.5	37.1	39.4	F
4	1.00	1.00	0.877	0.877	4192	892	4507	2000	0.91	0.45	56.4	56.4	37.2	39.4	E

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	3395	4507	0.86	64.8	26.2	D
3	1.00	0.877	3475	4507	0.85	64.0	27.1	D
4	1.00	0.877	3431	4507	0.71	64.5	26.6	D

Segment 9: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	2000	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	3473	78	4507	2000	0.88	0.04	58.8	58.8	29.5	30.7	D
3	1.00	1.00	0.877	0.877	3571	96	4507	2000	0.87	0.05	58.4	58.4	30.6	31.5	D
4	1.00	1.00	0.877	0.877	3534	103	4507	2000	0.74	0.05	58.5	58.5	30.2	31.2	D

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	3473	4507	0.88	64.0	27.1	D
3	1.00	0.877	3571	4507	0.87	63.0	28.3	D
4	1.00	0.877	3534	4507	0.74	63.4	27.9	D

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	3.4	A
2	1.00	1.00	0.877	0.877	3473	609	4507	1878	0.88	0.32	56.4	56.4	30.8	33.2	D
3	1.00	1.00	0.877	0.877	3571	643	4507	1878	0.87	0.34	56.3	56.3	31.7	34.1	D
4	1.00	1.00	0.877	0.877	3534	677	4507	1878	0.74	0.36	56.2	56.2	31.4	33.7	D

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	2864	4507	0.75	68.8	20.8	C
3	1.00	0.877	3023	4507	0.73	67.8	22.3	C
4	1.00	0.877	2954	4507	0.59	68.3	21.6	C

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	

1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	3646	782	4507	1878	0.92	0.42	58.0	58.0	31.4	31.7	D
3	1.00	1.00	0.877	0.877	3992	969	4507	1878	0.94	0.52	56.2	56.2	35.5	34.4	D
4	1.00	1.00	0.877	0.877	3996	1042	4507	1878	0.82	0.55	56.2	56.2	35.6	34.4	D

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	3646	4507	0.92	62.2	29.3	D
3	1.00	0.877	3992	4507	0.94	58.0	34.4	D
4	1.00	0.877	3996	4507	0.82	57.9	34.5	D

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3646	4507	0.92	62.2	29.3	D
3	1.00	0.877	3992	4507	0.94	58.0	34.4	D
4	1.00	0.877	3996	4507	0.82	57.9	34.5	D

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3646	4507	0.92	62.2	29.3	D
3	1.00	0.877	3992	4507	0.94	58.0	34.4	D
4	1.00	0.877	3996	4507	0.82	57.9	34.5	D

Segment 17: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	2.5	A
2	1.00	1.00	0.877	0.877	3646	2271	4507	1878	0.92	1.21	52.0	52.0	35.1	33.8	F
3	1.00	1.00	0.877	0.877	3992	2281	4507	1878	0.94	1.21	52.0	52.0	38.4	36.8	F
4	1.00	1.00	0.877	0.877	3996	2062	4507	1878	0.82	1.10	52.6	52.6	38.0	36.8	F

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	1375	4507	0.41	71.1	9.7	A
3	1.00	0.877	1802	4507	0.44	71.1	12.7	B
4	1.00	0.877	1848	4507	0.36	71.1	13.0	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS

1	0	0	0.00	0.00	70.6	0.0	0.0	9.00	A
2	8164	9127	31.39	784.63	55.9	31.5	27.6	11.40	F
3	8471	9185	65.10	1627.62	46.0	39.6	34.8	13.80	F
4	8471	7858	64.59	1614.80	46.2	39.5	34.7	13.80	F

Facility Overall Results

Space Mean Speed, mi/h	48.9	Average Density, veh/mi/ln	24.3
Average Travel Time, min	13.00	Average Density, pc/mi/ln	27.7
Total VMT, veh-mi	25105	Total VHD, veh-h	161.08
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	4027.05

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HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/15/2024
Agency	Kimley-Horn	Analysis Year	2048
Jurisdiction	Caltrans D10	Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.84		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy Link	5280	2
2	Basic	Basic	Segment Starts	3560	2
3	Merge	Merge	SR 132 On-ramp	1500	2
4	Basic	Basic	Subsegment 1	3768	2
5	Basic	Basic	Subsegment 2	3768	2
6	Basic	Basic	Subsegment 3	3768	2
7	Basic	Basic	Subsegment 4	3768	2
8	Diverge	Diverge	Corral Hollow Rd Off-ramp	1500	2
9	Basic	Basic	Between Hollow Rd OFF/ON	1755	2
10	Merge	Merge	Corral Hollow Rd On-ramp	1500	2
11	Basic	Basic	Subsegment 1	3382	2
12	Diverge	Diverge	Lammers Rd Off-Ramp	1500	2
13	Basic	Basic	Between Lammers Rd OFF/ON	1755	2
14	Merge	Merge	Lammers Rd On-Ramp	1500	2
15	Basic	Basic	Subsegment 1	5179	2
16	Basic	Basic	Subsegment 2	5179	2
17	Basic	Basic	Subsegment 3	5179	2
18	Diverge	Diverge	Mountain House Pkwy Off-ramp	1500	2
19	Basic	Basic	Segment Ends	1910	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4800	0.00	71.1	0.0	A
2	1.00	0.877	2523	4800	0.67	19.9	63.4	F

3	1.00	0.877	1478	4800	0.56	5.1	145.4	F
4	1.00	0.877	1431	4800	0.54	4.9	146.8	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.8	0.0	A
2	1.00	0.877	2240	3360	0.96	13.0	86.1	F
3	1.00	0.877	1431	2477	1.09	6.8	105.7	F
4	1.00	0.877	1569	2189	1.18	9.7	81.1	F

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2200	0.00	0.00	72.0	69.0	0.0	0.0	A
2	1.00	1.00	0.877	0.888	3013	1988	3236	2200	1.61	0.90	40.5	41.4	51.1	29.5	F
3	1.00	1.00	0.877	0.888	1908	2033	2052	2200	2.30	0.92	21.8	28.1	61.6	23.5	F
4	1.00	1.00	0.877	0.888	2119	2069	2367	2200	1.97	0.94	45.3	45.3	40.2	24.8	F

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3013	3451	1.51	42.6	35.4	F
3	1.00	0.877	1908	2669	1.78	27.9	34.1	F
4	1.00	0.877	2119	2525	1.86	44.4	23.9	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3013	3451	1.51	43.9	34.3	F
3	1.00	0.877	1908	2904	1.64	27.1	35.2	F
4	1.00	0.877	2119	2525	1.86	44.3	23.9	F

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3013	3451	1.51	43.9	34.3	F
3	1.00	0.877	1908	2904	1.64	28.5	33.5	F
4	1.00	0.877	2119	2525	1.86	43.9	24.1	F

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2903	3451	1.51	28.8	50.4	F

3	1.00		0.877		2018		2904		1.64		27.6		36.6	F
4	1.00		0.877		2040		2669		1.75		17.8		57.3	F

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	3.4	A
2	1.00	1.00	0.877	0.842	2858	546	3191	2000	1.64	0.27	26.1	44.3	54.7	48.3	F
3	1.00	1.00	0.877	0.838	2063	467	2723	2000	1.75	0.23	23.6	32.2	32.0	21.1	F
4	1.00	1.00	0.877	0.842	2040	422	2502	2000	1.87	0.21	37.1	39.5	25.8	20.9	F

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	3547	0.00	70.0	0.0	A
2	1.00	0.877	2211	3000	1.57	14.7	75.1	F
3	1.00	0.877	1953	2525	1.71	23.4	41.7	F
4	1.00	0.877	1802	2381	1.80	15.2	59.5	F

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2000	0.00	0.00	70.0	65.0	0.0	3.7	A
2	1.00	1.00	0.877	0.888	2954	1061	3173	2000	1.82	0.53	43.8	44.4	36.8	28.7	F
3	1.00	1.00	0.877	0.888	2824	1176	2966	2000	1.85	0.59	28.8	34.2	45.7	27.5	F
4	1.00	1.00	0.877	0.888	2451	1202	2966	2000	1.85	0.60	35.8	39.1	38.4	26.5	F

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	74.9	0.0	A
2	1.00	0.877	2954	3643	1.58	54.2	27.3	F
3	1.00	0.877	2574	3547	1.55	23.3	55.3	F
4	1.00	0.877	2700	3163	1.74	43.1	31.3	F

Segment 12: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	3.4	A
2	1.00	1.00	0.877	0.877	2954	44	4037	2000	1.43	0.02	56.9	56.9	26.0	28.8	F
3	1.00	1.00	0.877	0.877	2476	39	3326	2000	1.65	0.02	17.9	43.1	69.2	50.6	F
4	1.00	1.00	0.877	0.877	2719	34	3776	2000	1.46	0.02	17.8	46.9	76.3	50.6	F

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	1.00	0.877	0	4507	0.00	74.8	0.0	A
2	1.00	0.877	2910	4123	1.39	63.1	23.1	F
3	1.00	0.877	2323	3547	1.54	13.3	87.1	F
4	1.00	0.877	2708	4027	1.36	14.6	92.4	F

Segment 14: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	2000	0.00	0.00	70.0	65.0	0.0	3.7	A
2	1.00	1.00	0.877	0.877	3615	705	3943	2000	1.63	0.35	56.1	56.1	32.2	31.5	F
3	1.00	1.00	0.877	0.877	3097	780	3326	2000	1.88	0.39	41.7	43.2	35.9	27.5	F
4	1.00	1.00	0.877	0.877	3511	797	3776	2000	1.66	0.40	50.1	50.1	35.0	30.6	F

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3615	4027	1.60	52.5	34.4	F
3	1.00	0.877	3097	3547	1.76	42.3	36.6	F
4	1.00	0.877	3511	4027	1.55	51.5	34.1	F

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3615	4027	1.60	52.5	34.4	F
3	1.00	0.877	3097	3547	1.76	42.3	36.6	F
4	1.00	0.877	3511	4027	1.55	51.7	34.0	F

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3516	4027	1.60	34.2	51.4	F
3	1.00	0.877	3093	3547	1.76	27.7	55.8	F
4	1.00	0.877	3615	4027	1.55	50.5	35.8	F

Segment 18: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	2.9	A
2	1.00	1.00	0.877	0.842	3516	1325	3776	2000	1.70	0.66	47.6	47.6	36.9	33.1	F
3	1.00	1.00	0.877	0.842	3093	1310	3326	2000	1.88	0.65	43.2	43.2	35.8	29.5	F
4	1.00	1.00	0.877	0.842	3615	1207	3943	2000	1.59	0.60	54.7	54.7	33.0	34.0	F

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	72.1	0.0	A
2	1.00	0.877	2191	4027	1.28	50.7	21.5	F
3	1.00	0.877	2456	3547	1.40	43.1	28.5	F
4	1.00	0.877	2856	4027	1.27	55.9	25.5	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	73.5	0.0	0.0	8.80	A
2	7204	12511	75.59	1889.80	34.9	43.8	38.4	18.60	F
3	5575	11670	110.28	2757.03	20.8	56.3	49.4	31.20	F
4	6106	11598	127.73	3193.18	25.8	50.4	44.2	25.30	F

Facility Overall Results

Space Mean Speed, mi/h	26.6	Average Density, veh/mi/ln	33.0
Average Travel Time, min	24.50	Average Density, pc/mi/ln	37.6
Total VMT, veh-mi	18886	Total VHD, veh-h	313.60
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	7840.01

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HCS Freeway Facilities Report

Project Information

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Agency	Kimley-Horn	Analysis Year	2048
Jurisdiction	Caltrans D10	Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.84		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy Link	5280	2
2	Basic	Basic	Segment Starts	3560	2
3	Merge	Merge	SR 132 On-ramp	1500	2
4	Basic	Basic	Subsegment 1	3768	2
5	Basic	Basic	Subsegment 2	3768	2
6	Basic	Basic	Subsegment 3	3768	2
7	Basic	Basic	Subsegment 4	3768	2
8	Diverge	Diverge	Corral Hollow Rd Off-ramp	1500	2
9	Basic	Basic	Between Hollow Rd OFF/ON	1755	2
10	Merge	Merge	Corral Hollow Rd On-ramp	1500	2
11	Basic	Basic	Subsegment 1	3382	2
12	Diverge	Diverge	Lammers Rd Off-Ramp	1500	2
13	Basic	Basic	Between Lammers Rd OFF/ON	1755	2
14	Merge	Merge	Lammers Rd On-Ramp	1500	2
15	Basic	Basic	Subsegment 1	5179	2
16	Basic	Basic	Subsegment 2	5179	2
17	Basic	Basic	Subsegment 3	5179	2
18	Diverge	Diverge	Mountain House Pkwy Off-ramp	1500	2
19	Basic	Basic	Segment Ends	1910	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	69.8	0.0	A
2	1.00	0.877	2117	4507	0.47	72.2	14.7	B

3	1.00	0.877	2194	4507	0.49	71.7	15.3	B
4	1.00	0.877	1937	4507	0.43	71.3	13.6	B

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.5	0.0	A
2	1.00	0.877	2117	4507	0.47	72.8	14.5	B
3	1.00	0.877	2194	4507	0.49	72.3	15.2	B
4	1.00	0.877	1937	4507	0.43	72.0	13.4	B

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2200	0.00	0.00	72.0	69.0	0.0	0.0	A
2	1.00	1.00	0.877	0.888	3259	1142	4507	2200	0.72	0.52	65.8	65.8	24.8	22.3	C
3	1.00	1.00	0.877	0.888	3346	1152	4507	2200	0.74	0.52	65.5	65.5	25.5	23.0	C
4	1.00	1.00	0.877	0.888	3201	1264	4507	2200	0.71	0.57	66.0	66.0	24.2	21.8	C

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	3274	4507	0.73	66.9	24.5	C
3	1.00	0.877	3360	4507	0.75	66.0	25.5	C
4	1.00	0.877	3217	4507	0.71	67.7	23.8	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	3274	4507	0.73	66.9	24.5	C
3	1.00	0.877	3360	4507	0.75	66.1	25.4	C
4	1.00	0.877	3217	4507	0.71	67.7	23.8	C

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.7	0.0	A
2	1.00	0.877	3274	4507	0.73	66.8	24.5	C
3	1.00	0.877	3360	4507	0.75	65.8	25.5	C
4	1.00	0.877	3217	4507	0.71	67.6	23.8	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.5	0.0	A
2	1.00	0.877	3274	4507	0.73	66.6	24.6	C

3	1.00		0.877		3360		4507		0.75		65.9		25.5	C
4	1.00		0.877		3217		4507		0.71		67.5		23.8	C

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	3.4	A
2	1.00	1.00	0.877	0.842	3274	865	4507	2000	0.73	0.43	58.3	58.3	28.1	31.5	D
3	1.00	1.00	0.877	0.838	3360	881	4507	2000	0.75	0.44	58.3	58.3	28.8	32.2	D
4	1.00	1.00	0.877	0.842	3217	792	4507	2000	0.71	0.40	58.5	58.5	27.5	31.0	D

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.2	0.0	A
2	1.00	0.877	2444	4507	0.54	71.9	17.0	B
3	1.00	0.877	2519	4507	0.56	71.9	17.5	B
4	1.00	0.877	2456	4507	0.54	72.3	17.0	B

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2000	0.00	0.00	70.0	65.0	0.0	3.7	A
2	1.00	1.00	0.877	0.888	2568	124	4507	2000	0.57	0.06	63.4	63.4	20.3	23.6	C
3	1.00	1.00	0.877	0.888	2639	120	4507	2000	0.59	0.06	63.3	63.3	20.8	24.2	C
4	1.00	1.00	0.877	0.888	2578	122	4507	2000	0.57	0.06	63.4	63.4	20.3	23.7	C

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.4	0.0	A
2	1.00	0.877	2569	4507	0.57	71.6	17.9	B
3	1.00	0.877	2641	4507	0.59	71.8	18.4	C
4	1.00	0.877	2579	4507	0.57	72.1	17.9	B

Segment 12: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	68.2	58.6	0.0	3.4	A
2	1.00	1.00	0.877	0.842	2569	683	4507	2000	0.57	0.34	58.0	58.0	22.1	25.4	C
3	1.00	1.00	0.877	0.842	2641	692	4507	2000	0.59	0.35	58.2	58.2	22.7	26.1	C
4	1.00	1.00	0.877	0.842	2579	626	4507	2000	0.57	0.31	58.4	58.4	22.1	25.5	C

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	1.00	0.877	0	4507	0.00	70.3	0.0	A
2	1.00	0.877	1913	4507	0.42	72.4	13.0	B
3	1.00	0.877	1976	4507	0.44	72.2	13.5	B
4	1.00	0.877	1978	4507	0.44	72.2	13.5	B

Segment 14: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2000	0.00	0.00	66.6	62.2	0.0	3.7	A
2	1.00	1.00	0.877	0.888	2014	101	4507	2000	0.45	0.05	63.1	63.1	16.0	19.3	B
3	1.00	1.00	0.877	0.888	2075	99	4507	2000	0.46	0.05	63.2	63.2	16.4	19.8	B
4	1.00	1.00	0.877	0.888	2077	99	4507	2000	0.46	0.05	62.7	62.7	16.6	19.8	B

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.8	0.0	A
2	1.00	0.877	2016	4507	0.45	73.4	13.7	B
3	1.00	0.877	2076	4507	0.46	73.5	14.1	B
4	1.00	0.877	2079	4507	0.46	72.9	14.3	B

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.5	0.0	A
2	1.00	0.877	2016	4507	0.45	73.6	13.7	B
3	1.00	0.877	2076	4507	0.46	74.2	14.0	B
4	1.00	0.877	2079	4507	0.46	73.4	14.2	B

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	2016	4507	0.45	73.2	13.8	B
3	1.00	0.877	2076	4507	0.46	73.4	14.1	B
4	1.00	0.877	2079	4507	0.46	72.9	14.3	B

Segment 18: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	2.9	A
2	1.00	1.00	0.877	0.842	2016	169	4507	2000	0.45	0.08	60.4	60.4	16.7	20.2	C
3	1.00	1.00	0.877	0.842	2076	131	4507	2000	0.46	0.07	60.5	60.5	17.2	20.8	C
4	1.00	1.00	0.877	0.842	2079	165	4507	2000	0.46	0.08	60.4	60.4	17.2	20.8	C

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	1854	4507	0.41	72.8	12.6	B
3	1.00	0.877	1951	4507	0.43	72.8	13.3	B
4	1.00	0.877	1920	4507	0.43	72.8	13.0	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	70.7	0.0	0.0	9.20	A
2	5930	5845	5.79	144.75	68.5	18.2	16.0	9.50	C
3	6106	6021	6.45	161.16	68.3	18.8	16.5	9.50	C
4	5883	5790	5.62	140.43	68.7	18.0	15.8	9.50	B

Facility Overall Results

Space Mean Speed, mi/h	68.5	Average Density, veh/mi/ln	12.1
Average Travel Time, min	9.50	Average Density, pc/mi/ln	13.8
Total VMT, veh-mi	17919	Total VHD, veh-h	17.85
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	446.35

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Appendix O. Design Year (2048) Build HCS Outputs

HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/15/2024
Agency	Kimley-Horn	Analysis Year	2048
Jurisdiction	Caltrans D10	Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/ Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	18
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy	5280	2
2	Basic	Basic	Segment Starts	2000	2
3	Merge	Merge	Patterson Pass Rd On-Ramp	1500	2
4	Basic	Basic	Subsegment 1	5169	2
5	Basic	Basic	Subsegment 2	5169	2
6	Basic	Basic	Subsegment 3	5169	2
7	Diverge	Diverge	Lammers Rd Off-Ramp	1500	2
8	Basic	Basic	Between Lammers Rd OFF/ON	1730	2
9	Merge	Merge	Lammers Rd On-Ramp	1500	2
10	Basic	Basic	Subsegment 1	3374	2
11	Diverge	Diverge	Corral Hollow Rd Off-Ramp	1500	2
12	Basic	Basic	Between Corral Hollow Rd OFF/ON	1730	2
13	Merge	Merge	Corral Hollow Rd On-Ramp	1500	2
14	Basic	Basic	Subsegment 1	4010	2
15	Basic	Basic	Subsegment 2	4010	2
16	Basic	Basic	Subsegment 3	4010	2
17	Diverge	Diverge	SR 132 Off-Ramp	1500	2
18	Basic	Basic	Segment Ends	5280	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	505	4507	0.11	71.2	3.5	A
3	1.00	0.877	773	4507	0.17	71.2	5.4	A

4	1.00		0.877		893		4507		0.20		71.2		6.3	A

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	505	4507	0.11	71.2	3.5	A
3	1.00	0.877	773	4507	0.17	71.2	5.4	A
4	1.00	0.877	893	4507	0.20	71.2	6.3	A

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	674	169	4507	1878	0.15	0.09	62.2	62.2	5.4	8.8	A
3	1.00	1.00	0.877	0.877	935	162	4507	1878	0.21	0.09	62.1	62.1	7.5	10.9	B
4	1.00	1.00	0.877	0.877	1232	339	4507	1878	0.27	0.18	62.0	62.0	9.9	13.1	B

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	674	4507	0.15	71.2	4.7	A
3	1.00	0.877	935	4507	0.21	71.2	6.6	A
4	1.00	0.877	1231	4507	0.27	71.2	8.7	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	674	4507	0.15	71.2	4.7	A
3	1.00	0.877	935	4507	0.21	71.2	6.6	A
4	1.00	0.877	1231	4507	0.27	71.2	8.7	A

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	674	4507	0.15	71.2	4.7	A
3	1.00	0.877	935	4507	0.21	71.2	6.6	A
4	1.00	0.877	1231	4507	0.27	71.2	8.7	A

Segment 7: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	2000	0.00	0.00	68.4	58.7	0.0	3.4	A
2	1.00	1.00	0.877	0.877	674	14	4507	2000	0.15	0.01	58.7	58.7	5.7	9.1	A

3	1.00	1.00	0.877	0.877	935	25	4507	2000	0.21	0.01	58.6	58.6	8.0	11.4	B
4	1.00	1.00	0.877	0.877	1231	32	4507	2000	0.27	0.02	58.6	58.6	10.5	13.9	B

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	660	4507	0.15	70.3	4.6	A
3	1.00	0.877	910	4507	0.20	70.3	6.4	A
4	1.00	0.877	1200	4507	0.27	70.3	8.4	A

Segment 9: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	2000	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	1018	358	4507	2000	0.23	0.18	62.1	62.1	8.2	11.4	B
3	1.00	1.00	0.877	0.877	1350	440	4507	2000	0.30	0.22	62.0	62.0	10.9	14.0	B
4	1.00	1.00	0.877	0.877	1933	733	4507	2000	0.43	0.37	61.7	61.7	15.7	18.4	B

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	1018	4507	0.23	71.0	7.1	A
3	1.00	0.877	1350	4507	0.30	71.0	9.5	A
4	1.00	0.877	1933	4507	0.43	71.0	13.6	B

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	3.4	A
2	1.00	1.00	0.877	0.877	1018	97	4507	1878	0.23	0.05	57.8	57.8	8.8	12.1	B
3	1.00	1.00	0.877	0.877	1350	182	4507	1878	0.30	0.10	57.5	57.5	11.7	15.0	B
4	1.00	1.00	0.877	0.877	1933	234	4507	1878	0.43	0.12	57.4	57.4	16.8	20.0	B

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	921	4507	0.20	70.2	6.5	A
3	1.00	0.877	1168	4507	0.26	70.2	8.2	A
4	1.00	0.877	1699	4507	0.38	70.2	11.9	B

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	

1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	1301	380	4507	1878	0.29	0.20	62.0	62.0	10.5	13.6	B
3	1.00	1.00	0.877	0.877	1636	468	4507	1878	0.36	0.25	61.8	61.8	13.2	16.2	B
4	1.00	1.00	0.877	0.877	2477	778	4507	1878	0.55	0.41	61.0	61.0	20.3	22.6	C

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	1301	4507	0.29	71.1	9.1	A
3	1.00	0.877	1635	4507	0.36	71.1	11.5	B
4	1.00	0.877	2477	4507	0.55	70.5	17.6	B

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	1301	4507	0.29	71.2	9.1	A
3	1.00	0.877	1635	4507	0.36	71.2	11.5	B
4	1.00	0.877	2477	4507	0.55	70.5	17.6	B

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	1301	4507	0.29	71.2	9.1	A
3	1.00	0.877	1635	4507	0.36	71.2	11.5	B
4	1.00	0.877	2477	4507	0.55	70.5	17.6	B

Segment 17: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	2.5	A
2	1.00	1.00	0.877	0.877	1301	488	4507	1878	0.29	0.26	56.7	56.7	11.5	13.6	B
3	1.00	1.00	0.877	0.877	1635	729	4507	1878	0.36	0.39	56.1	56.1	14.6	16.5	B
4	1.00	1.00	0.877	0.877	2477	1277	4507	1878	0.55	0.68	54.7	54.7	22.6	23.8	C

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	813	4507	0.18	71.1	5.7	A
3	1.00	0.877	906	4507	0.20	71.1	6.4	A
4	1.00	0.877	1200	4507	0.27	71.1	8.4	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS

1	0	0	0.00	0.00	70.6	0.0	0.0	9.00	A
2	2044	1987	1.04	26.06	68.7	6.4	5.6	9.30	A
3	2678	2611	1.40	35.01	68.6	8.4	7.4	9.30	A
4	3745	3630	2.30	57.57	68.2	11.8	10.4	9.30	B

Facility Overall Results

Space Mean Speed, mi/h	68.5	Average Density, veh/mi/ln	5.8
Average Travel Time, min	9.30	Average Density, pc/mi/ln	6.7
Total VMT, veh-mi	8467	Total VHD, veh-h	4.75
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	118.64

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HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/15/2024
Agency	Kimley-Horn	Analysis Year	2048
Jurisdiction	Caltrans D10	Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/ Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	18
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy	5280	2
2	Basic	Basic	Segment Starts	2000	2
3	Merge	Merge	Patterson Pass Rd On-Ramp	1500	2
4	Basic	Basic	Subsegment 1	5169	2
5	Basic	Basic	Subsegment 2	5169	2
6	Basic	Basic	Subsegment 3	5169	2
7	Diverge	Diverge	Lammers Rd Off-Ramp	1500	2
8	Basic	Basic	Between Lammers Rd OFF/ON	1730	2
9	Merge	Merge	Lammers Rd On-Ramp	1500	2
10	Basic	Basic	Subsegment 1	3374	2
11	Diverge	Diverge	Corral Hollow Rd Off-Ramp	1500	2
12	Basic	Basic	Between Corral Hollow Rd OFF/ON	1730	2
13	Merge	Merge	Corral Hollow Rd On-Ramp	1500	2
14	Basic	Basic	Subsegment 1	4010	2
15	Basic	Basic	Subsegment 2	4010	2
16	Basic	Basic	Subsegment 3	4010	2
17	Diverge	Diverge	SR 132 Off-Ramp	1500	2
18	Basic	Basic	Segment Ends	5280	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3325	4507	0.83	33.7	49.3	F
3	1.00	0.877	3212	4507	0.85	18.5	86.7	F

4	1.00		0.877		3177		4507		0.70		18.1		87.8		F
Segment 2: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		71.2		0.0		A
2	1.00		0.877		3149		4507		0.83		19.6		80.3		F
3	1.00		0.877		3225		4507		0.85		18.7		86.2		F
4	1.00		0.877		3144		4507		0.70		17.8		88.5		F
Segment 3: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	4197	1054	4507	1878	1.06	0.56	54.8	54.8	38.3	36.0	F
3	1.00	1.00	0.877	0.877	4192	961	4507	1878	1.06	0.51	54.9	54.9	38.1	35.9	F
4	1.00	1.00	0.877	0.877	4192	1078	4507	1878	0.94	0.57	54.6	54.6	38.7	36.1	E
Segment 4: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		71.2		0.0		A
2	1.00		0.877		4197		4507		1.06		55.0		38.2		F
3	1.00		0.877		4192		4507		1.06		55.1		38.0		F
4	1.00		0.877		4192		4507		0.94		55.1		38.0		E
Segment 5: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		71.2		0.0		A
2	1.00		0.877		4197		4507		1.06		55.0		38.2		F
3	1.00		0.877		4192		4507		1.06		55.1		38.0		F
4	1.00		0.877		4192		4507		0.94		55.1		38.0		E
Segment 6: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		71.2		0.0		A
2	1.00		0.877		4197		4507		1.06		55.0		38.2		F
3	1.00		0.877		4192		4507		1.06		55.1		38.0		F
4	1.00		0.877		4192		4507		0.94		55.1		38.0		E
Segment 7: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	2000	0.00	0.00	68.4	58.7	0.0	3.4	A
2	1.00	1.00	0.877	0.877	4197	847	4507	2000	1.06	0.42	56.5	56.5	37.1	39.4	F

3	1.00	1.00	0.877	0.877	4192	895	4507	2000	1.06	0.45	56.3	56.3	37.2	39.4	F
4	1.00	1.00	0.877	0.877	4192	942	4507	2000	0.94	0.47	56.2	56.2	37.3	39.4	E

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	3350	4507	0.88	65.2	25.7	C
3	1.00	0.877	3452	4507	0.86	64.2	26.9	D
4	1.00	0.877	3409	4507	0.73	64.7	26.3	D

Segment 9: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	2000	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	3444	94	4507	2000	0.90	0.05	58.9	58.9	29.2	30.5	D
3	1.00	1.00	0.877	0.877	3568	116	4507	2000	0.89	0.06	58.4	58.4	30.5	31.4	D
4	1.00	1.00	0.877	0.877	3533	124	4507	2000	0.76	0.06	58.6	58.6	30.1	31.2	D

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	3444	4507	0.90	64.3	26.8	D
3	1.00	0.877	3568	4507	0.89	63.1	28.3	D
4	1.00	0.877	3533	4507	0.76	63.4	27.9	D

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	3.4	A
2	1.00	1.00	0.877	0.877	3444	685	4507	1878	0.90	0.36	56.2	56.2	30.6	33.0	D
3	1.00	1.00	0.877	0.877	3568	724	4507	1878	0.89	0.39	56.1	56.1	31.8	34.0	D
4	1.00	1.00	0.877	0.877	3533	762	4507	1878	0.76	0.41	56.0	56.0	31.5	33.7	D

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	2759	4507	0.75	69.4	19.9	C
3	1.00	0.877	2963	4507	0.73	68.2	21.7	C
4	1.00	0.877	2896	4507	0.59	68.6	21.1	C

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	

1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	3601	842	4507	1878	0.93	0.45	58.2	58.2	30.9	31.4	D
3	1.00	1.00	0.877	0.877	4006	1043	4507	1878	0.96	0.56	56.2	56.2	35.6	34.4	D
4	1.00	1.00	0.877	0.877	4018	1122	4507	1878	0.84	0.60	56.1	56.1	35.8	34.5	D

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	3601	4507	0.93	62.7	28.7	D
3	1.00	0.877	4006	4507	0.96	57.8	34.7	D
4	1.00	0.877	4018	4507	0.84	57.6	34.9	D

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3601	4507	0.93	62.7	28.7	D
3	1.00	0.877	4006	4507	0.96	57.8	34.7	D
4	1.00	0.877	4018	4507	0.84	57.6	34.9	D

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3601	4507	0.93	62.7	28.7	D
3	1.00	0.877	4006	4507	0.96	57.8	34.7	D
4	1.00	0.877	4018	4507	0.84	57.6	34.9	D

Segment 17: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	2.5	A
2	1.00	1.00	0.877	0.877	3601	2066	4507	1878	0.93	1.10	52.6	52.6	34.2	33.4	F
3	1.00	1.00	0.877	0.877	4006	2076	4507	1878	0.96	1.11	52.6	52.6	38.1	36.9	F
4	1.00	1.00	0.877	0.877	4018	1876	4507	1878	0.84	1.00	53.1	53.1	37.8	37.0	E

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	1535	4507	0.47	71.1	10.8	A
3	1.00	0.877	2036	4507	0.50	71.1	14.3	B
4	1.00	0.877	2093	4507	0.43	71.1	14.7	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS

1	0	0	0.00	0.00	70.6	0.0	0.0	9.00	A
2	8151	9381	42.09	1052.19	52.1	33.7	29.6	12.20	F
3	8546	9487	63.44	1586.09	46.6	39.5	34.6	13.60	F
4	8535	8216	64.54	1613.51	46.3	39.7	34.8	13.70	E

Facility Overall Results

Space Mean Speed, mi/h	48.1	Average Density, veh/mi/ln	24.8
Average Travel Time, min	13.20	Average Density, pc/mi/ln	28.2
Total VMT, veh-mi	25232	Total VHD, veh-h	170.07
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	4251.79

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HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/15/2024
Agency	Kimley-Horn	Analysis Year	2048
Jurisdiction	Caltrans D10	Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.84		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy Link	5280	2
2	Basic	Basic	Segment Starts	3560	2
3	Merge	Merge	SR 132 On-ramp	1500	2
4	Basic	Basic	Subsegment 1	3768	2
5	Basic	Basic	Subsegment 2	3768	2
6	Basic	Basic	Subsegment 3	3768	2
7	Basic	Basic	Subsegment 4	3768	2
8	Diverge	Diverge	Corral Hollow Rd Off-ramp	1500	2
9	Basic	Basic	Between Hollow Rd OFF/ON	1755	2
10	Merge	Merge	Corral Hollow Rd On-ramp	1500	2
11	Basic	Basic	Subsegment 1	3382	2
12	Diverge	Diverge	Lammers Rd Off-Ramp	1500	2
13	Basic	Basic	Between Lammers Rd OFF/ON	1755	2
14	Merge	Merge	Lammers Rd On-Ramp	1500	2
15	Basic	Basic	Subsegment 1	5179	2
16	Basic	Basic	Subsegment 2	5179	2
17	Basic	Basic	Subsegment 3	5179	2
18	Diverge	Diverge	Mountain House Pkwy Off-ramp	1500	2
19	Basic	Basic	Segment Ends	1910	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4800	0.00	71.1	0.0	A
2	1.00	0.877	2517	4800	0.68	18.9	66.5	F

3	1.00	0.877	1484	4800	0.57	5.1	145.2	F
4	1.00	0.877	1449	4800	0.55	5.0	146.2	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.8	0.0	A
2	1.00	0.877	2239	3360	0.97	12.9	86.7	F
3	1.00	0.877	1431	2477	1.10	6.8	105.6	F
4	1.00	0.877	1587	2189	1.20	9.9	80.6	F

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2200	0.00	0.00	72.0	69.0	0.0	0.0	A
2	1.00	1.00	0.877	0.888	3013	2025	3236	2200	1.63	0.92	40.5	41.5	51.4	29.7	F
3	1.00	1.00	0.877	0.888	1908	2075	2052	2200	2.34	0.94	21.8	28.2	62.2	23.8	F
4	1.00	1.00	0.877	0.888	2129	2089	2367	2200	1.99	0.95	45.3	45.3	40.6	25.1	F

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3013	3451	1.53	42.6	35.4	F
3	1.00	0.877	1908	2669	1.81	27.9	34.1	F
4	1.00	0.877	2129	2525	1.87	44.1	24.1	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3013	3451	1.53	43.9	34.3	F
3	1.00	0.877	1908	2904	1.66	27.1	35.2	F
4	1.00	0.877	2097	2525	1.87	21.3	49.3	F

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3013	3451	1.53	43.9	34.3	F
3	1.00	0.877	1908	2904	1.66	28.5	33.5	F
4	1.00	0.877	2097	2525	1.87	44.7	23.5	F

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2949	3451	1.53	30.4	48.6	F

3	1.00		0.877		1972		2904		1.66		27.6		35.7	F
4	1.00		0.877		2057		2669		1.77		18.9		54.5	F

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	3.4	A
2	1.00	1.00	0.877	0.842	2909	597	3191	2000	1.66	0.30	28.6	44.3	50.9	48.9	F
3	1.00	1.00	0.877	0.838	2012	511	2723	2000	1.77	0.26	23.6	32.3	31.1	20.7	F
4	1.00	1.00	0.877	0.842	2034	461	2502	2000	1.89	0.23	16.7	39.6	61.0	44.1	F

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	3547	0.00	70.0	0.0	A
2	1.00	0.877	2211	3000	1.57	15.3	72.4	F
3	1.00	0.877	1891	2525	1.72	23.4	40.4	F
4	1.00	0.877	1765	2381	1.80	12.8	68.8	F

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2000	0.00	0.00	70.0	65.0	0.0	3.7	A
2	1.00	1.00	0.877	0.888	2954	1056	3173	2000	1.82	0.53	43.8	44.4	36.8	28.7	F
3	1.00	1.00	0.877	0.888	2649	1170	2966	2000	1.86	0.59	27.0	38.0	49.0	46.1	F
4	1.00	1.00	0.877	0.888	2464	1196	2966	2000	1.85	0.60	35.6	39.1	38.5	26.6	F

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	74.9	0.0	A
2	1.00	0.877	2954	3643	1.59	54.2	27.3	F
3	1.00	0.877	2396	3547	1.56	17.9	66.9	F
4	1.00	0.877	2653	3163	1.74	25.1	52.8	F

Segment 12: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	3.4	A
2	1.00	1.00	0.877	0.877	2930	47	4037	2000	1.43	0.02	31.9	56.9	45.9	53.2	F
3	1.00	1.00	0.877	0.877	2322	40	3326	2000	1.66	0.02	14.8	43.1	78.7	50.9	F
4	1.00	1.00	0.877	0.877	2653	35	3776	2000	1.46	0.02	15.5	46.9	85.8	50.7	F

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	1.00		0.877		0		4507		0.00		74.8		0.0		A
2	1.00		0.877		2755		4123		1.39		18.8		73.2		F
3	1.00		0.877		2298		3547		1.55		12.4		92.7		F
4	1.00		0.877		2633		4027		1.36		13.8		95.1		F

Segment 14: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	2000	0.00	0.00	70.0	65.0	0.0	3.7	A
2	1.00	1.00	0.877	0.877	3672	926	3943	2000	1.69	0.46	55.8	55.8	33.0	32.0	F
3	1.00	1.00	0.877	0.877	3075	1025	3326	2000	1.96	0.51	41.6	43.1	38.5	29.1	F
4	1.00	1.00	0.877	0.877	3511	1048	3776	2000	1.73	0.52	49.7	49.7	37.0	31.9	F

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3672	4027	1.66	51.5	35.7	F
3	1.00	0.877	3075	3547	1.84	42.4	36.3	F
4	1.00	0.877	3511	4027	1.62	51.5	34.1	F

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3661	4027	1.66	40.6	45.1	F
3	1.00	0.877	3085	3547	1.84	42.4	36.4	F
4	1.00	0.877	3511	4027	1.62	51.7	34.0	F

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3516	4027	1.66	31.9	55.1	F
3	1.00	0.877	3093	3547	1.84	25.6	60.5	F
4	1.00	0.877	3649	4027	1.62	50.0	36.5	F

Segment 18: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	2.9	A
2	1.00	1.00	0.877	0.842	3516	1005	3776	2000	1.77	0.50	48.0	48.0	36.6	33.1	F
3	1.00	1.00	0.877	0.842	3093	992	3326	2000	1.96	0.50	43.3	43.3	35.7	29.5	F
4	1.00	1.00	0.877	0.842	3649	914	3943	2000	1.65	0.46	55.4	55.4	32.9	34.3	F

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	72.1	0.0	A
2	1.00	0.877	2511	4027	1.42	50.7	24.7	F
3	1.00	0.877	2627	3547	1.57	43.0	30.5	F
4	1.00	0.877	3093	4027	1.40	54.7	28.3	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	73.5	0.0	0.0	8.80	A
2	7251	12800	91.79	2294.83	32.5	47.4	41.6	20.00	F
3	5519	11987	118.62	2965.47	20.1	57.9	50.8	32.30	F
4	6121	11871	148.00	3700.10	23.8	54.8	48.0	27.40	F

Facility Overall Results

Space Mean Speed, mi/h	25.0	Average Density, veh/mi/ln	35.1
Average Travel Time, min	26.00	Average Density, pc/mi/ln	40.0
Total VMT, veh-mi	18892	Total VHD, veh-h	358.42
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	8960.41

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HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/15/2024
Agency	Kimley-Horn	Analysis Year	2048
Jurisdiction	Caltrans D10	Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.84		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy Link	5280	2
2	Basic	Basic	Segment Starts	3560	2
3	Merge	Merge	SR 132 On-ramp	1500	2
4	Basic	Basic	Subsegment 1	3768	2
5	Basic	Basic	Subsegment 2	3768	2
6	Basic	Basic	Subsegment 3	3768	2
7	Basic	Basic	Subsegment 4	3768	2
8	Diverge	Diverge	Corral Hollow Rd Off-ramp	1500	2
9	Basic	Basic	Between Hollow Rd OFF/ON	1755	2
10	Merge	Merge	Corral Hollow Rd On-ramp	1500	2
11	Basic	Basic	Subsegment 1	3382	2
12	Diverge	Diverge	Lammers Rd Off-Ramp	1500	2
13	Basic	Basic	Between Lammers Rd OFF/ON	1755	2
14	Merge	Merge	Lammers Rd On-Ramp	1500	2
15	Basic	Basic	Subsegment 1	5179	2
16	Basic	Basic	Subsegment 2	5179	2
17	Basic	Basic	Subsegment 3	5179	2
18	Diverge	Diverge	Mountain House Pkwy Off-ramp	1500	2
19	Basic	Basic	Segment Ends	1910	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	69.8	0.0	A
2	1.00	0.877	2177	4507	0.48	72.1	15.1	B

3	1.00	0.877	2252	4507	0.50	71.6	15.7	B
4	1.00	0.877	1977	4507	0.44	71.3	13.9	B

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.5	0.0	A
2	1.00	0.877	2177	4507	0.48	72.7	15.0	B
3	1.00	0.877	2252	4507	0.50	72.2	15.6	B
4	1.00	0.877	1977	4507	0.44	72.0	13.7	B

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2200	0.00	0.00	72.0	69.0	0.0	0.0	A
2	1.00	1.00	0.877	0.888	3326	1149	4507	2200	0.74	0.52	65.5	65.5	25.4	22.8	C
3	1.00	1.00	0.877	0.888	3409	1157	4507	2200	0.76	0.53	65.2	65.2	26.1	23.5	C
4	1.00	1.00	0.877	0.888	3245	1268	4507	2200	0.72	0.58	65.8	65.8	24.7	22.1	C

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	3340	4507	0.74	66.3	25.2	C
3	1.00	0.877	3423	4507	0.76	65.3	26.2	D
4	1.00	0.877	3261	4507	0.72	67.3	24.2	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	3340	4507	0.74	66.3	25.2	C
3	1.00	0.877	3423	4507	0.76	65.4	26.2	D
4	1.00	0.877	3261	4507	0.72	67.3	24.2	C

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.7	0.0	A
2	1.00	0.877	3340	4507	0.74	66.1	25.3	C
3	1.00	0.877	3423	4507	0.76	65.2	26.3	D
4	1.00	0.877	3261	4507	0.72	67.2	24.3	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.5	0.0	A
2	1.00	0.877	3340	4507	0.74	65.9	25.3	C

3	1.00		0.877		3423		4507		0.76		65.3		26.2		D
4	1.00		0.877		3261		4507		0.72		67.1		24.3		C
Segment 8: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	3.4	A
2	1.00	1.00	0.877	0.842	3340	894	4507	2000	0.74	0.45	58.2	58.2	28.7	32.1	D
3	1.00	1.00	0.877	0.838	3423	912	4507	2000	0.76	0.46	58.2	58.2	29.4	32.8	D
4	1.00	1.00	0.877	0.842	3261	819	4507	2000	0.72	0.41	58.4	58.4	27.9	31.4	D
Segment 9: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		70.2		0.0		A
2	1.00		0.877		2481		4507		0.55		71.9		17.2		B
3	1.00		0.877		2552		4507		0.57		71.7		17.8		B
4	1.00		0.877		2474		4507		0.55		72.3		17.1		B
Segment 10: Merge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2000	0.00	0.00	70.0	65.0	0.0	3.7	A
2	1.00	1.00	0.877	0.888	2611	130	4507	2000	0.58	0.06	63.4	63.4	20.6	24.0	C
3	1.00	1.00	0.877	0.888	2677	125	4507	2000	0.59	0.06	63.2	63.2	21.2	24.5	C
4	1.00	1.00	0.877	0.888	2600	126	4507	2000	0.58	0.06	63.4	63.4	20.5	23.9	C
Segment 11: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	1.00		0.877		0		4507		0.00		70.4		0.0		A
2	1.00		0.877		2612		4507		0.58		71.4		18.3		C
3	1.00		0.877		2678		4507		0.59		71.6		18.7		C
4	1.00		0.877		2602		4507		0.58		72.0		18.1		C
Segment 12: Diverge															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	68.2	58.6	0.0	3.4	A
2	1.00	1.00	0.877	0.842	2612	683	4507	2000	0.58	0.34	58.0	58.0	22.5	25.8	C
3	1.00	1.00	0.877	0.842	2678	692	4507	2000	0.59	0.35	58.2	58.2	23.0	26.4	C
4	1.00	1.00	0.877	0.842	2602	626	4507	2000	0.58	0.31	58.4	58.4	22.3	25.7	C
Segment 13: Basic															
AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS

1	1.00	0.877	0	4507	0.00	70.3	0.0	A
2	1.00	0.877	1957	4507	0.43	72.4	13.3	B
3	1.00	0.877	2014	4507	0.45	72.2	13.8	B
4	1.00	0.877	2001	4507	0.44	72.2	13.6	B

Segment 14: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2000	0.00	0.00	66.6	62.2	0.0	3.7	A
2	1.00	1.00	0.877	0.888	2058	101	4507	2000	0.46	0.05	63.1	63.1	16.3	19.7	B
3	1.00	1.00	0.877	0.888	2113	99	4507	2000	0.47	0.05	63.2	63.2	16.7	20.1	C
4	1.00	1.00	0.877	0.888	2100	99	4507	2000	0.47	0.05	62.7	62.7	16.7	20.0	B

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.8	0.0	A
2	1.00	0.877	2059	4507	0.46	73.4	14.0	B
3	1.00	0.877	2114	4507	0.47	73.5	14.4	B
4	1.00	0.877	2101	4507	0.47	72.9	14.4	B

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.5	0.0	A
2	1.00	0.877	2059	4507	0.46	73.6	14.0	B
3	1.00	0.877	2114	4507	0.47	74.2	14.2	B
4	1.00	0.877	2101	4507	0.47	73.3	14.3	B

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	2059	4507	0.46	73.2	14.1	B
3	1.00	0.877	2114	4507	0.47	73.3	14.4	B
4	1.00	0.877	2101	4507	0.47	72.9	14.4	B

Segment 18: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	2.9	A
2	1.00	1.00	0.877	0.842	2059	169	4507	2000	0.46	0.08	60.4	60.4	17.0	20.6	C
3	1.00	1.00	0.877	0.842	2114	131	4507	2000	0.47	0.07	60.5	60.5	17.5	21.1	C
4	1.00	1.00	0.877	0.842	2101	165	4507	2000	0.47	0.08	60.4	60.4	17.4	21.0	C

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	1897	4507	0.42	72.8	12.9	B
3	1.00	0.877	1989	4507	0.44	72.8	13.5	B
4	1.00	0.877	1943	4507	0.43	72.8	13.2	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	70.7	0.0	0.0	9.20	A
2	6056	5970	6.26	156.61	68.3	18.7	16.4	9.50	C
3	6222	6136	6.96	173.91	68.0	19.2	16.9	9.60	C
4	5959	5866	5.90	147.43	68.6	18.3	16.0	9.50	C

Facility Overall Results

Space Mean Speed, mi/h	68.3	Average Density, veh/mi/ln	12.3
Average Travel Time, min	9.50	Average Density, pc/mi/ln	14.0
Total VMT, veh-mi	18237	Total VHD, veh-h	19.12
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	477.95

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Appendix P. Design Year (2048) No Lammers Build SimTraffic and Sidra Outputs

Design Year (2048) No Lammers Build

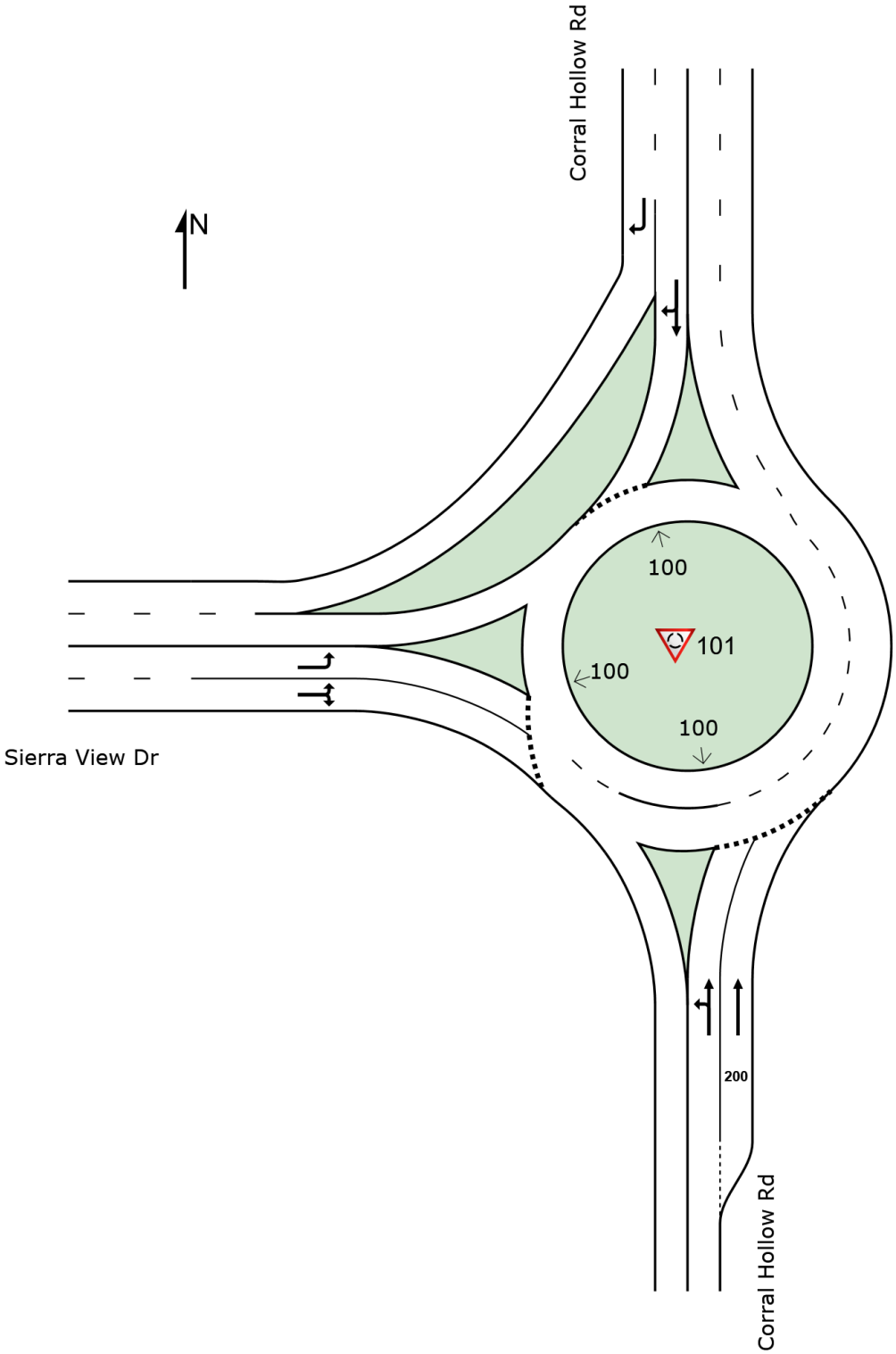
Sierra View Drive Sidra Outputs

SITE LAYOUT

Site: 101 [Build - AM (Site Folder: DY 2048 No Lammers)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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LANE SUMMARY

Site: 101 [Build - AM (Site Folder: DY 2048 No Lammers)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	52	5.0	52	5.0	362	0.143	100	11.1	LOS B	0.7	17.1	Full	1600	0.0	0.0
Lane 2[d]	68	5.0	68	5.0	475	0.143	100	8.8	LOS A	0.7	19.1	Short	200	0.0	NA
Approach	120	5.0	120	5.0		0.143		9.8	LOS A	0.7	19.1				
North: Corral Hollow Rd															
Lane 1[d]	872	5.0	872	5.0	1751	0.498	100	4.1	LOS A	4.9	126.8	Full	1600	0.0	0.0
Lane 2	27	5.0	27	5.0	1595	0.017	3[5]	3.6	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	899	5.0	899	5.0		0.498		4.1	LOS A	4.9	126.8				
West: Sierra View Dr															
Lane 1	606	5.0	606	5.0	651	0.930	100	53.7	LOS D	23.6	612.4	Full	1600	0.0	0.0
Lane 2[d]	798	5.0	798	5.0	858	0.930	100	49.4	LOS D	29.2	759.7	Full	1600	0.0	0.0
Approach	1403	5.0	1403	5.0		0.930		51.3	LOS D	29.2	759.7				
All Vehicles	2422	5.0	2422	5.0		0.930		31.7	LOS C	29.2	759.7				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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	11	41	52	5.0	362	0.143	100	NA	NA
Lane 2	-	68	68	5.0	475	0.143	100	0.0	1
Approach	11	109	120	5.0		0.143			

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	872	-	872	5.0	1751	0.498	100	NA	NA
Lane 2	-	27	27	5.0	1595	0.017	3[5]	NA	NA

Approach	872	27	899	5.0		0.498				
West: Sierra View Dr										
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	606	-	606	5.0	651	0.930	100	NA	NA	
Lane 2	771	27	798	5.0	858	0.930	100	NA	NA	
Approach	1376	27	1403	5.0		0.930				
	Total	%HV	Deg.Satn (v/c)							
All Vehicles	2422	5.0		0.930						

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

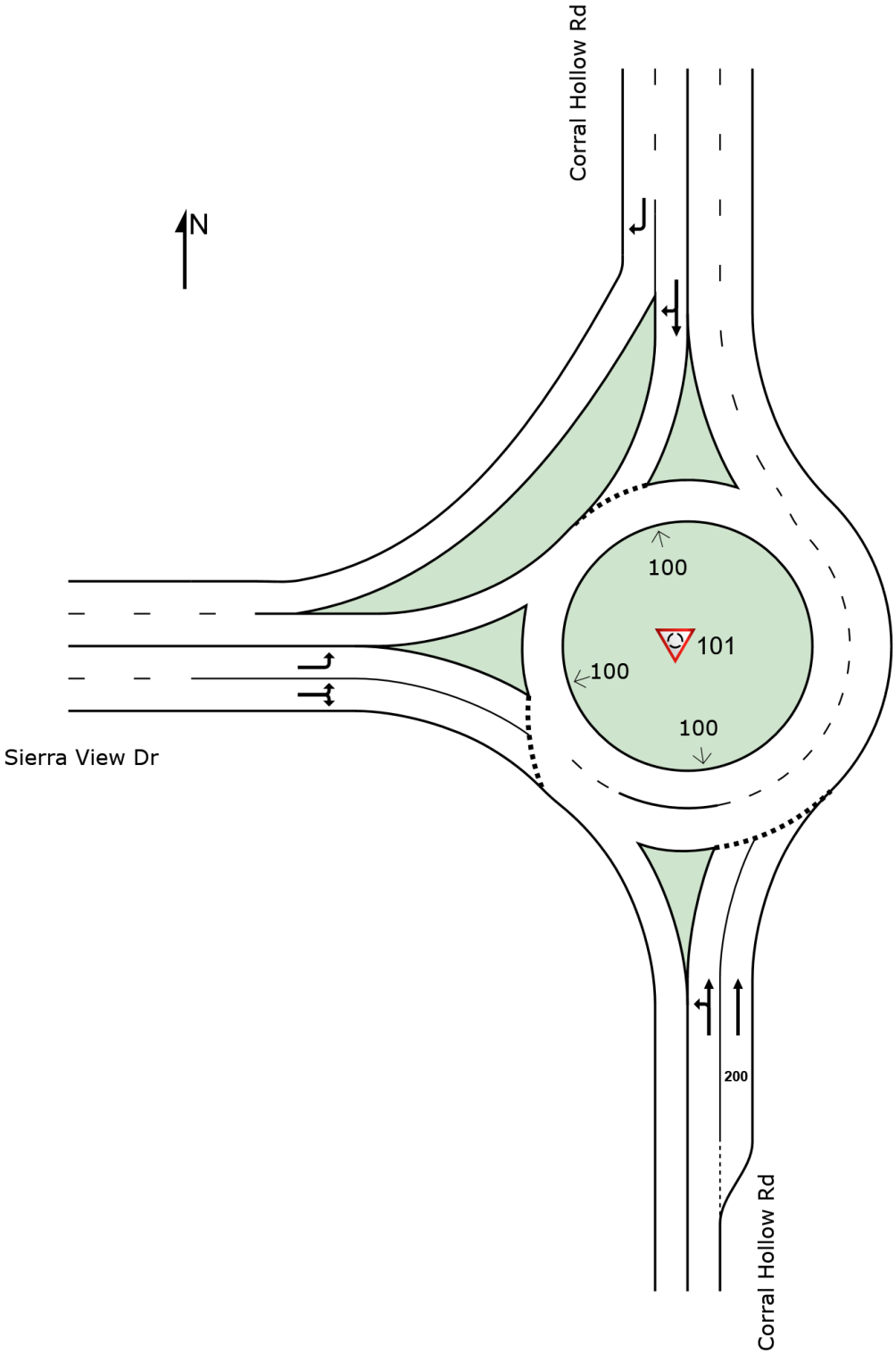
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Sierra View Dr				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

SITE LAYOUT

Site: 101 [Build - PM (Site Folder: DY 2048 No Lammers)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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LANE SUMMARY

Site: 101 [Build - PM (Site Folder: DY 2048 No Lammers)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	630	5.0	630	5.0	1283	0.491	100	5.0	LOS A	3.5	90.6	Full	1600	0.0	0.0
Lane 2[d]	689	5.0	689	5.0	1403	0.491	100	4.6	LOS A	3.5	91.4	Short	200	0.0	NA
Approach	1318	5.0	1318	5.0		0.491		4.8	LOS A	3.5	91.4				
North: Corral Hollow Rd															
Lane 1[d]	240	5.0	240	5.0	1634	0.147	24[5]	4.2	LOS A	0.8	19.7	Full	1600	0.0	0.0
Lane 2	985	5.0	985	5.0	1595	0.617	100	3.9	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1225	5.0	1225	5.0		0.617		4.0	LOS A	0.8	19.7				
West: Sierra View Dr															
Lane 1	44	5.0	44	5.0	1151	0.039	100	11.0	LOS B	0.2	4.4	Full	1600	0.0	0.0
Lane 2[d]	52	5.0	52	5.0	1354	0.039	100	10.5	LOS B	0.2	4.6	Full	1600	0.0	0.0
Approach	97	5.0	97	5.0		0.039		10.7	LOS B	0.2	4.6				
All Vehicles	2640	5.0	2640	5.0		0.617		4.6	LOS A	3.5	91.4				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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	34	596	630	5.0	1283	0.491	100	NA	NA
Lane 2	-	689	689	5.0	1403	0.491	100	0.0	1
Approach	34	1285	1318	5.0		0.491			

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	240	-	240	5.0	1634	0.147	24[5]	NA	NA
Lane 2	-	985	985	5.0	1595	0.617	100	NA	NA

Approach	240	985	1225	5.0		0.617			
West: Sierra View Dr									
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	44	-	44	5.0	1151	0.039	100	NA	NA
Lane 2	49	3	52	5.0	1354	0.039	100	NA	NA
Approach	93	3	97	5.0		0.039			
	Total	%HV	Deg.Satn (v/c)						
All Vehicles	2640	5.0		0.617					

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Sierra View Dr				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

Design Year (2048) No Lammers Build

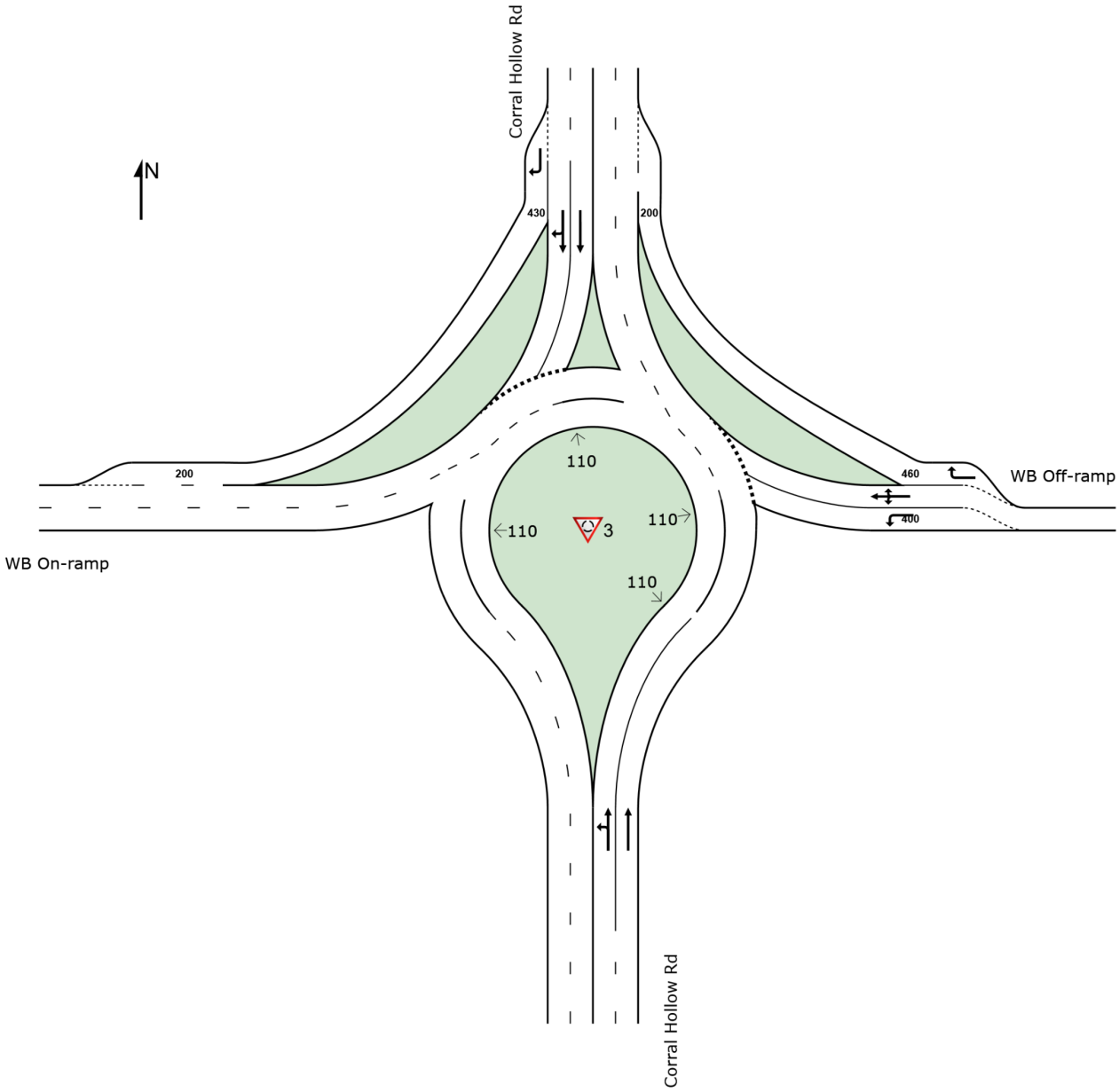
Roundabouts Sidra Output

SITE LAYOUT

Site: 3 [WB Ramp (Site Folder: 2048 No Lammers AM Peak)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 3 [WB Ramp (Site Folder: 2048 No Lammers AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	472	5.0	472	5.0	1514	0.312	100	10.0	LOS B	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	533	5.0	533	5.0	1804	0.295	95[5]	3.9	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1004	5.0	1004	5.0		0.312		6.8	LOS A	0.0	0.0				
East: WB Off-ramp															
Lane 1	142	5.0	142	5.0	806	0.176	100	13.5	LOS B	0.7	17.7	Short	400	0.0	NA
Lane 2[d]	204	5.0	204	5.0	1156	0.176	100	11.2	LOS B	0.7	19.1	Full	1600	0.0	0.0
Lane 3	104	5.0	104	5.0	1533	0.068	39[6]	5.1	LOS A	0.0	0.0	Short	460	0.0	NA
Approach	450	5.0	450	5.0		0.176		10.5	LOS B	0.7	19.1				
North: Corral Hollow Rd															
Lane 1	733	5.0	733	5.0	812	0.902	100	20.9	LOS C	14.1	366.4	Full	1600	0.0	0.0
Lane 2[d]	995	5.0	995	5.0	1103	0.902	100	17.0	LOS B	16.0	416.6	Full	1600	0.0	0.0
Lane 3	533	5.0	533	5.0	1533	0.348	39[6]	7.4	LOS A	0.0	0.0	Short	430	0.0	NA
Approach	2261	5.0	2261	5.0		0.902		16.0	LOS B	16.0	416.6				
All Vehicles	3715	5.0	3715	5.0		0.902		12.8	LOS B	16.0	416.6				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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: 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	472	-	472	5.0	1514	0.312	100	NA	NA
Lane 2	-	533	533	5.0	1804	0.295	95[5]	NA	NA
Approach	472	533	1004	5.0		0.312			

East: WB Off-ramp

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	142	-	-	142	5.0	806	0.176	100	0.0	2
Lane 2	169	2	33	204	5.0	1156	0.176	100	NA	NA
Lane 3	-	-	104	104	5.0	1533	0.068	39[6]	0.0	2
Approach	311	2	137	450	5.0		0.176			

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	733	-	733	5.0		812	0.902	100	NA	NA
Lane 2	325	670	995	5.0		1103	0.902	100	NA	NA
Lane 3	-	533	533	5.0		1533	0.348	39[6]	0.0	2
Approach	1058	1203	2261	5.0			0.902			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	3715	5.0	0.902

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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
North Exit: Corral Hollow Rd Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	565	594	3.15	2.10	104	1105	0.094	1.2	1.5
Merge Lane	2	-	100.0	Merge Lane is not Opposed				565	1800	0.314	0.0	0.0
West Exit: WB On-ramp Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	672	706	3.15	2.10	533	987	0.540	1.6	3.6
Merge Lane	2	-	100.0	Merge Lane is not Opposed				672	1800	0.374	0.0	0.0

Variable Demand Analysis

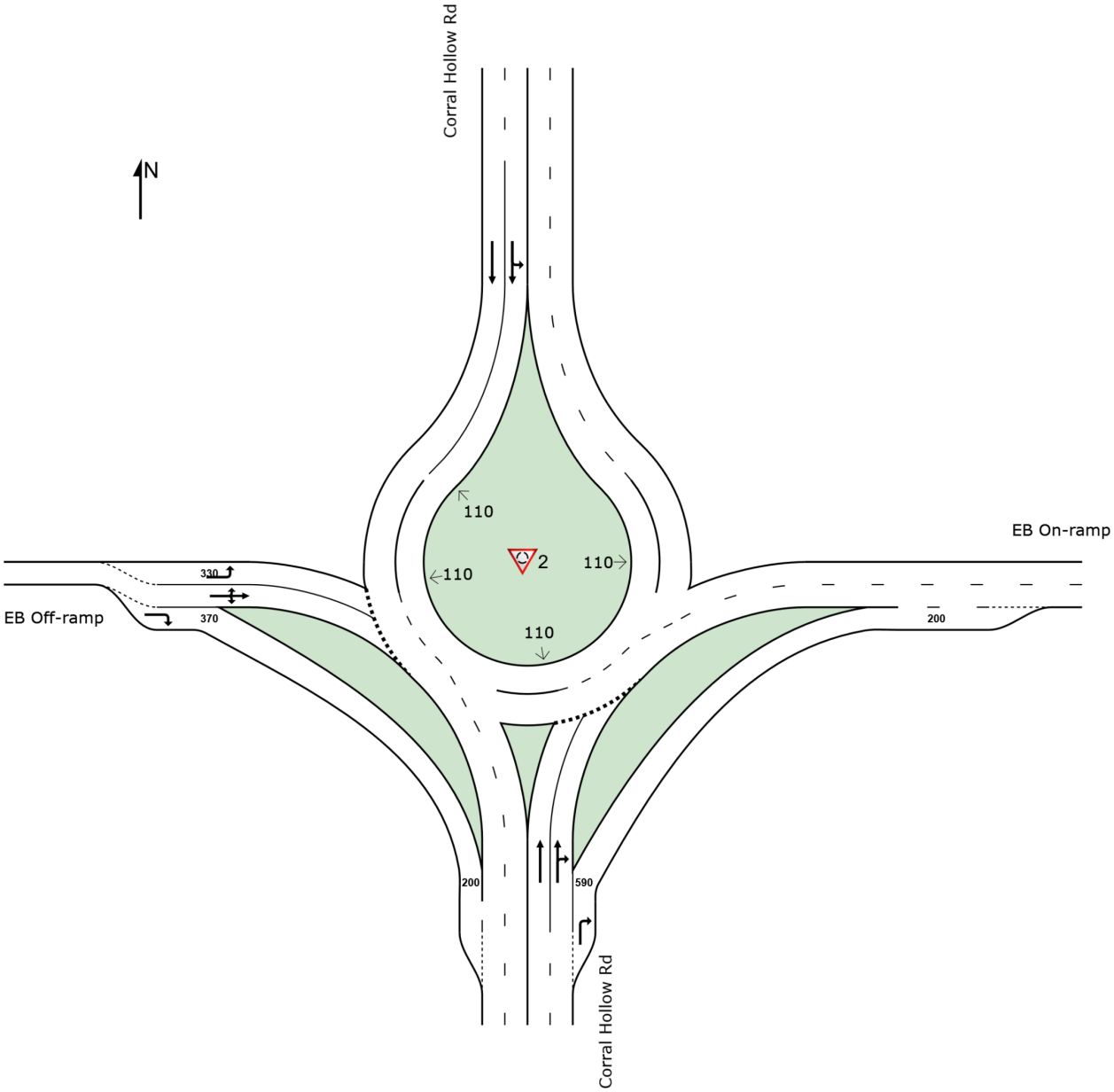
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: WB Off-ramp				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

SITE LAYOUT

Site: 2 [EB Ramp (Site Folder: 2048 No Lammers AM Peak)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 2 [EB Ramp (Site Folder: 2048 No Lammers AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	490	5.0	490	5.0	856	0.573	100	9.7	LOS A	4.3	111.2	Full	1600	0.0	0.0
Lane 2[d]	656	5.0	656	5.0	1144	0.573	100	8.0	LOS A	4.6	119.6	Full	1600	0.0	0.0
Lane 3	339	5.0	339	5.0	1533	0.221	39[6]	4.5	LOS A	0.0	0.0	Short	590	0.0	NA
Approach	1485	5.0	1485	5.0		0.573		7.8	LOS A	4.6	119.6				
North: Corral Hollow Rd															
Lane 1	623	5.0	623	5.0	1510	0.413	100	9.2	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	745	5.0	745	5.0	1804	0.413	100	3.9	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1368	5.0	1368	5.0		0.413		6.3	LOS A	0.0	0.0				
West: EB Off-ramp															
Lane 1	73	5.0	73	5.0	697	0.104	100	14.7	LOS B	0.4	10.5	Short	330	0.0	NA
Lane 2[d]	111	5.0	111	5.0	1069	0.104	100	12.6	LOS B	0.5	11.8	Full	1600	0.0	0.0
Lane 3	62	5.0	62	5.0	1533	0.040	39[6]	5.9	LOS A	0.0	0.0	Short	370	0.0	NA
Approach	246	5.0	246	5.0		0.104		11.5	LOS B	0.5	11.8				
All Vehicles	3099	5.0	3099	5.0		0.573		7.4	LOS A	4.6	119.6				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects
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	490	-	490	5.0	856	0.573	100	NA	NA
Lane 2	338	318	656	5.0	1144	0.573	100	NA	NA
Lane 3	-	339	339	5.0	1533	0.221	39[6]	0.0	2
Approach	828	657	1485	5.0		0.573			

North: Corral Hollow Rd

Mov. From N	L2	T1	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane

To Exit:	E	S			veh/h	v/c	%	%	No.
Lane 1	537	86	623	5.0	1510	0.413	100	NA	NA
Lane 2	-	745	745	5.0	1804	0.413	100	NA	NA
Approach	537	832	1368	5.0		0.413			

West: EB Off-ramp

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	73	-	-	73	5.0	697	0.104	100	0.0	2
Lane 2	103	2	6	111	5.0	1069	0.104	100	NA	NA
Lane 3	-	-	62	62	5.0	1533	0.040	39[6]	0.0	2
Approach	176	2	67	246	5.0		0.104			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	3099	5.0	0.573

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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: Corral Hollow Rd Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	751	788	3.15	2.10	62	901	0.068	1.9	2.3
Merge Lane	2	-	100.0	Merge Lane is not Opposed				751	1800	0.417	0.0	0.0
East Exit: EB On-ramp Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	320	336	3.15	2.10	339	1373	0.247	0.6	0.8
Merge Lane	2	-	100.0	Merge Lane is not Opposed				320	1800	0.178	0.0	0.0

Variable Demand Analysis

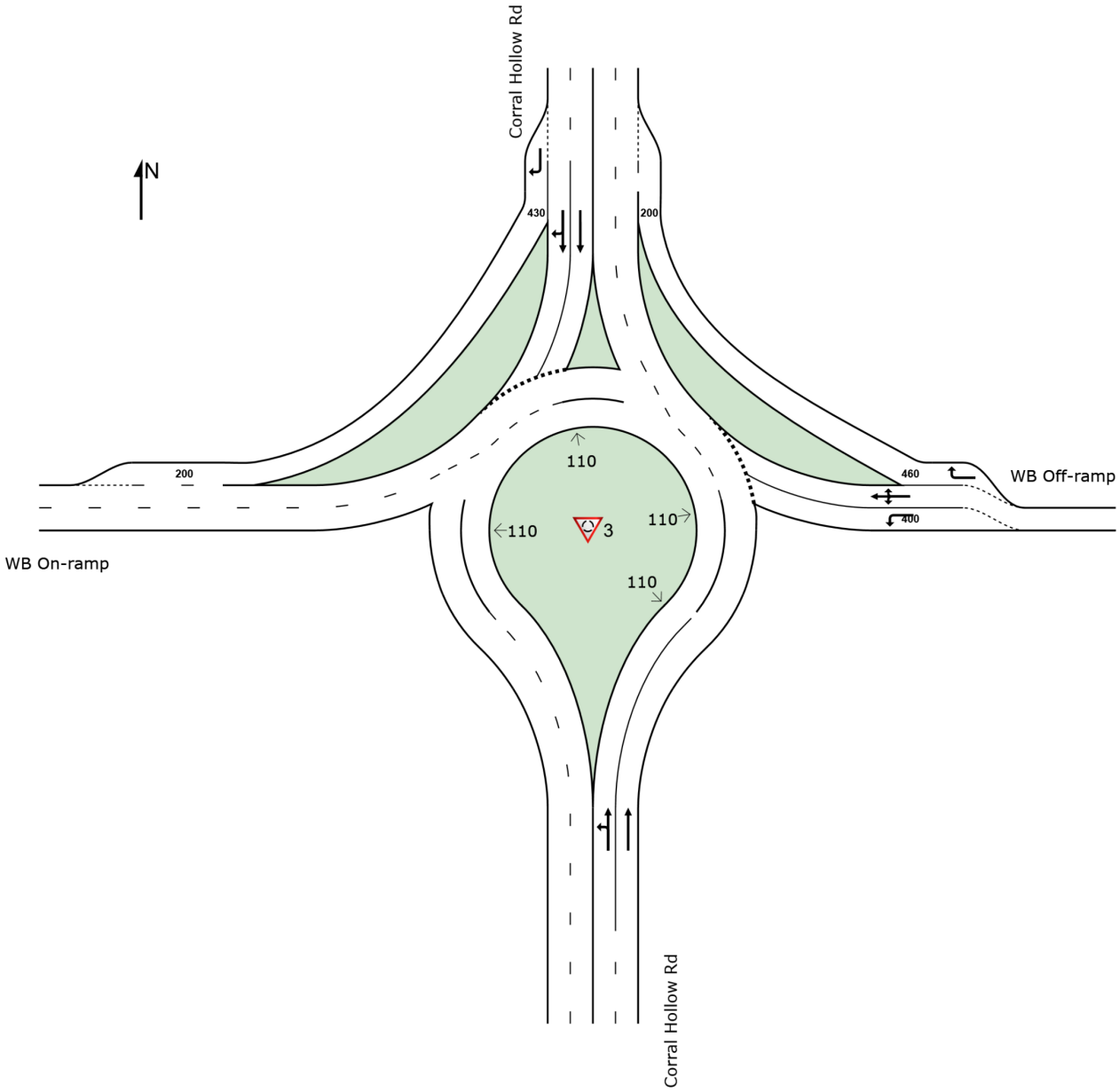
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: EB Off-ramp				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

SITE LAYOUT

Site: 3 [WB Ramp (Site Folder: 2048 No Lammers PM Peak)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 3 [WB Ramp (Site Folder: 2048 No Lammers PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	516	5.0	516	5.0	1510	0.342	100	5.0	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	617	5.0	617	5.0	1804	0.342	100	3.9	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1133	5.0	1133	5.0		0.342		4.4	LOS A	0.0	0.0				
East: WB Off-ramp															
Lane 1	335	5.0	335	5.0	764	0.438	100	15.5	LOS B	2.2	57.7	Short	400	0.0	NA
Lane 2[d]	492	5.0	492	5.0	1122	0.438	100	11.3	LOS B	2.4	62.5	Full	1600	0.0	0.0
Lane 3	259	5.0	259	5.0	1533	0.169	39[6]	6.9	LOS A	0.0	0.0	Short	460	0.0	NA
Approach	1086	5.0	1086	5.0		0.438		11.6	LOS B	2.4	62.5				
North: Corral Hollow Rd															
Lane 1	167	5.0	167	5.0	795	0.210	100	6.6	LOS A	1.0	25.8	Full	1600	0.0	0.0
Lane 2[d]	226	5.0	226	5.0	1078	0.210	100	5.8	LOS A	1.1	28.3	Full	1600	0.0	0.0
Lane 3	110	5.0	110	5.0	1533	0.072	34[5]	3.6	LOS A	0.0	0.0	Short	430	0.0	NA
Approach	503	5.0	503	5.0		0.210		5.6	LOS A	1.1	28.3				
All Vehicles	2722	5.0	2722	5.0		0.438		7.5	LOS A	2.4	62.5				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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: 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	97	419	516	5.0	1510	0.342	100	NA	NA
Lane 2	-	617	617	5.0	1804	0.342	100	NA	NA
Approach	97	1036	1133	5.0		0.342			

East: WB Off-ramp

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	335	-	-	335	5.0	764	0.438	100	0.0	2
Lane 2	313	1	178	492	5.0	1122	0.438	100	NA	NA
Lane 3	-	-	259	259	5.0	1533	0.169	39[6]	0.0	2
Approach	648	1	437	1086	5.0		0.438			

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	167	-	167	5.0		795	0.210	100	NA	NA
Lane 2	226	-	226	5.0		1078	0.210	100	NA	NA
Lane 3	-	110	110	5.0		1533	0.072	34[5]	0.0	2
Approach	393	110	503	5.0			0.210			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2722	5.0	0.438

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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
North Exit: Corral Hollow Rd Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	795	834	3.15	2.10	259	853	0.304	2.1	3.2
Merge Lane	2	-	100.0	Merge Lane is not Opposed				795	1800	0.441	0.0	0.0
West Exit: WB On-ramp Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	1	1	3.15	2.10	110	1713	0.064	0.0	0.0
Merge Lane	2	-	100.0	Merge Lane is not Opposed				1	1800	0.001	0.0	0.0

Variable Demand Analysis

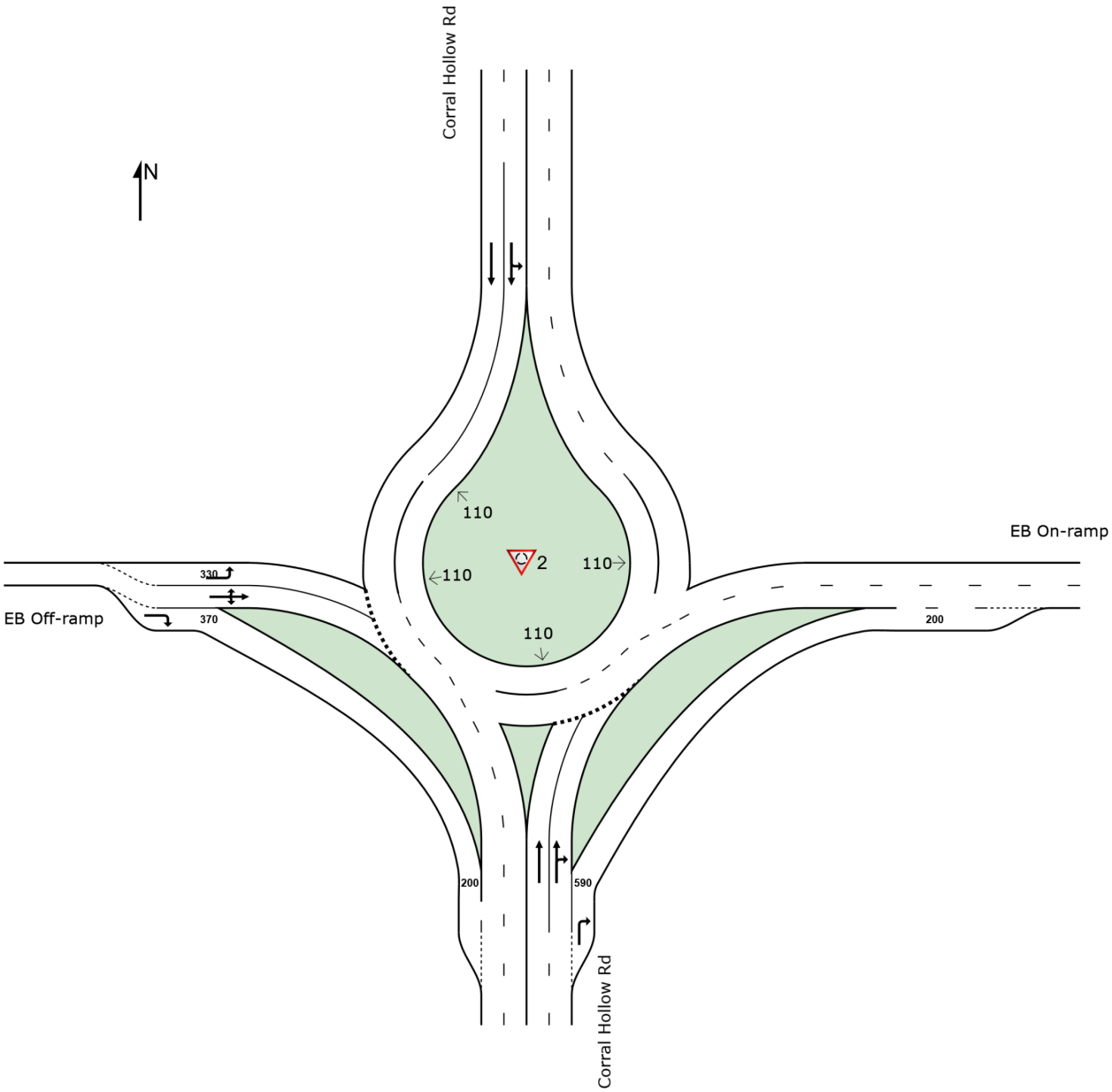
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: WB Off-ramp				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

SITE LAYOUT

Site: 2 [EB Ramp (Site Folder: 2048 No Lammers PM Peak)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 2 [EB Ramp (Site Folder: 2048 No Lammers PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival 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	354	5.0	354	5.0	706	0.502	78[5]	8.9	LOS A	3.0	78.1	Full	1600	0.0	0.0
Lane 2[d]	643	5.0	643	5.0	999	0.644	100	8.2	LOS A	5.2	134.8	Full	1600	0.0	0.0
Lane 3	381	5.0	381	5.0	1533	0.248	39[6]	6.3	LOS A	0.0	0.0	Short	590	0.0	NA
Approach	1378	5.0	1378	5.0		0.644		7.9	LOS A	5.2	134.8				
North: Corral Hollow Rd															
Lane 1	474	5.0	474	5.0	1510	0.314	100	5.8	LOS A	0.0	0.0	Full	1600	0.0	0.0
Lane 2[d]	567	5.0	567	5.0	1804	0.314	100	3.9	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1041	5.0	1041	5.0		0.314		4.7	LOS A	0.0	0.0				
West: EB Off-ramp															
Lane 1	349	5.0	349	5.0	792	0.440	100	15.1	LOS B	2.2	58.1	Short	330	0.0	NA
Lane 2[d]	503	5.0	503	5.0	1143	0.440	100	12.4	LOS B	2.4	62.2	Full	1600	0.0	0.0
Lane 3	260	5.0	260	5.0	1533	0.170	39[6]	5.8	LOS A	0.0	0.0	Short	370	0.0	NA
Approach	1112	5.0	1112	5.0		0.440		11.7	LOS B	2.4	62.2				
All Vehicles	3532	5.0	3532	5.0		0.644		8.2	LOS A	5.2	134.8				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
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: SIDRA HCM.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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: 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	354	-	354	5.0	706	0.502	78[5]	NA	NA
Lane 2	-	643	643	5.0	999	0.644	100	NA	NA
Lane 3	-	381	381	5.0	1533	0.248	39[6]	0.0	2
Approach	354	1024	1378	5.0		0.644			

North: Corral Hollow Rd

Mov.	L2	T1	Total	%HV		Deg.	Lane	Prob.	Ov.

From N To Exit:	E	S			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	147	328	474	5.0	1510	0.314	100	NA	NA
Lane 2	-	567	567	5.0	1804	0.314	100	NA	NA
Approach	147	895	1041	5.0		0.314			

West: EB Off-ramp

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	349	-	-	349	5.0	792	0.440	100	0.0	2
Lane 2	430	3	70	503	5.0	1143	0.440	100	NA	NA
Lane 3	-	-	260	260	5.0	1533	0.170	39[6]	0.0	2
Approach	778	3	330	1112	5.0		0.440			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	3532	5.0	0.644

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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: Corral Hollow Rd Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	637	669	3.15	2.10	260	1026	0.254	1.4	2.1
Merge Lane	2	-	100.0	Merge Lane is not Opposed				637	1800	0.354	0.0	0.0
East Exit: EB On-ramp Merge Type: **Priority**												
Exit Short Lane	3	200	0.0	647	679	3.15	2.10	381	1015	0.375	1.5	2.6
Merge Lane	2	-	100.0	Merge Lane is not Opposed				647	1800	0.359	0.0	0.0

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
North: Corral Hollow Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: EB Off-ramp				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

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Design Year (2048) No Lammers Build

Tight Diamond Interchange SimTraffic Outputs

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.4	0	0	0	0	0.2
Total Del/Veh (s)	24.9	16.1	50.4	4.8	17.2	2	21.2
Vehicles Exited	1263	26	8	99	691	21	2108
Hourly Exit Rate	1263	26	8	99	691	21	2108
Input Volume	1266	25	10	100	802	25	2228
% of Volume	100	105	78	99	86	85	95

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	280.9	179.6	17.2	188.3	29.3	58.9	25.6	92.2
Vehicles Exited	130	2	59	681	577	424	651	2524
Hourly Exit Rate	130	2	59	681	577	424	651	2524
Input Volume	162	2	62	762	604	494	765	2851
% of Volume	80	100	96	89	96	86	85	89

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0.1	0.4	0.2
Total Del/Veh (s)	66.3	72.2	7.3	110.2	30.9	51.1	143	84.2
Vehicles Exited	283	2	125	375	432	793	879	2889
Hourly Exit Rate	283	2	125	375	432	793	879	2889
Input Volume	286	2	126	434	490	974	1107	3418
% of Volume	99	100	99	86	88	81	79	85

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	10.9	4.9	11.1	0	0	0	0	0.1	0	1.2
Total Del/Veh (s)	113.3	69.5	41.8	118.5	94.5	41	70.4	40.5	8.6	86.8	131.8	40.4	93.1
Vehicles Exited	374	10	331	261	9	81	127	398	34	483	1094	133	3335
Hourly Exit Rate	374	10	331	261	9	81	127	398	34	483	1094	133	3335
Input Volume	387	10	324	270	10	85	148	430	38	645	1487	183	4018
% of Volume	97	98	102	97	88	95	86	92	89	75	74	73	83

Intersection: 1: CORRAL HOLLOW RD & SIERRA VIEW DR

Movement	EB	EB	NB	SB	SB
Directions Served	L	LR	L	TR	R
Maximum Queue (ft)	560	554	35	340	78
Average Queue (ft)	227	201	7	85	4
95th Queue (ft)	503	512	28	273	68
Link Distance (ft)	1339	1339		814	814
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			200		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: CORRAL HOLLOW RD & I-580 EB ON RAMP

Movement	EB	EB	EB	B26	B210	NB	NB	NB	B15	B15	B15	SB	SB	SB
Directions Served	L	LT	R	T	T	T	T	R	T	T		L	T	T
Maximum Queue (ft)	361	451	281	132	330	1091	1073	665	639	629	492	230	457	437
Average Queue (ft)	166	212	57	32	55	805	627	328	180	177	80	221	328	225
95th Queue (ft)	395	499	245	154	342	1277	1238	720	675	690	475	255	518	460
Link Distance (ft)		432		149	892	993	993		814	814	814		421	421
Upstream Blk Time (%)		16	0	11	1	39	10		6	8	5		6	0
Queuing Penalty (veh)		0	0	0	0	268	71		26	35	20		41	2
Storage Bay Dist (ft)	330		370					590				180		
Storage Blk Time (%)	18	23					21	0				41	5	
Queuing Penalty (veh)	26	33					126	1				157	25	

Intersection: 3: CORRAL HOLLOW RD & I-580 WB ON RAMP

Movement	WB	WB	WB	B27	B218	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	T	T	L	T	T	T	T	R
Maximum Queue (ft)	294	302	120	25	10	230	454	431	1448	1450	505
Average Queue (ft)	138	118	49	3	0	229	418	129	1058	1264	499
95th Queue (ft)	288	301	155	39	11	234	518	322	1746	1756	555
Link Distance (ft)		502		172	1046		421	421	1432	1432	
Upstream Blk Time (%)		1	0	0			36	0	1	3	
Queuing Penalty (veh)		0	0	0			169	1	10	32	
Storage Bay Dist (ft)	400		460			180					430
Storage Blk Time (%)	3	3	0			70	1			3	66
Queuing Penalty (veh)	7	7	0			171	5			31	319

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	B21	B21	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B279	B279	B53	B53	
Directions Served	L	T	R	T	T	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T	T	T	
Maximum Queue (ft)	315	759	560	114	88	275	773	212	146	154	244	265	53	510	635	762	765	505	617	619	5957	5956	
Average Queue (ft)	282	362	224	15	7	219	235	41	54	72	114	128	13	234	584	711	715	393	514	521	3125	3150	
95th Queue (ft)	364	921	481	120	90	319	772	122	117	130	205	218	38	403	811	867	859	724	809	806	6750	6784	
Link Distance (ft)		880	880	915	915		1040				1432	1432				658	658		509	509	5933	5933	
Upstream Blk Time (%)		6	0				6									42	56		44	52	1	2	
Queuing Penalty (veh)		0	0				0									491	648		516	608	16	22	
Storage Bay Dist (ft)	240					200		200	440	440			380	560	560			430					
Storage Blk Time (%)	45	0				41								0	0	51	68						
Queuing Penalty (veh)	5	0				39								1	3	327	124						

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.1	0	0	0	0	0	0.1
Total Delay (hr)	9	0.1	0.1	0.1	3.3	0	12.7
Total Stops	647	8	7	0	167	0	829
Travel Dist (mi)	323.3	6.7	2.3	27	114.5	3.5	477.2
Travel Time (hr)	20.3	0.4	0.2	0.7	5.7	0.1	27.3
Avg Speed (mph)	16	19	13	37	20	34	18
Fuel Used (gal)	10.9	0.2	0.1	1.1	2.7	0.1	15.2
HC Emissions (g)	172	2	2	28	45	2	251
CO Emissions (g)	3494	54	94	1211	1063	61	5979
NOx Emissions (g)	462	7	5	79	122	7	682
Vehicles Exited	1263	26	8	99	691	21	2108
Hourly Exit Rate	1263	26	8	99	691	21	2108
Input Volume	1266	25	10	100	802	25	2228
% of Volume	100	105	78	99	86	85	95

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	11.5	0.1	0.3	39.2	4.8	7.1	4.7	67.6
Total Stops	144	1	45	887	577	482	380	2516
Travel Dist (mi)	12.7	0.2	5.4	140.6	115.4	39.5	60.6	374.5
Travel Time (hr)	11.9	0.1	0.5	43.9	8.9	8.6	6.8	80.8
Avg Speed (mph)	1	1	12	3	13	5	9	5
Fuel Used (gal)	2.8	0	0.2	12.8	4.2	3.1	3.9	27
HC Emissions (g)	18	0	3	110	66	34	62	293
CO Emissions (g)	375	2	120	2422	1420	729	1647	6714
NOx Emissions (g)	21	0	9	222	177	95	199	723
Vehicles Exited	130	2	59	681	577	424	651	2524
Hourly Exit Rate	130	2	59	681	577	424	651	2524
Input Volume	162	2	62	762	604	494	765	2851
% of Volume	80	100	96	89	96	86	85	89

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0.1	0.1
Total Delay (hr)	5.3	0	0.3	11.9	3.8	11.5	36.9	69.8
Total Stops	253	2	92	606	285	961	1807	4006
Travel Dist (mi)	29.7	0.2	13.1	34.9	40.3	227.8	256.5	602.6
Travel Time (hr)	6.3	0	0.7	13.3	5.2	19.5	46.4	91.3
Avg Speed (mph)	5	4	20	3	8	12	6	7
Fuel Used (gal)	1.8	0	0.3	4	2.6	10.7	16	35.3
HC Emissions (g)	16	0	6	36	40	170	185	452
CO Emissions (g)	391	2	216	773	1008	3919	3855	10164
NOx Emissions (g)	32	0	15	85	123	507	432	1194
Vehicles Exited	283	2	125	375	432	793	879	2889
Hourly Exit Rate	283	2	125	375	432	793	879	2889
Input Volume	286	2	126	434	490	974	1107	3418
% of Volume	99	100	99	86	88	81	79	85

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0.8	0	0.3	0	0	0	0	0	0	1.1
Total Delay (hr)	12.4	0.2	3.9	9.2	0.3	0.9	2.5	4.5	0.1	12	41.8	1.5	89.3
Total Stops	485	10	284	335	10	72	122	266	22	566	1463	88	3723
Travel Dist (mi)	67	1.7	59.3	52.5	1.8	16	35.8	112.9	9.7	65	148.6	17.9	588.2
Travel Time (hr)	15.2	0.3	6.5	11.8	0.3	1.8	3.5	7.1	0.4	13.9	44.8	2.1	107.6
Avg Speed (mph)	4	7	9	5	6	10	10	16	28	5	3	8	6
Fuel Used (gal)	4.7	0.1	2.4	3.8	0.1	0.7	2.2	5.9	0.4	5.4	14.2	1.1	41
HC Emissions (g)	44	2	26	39	2	11	43	125	11	74	153	18	547
CO Emissions (g)	881	31	515	884	38	262	1742	5058	458	2165	3046	590	15669
NOx Emissions (g)	95	3	63	87	4	28	118	359	31	200	342	50	1380
Vehicles Exited	374	10	331	261	9	81	127	398	34	483	1094	133	3335
Hourly Exit Rate	374	10	331	261	9	81	127	398	34	483	1094	133	3335
Input Volume	387	10	324	270	10	85	148	430	38	645	1487	183	4018
% of Volume	97	98	102	97	88	95	86	92	89	75	74	73	83

Total Network Performance

Denied Delay (hr)	51.9
Total Delay (hr)	565.3
Total Stops	17202
Travel Dist (mi)	7926
Travel Time (hr)	832.8
Avg Speed (mph)	10
Fuel Used (gal)	389.5
HC Emissions (g)	6070
CO Emissions (g)	164595
NOx Emissions (g)	16827
Vehicles Exited	4770
Hourly Exit Rate	4770
Input Volume	36749
% of Volume	13

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	0	0	0	0	0
Total Del/Veh (s)	2.5	2.9	13.6	19.5	9.5	5.8	12.8
Vehicles Exited	85	3	29	1175	218	911	2421
Hourly Exit Rate	85	3	29	1175	218	911	2421
Input Volume	86	3	31	1182	222	906	2430
% of Volume	99	100	94	99	98	101	100

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	23.8	25.1	11.2	19.4	46.8	148.7	20.1	33.3
Vehicles Exited	724	4	298	317	933	131	828	3235
Hourly Exit Rate	724	4	298	317	933	131	828	3235
Input Volume	716	3	304	327	942	135	824	3250
% of Volume	101	133	98	97	99	97	101	100

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	27.5	30.1	14.3	44.9	20.7	17.2	7	21.1
Vehicles Exited	603	1	404	90	949	363	102	2512
Hourly Exit Rate	603	1	404	90	949	363	102	2512
Input Volume	596	1	402	89	954	362	101	2505
% of Volume	101	100	101	101	100	100	101	100

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	3.4	1.6	3.4	0.1	0	0	0	0	0	0.6
Total Del/Veh (s)	88.4	47.3	9	29.3	41.3	27.9	70.5	107.9	38.9	85.8	52	12.9	64.9
Vehicles Exited	339	73	75	122	19	515	347	832	148	473	266	401	3610
Hourly Exit Rate	339	73	75	122	19	515	347	832	148	473	266	401	3610
Input Volume	341	76	73	126	20	503	355	851	150	475	264	403	3636
% of Volume	99	96	103	97	96	102	98	98	99	100	101	100	99

Intersection: 1: CORRAL HOLLOW RD & SIERRA VIEW DR

Movement	EB	EB	NB	NB	B198	SB	SB
Directions Served	L	LR	L	T	T	TR	R
Maximum Queue (ft)	38	3	45	205	14	92	34
Average Queue (ft)	4	0	3	26	1	16	1
95th Queue (ft)	23	3	30	328	26	60	23
Link Distance (ft)	1339	1339		1382	132	814	814
Upstream Blk Time (%)				1	1		
Queuing Penalty (veh)				0	0		
Storage Bay Dist (ft)			200				
Storage Blk Time (%)				1			
Queuing Penalty (veh)				0			

Intersection: 2: CORRAL HOLLOW RD & I-580 EB ON RAMP

Movement	EB	EB	EB	NB	NB	NB	B15	B15	B15	SB	SB	SB	
Directions Served	L	LT	R	T	T	R	T	T		L	T	T	
Maximum Queue (ft)	266	278	191	587	825	634	148	234	119	229	386	403	
Average Queue (ft)	145	165	84	120	284	396	11	21	6	158	219	211	
95th Queue (ft)	219	245	146	424	830	715	131	172	110	261	394	384	
Link Distance (ft)		432		993	993		814	814	814		421	421	
Upstream Blk Time (%)				0	3				0		3	1	
Queuing Penalty (veh)				1	21				0		15	3	
Storage Bay Dist (ft)	330		370			590				180			
Storage Blk Time (%)	0	0			5	14				32	4		
Queuing Penalty (veh)	0	1			48	23				131	6		

Intersection: 3: CORRAL HOLLOW RD & I-580 WB ON RAMP

Movement	WB	WB	WB	B27	B218	NB	NB	NB	SB	SB	SB	
Directions Served	L	LT	R	T	T	L	T	T	T	T	R	
Maximum Queue (ft)	227	249	256	20	40	229	325	314	180	179	92	
Average Queue (ft)	129	146	123	2	3	79	193	198	73	72	29	
95th Queue (ft)	220	246	217	33	62	170	278	278	148	144	67	
Link Distance (ft)		502		172	1046		421	421	1432	1432		
Upstream Blk Time (%)		0	0	0								
Queuing Penalty (veh)		0	0	0								
Storage Bay Dist (ft)	400		460			180					430	
Storage Blk Time (%)	0	1				0	9					
Queuing Penalty (veh)	1	4				1	8					

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	B21	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B53	B53	
Directions Served	L	T	R	T	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T	
Maximum Queue (ft)	314	652	93	8	176	491	275	284	483	889	875	398	411	420	312	271	390	895	1028	
Average Queue (ft)	276	273	23	0	71	104	209	129	238	503	513	158	240	251	107	117	115	73	98	
95th Queue (ft)	359	675	63	6	137	369	309	222	521	1054	1057	466	378	390	213	221	257	562	655	
Link Distance (ft)		880	880	915		1040				1432	1432				658	658		5933	5933	
Upstream Blk Time (%)		0								0	0									
Queuing Penalty (veh)		0								0	1									
Storage Bay Dist (ft)	240				200		200	440	440			380	560	560			430			
Storage Blk Time (%)	36	0			0	0	17	0	0	18	25			0			0			
Queuing Penalty (veh)	27	0			1	0	26	0	0	64	38			0			1			

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0
Total Delay (hr)	0.1	0	0.1	6.4	0.6	1.5	8.7
Total Stops	5	0	3	19	15	19	61
Travel Dist (mi)	21.5	0.9	7.9	320.1	35.9	150.7	536.9
Travel Time (hr)	0.8	0	0.3	13.4	1.3	5.5	21.4
Avg Speed (mph)	27	26	25	24	27	27	25
Fuel Used (gal)	0.6	0	0.3	10.4	0.7	3	14.9
HC Emissions (g)	10	0	8	224	13	60	315
CO Emissions (g)	178	3	220	6894	261	1291	8847
NOx Emissions (g)	28	0	22	659	38	173	920
Vehicles Exited	85	3	29	1175	218	911	2421
Hourly Exit Rate	85	3	29	1175	218	911	2421
Input Volume	86	3	31	1182	222	906	2430
% of Volume	99	100	94	99	98	101	100

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	4.8	0	0.9	1.7	12.4	5.8	4.7	30.4
Total Stops	525	2	176	213	1072	144	626	2758
Travel Dist (mi)	66.5	0.4	27.5	62.5	185.7	12.6	77.6	432.7
Travel Time (hr)	7.1	0	1.9	3.8	19	6.4	7.6	45.8
Avg Speed (mph)	9	10	15	16	10	2	10	9
Fuel Used (gal)	2.5	0	0.8	2	7.3	1.8	4.4	18.8
HC Emissions (g)	30	0	14	31	91	18	68	252
CO Emissions (g)	766	3	458	611	1873	401	1694	5805
NOx Emissions (g)	76	0	34	86	213	39	220	668
Vehicles Exited	724	4	298	317	933	131	828	3235
Hourly Exit Rate	724	4	298	317	933	131	828	3235
Input Volume	716	3	304	327	942	135	824	3250
% of Volume	101	133	98	97	99	97	101	100

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	4.7	0	1.6	1.1	5.5	1.8	0.2	14.9
Total Stops	447	1	261	91	703	198	58	1759
Travel Dist (mi)	63.4	0.1	42.5	8.4	89.2	104.7	29.5	337.8
Travel Time (hr)	6.7	0	3	1.5	8.9	5.4	1.3	26.8
Avg Speed (mph)	9	12	14	6	10	19	23	13
Fuel Used (gal)	2.3	0	1.2	0.6	4.9	4	1	14.1
HC Emissions (g)	27	0	20	7	78	73	23	228
CO Emissions (g)	735	2	595	190	1900	1658	514	5594
NOx Emissions (g)	63	0	47	22	248	216	68	664
Vehicles Exited	603	1	404	90	949	363	102	2512
Hourly Exit Rate	603	1	404	90	949	363	102	2512
Input Volume	596	1	402	89	954	362	101	2505
% of Volume	101	100	101	101	100	100	101	100

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0.1	0	0.5	0	0	0	0	0	0	0.6
Total Delay (hr)	8.6	1	0.2	1	0.2	4.1	7	26.2	1.6	11.6	3.9	1.4	66.8
Total Stops	416	64	28	99	15	370	364	1081	170	522	213	265	3607
Travel Dist (mi)	61.2	13.1	13.5	24.2	3.8	101.9	98.7	239.2	42.3	64	35.4	53.8	751.1
Travel Time (hr)	11.2	1.5	0.8	2	0.4	8.4	9.7	31.6	2.9	13.5	4.6	3.2	89.6
Avg Speed (mph)	5	9	17	13	11	13	10	8	15	5	8	17	8
Fuel Used (gal)	3.7	0.6	0.4	0.9	0.2	3.7	5.7	15.1	2	4	1.5	1.3	39
HC Emissions (g)	44	8	5	15	2	52	111	252	41	44	20	21	614
CO Emissions (g)	826	169	95	350	45	1136	3864	8023	1470	1115	550	611	18254
NOx Emissions (g)	97	20	14	39	5	129	308	692	120	87	44	51	1606
Vehicles Exited	339	73	75	122	19	515	347	832	148	473	266	401	3610
Hourly Exit Rate	339	73	75	122	19	515	347	832	148	473	266	401	3610
Input Volume	341	76	73	126	20	503	355	851	150	475	264	403	3636
% of Volume	99	96	103	97	96	102	98	98	99	100	101	100	99

Total Network Performance

Denied Delay (hr)	2.5
Total Delay (hr)	151.5
Total Stops	9216
Travel Dist (mi)	8550.6
Travel Time (hr)	380.7
Avg Speed (mph)	23
Fuel Used (gal)	309.6
HC Emissions (g)	6580
CO Emissions (g)	188329
NOx Emissions (g)	20504
Vehicles Exited	5675
Hourly Exit Rate	5675
Input Volume	38365
% of Volume	15

Design Year (2048) No Lammers Build

Partial Cloverleaf/Tight Diamond Interchange SimTraffic Outputs

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.3	0	0	0	0	0.2
Total Del/Veh (s)	10.8	8	17.1	4.7	14	1.5	11.5
Vehicles Exited	1255	25	8	98	691	22	2099
Hourly Exit Rate	1255	25	8	98	691	22	2099
Input Volume	1266	25	10	100	802	25	2228
% of Volume	99	101	78	98	86	89	94

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	29.9	32.8	4.5	37.5	17.1	54.8	9	27.4
Vehicles Exited	157	2	62	744	607	420	652	2644
Hourly Exit Rate	157	2	62	744	607	420	652	2644
Input Volume	162	2	62	762	604	494	765	2851
% of Volume	97	100	100	98	101	85	85	93

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	33.1	28.8	5.8	19.4	15.1	11.6	14.2	15.9
Vehicles Exited	282	2	128	479	428	786	900	3005
Hourly Exit Rate	282	2	128	479	428	786	900	3005
Input Volume	286	2	126	490	434	974	1107	3418
% of Volume	99	100	102	98	99	81	81	88

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	3.6	0.8	3.6	0	0	0	0	0.1	0	0.4
Total Del/Veh (s)	93.8	66.5	34.7	59.9	71	10.5	69.8	41.3	8.9	80	111	35.8	76.1
Vehicles Exited	393	11	327	271	10	90	151	418	39	466	1079	131	3386
Hourly Exit Rate	393	11	327	271	10	90	151	418	39	466	1079	131	3386
Input Volume	387	10	324	270	10	85	148	430	38	645	1487	183	4018
% of Volume	101	107	101	100	98	106	102	97	103	72	73	71	84

7: I-580 WB OFF RAMP Performance by movement

Movement	NBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.2	0.6	0.4
Vehicles Exited	412	428	840
Hourly Exit Rate	412	428	840
Input Volume	414	434	848
% of Volume	100	99	99

Intersection: 1: CORRAL HOLLOW RD & SIERRA VIEW DR

Movement	EB	EB	NB	SB	SB
Directions Served	L	LR	L	TR	R
Maximum Queue (ft)	256	281	42	267	54
Average Queue (ft)	117	84	5	53	4
95th Queue (ft)	222	244	24	198	41
Link Distance (ft)	1339	1339		814	814
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			200		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: CORRAL HOLLOW RD & I-580 EB ON RAMP

Movement	EB	EB	EB	NB	NB	NB	B15	SB	SB	SB
Directions Served	L	LT	R	T	T	R	T	L	T	T
Maximum Queue (ft)	118	158	60	347	402	381	27	491	383	259
Average Queue (ft)	31	77	24	184	250	178	1	284	107	65
95th Queue (ft)	87	139	51	299	371	319	15	458	249	182
Link Distance (ft)		448		993	993		814		881	881
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	330		370			590		550		
Storage Blk Time (%)						0		0	0	
Queuing Penalty (veh)						0		0	0	

Intersection: 3: CORRAL HOLLOW RD & I-580 WB ON RAMP

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	T	T	R	T	T	R
Maximum Queue (ft)	180	153	74	205	201	265	326	421	367
Average Queue (ft)	95	72	31	111	110	155	143	98	191
95th Queue (ft)	157	133	60	185	183	251	270	247	357
Link Distance (ft)		495		881	881		936	936	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	400		460			250			300
Storage Blk Time (%)						1		0	2
Queuing Penalty (veh)						1		0	11

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	B21	B21	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B279	B279	B53	B53	
Directions Served	L	T	R	T	T	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T	T	T	
Maximum Queue (ft)	315	801	405	71	42	274	513	130	133	153	233	247	49	510	635	765	763	505	615	616	5549	5222	
Average Queue (ft)	279	316	178	5	3	183	86	37	56	75	117	126	10	221	495	628	644	339	426	438	2511	2521	
95th Queue (ft)	370	804	333	75	60	288	359	91	114	133	200	212	32	414	862	987	992	717	834	836	6061	6042	
Link Distance (ft)		877	877	915	915		1037				936	936				658	658		509	509	5933	5933	
Upstream Blk Time (%)		2	0													28	44		31	38	0	1	
Queuing Penalty (veh)		0	0													320	506		360	442	4	8	
Storage Bay Dist (ft)	240					200		200	400	400			380	560	560			430					
Storage Blk Time (%)	42	0				18								0	0	36	54						
Queuing Penalty (veh)	4	0				17								0	3	230	99						

Intersection: 7: I-580 WB OFF RAMP

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.1	0	0	0	0	0	0.1
Total Delay (hr)	3.8	0.1	0	0.1	2.7	0	6.8
Total Stops	385	8	7	0	127	0	527
Travel Dist (mi)	318.9	6.3	2.2	26.7	114.2	3.6	471.9
Travel Time (hr)	15	0.3	0.1	0.7	5	0.1	21.2
Avg Speed (mph)	21	23	23	37	23	35	22
Fuel Used (gal)	9.8	0.2	0.1	1.1	2.3	0.1	13.5
HC Emissions (g)	165	3	3	29	46	3	248
CO Emissions (g)	3277	60	106	1216	973	63	5696
NOx Emissions (g)	459	8	7	81	121	8	685
Vehicles Exited	1255	25	8	98	691	22	2099
Hourly Exit Rate	1255	25	8	98	691	22	2099
Input Volume	1266	25	10	100	802	25	2228
% of Volume	99	101	78	98	86	89	94

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	1.3	0	0.1	7.9	2.9	6.5	1.6	20.4
Total Stops	122	2	42	614	472	419	199	1870
Travel Dist (mi)	14.9	0.2	5.9	147.7	120.4	77.4	120.4	487
Travel Time (hr)	1.8	0	0.3	12.9	7.2	9.4	5.8	37.4
Avg Speed (mph)	8	9	22	11	17	8	21	13
Fuel Used (gal)	0.5	0	0.1	5.7	3.6	4.1	4.8	18.8
HC Emissions (g)	6	0	2	80	51	61	93	293
CO Emissions (g)	138	2	82	1535	1042	1350	2178	6327
NOx Emissions (g)	13	0	5	207	134	170	283	812
Vehicles Exited	157	2	62	744	607	420	652	2644
Hourly Exit Rate	157	2	62	744	607	420	652	2644
Input Volume	162	2	62	762	604	494	765	2851
% of Volume	97	100	100	98	101	85	85	93

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	2.6	0	0.2	2.6	1.8	2.5	3.6	13.4
Total Stops	226	2	93	305	324	291	401	1642
Travel Dist (mi)	28.8	0.2	13.2	85.9	76.9	152	174.3	531.3
Travel Time (hr)	3.6	0	0.6	5.6	4.8	7.9	10.1	32.6
Avg Speed (mph)	8	11	21	15	16	19	17	16
Fuel Used (gal)	1.1	0	0.3	3.7	3	6.3	6.8	21.3
HC Emissions (g)	14	0	5	66	58	128	124	394
CO Emissions (g)	344	3	186	1502	1251	3033	2866	9186
NOx Emissions (g)	30	0	12	203	181	388	387	1201
Vehicles Exited	282	2	128	479	428	786	900	3005
Hourly Exit Rate	282	2	128	479	428	786	900	3005
Input Volume	286	2	126	490	434	974	1107	3418
% of Volume	99	100	102	98	99	81	81	88

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0.3	0	0.1	0	0	0	0	0	0	0.4
Total Delay (hr)	10.5	0.2	3.2	4.6	0.2	0.3	3	4.9	0.1	10.7	34.6	1.3	73.6
Total Stops	485	13	267	287	10	66	143	288	28	544	1406	88	3625
Travel Dist (mi)	70	2	58	52.7	1.9	17.6	29.1	81.6	7.6	63.3	146.2	17.6	547.6
Travel Time (hr)	13.5	0.3	5.7	6.7	0.3	1	3.9	6.8	0.3	12.6	37.6	1.9	90.5
Avg Speed (mph)	5	7	10	8	7	19	8	12	22	5	4	9	6
Fuel Used (gal)	4.3	0.1	2.2	2.6	0.1	0.6	2	4.9	0.4	5	12.6	1	35.9
HC Emissions (g)	45	4	25	36	1	11	36	99	10	72	145	19	501
CO Emissions (g)	879	62	489	771	27	244	1425	3895	406	2032	2935	594	13759
NOx Emissions (g)	100	7	62	86	3	29	95	281	28	192	345	53	1281
Vehicles Exited	393	11	327	271	10	90	151	418	39	466	1079	131	3386
Hourly Exit Rate	393	11	327	271	10	90	151	418	39	466	1079	131	3386
Input Volume	387	10	324	270	10	85	148	430	38	645	1487	183	4018
% of Volume	101	107	101	100	98	106	102	97	103	72	73	71	84

7: I-580 WB OFF RAMP Performance by movement

Movement	NBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0	0.1	0.1
Total Stops	0	0	0
Travel Dist (mi)	24.7	43.2	67.9
Travel Time (hr)	0.6	1.9	2.5
Avg Speed (mph)	42	22	27
Fuel Used (gal)	0.6	2.4	3
HC Emissions (g)	12	62	74
CO Emissions (g)	263	1726	1988
NOx Emissions (g)	46	186	231
Vehicles Exited	412	428	840
Hourly Exit Rate	412	428	840
Input Volume	414	434	848
% of Volume	100	99	99

Total Network Performance

Denied Delay (hr)	113.7
Total Delay (hr)	374.1
Total Stops	13196
Travel Dist (mi)	7959
Travel Time (hr)	706.7
Avg Speed (mph)	13
Fuel Used (gal)	365
HC Emissions (g)	6307
CO Emissions (g)	169204
NOx Emissions (g)	17735
Vehicles Exited	4922
Hourly Exit Rate	4922
Input Volume	38030
% of Volume	13

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0	0	0	0	0
Total Del/Veh (s)	2.5	2.9	12.3	16.9	9.4	5.7	11.5
Vehicles Exited	82	3	30	1179	225	897	2416
Hourly Exit Rate	82	3	30	1179	225	897	2416
Input Volume	86	3	31	1182	222	906	2430
% of Volume	95	100	97	100	102	99	99

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	33.8	26.6	13.4	19.5	33.3	42.3	7.7	24.1
Vehicles Exited	717	3	296	327	935	136	828	3242
Hourly Exit Rate	717	3	296	327	935	136	828	3242
Input Volume	716	3	304	327	942	135	824	3250
% of Volume	100	100	97	100	99	101	101	100

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	32.5	28.5	24.2	12.7	4.9	11.1	5.3	18.4
Vehicles Exited	594	1	401	953	92	366	100	2507
Hourly Exit Rate	594	1	401	953	92	366	100	2507
Input Volume	596	1	402	954	89	362	101	2505
% of Volume	100	100	100	100	104	101	99	100

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	3.4	1.5	3.4	0	0	0	0	0	0	0.6
Total Del/Veh (s)	76.8	41.5	9.6	30.8	44.2	27.9	68.7	101.4	26.3	91.6	52.5	10.9	62.2
Vehicles Exited	335	76	78	120	20	498	354	841	147	480	265	401	3615
Hourly Exit Rate	335	76	78	120	20	498	354	841	147	480	265	401	3615
Input Volume	341	76	73	126	20	503	355	851	150	475	264	403	3636
% of Volume	98	100	107	95	101	99	100	99	98	101	100	100	99

7: I-580 WB OFF RAMP Performance by movement

Movement	NBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.1	0.3	1.1
Vehicles Exited	1003	91	1094
Hourly Exit Rate	1003	91	1094
Input Volume	999	89	1088
% of Volume	100	103	101

Intersection: 1: CORRAL HOLLOW RD & SIERRA VIEW DR

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	LR	L	T	TR	R
Maximum Queue (ft)	30	16	34	34	82	29
Average Queue (ft)	3	1	2	2	16	1
95th Queue (ft)	17	9	17	42	57	15
Link Distance (ft)	1339	1339		1382	814	814
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			200			
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 2: CORRAL HOLLOW RD & I-580 EB ON RAMP

Movement	EB	EB	EB	B26	NB	NB	NB	B15	B15	SB	SB	SB	
Directions Served	L	LT	R	T	T	T	R	T	T	L	T	T	
Maximum Queue (ft)	298	338	202	4	320	663	600	5	76	189	193	206	
Average Queue (ft)	176	207	87	0	87	200	344	0	5	84	71	79	
95th Queue (ft)	268	302	170	4	229	624	631	5	44	155	145	158	
Link Distance (ft)		448		132	993	993		814	814		881	881	
Upstream Blk Time (%)		0	0			1							
Queuing Penalty (veh)		0	0			4							
Storage Bay Dist (ft)	330		370				590			550			
Storage Blk Time (%)	0	1				1	6						
Queuing Penalty (veh)	1	3				7	10						

Intersection: 3: CORRAL HOLLOW RD & I-580 WB ON RAMP

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	LT	R	T	T	R	T	T	R	
Maximum Queue (ft)	332	370	328	270	272	103	158	158	81	
Average Queue (ft)	152	172	140	116	118	21	60	61	28	
95th Queue (ft)	262	311	287	258	258	83	127	129	68	
Link Distance (ft)		495		881	881		936	936		
Upstream Blk Time (%)		0	0							
Queuing Penalty (veh)		4	0							
Storage Bay Dist (ft)	400		460			250			300	
Storage Blk Time (%)	0	1	1		2					
Queuing Penalty (veh)	0	5	3		1					

Intersection: 4: Corral Hollow Rd & Tracy Hills Dr

Movement	EB	EB	EB	B21	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B53	B53
Directions Served	L	T	R	T	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T
Maximum Queue (ft)	314	594	111	5	192	490	275	313	463	833	828	437	392	408	243	236	276	346	456
Average Queue (ft)	264	211	26	0	72	93	204	131	237	475	481	161	247	259	106	117	105	23	40
95th Queue (ft)	358	551	71	5	144	354	306	238	504	874	876	482	404	413	202	196	218	292	362
Link Distance (ft)		877	877	915		1037				936	936				658	658		5933	5933
Upstream Blk Time (%)										2	2								
Queuing Penalty (veh)										13	14								
Storage Bay Dist (ft)	240				200		200	400	400			380	560	560			430		
Storage Blk Time (%)	28	0			0	0	16	0	0	20	25		0	0			0		
Queuing Penalty (veh)	22	0			0	0	23	0	0	73	38		0	0			0		

Intersection: 7: I-580 WB OFF RAMP

Movement	NB	B27
Directions Served	T	T
Maximum Queue (ft)	60	3
Average Queue (ft)	4	0
95th Queue (ft)	53	5
Link Distance (ft)	264	176
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

1: CORRAL HOLLOW RD & SIERRA VIEW DR Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0
Total Delay (hr)	0.1	0	0.1	5.6	0.6	1.4	7.8
Total Stops	4	0	3	3	16	19	45
Travel Dist (mi)	20.8	0.9	8.1	321.2	37.1	148.4	536.5
Travel Time (hr)	0.8	0	0.3	12.6	1.3	5.4	20.5
Avg Speed (mph)	27	27	26	25	28	28	26
Fuel Used (gal)	0.6	0	0.3	10.2	0.7	2.8	14.6
HC Emissions (g)	9	0	5	221	15	60	310
CO Emissions (g)	160	3	174	6913	307	1281	8838
NOx Emissions (g)	26	0	15	655	43	171	911
Vehicles Exited	82	3	30	1179	225	897	2416
Hourly Exit Rate	82	3	30	1179	225	897	2416
Input Volume	86	3	31	1182	222	906	2430
% of Volume	95	100	97	100	102	99	99

2: CORRAL HOLLOW RD & I-580 EB ON RAMP Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	6.8	0	1.1	1.8	8.8	1.6	1.8	21.9
Total Stops	596	2	198	208	918	112	212	2246
Travel Dist (mi)	68.2	0.3	28.2	64.7	185.5	24.8	152.9	524.6
Travel Time (hr)	9.1	0	2	4	15.4	2.6	7.4	40.4
Avg Speed (mph)	8	9	14	16	12	10	21	13
Fuel Used (gal)	3.1	0	0.9	2.1	6.3	1.3	6.1	19.8
HC Emissions (g)	35	0	16	30	83	20	114	297
CO Emissions (g)	844	2	530	584	1693	496	2712	6860
NOx Emissions (g)	85	0	40	82	204	58	358	827
Vehicles Exited	717	3	296	327	935	136	828	3242
Hourly Exit Rate	717	3	296	327	935	136	828	3242
Input Volume	716	3	304	327	942	135	824	3250
% of Volume	100	100	97	100	99	101	101	100

3: CORRAL HOLLOW RD & I-580 WB ON RAMP Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0	0
Total Delay (hr)	5.4	0	2.7	3.4	0.1	1.1	0.1	13
Total Stops	482	1	305	359	22	147	41	1357
Travel Dist (mi)	61.1	0.1	41.6	172.9	16.7	71	19.4	382.6
Travel Time (hr)	7.4	0	4.1	9.7	0.8	3.7	0.9	26.6
Avg Speed (mph)	8	8	10	18	21	19	22	14
Fuel Used (gal)	2.5	0	1.4	7.2	0.6	3	0.7	15.5
HC Emissions (g)	30	0	20	129	12	59	17	267
CO Emissions (g)	779	1	586	3099	319	1423	413	6618
NOx Emissions (g)	70	0	44	403	39	179	51	786
Vehicles Exited	594	1	401	953	92	366	100	2507
Hourly Exit Rate	594	1	401	953	92	366	100	2507
Input Volume	596	1	402	954	89	362	101	2505
% of Volume	100	100	100	100	104	101	99	100

4: Corral Hollow Rd & Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0.1	0	0.5	0	0	0	0	0	0	0.6
Total Delay (hr)	7.3	0.9	0.2	1	0.2	3.9	7	24.6	1.1	12.6	4	1.2	64.1
Total Stops	376	61	31	101	15	355	369	1057	155	534	219	257	3530
Travel Dist (mi)	59.3	13.4	13.8	23.7	3.9	97.9	68.5	163.4	28.6	64.8	35.9	53.7	626.9
Travel Time (hr)	9.8	1.4	0.8	2	0.4	8.1	9.1	28.4	2	14.5	4.7	3	84.3
Avg Speed (mph)	6	9	17	13	10	13	8	6	14	4	8	18	7
Fuel Used (gal)	3.3	0.6	0.4	0.9	0.2	3.6	4.4	11.6	1.4	4.3	1.5	1.2	33.4
HC Emissions (g)	34	8	7	13	2	49	65	166	26	44	20	21	455
CO Emissions (g)	680	159	118	312	56	1087	2194	4642	930	1137	554	621	12489
NOx Emissions (g)	80	20	17	34	6	124	187	452	77	87	44	51	1178
Vehicles Exited	335	76	78	120	20	498	354	841	147	480	265	401	3615
Hourly Exit Rate	335	76	78	120	20	498	354	841	147	480	265	401	3615
Input Volume	341	76	73	126	20	503	355	851	150	475	264	403	3636
% of Volume	98	100	107	95	101	99	100	99	98	101	100	100	99

7: I-580 WB OFF RAMP Performance by movement

Movement	NBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.3	0	0.3
Total Stops	5	0	5
Travel Dist (mi)	60.2	9.2	69.5
Travel Time (hr)	1.7	0.4	2.1
Avg Speed (mph)	36	23	34
Fuel Used (gal)	1	0.5	1.5
HC Emissions (g)	21	12	33
CO Emissions (g)	409	359	768
NOx Emissions (g)	63	35	99
Vehicles Exited	1003	91	1094
Hourly Exit Rate	1003	91	1094
Input Volume	999	89	1088
% of Volume	100	103	101

Total Network Performance

Denied Delay (hr)	1.9
Total Delay (hr)	135.5
Total Stops	8197
Travel Dist (mi)	8608.7
Travel Time (hr)	367.9
Avg Speed (mph)	24
Fuel Used (gal)	305.7
HC Emissions (g)	6392
CO Emissions (g)	182202
NOx Emissions (g)	20085
Vehicles Exited	5692
Hourly Exit Rate	5692
Input Volume	39542
% of Volume	14

Design Year (2048) No Lammers Build

Diverging Diamond Interchange SimTraffic Outputs

1: Lammers Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0	0	0	0	0.1
Total Del/Veh (s)	29.1	20.5	47.8	5.8	20	1.4	24.6
Vehicles Exited	1260	26	10	99	779	24	2198
Hourly Exit Rate	1260	26	10	99	779	24	2198
Input Volume	1266	25	10	100	802	25	2228
% of Volume	100	105	98	99	97	97	99

2: Performance by movement

Movement	WBT	NBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	12.6	12.6	12.6
Vehicles Exited	741	756	1497
Hourly Exit Rate	741	756	1497
Input Volume	765	762	1527
% of Volume	97	99	98

3: Performance by movement

Movement	EBT	SBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	11.7	13.7	13
Vehicles Exited	493	934	1427
Hourly Exit Rate	493	934	1427
Input Volume	490	973	1464
% of Volume	101	96	98

4: Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	3.3	0.8	3.3	0	0	0	0	0	0	0.3
Total Del/Veh (s)	202.4	154.4	123.3	80.6	82.9	16.6	74.9	39	8	73.2	56.6	15	76.6
Vehicles Exited	372	9	320	264	11	87	152	425	39	626	1427	179	3911
Hourly Exit Rate	372	9	320	264	11	87	152	425	39	626	1427	179	3911
Input Volume	387	10	324	270	10	85	148	430	38	645	1487	183	4019
% of Volume	96	88	99	98	107	102	103	99	103	97	96	98	97

15: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.1	0	0	0
Total Del/Veh (s)	1.4	1.2	2.8	1.8
Vehicles Exited	38	1356	807	2201
Hourly Exit Rate	38	1356	807	2201
Input Volume	37	1366	827	2230
% of Volume	102	99	98	99

16: Performance by movement

Movement	WBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.6	10.1	1.4
Vehicles Exited	743	63	806
Hourly Exit Rate	743	63	806
Input Volume	765	62	827
% of Volume	97	102	97

18: Performance by movement

Movement	NBR	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3	8.7	7.3
Vehicles Exited	621	2035	2656
Hourly Exit Rate	621	2035	2656
Input Volume	616	2098	2714
% of Volume	101	97	98

19: EB I-580 OFF RAMP Performance by movement

Movement	SEL	SER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.2	0.7	1
Vehicles Exited	159	62	221
Hourly Exit Rate	159	62	221
Input Volume	162	62	224
% of Volume	98	100	99

25: EB I-580 ON RAMP Performance by movement

Movement	EBR	SBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.6	2.2	2.4
Vehicles Exited	604	468	1072
Hourly Exit Rate	604	468	1072
Input Volume	604	494	1098
% of Volume	100	95	98

26: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NEL	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.7	13.7	3
Vehicles Exited	755	159	914
Hourly Exit Rate	755	159	914
Input Volume	762	162	924
% of Volume	99	98	99

28: Performance by movement

Movement	WBT	NBL	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.9	17	4.6
Vehicles Exited	933	276	1209
Hourly Exit Rate	933	276	1209
Input Volume	973	286	1260
% of Volume	96	96	96

32: CORRAL HOLLOW RD Performance by movement

Movement	EBL	EBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	6.9	3.5	5
Vehicles Exited	417	493	910
Hourly Exit Rate	417	493	910
Input Volume	434	490	924
% of Volume	96	101	98

36: Performance by movement

Movement	SBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	18.2	4.8	11
Vehicles Exited	933	1079	2012
Hourly Exit Rate	933	1079	2012
Input Volume	973	1107	2080
% of Volume	96	97	97

38: Performance by movement

Movement	EBT	NBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.7	10.9	2.7
Vehicles Exited	494	126	620
Hourly Exit Rate	494	126	620
Input Volume	490	126	616
% of Volume	101	100	101

39: WB I-580 OFF RAMP Performance by movement

Movement	NWT	NWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.6	0.8	2
Vehicles Exited	276	126	402
Hourly Exit Rate	276	126	402
Input Volume	286	126	412
% of Volume	96	100	98

40: WB I-580 ON RAMP Performance by movement

Movement	WBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.9	0.4	0.5
Vehicles Exited	417	1079	1496
Hourly Exit Rate	417	1079	1496
Input Volume	434	1107	1541
% of Volume	96	97	97

41: Performance by movement

Movement	WBL	WBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	12.6	7.1	9.2
Vehicles Exited	468	741	1209
Hourly Exit Rate	468	741	1209
Input Volume	494	765	1260
% of Volume	95	97	96

42: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	6.2	1.4	4.1
Vehicles Exited	754	604	1358
Hourly Exit Rate	754	604	1358
Input Volume	762	604	1366
% of Volume	99	100	99

Intersection: 1: Lammers Rd

Movement	EB	EB	NB	SB	SB
Directions Served	L	LR	L	TR	R
Maximum Queue (ft)	464	476	52	380	101
Average Queue (ft)	227	211	8	154	8
95th Queue (ft)	496	500	33	332	98
Link Distance (ft)	1339	1339		662	662
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			200		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2:

Movement	WB	WB	NB	NB
Directions Served	T	T	T	T
Maximum Queue (ft)	171	168	126	115
Average Queue (ft)	125	104	101	81
95th Queue (ft)	171	165	114	119
Link Distance (ft)	80	80	61	61
Upstream Blk Time (%)	26	10	38	16
Queuing Penalty (veh)	98	40	144	60
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3:

Movement	EB	EB	SB	SB
Directions Served	T	T	T	T
Maximum Queue (ft)	136	156	146	128
Average Queue (ft)	82	110	117	81
95th Queue (ft)	124	158	133	134
Link Distance (ft)	85	85	58	58
Upstream Blk Time (%)	4	12	52	21
Queuing Penalty (veh)	10	29	253	100
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Tracy Hills Dr

Movement	EB	EB	EB	B21	B21	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B279	B279	B53	B53
Directions Served	L	T	R	T	T	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T	T	T
Maximum Queue (ft)	315	942	867	394	357	274	553	213	136	163	266	267	52	530	621	720	730	505	518	518	1646	1687
Average Queue (ft)	304	635	411	100	66	207	128	43	69	85	128	140	14	290	404	502	534	229	155	166	365	391
95th Queue (ft)	358	1153	833	406	338	309	464	128	122	139	226	235	38	462	698	831	847	619	542	557	1745	1839
Link Distance (ft)		860	860	915	915		1145				617	617				638	638		511	511	5945	5945
Upstream Blk Time (%)		28	5	0											1	9	16		5	8		
Queuing Penalty (veh)		0	0	0											0	102	183		62	88		
Storage Bay Dist (ft)	240					200		200	440	440			380	560	560			430				
Storage Blk Time (%)	68	0				28	0							0	1	13	26					
Queuing Penalty (veh)	7	0				27	1							1	5	84	48					

Intersection: 15: CORRAL HOLLOW RD

Movement	NB	NB	B27	
Directions Served	R	R	T	
Maximum Queue (ft)	5	7	4	
Average Queue (ft)	0	0	0	
95th Queue (ft)	5	8	0	
Link Distance (ft)	662	662	438	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 16:

Movement	WB	WB	SB	
Directions Served	T	T	R	
Maximum Queue (ft)	76	69	82	
Average Queue (ft)	49	49	24	
95th Queue (ft)	62	65	62	
Link Distance (ft)	1	1	64	
Upstream Blk Time (%)	0	0	1	
Queuing Penalty (veh)	0	0	1	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 18:

Movement	SW	SW		
Directions Served	T	T		
Maximum Queue (ft)	73	144		
Average Queue (ft)	3	7		
95th Queue (ft)	41	66		
Link Distance (ft)	617	617		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 19: EB I-580 OFF RAMP

Movement	SE
Directions Served	L
Maximum Queue (ft)	6
Average Queue (ft)	0
95th Queue (ft)	5
Link Distance (ft)	379
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: EB I-580 ON RAMP

Movement	SB
Directions Served	T
Maximum Queue (ft)	145
Average Queue (ft)	24
95th Queue (ft)	110
Link Distance (ft)	44
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 26: CORRAL HOLLOW RD

Movement	NB	NB	NE	NE
Directions Served	T	T	L	L
Maximum Queue (ft)	62	64	72	108
Average Queue (ft)	43	42	22	47
95th Queue (ft)	51	59	58	91
Link Distance (ft)	2	2	56	56
Upstream Blk Time (%)	0	0	2	9
Queuing Penalty (veh)	0	0	1	7
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 28:

Movement	WB	WB	NB	NB
Directions Served	T	T	L	L
Maximum Queue (ft)	80	73	156	97
Average Queue (ft)	49	44	81	34
95th Queue (ft)	62	71	136	76
Link Distance (ft)	6	6	68	68
Upstream Blk Time (%)	0	0	13	1
Queuing Penalty (veh)	0	0	19	2
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 32: CORRAL HOLLOW RD

Movement	EB	EB
Directions Served	LT	T
Maximum Queue (ft)	116	69
Average Queue (ft)	8	7
95th Queue (ft)	56	37
Link Distance (ft)	303	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 34: Bend

Movement	NW	NW	B217	B217
Directions Served	T		T	T
Maximum Queue (ft)	493	293	117	83
Average Queue (ft)	72	45	13	9
95th Queue (ft)	370	298	104	84
Link Distance (ft)	620	620	1006	1006
Upstream Blk Time (%)	3	2		
Queuing Penalty (veh)	20	14		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 35: Bend

Movement	SE	SE	B215
Directions Served	T		T
Maximum Queue (ft)	20	14	3
Average Queue (ft)	1	1	0
95th Queue (ft)	12	11	3
Link Distance (ft)	618	618	787
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 36:

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	440	465	274
Average Queue (ft)	222	162	25
95th Queue (ft)	390	403	160
Link Distance (ft)	690	690	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			224
Storage Blk Time (%)		1	
Queuing Penalty (veh)		13	

Intersection: 38:

Movement	EB	EB	NB
Directions Served	T	T	R
Maximum Queue (ft)	69	72	117
Average Queue (ft)	44	47	45
95th Queue (ft)	62	61	95
Link Distance (ft)	3	3	72
Upstream Blk Time (%)	0	0	3
Queuing Penalty (veh)	0	0	4
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 39: WB I-580 OFF RAMP

Movement	NW
Directions Served	T
Maximum Queue (ft)	28
Average Queue (ft)	1
95th Queue (ft)	14
Link Distance (ft)	535
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 40: WB I-580 ON RAMP

Movement	WB
Directions Served	T
Maximum Queue (ft)	29
Average Queue (ft)	1
95th Queue (ft)	22
Link Distance (ft)	48
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 41:

Movement	WB	WB
Directions Served	LT	T
Maximum Queue (ft)	349	308
Average Queue (ft)	146	92
95th Queue (ft)	357	297
Link Distance (ft)	295	295
Upstream Blk Time (%)	2	1
Queuing Penalty (veh)	14	5
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 42: CORRAL HOLLOW RD

Movement	NB	NB
Directions Served	T	T
Maximum Queue (ft)	208	167
Average Queue (ft)	99	34
95th Queue (ft)	184	115
Link Distance (ft)	470	470
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

1: Lammers Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.1	0	0	0	0	0	0.1
Total Delay (hr)	10.3	0.1	0.1	0.2	4.4	0	15.2
Total Stops	697	14	9	0	412	1	1133
Travel Dist (mi)	319.9	6.6	2.6	27	104.8	3.2	464.1
Travel Time (hr)	21.7	0.4	0.2	0.7	6.5	0.1	29.6
Avg Speed (mph)	15	17	13	38	16	33	16
Fuel Used (gal)	11	0.2	0.1	1	2.3	0.1	14.7
HC Emissions (g)	85	1	3	30	32	1	152
CO Emissions (g)	2121	34	112	1141	739	38	4186
NOx Emissions (g)	253	4	9	83	73	4	426
Vehicles Exited	1260	26	10	99	779	24	2198
Hourly Exit Rate	1260	26	10	99	779	24	2198
Input Volume	1266	25	10	100	802	25	2228
% of Volume	100	105	98	99	97	97	99

2: Performance by movement

Movement	WBT	NBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	2.6	2.7	5.3
Total Stops	388	315	703
Travel Dist (mi)	20.1	12.4	32.5
Travel Time (hr)	3.3	3.1	6.4
Avg Speed (mph)	6	4	5
Fuel Used (gal)	1.4	1.1	2.5
HC Emissions (g)	18	6	24
CO Emissions (g)	449	161	611
NOx Emissions (g)	56	21	77
Vehicles Exited	741	756	1497
Hourly Exit Rate	741	756	1497
Input Volume	765	762	1527
% of Volume	97	99	98

3: Performance by movement

Movement	EBT	SBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	1.6	3.6	5.2
Total Stops	303	321	624
Travel Dist (mi)	12.2	17.6	29.8
Travel Time (hr)	2	4.1	6.2
Avg Speed (mph)	6	4	5
Fuel Used (gal)	0.8	1.5	2.3
HC Emissions (g)	6	16	22
CO Emissions (g)	159	390	549
NOx Emissions (g)	20	45	66
Vehicles Exited	493	934	1427
Hourly Exit Rate	493	934	1427
Input Volume	490	973	1464
% of Volume	101	96	98

4: Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0.2	0	0.1	0	0	0	0	0	0	0.3
Total Delay (hr)	22.3	0.4	11.4	6.1	0.3	0.4	3.3	4.7	0.1	13.1	23.1	0.8	85.9
Total Stops	551	13	313	284	12	69	151	288	26	617	1177	76	3577
Travel Dist (mi)	65.5	1.7	56.1	57.8	2.4	18.9	19.3	54.2	5	82.5	187.6	23.4	574.3
Travel Time (hr)	25	0.5	13.8	8.4	0.3	1.2	4.1	6.6	0.3	15.5	26.9	1.5	104.2
Avg Speed (mph)	3	3	4	7	7	17	5	8	16	5	7	16	6
Fuel Used (gal)	7	0.1	4	3.1	0.1	0.6	1.7	4.1	0.3	5.7	10.7	1	38.6
HC Emissions (g)	23	0	18	22	0	6	20	65	6	80	140	20	401
CO Emissions (g)	727	17	497	580	17	179	860	2653	272	2161	3183	708	11854
NOx Emissions (g)	57	1	44	57	1	19	58	191	17	200	378	57	1081
Vehicles Exited	372	9	320	264	11	87	152	425	39	626	1427	179	3911
Hourly Exit Rate	372	9	320	264	11	87	152	425	39	626	1427	179	3911
Input Volume	387	10	324	270	10	85	148	430	38	645	1487	183	4019
% of Volume	96	88	99	98	107	102	103	99	103	97	96	98	97

15: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	SBT	All
Denied Delay (hr)	0	0	0	0
Total Delay (hr)	0	0.4	0.6	1.1
Total Stops	0	4	0	4
Travel Dist (mi)	2.4	266.7	100.2	369.3
Travel Time (hr)	0.1	11.5	2.7	14.3
Avg Speed (mph)	38	23	38	26
Fuel Used (gal)	0.1	16.8	3.9	20.8
HC Emissions (g)	49	263	85	396
CO Emissions (g)	950	14879	3194	19024
NOx Emissions (g)	113	812	272	1198
Vehicles Exited	38	1356	807	2201
Hourly Exit Rate	38	1356	807	2201
Input Volume	37	1366	827	2230
% of Volume	102	99	98	99

16: Performance by movement

Movement	WBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	0.2	0.3
Total Stops	0	30	30
Travel Dist (mi)	4.5	1.7	6.2
Travel Time (hr)	0.3	0.2	0.5
Avg Speed (mph)	16	7	12
Fuel Used (gal)	0.4	0.1	0.5
HC Emissions (g)	6	2	8
CO Emissions (g)	131	73	203
NOx Emissions (g)	23	4	28
Vehicles Exited	743	63	806
Hourly Exit Rate	743	63	806
Input Volume	765	62	827
% of Volume	97	102	97

18: Performance by movement

Movement	NBR	SWT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.5	4.9	5.4
Total Stops	0	26	26
Travel Dist (mi)	93.6	275.6	369.2
Travel Time (hr)	3.5	11.6	15.1
Avg Speed (mph)	26	24	24
Fuel Used (gal)	4.2	13.3	17.6
HC Emissions (g)	84	276	359
CO Emissions (g)	4058	9168	13225
NOx Emissions (g)	243	878	1121
Vehicles Exited	621	2035	2656
Hourly Exit Rate	621	2035	2656
Input Volume	616	2098	2714
% of Volume	101	97	98

19: EB I-580 OFF RAMP Performance by movement

Movement	SEL	SER	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	0	0.1
Total Stops	0	0	0
Travel Dist (mi)	13.1	5.1	18.2
Travel Time (hr)	0.4	0.1	0.5
Avg Speed (mph)	34	36	34
Fuel Used (gal)	0.2	0.1	0.2
HC Emissions (g)	3	2	5
CO Emissions (g)	60	55	115
NOx Emissions (g)	7	5	11
Vehicles Exited	159	62	221
Hourly Exit Rate	159	62	221
Input Volume	162	62	224
% of Volume	98	100	99

25: EB I-580 ON RAMP Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.4	0.3	0.7
Total Stops	0	16	16
Travel Dist (mi)	14.8	10.8	25.6
Travel Time (hr)	0.9	0.6	1.6
Avg Speed (mph)	16	17	16
Fuel Used (gal)	0.8	1	1.8
HC Emissions (g)	10	19	29
CO Emissions (g)	312	612	923
NOx Emissions (g)	41	69	110
Vehicles Exited	604	468	1072
Hourly Exit Rate	604	468	1072
Input Volume	604	494	1098
% of Volume	100	95	98

26: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NEL	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	0.6	0.8
Total Stops	0	88	88
Travel Dist (mi)	3.9	4	7.9
Travel Time (hr)	0.3	0.7	1
Avg Speed (mph)	14	5	8
Fuel Used (gal)	0.2	0.2	0.5
HC Emissions (g)	2	2	4
CO Emissions (g)	53	61	114
NOx Emissions (g)	9	7	16
Vehicles Exited	755	159	914
Hourly Exit Rate	755	159	914
Input Volume	762	162	924
% of Volume	99	98	99

28: Performance by movement

Movement	WBT	NBL	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.2	1.3	1.5
Total Stops	0	164	164
Travel Dist (mi)	5.6	7.4	13.1
Travel Time (hr)	0.4	1.5	1.9
Avg Speed (mph)	14	5	7
Fuel Used (gal)	0.3	0.5	0.8
HC Emissions (g)	5	6	11
CO Emissions (g)	112	128	240
NOx Emissions (g)	17	14	31
Vehicles Exited	933	276	1209
Hourly Exit Rate	933	276	1209
Input Volume	973	286	1260
% of Volume	96	96	96

32: CORRAL HOLLOW RD Performance by movement

Movement	EBL	EBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.8	0.5	1.3
Total Stops	13	11	24
Travel Dist (mi)	29.6	34.1	63.7
Travel Time (hr)	1.8	1.6	3.4
Avg Speed (mph)	16	21	19
Fuel Used (gal)	1.4	1.6	3
HC Emissions (g)	13	25	38
CO Emissions (g)	392	812	1204
NOx Emissions (g)	55	88	144
Vehicles Exited	417	493	910
Hourly Exit Rate	417	493	910
Input Volume	434	490	924
% of Volume	96	101	98

36: Performance by movement

Movement	SBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	4.8	1.5	6.2
Total Stops	574	43	617
Travel Dist (mi)	130.2	149.5	279.7
Travel Time (hr)	9.1	6.5	15.6
Avg Speed (mph)	14	23	18
Fuel Used (gal)	4.5	5.5	10
HC Emissions (g)	59	96	155
CO Emissions (g)	1416	2180	3596
NOx Emissions (g)	168	302	470
Vehicles Exited	933	1079	2012
Hourly Exit Rate	933	1079	2012
Input Volume	973	1107	2080
% of Volume	96	97	97

38: Performance by movement

Movement	EBT	NBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	0.4	0.5
Total Stops	0	61	61
Travel Dist (mi)	2.7	3.6	6.3
Travel Time (hr)	0.2	0.5	0.7
Avg Speed (mph)	15	7	9
Fuel Used (gal)	0.2	0.2	0.5
HC Emissions (g)	3	3	6
CO Emissions (g)	74	136	210
NOx Emissions (g)	13	9	22
Vehicles Exited	494	126	620
Hourly Exit Rate	494	126	620
Input Volume	490	126	616
% of Volume	101	100	101

39: WB I-580 OFF RAMP Performance by movement

Movement	NWT	NWR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.2	0	0.2
Total Stops	1	0	1
Travel Dist (mi)	30.9	14.1	45
Travel Time (hr)	0.9	0.4	1.3
Avg Speed (mph)	34	38	35
Fuel Used (gal)	0.5	0.2	0.7
HC Emissions (g)	10	5	14
CO Emissions (g)	225	101	326
NOx Emissions (g)	27	14	41
Vehicles Exited	276	126	402
Hourly Exit Rate	276	126	402
Input Volume	286	126	412
% of Volume	96	100	98

40: WB I-580 ON RAMP Performance by movement

Movement	WBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	0.1	0.2
Total Stops	2	0	2
Travel Dist (mi)	8.3	34	42.3
Travel Time (hr)	0.4	1.3	1.6
Avg Speed (mph)	22	27	26
Fuel Used (gal)	0.7	1	1.8
HC Emissions (g)	10	16	26
CO Emissions (g)	483	269	752
NOx Emissions (g)	41	46	87
Vehicles Exited	417	1079	1496
Hourly Exit Rate	417	1079	1496
Input Volume	434	1107	1541
% of Volume	96	97	97

41: Performance by movement

Movement	WBL	WBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	1.6	1.5	3.1
Total Stops	167	128	295
Travel Dist (mi)	31.1	47.9	79.1
Travel Time (hr)	2.7	3.1	5.8
Avg Speed (mph)	12	16	14
Fuel Used (gal)	1.5	2.5	4
HC Emissions (g)	23	44	67
CO Emissions (g)	524	1259	1784
NOx Emissions (g)	75	143	218
Vehicles Exited	468	741	1209
Hourly Exit Rate	468	741	1209
Input Volume	494	765	1260
% of Volume	95	97	96

42: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	1.3	0.2	1.6
Total Stops	186	0	186
Travel Dist (mi)	74.8	60	134.8
Travel Time (hr)	3.8	2.3	6.1
Avg Speed (mph)	20	27	22
Fuel Used (gal)	1.8	1.3	3.1
HC Emissions (g)	15	13	28
CO Emissions (g)	368	319	687
NOx Emissions (g)	42	33	75
Vehicles Exited	754	604	1358
Hourly Exit Rate	754	604	1358
Input Volume	762	604	1366
% of Volume	99	100	99

Total Network Performance

Denied Delay (hr)	1
Total Delay (hr)	199.8
Total Stops	9568
Travel Dist (mi)	9499.5
Travel Time (hr)	446.8
Avg Speed (mph)	21
Fuel Used (gal)	356.4
HC Emissions (g)	6368
CO Emissions (g)	194301
NOx Emissions (g)	20806
Vehicles Exited	5494
Hourly Exit Rate	5494
Input Volume	55589
% of Volume	10

1: Lammers Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0	0	0	0	0
Total Del/Veh (s)	2.1	1.8	52.1	63.7	9.5	4.1	33.8
Vehicles Exited	86	4	27	1136	224	918	2395
Hourly Exit Rate	86	4	27	1136	224	918	2395
Input Volume	86	3	31	1182	221	906	2430
% of Volume	100	133	87	96	101	101	99

2: Performance by movement

Movement	WBT	NBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	21.3	11.5	18.6
Vehicles Exited	838	317	1155
Hourly Exit Rate	838	317	1155
Input Volume	823	326	1149
% of Volume	102	97	101

3: Performance by movement

Movement	EBT	SBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	9.3	13.8	10.5
Vehicles Exited	959	364	1323
Hourly Exit Rate	959	364	1323
Input Volume	953	362	1315
% of Volume	101	100	101

4: Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	3.2	1.2	3.2	0	0	0	0	0	0	0.5
Total Del/Veh (s)	79.6	57.6	2.6	64.7	69.5	29.1	37	61.7	10.1	56.1	55.6	11	46.4
Vehicles Exited	342	75	75	123	19	496	358	858	154	464	265	411	3640
Hourly Exit Rate	342	75	75	123	19	496	358	858	154	464	265	411	3640
Input Volume	341	76	73	126	20	503	355	851	150	475	266	403	3638
% of Volume	100	98	103	98	96	99	101	101	102	98	100	102	100

15: CORRAL HOLLOW RD Performance by movement

Movement	NBR	SBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.3	1	1.1
Vehicles Exited	1224	1146	2370
Hourly Exit Rate	1224	1146	2370
Input Volume	1268	1127	2398
% of Volume	97	102	99

16: Performance by movement

Movement	WBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.8	12.4	3.9
Vehicles Exited	838	309	1147
Hourly Exit Rate	838	309	1147
Input Volume	823	304	1127
% of Volume	102	102	102

18: Performance by movement

Movement	NBR	SWT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	7.2	4.6	6.6
Vehicles Exited	1360	471	1831
Hourly Exit Rate	1360	471	1831
Input Volume	1355	469	1824
% of Volume	100	100	100

19: EB I-580 OFF RAMP Performance by movement

Movement	SEL	SER	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.5	3.1	4.1
Vehicles Exited	727	311	1038
Hourly Exit Rate	727	311	1038
Input Volume	716	304	1020
% of Volume	102	102	102

25: EB I-580 ON RAMP Performance by movement

Movement	EBR	SBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	2.8	1.7	2.6
Vehicles Exited	907	134	1041
Hourly Exit Rate	907	134	1041
Input Volume	942	135	1077
% of Volume	96	99	97

26: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NEL	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.7	17	12.1
Vehicles Exited	317	732	1049
Hourly Exit Rate	317	732	1049
Input Volume	326	716	1042
% of Volume	97	102	101

28: Performance by movement

Movement	WBT	NBL	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.8	17.2	11
Vehicles Exited	364	602	966
Hourly Exit Rate	364	602	966
Input Volume	362	596	958
% of Volume	100	101	101

32: CORRAL HOLLOW RD Performance by movement

Movement	EBL	EBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	4.3	4.4	4.4
Vehicles Exited	86	961	1047
Hourly Exit Rate	86	961	1047
Input Volume	89	954	1042
% of Volume	97	101	100

36: Performance by movement

Movement	SBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3	0.5	2.5
Vehicles Exited	365	106	471
Hourly Exit Rate	365	106	471
Input Volume	362	101	464
% of Volume	101	105	102

38: Performance by movement

Movement	EBT	NBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.6	12.9	4.3
Vehicles Exited	958	404	1362
Hourly Exit Rate	958	404	1362
Input Volume	953	402	1354
% of Volume	101	101	101

39: WB I-580 OFF RAMP Performance by movement

Movement	NWT	NWR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	3.6	2.9	3.3
Vehicles Exited	601	404	1005
Hourly Exit Rate	601	404	1005
Input Volume	596	402	998
% of Volume	101	101	101

40: WB I-580 ON RAMP Performance by movement

Movement	WBT	SBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	0.6	0.1	0.3
Vehicles Exited	86	106	192
Hourly Exit Rate	86	106	192
Input Volume	89	101	190
% of Volume	97	105	101

41: Performance by movement

Movement	WBL	WBT	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	7.6	5.6	5.8
Vehicles Exited	134	832	966
Hourly Exit Rate	134	832	966
Input Volume	135	824	959
% of Volume	99	101	101

42: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	All
Denied Del/Veh (s)	0	0	0
Total Del/Veh (s)	1.3	2.3	2.1
Vehicles Exited	318	907	1225
Hourly Exit Rate	318	907	1225
Input Volume	326	942	1268
% of Volume	97	96	97

Intersection: 1: Lammers Rd

Movement	EB	EB	NB	NB	B198	SB	SB
Directions Served	L	LR	L	T	T	TR	R
Maximum Queue (ft)	32	4	233	1235	111	112	78
Average Queue (ft)	5	0	59	576	40	37	6
95th Queue (ft)	22	2	241	1636	156	95	41
Link Distance (ft)	1339	1339		1383	132	662	662
Upstream Blk Time (%)				18	16		
Queuing Penalty (veh)				0	0		
Storage Bay Dist (ft)			200				
Storage Blk Time (%)				36			
Queuing Penalty (veh)				11			

Intersection: 2:

Movement	WB	WB	NB	NB
Directions Served	T	T	T	T
Maximum Queue (ft)	187	181	109	105
Average Queue (ft)	153	149	64	52
95th Queue (ft)	183	181	107	94
Link Distance (ft)	80	80	61	61
Upstream Blk Time (%)	39	38	8	5
Queuing Penalty (veh)	163	157	13	8
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3:

Movement	EB	EB	SB	SB
Directions Served	T	T	T	T
Maximum Queue (ft)	168	169	138	133
Average Queue (ft)	130	132	90	71
95th Queue (ft)	175	171	140	131
Link Distance (ft)	85	85	58	58
Upstream Blk Time (%)	12	13	18	12
Queuing Penalty (veh)	56	60	33	22
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Tracy Hills Dr

Movement	EB	EB	EB	B21	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B53	B53
Directions Served	L	T	R	T	L	T	R	L	L	T	T	R	L	L	T	T	R	T	T
Maximum Queue (ft)	314	612	55	4	225	498	275	288	443	549	552	369	327	339	216	209	243	43	92
Average Queue (ft)	258	206	15	0	103	98	200	114	158	345	351	83	186	198	108	117	102	2	4
95th Queue (ft)	350	573	43	4	188	351	303	222	362	534	538	294	294	302	183	187	186	37	73
Link Distance (ft)		860	860	915		1145				617	617				638	638		5945	5945
Upstream Blk Time (%)		0								2	2								
Queuing Penalty (veh)		0								12	13								
Storage Bay Dist (ft)	240					200		200	440	440			380	560	560		430		
Storage Blk Time (%)	27	0				2	0	15	0	0	4	9							
Queuing Penalty (veh)	21	0				10	0	23	0	0	16	14							

Intersection: 15: CORRAL HOLLOW RD

Movement	NB
Directions Served	R
Maximum Queue (ft)	3
Average Queue (ft)	0
95th Queue (ft)	3
Link Distance (ft)	662
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 16:

Movement	WB	WB	SB
Directions Served	T	T	R
Maximum Queue (ft)	70	72	165
Average Queue (ft)	49	49	99
95th Queue (ft)	59	59	161
Link Distance (ft)	1	1	64
Upstream Blk Time (%)	0	0	16
Queuing Penalty (veh)	0	0	49
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 18:

Movement	NB	NB
Directions Served	R	R
Maximum Queue (ft)	81	83
Average Queue (ft)	12	12
95th Queue (ft)	119	122
Link Distance (ft)	717	717
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 19: EB I-580 OFF RAMP

Movement	SE	SE	SE
Directions Served	L	L	R
Maximum Queue (ft)	100	121	70
Average Queue (ft)	9	34	5
95th Queue (ft)	51	95	34
Link Distance (ft)		379	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	150		246
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 25: EB I-580 ON RAMP

Movement					
Directions Served					
Maximum Queue (ft)					
Average Queue (ft)					
95th Queue (ft)					
Link Distance (ft)					
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 26: CORRAL HOLLOW RD

Movement	NB	NB	NE	NE	
Directions Served	T	T	L	L	
Maximum Queue (ft)	67	77	153	173	
Average Queue (ft)	41	40	100	139	
95th Queue (ft)	62	67	152	177	
Link Distance (ft)	2	2	56	56	
Upstream Blk Time (%)	0	0	29	43	
Queuing Penalty (veh)	0	0	104	154	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 28:

Movement	WB	WB	NB	NB	
Directions Served	T	T	L	L	
Maximum Queue (ft)	75	67	168	157	
Average Queue (ft)	48	44	117	94	
95th Queue (ft)	65	69	168	150	
Link Distance (ft)	6	6	68	68	
Upstream Blk Time (%)	0	0	26	17	
Queuing Penalty (veh)	0	0	78	51	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 32: CORRAL HOLLOW RD

Movement	EB	EB
Directions Served	LT	T
Maximum Queue (ft)	128	124
Average Queue (ft)	26	29
95th Queue (ft)	82	89
Link Distance (ft)	303	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 35: Bend

Movement	SE	B215
Directions Served	T	T
Maximum Queue (ft)	8	2
Average Queue (ft)	0	0
95th Queue (ft)	7	2
Link Distance (ft)	618	787
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 36:

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	121	94
Average Queue (ft)	22	7
95th Queue (ft)	79	44
Link Distance (ft)	690	690
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 38:

Movement	EB	EB	NB
Directions Served	T	T	R
Maximum Queue (ft)	68	80	185
Average Queue (ft)	45	48	122
95th Queue (ft)	59	65	184
Link Distance (ft)	3	3	72
Upstream Blk Time (%)	0	0	22
Queuing Penalty (veh)	0	0	88
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 39: WB I-580 OFF RAMP

Movement	NW	NW	NW
Directions Served	T	T	R
Maximum Queue (ft)	64	35	93
Average Queue (ft)	5	2	11
95th Queue (ft)	31	15	54
Link Distance (ft)	535	535	535
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 40: WB I-580 ON RAMP

Movement		
Directions Served		
Maximum Queue (ft)		
Average Queue (ft)		
95th Queue (ft)		
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 41:

Movement	WB	WB
Directions Served	LT	T
Maximum Queue (ft)	196	178
Average Queue (ft)	54	44
95th Queue (ft)	141	123
Link Distance (ft)	295	295
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 42: CORRAL HOLLOW RD

Movement	NB	NB
Directions Served	T	T
Maximum Queue (ft)	47	35
Average Queue (ft)	4	2
95th Queue (ft)	27	18
Link Distance (ft)	470	470
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

1: Lammers Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0	0	0	0	0	0	0
Total Delay (hr)	0	0	0.4	20.8	0.6	1.1	23
Total Stops	5	0	13	557	36	52	663
Travel Dist (mi)	21.8	0.9	7.4	313.8	30.1	123.7	497.7
Travel Time (hr)	0.8	0	0.6	27.2	1.2	4.7	34.6
Avg Speed (mph)	27	27	13	12	25	26	14
Fuel Used (gal)	0.6	0	0.3	12.8	0.5	2.2	16.4
HC Emissions (g)	6	0	6	235	9	41	297
CO Emissions (g)	106	3	200	7540	189	900	8938
NOx Emissions (g)	17	0	14	546	25	111	713
Vehicles Exited	86	4	27	1136	224	918	2395
Hourly Exit Rate	86	4	27	1136	224	918	2395
Input Volume	86	3	31	1182	221	906	2430
% of Volume	100	133	87	96	101	101	99

2: Performance by movement

Movement	WBT	NBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	5	1	6
Total Stops	528	164	692
Travel Dist (mi)	22.6	5.2	27.8
Travel Time (hr)	5.7	1.2	6.9
Avg Speed (mph)	4	4	4
Fuel Used (gal)	2	0.4	2.4
HC Emissions (g)	20	4	24
CO Emissions (g)	412	81	493
NOx Emissions (g)	55	10	65
Vehicles Exited	838	317	1155
Hourly Exit Rate	838	317	1155
Input Volume	823	326	1149
% of Volume	102	97	101

3: Performance by movement

Movement	EBT	SBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	2.5	1.4	3.9
Total Stops	456	207	663
Travel Dist (mi)	23.8	6.9	30.7
Travel Time (hr)	3.3	1.6	4.9
Avg Speed (mph)	7	4	6
Fuel Used (gal)	1.5	0.5	2
HC Emissions (g)	17	6	23
CO Emissions (g)	341	113	454
NOx Emissions (g)	51	15	65
Vehicles Exited	959	364	1323
Hourly Exit Rate	959	364	1323
Input Volume	953	362	1315
% of Volume	101	100	101

4: Tracy Hills Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0	0	0	0.1	0	0.4	0	0	0	0	0	0	0.6
Total Delay (hr)	7.6	1.2	0.1	2.2	0.4	4.1	3.7	14.9	0.4	7.4	4.2	1.3	47.6
Total Stops	377	66	23	122	19	368	250	775	121	400	219	252	2992
Travel Dist (mi)	59.3	13	13	26.8	4.2	108.4	44.9	108.3	19.6	61.2	34.8	53.6	547.1
Travel Time (hr)	10.1	1.7	0.6	3.3	0.5	8.5	5.7	18.7	1.3	9.3	4.9	3	67.6
Avg Speed (mph)	6	8	21	8	8	13	8	6	15	7	7	18	8
Fuel Used (gal)	3.4	0.6	0.3	1.3	0.2	3.9	3.1	8.5	1.1	2.9	1.6	1.2	28.2
HC Emissions (g)	15	4	3	7	1	32	57	129	21	33	18	21	341
CO Emissions (g)	422	112	61	226	29	810	1926	3726	782	905	513	626	10138
NOx Emissions (g)	46	12	9	20	2	88	164	372	65	70	40	51	939
Vehicles Exited	342	75	75	123	19	496	358	858	154	464	265	411	3640
Hourly Exit Rate	342	75	75	123	19	496	358	858	154	464	265	411	3640
Input Volume	341	76	73	126	20	503	355	851	150	475	266	403	3638
% of Volume	100	98	103	98	96	99	101	101	102	98	100	102	100

15: CORRAL HOLLOW RD Performance by movement

Movement	NBR	SBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.4	0.3	0.8
Total Stops	1	0	1
Travel Dist (mi)	216.2	142.1	358.3
Travel Time (hr)	8.9	3.2	12.1
Avg Speed (mph)	24	44	30
Fuel Used (gal)	13.6	4.5	18.1
HC Emissions (g)	342	114	456
CO Emissions (g)	14097	3810	17906
NOx Emissions (g)	972	370	1343
Vehicles Exited	1224	1146	2370
Hourly Exit Rate	1224	1146	2370
Input Volume	1268	1127	2398
% of Volume	97	102	99

16: Performance by movement

Movement	WBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.2	1.1	1.2
Total Stops	0	161	161
Travel Dist (mi)	5.1	8.5	13.6
Travel Time (hr)	0.3	1.3	1.7
Avg Speed (mph)	15	6	8
Fuel Used (gal)	0.4	0.6	1
HC Emissions (g)	7	8	15
CO Emissions (g)	156	258	413
NOx Emissions (g)	30	22	52
Vehicles Exited	838	309	1147
Hourly Exit Rate	838	309	1147
Input Volume	823	304	1127
% of Volume	102	102	102

18: Performance by movement

Movement	NBR	SWT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	2.8	0.6	3.4
Total Stops	38	0	38
Travel Dist (mi)	203.2	63.4	266.6
Travel Time (hr)	9.6	2.3	11.8
Avg Speed (mph)	21	28	23
Fuel Used (gal)	7.8	3.6	11.5
HC Emissions (g)	173	77	251
CO Emissions (g)	5955	3447	9402
NOx Emissions (g)	512	232	744
Vehicles Exited	1360	471	1831
Hourly Exit Rate	1360	471	1831
Input Volume	1355	469	1824
% of Volume	100	100	100

19: EB I-580 OFF RAMP Performance by movement

Movement	SEL	SER	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.9	0.3	1.2
Total Stops	51	7	58
Travel Dist (mi)	59.6	25.5	85.1
Travel Time (hr)	2.4	0.9	3.4
Avg Speed (mph)	24	28	25
Fuel Used (gal)	1.1	0.7	1.7
HC Emissions (g)	18	14	33
CO Emissions (g)	541	537	1078
NOx Emissions (g)	45	36	81
Vehicles Exited	727	311	1038
Hourly Exit Rate	727	311	1038
Input Volume	716	304	1020
% of Volume	102	102	102

25: EB I-580 ON RAMP Performance by movement

Movement	EBR	SBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.7	0.1	0.8
Total Stops	0	2	2
Travel Dist (mi)	22.3	3.1	25.4
Travel Time (hr)	1.4	0.2	1.6
Avg Speed (mph)	15	19	16
Fuel Used (gal)	1.3	0.3	1.6
HC Emissions (g)	25	6	31
CO Emissions (g)	639	200	839
NOx Emissions (g)	91	20	111
Vehicles Exited	907	134	1041
Hourly Exit Rate	907	134	1041
Input Volume	942	135	1077
% of Volume	96	99	97

26: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NEL	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	3.5	3.5
Total Stops	0	402	402
Travel Dist (mi)	1.6	18.4	20
Travel Time (hr)	0.1	4	4.2
Avg Speed (mph)	14	5	5
Fuel Used (gal)	0.1	1.5	1.6
HC Emissions (g)	2	16	18
CO Emissions (g)	41	364	405
NOx Emissions (g)	7	48	55
Vehicles Exited	317	732	1049
Hourly Exit Rate	317	732	1049
Input Volume	326	716	1042
% of Volume	97	102	101

28: Performance by movement

Movement	WBT	NBL	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	2.9	3
Total Stops	0	355	355
Travel Dist (mi)	2.2	16.2	18.4
Travel Time (hr)	0.2	3.2	3.4
Avg Speed (mph)	14	5	5
Fuel Used (gal)	0.2	1.2	1.3
HC Emissions (g)	3	12	15
CO Emissions (g)	59	279	337
NOx Emissions (g)	10	35	45
Vehicles Exited	364	602	966
Hourly Exit Rate	364	602	966
Input Volume	362	596	958
% of Volume	100	101	101

32: CORRAL HOLLOW RD Performance by movement

Movement	EBL	EBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	1.2	1.3
Total Stops	0	74	74
Travel Dist (mi)	6.1	64.6	70.7
Travel Time (hr)	0.3	3.4	3.7
Avg Speed (mph)	20	19	19
Fuel Used (gal)	0.3	2.8	3.1
HC Emissions (g)	5	55	59
CO Emissions (g)	138	1491	1629
NOx Emissions (g)	17	181	198
Vehicles Exited	86	961	1047
Hourly Exit Rate	86	961	1047
Input Volume	89	954	1042
% of Volume	97	101	100

36: Performance by movement

Movement	SBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.3	0	0.3
Total Stops	36	0	36
Travel Dist (mi)	50.9	14.7	65.6
Travel Time (hr)	2	0.5	2.5
Avg Speed (mph)	25	29	26
Fuel Used (gal)	1.3	0.4	1.7
HC Emissions (g)	20	7	27
CO Emissions (g)	350	135	485
NOx Emissions (g)	55	19	74
Vehicles Exited	365	106	471
Hourly Exit Rate	365	106	471
Input Volume	362	101	464
% of Volume	101	105	102

38: Performance by movement

Movement	EBT	NBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.2	1.5	1.6
Total Stops	0	203	203
Travel Dist (mi)	5.3	11.5	16.8
Travel Time (hr)	0.3	1.8	2.2
Avg Speed (mph)	16	6	8
Fuel Used (gal)	0.4	0.8	1.2
HC Emissions (g)	7	11	18
CO Emissions (g)	139	343	481
NOx Emissions (g)	27	30	57
Vehicles Exited	958	404	1362
Hourly Exit Rate	958	404	1362
Input Volume	953	402	1354
% of Volume	101	101	101

39: WB I-580 OFF RAMP Performance by movement

Movement	NWT	NWR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.6	0.3	0.9
Total Stops	10	14	24
Travel Dist (mi)	67.2	45.4	112.7
Travel Time (hr)	2.1	1.4	3.6
Avg Speed (mph)	32	31	32
Fuel Used (gal)	1	0.7	1.7
HC Emissions (g)	19	13	32
CO Emissions (g)	521	302	823
NOx Emissions (g)	49	34	83
Vehicles Exited	601	404	1005
Hourly Exit Rate	601	404	1005
Input Volume	596	402	998
% of Volume	101	101	101

40: WB I-580 ON RAMP Performance by movement

Movement	WBT	SBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0	0	0
Total Stops	0	0	0
Travel Dist (mi)	1.7	3.3	5.1
Travel Time (hr)	0.1	0.1	0.2
Avg Speed (mph)	24	29	27
Fuel Used (gal)	0.2	0.1	0.3
HC Emissions (g)	3	1	5
CO Emissions (g)	150	22	172
NOx Emissions (g)	11	4	15
Vehicles Exited	86	106	192
Hourly Exit Rate	86	106	192
Input Volume	89	101	190
% of Volume	97	105	101

41: Performance by movement

Movement	WBL	WBT	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.3	1.3	1.6
Total Stops	27	136	163
Travel Dist (mi)	8.9	52.7	61.6
Travel Time (hr)	0.6	3.1	3.6
Avg Speed (mph)	15	17	17
Fuel Used (gal)	0.4	2.5	2.8
HC Emissions (g)	6	48	54
CO Emissions (g)	158	1362	1520
NOx Emissions (g)	21	159	179
Vehicles Exited	134	832	966
Hourly Exit Rate	134	832	966
Input Volume	135	824	959
% of Volume	99	101	101

42: CORRAL HOLLOW RD Performance by movement

Movement	NBT	NBR	All
Denied Delay (hr)	0	0	0
Total Delay (hr)	0.1	0.6	0.7
Total Stops	6	0	6
Travel Dist (mi)	31.6	90	121.6
Travel Time (hr)	1.2	3.6	4.8
Avg Speed (mph)	27	25	25
Fuel Used (gal)	0.7	1.8	2.5
HC Emissions (g)	11	33	45
CO Emissions (g)	197	721	917
NOx Emissions (g)	30	81	110
Vehicles Exited	318	907	1225
Hourly Exit Rate	318	907	1225
Input Volume	326	942	1268
% of Volume	97	96	97

Total Network Performance

Denied Delay (hr)	14.3
Total Delay (hr)	123.4
Total Stops	7105
Travel Dist (mi)	8840.9
Travel Time (hr)	364.2
Avg Speed (mph)	25
Fuel Used (gal)	317.8
HC Emissions (g)	6429
CO Emissions (g)	193245
NOx Emissions (g)	20806
Vehicles Exited	5728
Hourly Exit Rate	5728
Input Volume	51327
% of Volume	11

Appendix Q. Design Year (2048) No Lammers Build HCS Outputs

HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/15/2024
Agency	Kimley-Horn	Analysis Year	2048
Jurisdiction	Caltrans D10	Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/ Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	18
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy	5280	2
2	Basic	Basic	Segment Starts	2000	2
3	Merge	Merge	Patterson Pass Rd On-Ramp	1500	2
4	Basic	Basic	Subsegment 1	3373	2
5	Basic	Basic	Subsegment 2	3373	2
6	Basic	Basic	Subsegment 3	3373	2
7	Basic	Basic	Subsegment 4	3373	2
8	Basic	Basic	Subsegment 5	3373	2
9	Basic	Basic	Subsegment 6	3373	2
10	Basic	Basic	Subsegment 7	3373	2
11	Diverge	Diverge	Corral Hollow Rd Off-Ramp	1500	2
12	Basic	Basic	Between Corral Hollow Rd OFF/ON	1730	2
13	Merge	Merge	Corral Hollow Rd On-Ramp	1500	2
14	Basic	Basic	Subsegment 1	4010	2
15	Basic	Basic	Subsegment 2	4010	2
16	Basic	Basic	Subsegment 3	4010	2
17	Diverge	Diverge	SR 132 Off-Ramp	1500	2
18	Basic	Basic	Segment Ends	5280	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	489	4507	0.11	71.2	3.4	A
3	1.00	0.877	750	4507	0.17	71.2	5.3	A

4	1.00	0.877	867	4507	0.19	71.2	6.1	A

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	489	4507	0.11	71.2	3.4	A
3	1.00	0.877	750	4507	0.17	71.2	5.3	A
4	1.00	0.877	867	4507	0.19	71.2	6.1	A

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	642	153	4507	1878	0.14	0.08	62.2	62.2	5.2	8.6	A
3	1.00	1.00	0.877	0.877	897	147	4507	1878	0.20	0.08	62.1	62.1	7.2	10.6	B
4	1.00	1.00	0.877	0.877	1175	308	4507	1878	0.26	0.16	62.0	62.0	9.5	12.7	B

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	642	4507	0.14	71.0	4.5	A
3	1.00	0.877	897	4507	0.20	71.0	6.3	A
4	1.00	0.877	1174	4507	0.26	71.0	8.2	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	642	4507	0.14	71.2	4.5	A
3	1.00	0.877	897	4507	0.20	71.2	6.3	A
4	1.00	0.877	1174	4507	0.26	71.2	8.2	A

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	642	4507	0.14	71.2	4.5	A
3	1.00	0.877	897	4507	0.20	71.2	6.3	A
4	1.00	0.877	1174	4507	0.26	71.2	8.2	A

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	642	4507	0.14	71.2	4.5	A
3	1.00	0.877	897	4507	0.20	71.2	6.3	A

4	1.00	0.877	1174	4507	0.26	71.2	8.2	A

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	642	4507	0.14	71.2	4.5	A
3	1.00	0.877	897	4507	0.20	71.2	6.3	A
4	1.00	0.877	1174	4507	0.26	71.2	8.2	A

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	642	4507	0.14	71.2	4.5	A
3	1.00	0.877	897	4507	0.20	71.2	6.3	A
4	1.00	0.877	1174	4507	0.26	71.2	8.2	A

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	642	4507	0.14	71.2	4.5	A
3	1.00	0.877	897	4507	0.20	71.2	6.3	A
4	1.00	0.877	1174	4507	0.26	71.2	8.2	A

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	3.4	A
2	1.00	1.00	0.877	0.877	642	108	4507	1878	0.14	0.06	57.7	57.7	5.6	8.9	A
3	1.00	1.00	0.877	0.877	897	201	4507	1878	0.20	0.11	57.5	57.5	7.8	11.1	B
4	1.00	1.00	0.877	0.877	1174	258	4507	1878	0.26	0.14	57.3	57.3	10.2	13.4	B

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	534	4507	0.12	70.2	3.8	A
3	1.00	0.877	697	4507	0.15	70.2	4.9	A
4	1.00	0.877	917	4507	0.20	70.2	6.4	A

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	1147	613	4507	1878	0.25	0.33	62.1	62.1	9.2	12.3	B

3	1.00	1.00	0.877	0.877	1452	755	4507	1878	0.32	0.40	61.9	61.9	11.7	14.6	B
4	1.00	1.00	0.877	0.877	2171	1254	4507	1878	0.48	0.67	61.4	61.4	17.7	20.0	B

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	1147	4507	0.25	71.1	8.1	A
3	1.00	0.877	1452	4507	0.32	71.1	10.2	A
4	1.00	0.877	2171	4507	0.48	71.1	15.3	B

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	1147	4507	0.25	71.2	8.1	A
3	1.00	0.877	1452	4507	0.32	71.2	10.2	A
4	1.00	0.877	2171	4507	0.48	71.1	15.3	B

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	1147	4507	0.25	71.2	8.1	A
3	1.00	0.877	1452	4507	0.32	71.2	10.2	A
4	1.00	0.877	2171	4507	0.48	71.1	15.3	B

Segment 17: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	2.5	A
2	1.00	1.00	0.877	0.877	1147	399	4507	1878	0.25	0.21	57.0	57.0	10.1	12.3	B
3	1.00	1.00	0.877	0.877	1452	596	4507	1878	0.32	0.32	56.5	56.5	12.8	14.9	B
4	1.00	1.00	0.877	0.877	2171	1047	4507	1878	0.48	0.56	55.3	55.3	19.6	21.1	C

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	748	4507	0.17	71.1	5.3	A
3	1.00	0.877	855	4507	0.19	71.1	6.0	A
4	1.00	0.877	1124	4507	0.25	71.1	7.9	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	70.8	0.0	0.0	9.00	A
2	1776	1728	0.63	15.66	69.5	5.5	4.8	9.20	A

3	2362	2306	0.85	21.13	69.4	7.3	6.4	9.20	A
4	3227	3130	1.30	32.39	69.2	10.0	8.8	9.20	A

Facility Overall Results

Space Mean Speed, mi/h	69.4	Average Density, veh/mi/ln	5.0
Average Travel Time, min	9.20	Average Density, pc/mi/ln	5.7
Total VMT, veh-mi	7365	Total VHD, veh-h	2.77
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	69.17

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HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/15/2024
Agency	Kimley-Horn	Analysis Year	2048
Jurisdiction	Caltrans D10	Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/ Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	18
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.59		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy	5280	2
2	Basic	Basic	Segment Starts	2000	2
3	Merge	Merge	Patterson Pass Rd On-Ramp	1500	2
4	Basic	Basic	Subsegment 1	3373	2
5	Basic	Basic	Subsegment 2	3373	2
6	Basic	Basic	Subsegment 3	3373	2
7	Basic	Basic	Subsegment 4	3373	2
8	Basic	Basic	Subsegment 5	3373	2
9	Basic	Basic	Subsegment 6	3373	2
10	Basic	Basic	Subsegment 7	3373	2
11	Diverge	Diverge	Corral Hollow Rd Off-Ramp	1500	2
12	Basic	Basic	Between Corral Hollow Rd OFF/ON	1730	2
13	Merge	Merge	Corral Hollow Rd On-Ramp	1500	2
14	Basic	Basic	Subsegment 1	4010	2
15	Basic	Basic	Subsegment 2	4010	2
16	Basic	Basic	Subsegment 3	4010	2
17	Diverge	Diverge	SR 132 Off-Ramp	1500	2
18	Basic	Basic	Segment Ends	5280	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3332	4507	0.74	65.4	25.5	C
3	1.00	0.877	3145	4507	0.76	66.9	23.5	F

4	1.00	0.877	3090	4507	0.63	67.3	23.0	C

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	3143	4507	0.74	27.5	57.2	F
3	1.00	0.877	3144	4507	0.76	17.7	88.8	F
4	1.00	0.877	3144	4507	0.63	18.3	85.8	F

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	4197	1393	4507	1878	1.05	0.74	51.8	51.8	43.8	38.4	F
3	1.00	1.00	0.877	0.877	4192	1271	4507	1878	1.04	0.68	53.0	53.0	41.6	37.5	F
4	1.00	1.00	0.877	0.877	4192	1424	4507	1878	0.94	0.76	51.4	51.4	44.4	38.6	E

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	4197	4507	1.05	55.0	38.2	F
3	1.00	0.877	4192	4507	1.04	55.1	38.0	F
4	1.00	0.877	4192	4507	0.94	55.1	38.0	E

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	4197	4507	1.05	55.0	38.2	F
3	1.00	0.877	4192	4507	1.04	55.1	38.0	F
4	1.00	0.877	4192	4507	0.94	55.1	38.0	E

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	4197	4507	1.05	55.0	38.2	F
3	1.00	0.877	4192	4507	1.04	55.1	38.0	F
4	1.00	0.877	4192	4507	0.94	55.1	38.0	E

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	4197	4507	1.05	55.0	38.2	F
3	1.00	0.877	4192	4507	1.04	55.1	38.0	F

4	1.00	0.877	4192	4507	0.94	55.1	38.0	E

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	4197	4507	1.05	55.0	38.2	F
3	1.00	0.877	4192	4507	1.04	55.1	38.0	F
4	1.00	0.877	4192	4507	0.94	55.1	38.0	E

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	4197	4507	1.05	55.0	38.2	F
3	1.00	0.877	4192	4507	1.04	55.1	38.0	F
4	1.00	0.877	4192	4507	0.94	55.1	38.0	E

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	4197	4507	1.05	55.0	38.2	F
3	1.00	0.877	4192	4507	1.04	55.1	38.0	F
4	1.00	0.877	4192	4507	0.94	55.1	38.0	E

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	3.4	A
2	1.00	1.00	0.877	0.877	4197	1049	4507	1878	1.05	0.56	55.3	55.3	37.9	39.4	F
3	1.00	1.00	0.877	0.877	4192	1108	4507	1878	1.04	0.59	55.1	55.1	38.0	39.4	F
4	1.00	1.00	0.877	0.877	4192	1166	4507	1878	0.94	0.62	55.0	55.0	38.1	39.4	E

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	3148	4507	0.82	66.9	23.5	C
3	1.00	0.877	3261	4507	0.79	66.0	24.7	C
4	1.00	0.877	3198	4507	0.69	66.5	24.0	C

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	66.8	62.3	0.0	3.7	A
2	1.00	1.00	0.877	0.877	4074	926	4507	1878	1.02	0.49	55.7	55.7	36.6	35.0	F

3	1.00	1.00	0.877	0.877	4406	1145	4507	1878	1.05	0.61	53.1	53.1	41.5	37.5	F
4	1.00	1.00	0.877	0.877	4429	1231	4507	1878	0.96	0.66	52.9	52.9	41.9	37.6	E

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	4074	4507	1.02	56.8	35.9	F
3	1.00	0.877	4406	4507	1.05	51.8	42.5	F
4	1.00	0.877	4429	4507	0.96	51.4	43.1	E

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	4074	4507	1.02	56.8	35.9	F
3	1.00	0.877	4406	4507	1.05	51.8	42.5	F
4	1.00	0.877	4429	4507	0.96	51.4	43.1	E

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	4074	4507	1.02	56.8	35.9	F
3	1.00	0.877	4406	4507	1.05	51.8	42.5	F
4	1.00	0.877	4429	4507	0.96	51.4	43.1	E

Segment 17: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.877	0	0	4507	1878	0.00	0.00	68.0	58.0	0.0	2.5	A
2	1.00	1.00	0.877	0.877	4074	2051	4507	1878	1.02	1.09	52.6	52.6	38.7	37.5	F
3	1.00	1.00	0.877	0.877	4406	2062	4507	1878	1.05	1.10	52.6	52.6	41.9	40.3	F
4	1.00	1.00	0.877	0.877	4429	1863	4507	1878	0.96	0.99	53.1	53.1	41.7	40.5	E

Segment 18: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	2023	4507	0.57	71.1	14.2	B
3	1.00	0.877	2442	4507	0.59	70.6	17.3	B
4	1.00	0.877	2492	4507	0.54	70.5	17.7	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	70.8	0.0	0.0	9.00	A
2	8842	9780	35.92	897.93	55.2	34.6	30.3	11.50	F

3	9103	9825	45.49	1137.28	52.5	37.4	32.8	12.10	F
4	9112	8847	45.44	1135.93	52.5	37.4	32.8	12.10	E

Facility Overall Results

Space Mean Speed, mi/h	53.4	Average Density, veh/mi/ln	24.0
Average Travel Time, min	11.90	Average Density, pc/mi/ln	27.3
Total VMT, veh-mi	27058	Total VHD, veh-h	126.85
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	3171.14

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HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/15/2024
Agency	Kimley-Horn	Analysis Year	2048
Jurisdiction	Caltrans D10	Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.84		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy Link	5280	2
2	Basic	Basic	Segment Starts	3560	2
3	Merge	Merge	SR 132 On-ramp	1500	2
4	Basic	Basic	Subsegment 1	3768	2
5	Basic	Basic	Subsegment 2	3768	2
6	Basic	Basic	Subsegment 3	3768	2
7	Basic	Basic	Subsegment 4	3768	2
8	Diverge	Diverge	Corral Hollow Rd Off-ramp	1500	2
9	Basic	Basic	Between Hollow Rd OFF/ON	1755	2
10	Merge	Merge	Corral Hollow Rd On-ramp	1500	2
11	Basic	Basic	Subsegment 1	3382	2
12	Basic	Basic	Subsegment 2	3382	2
13	Basic	Basic	Subsegment 3	3382	2
14	Basic	Basic	Subsegment 4	3382	2
15	Basic	Basic	Subsegment 5	3382	2
16	Basic	Basic	Subsegment 6	3382	2
17	Basic	Basic	Subsegment 7	3382	2
18	Diverge	Diverge	Mountain House Pkwy Off-ramp	1500	2
19	Basic	Basic	Segment Ends	1910	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4800	0.00	71.1	0.0	A
2	1.00	0.877	2550	4800	0.63	26.4	48.2	F

3	1.00	0.877	1451	4800	0.53	5.0	146.2	F
4	1.00	0.877	1513	4800	0.50	5.2	144.3	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.8	0.0	A
2	1.00	0.877	2240	3360	0.90	13.6	82.5	F
3	1.00	0.877	1431	2477	1.02	6.8	106.0	F
4	1.00	0.877	1651	2189	1.10	10.2	80.6	F

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2200	0.00	0.00	72.0	69.0	0.0	0.0	A
2	1.00	1.00	0.877	0.888	3013	2003	3236	2200	1.55	0.91	40.5	41.4	51.2	29.6	F
3	1.00	1.00	0.877	0.888	1908	2053	2052	2200	2.23	0.93	21.8	28.2	61.8	23.6	F
4	1.00	1.00	0.877	0.888	2201	2066	2367	2200	1.89	0.94	45.2	45.2	41.1	25.4	F

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3013	3451	1.46	42.6	35.4	F
3	1.00	0.877	1908	2669	1.72	27.9	34.1	F
4	1.00	0.877	2201	2525	1.79	41.4	26.6	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3013	3451	1.46	43.9	34.3	F
3	1.00	0.877	1908	2904	1.58	27.1	35.2	F
4	1.00	0.877	2201	2525	1.79	41.4	26.6	F

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	3013	3451	1.46	43.9	34.3	F
3	1.00	0.877	1908	2904	1.58	28.5	33.5	F
4	1.00	0.877	2201	2525	1.79	41.0	26.8	F

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2977	3451	1.46	30.9	48.2	F

3	1.00		0.877		1944		2904		1.58		27.6		35.2		F
4	1.00		0.877		2201		2669		1.69		43.6		25.2		F

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	3.4	A
2	1.00	1.00	0.877	0.842	2942	638	3191	2000	1.58	0.32	30.6	44.3	48.0	46.7	F
3	1.00	1.00	0.877	0.838	1979	545	2723	2000	1.69	0.27	23.6	32.3	30.6	20.4	F
4	1.00	1.00	0.877	0.842	2201	492	2502	2000	1.80	0.25	37.5	39.6	27.8	22.3	F

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	3547	0.00	70.0	0.0	A
2	1.00	0.877	2203	3000	1.48	15.5	70.8	F
3	1.00	0.877	1834	2525	1.62	23.4	39.2	F
4	1.00	0.877	1940	2381	1.70	32.9	29.5	F

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2000	0.00	0.00	70.0	65.0	0.0	3.7	A
2	1.00	1.00	0.877	0.888	2954	1535	3173	2000	1.88	0.77	43.8	44.1	42.4	32.1	F
3	1.00	1.00	0.877	0.888	2879	1702	2966	2000	1.95	0.85	28.8	34.8	50.8	30.5	F
4	1.00	1.00	0.877	0.888	2966	1738	2966	2000	1.95	0.87	37.1	39.5	46.6	31.6	F

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	74.9	0.0	A
2	1.00	0.877	2954	3643	1.64	54.2	27.3	F
3	1.00	0.877	2879	3547	1.64	39.9	36.0	F
4	1.00	0.877	2966	3163	1.83	38.9	38.1	F

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4123	1.45	63.1	23.4	F
3	1.00	0.877	2879	3547	1.64	43.2	33.3	F
4	1.00	0.877	2966	4027	1.44	50.5	29.4	F

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A

2	1.00	0.877	2954	4123	1.45	62.7	23.6	F
3	1.00	0.877	2879	3547	1.64	43.2	33.3	F
4	1.00	0.877	2966	4027	1.44	51.7	28.7	F

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4027	1.49	61.5	24.0	F
3	1.00	0.877	2879	3547	1.64	43.2	33.3	F
4	1.00	0.877	2966	4027	1.44	55.0	27.0	F

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4027	1.49	61.5	24.0	F
3	1.00	0.877	2879	3547	1.64	43.2	33.3	F
4	1.00	0.877	2966	4027	1.44	55.8	26.6	F

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4027	1.49	61.5	24.0	F
3	1.00	0.877	2879	3547	1.64	43.2	33.3	F
4	1.00	0.877	2966	4027	1.44	56.3	26.3	F

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	75.0	0.0	A
2	1.00	0.877	2954	4027	1.49	60.5	24.4	F
3	1.00	0.877	2879	3547	1.64	41.4	34.8	F
4	1.00	0.877	2966	4027	1.44	56.1	26.4	F

Segment 18: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	2.9	A
2	1.00	1.00	0.877	0.842	2954	1089	3776	2000	1.59	0.54	47.9	47.9	30.8	28.3	F
3	1.00	1.00	0.877	0.842	2879	1075	3326	2000	1.74	0.54	43.2	43.2	33.3	27.7	F
4	1.00	1.00	0.877	0.842	2966	992	3943	2000	1.47	0.50	55.2	55.2	26.9	28.4	F

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	72.1	0.0	A

2	1.00	0.877	1865	4027	1.23	50.7	18.3	F
3	1.00	0.877	2355	3547	1.34	43.1	27.3	F
4	1.00	0.877	2416	4027	1.20	56.7	21.3	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	73.8	0.0	0.0	8.80	A
2	6722	12015	49.89	1247.16	38.9	37.0	32.4	16.70	F
3	5481	11239	81.88	2046.91	23.2	49.9	43.8	28.10	F
4	5846	11128	93.09	2327.16	29.3	42.6	37.3	22.20	F

Facility Overall Results

Space Mean Speed, mi/h	29.6	Average Density, veh/mi/ln	28.4
Average Travel Time, min	22.00	Average Density, pc/mi/ln	32.4
Total VMT, veh-mi	18050	Total VHD, veh-h	224.85
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	5621.23

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HCS Freeway Facilities Report

Project Information

Analyst	HD	Date	7/15/2024
Agency	Kimley-Horn	Analysis Year	2048
Jurisdiction	Caltrans D10	Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-580/Corral Hollow Rd Interchange		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	4	Analysis Period Duration, min	15
Facility Length, mi	10.84		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Dummy Link	5280	2
2	Basic	Basic	Segment Starts	3560	2
3	Merge	Merge	SR 132 On-ramp	1500	2
4	Basic	Basic	Subsegment 1	3768	2
5	Basic	Basic	Subsegment 2	3768	2
6	Basic	Basic	Subsegment 3	3768	2
7	Basic	Basic	Subsegment 4	3768	2
8	Diverge	Diverge	Corral Hollow Rd Off-ramp	1500	2
9	Basic	Basic	Between Hollow Rd OFF/ON	1755	2
10	Merge	Merge	Corral Hollow Rd On-ramp	1500	2
11	Basic	Basic	Subsegment 1	3382	2
12	Basic	Basic	Subsegment 2	3382	2
13	Basic	Basic	Subsegment 3	3382	2
14	Basic	Basic	Subsegment 4	3382	2
15	Basic	Basic	Subsegment 5	3382	2
16	Basic	Basic	Subsegment 6	3382	2
17	Basic	Basic	Subsegment 7	3382	2
18	Diverge	Diverge	Mountain House Pkwy Off-ramp	1500	2
19	Basic	Basic	Segment Ends	1910	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	69.8	0.0	A
2	1.00	0.877	2116	4507	0.47	72.2	14.7	B

3	1.00	0.877	2189	4507	0.49	71.7	15.3	B
4	1.00	0.877	1926	4507	0.43	71.3	13.5	B

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.5	0.0	A
2	1.00	0.877	2116	4507	0.47	72.8	14.5	B
3	1.00	0.877	2189	4507	0.49	72.3	15.1	B
4	1.00	0.877	1926	4507	0.43	72.0	13.4	B

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2200	0.00	0.00	72.0	69.0	0.0	0.0	A
2	1.00	1.00	0.877	0.888	3206	1090	4507	2200	0.71	0.50	66.0	66.0	24.3	21.9	C
3	1.00	1.00	0.877	0.888	3286	1097	4507	2200	0.73	0.50	65.7	65.7	25.0	22.5	C
4	1.00	1.00	0.877	0.888	3129	1203	4507	2200	0.69	0.55	66.2	66.2	23.6	21.2	C

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A
2	1.00	0.877	3220	4507	0.71	67.4	23.9	C
3	1.00	0.877	3300	4507	0.73	66.6	24.8	C
4	1.00	0.877	3144	4507	0.70	68.4	23.0	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	3220	4507	0.71	67.4	23.9	C
3	1.00	0.877	3300	4507	0.73	66.7	24.7	C
4	1.00	0.877	3144	4507	0.70	68.3	23.0	C

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.7	0.0	A
2	1.00	0.877	3220	4507	0.71	67.3	23.9	C
3	1.00	0.877	3300	4507	0.73	66.4	24.8	C
4	1.00	0.877	3144	4507	0.70	68.3	23.0	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.5	0.0	A
2	1.00	0.877	3220	4507	0.71	67.1	24.0	C

3	1.00		0.877		3300		4507		0.73		66.5		24.8	C
4	1.00		0.877		3144		4507		0.70		68.1		23.1	C

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	3.4	A
2	1.00	1.00	0.877	0.842	3220	1295	4507	2000	0.71	0.65	57.0	57.0	28.2	31.0	D
3	1.00	1.00	0.877	0.838	3300	1321	4507	2000	0.73	0.66	56.9	56.9	29.0	31.7	D
4	1.00	1.00	0.877	0.842	3144	1186	4507	2000	0.70	0.59	57.3	57.3	27.4	30.4	D

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.2	0.0	A
2	1.00	0.877	1977	4507	0.44	71.9	13.5	B
3	1.00	0.877	2038	4507	0.45	72.0	13.9	B
4	1.00	0.877	2005	4507	0.44	72.3	13.7	B

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.888	0	0	4507	2000	0.00	0.00	70.0	65.0	0.0	3.7	A
2	1.00	1.00	0.877	0.888	2197	220	4507	2000	0.49	0.11	63.9	63.9	17.2	20.7	C
3	1.00	1.00	0.877	0.888	2252	214	4507	2000	0.50	0.11	63.9	63.9	17.6	21.1	C
4	1.00	1.00	0.877	0.888	2220	215	4507	2000	0.49	0.11	63.9	63.9	17.4	20.9	C

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.4	0.0	A
2	1.00	0.877	2200	4507	0.49	72.9	15.1	B
3	1.00	0.877	2254	4507	0.50	73.4	15.4	B
4	1.00	0.877	2222	4507	0.49	73.5	15.1	B

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	2200	4507	0.49	73.0	15.1	B
3	1.00	0.877	2254	4507	0.50	73.2	15.4	B
4	1.00	0.877	2222	4507	0.49	73.2	15.2	B

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	70.5	0.0	A

2	1.00	0.877	2200	4507	0.49	73.1	15.0	B
3	1.00	0.877	2254	4507	0.50	72.8	15.5	B
4	1.00	0.877	2222	4507	0.49	72.9	15.2	B

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.0	0.0	A
2	1.00	0.877	2200	4507	0.49	73.1	15.0	B
3	1.00	0.877	2254	4507	0.50	73.2	15.4	B
4	1.00	0.877	2222	4507	0.49	72.7	15.3	B

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.8	0.0	A
2	1.00	0.877	2200	4507	0.49	73.1	15.0	B
3	1.00	0.877	2254	4507	0.50	73.2	15.4	B
4	1.00	0.877	2222	4507	0.49	72.7	15.3	B

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.5	0.0	A
2	1.00	0.877	2200	4507	0.49	73.3	15.0	B
3	1.00	0.877	2254	4507	0.50	73.8	15.3	B
4	1.00	0.877	2222	4507	0.49	73.1	15.2	B

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.2	0.0	A
2	1.00	0.877	2200	4507	0.49	73.0	15.1	B
3	1.00	0.877	2254	4507	0.50	73.0	15.4	B
4	1.00	0.877	2222	4507	0.49	72.7	15.3	B

Segment 18: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	1.00	1.00	0.877	0.842	0	0	4507	2000	0.00	0.00	71.6	60.9	0.0	2.9	A
2	1.00	1.00	0.877	0.842	2200	188	4507	2000	0.49	0.09	60.3	60.3	18.2	21.8	C
3	1.00	1.00	0.877	0.842	2254	146	4507	2000	0.50	0.07	60.4	60.4	18.7	22.3	C
4	1.00	1.00	0.877	0.842	2222	184	4507	2000	0.49	0.09	60.3	60.3	18.4	22.0	C

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	1.00	0.877	0	4507	0.00	71.1	0.0	A

2	1.00	0.877	2019	4507	0.45	72.8	13.7	B
3	1.00	0.877	2114	4507	0.47	72.8	14.4	B
4	1.00	0.877	2046	4507	0.45	72.8	13.9	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	0	0	0.00	0.00	70.8	0.0	0.0	9.20	A
2	5933	5851	4.66	116.51	69.5	18.0	15.8	9.40	B
3	6092	6010	5.22	130.38	69.2	18.5	16.2	9.40	C
4	5835	5747	4.38	109.60	69.7	17.6	15.4	9.30	B

Facility Overall Results

Space Mean Speed, mi/h	69.4	Average Density, veh/mi/ln	11.9
Average Travel Time, min	9.40	Average Density, pc/mi/ln	13.5
Total VMT, veh-mi	17860	Total VHD, veh-h	14.26
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	356.49

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Appendix R. Diverging Diamond Interchange Draft Design Layout

LEGEND

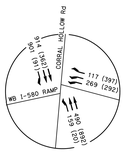
- BRIDGE WIDENING
- STAMPED CONCRETE
- MGS
- ROADWAY
- LANE STRIPE
- CONCRETE BARRIER
- CUT
- FILL
- SAWCUT

ALIGNMENT CURVE TABLE

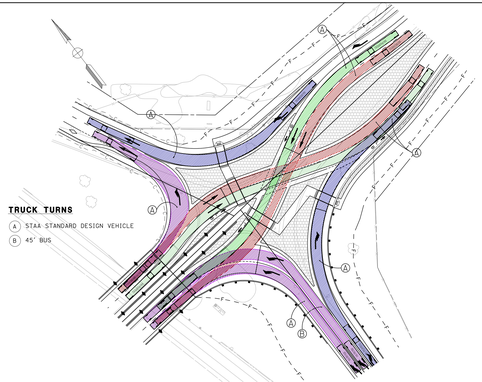
CURVE	RADIUS	DELTA	TANGENT	LENGTH
C1	770.00'	6°38'20"	44.66'	89.22'
C2	770.00'	6°34'48"	44.26'	88.43'
C3	1540.00'	11°33'14"	155.80'	310.54'
C4	3000.00'	3°11'29"	83.51'	167.10'
C5	2120.00'	3°53'45"	146.31'	292.15'
C6	2460.00'	8°17'21"	178.26'	355.89'
C7	3000.00'	3°11'29"	83.51'	167.10'
C8	1540.00'	10°09'13"	136.81'	272.91'

ALIGNMENT LINE TABLE

LINE #	LENGTH	DIRECTION
L2	300.06'	S53°14'52"E
L3	1005.26'	S56°26'21"E
L4	143.41'	S64°20'06"E
L5	405.59'	S37°17'07"E
L6	306.04'	S47°26'20"E
L7	310.55'	S47°13'27"E
L8	299.83'	S35°40'13"E
L9	193.38'	S64°43'54"E
L10	641.54'	S56°26'33"E
L11	299.94'	S53°15'04"E

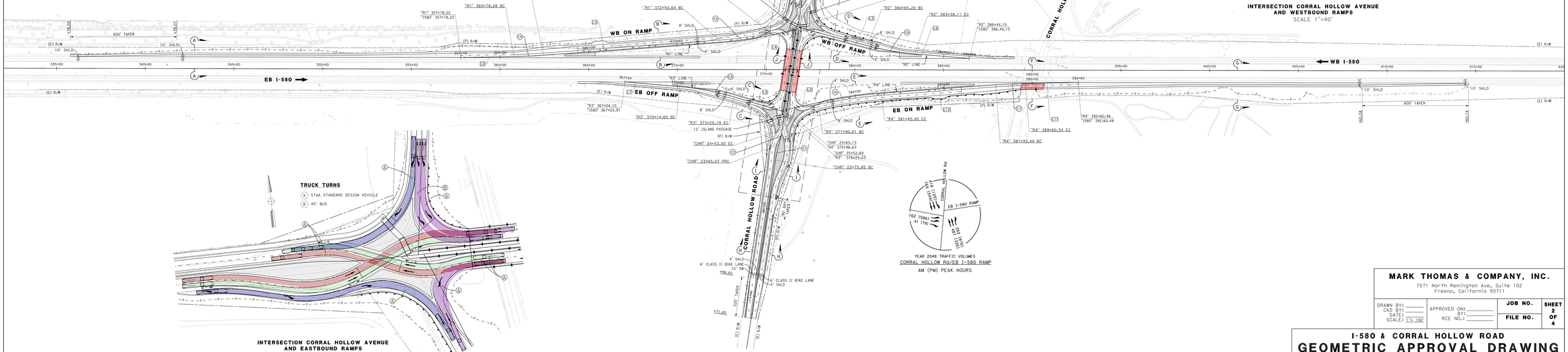


YEAR 2048 TRAFFIC VOLUMES
CORRAL HOLLOW Rd/WB I-580 RAMP
AM (PM) PEAK HOURS



TRUCK TURNS
- (A) STAA STANDARD DESIGN VEHICLE
- (B) 45' BUS

INTERSECTION CORRAL HOLLOW AVENUE AND WESTBOUND RAMPS
SCALE 1"=40'



TRUCK TURNS
- (A) STAA STANDARD DESIGN VEHICLE
- (B) 45' BUS

INTERSECTION CORRAL HOLLOW AVENUE AND EASTBOUND RAMPS
SCALE 1"=40'

YEAR 2048 TRAFFIC VOLUMES
CORRAL HOLLOW Rd/EB I-580 RAMP
AM (PM) PEAK HOURS

MARK THOMAS & COMPANY, INC.
7571 North Remington Ave, Suite 102
Fresno, California 93711

DRAWN BY: _____
CKD BY: _____
DATE: _____
SCALE: 1"= 100'

APPROVED ON: _____
BY: _____
RCE NO.: _____

JOB NO.

FILE NO.

SHEET 2 OF 4

I-580 & CORRAL HOLLOW ROAD
GEOMETRIC APPROVAL DRAWING

SCALE: 1" = 100'

USERNAME => jregier DGN FILE => I580_Corrol-IC_Geom.dwg

Appendix S. Opening Year (2028), Interim Year (2035), and Design Year (2048) With Lammers Forecast Memo

The interim year 2035 conditions fall under 2028 condition assumptions. These modifications are essential to account for potential changes in travel demand and traffic patterns within the City of Tracy and at the project location throughout the project's opening year, interim year, and design year. Consequently, there are two 2042 no-build networks, one for 2028 and 2035 forecasts and the other one for 2048 forecasts, as well as two 2042 build networks.

Table 1. Project Assumptions for No-Build and Build Networks

Project Name	Opening Year (2028)/ Interim Year (2035) (To be included Yes/No?)		Design Year (2048) (To be included Yes/No?)	
	No-Build	**Build**	**No-Build**	**Build**
SR 132 Corridor	Yes	Yes	Yes	Yes
I-580/Patterson Pass Rd IC	Yes	Yes	Yes	Yes
I-205/Chrisman Rd IC	Yes	Yes	Yes	Yes
I-205/Lammers Rd (New)/11th St (Exi)	Yes	Yes	Yes	Yes
I-205 MLP with Lane Add Option (Corridor)	**No**	**No**	Yes	Yes
I-580/Lammers Rd (New) IC	**No**	**No**	Yes	Yes
I-580/Iron Horse Rd (New) IC	**No**	**No**	**No**	**No**
I-580/Corral Hollow Rd (Project) IC	**No**	Yes	**No**	Yes

Land Use Assumptions

The I-205 Project Model 2042 scenario includes buildout land use for the River Islands project. To properly represent the land use for opening year 2028 and interim year 2035 forecasts, the fully buildout land use for the River Islands project was removed in the 2042 no-build and build scenarios for opening year 2028 and interim year 2035 forecasts. It included the partial build out that was included in the TCM model. The fully buildout land use for the River Islands project was retained in the 2042 no-build and build scenarios for design year 2048 forecasts.

Travel Demand Forecasting Results

For the opening year 2028 conditions, the 2042 no-build and build scenarios for opening year (2028) forecasts models were executed. The 2028 demand was calculated as follows:

$$2028\ Demand = Existing\ (2022)\ Demand + \frac{2042\ Future\ Model - \ 2019\ Base\ Model}{2042\ -\ 2019}\ x\ (2028 - 2022)$$

For the interim year 2035 conditions, the 2042 no-build and build scenarios for interim year (2035) forecasts models were executed. The 2035 demand was calculated as follows:

$$2035\ Demand = Existing\ (2022)\ Demand + \frac{2042\ Future\ Model - \ 2019\ Base\ Model}{2042\ -\ 2019}\ x\ (2035 - 2022)$$

Similarly, for the design year 2048 conditions, the 2042 no-build and build scenarios for design year (2048) forecasts models were executed. The 2048 demand was calculated as follows:

$$2048\ Demand = 2028\ Demand + \frac{2042\ Future\ Model - \ 2019\ Base\ Model}{2042\ -\ 2019}\ x\ (2048 - 2028)$$

After developing the demand from the forecast models, Caltrans requested additional adjustments to the ramp volumes. Ramp volumes were adjusted between 25% and 30% to calculate the final 2028, 2035, and 2048 ramp demand volumes.

The AM and PM peak period demand volumes for freeway mainline and ramps in 2028 no-build and build scenarios are illustrated in **Figure 1a** and **Figure 1b**, respectively. For interim year 2035 conditions, AM and PM peak period demand volumes for no-build and build scenarios are illustrated in **Figure 2a** and **Figure 2b**. Similarly, demand volumes for the 2048 no-build and build scenarios are illustrated in **Figure 3a** and **Figure 3b**.

Intersection turning movement volumes during AM and PM peak hours at the study intersections for the years 2028, 2035, and 2048 are presented in **Figure 4a** for the no-build scenario and **Figure 4b** for the build scenario.

For demand volumes on Tracy Hills Drive east of Corral Hollow Road, future volumes from a local traffic study were used. Under opening year 2028 conditions, it was assumed that only the planned residential developments would be completed. However, for interim year 2035 and design year 2048 conditions, full build-out, including commercial land uses, was assumed.

It is observed that the future forecast intersection turning movement demand volumes in 2035 interim conditions, prior to the opening of the Lammer Road Interchange, are typically higher than those for the 2048 design year conditions after the opening of Lammer Road interchange, except for a few movements due to change in land use and local growth in the project vicinity. However, the appropriate interchange configuration for Corral Hollow Road, including the number of travel lanes and storage lengths at the ramp termini intersections as well as for on-ramps, will be developed based on the worst-case scenario from the operational analysis of the future 2035 interim and 2048 conditions for the pre- and post-opening of the adjacent interchange at Lammer Road. This assumption was discussed with the Caltrans forecasting and operations team and received concurrence.

Figure 1a. Opening Year 2028 No-Build Scenario Hourly Mainline & Ramp Demand Volumes

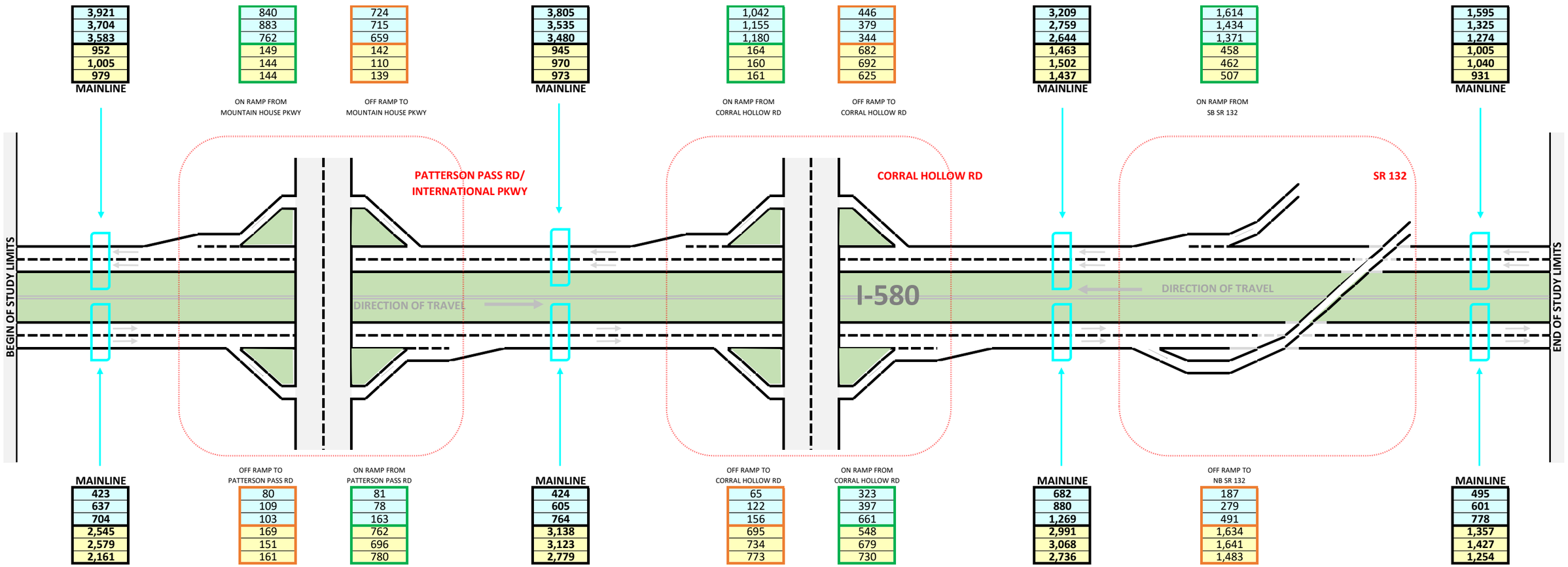


Figure 1b. Opening Year 2028 Build Scenario Hourly Mainline & Ramp Demand Volumes

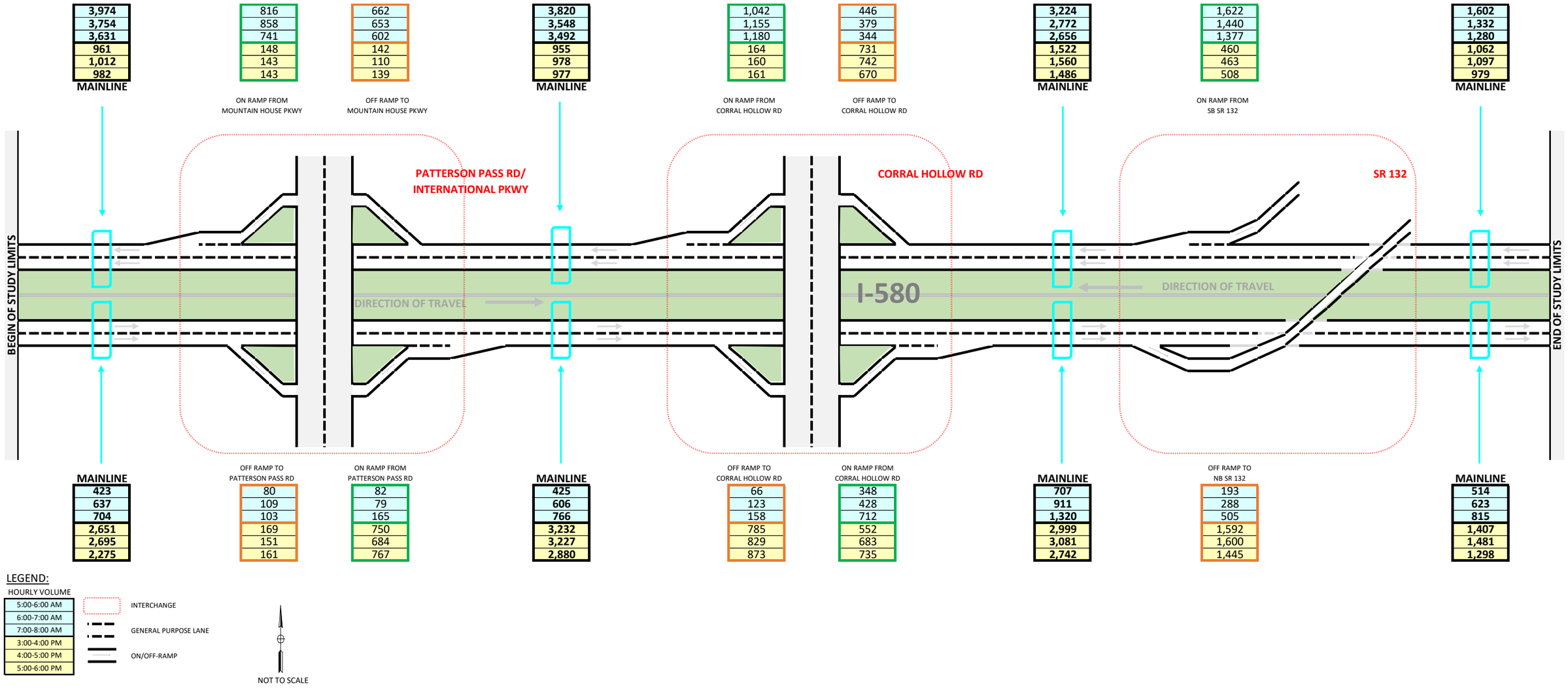


Figure 2a. Interim Year 2035 No-Build Scenario Hourly Mainline & Ramp Demand Volumes

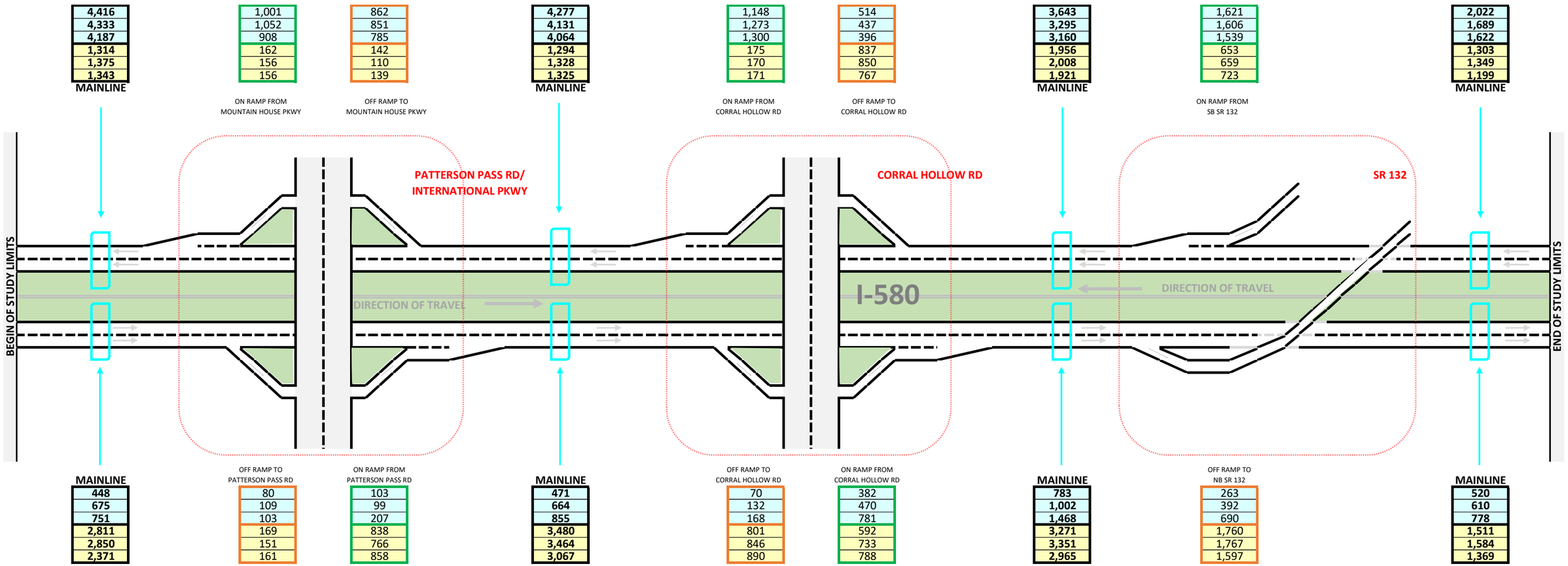


Figure 2b. Interim Year 2035 Build Scenario Hourly Mainline & Ramp Demand Volumes

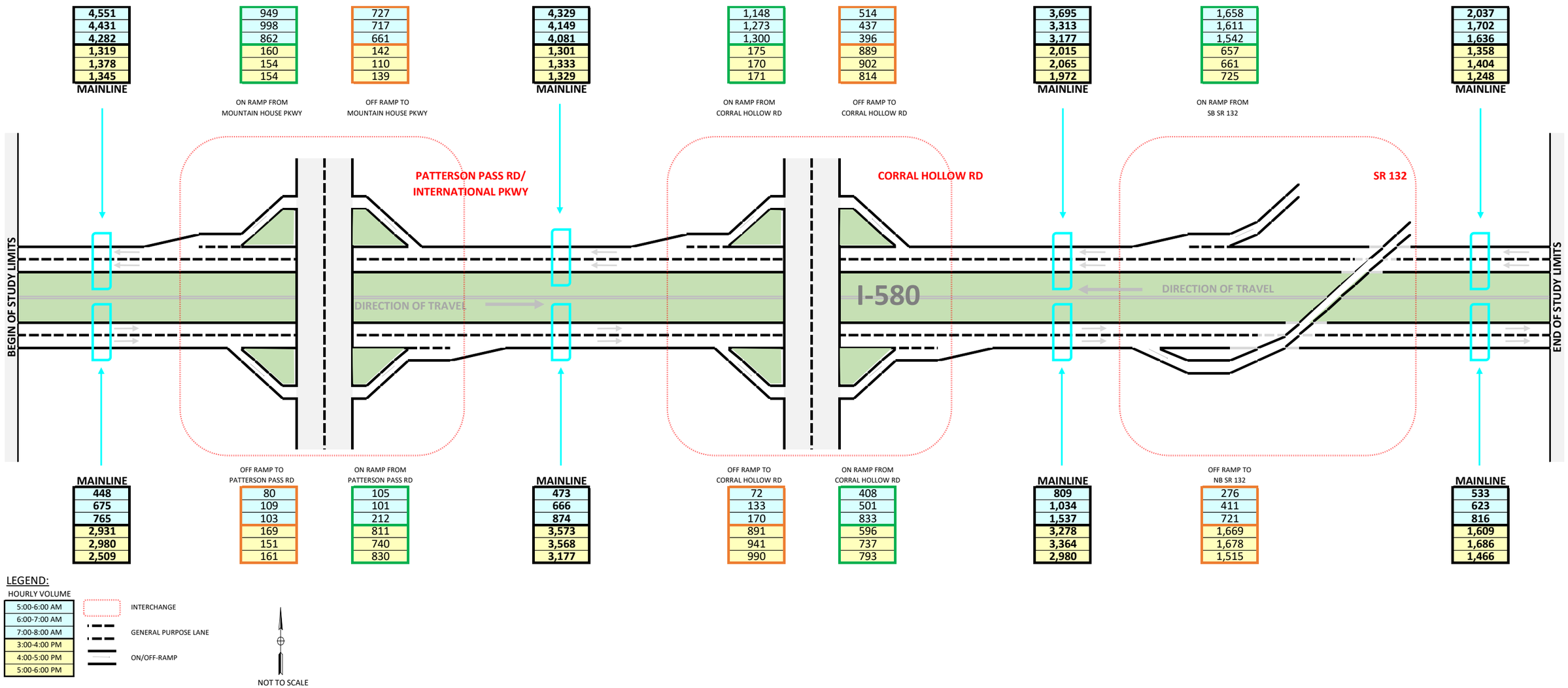


Figure 3a. Design Year 2048 No-Build Scenario Hourly Mainline & Ramp Demand Volumes

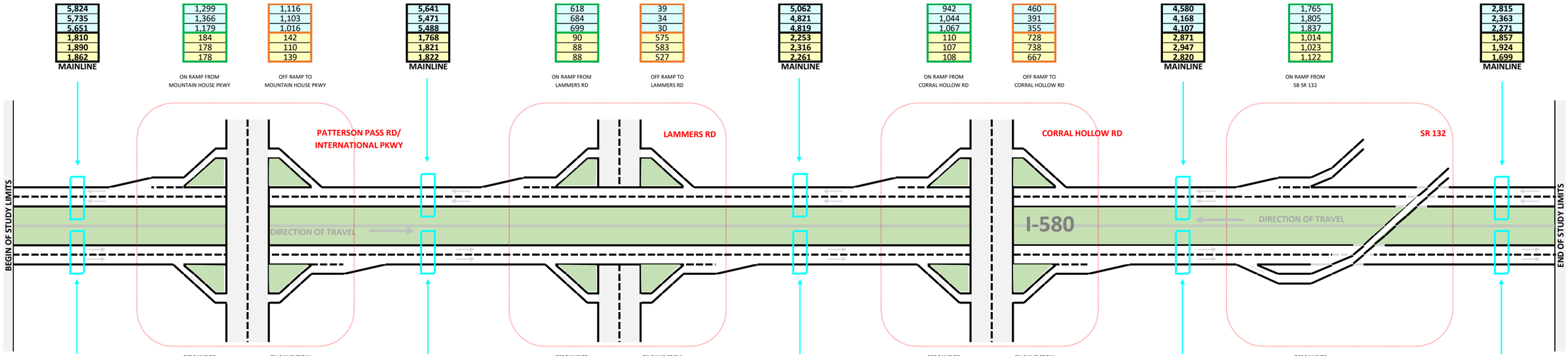


Figure 3b. Design Year 2048 Build Scenario Hourly Mainline & Ramp Demand Volumes

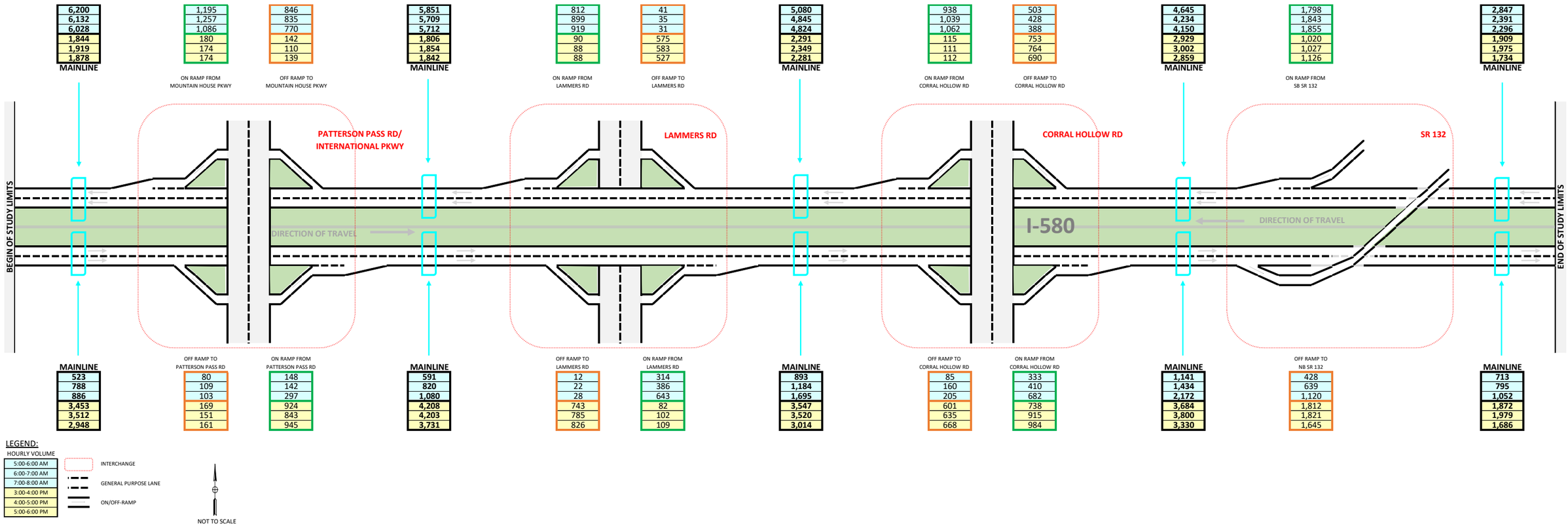
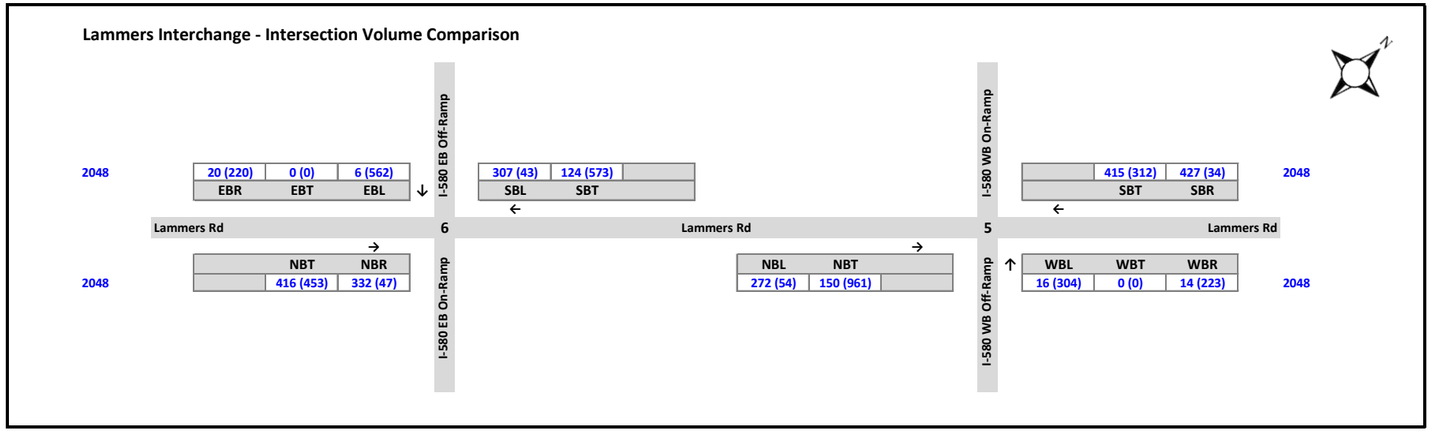


Figure 4a. No-Build Scenario Corral Hollow and Lammers Interchange Intersection Turning Movement Volumes



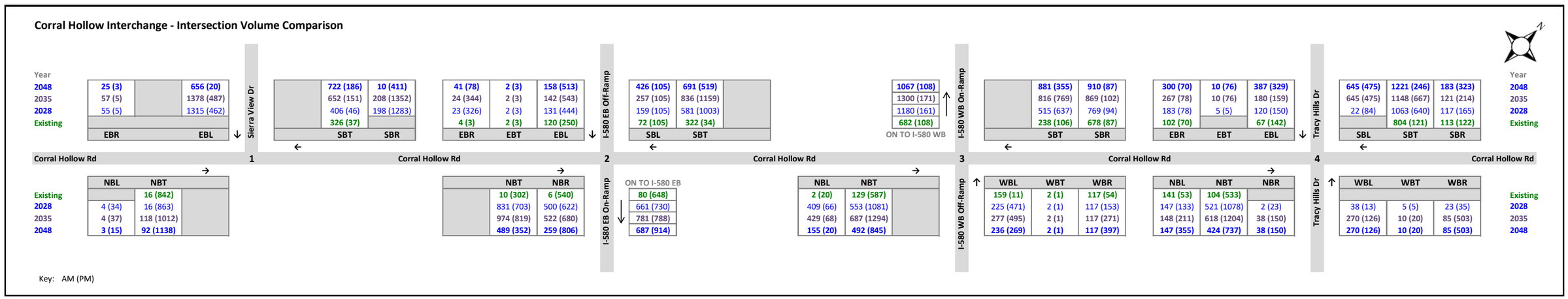
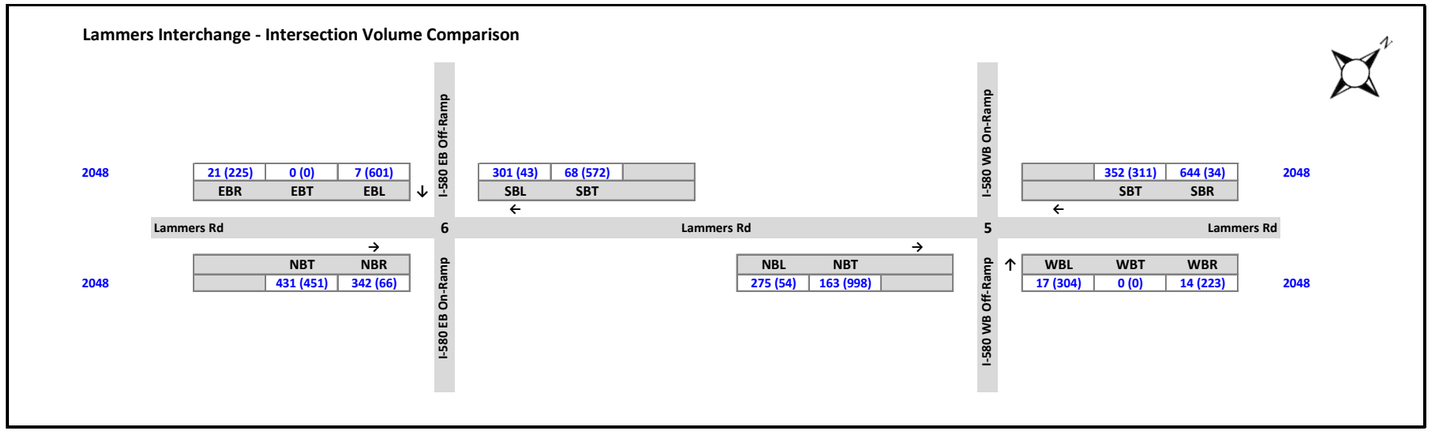
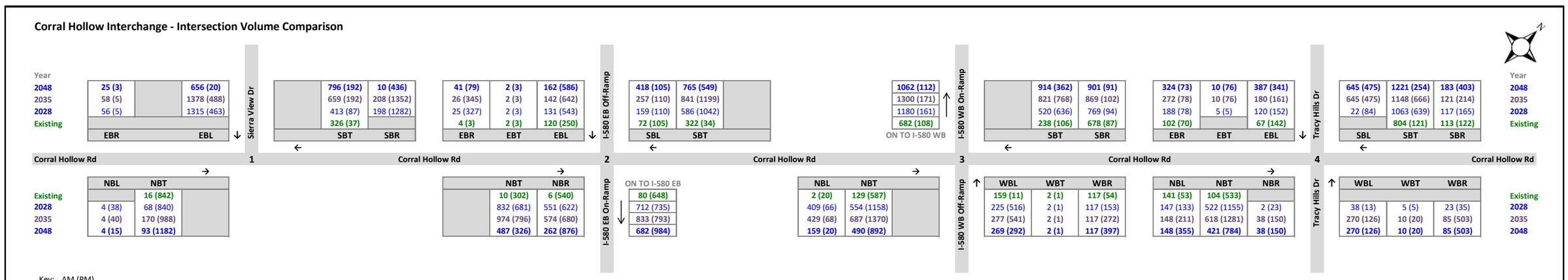


Figure 4b. Build Scenario Corral Hollow and Lammers Interchange Intersection Turning Movement Volumes





Appendix T. Design Year (2048) No Lammers Forecast Memo

MEMORANDUM

To: Eric Chin and Homer Zarzuela, Traffic Forecast, Caltrans D-10
Jaime Quesada and Ahmad Sahibzada, Traffic Operations, Caltrans D-10
Md Alam, Project Manager, Caltrans D-10

Cc: Sharat Bandugula, and Selvi Sivaraj, City of Tracy
Shira Rajendra and Matt Brogan, MTCo
Frederik Venter, KHA

From: Lawrence Liao, ETG
Ravi Puttagunta and Ha Dao, KHA

Date: 04/08/2025

Re: I-580/Corral Hollow Road Interchange Project –Travel Demand Forecasting Memorandum – 2048 Build Conditions without I-580/Lammers Road Interchange

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This memorandum summarizes the travel demand forecasting assumptions, procedure, and results for use in the I-580/Corral Hollow Road Interchange Project in the City of Tracy.

Travel Demand Forecasting Assumptions

As discussed and agreed upon during the PDT meeting on August 10, 2023, the projected opening year and design year for the I-580/Corral Hollow Road Interchange Project are 2028 and 2048, respectively. During the February 14, 2024 meeting, Caltrans requested an additional interim traffic volume forecast and operations analysis for the year 2035 to identify the appropriate size of the interchange prior to the opening of the I-580/Lammers Road interchange. Additionally, Caltrans requested a separate 2048 design year Build traffic volume forecast and operations analysis for the Corral Hollow Road Interchange without the opening of the I-580/Lammers Road interchange, in response to the FHWA's sensitivity analysis requirement.

In accordance with the agreement, the calibrated and approved forecast model for the I-205 Managed Lanes Project (I-205 Project Model) was utilized as the modeling tool for the I-580/Corral Hollow Road Interchange Project. This approach is consistent with the volume developments used for other project scenarios, as documented in the previous forecast memorandum. The memorandum, which includes forecasts for the 2028 opening year, 2035 interim year, and 2048 design year with Lammers Road interchange scenarios, along with the I-205 base year model validation memorandum, is included in **Attachment A**.

Travel Demand Forecasting Procedure

The 2048 design year Build without Lammers Road interchange demand would be calculated by comparing the 2042 Build without Lammers Road interchange and 2042 Build with Lammers Road interchange model volumes.

Network Assumptions

For the design year 2048 without Lammers Road interchange scenario, the I-205 Project Model 2042 networks were modified to remove the I-580 Lammers Road interchange off-/on-ramps for the build scenario, as shown in **Table 1**.

Table 1. Project Assumptions for 2048 Networks

Project Name	Design Year (2048) With Lammers Rd IC (To be included Yes/No?)		Design Year (2048) Without Lammers Rd IC (To be included Yes/No?)
	No-Build	**Build**	**Build**
SR 132 Corridor	Yes	Yes	Yes
I-580/Patterson Pass Rd IC	Yes	Yes	Yes
I-205/Chrisman Rd IC	Yes	Yes	Yes
I-205/Lammers Rd (New)/11th St (Existing)	Yes	Yes	Yes
I-205 MLP with Lane Add Option (Corridor)	Yes	Yes	Yes
I-580/Lammers Rd (New) IC	Yes	Yes	**No**
I-580/Iron Horse Rd (New) IC	**No**	**No**	**No**
I-580/Corral Hollow Rd (Project) IC	**No**	Yes	Yes

Land Use Assumptions

The I-205 Project Model 2042 scenario includes the full buildout land use of the River Islands project for 2048 design year forecasts without Lammers Road interchange.

Travel Demand Forecasting Results

The 2048 Build demand without Lammers Road Interchange was calculated as follows:

$$2048\ Build\ Demand\ without\ Lammers\ IC = 2048\ Build\ Demand\ with\ Lammers\ IC + (2042\ Build\ w/o\ Lammers\ Future\ Model - 2042\ Build\ w/\ Lammers\ Future\ Model)$$

The traffic growth going to/from the Sierra View Drive TAZ was reviewed and adjusted to account for minor variations due to model noise, rather than actual changes to the roadway network connection. Total volumes going to/from the Sierra View Drive TAZ were capped under both the 2048 Build scenarios with and without Lammers Road interchange to maintain consistency.

The AM and PM peak period demand volumes for freeway mainline and ramps in the 2048 Build without Lammers Road interchange scenario is illustrated in **Figure 1**.

Intersection turning movement volumes during AM and PM peak hours at the study intersections for 2048 Build without Lammers Road interchange, along with 2028, 2035, 2048 with Lammers Road interchange, are presented in **Figure 2**.

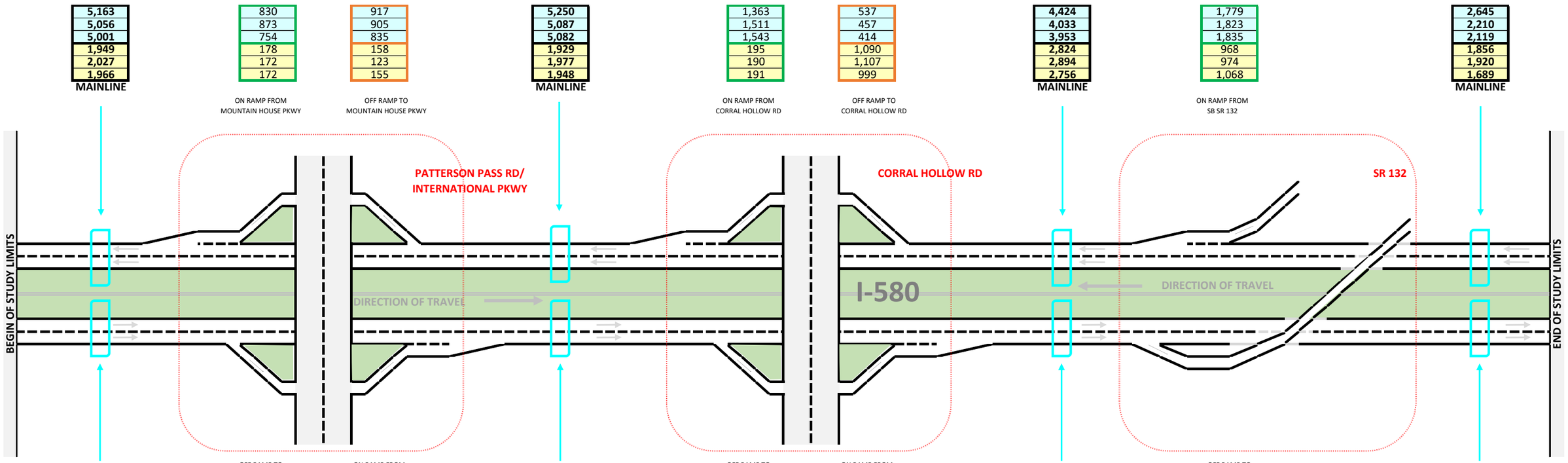
For demand volumes on Tracy Hills Drive east of Corral Hollow Road, future volumes from a local traffic study were used. Under design year 2048 Build without Lammers Road interchange

conditions, full build-out, including residential and commercial land uses, was assumed, consistent with the 2048 Build scenario with the Lammers Road Interchange.

It is observed that the future forecast intersection turning movement demand volumes in 2048 Build scenario without I-580/Lammers Road interchange are typically higher than those in the 2035 interim conditions, as well as those in the 2048 design year conditions after the opening of Lammers Road interchange. This is expected, as more regional traffic would utilize the Corral Hollow Road Interchange to gain access to and from I-580 without the Lammers Road Interchange in place.

The 2048 Build scenario without the Lammers Road Interchange would represent the worst-case scenario to be analyzed as a sensitivity test for the Corral Hollow Road Interchange. However, it is highly likely that the Lammers Road Interchange will be constructed before the Corral Hollow Road Interchange, as it is identified as one of the key projects in the regional transportation plan and City of Tracy General Plan. Additionally, it is likely that higher traffic demand would be constrained at local roadways and intersections within the city due to local capacity limitations, leading to peak spreading. As a result, the operating conditions at the Corral Hollow Road Interchange may not change significantly.

Figure 1. Design Year 2048 Build without Lammers Road Interchange Hourly Mainline & Ramp Demand Volumes



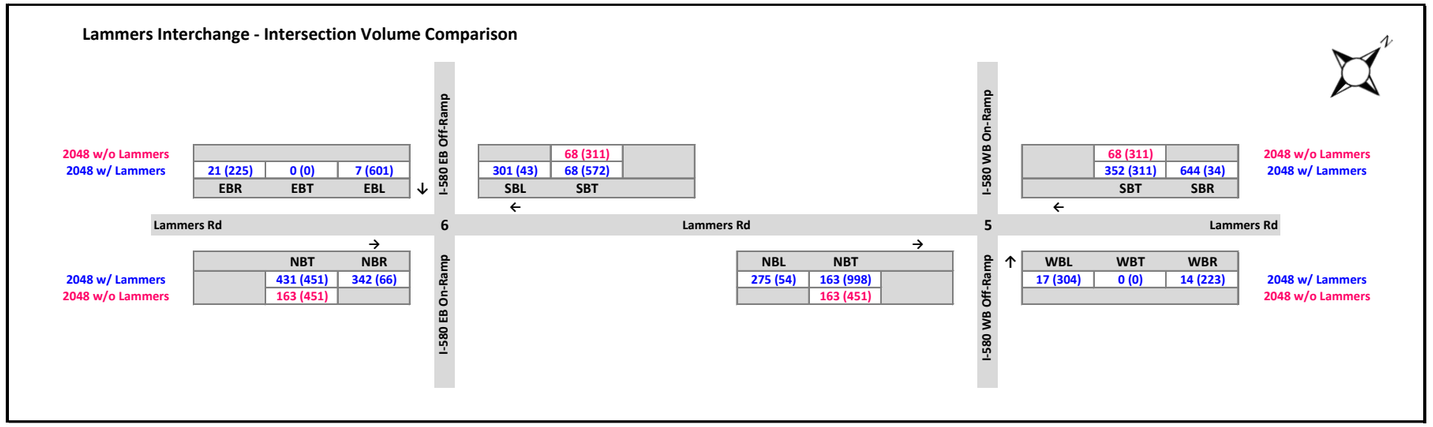
LEGEND:

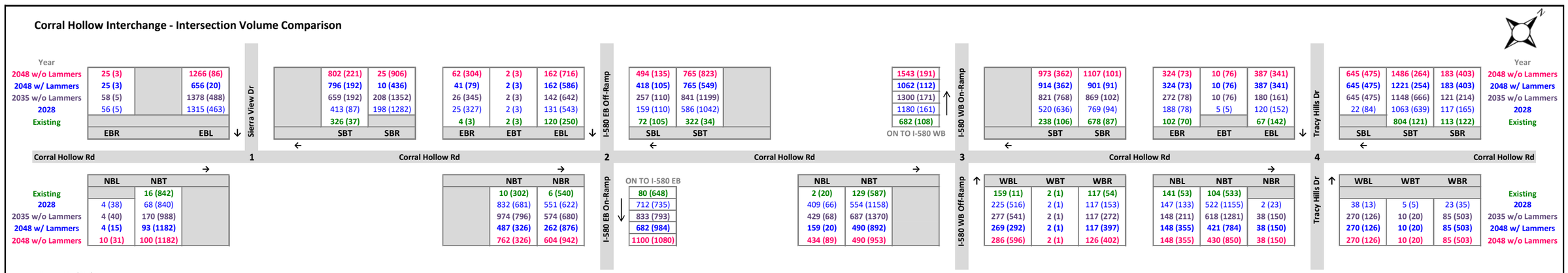
HOURLY VOLUME
5:00-6:00 AM
6:00-7:00 AM
7:00-8:00 AM
3:00-4:00 PM
4:00-5:00 PM
5:00-6:00 PM

INTERCHANGE
GENERAL PURPOSE LANE
ON/OFF-RAMP

NOT TO SCALE

Figure 2. Build Intersection Turning Movement Volumes





ATTACHMENT A. 2028, 2035, and 2048 with Lammers Road interchange Forecast Memo

MEMORANDUM

To: Eric Chin and Homer Zarzuela, Traffic Forecast, Caltrans D-10
Jaime Quesada and Zeyu "Chester" Gao, Traffic Operations, Caltrans D-10
Shankar Udaya, Project Manager, Caltrans D-10

Cc: Sharat Bandugula, Selvi Sivaraj and Koosun Kim, City of Tracy
Shira Rajendra and Matt Brogan, MTCo
Frederik Venter, KHA

From: Lawrence Liao, ETG
Ravi Puttagunta and Ha Dao, KHA

Date: 07/08/2024 (Revised)
06/27/2024 (Original)

Re: I-580/Corral Hollow Road Interchange Project –Travel Demand Forecasting Memorandum

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This memorandum summarizes the travel demand forecasting assumptions, procedure, and results for use in the I-580/Corral Hollow Road Interchange Project in the City of Tracy.

Travel Demand Forecasting Assumptions

As discussed and agreed upon during the PDT meeting on August 10, 2023, the projected opening year and design year for the I-580/Corral Hollow Road Interchange Project are 2028 and 2048, respectively. During the February 14, 2024 meeting, Caltrans requested an additional interim traffic volume forecast and operations analysis for the year 2035 to identify the appropriate size of the interchange prior to the opening of the I-580/Lammers Road interchange.

As per the agreement, the calibrated and approved forecast model for the I-205 Managed Lanes Project (I-205 Project Model) was used as the modeling tool for the I-580/Corral Hollow Road Interchange Project. The I-205 base year model validation memo is included in **Attachment A**. The approved Tri-County Forecast Model (TCM) base year of the I-205 Project Model is 2019 and the horizon year is 2042.

Travel Demand Forecasting Procedure

The opening year 2028 and interim year 2035 travel demand volumes would be calculated by interpolating between 2019 and 2042 model volumes, while the design year 2048 demand would be calculated by extrapolating between 2019 and 2042 model volumes.

Network Assumptions

Since the I-205 Project Travel Demand Model 2042 network might include projects not yet open by 2028, the I-205 Project Model 2042 networks were modified to incorporate any additional interchange and corridor improvement projects located within or adjacent to the I-580/Corral Hollow Road Interchange Project area for both the no-build and build scenarios for the opening and design years, respectively, as shown in **Table 1**.

The interim year 2035 conditions fall under 2028 condition assumptions. These modifications are essential to account for potential changes in travel demand and traffic patterns within the City of Tracy and at the project location throughout the project's opening year, interim year, and design year. Consequently, there are two 2042 no-build networks, one for 2028 and 2035 forecasts and the other one for 2048 forecasts, as well as two 2042 build networks.

Table 1. Project Assumptions for No-Build and Build Networks

Project Name	Opening Year (2028)/ Interim Year (2035) (To be included Yes/No?)		Design Year (2048) (To be included Yes/No?)	
	No-Build	**Build**	**No-Build**	**Build**
SR 132 Corridor	Yes	Yes	Yes	Yes
I-580/Patterson Pass Rd IC	Yes	Yes	Yes	Yes
I-205/Chrisman Rd IC	Yes	Yes	Yes	Yes
I-205/Lammers Rd (New)/11th St (Exi)	Yes	Yes	Yes	Yes
I-205 MLP with Lane Add Option (Corridor)	**No**	**No**	Yes	Yes
I-580/Lammers Rd (New) IC	**No**	**No**	Yes	Yes
I-580/Iron Horse Rd (New) IC	**No**	**No**	**No**	**No**
I-580/Corral Hollow Rd (Project) IC	**No**	Yes	**No**	Yes

Land Use Assumptions

The I-205 Project Model 2042 scenario includes buildout land use for the River Islands project. To properly represent the land use for opening year 2028 and interim year 2035 forecasts, the fully buildout land use for the River Islands project was removed in the 2042 no-build and build scenarios for opening year 2028 and interim year 2035 forecasts. It included the partial build out that was included in the TCM model. The fully buildout land use for the River Islands project was retained in the 2042 no-build and build scenarios for design year 2048 forecasts.

Travel Demand Forecasting Results

For the opening year 2028 conditions, the 2042 no-build and build scenarios for opening year (2028) forecasts models were executed. The 2028 demand was calculated as follows:

$$2028\ Demand = Existing\ (2022)\ Demand + \frac{2042\ Future\ Model - \ 2019\ Base\ Model}{2042\ -\ 2019}\ x\ (2028 - 2022)$$

For the interim year 2035 conditions, the 2042 no-build and build scenarios for interim year (2035) forecasts models were executed. The 2035 demand was calculated as follows:

$$2035\ Demand = Existing\ (2022)\ Demand + \frac{2042\ Future\ Model - \ 2019\ Base\ Model}{2042\ -\ 2019}\ x\ (2035 - 2022)$$

Similarly, for the design year 2048 conditions, the 2042 no-build and build scenarios for design year (2048) forecasts models were executed. The 2048 demand was calculated as follows:

$$2048\ Demand = 2028\ Demand + \frac{2042\ Future\ Model - \ 2019\ Base\ Model}{2042\ -\ 2019}\ x\ (2048 - 2028)$$

After developing the demand from the forecast models, Caltrans requested additional adjustments to the ramp volumes. Ramp volumes were adjusted between 25% and 30% to calculate the final 2028, 2035, and 2048 ramp demand volumes.

The AM and PM peak period demand volumes for freeway mainline and ramps in 2028 no-build and build scenarios are illustrated in **Figure 1a** and **Figure 1b**, respectively. For interim year 2035 conditions, AM and PM peak period demand volumes for no-build and build scenarios are illustrated in **Figure 2a** and **Figure 2b**. Similarly, demand volumes for the 2048 no-build and build scenarios are illustrated in **Figure 3a** and **Figure 3b**.

Intersection turning movement volumes during AM and PM peak hours at the study intersections for the years 2028, 2035, and 2048 are presented in **Figure 4a** for the no-build scenario and **Figure 4b** for the build scenario.

For demand volumes on Tracy Hills Drive east of Corral Hollow Road, future volumes from a local traffic study were used. Under opening year 2028 conditions, it was assumed that only the planned residential developments would be completed. However, for interim year 2035 and design year 2048 conditions, full build-out, including commercial land uses, was assumed.

It is observed that the future forecast intersection turning movement demand volumes in 2035 interim conditions, prior to the opening of the Lammer Road Interchange, are typically higher than those for the 2048 design year conditions after the opening of Lammer Road interchange, except for a few movements due to change in land use and local growth in the project vicinity. However, the appropriate interchange configuration for Corral Hollow Road, including the number of travel lanes and storage lengths at the ramp termini intersections as well as for on-ramps, will be developed based on the worst-case scenario from the operational analysis of the future 2035 interim and 2048 conditions for the pre- and post-opening of the adjacent interchange at Lammer Road. This assumption was discussed with the Caltrans forecasting and operations team and received concurrence.

Figure 1a. Opening Year 2028 No-Build Scenario Hourly Mainline & Ramp Demand Volumes

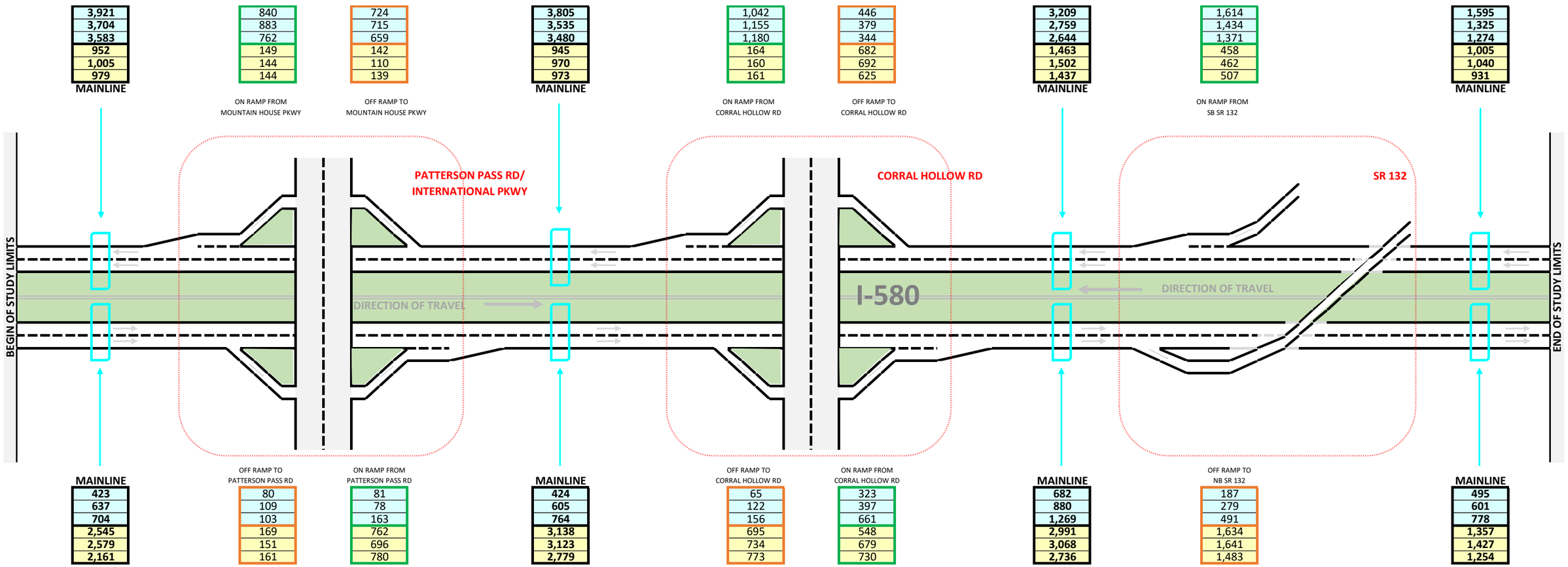


Figure 1b. Opening Year 2028 Build Scenario Hourly Mainline & Ramp Demand Volumes

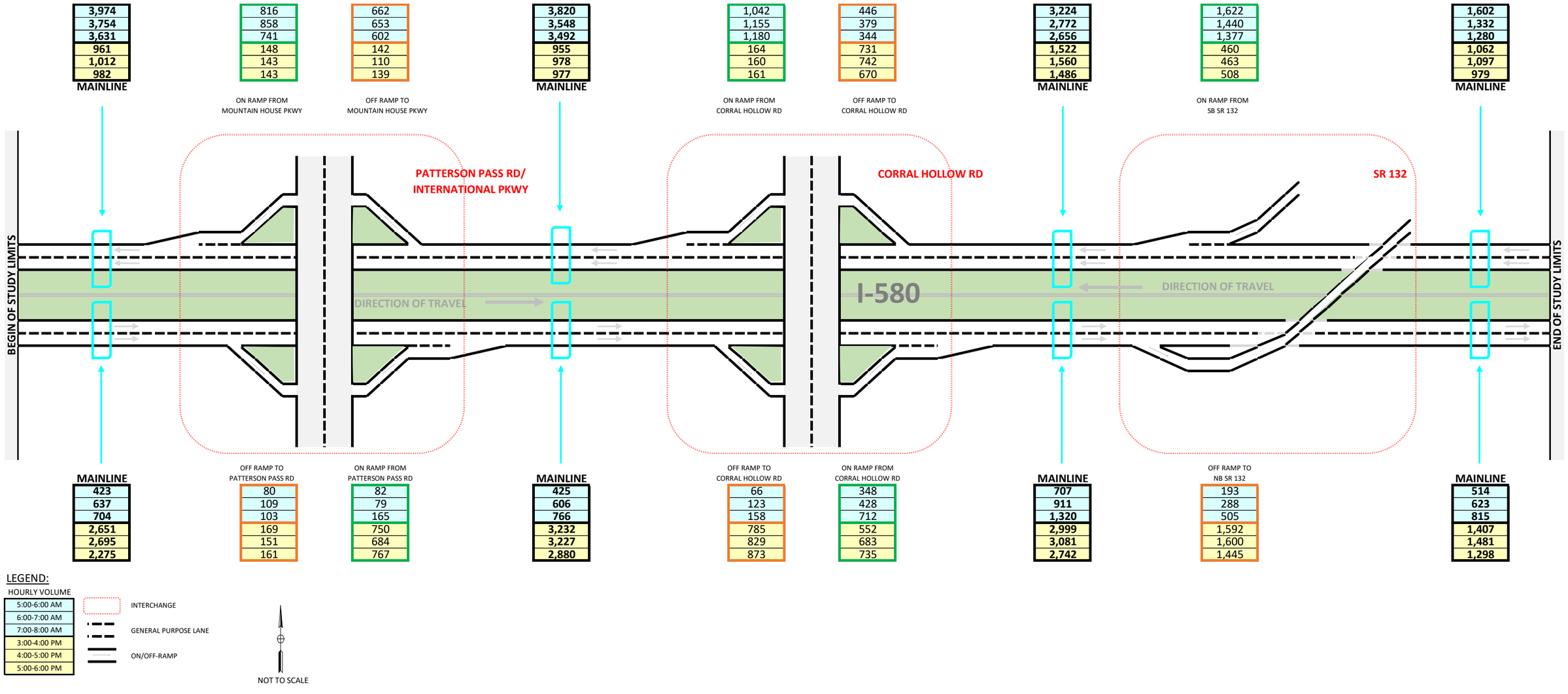


Figure 2a. Interim Year 2035 No-Build Scenario Hourly Mainline & Ramp Demand Volumes

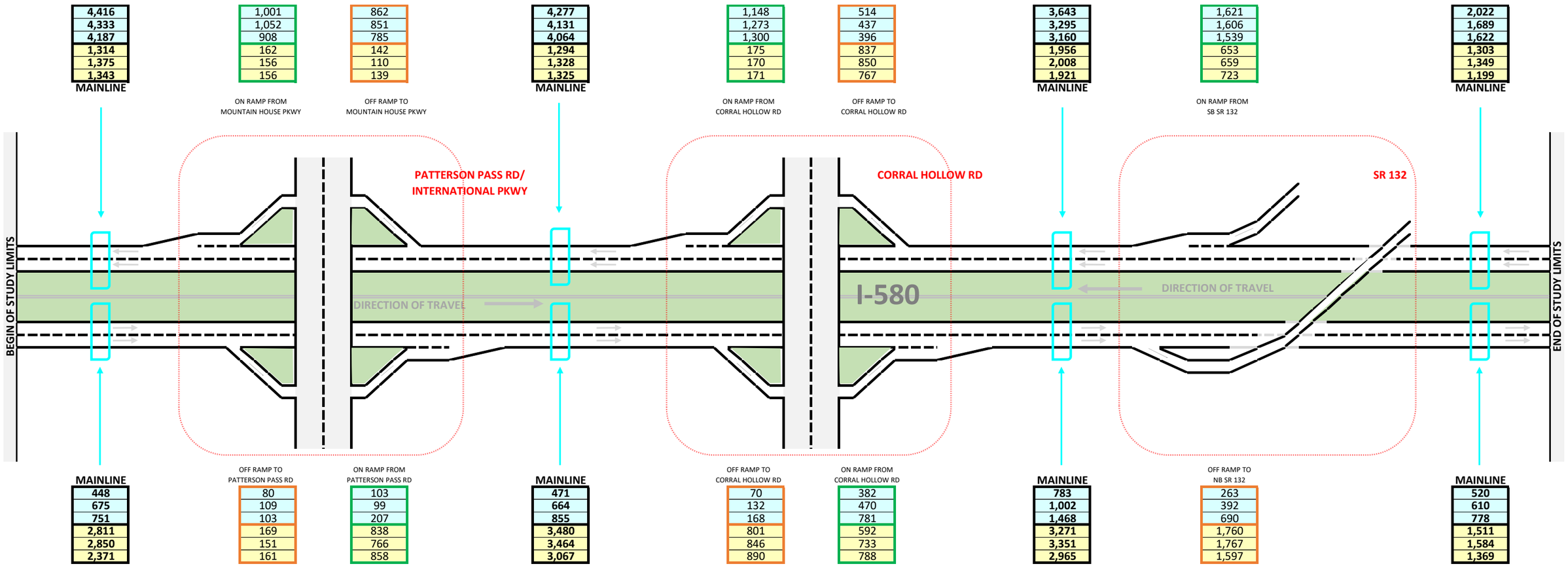


Figure 2b. Interim Year 2035 Build Scenario Hourly Mainline & Ramp Demand Volumes

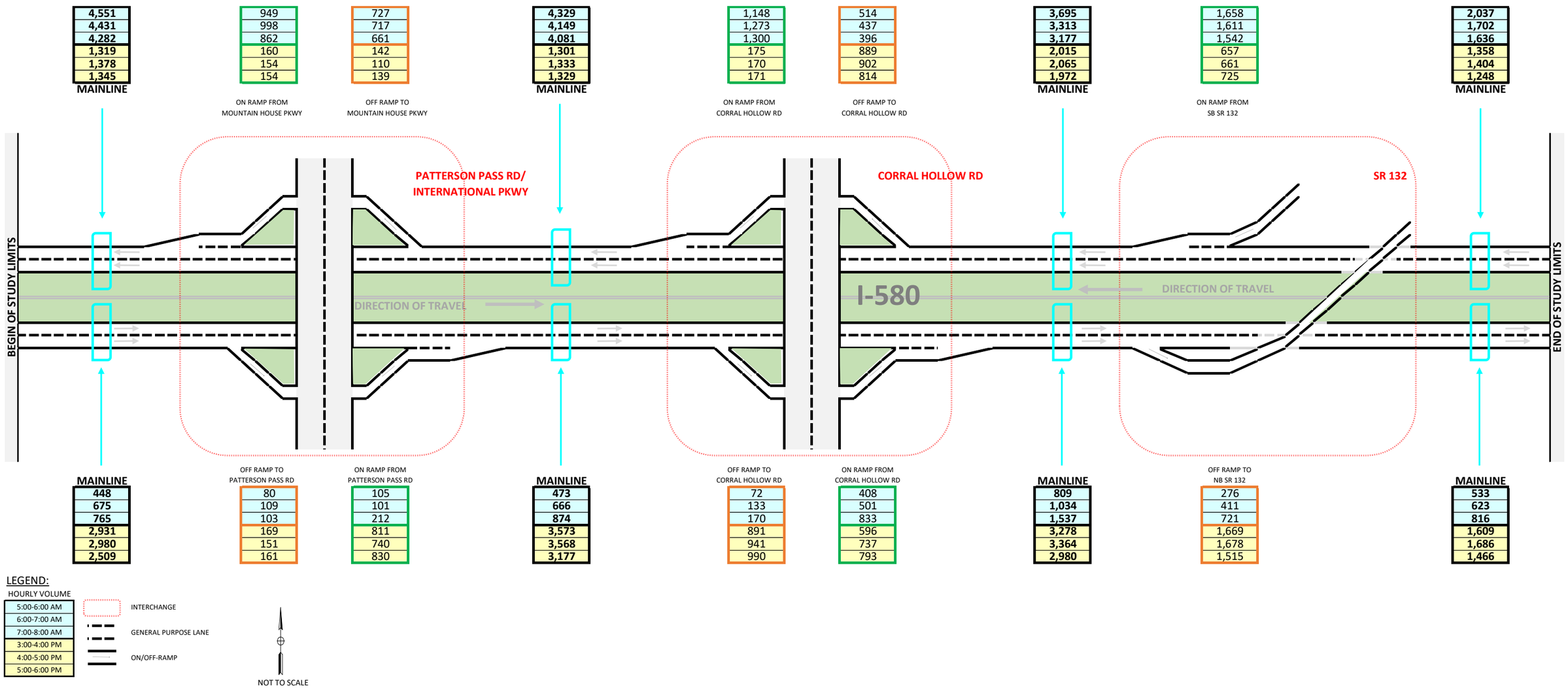


Figure 3a. Design Year 2048 No-Build Scenario Hourly Mainline & Ramp Demand Volumes

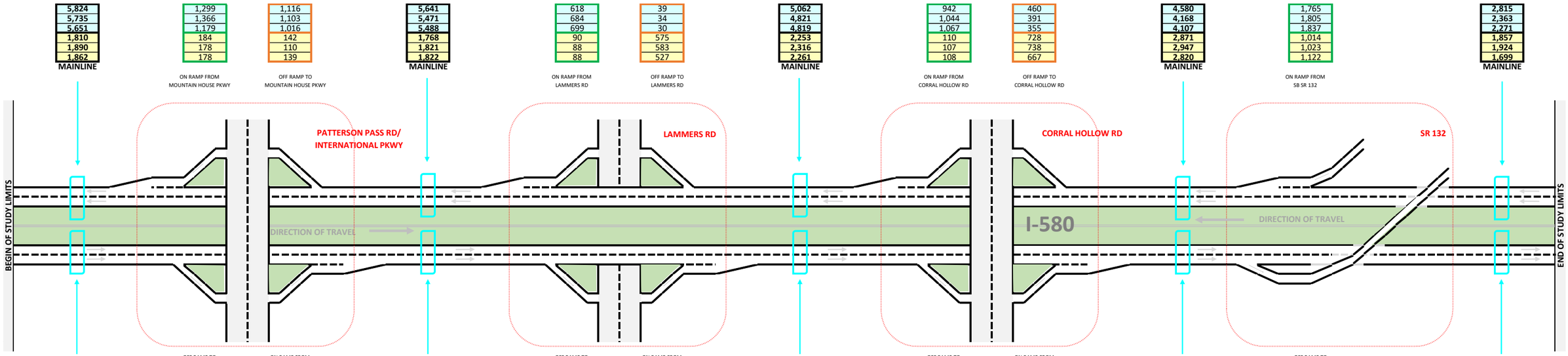


Figure 3b. Design Year 2048 Build Scenario Hourly Mainline & Ramp Demand Volumes

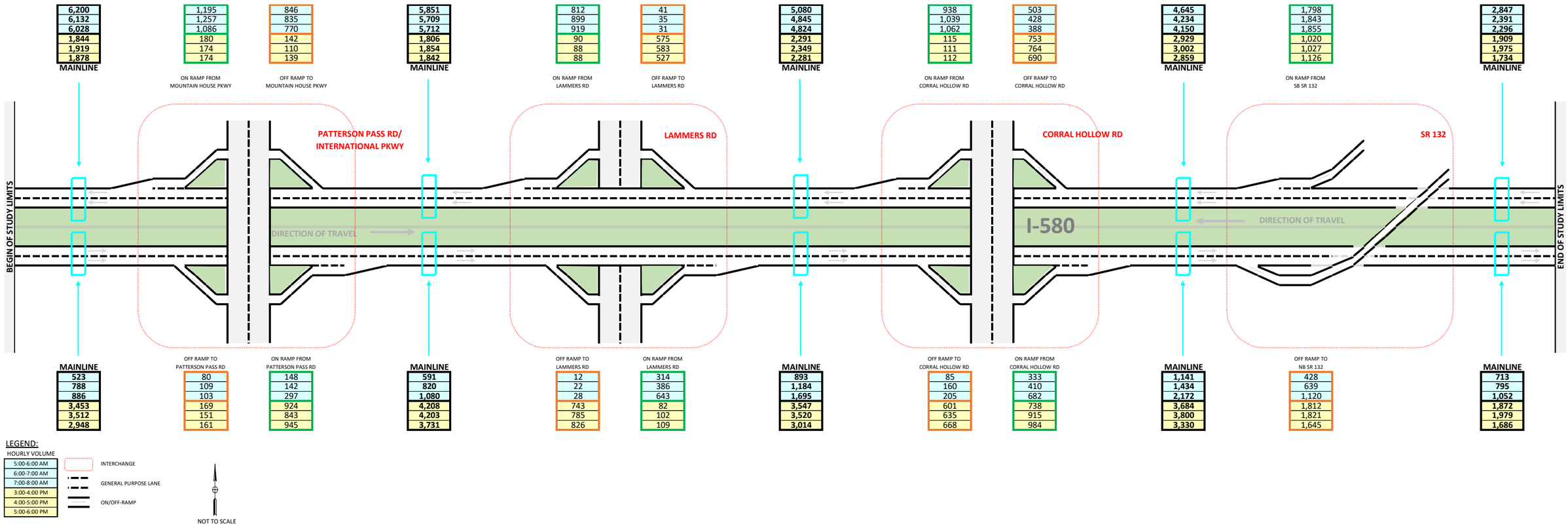
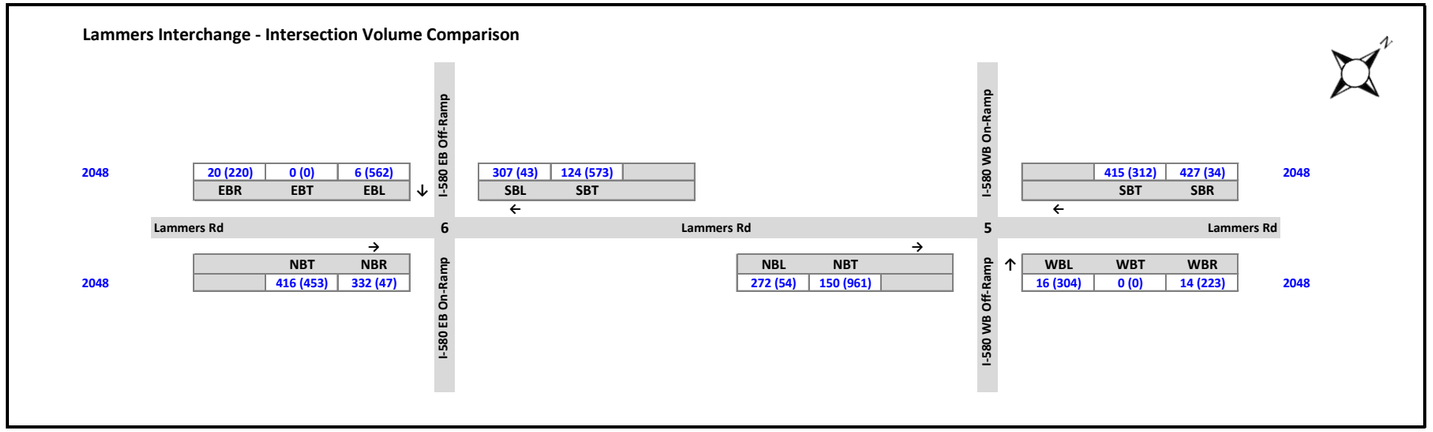


Figure 4a. No-Build Scenario Corral Hollow and Lammers Interchange Intersection Turning Movement Volumes



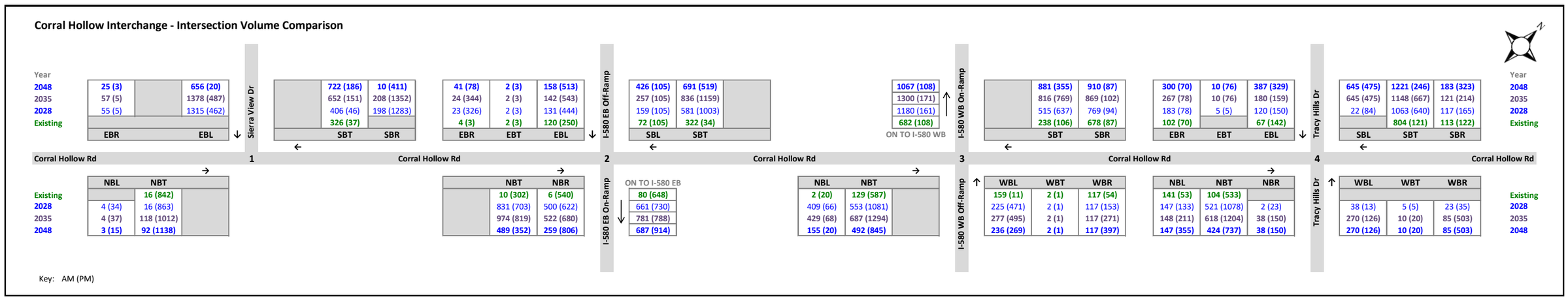


Figure 4b. Build Scenario Corral Hollow and Lammers Interchange Intersection Turning Movement Volumes