San Luis Low Point Improvement Project Environmental Impact Statement / Environmental Impact Report

Appendix F: Traffic and Transportation Appendix

This page left blank intentionally.

Appendix F
Traffic and Transportation Appendix

The Traffic and Transportation Appendix supplements Section 4.11 Traffic and Transportation in the San Luis Low Point Improvement Project (SLLPIP) Environmental Impact Statement/Environmental Impact Report (EIS/EIR). The sections below provide detailed information about traffic flow assessment methods, trip generation, and roadway operations under the action alternatives.

Traffic analysis in the State of California is guided by standards set at the State level by the California Department of Transportation (Caltrans), and by local jurisdictions. State highways fall under the jurisdiction of Caltrans. Other roadways fall under the local jurisdiction, either city or county, in which they are located.

Each jurisdiction has adopted standards regarding the desired performance level of traffic conditions on the circulation system within its jurisdiction. A performance measure called "Level of Service" (LOS) is used to characterize traffic operating conditions of a circulation element. Progressively worsening traffic operating conditions are given the letter grades "A" through "F". Table F-1 summarizes the traffic operating conditions associated with each LOS designation. Table F-2 provides LOS criteria for freeways in Santa Clara County, while Table F-3 exhibits LOS criteria for Merced County roadways.

Table F-1. Level of Service Characteristics

LOS	Traffic Condition
A	Free flow conditions; Low volumes; high operating speeds; uninterrupted flow; no restriction on maneuverability; drivers maintain desired speeds; little or no delays.
B	Stable flow conditions; operating speeds beginning to be restricted.
C	Stable flow but speed and maneuverability restricted by higher traffic volumes; satisfactory operating speed for urban conditions; delays at signals.
D	Approaching unstable flow; low speeds; major delays at signals; little freedom to maneuver.
E	Lower operating speeds; volume at or near capacity; unstable flow; major delays and stoppages.
F	Forced flow conditions; low speeds; volumes below capacity, may be zero; stoppages for long periods because of downstream congestion.

Source: Transportation Research Board 2000

Table F-2. Level of Service Criteria for Freeways – Santa Clara County

LOS	Density (passenger cars/mile/lane)	Speed (miles/hour)
A	≤ 11.0	≥ 67.0
B	11.0 – 18.1	66.5 – 67.0
C	18.0 – 26.0	66.0 – 66.5
D	26.0 – 46.0	46.0 – 66.0
E	46.0 – 58.0	35.0 – 46.0
F	> 58.0	< 35.0

Source: Santa Clara Valley Transportation Authority 2003

Table F-3. Level of Service Criteria for Roadways – Merced County

#	Area	Facility	Interchanges	Intersections	Flow	Lanes	Median	Level of Service (Average Annual Daily Traffic)				
								A	B	C	D	E
1	Urban	Freeway	< 2 miles apart	-	-	4	N/A	22,000	36,000	52,000	67,000	76,500
2	Urban	Expressway	-	-	-	4	Divided	-	-	21,400	31,100	32,900
3	Urban	Highway	-	-	Uninterrupted	2	Undivided	2,000	7,000	13,800	19,600	27,000
4	Urban	Highway	-	< 2/mile	-	2	Undivided	-	4,200	13,800	16,400	16,900
5	Urban	Highway	-	< 4.5/mile	-	2	Undivided	-	1,900	11,200	15,400	16,300
6	Urban	Collector	-	-	-	2	Undivided	-	-	4,800	10,000	12,600
7	Urban	Highway	-	< 4.5/mile	-	4	Undivided	-	3,500	23,200	29,100	30,600
8	Urban	Arterial	-	-	-	4	Undivided	-	-	15,600	27,800	29,400
9	Urban	Highway	-	< 2/mile	-	4	Undivided	3,500	20,900	24,600	25,700	-
10	Urban	Collector	-	-	-	4	Undivided	-	-	9,800	19,200	22,800
11	Urban	Highway	-	< 2/mile	-	2	Undivided	-	4,000	13,100	15,500	16,300
12	Urban	Arterial	-	-	-	2	Undivided	-	-	7,000	13,600	14,600
13	Transition	Freeway	-	-	-	4	-	23,500	38,700	52,500	62,200	69,100
14	Transition	Collector	-	-	-	2	Undivided	-	-	4,400	9,400	12,000
15	Rural	Freeway	-	-	-	6	-	33,100	54,300	73,900	87,400	97,200
16	Rural	Freeway	-	-	-	4	-	21,300	35,300	47,900	56,600	63,000
17	Rural	Non-Freeway	-	-	Uninterrupted	4	Divided	17,500	28,600	40,800	52,400	58,300
18	Rural	Non-Freeway	-	-	Isolated Stops	4	-	-	2,900	17,400	23,000	25,200
19	Rural	Non-Freeway	-	-	Uninterrupted	2	Undivided	2,600	5,300	8,600	13,800	22,300
20	Rural	Non-Freeway	-	-	Isolated Stops	2	Undivided	-	1,900	8,000	10,700	12,100
21	Suburban	Non-Freeway	-	-	Interrupted	4	Divided	-	5,300	25,200	29,400	31,200
22	Suburban	Highway	-	-	Uninterrupted	2	Undivided	2,500	7,200	12,700	17,300	23,500
23	Suburban	Arterial	-	-	Interrupted	2	Undivided	-	2,200	11,000	13,900	14,900
24	Suburban	Collector	-	-	-	2	Undivided	-	-	1,900	7,600	10,100

Source: *Merced County 2013.*

While most motorists consider LOS A, B, and C as satisfactory travel conditions, LOS D is considered marginally acceptable. Congestion and delay are considered unacceptable to most motorists and are given the LOS E or F ratings. Table F-4 presents local and regional LOS standards established by each jurisdiction within the study area.

Table F-4. LOS Standards of Significance

Regulatory Agency	LOS Thresholds
Caltrans[1]	LOS C for rural interregional routes and LOS D for urban interregional routes
Merced County[2]	LOS D for freeways and urban roadways, LOS C for other rural roadways
Santa Clara County[3]	LOS E for Congestion Management Program (CMP) facilities and LOS D for other facilities
City of Los Banos[4]	LOS C for roadway segments
City of Gustine[5]	LOS D for major roadways
City of Gilroy[6]	LOS C for roadways and LOS D for some commercial and industrial areas

Notes:
[1] Source: Merced County Association of Governments 2014
[2] Source: Merced County 2013
[3] Source: Santa Clara Valley Transportation Authority (VTA) 2016
[4] Source: City of Los Banos 2009
[5] Source: City of Gustine 2002
[6] Source: City of Gilroy 2002

Figure F-1 exhibits the road network surrounding the proposed construction sites in the San Luis Reservoir Area.

Figure F-2 identifies the roads that would provide access to and from the construction site at the Santa Tereasa Water Treatment Plant (WTP) within the Santa Clara Valley Water District (SCVWD) Service Area.

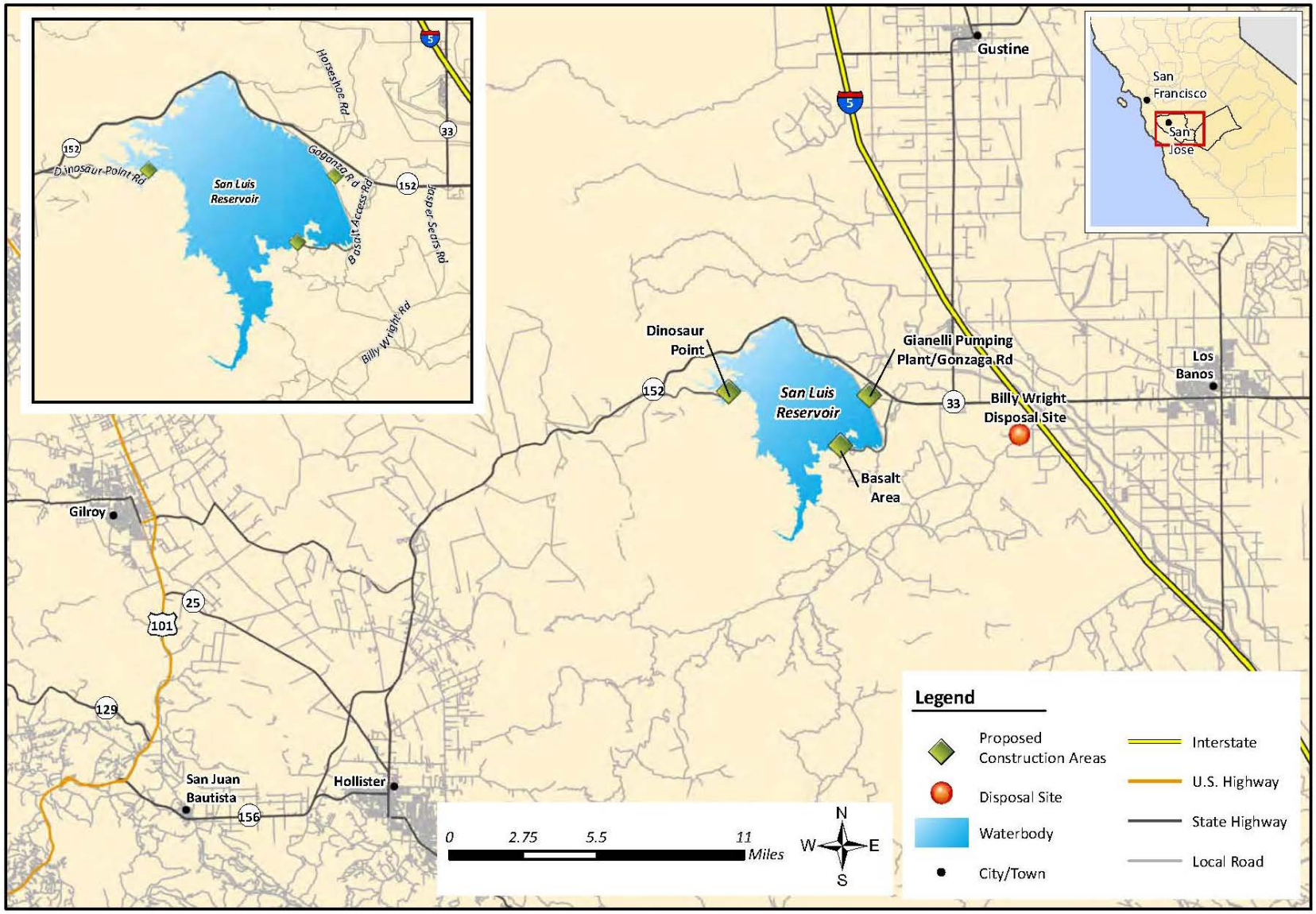

Figure F-1. San Luis Reservoir Area of Analysis

Figure F-2. Santa Clara Valley Water District Service Area- Santa Teresa WTP

F.1 Traffic Flow Assessment Methods

The project alternatives would result in increases in traffic during construction and small or no changes during operations. This impact assessment analyzes the increase in traffic that would occur during construction based on changes to the LOS. LOS thresholds provided in Table F-4 for the relevant jurisdictions are used to identify traffic impacts. In addition to daily operations, the impact assessment includes AM and PM peak hours. It is assumed that the AM peak hour occurs between 7 and 9 a.m., and the PM peak hour occurs between 4 and 6:00 p.m.

For roadways within Merced County, the LOS value was determined using their annual average daily traffic (AADT) value, physical characteristics (e.g., number of lanes), and their location (e.g., urban, suburban, rural). The LOS criteria for different types of roadways in Merced County is provided in Table F-3.

For roadways in Santa Clara County, guidelines provided in the Transportation Impact Analysis Guidelines, Santa Clara Valley Transportation Authority (VTA) Congestion Management Program were used to evaluate potential traffic impacts. According to those guidelines:

- A freeway segment should be evaluated only if a project is expected to add traffic equal to or greater than one percent of the freeway segment's capacity. This calculation shall be for each direction of travel.
- Freeway segments should be evaluated using the LOS criteria provided in Table F-2.
- A project would be considered to cause a significant impact to a CMP facility if it is projected to cause the facility to worsen from LOS E or better to LOS F. This calculation shall be for each direction of travel.
- A project would be considered to cause a significant impact to a freeway segment operating at LOS F if it would add traffic volume exceeding one percent of the freeway capacity. This calculation shall be for each direction of travel.

For each project alternative, construction data (including the number of construction trucks, construction truck routes and schedule, number of workers, and worker traffic routes and schedule) were used to identify anticipated short-term construction-related and long-term operations-related trip generation. These additional short-term and long-term trips were assigned to roadways located in the vicinity of the service areas (the San Luis Reservoir Region for San Felipe Intake and San Luis Reservoir Enlargement Alternative, and the SCVWD Service Area for the Treatment Alternative) to determine traffic operations under various project alternatives. Using the traffic operations' assessment methods mentioned above and the LOS standards of significance

summarized in Table F-4, potential transportation impacts to neighboring roadways were determined for each project alternative.

F.2 Trip Generation

A maximum of 238 and 74 construction-related traffic trips (trucks and workers) per day would access the project site during the construction of the Lower San Felipe Intake Alternative's Tunnel and Pipeline options, respectively. This would result in a total of 476 and 148 construction-related trips to the project site as part of the Lower San Felipe Intake Alternative's Tunnel and Pipeline options. In addition to the transportation of construction equipment and debris, construction workers would be driving to/from the site daily. For construction workers, it was assumed that 75 percent would originate from the City of Los Banos in the east and 25 percent would originate from Gilroy in the west. This assumption was based on proximity to labor populations in Gilroy and Los Banos. Materials are assumed to originate from Los Banos and other locations along I-5. For this analysis, construction trips were applied to roadways in the San Luis Reservoir Region that are anticipated to support construction worker trips, material deliveries and disposal. Trip generation and distribution for the Lower San Felipe Intake Alternative are summarized in Table F-5.

Table F-5. Trip Generation – Lower San Felipe Intake Alternative

Type of Trip	Time Period	Trip Distribution		Total Trips
		West to US 101	East to I-5	
Tunnel Option				
Construction Truck Trip	Daily	0	76	76
	AM/PM Peak	0	38	38
Construction Worker Trip	Daily	100	300	400
	AM/PM Peak	50	150	200
Total Construction-Related Trip	Daily	100	376	476
	AM/PM Peak	50	188	238
Long-Term O&M Trip[1]	Daily	0	4	4
	AM/PM Peak	0	2	2
Pipeline Option				
Construction Truck Trip	Daily	0	28	28
	AM/PM Peak	0	14	14
Construction Worker Trip	Daily	32	88	120
	AM/PM Peak	16	44	60
Total Construction-Related Trip	Daily	32	116	148
	AM/PM Peak	16	58	74
Long-Term O&M Trip[1]	Daily	0	4	4
	AM/PM Peak	0	2	2

Source: Reclamation 2017

Note: [1] Long-term operations and maintenance (O&M) trips will only occur with liquid oxygen (LOX) delivery at the aeration facility. If a compressed air system is used instead of LOX, then these truck trips will not occur.

Construction of the Treatment Alternative would result in a maximum of 110 daily trips (10 construction truck trips and 100 construction worker trips) to the Santa Teresa WTP. These trips include construction personnel driving to/from sites every day during the construction phase of the Treatment Alternative. Materials were assumed to originate from sites located northeast (60 percent) and southeast (40 percent) of the service area. As for the construction workers, 50 percent were assumed to originate from areas located southeast of the service area and 50 percent from areas located northeast of the service area. For this analysis, every construction trip was applied to the regional access routes. The trip generation and distribution that would be associated with the Treatment Alternative are summarized in Table F-6.

Table F-6. Trip Generation – Treatment Alternative

Construction Site	Type of Trip	Time Period	Trip Distribution		Total Trips
			Southeast of Service Area	Northeast of Service Area	
Santa Teresa WTP	Construction Truck Trip	Daily	4	6	10
		AM/PM Peak	2	3	5
	Construction Worker Trip	Daily	50	50	100
		AM/PM Peak	25	25	50
	Total Construction-Related Trip	Daily	54	56	110
		AM/PM Peak	27	28	55
	Long-Term O&M Trip[1]	Daily	2	2	4
		AM/PM Peak	1	1	2

Source: Reclamation 2017
Note: [1] Long-term O&M trips equal to full-time equivalent (FTE) employees.

A maximum of 240 construction-related trucks and 130 day-time and 87 night-time construction-related workers daily (resulting in 480 truck and 434 worker trips per day) would be involved with the San Luis Reservoir Expansion Alternative. It is assumed that all of the construction truck trips would be distributed throughout the 24-hour construction, so that 10 percent of the daily trips would occur during the AM/PM peak hour. The construction personnel trips are assumed to occur inbound before 6 AM and 6 PM, and outbound after 6 AM and 6 PM, which translates to 130 day-time workers entering the construction site before 6 AM and leaving after 6 PM, while 87 night-time workers enter the construction site before 6 PM and leave after 6 AM. Therefore, only the night-time worker trips would occur during the AM/PM peak hours. Similar to the San Felipe Intake Alternative, 25 percent of workers were assumed to access the construction site from the west via US 101 and State Route (SR) 152, while 75 percent would access from the east via I-5, SR 152 and SR 33. Materials and truck trips were assumed to originate from Los Banos and other locations along I-5. The San Luis Reservoir Expansion Alternative is

not expected to add any long-term trips to the project site after the construction is completed. Trip generation and distribution of construction-related trips that would be associated with the San Luis Reservoir Expansion Alternative is summarized in Table F-7.

Table F-7. Trip Generation – San Luis Reservoir Expansion Alternative

Type of Trip	Time Period	Trip Distribution		Total Trips
		West to US 101	East to I-5	
Construction Truck Trip	Daily	0	480	480
	AM/PM Peak	0	48	48
Construction Worker Trip	Daily	108	326	434
	AM/PM Peak	22	65	87
Total Construction-Related Trip	Daily	108	806	914
	AM/PM Peak	22	113	135
Long-Term O&M Trip	Daily	0	0	0
	AM/PM Peak	0	0	0

Source: Reclamation 2018

The highest generated construction-related trips are expected to occur during Spring/Summer/Fall 2027; therefore, traffic conditions in 2027 is analyzed. Since the San Luis Reservoir Region is rural in area, background traffic growth is expected to be minimal. It is thus assumed that background traffic in the San Luis Reservoir Region would increase between 2016 and 2027 conditions at 0.5 percent annually.

A maximum of 215 construction-related trucks and 350 day-time and 125 night-time construction-related workers daily (translating to 430 truck trips and 950 worker trips per day) would be involved with the Pacheco Reservoir Expansion Alternative (Reclamation 2018). It is assumed that construction truck trips would be distributed throughout the 24-hour construction, so that 10 percent of the daily trips would occur during the AM/PM peak hour. The construction personnel trips are assumed to occur inbound before 6 AM and 6 PM, and outbound after 6 AM and 6 PM, which translates to 350 day-time workers entering the construction site before 6 AM and leaving after 6 PM, while 125 night-time workers enter the construction site before 6 PM and leave after 6 AM. Therefore, only the night-time worker trips would occur during the AM/PM peak hours. Similar to the San Felipe Intake Alternative and San Luis Reservoir Expansion Alternative, 25 percent of workers are assumed to access the construction site from the west via US 101 and SR 152, while 75 percent would access from the east via I-5, SR 152 and SR 33. Materials and truck trips are assumed to originate from Los Banos and other locations along I-5.

The Pacheco Reservoir Expansion Alternative is not expected to add any long-term trips to the project site after the construction is completed. Trip generation

and distribution of construction-related trips that would be associated with the Pacheco Reservoir Expansion Alternative is summarized in Table F-8.

Table F-8. Trip Generation – Pacheco Reservoir Expansion Alternative

Type of Trip	Time Period	Trip Distribution		Total Trips
		West to US 101	East to I-5	
Construction Truck Trip	Daily	0	430	430
	AM/PM Peak	0	44	44
Construction Worker Trip	Daily	238	712	950
	AM/PM Peak	31	94	125
Total Construction-Related Trip	Daily	238	1,142	1,380
	AM/PM Peak	31	138	169
Long-Term O&M Trip	Daily	0	0	0
	AM/PM Peak	0	0	0

Source: Reclamation 2018

F.3 Roadway Operations

Roadway operations during construction of the Lower San Felipe Intake Alternative's Tunnel Option are summarized in Tables F-9, F-10, and F-11.

For daily operations, the added construction-related trips would not change the LOS at any of the study roadway segments in Merced County. Even though traffic would increase along Basalt Road and Fifield Road/Dinosaur Point Road by a large percentage, AADT values would be less than 1900 vehicles, which according to the 2030 Merced County General Plan is the threshold value for a rural, two-lane non-freeway road with isolated stops operating at LOS B. As such, according to the guidelines provided in the 2030 Merced County General Plan, those two roads would continue to operate at LOS B.

Highway Capacity Software (version 7) was utilized to analyze traffic conditions during the AM and PM peak hours. The added construction-related trips would not change the LOS at any of the study roadway segments in Merced County, except on the Basalt Road northbound and southbound segments (AM and PM peak hours) and on SR 152 eastbound at SR 33 (PM peak hour). Even though the LOS on Basalt Road increases from A to B after the construction-related trips are added for these two segments, it does not exceed the threshold of significance (LOS C) for rural roadways shown in Table F-4. Even though the LOS on SR 152 increases from B to C after the construction-related trips are added, it does not exceed the threshold of significance (LOS C) for rural roadways shown in Table F-4.

In Santa Clara County, none of the study roadway segments need to be evaluated, since the added construction trips would be less than one percent of

the respective roadway capacities (the VTA threshold for freeway segment evaluation).

Table F-9. Merced County Roadway Daily Operations – Lower San Felipe Intake Alternative (Tunnel Option)

Roadway	Existing (2016) AADT1	Existing LOS	Maximum Daily Truck Trips	Maximum Daily Worker Trips	Total AADT During Construction	LOS during Construction	LOS Change
I-5 at SR 152	32,000	B	30	100	32,130	B	No Change
SR 152 at I-5	27,000	B	16	100	27,116	B	No Change
SR 152 at SR 33	28,600	B	46	200	28,846	B	No Change
SR 33 at I-5	12,900	F	30	100	13,030	F	No Change
Fifield Rd/ Dinosaur Point Rd	137	B	76	400	613	B	No Change
Basalt Rd	191	B	76	400	667	B	No Change

Source: Caltrans 2016

Table F-10. Merced County Roadway AM/PM Peak Hour Operations – Lower San Felipe Intake Alternative (Tunnel Option)

Roadway	Existing (2016) Volume[1]	Existing LOS	Maximum Truck Trips	Maximum Worker Trips	Total AADT During Construction	LOS during Construction	LOS Change
AM Peak Hour							
I-5 NB at SR 152	2,050	C	6	25	2,081	C	No Change
I-5 SB at SR 152	1,700	C	6	25	1,731	C	No change
SR 152 EB at I-5	1,050	A	6	25	1,081	A	No change
SR 152 WB at I-5	1,400	B	6	25	1,431	B	No change
SR 152 EB at SR 33	200	A	12	50	262	A	No change
SR 152 WB at SR 33	1,500	B	12	50	1,562	B	No change
SR 33 NB at I-5	550	D	7	25	582	D	No change
SR 33 SB at I-5	350	D	7	25	382	D	No change
Fifield Rd/ Dinosaur Point Rd NB at SR 152	10	A	19	100	129	A	No change
Fifield Rd/ Dinosaur Point Rd SB at SR 152	10	A	19	100	129	A	No change
Basalt Rd NB	10	A	19	100	129	B	Higher but does not exceed LOS C
Basalt Rd SB	10	A	19	100	129	B	

Roadway	Existing (2016) Volume[1]	Existing LOS	Maximum Truck Trips	Maximum Worker Trips	Total AADT During Construction	LOS during Construction	LOS Change
PM Peak Hour							
I-5 NB at SR 152	2,150	C	6	25	2,181	C	No change
I-5 SB at SR 152	1,100	B	6	25	1,131	B	No change
SR 152 EB at I-5	1,700	B	6	25	1,731	B	No change
SR 152 WB at I-5	800	A	6	25	831	A	No change
SR 152 EB at SR 33	1,800	B	12	50	1,862	C	Higher but does not exceed LOS C
SR 152 WB at SR 33	650	A	12	50	712	A	No change
SR 33 NB at I-5	650	E	7	25	682	E	No change
SR 33 SB at I-5	300	D	7	25	332	D	No change
Fifield Rd/ Dinosaur Point Rd NB at SR 152	10	A	19	100	129	A	No change
Fifield Rd/ Dinosaur Point Rd SB at SR 152	10	A	19	100	129	A	No change
Basalt Rd NB	10	A	19	100	129	B	Higher but does not exceed LOS C
Basalt Rd SB	10	A	19	100	129	B	

Note:
[1.] Source: Caltrans 2016 (AADT directly from the source; AM and PM peak hour volumes derived from the source)

Table F-11. Santa Clara County Roadway Operations – Lower San Felipe Intake Alternative (Tunnel Option)

Roadway	Direction	Number of Lanes	Roadway Capacity[1] (vph)	Maximum Peak Hour Construction Trips			Added Trips Less Than 1% of Roadway Capacity?[2]	Need Evaluation?
				Truck	Worker	Total		
US 101 at SR 152	Northbound	3	6,900	0	25	25	Yes	No
	Southbound	3	6,900	0	25	25	Yes	No
SR 152 at SR 156	Eastbound	2	4,400	0	25	25	Yes	No
	Westbound	2	4,400	0	25	25	Yes	No

Key:
[1] Based on the guidelines provided in the Transportation Impact Analysis Guidelines, VTA CMP, October 2014.
[2] VTA recommended threshold for evaluation of highway segments.

Roadway operations during construction of the Lower San Felipe Intake Alternative's Pipeline Option are summarized in Tables F-12, F-13, and F-14.

For daily operations, the added construction-related trips would not change the LOS at any of the study roadway segments in Merced County. As discussed for the Tunnel Option, even though traffic would increase by a large percentage

along Basalt Road and Fifield Road/Dinosaur Point Road, AADT value would be less than 1900 vehicles, which according to the 2030 Merced County General Plan is the threshold value for a rural, two-lane non-freeway road with isolated stops operating at LOS B. As such, according to the guidelines provided in the 2030 Merced County General Plan, those two roads would continue to operate at LOS B.

As for the Tunnel Option, Highway Capacity Software (version 7) was utilized to analyze traffic conditions in the AM and PM peak hour operations. The added construction-related trips would not change the LOS at any of the study roadway segments in Merced County, except the SR 152 EB at SR 33 segment in the PM peak hour. Even though the LOS increases from B to C after the construction-related trips are added on this segment, it does not exceed the threshold of significance (LOS C) for rural roadways shown in Table F-4.

In Santa Clara County, both of the study roadway segments need not be evaluated, since the added construction trips would be less than one percent of the respective roadway capacities (the VTA threshold for freeway segment evaluation).

Table F-12. Merced County Roadway Daily Operations – Lower San Felipe Intake Alternative (Pipeline Option)

Roadway	Existing (2016) AADT[1]	Existing LOS	Maximum Daily Truck Trips	Maximum Daily Worker Trips	Total AADT During Construction	LOS during Construction	LOS Change
I-5 at junction with SR 152	32,000	B	10	28	32,038	B	No Change
SR 152 at junction with I-5	27,000	B	8	32	27,040	B	No Change
SR 152 at junction with SR 33	28,600	B	18	60	28,678	B	No Change
SR 33 at junction with I-5	12,900	F	10	28	12,938	F	No Change
Fifield Rd/ Dinosaur Point Rd	137	B	28	120	285	B	No Change
Basalt Rd	191	B	28	120	339	B	No Change

Note:
[1] *Source: Caltrans 2016*

Table F-13. Merced County Roadway AM/PM Peak Hour Operations – Lower San Felipe Intake Alternative (Pipeline Option)

Roadway	Existing (2016) Volume[1]	Existing LOS	Maximum Truck Trips	Maximum Worker Trips	Total AADT During Construction	LOS during Construction	LOS Change
AM Peak Hour							
I-5 NB at SR 152	2,050	C	3	7	2,060	C	No Change
I-5 SB at SR 152	1,700	C	3	7	1,710	C	No change
SR 152 EB at I-5	1,050	A	2	8	1,060	A	No change
SR 152 WB at I-5	1,400	B	2	8	1,410	B	No change
SR 152 EB at SR 33	200	A	5	15	220	A	No change
SR 152 WB at SR 33	1,500	B	5	15	1,520	B	No change
SR 33 NB at I-5	550	D	2	7	559	D	No change
SR 33 SB at I-5	350	D	2	7	359	D	No change
Fifield Rd/ Dinosaur Point Rd NB at SR 152	10	A	7	30	47	A	No change
Fifield Rd/ Dinosaur Point Rd SB at SR 152	10	A	7	30	47	A	No change
Basalt Rd NB	10	A	7	30	47	A	No change
Basalt Rd SB	10	A	7	30	47	A	No change
PM Peak Hour							
I-5 NB at SR 152	2,150	C	3	7	2,160	C	No change
I-5 SB at SR 152	1,100	B	3	7	1,110	B	No change
SR 152 EB at I-5	1,700	B	2	8	1,710	B	No change
SR 152 WB at I-5	800	A	2	8	810	A	No change
SR 152 EB at SR 33	1,800	B	5	15	1,820	C	Higher but does not exceed LOS C
SR 152 WB at SR 33	650	A	5	15	670	A	No change
SR 33 NB at I-5	650	E	2	7	659	E	No change
SR 33 SB at I-5	300	D	2	7	309	D	No change
Fifield Rd/ Dinosaur Point Rd NB at SR 152	10	A	7	30	47	A	No change
Fifield Rd/ Dinosaur Point Rd SB at SR 152	10	A	7	30	47	A	No change
Basalt Rd NB	10	A	7	30	47	A	No change
Basalt Rd SB	10	A	7	30	47	A	No change

Note:
[1] Source: Caltrans 2016 (AADT directly from the source; AM and PM peak hour volumes derived from the source)

Table F-14. Santa Clara County Roadway Operations – Lower San Felipe Intake Alternative (Pipeline Option)

Roadway	Direction	Number of Lanes	Roadway Capacity[1] (vph)	Maximum Peak Hour Construction Trips			Added Trips Less Than 1% of Roadway Capacity[2]?	Need Evaluation?
				Truck	Worker	Total		
US 101 at SR 152	Northbound	3	6,900	0	8	8	Yes	No
	Southbound	3	6,900	0	8	8	Yes	No
SR 152 at SR 156	Eastbound	2	4,400	0	8	8	Yes	No
	Westbound	2	4,400	0	8	8	Yes	No

Key:
[1] Based on the guidelines provided in the Transportation Impact Analysis Guidelines, VTA CMP, October 2014.
[2] VTA recommended threshold for evaluation of highway segments.

Operations of the regional roadways during construction of the Treatment Alternative are summarized in Table F-15.

The Treatment Alternative would generate construction-related traffic that would be less than the VTA recommended threshold for roadway evaluation (one percent of roadway capacity). Therefore, none of the neighboring regional roadway segments need to be evaluated, and the Treatment Alternative is expected to result in less-than-significant impacts to regional roadways located in the SCVWD service area.

Construction-related traffic under the Treatment Alternative would not conflict with applicable policies that establish roadway performance standards and would not result in a substantial increase in traffic in relation to the existing traffic load and roadway capacity.

Table F-15. Regional Roadway Operations – Treatment Alternative

Roadway Segment	Direction	Number of Lanes	Capacity[1] (vehicles per hour)	Peak Period	Existing (2016) LOS[2]	Maximum Peak Hour Trips			Added Trips Less Than 1% of Roadway Capacity?[3]	Need Evaluation?
						Truck	Worker	Total		
I-880 at US 101	Northbound	3	6,900	PM	F	3	25	28	Yes	No
	Southbound	3	6,900	AM	F	3	25	28	Yes	No
I-680 at Berryessa Road	Northbound	4	9,200	PM	C	3	25	28	Yes	No
	Southbound	4	9,200	AM	D	3	25	28	Yes	No
SR 237 at I-880	Eastbound	3	6,900	PM	C	3	25	28	Yes	No
	Westbound	3	6,900	AM	F	3	25	28	Yes	No
SR 87 at I-280	Northbound	3	6,900	AM	F	2	25	27	Yes	No
	Southbound	3	6,900	PM	F	2	25	27	Yes	No
SR 85 at US 101	Southbound	3	6,900	AM	B	2	25	27	Yes	No
	Northbound	3	6,900	PM	B	2	25	27	Yes	No
US 101 at SR 85	Southbound	4	9,200	AM	B	2	25	27	Yes	No
	Northbound	4	9,200	PM	C	2	25	27	Yes	No

Notes:

[1] Based on the guidelines provided in the Transportation Impact Analysis Guidelines, VTA, CMP, October 2014.

[2] Source: Santa Clara County 2016. Reported for mixed-use lanes.

[3] VTA recommended threshold for evaluation of highway segments.

Roadway operations during construction for the San Luis Reservoir Expansion Alternative are summarized in Tables F-16, F-17, and F-18. For daily operations, the added construction-related trips would not change the LOS at any of the study roadway segments in Merced County.

Highway Capacity Software (version 7) was utilized to analyze traffic conditions during the AM and PM peak hours. The added construction-related trips would not change the LOS at any of the study roadway segments in Merced County, except on the Basalt Road northbound segment in the AM peak hour and southbound segment in the PM peak hour, and on SR 152 eastbound at SR 33 (PM peak). Even though the LOS increases after the construction-related trips are added on these three segments, it does not exceed the threshold of significance (LOS C) for rural roadways shown in Table F-4.

In Santa Clara County, none of the study roadway segments need to be evaluated because the added construction trips would be less than one percent of the respective roadway capacities (the VTA threshold for freeway segment evaluation).

Table F-16. Merced County Roadway Daily Operations – San Luis Reservoir Expansion Alternative

Roadway	Existing (2016) AADT[1]	Existing LOS	Maximum Daily Truck Trips	Maximum Daily Worker Trips	Total AADT During Construction	LOS during Construction	LOS Change
I-5 at SR 152	32,000	B	160	108	32,268	B	No Change
SR 152 at I-5	27,000	B	160	108	27,268	B	No Change
SR 152 at SR 33	28,600	B	320	218	29,138	B	No Change
SR 33 at I-5	12,900	F	160	108	13,168	F	No Change
Fifield Rd/ Dinosaur Point Rd	137	B	480	434	1,051	B	No Change
Basalt Rd	191	B	480	434	1,105	B	No Change

Note:
[1] Source: Caltrans 2016

Table F-17. Merced County Roadway AM/PM Peak Hour Operations – San Luis Reservoir Expansion Alternative

Roadway	Existing (2016) Volume[1]	Existing LOS	Maximum Truck Trips	Maximum Worker Trips	Total AADT During Construction	LOS during Construction	LOS Change
AM Peak Hour							
I-5 NB at SR 152	2,050	C	8	0	2,058	C	No change
I-5 SB at SR 152	1,700	C	8	21	1,729	C	No change
SR 152 EB at I-5	1,050	A	8	22	1,080	A	No change
SR 152 WB at I-5	1,400	B	8	0	1,408	B	No change
SR 152 EB at SR 33	200	A	16	43	259	A	No change
SR 152 WB at SR 33	1,500	B	16	0	1,516	B	No change
SR 33 NB at I-5	550	D	8	22	580	D	No change
SR 33 SB at I-5	350	D	8	0	358	D	No change
Fifield Rd/ Dinosaur Point Rd NB at SR 152	10	A	24	87	121	A	No change
Fifield Rd/ Dinosaur Point Rd SB at SR 152	10	A	24	0	34	A	No change
Basalt Rd NB	10	A	24	87	121	B	Higher but does not exceed LOS C
Basalt Rd SB	10	A	24	0	34	A	No change
PM Peak Hour							
I-5 NB at SR 152	2,150	C	8	21	2,179	C	No change
I-5 SB at SR 152	1,100	B	8	0	1,108	B	No change
SR 152 EB at I-5	1,700	B	8	0	1,708	B	No change
SR 152 WB at I-5	800	A	8	22	830	A	No change
SR 152 EB at SR 33	1,800	B	16	0	1,816	C	Higher but does not exceed LOS C
SR 152 WB at SR 33	650	A	16	43	709	A	No change
SR 33 NB at I-5	650	E	8	0	658	E	No change
SR 33 SB at I-5	300	D	8	22	330	D	No change
Fifield Rd/ Dinosaur Point Rd NB at SR 152	10	A	24	0	34	A	No change
Fifield Rd/ Dinosaur Point Rd SB at SR 152	10	A	24	87	121	A	No change
Basalt Rd NB	10	A	24	0	34	A	No change
Basalt Rd SB	10	A	24	87	121	B	Higher but does not exceed LOS C

Note:
[1] Source: Caltrans 2016 (AADT directly from the source; AM and PM peak hour volumes derived from the source)

Table F-18. Santa Clara County Roadway Daily Operations – San Luis Reservoir Expansion Alternative

Roadway	Direction	Number of Lanes	Roadway Capacity[1] (vph)	Maximum Daily Construction Trips			Added Trips Less Than 1% of Roadway Capacity?[2]	Need Evaluation?
				Truck	Worker	Total		
US 101 at SR 152	Northbound	3	6,900	0	22	22	Yes	No
	Southbound	3	6,900	0	22	22	Yes	No
SR 152 at SR 156	Eastbound	2	4,400	0	22	22	Yes	No
	Westbound	2	4,400	0	22	22	Yes	No

Key:
[1] Based on the guidelines provided in the Transportation Impact Analysis Guidelines, VTA CMP, October 2014.
[2] VTA recommended threshold for evaluation of highway segments.

Roadway operations during construction for the Pacheco Reservoir Expansion Alternative are summarized in Tables F-19, F-20, and F-21. Vehicle use resulting from this alternative would primarily occur on SR 152 and the existing access road off SR 152 south of Pacheco Lake. A 6-mile haul road and 1.7-mile permanent access road would be constructed as part of this alternative. In addition, the existing access road would be improved, and a temporary 0.8-mile access road would be constructed.

For daily operations, the added construction-related trips would not change the LOS at any of the study roadway segments in Merced County.

Highway Capacity Software (version 7) was utilized to analyze traffic conditions during the AM and PM peak hours. The added construction-related trips would not change the LOS at any of the study roadway segments in Merced County, except on SR 152 eastbound at I-5 in the AM and PM peak hours and SR 33 northbound at I-5 segments in the AM peak hour. Even though the LOS increases after the construction-related trips are added on these two segments, for the SR 152 eastbound at I-5 segment, it does not exceed the threshold of significance (LOS C) for rural roadways shown in Table F-4. For the SR 33 NB at I-5 segment, the projected future No Action traffic conditions are at LOS D so the additional trips are not expected to change traffic conditions from acceptable to unacceptable.

In Santa Clara County, none of the study roadway segments need to be evaluated, because the added construction trips would be less than one percent of the respective roadway capacities (the VTA threshold for freeway segment evaluation).

Table F-19. Merced County Roadway Operations – Pacheco Reservoir Expansion Alternative

Roadway	Future (2027) AADT[1]	No Action LOS (2027)	Maximum Daily Truck Trips	Maximum Daily Worker Trips	Total AADT During Construction	LOS during Construction	LOS Change
I-5 at SR 152	33,800	B	144	238	34,182	B	No Change
SR 152 at I-5	28,500	B	144	238	28,882	B	No Change
SR 152 at SR 33	30,200	B	288	476	30,964	B	No Change
SR 33 at I-5	13,600	F	142	238	13,980	F	No Change

Note:
[1] Source: 0.5% annual growth rate applied to existing volumes from Caltrans 2016

Table F-20. Merced County Roadway AM/PM Peak Hour Operations – Pacheco Reservoir Expansion Alternative

Roadway	Future (2027) Volume[1]	Future LOS (2027)	Maximum Truck Trips	Maximum Worker Trips	Total AADT During Construction	LOS during Construction	LOS Change
AM Peak Hour							
I-5 NB at SR 152	2,150	C	8	0	2,158	C	No change
I-5 SB at SR 152	1,800	C	8	31	1,839	C	No change
SR 152 EB at I-5	1,100	A	8	32	1,140	B	Higher but does not exceed LOS C
SR 152 WB at I-5	1,500	B	8	0	1,508	B	No change
SR 152 EB at SR 33	200	A	16	63	279	A	No change
SR 152 WB at SR 33	1,600	B	16	0	1,616	B	No change
SR 33 NB at I-5	600	D	6	31	637	E	Higher but No Action already exceeds LOS C
SR 33 SB at I-5	350	D	6	0	356	D	No change
PM Peak Hour							
I-5 NB at SR 152	2,250	C	8	31	2,289	C	No change
I-5 SB at SR 152	1,150	B	8	0	1,158	B	No change
SR 152 EB at I-5	1,800	B	8	0	1,808	C	Higher but does not exceed LOS C
SR 152 WB at I-5	850	A	8	32	890	A	No change
SR 152 EB at SR 33	1,900	C	16	0	1,916	C	No change
SR 152 WB at SR 33	700	A	16	63	779	A	No change
SR 33 NB at I-5	700	E	6	0	706	E	No change
SR 33 SB at I-5	300	D	6	31	337	D	No change

Note:
[1] Source: 0.5% annual growth rate applied to existing volumes from Caltrans 2016 (AADT directly from the source; AM and PM peak hours volumes derived from the source)

Table F-21. Santa Clara County Roadway Operations – Pacheco Reservoir Expansion Alternative

Roadway	Direction	Number of Lanes	Roadway Capacity[1] (vph)	Maximum Peak Construction Trips			Added Trips Less Than 1% of Roadway Capacity?[2]	Need Evaluation?
				Truck	Worker	Total		
US 101 at SR 152	Northbound	3	6,900	0	31	31	Yes	No
	Southbound	3	6,900	0	31	31	Yes	No
SR 152 at SR 156	Eastbound	2	4,400	0	31	31	Yes	No
	Westbound	2	4,400	0	31	31	Yes	No

Key:
[1] Based on the guidelines provided in the Transportation Impact Analysis Guidelines, VTA CMP, October 2014.
[2] VTA recommended threshold for evaluation of highway segments.

F.4 References

California Department of Transportation (Caltrans). 2016. *Annual Average Daily Traffic for All Vehicles on California State Highways*. Accessed on: 08 09 2017. Available at: http://www.dot.ca.gov/trafficops/census/docs/2016_aadt_volumes.pdf.

City of Gilroy. 2002. C*ity of Gilroy General Plan, Transportation and Circulation Element.* Adopted June 2002.

City of Gustine. 2002. *City of Gustine General Plan, Section 6: Circulation.* Adopted February 4, 2002. Accessed on: 02 10 2012. Available at: http://www.cityofgustine.com/Section_6_Circulation.pdf.

City of Los Banos. 2009. *City of Los Banos 2030 General Plan Update, Circulation Element*. Accessed on: 02 10 2012. Available at: http://www.losbanos.org/index.php?option=com_content&view=article&id=103&Itemid=266.

Merced County. 2013. *2030 Merced County General Plan.* December 2013. Accessed on: 08 09 2016. Available at: http://www.co.merced.ca.us/index.aspx?NID=100.

Merced County Association of Governments. 2014. *Regional Transportation Plan/Sustainable Communities Strategy for Merced County*. Adopted September 25, 2014. Accessed on: 08 08 2016. Available at: http://www.mcagov.org/209/2014-Regional-Transportation-Plan.

Santa Clara Valley Transportation Authority (VTA). 2003. *Traffic Level of Service Analysis Guidelines.* Accessed on: 24 08 2016. Available at: http://www.vta.org/sfc/servlet.shepherd/document/download/069A0000001ELtYIAW.

Transportation Research Board. 2000. 2000 Highway Capacity Manual. Washington D.C.

This page left blank intentionally.

San Luis Low Point Improvement Project Environmental Impact Statement / Environmental Impact Report

Appendix F: Attachment A, 2016 Traffic Volumes on California State Highways

This page left blank intentionally.

Dist	Route	County	Postmile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
06	005	KER	33.489	JCT. RTE. 223	5300	44000	37000	5500	46000	38000
06	005	KER	38.793	JCT. RTE. 119	5500	45500	38000	5500	47500	38000
06	005	KER	41.193	JCT. RTE. 43	5600	47500	38000	5600	46000	36500
06	005	KER	47.546	STOCKDALE ROAD	5600	46000	36500	5400	50000	41000
06	005	KER	52.145	JCT. RTE. 58	5400	50000	41000	5400	47500	39500
06	005	KER	56.642	7TH STANDARD ROAD	5200	46500	38000	5100	45000	38000
06	005	KER	58.006	ROWLEE ROAD	5200	45500	38500	5700	49000	41500
06	005	KER	62.605	LERDO AVENUE	5700	49000	41500	5500	48000	40500
06	005	KER	73.017	JCT. RTE. 46	5500	48000	40500	4650	41000	34500
06	005	KER	82.347	TWISSELMAN ROAD	4650	41000	34500	4600	40500	34000
06	005	KER	87.025	KERN/KINGS COUNTY LINE	4600	40500	34000			
06	005	KIN	0	KERN/KINGS COUNTY LINE				4600	40500	34000
06	005	KIN	12.362	UTICA AVENUE	4600	40500	34000	5100	45000	37500
06	005	KIN	16.595	JCT. RTE. 41	5100	45000	37500	5300	47500	39000
06	005	KIN	26.724	KINGS/FRESNO COUNTY LINE	5300	47500	39000			
06	005	FRE	0	KINGS/FRESNO COUNTY LINE				5300	47500	39000
06	005	FRE	.228	JCT. RTE. 269	5300	47500	39000	5000	46000	37500
06	005	FRE	5.501	JAYNE AVENUE	5000	46000	37500	4950	45500	37000
06	005	FRE	14.873	JCT. RTE. 198	4950	45500	37000	5100	47500	39000
06	005	FRE	17.964	JCT. RTE. 33 SOUTH, JCT. RTE. 145 NORTH	5100	47500	39000	5300	48500	40000
06	005	FRE	29.955	JCT. RTE. 33 NORTH	5300	48500	40000	5200	44000	38500
06	005	FRE	38.359	KAMM AVENUE	5200	44000	38500	5400	45500	39500
06	005	FRE	45.798	MANNING AVENUE	5400	45500	39500	5400	46500	40500
06	005	FRE	48.99	PANOCHE ROAD	5400	46500	40500	5300	46000	41000
06	005	FRE	52.746	RUSSELL AVENUE	5300	46000	41000	5100	45000	40000
06	005	FRE	60.077	SHIELDS AVENUE	5100	45000	40000	5200	48500	40500
06	005	FRE	65.782	NEES AVENUE	5200	48500	40500	5200	49000	41000
06	005	FRE	66.159	FRESNO/MERCED COUNTY LINE	5200	49000	41000			
10	005	MER	0	FRESNO/MERCED COUNTY LINE				5600	45500	38000
10	005	MER	6.28	JCT. RTE. 165 NORTH	3900	35500	30000	4750	40500	34000
10	005	MER	17.578	JCT. RTE. 152	5300	35000	32000	4050	40000	31600
10	005	MER	21.839	JCT. RTE. 33	3950	39500	30900	3100	33000	29100
10	005	MER	23.6	NORTH OF ROUTE 33 @ SANTA NELLA TRUCK SCALES	4000	37000	32500	4000	42500	37400
10	005	MER	32.391	JCT. RTE. 140 EAST	3650	41000	39500	4050	42500	41500
10	005	MER	32.477	MERCED/STANISLAUS COUNTY LINE	4050	42500	41500			
10	005	STA	0	MERCED/STANISLAUS COUNTY LINE				3700	42500	41500
10	005	STA	5.505	STUHR ROAD	3700	41000	40000	3700	41000	40000

Dist	Route	County		Postmile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
06	033	FRE		72.837	DOUGLAS AVENUE	300	3400	2850	300	3400	2850
06	033	FRE	R	79.905	BRANNON AVENUE	270	3200	2550	370	3050	2350
10	033	MER	L	1.232	FRESNO/MERCED COUNTY LINE	300	4050	3300			
10	033	MER	R	0	FRESNO/MERCED COUNTY LINE				300	4050	3300
10	033	MER	R	1.17	DOS PALOS, BLOSSOM STREET	710	9200	7400	810	7600	6100
10	033	MER		1.888	CARMELLIA AVENUE	620	6600	6000	520	6600	5850
10	033	MER	R	5.635	EAST JCT. RTE. 152	980	11900	9400	680	7800	6800
10	033	MER	R	13.238	WEST JCT. RTE 152	680	7800	6800	880	10200	8800
10	033	MER	R	15.6	VERA CRUZ DRIVE	1050	10800	9800	830	10600	9700
10	033	MER	R	16.258	CENTINELLA, HENRY MILLER ROAD	950	11100	9700	1200	12700	10100
10	033	MER	R	16.643	JCT. RTE. 5	1200	14200	12900	1350	15300	14200
10	033	MER		17.27	MC CABE ROAD	470	5800	5700	450	5600	5500
10	033	MER		27.111	NORTH JCT. RTE. 140 EAST	710	9400	7600	800	9900	8850
10	033	MER		30.302	MERCED/STANISLAUS COUNTY LINE	590	6400	6350			
10	033	STA		0	MERCED/STANISLAUS COUNTY LINE				590	6400	6350
10	033	STA		.68	NEWMAN, MERCED STREET	780	9600	9000	720	9200	8400
10	033	STA		.95	NEWMAN, DRISKELL ROAD/KERN STREET	710	9200	9100	750	7300	7250
10	033	STA		2.06	STUHR ROAD	780	8900	8400	430	4500	4400
10	033	STA		4.82	J.T. CROW RD RT	470	5800	5500	510	5800	5500
10	033	STA		6.838	CROWS LANDING, CROWS LANDING/FINK ROADS	560	6200	6000	330	4900	4600
10	033	STA		7.04	CROWS LANDING, 4TH STREET	390	4250	3750	430	4550	3950
10	033	STA		12.571	PATTERSON, SPERRY ROAD	610	6700	4900	570	6600	5500
10	033	STA		13.1	SALADO AVENUE/EL CIRCULO	810	8800	6900	850	9600	6700
10	033	STA		13.18	LAS PALMAS AVENUE	90	6200	6100	510	6500	6400
10	033	STA		13.26	DEL PUERTO AVENUE/EL CIRCULO	540	6000	4500	650	7200	5400
10	033	STA		14.52	WARD AVENUE	540	5800	5250	560	5600	5500
10	033	STA		16.43	BALDWIN RD-LT	450	4850	4800	420	4500	3900
10	033	STA		19.55	WESTLEY, GRAYSON/HOWARD ROADS	400	4200	3800	310	3200	3100
10	033	STA		19.92	WESTLEY, E STREET	270	3200	3000	220	2750	2500
10	033	STA		27.086	STANISLAUS/SAN JOAQUIN COUNTY LINE	610	6400	6350			
10	033	SJ		0	STANISLAUS/SAN JOAQUIN COUNTY LINE				610	6400	6350
10	033	SJ		.818	VERNALIS, JCT. RTE. 132	240	3600	2900	290	3650	3600
10	033	SJ		3.51	NEW JERUSALEM, DURHAM FERRY ROAD	290	3650	3600	290	3450	2400
10	033	SJ		4.826	JCT. RTE. 5	800	4400	3900			
07	034	VEN		4.295	OXNARD, JCT. RTE. 1				1500	14800	14000
07	034	VEN		6.27	OXNARD, RICE AVENUE	1250	10700	10200	1500	12200	11700
07	034	VEN		8.43	PLEASANT VALLEY ROAD, WEST JUNCTION	1500	12200	11700	1450	11300	9600

Dist	Route	County		Postmile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
03	084	YOL		15.687	END OF ROUTE	140	1450	1300			
04	085	SCL		0	SAN JOSE, JCT. RTE. 101				4600	56000	55000
04	085	SCL		.181	SAN JOSE, BERNAL ROAD	4600	56000	55000	6200	76000	74000
04	085	SCL		.79	SAN JOSE, GREAT OAKS BOULEVARD	6500	80000	78000	7500	92000	90000
04	085	SCL		1.973	SAN JOSE, COTTLE ROAD	7500	92000	90000	9900	121000	118000
04	085	SCL		3.93	SAN JOSE, BLOSSOM HILL ROAD	9900	121000	118000	12300	158000	154000
04	085	SCL		5.22	JCT. RTE. 87	12300	158000	154000	11400	147000	143000
04	085	SCL		6.136	ALMADEN EXPRESSWAY	11400	147000	143000	10200	130000	127000
04	085	SCL		8.109	SAN JOSE, CAMDEN AVENUE	10200	130000	127000	11000	141000	138000
04	085	SCL		9.277	SAN JOSE, UNION AVENUE	11000	141000	138000	11400	146000	142000
04	085	SCL	R	10.231	SAN JOSE, BASCOM AVENUE	11400	146000	142000	10200	131000	128000
04	085	SCL	R	10.498	JCT. RTE. 17	10200	131000	128000	8700	116000	112000
04	085	SCL	R	10.997	LOS GATOS, WINCHESTER BLVD.	8700	116000	112000	9700	128000	124000
04	085	SCL	R	13.684	SARATOGA, SARATOGA AVENUE	9700	128000	124000	8700	115000	111000
04	085	SCL	R	15.867	CUPERTINO, SARATOGA-SUNNYVALE ROAD	8700	115000	111000	9000	119000	115000
04	085	SCL	R	17.699	CUPERTINO, STEVENS CREEK BOULEVARD	9000	119000	115000	9100	121000	117000
04	085	SCL	R	18.448	SUNNYVALE, JCT. RTE. 280	9100	121000	117000	9200	124000	120000
04	085	SCL	R	18.861	CUPERTINO, HOMESTEAD ROAD	9200	124000	120000	9700	131000	127000
04	085	SCL	R	19.856	SUNNYVALE, FREMONT AVENUE	9700	131000	127000	9400	126000	122000
04	085	SCL	R	21.749	MOUNTAIN VIEW, JCT. RTE. 82	9400	126000	122000	8400	114000	110000
04	085	SCL	R	22.163	JCT. RTE. 237	8400	114000	110000	6600	89000	86000
04	085	SCL	R	22.629	MOUNTAIN VIEW, EVELYN AVENUE	6600	89000	86000	6400	87000	84000
04	085	SCL	R	23.435	MOUNTAIN VIEW, MOFFETT BOULEVARD	6400	87000	84000	5800	79000	76000
04	085	SCL	R	23.867	MOUNTAIN VIEW, JCT. RTE. 101	5800	79000	76000	5800	79000	76000
04	085	SCL	R	24.059	END OF ROUTE	5800	79000	76000			
11	086	IMP	R	0	BEGIN ROUTE, JCT. RTE. 111				510	5800	5500
11	086	IMP		2.077	DOGWOOD ROAD	620	6400	5900	530	5200	4850
11	086	IMP		3.05	WEST HEBER TURN	530	5200	4850	400	4050	3800
11	086	IMP		4.53	MC CABE ROAD	400	4050	3800	600	7900	7800
11	086	IMP		6.006	JCT. RTE. 8	2250	24100	23000	2850	32000	30500
11	086	IMP	L	6.534	EL CENTRO, ROSS AVENUE	2850	32000	30500	2750	29500	28500
11	086	IMP		7.24	EL CENTRO, STATE STREET	2750	29500	28500	2500	28500	27500
11	086	IMP	L	7.308	MAIN STREET	2500	28500	27500	1700	20500	18900
11	086	IMP	L	8.028	EL CENTRO, EIGHTH STREET	1700	20500	18900	1550	18100	17100
11	086	IMP	L	8.525	ADAMS/IMPERIAL AVENUES	1550	18100	17100	2600	31500	28500
11	086	IMP		7.43	EL CENTRO, EUCLID/HOGAR AVENUE	2600	31500	28500	2400	28000	26000
11	086	IMP		7.49	EL CENTRO, WOODWARD AVENUE	2400	28000	26000	2450	29000	26500

Dist	Route	County		Postmile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
08	086	RIV	R	16.744	AIRPORT BLVD	1850	23900	21000	2500	32000	28000
08	086	RIV	R	22.157	DILLON ROAD	2500	32000	28000	2750	35500	31000
08	086	RIV	R	23	JCT. RTE. 10	2750	35500	31000			
04	087	SCL		0	SAN JOSE, JCT. RTE 85, BEGIN ROUTE				9300	122000	119000
04	087	SCL		1.34	CAPITOL EXPRESSWAY	9300	122000	119000	10200	136000	133000
04	087	SCL		2.826	CURTNER AVENUE	10200	136000	133000	9900	131000	128000
04	087	SCL		3.563	ALMADEN EXPRESSWAY	9900	131000	128000	11200	155000	149000
04	087	SCL		4.35	SAN JOSE, LELONG STREET	11200	155000	149000	12700	176000	169000
04	087	SCL		5.156	SAN JOSE, JCT. RTE. 280	12700	176000	169000	9200	128000	123000
04	087	SCL		6.1	SAN JOSE, JULIAN STREET	9200	128000	123000	9300	128000	123000
04	087	SCL		6.69	W. TAYLOR	9300	128000	123000	6900	95000	91000
04	087	SCL	T	8.755	AIRPORT PARKWAY	6900	95000	91000	6500	90000	86000
04	087	SCL		9.22	JCT. RTE. 101	6500	90000	86000			
10	088	SJ		0	JCT. RTE. 99; STOCKTON WEST				2800	26500	24100
10	088	SJ		.4	WILCOX ROAD	1400	19300	17000	1600	21100	18000
10	088	SJ		1.77	WHITE LANE	1300	17000	14500	1200	16100	13800
10	088	SJ		2.22	FAIRCHILD LANE	1200	16100	13800	1050	13900	11900
10	088	SJ		4.94	WATERLOO, FERGUSON/ COMSTOCK ROAD	830	10900	9300	640	8500	7200
10	088	SJ		6.518	EIGHT MILE ROAD	650	8600	7350	950	9600	8600
10	088	SJ		9.61	HARNEY LANE	820	9200	8100	970	11100	9800
10	088	SJ	L	12.24	LOCKEFORD, JCT RTE 12 WEST	980	11800	10700	1600	15500	15300
10	088	SJ		13.6	JACKTONE ROAD	1500	18000	14600	1850	20400	15600
10	088	SJ		14.08	ELLIOTT/TULLY ROAD	1850	20100	15600	1700	17400	13500
10	088	SJ		16.27	DISCH ROAD	1550	15600	12100	1050	13600	10900
10	088	SJ		18.08	MACKVILLE ROAD	1100	15100	12600	1050	16000	11700
10	088	SJ		19.174	CLEMENTS, JCT. RTE. 12 EAST	1250	13400	12400	1400	15000	13600
10	088	SJ		22.093	LIBERTY ROAD	1000	10700	9750	1000	9400	8700
10	088	SJ		25.365	SAN JOAQUIN/AMADOR COUNTY	1000	8700	8100			
10	088	AMA		0	SAN JOAQUIN/AMADOR COUNTY				950	8700	8100
10	088	AMA		5.527	JCT. RTE. 124 NORTH	1000	10100	9400	830	7500	6800
10	088	AMA		7.389	WEST JCT. RTE. 104	990	8500	8400	1150	12100	12000
10	088	AMA		12.68	EAST JCT. RTE. 104	860	9300	8650	1150	9000	8300
10	088	AMA		14.25	JCT. RTE. 49	1200	9300	8800	920	8900	8400
10	088	AMA		14.9	JACKSON, COURT STREET	920	8900	8400	950	10000	8900
10	088	AMA		22.69	PINE GROVE, RIDGE ROAD	1450	14300	12000	1900	21700	12000
10	088	AMA		23.36	VOLCANO ROAD	1900	21700	12000	1400	14500	12000
10	088	AMA	R	26.791	JCT. RTE. 26, RED CORRAL RD	1150	9900	9300	970	7800	7200

Dist	Route	County		Postmile		Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
05	101	SBT		0		MONTEREY/SAN BENITO COUNTY LINE				5700	77000	64000
05	101	SBT		.312	R	BEGIN RIGHT ALIGN				2750	38000	33000
05	101	SBT		2.998	R	JCT. RTE. 156 EAST	2750	38000	33000	2250	32500	26700
05	101	SBT		3.173	R	END RIGHT ALIGN	2250	30000	26700			
05	101	SBT		.312	L	BEGIN LEFT ALIGN				2650	34500	31000
05	101	SBT		3.049	L	NORTH JCT. RTE. 156	2650	35000	31000	2450	34000	26700
05	101	SBT		3.229	L	END LEFT ALIGN	2400	31000	26000			
05	101	SBT	R	4.898		JCT. RTE. 129 WEST	4750	59000	52000	5000	63000	53000
05	101	SBT	R	6.485		LOMERIAS	5000	63000	53000	5000	61000	53000
05	101	SBT		7.55		SAN BENITO/SANTA CLARA COUNTY LINE	5700	68000	60000			
04	101	SCL		.028		SAN BENITO/SANTA CLARA COUNTY LINE				5700	68000	60000
04	101	SCL		3.16		JCT. RTE. 25 EAST	5500	68000	60000	6400	88000	80000
04	101	SCL	R	4.942		MONTEREY ROAD	6400	88000	80000	6200	85000	77000
04	101	SCL	R	6.08		GILROY, JCT. RTE. 152 EAST	6200	85000	77000	8000	111000	102000
04	101	SCL	R	7.532		GILROY, NORTH JCT. RTE. 152 WEST	8100	110000	102000	8700	117000	110000
04	101	SCL	R	10.27		MASTEN AVENUE	8700	117000	110000	9500	129000	122000
04	101	SCL	R	12.46		SAN MARTIN	9300	129000	122000	9400	133000	125000
04	101	SCL	R	15.069		TENNANT AVENUE	9400	133000	125000	9800	138000	130000
04	101	SCL	R	16.006		EAST DUNNE AVENUE	9800	138000	130000	10300	145000	137000
04	101	SCL	R	17.82		MORGAN HILL, COCHRAN ROAD	10300	145000	137000	10800	151000	144000
04	101	SCL	R	26.78		SAN JOSE, JCT. RTE. 85	11300	156000	150000	9000	125000	120000
04	101	SCL	R	28.609		SAN JOSE, JCT. RTE. 82 NORTH	9000	125000	120000	11400	158000	153000
04	101	SCL		30.097		HELLYER AVENUE	11300	158000	153000	12600	176000	170000
04	101	SCL		31.695		SAN JOSE, CAPITOL EXPRESSWAY	12600	176000	170000	16600	236000	228000
04	101	SCL		33.034		SAN JOSE, TULLY ROAD	16600	236000	228000	19400	279000	270000
04	101	SCL		34.87		SAN JOSE, JCT. RTE. 280 WEST, JCT. RTE. 680 NORTH	19400	279000	270000	13900	208000	198000
04	101	SCL	R	35.759		SAN JOSE, JCT. RTE. 130 EAST	13900	208000	198000	12500	187000	178000
04	101	SCL	R	36.144		SAN JOSE, MC KEE ROAD	12700	190000	181000	13300	200000	190000
04	101	SCL		37.726		SAN JOSE, OAKLAND ROAD	13300	200000	190000	13700	204000	193000
04	101	SCL		38.3		SAN JOSE, JCT. RTE. 880	13700	204000	193000	10400	155000	148000
04	101	SCL		38.8		SAN JOSE, NORTH FOURTH STREET	10400	155000	148000	9800	146000	140000
04	101	SCL		39.285		SAN JOSE, NORTH FIRST STREET	9800	146000	140000	10600	157000	152000
04	101	SCL		39.925		JCT. RTE. 87, GUADALUPE PARKWAY	9900	145000	141000	13700	199000	195000
04	101	SCL		40.701		SAN JOSE, DE LA CRUZ BLVD/TRIMBLE RD	12800	187000	183000	13500	197000	193000
04	101	SCL		41.978		SAN TOMAS EXPRESSWAY	13500	197000	193000	13900	202000	198000
04	101	SCL		42.734		GREAT AMERICA PARKWAY/ BOWERS AVE	13900	202000	198000	13100	191000	187000
04	101	SCL		43.85		SUNNYVALE, LAWRENCE EXPRESSWAY	13100	191000	187000	12700	185000	181000

Dist	Route	County		Postmile		Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
02	151	SHA	R	5.93	L	ON FRONT ST AT HARDENBROOK AVE	460	4700	4000	460	4700	4000
02	151	SHA	R	5.993	L	FRONT ST/SHASTA DAM BLVD, END LEFT ALIGN	460	4700	4000			
02	151	SHA		6.79		CASCADE BOULEVARD	1250	13100	12700	1200	13000	12600
02	151	SHA	R	6.924		JCT. RTE. 5	1200	13000	12600			
05	152	SCR	T	.31		WATSONVILLE, JCT. RTE. 1				2650	28000	26700
05	152	SCR	T	.676		GREEN VALLEY RD	2650	29000	26700	3700	30500	29000
05	152	SCR	T	2.5		WATSONVILLE, FREEDOM BLVD	3700	30500	29000	2150	22200	21300
05	152	SCR	T	2.803		WATSONVILLE, MAIN STREET AT EAST LAKE STREET	2150	22200	21300	2600	23400	22600
05	152	SCR	T	2.929	R	WATSONVILLE, ON EAST LAKE/MAIN ST, RIGHT ALIGN				1000	8900	8100
05	152	SCR	T	3.273	R	EAST BEACH ST AT LINCOLN, END RIGHT ALIGN	890	7900	7100			
05	152	SCR	T	2.929	L	WATSONVILLE,ON EAST LAKE/MAIN STREET, LEFT ALIGN				900	8200	7400
05	152	SCR	T	3.273	L	WATSONVILLE, EAST LAKE/LINCOLN, END LEFT ALIGN	900	8200	7400			
05	152	SCR		.383		ON EAST LAKE ST AT LINCOLN ST	1700	16800	14900	1700	16800	14900
05	152	SCR		.714		BECK AVENUE	1700	16800	14900	1900	17600	16300
05	152	SCR	R	1.995		HOLOHAN/COLLEGE ROAD	2100	17600	16300	1350	17300	13800
05	152	SCR		3.69		CARLTON/CASSERLY ROAD	980	12200	8700	870	10600	6700
05	152	SCR		8.29		SANTA CRUZ/SANTA CLARA COUNTY LINE	690	7000	6200			
04	152	SCL		0		SANTA CRUZ/SANTA CLARA COUNTY LINE				730	6900	6100
04	152	SCL		5.03		WATSONVILLE RD	730	6900	6100	710	6700	5900
04	152	SCL		7.93		GILROY, SANTA TERESA BLVD	1050	10800	9600	2150	22100	19600
04	152	SCL	M	9.43		MONTEREY STREET	2050	21000	18600	2300	23500	20800
04	152	SCL	M	9.78		GILROY ON LEEAVESLEY AVENUE	2300	23500	20800	2500	27000	24000
04	152	SCL	M	10.277		GILROY, JCT. RTE. 101	3900	44000	39000	2450	31000	27000
04	152	SCL		14.89		BLOOMFIELD AVE.	2450	31000	27000	2600	33500	29000
04	152	SCL	R	21.977		JCT. RTE. 156 SOUTH	2350	30000	26000	4050	46500	39500
04	152	SCL	R	23.409		CASA DE FRUTA	4050	47000	39500	4000	46500	39000
04	152	SCL	R	35.161		SANTA CLARA/MERCED COUNTY LINE	3900	45000	38000			
10	152	MER	R	0		SANTA CLARA/MERCED COUNTY LINE				3600	41500	34800
10	152	MER	R	13.24		WEST JCT. RTE. 33	3050	35000	29100	2900	34000	28600
10	152	MER		13.848		JCT. RTE. 5	3100	36500	30700	2150	31500	27000
10	152	MER		19.268		LOS BANOS, ORTIGALITA ROAD	1900	24200	23000	2900	29500	28000
10	152	MER		19.618		LOS BANOS, WEST I STREET	2900	31000	28000	2500	31500	30000
10	152	MER		20.598		LOS BANOS, 7TH STREET	3000	35500	31500	2500	34000	33500
10	152	MER		21.058		LOS BANOS, EAST I STREET	2250	31000	30500	2500	33500	29000
10	152	MER		21.272		LOS BANOS, JCT. RTE. 165	2450	31500	28000	2850	38000	33500
10	152	MER		22.252		LOS BANOS, WARD ROAD	2850	38000	33500	1750	21100	19400
10	152	MER		23.915		LOS BANOS, SANTA FE ROAD	1900	23800	21200	1900	20700	19800

Dist	Route	County		Postmile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
10	152	MER	R	32.366	DOS PALOS WYE, EAST JCT. RTE. 33	1900	20700	19700	1550	19400	17200
10	152	MER	R	40.77	JCT. RTE. 59	1650	17700	17000	1450	16000	15800
10	152	MER	R	40.949	MERCED/MADERA COUNTY LINE	1550	21000	18700			
06	152	MAD	R	0	MERCED/MADERA COUNTY LINE				1500	18400	16400
06	152	MAD		10.799	JCT. RTE. 233 NORTHWEST	1350	16500	14400	1300	16200	14100
06	152	MAD		15.634	CALIFA, JCT. RTE. 99	1650	18400	16400			
03	153	ED		0	JCT. RTE. 49				260	3200	2000
03	153	ED		.12	COLD SPRINGS ROAD	260	3200	2000	20	140	90
03	153	ED		.55	MARSHALL'S MONUMENT	20	140	90			
05	154	SB	R	0	JCT. RTE. 101				1100	14000	12000
05	154	SB	R	8.11	JCT. RTE. 246 WEST	1300	16000	14000	1300	16000	14200
05	154	SB		14.77	ENTRANCE, LAKE CACHUMA COUNTY PARK	1300	16000	14300	1200	15000	13100
05	154	SB		23.38	STAGECOACH ROAD	1400	17000	14800	1400	17000	14700
05	154	SB	R	31.551	JCT. RTE. 192 EAST	1600	20000	17300	1800	22000	19400
05	154	SB		32.285	JCT. RTE. 101	1800	22000	19000	1700	21000	18500
05	154	SB		32.84	STATE STREET AND NB 101 RAMPS	1700	21000	18300			
06	155	KER	L	0	DELANO ON FREMONT/ 9TH AND OFF/ON RAMPS NB 99				380	2800	2150
06	155	KER	L	.27	DELANO, FREMONT STREET/6TH AVENUE	390	2300	2200	390	2300	2200
06	155	KER	L	.402	DELANO ON ELLINGTON/9TH AND OFF/ON RAMPS SB 99	480	4950	4800	480	4950	4800
06	155	KER		0	DELANO ON ELLINGTON/9TH AND OFF/ON RAMPS SB 99	480	4950	4800	480	4950	4800
06	155	KER		.388	DELANO, ELLINGTON STREET/ 4TH AVENUE	480	4900	4750	1050	11700	10500
06	155	KER	R	0	DELANO, JCT. RTE. 99	1050	11700	10500	1150	12100	11300
06	155	KER	R	.22	DELANO, HIGH STREET	1350	14500	13500	1100	11900	11000
06	155	KER	R	.47	DELANO, LEXINGTON AVENUE	880	10100	9200	960	11200	10900
06	155	KER	R	1.46	DELANO, EAST CITY LIMITS, BROWNING ROAD	470	5600	5300	330	3450	3250
06	155	KER	R	3.469	ZACHARY AVENUE	260	2800	2600	430	2600	2400
06	155	KER	R	6.55	FAMOSO-PORTERVILLE HIGHWAY	280	1750	1600	80	500	450
06	155	KER	R	10.99	JCT. RTE. 65	80	500	450	40	260	180
06	155	KER	R	26.564	JUNCTION OLD ROUTE 155 AT WOODY ROAD	40	220	170	40	240	180
06	155	KER		38.25	GLENVILLE, GRANITE ROAD	150	860	730	150	900	750
06	155	KER		40.48	EAST LIMITS GLENVILLE	70	500	360	70	450	360
06	155	KER	R	53.22	ALTA SIERRA, VIA EVANS ROAD	70	440	360	70	390	350
06	155	KER	R	60.637	WOFFORD BOULEVARD	190	1850	1700	730	7100	6300
06	155	KER	R	61.04	JUNCTION OLD ROUTE 155	730	7100	6300	660	6200	5500
06	155	KER	R	70.991	JCT. RTE. 178	700	6500	5500			
05	156	MON	R	.167	JCT. RTE. 1				3400	36000	32000
05	156	MON	R	1.109	JCT. RTE. 183	3650	36000	32000	3400	38000	33000

Dist	Route	County		Postmile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
02	273	SHA		16.833	JCT. RTE. 299 W AND JCT. RTE. 44 E				1750	17400	15800
02	273	SHA		17.39	QUARTZ HILL/RIO	1700	17400	16200	1800	19300	19000
02	273	SHA		17.81	REDDING, BENTON DRIVE	1800	19300	19000	1950	21700	20800
02	273	SHA		18.622	LAKE BOULEVARD	1950	21700	20800	1250	12800	12700
02	273	SHA		18.92	TWINVIEW BOULEVARD	1250	12800	12700	860	14200	9000
02	273	SHA		19.77	CATERPILLAR ROAD	860	14200	9000	710	7300	7100
02	273	SHA		20.033	JCT. RTE. 5	710	7300	7100			
03	275	YOL		12.009	JCT. RTE. 50				1350	11300	9300
03	275	YOL		12.039	WEST SACRAMENTO, JCT. RTE. 84	1350	11300	9300	1850	18000	16500
03	275	YOL		13.077	SAC/YOL COUNTY LINE, END OF ROUTE	1850	18000	16500			
03	275	SAC		0	SAC/YOL COUNTY LINE, END OF ROUTE				1850	18000	16500
04	280	SCL	R	0	SAN JOSE, JCT. RTES. 101/680				12600	169000	164000
04	280	SCL	R	.366	MCLAUGHLIN AVENUE	13400	179000	174000	19800	264000	256000
04	280	SCL	R	1.294	SAN JOSE, 10TH STREET	19800	264000	256000	17900	238000	231000
04	280	SCL	R	1.992	SAN JOSE, JCT. RTE. 82	17900	238000	231000	18600	247000	240000
04	280	SCL	R	2.522	SAN JOSE, JCT. RTE. 87	18600	247000	240000	15100	201000	195000
04	280	SCL	R	2.875	SAN JOSE, BIRD AVENUE	15100	201000	195000	18600	248000	241000
04	280	SCL	R	3.764	RACE STREET/SOUTHWEST EXPRESSWAY	18600	248000	241000	12900	172000	167000
04	280	SCL	L	4.663	SAN JOSE, LELAND AVENUE	14400	193000	187000	15800	211000	205000
04	280	SCL	L	5.408	SAN JOSE, JCT. RTES. 17/880	15800	211000	205000	15100	202000	195000
04	280	SCL	L	5.954	SAN JOSE, WINCHESTER BOULEVARD	15100	202000	195000	17000	228000	220000
04	280	SCL		5.949	SAN JOSE, SARATOGA AVENUE	17000	228000	220000	14900	199000	192000
04	280	SCL		7.123	SAN JOSE, LAWRENCE EXPRESSWAY	14900	199000	192000	11600	155000	150000
04	280	SCL		7.388	STEVENS CREEK BOULEVARD	11600	155000	150000	13200	176000	170000
04	280	SCL		8.375	CUPERTINO, WOLFE ROAD	13200	176000	170000	12500	168000	162000
04	280	SCL		9.433	SARATOGA, SUNNYVALE/DE ANZA BOULEVARD	12500	168000	162000	11300	151000	146000
04	280	SCL		10.741	SUNNYVALE, JCT. RTE. 85	11300	151000	146000	17800	154000	149000
04	280	SCL		11.447	CUPERTINO, FOOTHILL BOULEVARD	17800	154000	149000	14900	129000	125000
04	280	SCL		14.098	MAGDALENA AVENUE	14900	129000	125000	15100	130000	126000
04	280	SCL		15.046	LOS ALTOS HILLS, EL MONTE AVENUE	15100	130000	126000	14100	122000	118000
04	280	SCL		18.379	PAGE MILL ROAD	14100	122000	118000	13200	114000	110000
04	280	SCL		20.613	ALPINE ROAD	13200	114000	110000	12200	106000	102000
04	280	SCL		20.625	SANTA CLARA/SAN MATEO COUNTY LINE	12200	106000	102000			
04	280	SM	R	0	SANTA CLARA/SAN MATEO COUNTY LINE				12200	106000	102000
04	280	SM	R	1.56	JCT. RTE. 114	12200	106000	102000	12200	106000	102000
04	280	SM	R	1.61	SAND HILL ROAD	12200	106000	102000	13300	115000	111000
04	280	SM	R	3.337	WOODSIDE, JCT. RTE. 84	13300	115000	111000	13000	113000	109000