

SR 237 Express Lanes

Fiscal Year 2017

Annual Report



Operational Report

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SR 237 Express Lanes

Fiscal Year 2017 (July 2016 – June 2017)

Traffic Operations Summary

During the Fiscal Year (FY) 2017, the SR 237 Express Lane (EL) served a total of about 3,031,500 vehicles, including 467,500 Single Occupant Vehicles (SOV) /tolled and 2,564,000 High Occupancy Vehicles (HOV) /non-tolled. The total lane utilization for the FY 2017 compared to FY 2016 decreased by about 60,500 vehicles (1%), the total non-tolled vehicles decreased by about 52,300 vehicles (4%), and the tolled vehicles decreased by about 8,100 vehicles (1.7%). The estimated toll revenue collected for the FY 2017 was approximately \$1.27 million compared to \$1.25 million from FY 2016, an increase of about \$18,000 (1.5%).

Overall, 61% of the tolled vehicles were in the westbound direction (from I-880 southbound to SR 237) and 39% in the eastbound direction (SR 237 to I-880 northbound). Westbound morning peak period tolled vehicles were approximately 50% of the total tolled vehicles, and eastbound were approximately 33% during the afternoon peak period.

Toll Rates

The average toll rate for FY 2017 was approximately \$2.70 compared to \$2.60 for FY 2016. On June 8, 2017, the maximum toll rate was increased from \$7.00 to \$8.00. The minimum toll rate remains unchanged at \$0.30.

Clean Air Vehicle Volumes

Clean Air Vehicle (CAV) along the SR 237 EL continues to increase over the past three years. CAV Counts observed once every month during the FY 2017 indicates an average of about 36% vehicles are CAV during the morning peak hour (8 a.m. - 9 a.m.) in the westbound direction; and about 30% in the eastbound direction during the afternoon peak hour (5 p.m. – 6 p.m.).

HOV Only Operation

The HOV Only operation is activated when the EL corridor experiences low speeds due to downstream congestion beyond the EL project limits. During the FY 2017, the EL was restricted to HOV Only operation for approximately 95 hours. There was 63 hours of HOV Only operation in the westbound direction during morning commute while the eastbound afternoon commute experienced 31 hours. This equates to an average of about 20 minutes of HOV Only per day.



Enforcement (California Highway Patrol)

During the FY 2017 California Highway Patrol (CHP) issued a total of 1,560 citations, compared to 1,743 citations issued during FY 2016. CHP enforcement hours for FY 2017 totaled approximately 875 hours while FY 2016 were about 970 hours. CHP were unable to provide enforcement services during July 2016 due to lack of CHP personnel. In addition due to a statewide directive on reimbursable services, the CHP enforcement for the EL was temporarily stopped between February 8, 2017 and April 7, 2017.

Incidents /Traffic collision

During the FY 2017 there were approximately 230 reported traffic collisions along the SR 237 express lanes corridor between Dixon Landing Road on I-880 and Lawrence Expressway on SR 237. This includes four collisions which obstructed tolling operations that resulted in reduced toll revenue amounting to about \$600.

SR 237 Express Lanes Maintenance Activity Summary

August 2016 - Caltrans repaved and restriped I-880 between the SR 237 interchange and Dixon Landing Road for both northbound and southbound directions. In the Northbound direction, the express lanes in-pavement vehicle detectors were damaged at two locations. EL maintenance staff replaced these detectors in coordination with Caltrans.

September 2016 - Caltrans repaved and restriped SR 237, between I-880 and North First Street, for both eastbound and westbound directions. Similar to I-880 repaving project, the SR 237 in-pavement vehicle detectors were damaged and had to be replaced by EL maintenance staff at seven locations, four in the westbound direction and three in the eastbound direction.

November 13, 2016 - EL maintenance staff performed semi-annual maintenance on the electronic toll system (ETS). This semi-annual maintenance was a two night preventive maintenance activity, in addition to the weekly and monthly preventive maintenance. The in-pavement vehicle detectors for the westbound SR 237 near McCarthy Boulevard were also replaced.

November 22, 2016 – The eastbound SR 237 Express Lanes toll message sign near Zanker Road malfunctioned, and the sign was displaying incorrect toll messages. EL maintenance staff replaced the faulty sign controller board.

March 14-15, 2017 - EL maintenance staff performed a semi-annual maintenance on the ETS. This was a two night preventive maintenance activity.

Table 1: FY 2017 SR 237 Express Lanes Traffic Volumes & Revenue Performance

Reporting Period	Express Lanes Traffic Volumes				Estimated Revenue
	Total Vehicles	Non-Tolled Vehicles	Tolled Vehicles	% Tolled Vehicles	
FY 2017	3,031,424	2,564,040	467,384	15.4%	\$1,268,298
FY 2016	3,091,906	2,616,386	475,520	15.4%	\$1,249,885
Net Difference	↓ 60,482 (1%)	↓ 52,346 (4%)	↓ 8,136 (1.7%)	0.0%	↑ 18,413 (1.47%)

Table 2: SR 237 Express Lanes Annual Traffic Volumes & Revenue

Reporting Period	Express Lanes Traffic Volumes				Estimated Revenue
	Total Vehicles	Non-Tolled Vehicles	Tolled Vehicles	% Tolled Vehicles	
FY 2012*	700,316	559,490	140,826	20.1%	\$ 219,175
FY 2013	2,766,320	2,141,038	625,282	22.6%	\$ 1,049,897
FY 2014	2,999,905	2,391,159	608,746	20.3%	\$ 1,225,320
FY 2015	3,056,354	2,531,175	525,179	17.2%	\$ 1,196,099
FY 2016	3,091,906	2,616,386	475,520	15.4%	\$ 1,249,885
FY 2017	3,031,424	2,564,040	467,384	15.4%	\$ 1,268,298
TOTAL	15,646,225	12,803,288	2,842,937	18.2%	\$ 6,208,675

*FY 2012 includes only one quarter.

Figure 1: SR 237 Express Lanes Traffic Volumes & Revenue by Quarter (Since opening)

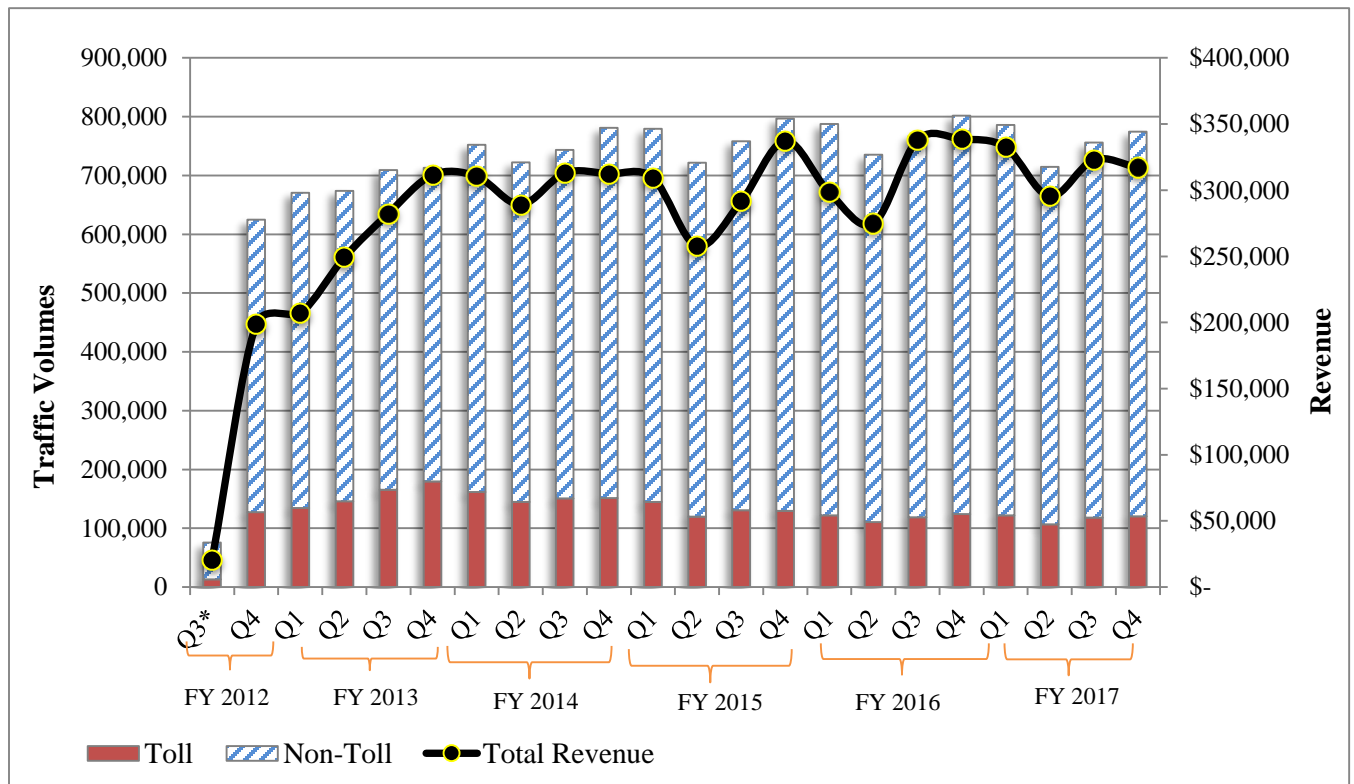


Table 3: FY 2017 SR 237 Express Lanes HOV Only Hours

Reporting Period	Westbound (HH:MM)	Eastbound (HH:MM)	Total (HH:MM)
FY 2017	64:45	30:40	95:35
FY 2016	113:44	67:41	181:25

Table 4: FY 2017 SR 237 Express Lanes HOV ONLY Operations Summary

Day	FY 2017		
	Net Time (HH:MM)	% of Tolling Hours ¹	Avg. Time/Day
Monday	14:30	1.6%	0:16
Tuesday	29:10	3.3%	0:33
Wednesday	22:50	2.6%	0:26
Thursday	24:50	2.8%	0:28
Friday	4:15	0.5%	0:04
Total	95:35	2.2%	0:22

¹Percentage based on total daily operating hours (17 hours) for Express Lanes

Table 5: FY 2017 SR 237 Express Lanes Tolloed Vehicles by Direction

	Morning	Afternoon	Total	Percentage
Eastbound	28,997	152,676	181,673	39%
Westbound	232,629	53,082	285,711	61%
Total	261,626	205,758	467,384	
Percentage	56%	44%		

Table 6: FY 2017 SR 237 Express Lanes – Clean Air Vehicle (Westbound AM Peak Hour)

8:00-9:00 AM	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total	Percent
Tolloed Vehicles	211	213	197	213	208	14%
Clean Air Vehicles	470	520	589	617	549	36%
Carpool	806	792	756	778	783	51%
Total	1,487	1,525	1,543	1,607	1,540	100%

Table 7: FY 2017 SR 237 Express Lanes – Clean Air Vehicle (Eastbound PM Peak Hour)

8:00-9:00 AM	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total	Percent
Tolloed Vehicles	151	155	158	156	155	12%
Clean Air Vehicles	408	392	391	325	379	30%
Carpool	741	689	734	815	745	58%
Total	1,300	1,236	1,283	1,296	1,279	100%

- The average Clean Air Vehicle (CAV) counts for the FY 2017 is based on scheduled monthly counts during the peak commute hour. The counts were conducted near Zanker Road interchange.

Figure 2: SR 237 Express Lanes – FasTrak flex Tags Usage by Switch Position

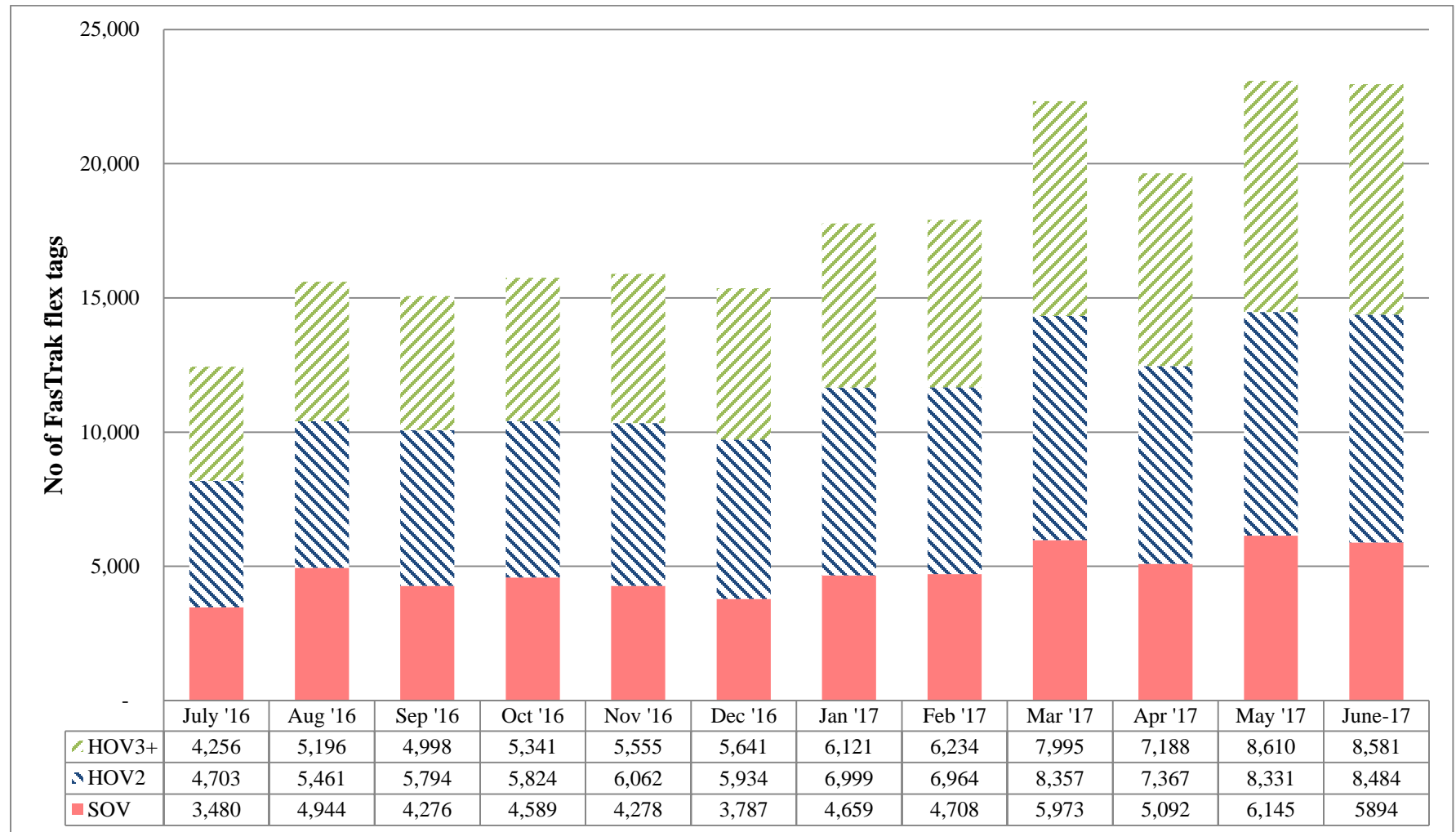


Figure 3: SR 237 Express Lanes Average Daily Tolled Vehicles by Month

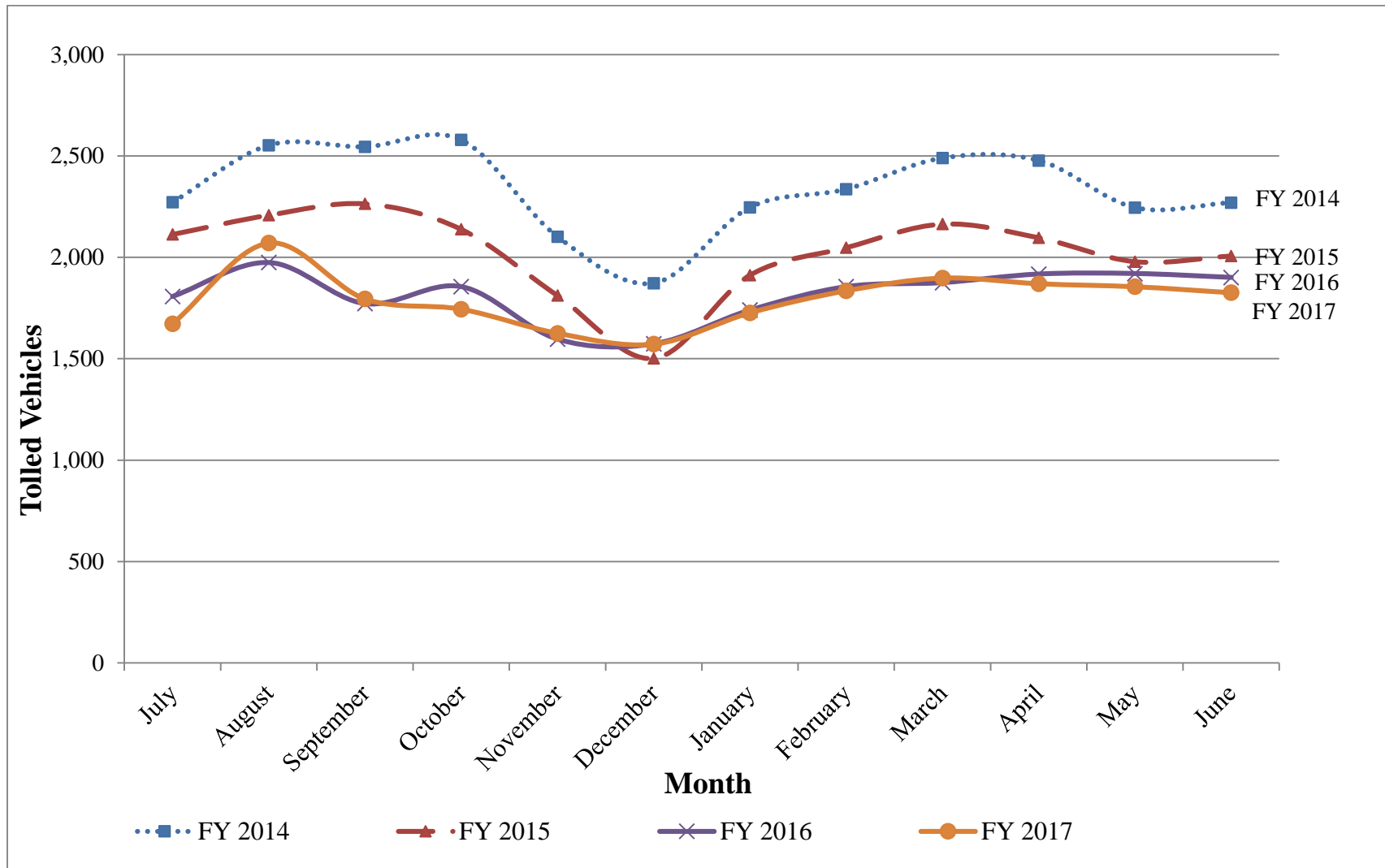


Table 8: FY 2017 SR 237 Express Lanes Traffic Volumes & Revenue by Month

Period		Express Lanes Traffic Volumes			
Month	Tolled Vehicles	Non-Tolled Vehicles	Total Vehicles	% Tolled Vehicles	Estimated Revenue
July	36,796	204,758	241,554	15.2%	\$94,107
August	45,555	238,437	283,992	16.0%	\$128,542
September	39,490	220,796	260,286	15.2%	\$109,959
October	36,631	214,534	251,165	14.6%	\$110,212
November	35,759	209,086	244,845	14.6%	\$98,315
December	34,578	184,102	218,680	15.8%	\$86,928
January	37,981	204,758	242,739	15.6%	\$101,642
February	36,704	196,387	233,091	15.7%	\$100,938
March	43,653	236,632	280,285	15.6%	\$120,444
April	37,400	199,915	237,315	15.8%	\$87,864
May	42,670	229,387	272,057	15.7%	\$104,820
June	40,167	225,248	265,415	15.1%	\$124,527
Total	467,384	2,564,040	3,031,424	15.4%	\$1,268,298

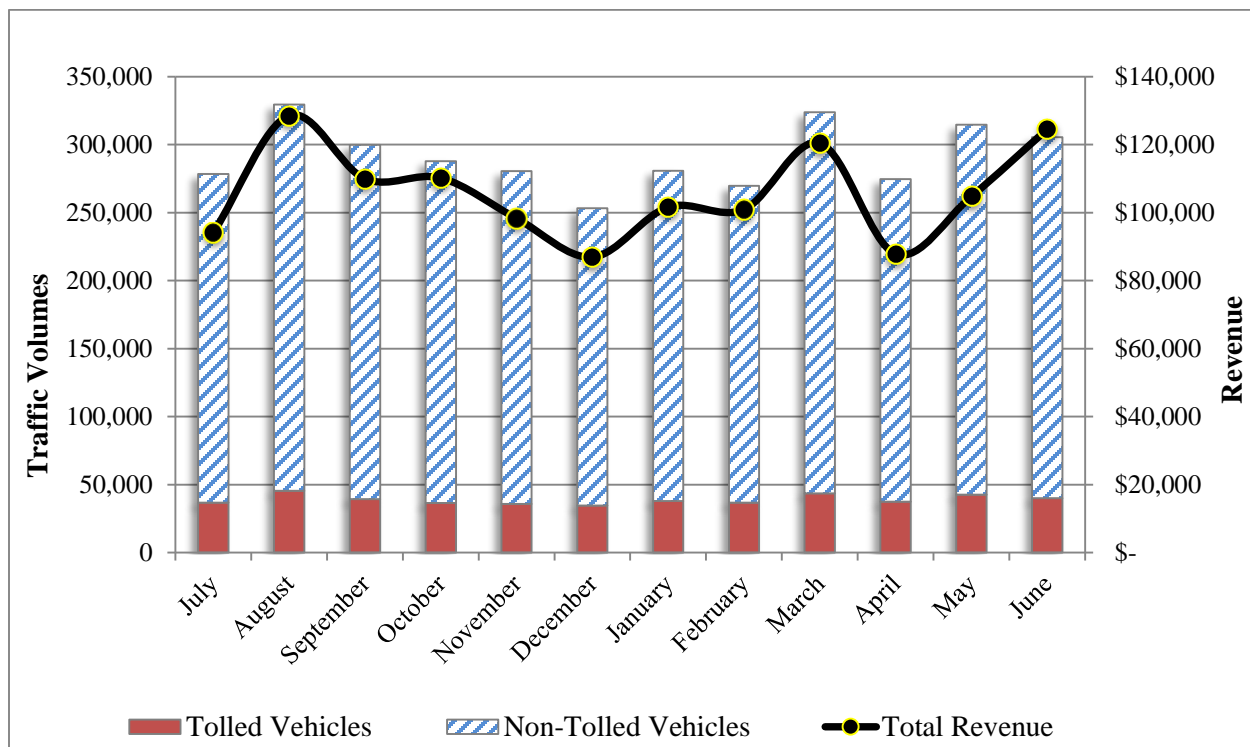
Figure 4: FY 2017 SR 237 Express Lanes Traffic Volumes & Revenue by Month

Figure 5: SR 237 Express Lanes Average Toll rate (1-Year Trend)

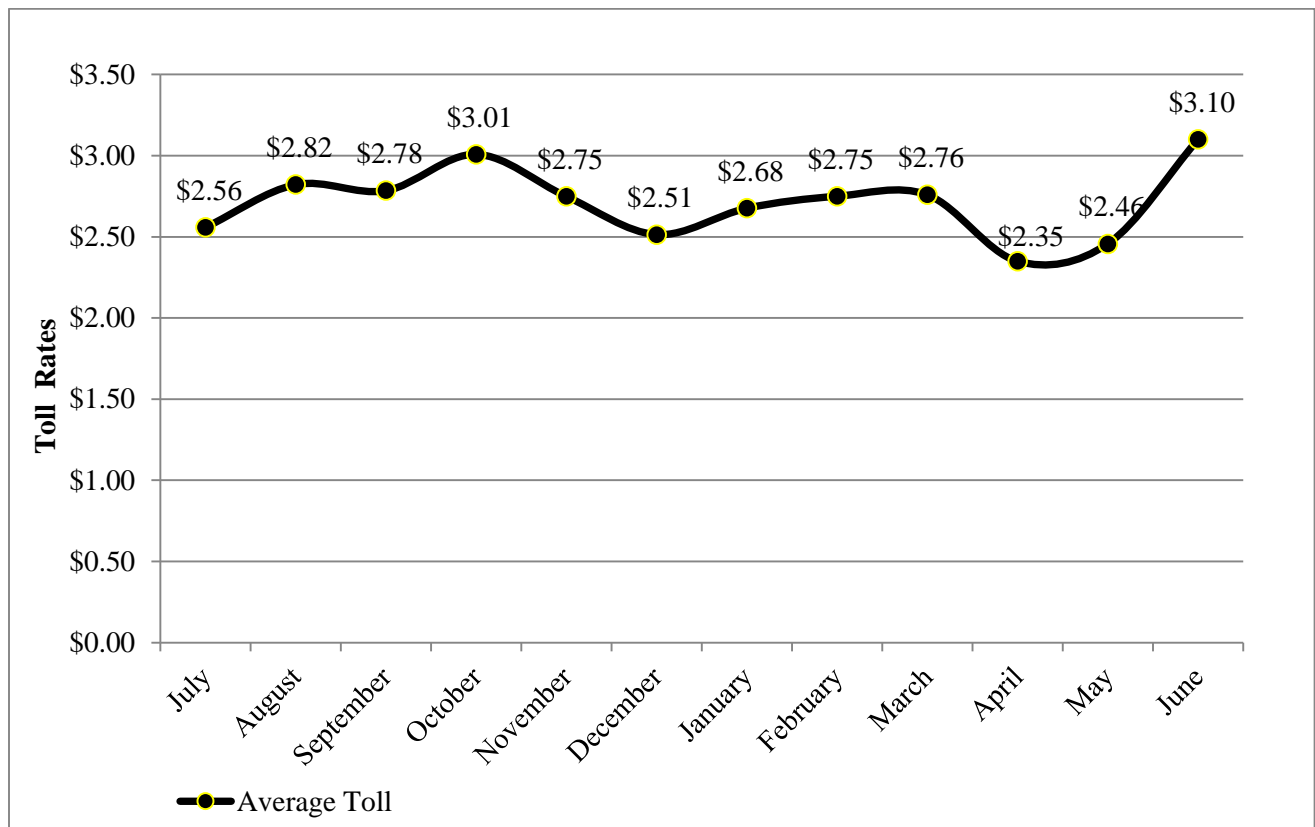


Figure 6: FY 2017 SR 237 Express Lanes Tolloed vs. Non-Tolloed Vehicles

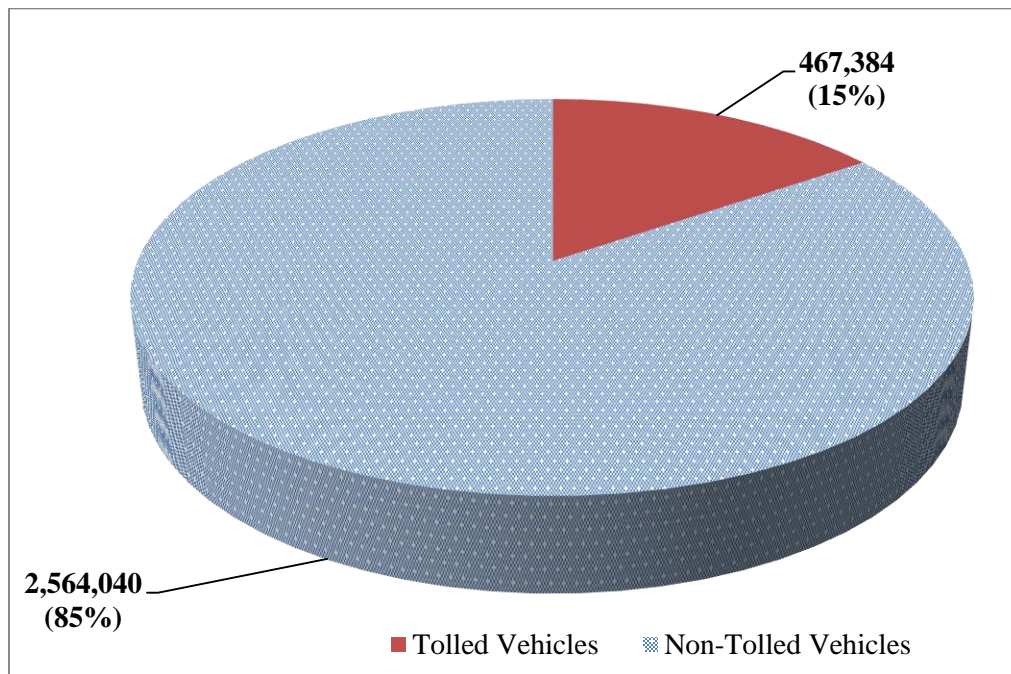


Figure 7: FY 2017 SR 237 Express Lanes Citations Issued by CHP

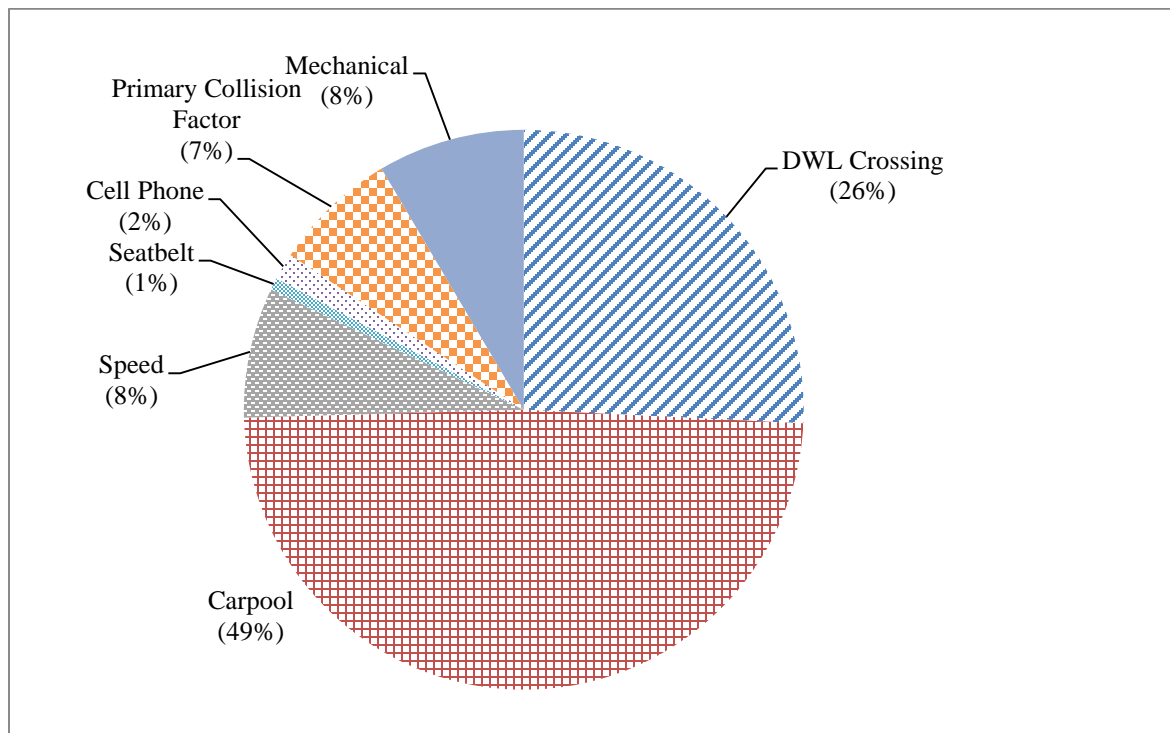


Table 9: FY 2017 SR 237 Express Lanes CHP Issued Citations

Month	Total Citations	Verbal Warnings ¹	DWL Crossing	Carpool	Speed	Seatbelt	Cell Phone	Primary Collision Factor	Mechanical	Hours
July ²	-	-	-	-	-	-	-	-	-	-
August	265	59	94	123	5	2	3	21	17	136
September	121	14	22	71	0	0	1	21	6	67.5
October	73	14	7	53	0	0	0	4	9	41
November	104	4	20	68	7	0	3	2	4	55
December	111	5	5	27	46	0	2	9	22	68
January	180	32	131	29	4	2	0	4	8	99
February ³	24	1	1	23	0	0	0	0	0	13
March ³	-	-	-	-	-	-	-	-	-	-
April	240	19	18	161	11	0	2	18	29	138.5
May	243	21	61	93	23	6	10	17	32	142
June	199	11	42	111	21	1	3	16	5	115
Total	1,560	180	401	759	117	11	24	112	132	875

¹ Verbal warnings are not included in total citations.

² CHP personnel not available for EL enforcement.

³ CHP enforcement was temporary stopped between February 8, 2017 and April 7, 2017 due to statewide directive.

Table 10: FY 2017 SR 237 Express Lanes Westbound Double White Line Crossing Violations between McCarthy Boulevard and Zanker Road

Time	Quarter 1 Average	Quarter 2 Average	Quarter 3 Average	Quarter 4 Average	Total Hourly Average	Total EL Hourly Volume (06/22/17)	Violation Percent
5 am	125	146	151	130	138	759	18.2%
6 am	169	158	160	142	157	1288	12.2%
7 am	129	119	132	116	124	1576	7.9%
8 am	125	115	130	116	121	1645	7.4%
9 am	170	159	152	150	158	1546	10.2%
10 am	223	194	254	228	225	1698	13.2%
11 am	77	53	77	92	75	876	8.5%
12 pm	53	53	43	56	51	576	8.9%
1 pm	73	52	51	114	72	531	13.6%
2 pm	68	54	50	106	69	518	13.4%
3 pm	47	32	28	50	39	280	14.1%
4 pm	79	99	78	101	89	430	20.7%
5 pm	194	173	185	203	189	523	36.1%
6 pm	103	55	70	94	80	377	21.5%

Figure 8: FY 2017 SR 237 Express Lanes Westbound Double White Line Crossing Violations between McCarthy Boulevard and Zanker Road

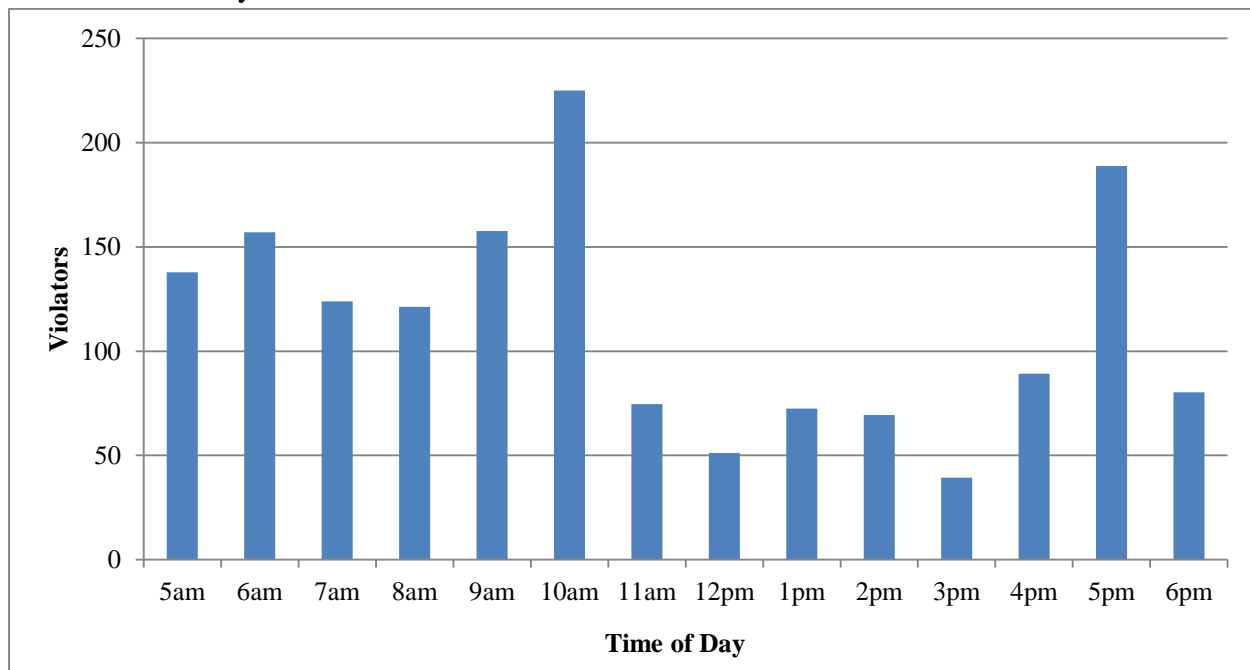
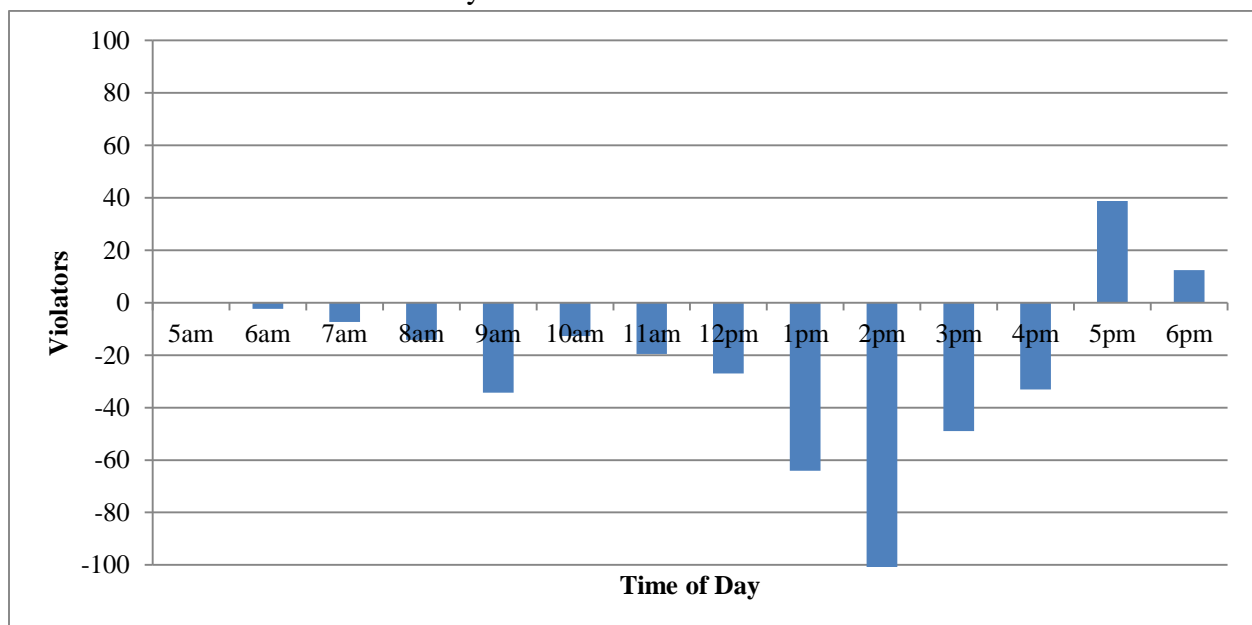


Table 11: FY 2017 SR 237 Express Lanes Eastbound Double White Line Crossing Violations between Zanker Road and McCarthy Boulevard

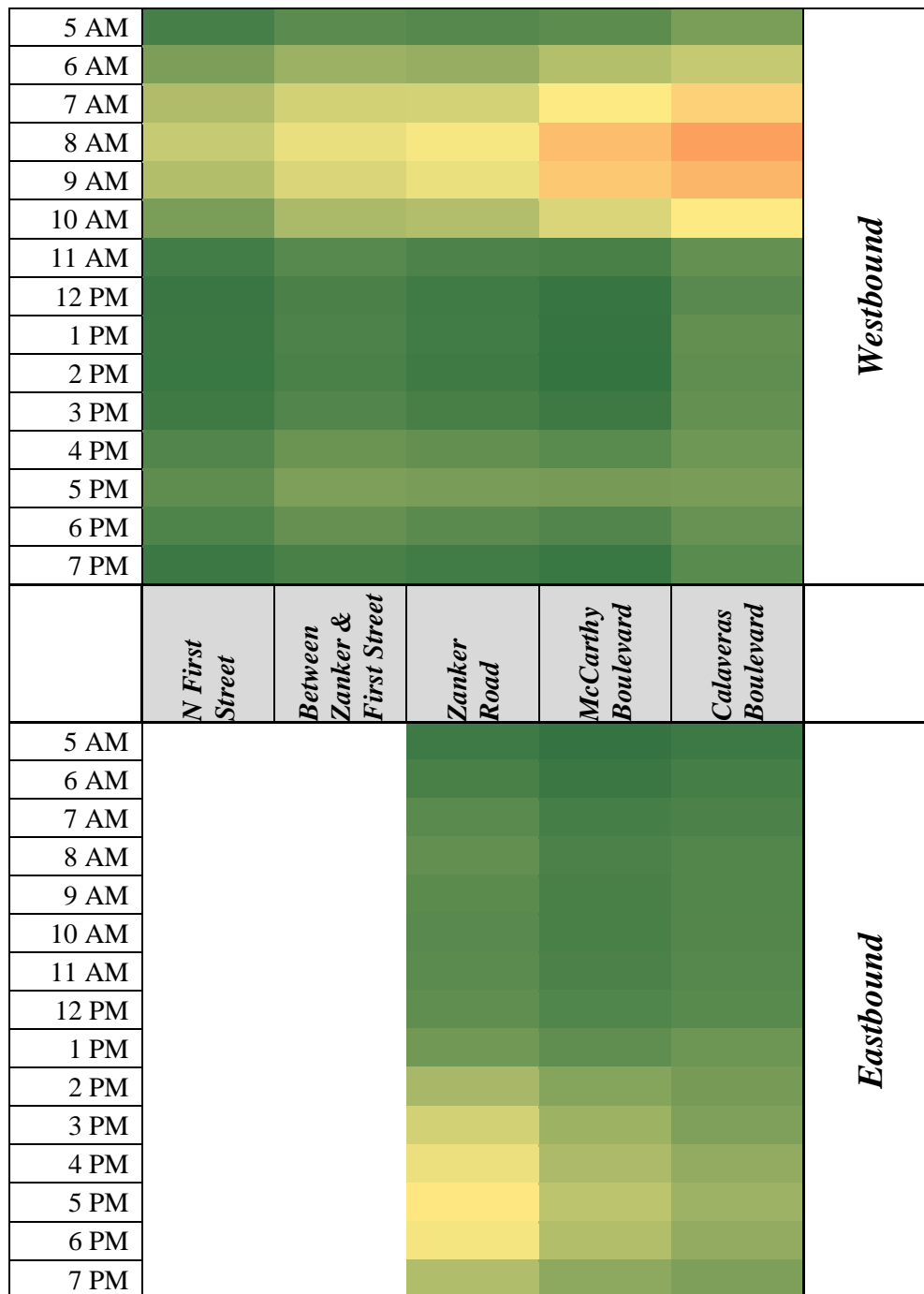
Time	Quarter 1 Average	Quarter 2 Average	Quarter 3 Average	Quarter 4 Average	Total Hourly Average	Total EL Hourly Volume (06/22/17)	Violation Percent
5 am	-2	0	-1	3	0	64	0.0%
6 am	-6	-6	0	2	-2	105	-2.3%
7 am	-7	-4	-13	-6	-7	261	-2.8%
8 am	-20	-9	-19	-9	-14	368	-3.9%
9 am	-38	-29	-35	-35	-34	699	-4.9%
10 am	-17	-4	-15	-15	-13	580	-2.2%
11 am	-25	-18	-15	-20	-20	704	-2.8%
12 pm	-27	-27	-18	-36	-27	769	-3.5%
1 pm	-32	-32	-41	-153	-64	1130	-5.7%
2 pm	-83	-63	-57	-216	-105	1463	-7.2%
3 pm	-32	-14	-35	-115	-49	1041	-4.7%
4 pm	-31	5	0	-107	-33	1175	-2.8%
5 pm	23	61	36	36	39	1230	3.2%
6 pm	-1	13	27	12	12	1124	1.1%

Figure 9: FY 2017 SR 237 Express Lanes Eastbound Double White Line Crossing Violations between Zanker Road and McCarthy Boulevard



Negative values indicate vehicles exiting the EL prior to McCarthy Boulevard and Calaveras Boulevard off-ramps.

Figure 10: FY 2017 SR 237 Express Lanes Average Speed by Location




Speed Scale



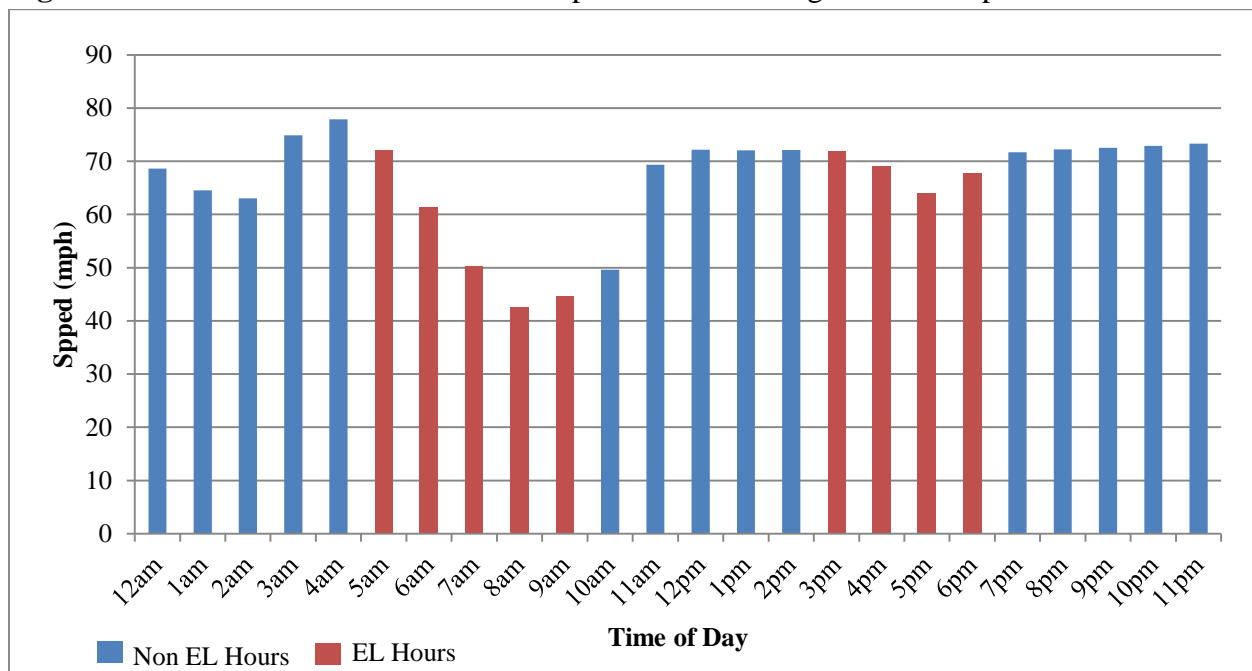
- FY 2017 average speeds are calculated using EL vehicle data for random 36 weekdays (3 days /month).

Table 12: FY 2017 SR 237 Express Lanes Average Corridor Speeds

Time	Westbound (miles per hour)	Eastbound (miles per hour)
12:00 a.m.	69	70
1:00 a.m.	65	70
2:00 a.m.	63	70
3:00 a.m.	75	70
4:00 a.m.	78	73
5:00 a.m.	72	74
6:00 a.m.	61	72
7:00 a.m.	50	71
8:00 a.m.	43	69
9:00 a.m.	45	70
10:00 a.m.	50	70
11:00 a.m.	69	70
12:00 p.m.	72	69
1:00 p.m.	72	68
2:00 p.m.	72	63
3:00 p.m.	72	58
4:00 p.m.	69	55
5:00 p.m.	64	52
6:00 p.m.	68	53
7:00 p.m.	72	58
8:00 p.m.	72	66
9:00 p.m.	73	68
10:00 p.m.	73	69
11:00 p.m.	73	70
 EL hours of operation		

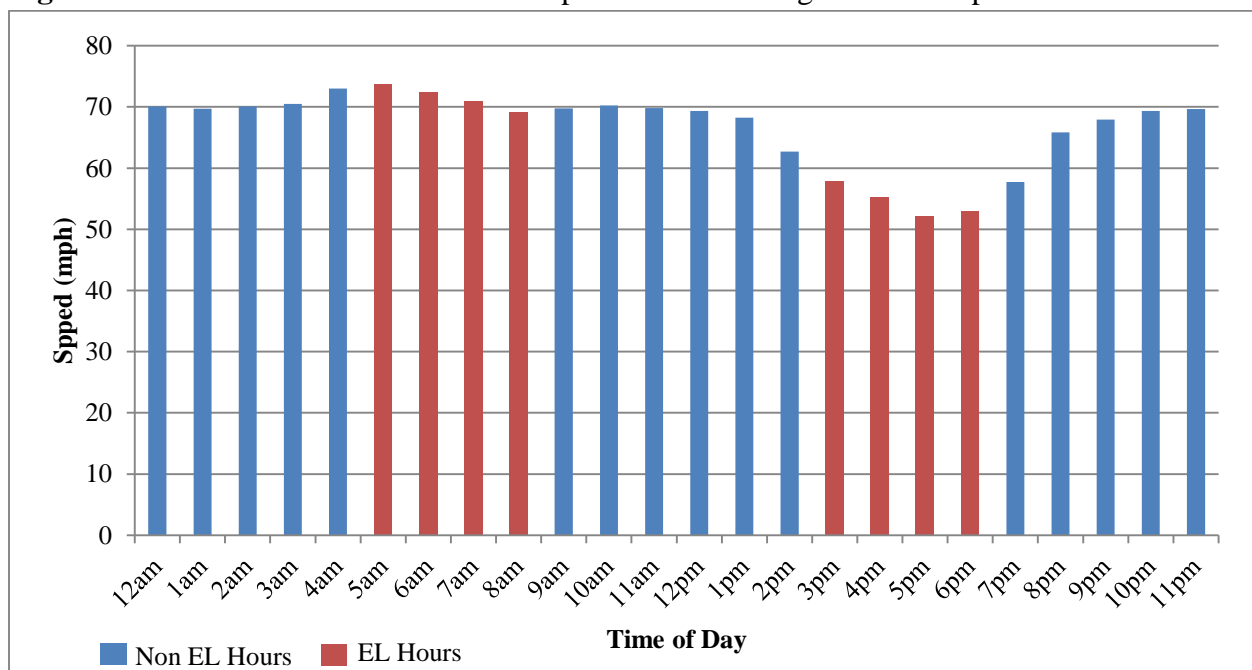
- Average speeds for the FY 2017 SR 237 westbound is based on an average of five vehicle detector stations (VDS) between I-880 and North First Street, and a total of 36 weekdays (3 days /month).
- Average speeds for the FY 2017 SR 237 eastbound is based on an average of three VDS between Zanker Road and I-880, and a total of 36 weekdays (3 days /month).
- The data was collected during a typical weekday (Tuesday – Thursday).

Figure 11: FY 2017 SR 237 Westbound Express Lanes Average Corridor Speeds



EL hours of operations for the westbound SR 237 are 5 a.m. – 10 a.m. and 3 p.m. – 7 p.m.

Figure 12: FY 2017 SR 237 Eastbound Express Lanes Average Corridor Speeds



EL hours of operations for the eastbound SR 237 are 5 a.m. – 9 a.m. and 3 p.m. – 7 p.m.