District 04
Mobility Performance Report

2025 2nd Quarter

DEPARTMENT OF TRANSPORTATION

Definitions

- **Vehicle Miles of Travel (VMT)**: Total miles driven by all the vehicles over a freeway segment during a specified time period. When plotted over a spatial segment, this quantity is simply the sum of VMT from the individual detectors. Users can query VMT reports for any freeway (or segment) available in PeMS. At a freeway segment page in PeMS, users can select the VMT reports by using the Performance pull-down menu and selecting Aggregates. There are three types of Aggregates reports: Time Series, Time of Day, and Day of Week.
- **Vehicle Hours of Delay (VHD)**: Amount of extra time spent by all the vehicles beyond the time it takes to traverse a freeway segment at a threshold speed. In other words, it is the amount of additional time that vehicles spend on the roadway due to congestion. PeMS can compute the amount of delay using different threshold speeds (i.e., 35, 40, 45, 50, 55, 60, and 65 miles per hour)
- **Lost Lane Miles Hours (equivalent lost productivity)**: Number of lane-mile-hours that are lost due to the freeway operating under congested conditions. When the freeway is in congestion - speed is below 35 mph - PeMS find the ratio between the measured flow and the capacity for this location. This drop in capacity is caused by the freeway is operating in congested conditions instead of in free flow)
- **Detection Health**: Detectors can malfunction for many reasons. For some detectors, this is an intermittent problem. For other detectors, the problem is recurrent. PeMS devotes a large amount of its computing resources to identifying bad detectors and calculating health diagnostics to help users evaluate data quality and to help those responsible for detector maintenance.
- **Bottleneck**: Location where the traffic demand exceeds the available capacity of the roadway facility. Characteristics include reduction in speeds, congestion, queuing, and delay. PeMS can identify a bottleneck at a particular detector where there is a persistent drop in speed from the detector immediately upstream.

2025 2nd Quarter

EXECUTIVE SUMMARY

Overview

The Quarterly Mobility Performance Report (MPR) evaluates key traffic performance metrics by comparing current conditions with both the previous quarter and the same period from the prior year. This report provides information on the following performance measures:

- Vehicle Miles Traveled (VMT)
- Vehicle Hours of Delay (VHD)
- Lost Lane Mile Hours
- Detection Health

The information in this report is based on daily data collected 24 hours a day by automated vehicle detector stations across the State Highway System.

Vehicular delay is assessed using two speed thresholds:

- Below 60 mph: Indicates both light and heavy congestion
- Below 35 mph: Indicates severe congestion

Through engineering judgment, Caltrans uses these thresholds and performance measures to identify bottleneck locations and assess congestion severity.

FINDINGS

Summary

- In this 2nd quarter (April to June of 2025), Vehicle Miles Travel (VMT) across all District 4 freeways were 7.86 billion miles, an increase of 4.1 percent from previous quarter and an increase of 2.6 percent from a year ago.
- There was 16.3 million Vehicle Hours of Delay (VHD) at the 60-mph speed threshold, an increase of 20.2 percent over previous quarter and an increase of 2.9 percent from a year ago.
- 82 percent of the District's 7.8 million VHD were generated by the top 3 counties: 3.13 million VHD (42 percent) were generated in Alameda County, 1.9 million VHD (26 percent) were generated in Santa Clara County, and 1 million VHD (14 percent) were generated in Contra Costa County.
- In this quarter more than a third, 38 percent of the total delay in District 4 at the 35-mph speed threshold were generated from the top 3 county freeways: Alameda I580(15 percent), Alameda 880 (12 percent), and Santa Clara US101 (11percent).
- 59% of the daily Lost Lane Miles Hours caused by delays occurs during the PM peak period making it the period with the most Lost Lane Miles Hours. These delays were equivalent to 244 Lost Lane Miles Hours (LLM) from the freeway network during the PM Peak Period, compared to 223 LLM from previous quarter.
- The average weekday daily delay in this quarter was approximately 101 thousand VHD at 35-mph speed threshold, and 222 thousand VHD at 60-mph speed thresholds (14.8 percent increase and 10.6 percent decrease respectively over the previous quarter.)
- Thursday are the most congested days of the week in this quarter then Wednesday, Tuesday and Friday. The weekday morning peak hour was at 8 AM. Afternoon peak hour was at 5 PM. The peak periods extended from 6 AM to 10 AM and from 2 PM to 7 PM.

- Weekend's peak hour Saturday was at 3 PM, and peak period extended between 10 AM and 7 PM.
- By the end of the 2nd quarter, loop detectors in good service condition account for 52.7 percent of the total loops, while 47.3 percent of total loop detectors were nonoperational.

Bottleneck Locations

Table 1: Top 20 Bottlenecks for the 2024 Calendar Year:

Location	County	Route	Name	Peak Period (AM/PM)	Abs Postmile (Miles)	CA Postmile (Miles)	Days Observed (Days)	Avg Extent (Miles)	Total Delay (vehicle-hours)	Total Duration (Minutes)
1	ALA	I680-N	Calaveras Rd	PM	20.890	10.966	180	7.47	694622.9	44,230
2	CC	I80-E	Pinole Valley Rd	PM	21.923	8.59	237	7.02	559341.1	46,705
3	ALA	I880-N	N of Eldridge POC	PM	26.317	16.09	234	5.59	537355.6	42,830
4	SCL	SR85-S	Camden Ave	PM	7.970	7.97	240	3.68	388729.5	44,295
5	CC	SR4-W	5400' E of Willow Pass Rd	AM	16.438	R16.77	182	1.91	386312.5	27,335
6	SCL	US101-S	Laurel Rd	PM	366.467	17.16	118	4.91	373570.8	10,080
7	SCL	SR85-S	Union Ave	PM	9.100	9.1	240	2.50	278893.9	44,295
8	SCL	I880-N	N 1st St	PM	3.610	3.61	229	2.75	262482.3	33,090
9	ALA	I80-E	Gilman St	PM	11.950	6.64	240	3.18	246759.4	34,560
10	CC	SR24-E	Risa Rd	PM	9.688	5.34	204	3.08	234607.8	23,515
11	ALA	I80-W	Powell St	PM	9.210	3.9	248	1.79	225823.1	49,760
12	SCL	SR237-E	Zanker Rd	PM	8.222	8.17	197	4.32	224243.1	36,725
13	ALA	I880-N	42nd-High St	AM	38.297	28.07	156	4.08	208709.7	18,105
14	ALA	I580-E	Hacienda Dr.	PM	34.702	18.67	210	3.42	199626.9	20,245
15	SCL	US101-N	Tully Rd	AM	382.903	33.27	204	2.55	198389.3	21,500
16	CC	SR24-W	Gateway Blvd	PM	5.758	1.41	188	1.89	194633.0	23,145
17	CC	SR242-N	Olivera St OC (Reitz Ct)	PM	3.069	2.81	243	1.90	193433.3	54,385
18	SF	US101-N	20th Street - Hospital Curve	PM	432.094	3.8	199	1.59	183176.1	39,850
19	ALA	I880-S	Stevenson Blvd	AM	16.527	6.3	231	3.13	175493.4	22,700
20	MRN	US101-S	N of Miller Creek Rd	AM	456.455	15.85	213	2.34	145926.3	24,305

Table 2: Top 10 Bottlenecks for the 2025 Q2 Quarter:

Location	County	Route	Name	Peak Period (AM/PM)	Abs Postmile (Miles)	CA Postmile (Miles)	Days Observed (Days)	Avg Extent (Miles)	Total Delay (vehicle-hours)	Total Duration (Minutes)
1	ALA	I880-N	N of Eldridge POC	PM	26.317	16.09	63	6.46	173002.8	13,195
2	CC	SR4-W	5400' E of Willow Pass Rd	AM	17.518	17.85	62	5.40	134928.2	10,190
3	SCL	US101-S	Cochrane Rd	PM	366.917	R17.61	63	4.51	125616.7	14,390
4	SCL	SR237-E	Zanker Rd	PM	8.222	8.17	63	4.31	111834.1	16,285
5	SCL	SR85-S	Camden Ave	PM	7.970	7.97	63	3.68	103983.6	4,575
6	SCL	I280-S	S 7th St	PM	1.520	1.52	60	3.74	101480.7	8,215
7	CC	I680-N	100' N of Oak Park Blvd	PM	48.502	17.01	63	4.34	101304.6	7,470
8	ALA	I80-E	Gilman St	PM	11.950	6.64	63	3.14	91099.6	12,310
9	CC	I80-E	Pinole Valley Rd	PM	21.923	8.59	63	2.85	87687.7	12,050
10	CC	SR4-E	E of Kinne Blvd	PM	15.834	R16.1	61	2.88	83413.5	13,255

Bottleneck Mitigation Projects:

Location 4:

EA 04-0K240, PM 7/8 on the EB of SCL-237, this project constructed an auxiliary lane from North First Street overcrossing to Zanker Road overcrossing. The contract acceptance date is 02/22/2024.

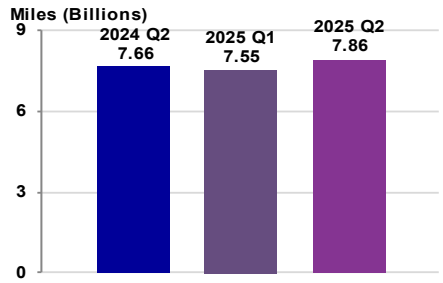
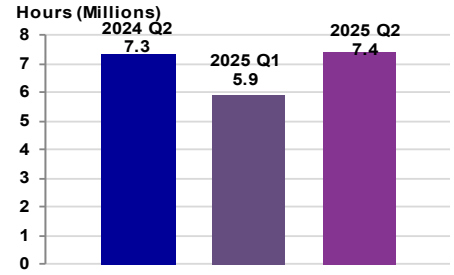
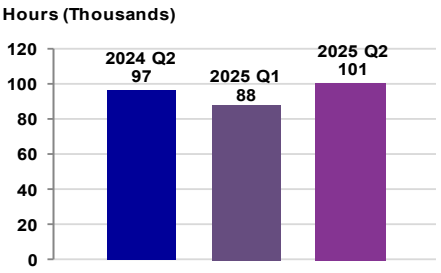
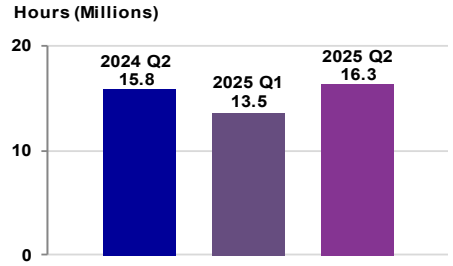
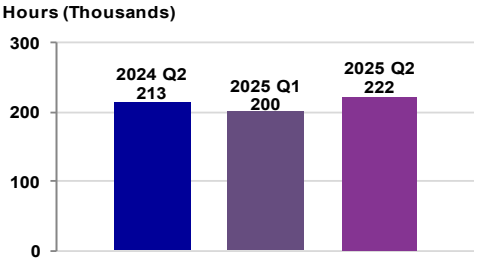
Location 7:

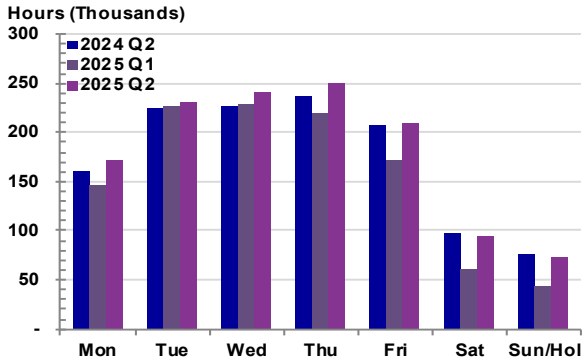
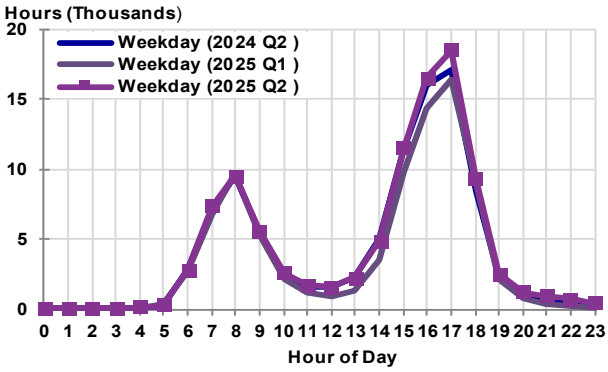
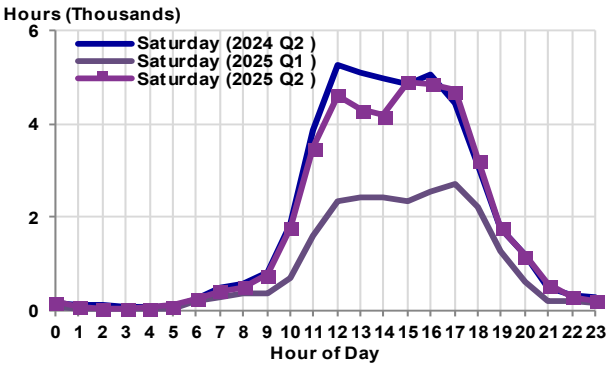
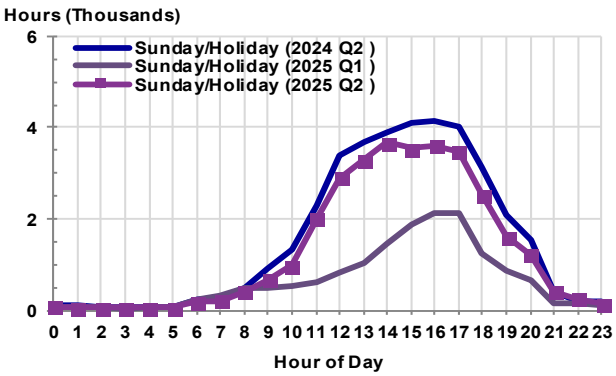
EA 04-0Q310, PM 11.3/23 on the NB of CC-680, this project will construct a HOV hot lane on the northbound direction to close the gap. The target date is 02/01/2029.

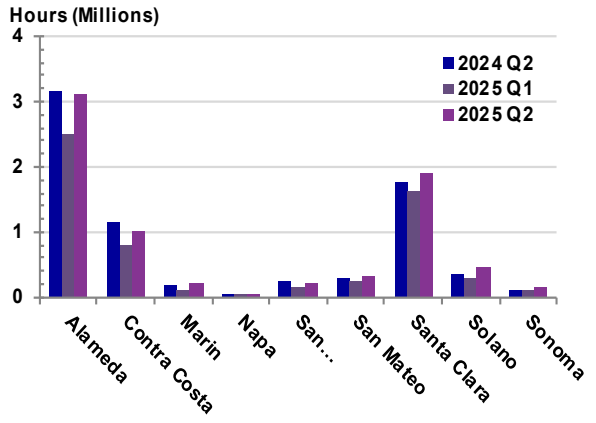
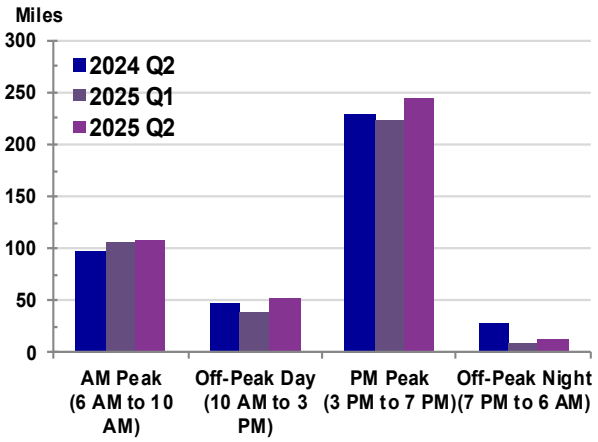
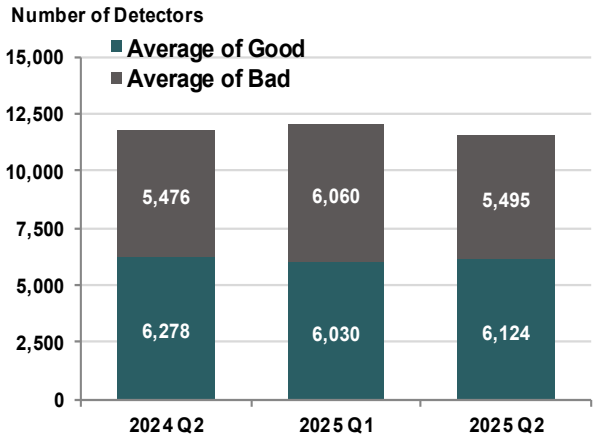
EA 04-0Q960, PM 0/24.42 on the NB of CC-680, this project will deploy a suite of technology-based solutions (including ramp metering system) to maximize roadway system efficiency on the northbound direction of I-680 in Contra Costa from PM 0/24.42. The target date is 09/30/2030.

Quarterly Mobility Statistics

The following figures show a summary of the performance across all state routes in the districts.

Measure	Graph	Percentage Change	
		Over one year ago	Over last quarter
Vehicle Miles of Travel (VMT)		2.6%	4.1%
Total Vehicle Hours of Delay (VHD) at 35 mph		1.8%	26.3%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph		4.1%	14.8%
Total Vehicle Hours of Delay (VHD) at 60 mph		2.9%	20.2%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph		4.2%	10.6%

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph		Largest Magnitude Decrease over one year ago Saturday -5%	Largest Magnitude Decrease over last quarter –
		Largest Magnitude Increase over one year ago Thursday 6.2%	Largest Magnitude Increase over last quarter Friday 22.1%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		Largest Magnitude Weekday Decrease over one year ago 2 PM -2.3%	Largest Magnitude Weekday Decrease over last quarter 5 AM -39.4%
		Largest Magnitude Weekday Increase over one year ago 5 PM 7.9%	Largest Magnitude Weekday Increase over last quarter 4 PM 14.2%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		Largest Magnitude Saturday Decrease over one year ago 2 PM -16.4%	Largest Magnitude Saturday Decrease over last quarter –
		Largest Magnitude Saturday Increase over one year ago 5 PM 6.1%	Largest Magnitude Saturday Increase over last quarter 3 PM 110%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/ Holidays		Largest Magnitude Sun./Holiday Decrease over one year ago 6 PM -19.1%	Largest Magnitude Sun./Holiday Decrease over last quarter 7 AM -34.7%
		Largest Magnitude Sun./Holiday Increase over one year ago 10 PM 14.9%	Largest Magnitude Sun./Holiday Increase over last quarter 1 PM 211.5%

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph		Largest Magnitude Decrease over one year ago Contra Costa -12.6%	Largest Magnitude Decrease over last quarter –
		Largest Magnitude Increase over one year ago Santa Clara 7.7%	Largest Magnitude Increase over last quarter Alameda 24.3%
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph		Largest Magnitude Decrease over one year ago Off-Peak Night -50.8%	Largest Magnitude Decrease over last quarter –
		Largest Magnitude Increase over one year ago PM Peak 6.1%	Largest Magnitude Increase over last quarter PM Peak 9.1%
Average Number of Good and Bad Detectors		Change in Good over one year ago -2%	Change in Good over last quarter 2%
		Change in Bad over one year ago 0%	Change in Bad over last quarter -9%

Congestion by Route												
		Vehicle Hours of Delay at 35 mph			Difference 2025 Q2-2024 Q2		Difference 2025 Q2-2025 Q1		Rank		
Route	County	2024 Q2	2025 Q1	2025 Q2	Absolute	Percentage	Absolute	Percentage	2024 Q2	2025 Q1	2025 Q2
I580	Alameda	1,106,563	797,675	1,074,478	-32,086	-2.9%	276,802	34.7%	1	1	1
I880	Alameda	725,696	713,033	863,483	137,787	19.0%	150,450	21.1%	3	2	2
US101	Santa Clara	785,802	650,321	841,059	55,256	7.0%	190,738	29.3%	2	3	3
I80	Alameda	515,284	373,035	463,261	-52,023	-10.1%	90,226	24.2%	4	4	4
I80	Solano	199,589	158,186	307,388	107,799	54.0%	149,202	94.3%	10	12	5
SR85	Santa Clara	262,029	285,064	301,238	39,210	15.0%	16,174	5.7%	8	5	6
I680	Alameda	387,626	256,735	284,021	-103,605	-26.7%	27,286	10.6%	5	6	7
SR4	Contra Costa	292,272	205,548	270,085	-22,187	-7.6%	64,537	31.4%	7	7	8
I80	Contra Costa	311,808	179,528	220,210	-91,598	-29.4%	40,682	22.7%	6	9	9
US101	San Mateo	175,087	162,059	203,959	28,872	16.5%	41,900	25.9%	11	11	10
I680	Contra Costa	200,785	175,153	202,435	1,650	0.8%	27,282	15.6%	9	10	11
I280	Santa Clara	174,255	186,427	200,430	26,175	15.0%	14,003	7.5%	12	8	12
SR237	Santa Clara	147,962	155,664	187,608	39,646	26.8%	31,944	20.5%	18	13	13
US101	Marin	159,201	106,736	179,477	20,277	12.7%	72,741	68.2%	15	17	14
SR24	Contra Costa	152,008	128,227	168,858	16,849	11.1%	40,631	31.7%	17	16	15
SR24	Alameda	171,355	141,709	149,412	-21,943	-12.8%	7,703	5.4%	13	14	16
I880	Santa Clara	158,933	133,455	144,580	-14,354	-9.0%	11,125	8.3%	16	15	17
US101	Sonoma	111,508	100,345	126,557	15,048	13.5%	26,212	26.1%	21	20	18
SR92	Alameda	134,943	103,918	123,859	-11,085	-8.2%	19,940	19.2%	19	19	19
I80	San Francisco	80,365	60,131	120,170	39,805	49.5%	60,039	99.8%	25	26	20
US101	San Francisco	166,402	95,492	105,898	-60,504	-36.4%	10,406	10.9%	14	22	21
SR238	Alameda	62,940	79,603	101,310	38,370	61.0%	21,707	27.3%	28	23	22
SR242	Contra Costa	106,885	74,184	95,408	-11,477	-10.7%	21,224	28.6%	22	24	23
SR37	Solano	120,047	98,275	89,764	-30,284	-25.2%	-8,511	-8.7%	20	21	24
I680	Santa Clara	74,246	105,822	82,873	8,628	11.6%	-22,949	-21.7%	26	18	25
SR17	Santa Clara	98,320	20,467	70,560	-27,759	-28.2%	50,094	244.8%	23	32	26
I280	San Mateo	72,994	56,811	69,664	-3,330	-4.6%	12,853	22.6%	27	27	27
SR84	Alameda	55,117	38,291	52,460	-2,657	-4.8%	14,169	37.0%	29	28	28
SR87	Santa Clara	36,218	69,519	46,657	10,439	28.8%	-22,862	-32.9%	30	25	29
I580	Contra Costa	84,323	23,691	46,120	-38,203	-45.3%	22,429	94.7%	24	31	30
I680	Solano	15,286	37,500	43,185	27,899	182.5%	5,685	15.2%	34	29	31
SR37	Sonoma	10,622	5,521	36,045	25,423	239.4%	30,524	552.8%	37	37	32
SR92	San Mateo	32,755	28,867	33,574	819	2.5%	4,706	16.3%	31	30	33
SR13	Alameda	18	13,948	30,190	30,172	165778.0%	16,242	116.4%	46	33	34
SR12	Napa	15,654	12,243	20,776	5,123	32.7%	8,534	69.7%	33	34	35
SR25	Santa Clara	21,146	6,660	17,633	-3,513	-16.6%	10,973	164.8%	32	35	36
I580	Marin	11,659	3,189	15,010	3,351	28.7%	11,821	370.8%	36	39	37
SR152	Santa Clara	5,237	5,201	7,425	2,188	41.8%	2,224	42.8%	38	38	38
I780	Solano	178	7	5,639	5,462	3077.1%	5,633	86660.0%	44	49	39
I280	San Francisco	13,147	5,935	2,619	-10,528	-80.1%	-3,316	-55.9%	35	36	40
SR12	Solano	3,684	866	1,502	-2,181	-59.2%	637	73.6%	39	40	41
SR37	Marin	640	59	1,449	809	126.5%	1,390	2363.8%	41	45	42
SR29	Napa	359	252	413	54	15.2%	161	64.1%	43	42	43
I80	Napa	908	542	394	-513	-56.6%	-148	-27.3%	40	41	44
I380	San Mateo	0	59	75	75		16	27.0%		44	45
I980	Alameda	462	68	64	-398	-86.2%	-4	-6.0%	42	43	46
I880S	Alameda	12	12	16	5	38.5%	5	38.5%	47	47	47
SR156	Santa Clara	38	38	13	-26	-67.4%	-26	-67.2%	45	46	48
SR1	San Francisco	9	8	8	-1	-8.2%	0	0.0%	48	48	49
SR160	Contra Costa	0	0	0	0		0				
TOTALS		**7,262,372**	**5,856,074**	**7,409,306**	**146,934**	**2.0%**	**1,553,232**	**26.52%**			