District 04
Mobility Performance Report

2024 2nd Quarter

DEPARTMENT OF TRANSPORTATION

July 31, 2024

District 4-Office of Asset Management and Performance

ABBREVIATIONS

Abs	Absolute
Avg	Average
CA	California
CO	County
MPR	Mobility Performance Report
PeMS	Performance Measurement System
PM	Postmile
Q	Quarter

2024 2nd Quarter

EXECUTIVE SUMMARY

Overview

Caltrans District 4 is comprised of nine counties that border the San Francisco Bay: Alameda (ALA), Contra Costa (CC), Marin (MRN), Napa (NAP), San Francisco (SF), San Mateo (SM), Santa Clara (SCL), Solano (SOL), and Sonoma (SON) Counties. Although these are urban counties, they do contain a large amount of sparsely populated land.

The Mobility Performance quarterly analysis compares information from this quarter with information from a year ago and last quarter in the following performance measures:

- Vehicle Miles of Travel (VMT)
- Vehicle Hours of Delay (VHD)
- Lost Lane Miles (equivalent lost productivity)
- Detector Health

This information is based on data collected every day of the quarter, twenty–four hours a day, by automated vehicle detector stations deployed on urban-area freeways where congestion is regularly experienced. The MPR presents congestion information at two-speed thresholds: delay from vehicles traveling below 35 miles per hour (mph), and delay from vehicles traveling below 60 mph. The delay at the 35 mph threshold represents severe congestion while delay at 60 mph represents all congestion, both light and heavy. These thresholds are set by Caltrans and are based upon engineering experience and District input.

FINDINGS

Four years have passed since the Statewide Shelter-In-Place (SIP) took effect on March 19, 2020. To combat the pandemic, vaccinations and boosters were being administered to all eligible individuals based on state guidelines. On June 15th, 2021, California State Governor Gavin Newsom announced the reopening of California. Over the subsequent three years, congestion has increased considerably. During Q2 2024, there was a 0.3% increase in VMT compared to the same quarter a year ago, with VMT increasing from 7.64 billion in Q2 2023 to 7.66 billion in Q2 2024. In the second quarter, we saw an increase of 5.4% (396 million) in VMT from the previous quarter's VMT of 7.26 billion.

Although VMT is essentially flat compared to last year, VHD is increasing. Compared to the same quarter the year before, there was a 10.3% increase from 6.6 million to 7.3 million VHD in 35 mph total quarterly delay, and a 6.4% increase from 14.9 million to 15.8 million VHD in 60 mph total quarterly delay. Compared to the previous quarter, Q2 saw an 21.6% increase in VHD at 35 mph and 15.7% increase in VHD at 60 mph.

The average weekday delay in this quarter has increased compared to the year before. Last year, during the same quarter, there was a delay of 88 thousand VHD at 35 mph, and 200 thousand VHD at 60 mph. This quarter, there was a delay of 98 thousand VHD at 35 mph, which is a 10.5% increase, and 214 thousand VHD at 60 mph, which is a 7.2% increase. The most congested day of the week in Q2 was Thursday, with 236 thousand VHD. This was the same day as both last quarter and during the same quarter a year ago. Although Thursday had the most VHD, Monday had the largest magnitude increase of 29 thousand VHD at 60 mph which was a 20.3% increase from the same quarter last year. No days of the week had decreases. When comparing to last quarter, Friday had the largest magnitude increase, with an increase of 40 thousand VHD (24.1%).

Looking at the Average VHD at 35 mph by hour of the day for weekdays, there was a slight increase in the AM commute period congestion compared to last year. The largest magnitude hourly change for AM hours compared to the same quarter a year ago occurred at 8 AM with an increase of 9.3%. The largest magnitude hourly AM change over last quarter also occurred at 8:00 AM with a decrease of 6.12%. For the PM hours, the largest magnitude hourly

increase of 8.3%, occurred at 4 PM when comparing with the same quarter last year, The largest magnitude hourly weekday increase over last quarter occurred at 3:00 PM with an increase of 25.6%. The weekday peak hour average delay of 17,334 VHD for this quarter occurs at 5 PM which is the same as last quarter and a year ago. Compared to last quarter's peak hour VHD of 15,852, there was a 9.4% increase. Compared to a year ago, there was a 6.3% increase from a VHD of 16,308. The largest single hour decrease on Saturday compared to a year ago occurred at 1 PM with a change of 4.7%. The largest decrease compared to the previous quarter on Saturday occurred at 5 AM with a change of 23.8%. The largest single hour increase on Saturday compared to a year ago occurred at 4 PM with a change of 10.7%. The largest increase compared to the previous quarter on Saturday occurred at noon with a change of 130.1% As for the Sunday/Holidays, the largest decrease compared to the previous year was 20.5% at 5 AM, and the largest decrease compared to last quarter was 23.3% at 7 AM. The largest magnitude increase over a year ago is 67.8% at 11 AM. The largest magnitude increase over last quarter occurred at 1 PM with a change of 102.7%.

Similarly to the same quarter last year and the previous quarter, Alameda County was the most congested county in the District with 3.16 million vehicle hours of total delay at 35 mph during the second quarter. Santa Clara County was the second most congested county in the District with 1.76 million vehicle hours of total delay at 35 mph. Contra Costa County was the third most congested county in the District with 1.15 million vehicle hours of total delay at 35 mph. Alameda County experienced the largest magnitude increase of 8.6% compared to the same quarter last year, while Solano County experienced the largest magnitude decrease of 19.8% compared to the same quarter last year.

Of the Top 10 Bottlenecks for the 2nd Quarter, eight bottleneck locations occurred during the PM, and two bottleneck locations occurred in the AM period. The top three locations are as follows:

- ALA I680 Northbound, Koopman Road during PM period (Rank 1, previously ranked 222 in Q1 2024): 206,153 vehicle hours of delay
- CC I80 Eastbound, Pinole Valley Road during PM period (Rank 2, rank unchanged from Q1 2024): 177,673 vehicle hours of delay

- ALA I880 Northbound, North of Eldridge POC during PM period (Rank 3, previously ranked 1 in Q1 2024): 143,908 vehicle hours of delay

This quarter, eight of the ten locations have resurfaced from last quarter's top 10 bottleneck list. Rank 1 (previously Rank 222 in Q1 2024), ALA I680 Northbound PM, Koopman Rd increased 15,279% from 1,340 to 206,135 VHD. Rank 2 (rank unchanged from Q1 2024) CC I80 Eastbound PM, Pinole Valley Road increased 45.44% from 122,163 to 177,673 VHD. Rank 3 (previously Rank 1 in Q1 2024), ALA I880 Northbound PM, North of Eldridge POC increased 4.21% from 138,089 to 143,908 VHD. Rank 4 (rank unchanged from Q1 2024), SCL US101 Southbound PM, Laurel Rd increased 21.09% from 104,498 to 126,532 VHD. Rank 5 (previously Rank 3 in Q1 2024), CC SR4 Westbound AM, 5400' E of Willow Pass Road increased 13.53% from 107,704 to 122,275 VHD. Rank 6 (previously Rank 5 in Q1 2024), CC I680 Northbound PM, 100' N of Oak Park Blvd increased 8.29% from 88,455 to 95,786 VHD. Rank 7 (previously Rank 9 in Q1 2024), ALA I80 Westbound AM, Gilman St increased 12.78% from 81,613 to 92,046 VHD. Rank 8 (previously Rank 14 in Q1 2024), CC SR24 Eastbound PM, Risa Rd increased 32.53% from 68,885 to 91,291 VHD. Rank 9 (previously Rank 7 in Q1 2024), SCL SR280 Southbound PM, Bascom & Leland increased 4.65% from 86,588 to 90,614 VHD. Rank 10 (previously Rank 6 in Q1 2024), ALA I80 Eastbound PM, Gilman St increased 1.06% from 86,799 to 87,720 VHD.

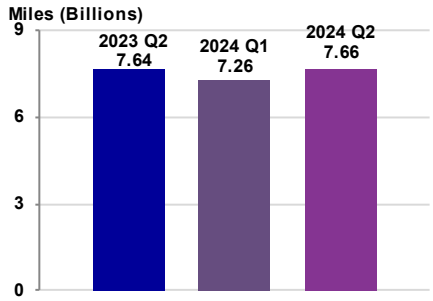
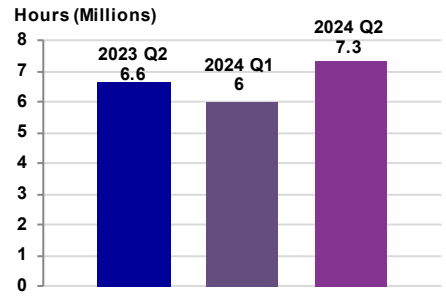
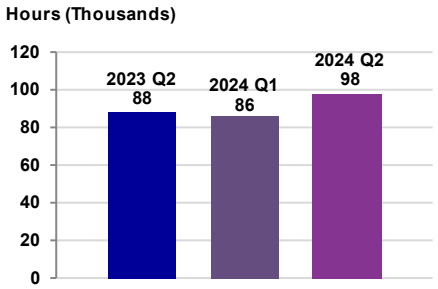
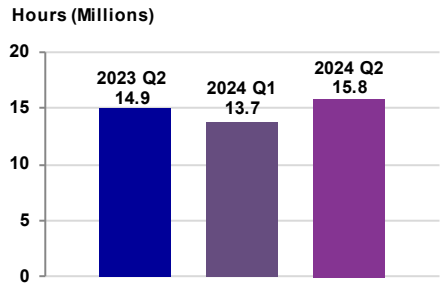
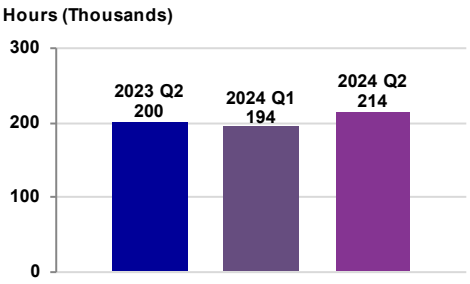
Most locations across District 4 had an increase in activity compared to a year ago. On the Congestion by Route table, 29 out of the 49 Route Counties listed have increases in congestion compared to a year ago, 3 remained unchanged, and 17 show a decrease. Compared to last quarter, most locations have seen increases in congestion. On the Congestion by Route table, 35 out of the 49 Route Counties listed have increased congestion when comparing to last quarter. Several routes experienced large swings in congestion compared to this quarter last year. This is generally due to detectors being fixed, being deactivated due to a construction project, or added in places where they did not previously exist. Some routes showed a very low (or zero amount of delay due to lack of detectors.

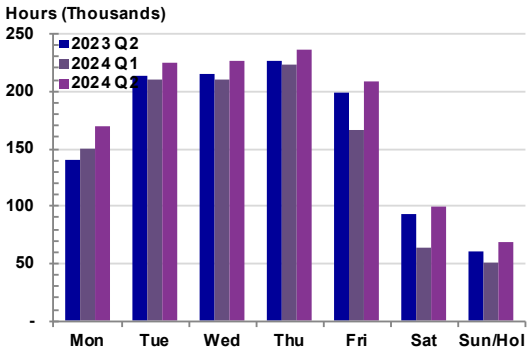
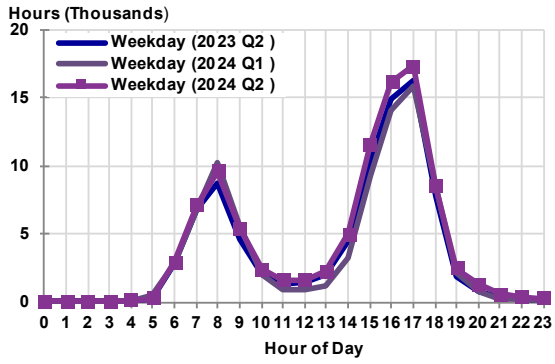
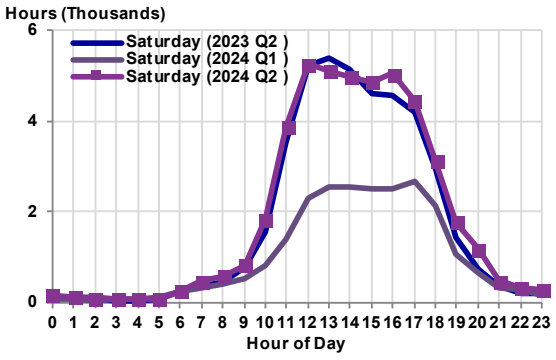
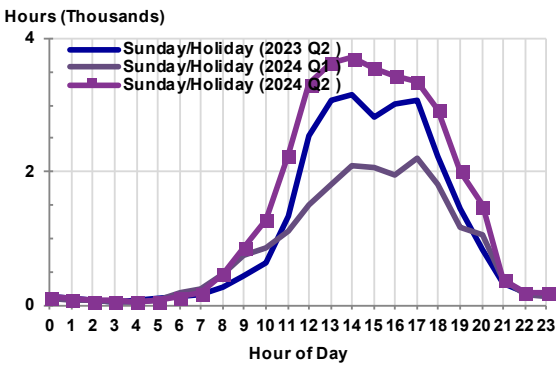
Regarding vehicle detector health, there was an 8.6% decrease in the number of good detectors, which are functional, and a 11.8% increase in the number of bad detectors, which are

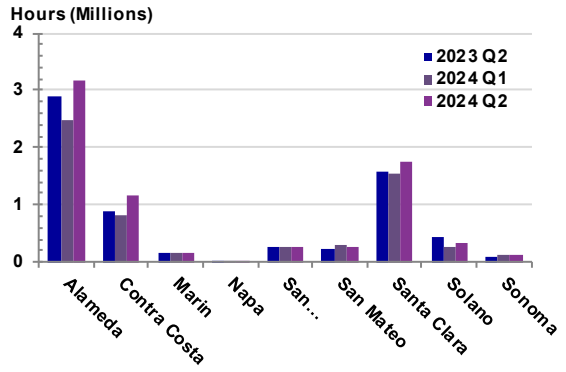
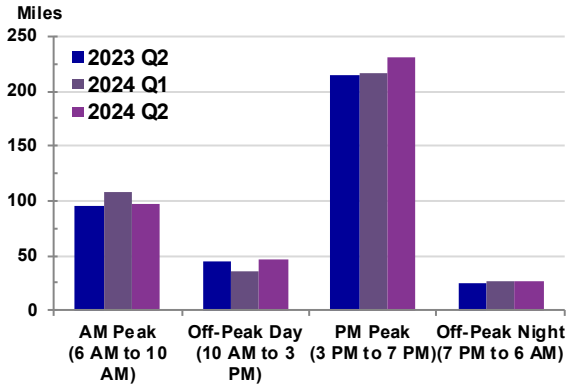
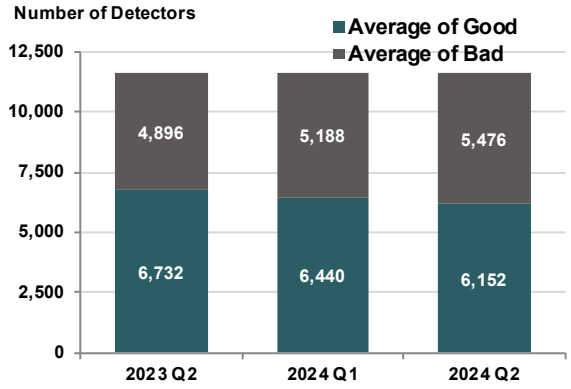
no longer able to measure congestion, compared to the same quarter a year ago. Compared to last quarter, there was a decrease of 4.5% in the number of good detectors and a corresponding increase of 5.5% in the number of bad detectors.

Top Ten Bottlenecks for the 2024 2nd Quarter:

Rank	County	Fwy	Approximate Location	Shift	Absolute Postmile	Begin CA PM	Avg Extent (miles)	Total Delay (veh-hrs)	Total Duration (hours)	# of active days	Latitude	Longitude
1	Alameda	I680-N	Koopman Rd	PM	21.10	R11.04	6.00	206,135	242.3	60	37.58878	-121.87081
2	Contra Costa	I80-E	Pinole Valley Rd	PM	21.92	8.59	6.14	177,673	226.8	63	37.99801	-122.28511
3	Alameda	I880-N	N of Eldridge POC	PM	26.32	16.09	5.70	143,908	161.6	60	37.63718	-122.08826
4	Santa Clara	US101-S	Laurel Rd	PM	366.5	17.16	4.90	126,532	226.9	63	37.14532	-121.64531
5	Contra Costa	SR4-W	5400' E of Willow Pass Rd	AM	17.52	17.85	1.82	122,275	158.3	61	38.02145	-121.98179
6	Contra Costa	I680-N	100' N of Oak Park Blvd	PM	48.50	17.01	5.26	95,786	96.1	59	37.93565	-122.0601
7	Alameda	I80-W	Gilman St	AM	11.91	6.6	1.75	92,046	145.0	57	37.87741	-122.30724
8	Contra Costa	SR24-E	Risa rd	PM	9.69	5.34	3.66	91,291	111.5	60	37.89046	-122.13752
9	Santa Clara	I280-S	Bascom & Leland	PM	6.08	4.7	4.86	90,614	151.5	61	37.31663	-121.95244
10	Alameda	I80-E	Gilman St	PM	11.95	6.64	3.45	87,720	124.3	61	37.87816	-122.30721

Measure	Graph	Percentage Change	
		Over one year ago	Over last quarter
Vehicle Miles of Travel (VMT)		0.3%	5.4%
Total Vehicle Hours of Delay (VHD) at 35 mph		10.3%	21.6%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph		10.5%	13.6%
Total Vehicle Hours of Delay (VHD) at 60 mph		6.4%	15.7%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph		7.2%	10.4%

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph		Largest Magnitude Decrease over one year ago –	Largest Magnitude Decrease over last quarter –
		Largest Magnitude Increase over one year ago Monday 20.3%	Largest Magnitude Increase over last quarter Friday 24.1%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		Largest Magnitude Weekday Decrease over one year ago –	Largest Magnitude Weekday Decrease over last quarter 8 AM -6.1%
		Largest Magnitude Weekday Increase over one year ago 4 PM 8.3%	Largest Magnitude Weekday Increase over last quarter 3 PM 25.6%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		Largest Magnitude Saturday Decrease over one year ago 1 PM -4.7%	Largest Magnitude Saturday Decrease over last quarter 5 AM -23.8%
		Largest Magnitude Saturday Increase over one year ago 4 PM 10.7%	Largest Magnitude Saturday Increase over last quarter 12 PM 130.1%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/ Holidays		Largest Magnitude Sun./Holiday Decrease over one year ago 5 AM -20.5%	Largest Magnitude Sun./Holiday Decrease over last quarter 7 AM -23.3%
		Largest Magnitude Sun./Holiday Increase over one year ago 11 AM 67.8%	Largest Magnitude Sun./Holiday Increase over last quarter 1 PM 102.7%

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph		Largest Magnitude Decrease over one year ago Solano -19.8%	Largest Magnitude Decrease over last quarter San Mateo -8%
		Largest Magnitude Increase over one year ago Alameda 8.6%	Largest Magnitude Increase over last quarter Alameda 26.8%
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph		Largest Magnitude Decrease over one year ago –	Largest Magnitude Decrease over last quarter AM Peak -8.8%
		Largest Magnitude Increase over one year ago PM Peak 6.7%	Largest Magnitude Increase over last quarter PM Peak 6.5%
Average Number of Good and Bad Detectors		Change in Good over one year ago -8.6%	Change in Good over last quarter -4.5%
		Change in Bad over one year ago 11.8%	Change in Bad over last quarter 5.5%

Congestion by Route											
		Vehicle Hours of Delay at 35 mph			Difference 2024 Q2-2023 Q2		Difference 2024 Q2-2024 Q1		Rank		
Route	County	2023 Q2	2024 Q1	2024 Q2	Absolute	Percentage	Absolute	Percentage	2023 Q2	2024 Q1	2024 Q2
I580	Alameda	1,033,577	813,950	1,106,563	72,986	7.1%	292,614	35.9%	1	1	1
US101	Santa Clara	702,526	610,213	785,802	83,277	11.9%	175,589	28.8%	3	3	2
I880	Alameda	703,084	719,738	725,696	22,612	3.2%	5,958	0.8%	2	2	3
I80	Alameda	465,786	376,210	515,284	49,498	10.6%	139,074	37.0%	4	4	4
I680	Alameda	244,636	187,098	387,626	142,990	58.5%	200,527	107.2%	6	10	5
I80	Contra Costa	263,793	209,865	311,808	48,015	18.2%	101,942	48.6%	5	6	6
SR4	Contra Costa	194,464	200,186	292,272	97,808	50.3%	92,086	46.0%	11	7	7
SR85	Santa Clara	218,170	249,275	262,029	43,859	20.1%	12,754	5.1%	8	5	8
I680	Contra Costa	164,461	157,168	200,785	36,324	22.1%	43,617	27.8%	12	14	9
I80	Solano	223,738	170,495	199,589	-24,150	-10.8%	29,094	17.1%	7	12	10
US101	San Mateo	130,977	194,585	175,087	44,109	33.7%	-19,498	-10.0%	18	8	11
I280	Santa Clara	209,710	181,204	174,255	-35,455	-16.9%	-6,948	-3.8%	9	11	12
SR24	Alameda	200,863	156,116	171,355	-29,507	-14.7%	15,240	9.8%	10	15	13
US101	San Francisco	150,344	190,500	166,402	16,058	10.7%	-24,098	-12.6%	15	9	14
US101	Marin	139,275	133,958	159,201	19,925	14.3%	25,242	18.8%	17	17	15
I880	Santa Clara	148,502	147,228	158,933	10,431	7.0%	11,705	8.0%	16	16	16
SR24	Contra Costa	125,546	118,287	152,008	26,462	21.1%	33,721	28.5%	19	19	17
SR237	Santa Clara	103,942	157,694	147,962	44,021	42.4%	-9,732	-6.2%	20	13	18
SR92	Alameda	153,760	126,517	134,943	-18,817	-12.2%	8,427	6.7%	13	18	19
SR37	Solano	151,966	94,813	120,047	-31,918	-21.0%	25,234	26.6%	14	22	20
US101	Sonoma	91,047	105,613	111,508	20,462	22.5%	5,895	5.6%	21	21	21
SR242	Contra Costa	90,005	86,629	106,885	16,880	18.8%	20,256	23.4%	22	23	22
SR17	Santa Clara	44,192	25,800	98,320	54,128	122.5%	72,520	281.1%	30	32	23
I580	Contra Costa	66,233	47,475	84,323	18,090	27.3%	36,848	77.6%	26	28	24
I80	San Francisco	85,549	56,440	80,365	-5,184	-6.1%	23,926	42.4%	23	26	25
I680	Santa Clara	75,966	107,832	74,246	-1,720	-2.3%	-33,586	-31.1%	24	20	26
I280	San Mateo	72,372	70,594	72,994	622	0.9%	2,400	3.4%	25	24	27
SR238	Alameda	51,119	54,151	62,940	11,821	23.1%	8,788	16.2%	29	27	28
SR84	Alameda	56,014	59,216	55,117	-897	-1.6%	-4,099	-6.9%	28	25	29
SR87	Santa Clara	61,351	35,219	36,218	-25,134	-41.0%	999	2.8%	27	30	30
SR92	San Mateo	37,880	40,035	32,755	-5,126	-13.5%	-7,280	-18.2%	32	29	31
SR25	Santa Clara	10,752	8,174	21,146	10,394	96.7%	12,972	158.7%	37	35	32
SR12	Napa	20,579	17,116	15,654	-4,925	-23.9%	-1,463	-8.5%	33	34	33
I680	Solano	42,225	6,824	15,286	-26,939	-63.8%	8,462	124.0%	31	36	34
I280	San Francisco	12,707	21,880	13,147	439	3.5%	-8,734	-39.9%	34	33	35
I580	Marin	8,257	26,853	11,659	3,402	41.2%	-15,194	-56.6%	38	31	36
SR37	Sonoma	11,145	4,116	10,622	-523	-4.7%	6,506	158.1%	35	38	37
SR152	Santa Clara	10,951	4,207	5,237	-5,714	-52.2%	1,029	24.5%	36	37	38
SR12	Solano	4,212	1,334	3,684	-528	-12.5%	2,350	176.2%	39	39	39
I80	Napa	200	382	908	708	354.2%	526	137.8%	42	41	40
SR37	Marin	318	5	640	322	101.1%	634	12200.0%	41	48	41
I980	Alameda	1,170	421	462	-708	-60.5%	41	9.6%	40	40	42
SR29	Napa	121	76	359	238	197.3%	283	372.5%	43	42	43
I780	Solano	78	9	178	100	128.1%	169	1917.0%	44	47	44
SR156	Santa Clara	11	16	38	28	258.9%	22	135.6%	47	44	45
SR13	Alameda	18	18	18	0	0.0%	0	0.0%	45	43	46
I880S	Alameda	12	12	12	0	0.0%	0	0.0%	46	45	47
SR1	San Francisco	9	9	9	-1	-6.6%	-1	-6.6%	48	46	48
SR160	Contra Costa	0	0	0	0		0				
TOTALS		**6,583,609**	**5,975,554**	**7,262,372**	**678,763**	**10.3%**	**1,286,818**	**21.5%**			