District 04 Mobility Performance Report

2017 Second Quarter

DEPARTMENT OF TRANSPORTATION

June 27, 2018

District 4-Office of Highway Operations

2017 Second Quarter

EXECUTIVE SUMMARY

Overview

Caltrans District 4 is comprised of nine counties that border the San Francisco Bay: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties. Although these are urban counties, they do contain a large amount of sparsely populated land.

The Mobility Performance quarterly analysis compares information with over a year ago and over 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

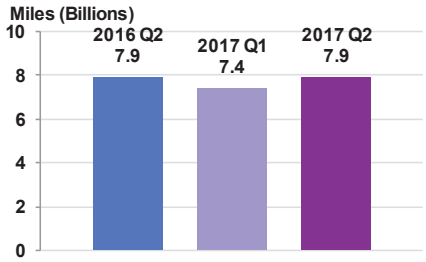
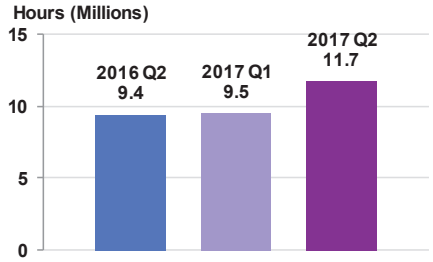
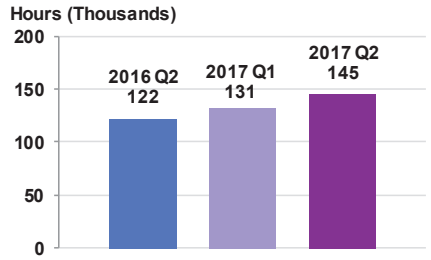
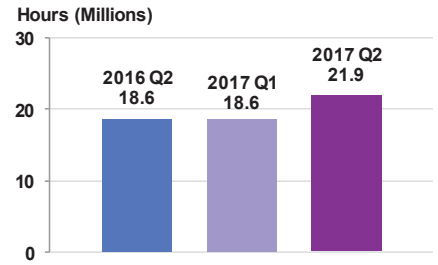
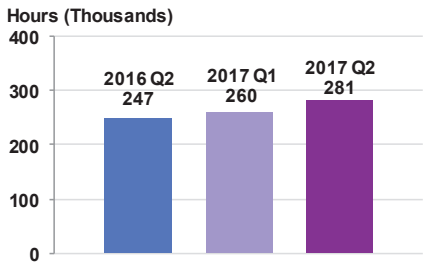
In the second quarter, total delay equaled 11.7 million VHD at the 35 mph speed threshold, and 21.9 million VHD at the 60 mph threshold. Compared to the same quarter the year before, there was an 25.1% increase in 35 mph total quarterly delay and 17.8% increase in 60 mph total quarterly delay. This increase may be due to the recovering economy and also a 19% increase in good working detector that were able to capture more congestion.

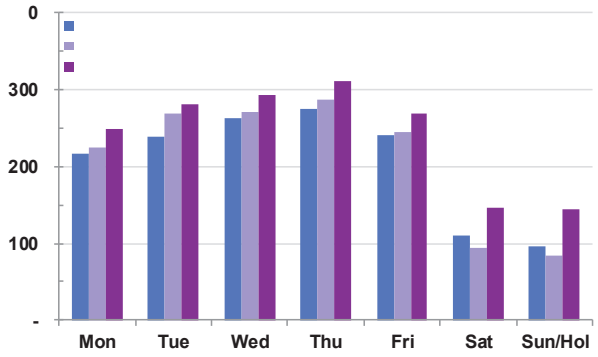
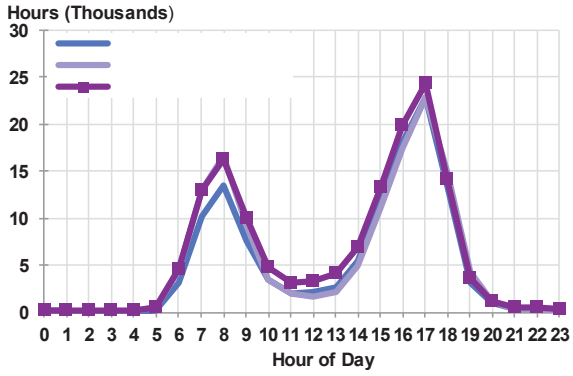
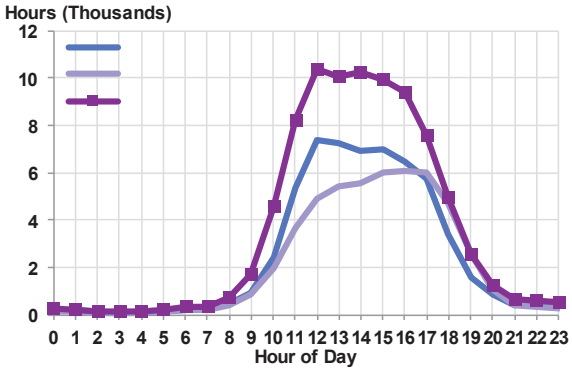
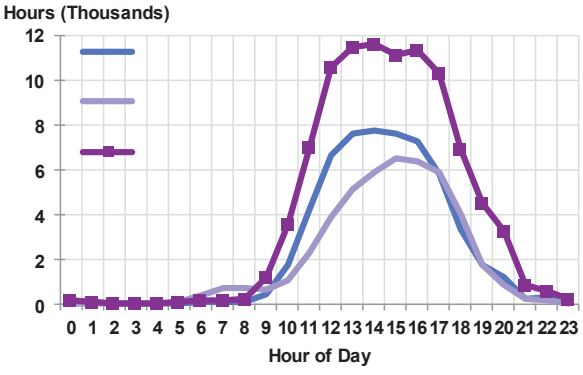
The average weekday delay experienced in this quarter was approximately 145 thousand VHD at 35 mph, and 281 thousand VHD at 60 mph. Thursday was the most congested day of the week.

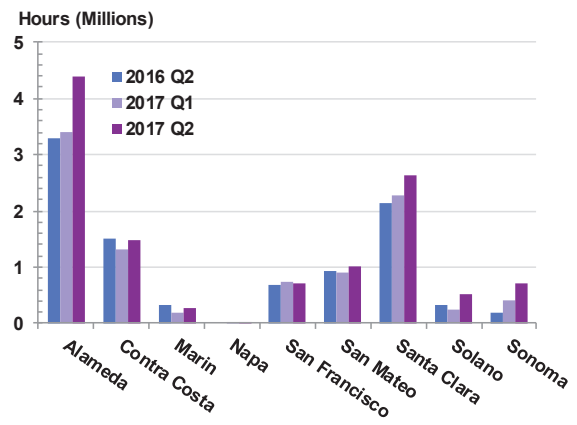
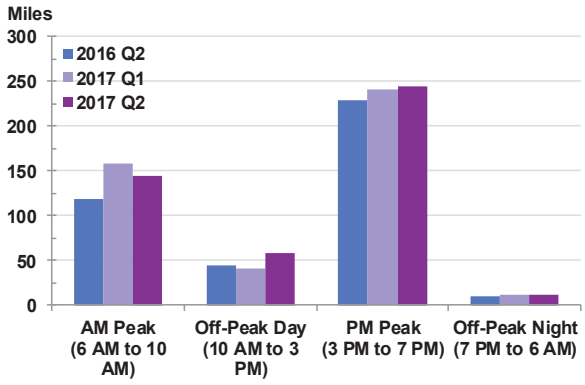
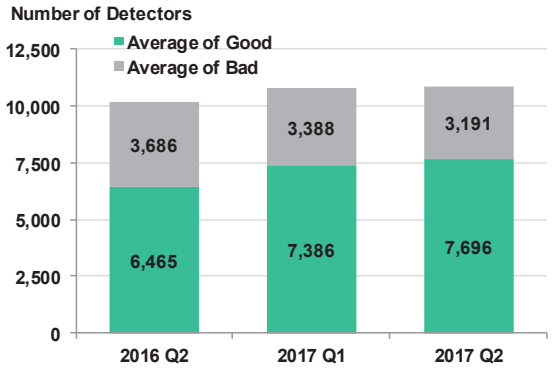
Alameda County with 4.4 million vehicle hours of total delay at 35 mph during the second quarter was the most congested county in the District.

Santa Clara County with 2.6 million vehicle hours of total delay at 35 mph was second most congested county in the District.

Quarterly Mobility Statistics

Measure	Graph	Percentage Change	
		Over one year ago	Over last quarter
Vehicle Miles of Travel (VMT)		1.1%	7.4%
Total Vehicle Hours of Delay (VHD) at 35 mph		25.1%	23.5%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph		18.8%	10.7%
Total Vehicle Hours of Delay (VHD) at 60 mph		17.8%	17.7%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph		13.6%	7.9%

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 Sun/Hol 51.4%	Largest Magnitude Increase over last quarter Sun/Hol 70.5%
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 6 PM -5.4%
		Largest Magnitude Weekday Increase over one year ago 8 AM 21.2%	Largest Magnitude Weekday Increase over last quarter 4 PM 13.6%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		Largest Magnitude Saturday Decrease over one year ago –	Largest Magnitude Saturday Decrease over last quarter 7 PM -1.6%
		Largest Magnitude Saturday Increase over one year ago 2 PM 47.9%	Largest Magnitude Saturday Increase over last quarter 12 PM 111.7%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/ Holidays		Largest Magnitude Sun./Holiday Decrease over one year ago 1 AM -11.9%	Largest Magnitude Sun./Holiday Decrease over last quarter 7 AM -69.3%
		Largest Magnitude Sun./Holiday Increase over one year ago 5 PM 76%	Largest Magnitude Sun./Holiday Increase over last quarter 12 PM 169.9%

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph		Largest Magnitude Decrease over one year ago Marin -12.7%	Largest Magnitude Decrease over last quarter San Francisco -5%
		Largest Magnitude Increase over one year ago Alameda 34.1%	Largest Magnitude Increase over last quarter Alameda 29.8%
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 -9.3%
		Largest Magnitude Increase over one year ago AM Peak 21.8%	Largest Magnitude Increase over last quarter Off-Peak Day 42.4%
Average Number of Good and Bad Detectors		Change in Good over one year ago 19%	Change in Good over last quarter 4%
		Change in Bad over one year ago -13%	Change in Bad over last quarter -6%

Congestion by Route											
		Vehicle Hours of Delay at 35 mph			Difference 2017 Q2-2016 Q2		Difference 2017 Q2-2017 Q1		Rank		
Route	County	2016 Q2	2017 Q1	2017 Q2	Absolute	Percentage	Absolute	Percentage	2016 Q2	2017 Q1	2017 Q2
I80	Alameda	684974.7	1014194.8	1402013.7	717039	105%	387,819	38%	2	1	1
I880	Alameda	1096851.7	884048.4	1125504	28652.3	3%	241,456	27%	1	2	2
US101	Santa Clara	682464.6	732845.3	748378.1	65913.5	10%	15,533	2%	3	3	3
I580	Alameda	497734.4	601753.6	745254.5	247520.1	50%	143,501	24%	5	4	4
US101	Sonoma	74662.5	351158.2	530500.5	455838	611%	179,342	51%	30	9	5
US101	San Mateo	562681.9	531250.8	460595.4	-102086.5	-18%	(70,655)	-13%	4	5	6
SR85	Santa Clara	479077.2	432397	457144.1	-21933.1	-5%	24,747	6%	6	7	7
I280	Santa Clara	339186.7	437767.1	424482.4	85295.7	25%	(13,285)	-3%	10	6	8
SR24	Contra Costa	329277.8	306033.5	385869.2	56591.4	17%	79,836	26%	11	11	9
I80	San Francisco	296046.2	374423.1	351492.7	55446.5	19%	(22,930)	-6%	14	8	10
I680	Alameda	343737.4	309598	337899.1	-5838.3	-2%	28,301	9%	9	10	11
I680	Contra Costa	348674.6	291079.5	333929.9	-14744.7	-4%	42,850	15%	8	14	12
SR4	Contra Costa	435211	299832.2	294374.7	-140836.3	-32%	(5,457)	-2%	7	13	13
SR84	Alameda	282307.5	209805.5	293707.2	11399.7	4%	83,902	40%	15	16	14
I80	Contra Costa	309067.4	303118.9	287932.8	-21134.6	-7%	(15,186)	-5%	13	12	15
SR17	Santa Clara	131713.4	67830.6	284038.4	152325	116%	216,208	319%	24	31	16
US101	San Francisco	314618.8	281729.1	281893.8	-32725	-10%	165	0%	12	15	17
SR92	San Mateo	228927.9	156858.7	276944.8	48016.9	21%	120,086	77%	17	21	18
I280	San Mateo	150906.9	208442.5	267667.6	116760.7	77%	59,225	28%	21	17	19
SR238	Alameda	155555.1	119281.3	239152.9	83597.8	54%	119,872	100%	19	24	20
US101	Marin	266254.4	167742.2	222913.9	-43340.5	-16%	55,172	33%	16	20	21
SR237	Santa Clara	153551.6	189260.2	214705.2	61153.6	40%	25,445	13%	20	18	22
I680	Santa Clara	113765.9	155464.2	211414	97648.1	86%	55,950	36%	25	22	23
I80	Solano	209780.9	102996.1	206599.5	-3181.4	-2%	103,603	101%	18	25	24
SR37	Solano	7235.2	77556.9	195959.4	188724.2	2608%	118,403	153%	36	28	25
SR37	Sonoma	106420.1	68002.3	169241.3	62821.2	59%	101,239	149%	26	30	26
I880	Santa Clara	142561.3	133806.8	157392.9	14831.6	10%	23,586	18%	22	23	27
SR92	Alameda	135741.6	169641.5	150863.4	15121.8	11%	(18,778)	-11%	23	19	28
SR87	Santa Clara	89336.9	102158.8	111226.4	21889.5	25%	9,068	9%	28	26	29
I580	Contra Costa	53498.2	56723.5	102907.6	49409.4	92%	46,184	81%	33	33	30
SR24	Alameda	80813.2	71433.9	100728.3	19915.1	25%	29,294	41%	29	29	31
SR12	Solano	91380.1	38392	74324	-17056.1	-19%	35,932	94%	27	34	32
I280	San Francisco	70814.5	86836.1	70530.2	-284.3	0%	(16,306)	-19%	31	27	33
SR242	Contra Costa	29745.2	61848.2	66967	37221.8	125%	5,119	8%	34	32	34
SR37	Marin	54562.2	30686.8	57980	3417.8	6%	27,293	89%	32	36	35
I680	Solano	18251.8	22784.6	39269	21017.2	115%	16,484	72%	35	37	36
SR152	Santa Clara	2363.5	31044.4	28680.7	26317.2	1113%	(2,364)	-8%	38	35	37
SR12	Napa	3659.5	7024.5	13083.7	9424.2	258%	6,059	86%	37	38	38
SR25	Santa Clara	1581.9	6081.5	5481.7	3899.8	247%	(600)	-10%	40	40	39
SR29	Napa	232.5	390.3	2580.9	2348.4	1010%	2,191	561%	42	42	40
SR1	San Francisco	0	0	2110.3	2110.3		2,110				41
I980	Alameda	1639.1	6769	1400.1	-239	-15%	(5,369)	-79%	39	39	42
I780	Solano	58.6	0.1	641.8	583.2	995%	642	641700%	43	45	43
SR160	Contra Costa	0	0	419.2	419.2		419				44
SR156	Santa Clara	9.5	12	100.2	90.7	955%	88	735%	44	44	45
I80	Napa	7.8	116	57	49.2	631%	(59)	-51%	45	43	46
I580	Marin	1042.8	1910.4	46.2	-996.6	-96%	(1,864)	-98%	41	41	47
I380	San Mateo	0	0	0	0		-				
I880S	Alameda	0	0	0	0		-				
SR13	Alameda	0	0	0	0		-				
TOTALS		**9,377,986**	**9,502,130**	**11,736,400**	**2,358,414**	**25.1%**	**2,234,269**	**23.5%**			