

District 04 Mobility Performance Report

2018 Second Quarter

DEPARTMENT OF TRANSPORTATION

August 7, 2018
District 4-Office of Highway Operations

District 04 Mobility Performance Report

2018 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 11.2 million VHD at the 35 mph speed threshold, and 21.5 million VHD at the 60 mph threshold. Compared to the same quarter the year before, there was a 4.4 percent decrease in 35 mph total quarterly delay and 1.6 percent decrease in 60 mph total quarterly delay.

The average weekday delay experienced in this quarter was approximately 143 thousand VHD at 35 mph, and 281 thousand VHD at 60 mph. Thursday was the most congested day of the week.

Alameda County with 4.1 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.

Top Ten Bottlenecks for the 2018 Second Quarter:

Rank	Freeway	Approximate Location	Period	Abs PM	CA PM	# of Active Days	Average Extent (miles)	Total Delay (hours)	Average Duration (hours)
1	US101-N	9000' NW of Washington St	PM	474.3	5.58	63	18.4	212,086	2.6
2	I80-E	Pinole Valley Rd	PM	21.9	8.59	64	6.9	209,107	3.9
3	I880-N	Tennyson Rd	PM	26.0	15.8	64	5.3	183,163	3.9
4	I280-S	Bird Ave	PM	2.9	R2.85	61	5.8	181,093	3.0
5	I80-W	W of Powell St	PM	9.0	3.68	64	2.5	162,233	3.4
6	I580-W	W of Carroll Rd	PM	23.1	R6.92	64	3.2	149,160	4.4
7	I80-E	University Ave	PM	11.0	5.7	64	3.1	114,890	3.2
8	I80-W	I-880S	AM	7.7	2.41	63	0.8	112,943	3.4
9	US101-S	NB 880	PM	387.8	38.17	56	4.8	110,307	2.5
10	US101-S	N 13th St-Oakland Rd	PM	387.3	37.61	42	6.5	109,175	2.8

Quarterly Mobility Statistics

Measure	Graph	Percentage Change									
		Over one year ago	Over last quarter								
Vehicle Miles of Travel (VMT)	<p>Miles (Billions)</p> <table border="1"> <tr><th>Quarter</th><th>Value</th></tr> <tr><td>2017 Q2</td><td>7.9</td></tr> <tr><td>2018 Q1</td><td>7.6</td></tr> <tr><td>2018 Q2</td><td>8.0</td></tr> </table>	Quarter	Value	2017 Q2	7.9	2018 Q1	7.6	2018 Q2	8.0	1%	5.9%
Quarter	Value										
2017 Q2	7.9										
2018 Q1	7.6										
2018 Q2	8.0										
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Quarter</th><th>Value</th></tr> <tr><td>2017 Q2</td><td>11.7</td></tr> <tr><td>2018 Q1</td><td>9.7</td></tr> <tr><td>2018 Q2</td><td>11.2</td></tr> </table>	Quarter	Value	2017 Q2	11.7	2018 Q1	9.7	2018 Q2	11.2	-4.4%	15.4%
Quarter	Value										
2017 Q2	11.7										
2018 Q1	9.7										
2018 Q2	11.2										
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Quarter</th><th>Value</th></tr> <tr><td>2017 Q2</td><td>145</td></tr> <tr><td>2018 Q1</td><td>131</td></tr> <tr><td>2018 Q2</td><td>143</td></tr> </table>	Quarter	Value	2017 Q2	145	2018 Q1	131	2018 Q2	143	-1.3%	9.6%
Quarter	Value										
2017 Q2	145										
2018 Q1	131										
2018 Q2	143										
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Quarter</th><th>Value</th></tr> <tr><td>2017 Q2</td><td>21.9</td></tr> <tr><td>2018 Q1</td><td>18.9</td></tr> <tr><td>2018 Q2</td><td>21.5</td></tr> </table>	Quarter	Value	2017 Q2	21.9	2018 Q1	18.9	2018 Q2	21.5	-1.6%	14.1%
Quarter	Value										
2017 Q2	21.9										
2018 Q1	18.9										
2018 Q2	21.5										
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Quarter</th><th>Value</th></tr> <tr><td>2017 Q2</td><td>281</td></tr> <tr><td>2018 Q1</td><td>260</td></tr> <tr><td>2018 Q2</td><td>281</td></tr> </table>	Quarter	Value	2017 Q2	281	2018 Q1	260	2018 Q2	281	0.3%	8.4%
Quarter	Value										
2017 Q2	281										
2018 Q1	260										
2018 Q2	281										

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
		Sun/Hol -16.7%	Monday -5.2%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Friday 5.7%	Friday 15.8%
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 -11.5%	8 AM -10.8%
		Largest Magnitude Weekday Increase over one year ago	Largest Magnitude Weekday Increase over last quarter
		5 PM 5.9%	4 PM 17.6%
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
		12 PM -11%	6 PM -19.2%
		Largest Magnitude Saturday Increase over one year ago	Largest Magnitude Saturday Increase over last quarter
		8 PM 15.4%	12 PM 53.1%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays		Largest Magnitude Sun./Holiday Decrease over one year ago	Largest Magnitude Sun./Holiday Decrease over last quarter
		5 PM -27.4%	7 AM -42.9%
		Largest Magnitude Sun./Holiday Increase over one year ago	Largest Magnitude Sun./Holiday Increase over last quarter
		9 PM 23%	12 PM 63.4%

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph		Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		Alameda -6.2%	Marin -12.3%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Solano 43.9%	Alameda 15.8%
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 -2.8%	AM Peak -9.9%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		PM Peak 14%	PM Peak 14.8%
Average Number of Good and Bad Detectors		Change in Good over one year ago	Change in Good over last quarter
		-1%	-1%
		Change in Bad over one year ago	Change in Bad over last quarter
		13%	3%

Congestion by Route											
Route	County	Vehicle Hours of Delay at 35 mph			Difference 2018 Q2-2017 Q2		Difference 2018 Q2-2018 Q1		Rank		
		2017 Q2	2018 Q1	2018 Q2	Absolute	Percentage	Absolute	Percentage	2017 Q2	2018 Q1	2018 Q2
I80	Alameda	1402013.7	1053255.8	1155246.3	-246767.4	-18%	101,991	10%	1	1	1
I880	Alameda	1125504	953024.9	1094041.1	-31462.9	-3%	141,016	15%	2	2	2
US101	Santa Clara	748378.1	710969.3	791424.9	43046.8	6%	80,456	11%	3	3	3
I580	Alameda	745254.5	592551.2	767398.8	22144.3	3%	174,848	30%	4	4	4
US101	Sonoma	530500.5	432907.2	655575.5	125075	24%	222,668	51%	5	6	5
SR85	Santa Clara	457144.1	415797.2	501662.7	44518.6	10%	85,865	21%	7	7	6
I280	Santa Clara	424482.4	461685.6	465945.4	41463	10%	4,260	1%	8	5	7
US101	San Mateo	460595.4	409359.2	408808.1	-51787.3	-11%	(551)	0%	6	8	8
I80	Solano	206599.5	143723.3	371491.7	164892.2	80%	227,768	158%	24	24	9
SR84	Alameda	293707.2	305162.3	349110.2	55403	19%	43,948	14%	14	10	10
SR24	Contra Costa	385869.2	332273.8	333918.2	-51951	-13%	1,644	0%	9	9	11
I80	Contra Costa	287932.8	212116.5	328375.9	40443.1	14%	116,259	55%	15	16	12
I680	Alameda	337899.1	248764.7	324378.3	-13520.8	-4%	75,614	30%	11	15	13
US101	San Francisco	281893.8	287680.5	320660.9	38767.1	14%	32,980	11%	17	11	14
I680	Contra Costa	333929.9	267663.6	318550.4	-15379.5	-5%	50,887	19%	12	12	15
SR237	Santa Clara	214705.2	251365.3	292255.4	77550.2	36%	40,890	16%	22	14	16
SR4	Contra Costa	294374.7	256493.1	275182.6	-19192.1	-7%	18,690	7%	13	13	17
SR92	San Mateo	276944.8	206993.9	258268.7	-18676.1	-7%	51,275	25%	18	19	18
I80	San Francisco	351492.7	207406.4	223415.4	-128077.3	-36%	16,009	8%	10	18	19
I880	Santa Clara	157392.9	187655.9	216187	58794.1	37%	28,531	15%	27	20	20
SR37	Solano	195959.4	119073.5	188108.1	-7851.3	-4%	69,035	58%	25	27	21
I280	San Mateo	267667.6	182483.2	183708.9	-83958.7	-31%	1,226	1%	19	21	22
SR238	Alameda	239152.9	134431.7	177302.8	-61850.1	-26%	42,871	32%	20	25	23
SR12	Solano	74324	210707.2	134650.4	60326.4	81%	(76,057)	-36%	32	17	24
SR24	Alameda	100728.3	111157.4	126404.6	25676.3	25%	15,247	14%	31	28	25
I680	Santa Clara	211414	144777	122080.2	-89333.8	-42%	(22,697)	-16%	23	23	26
SR17	Santa Clara	284038.4	81008.2	121204.2	-162834.2	-57%	40,196	50%	16	31	27
SR92	Alameda	150863.4	154790.8	121072.3	-29791.1	-20%	(33,719)	-22%	28	22	28
US101	Marin	222913.9	132415.4	116362.3	-106551.6	-48%	(16,053)	-12%	21	26	29
SR87	Santa Clara	111226.4	93474.4	79953	-31273.4	-28%	(13,521)	-14%	29	29	30
I280	San Francisco	70530.2	86236.8	75162	4631.8	7%	(11,075)	-13%	33	30	31
SR37	Sonoma	169241.3	56293.2	73219.6	-96021.7	-57%	16,926	30%	26	34	32
SR242	Contra Costa	66967	67184.4	67989.7	1022.7	2%	805	1%	34	33	33
I580	Contra Costa	102907.6	49412.9	61463.4	-41444.2	-40%	12,051	24%	30	35	34
I680	Solano	39269	22041.9	48679.2	9410.2	24%	26,637	121%	36	37	35
SR37	Marin	57980	21227.1	18995.1	-38984.9	-67%	(2,232)	-11%	35	38	36
SR12	Napa	13083.7	22793.6	12810.6	-273.1	-2%	(9,983)	-44%	38	36	37
SR152	Santa Clara	28680.7	68047.6	9805.5	-18875.2	-66%	(58,242)	-86%	37	32	38
I980	Alameda	1400.1	8263.6	9358.5	7958.4	568%	1,095	13%	42	40	39
SR25	Santa Clara	5481.7	4427.6	6951.1	1469.4	27%	2,524	57%	39	41	40
I580	Marin	46.2	8445	3961.2	3915	8474%	(4,484)	-53%	47	39	41
SR1	San Francisco	2110.3	1611.7	3682.3	1572	74%	2,071	128%	41	43	42
I580	Napa	0	0	2831.2	2831.2		2,831				43
SR160	Contra Costa	419.2	3374.2	1116.4	697.2	166%	(2,258)	-67%	44	42	44
I80	Napa	57	67.7	924.1	867.1	1521%	856	1265%	46	45	45
I780	Solano	641.8	760.1	509.1	-132.7	-21%	(251)	-33%	43	44	46
SR29	Napa	2580.9	2.2	2.9	-2578	-100%	1	32%	40	46	47
I880S	Alameda	0	0	0	0		-				
SR13	Alameda	0	0	0	0		-				
SR156	Santa Clara	100.2	0	0	-100.2	-100%	-		45		
TOTALS		11,736,400	9,721,358	11,220,206	-516,194	-4.4%	1,498,848	15.4%			