District 04 Mobility Performance Report

2018 First Quarter

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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:

- o   Vehicle Miles of Travel (VMT)

- o   Vehicle Hours of Delay (VHD)

- o   Lost Lane Miles (equivalent lost productivity)

- o   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.

In the first quarter, total delay equaled 9.7 million VHD at the 35 mph speed threshold, and 18.9 million VHD at the 60 mph threshold. Compared to the same quarter the year before, there was an 2.3% increase in 35 mph total quarterly delay and 1.5% increase in 60 mph total quarterly delay.   This increase may be due to the recovering economy and also a 4% increase in good working detector that were able to capture more congestion.

The average weekday delay experienced in this quarter was approximately 131 thousand VHD at 35 mph, and 260 thousand VHD at 60 mph. Thursday was the most congested day of the week.

Alameda County with 3.6 million vehicle hours of total delay at 35 mph during the first quarter was the most congested county in the District.

Santa Clara County with 2.4 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)	Miles (Billions) 2017 Q1: 7.4 2017 Q4: 7.8 2018 Q1: 7.6	2.5% ⬆	-2.2% ⬇
Total Vehicle Hours of Delay (VHD) at 35 mph	Hours (Millions) 2017 Q1: 9.5 2017 Q4: 11.6 2018 Q1: 9.7	2.3% ⬆	-16.1% ⬇
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	Hours (Thousands) 2017 Q1: 131 2017 Q4: 153 2018 Q1: 131	-0.3% ⬆	-14.6% ⬆
Total Vehicle Hours of Delay (VHD) at 60 mph	Hours (Millions) 2017 Q1: 18.6 2017 Q4: 21.5 2018 Q1: 18.9	1.5% ⬆	-12.1% ⬇
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	Hours (Thousands) 2017 Q1: 260 2017 Q4: 288 2018 Q1: 260	-0.1% ⬇	-9.8% ⬇

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph	Hours (Thousands) — bar chart with 2017 Q1, 2017 Q4, 2018 Q1 by day (Mon–Sun/Hol)	**Largest Magnitude Decrease over one year ago** **Wednesday** -7.1% ⬇ **Largest Magnitude Increase over one year ago** **Monday** 18.2% ⬆	**Largest Magnitude Decrease over last quarter** **Thursday** -19.6% ⬇ **Largest Magnitude Increase over last quarter** **Friday** 6.1% ⬆
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays	Hours (Thousands) — line chart Weekday (2017 Q1), Weekday (2017 Q4), Weekday (2018 Q1) by Hour of Day	**Largest Magnitude Weekday Decrease over one year ago** 7 PM -12.8% ⬇ **Largest Magnitude Weekday Increase over one year ago** 3 PM 5.4% ⬆	**Largest Magnitude Weekday Decrease over last quarter** 7 AM -21.8% ⬇ **Largest Magnitude Weekday Increase over last quarter** 10 PM 14.1% ⬆
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays	Hours (Thousands) — line chart Saturday (2017 Q1), Saturday (2017 Q4), Saturday (2018 Q1) by Hour of Day	**Largest Magnitude Saturday Decrease over one year ago** 7 PM -8.4% ⬇ **Largest Magnitude Saturday Increase over one year ago** 2 PM 35.4% ⬆	**Largest Magnitude Saturday Decrease over last quarter** 5 PM -24.5% ⬇ **Largest Magnitude Saturday Increase over last quarter** 2 PM 5.9% ⬆
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/ Holidays	Hours (Thousands) — line chart Sunday/Holiday (2017 Q1), Sunday/Holiday (2017 Q4), Sunday/Holiday (2018 Q1) by Hour of Day	**Largest Magnitude Sun./Holiday Decrease over one year ago** 7 AM -69.1% ⬇ **Largest Magnitude Sun./Holiday Increase over one year ago** 2 PM 26.7% ⬆	**Largest Magnitude Sun./Holiday Decrease over last quarter** 5 PM -32.1% ⬇ **Largest Magnitude Sun./Holiday Increase over last quarter** 9 PM 16.8% ⬆

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph	Hours (Millions) — 2017 Q1, 2017 Q4, 2018 Q1 — Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma	**Largest Magnitude Decrease over one year ago** San Francisco -21.5% ⬇ **Largest Magnitude Increase over one year ago** Solano 105.3% ⬆	**Largest Magnitude Decrease over last quarter** Santa Clara -19.9% ⬇ **Largest Magnitude Increase over last quarter** Solano 15.1% ⬆
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph	Miles — 2017 Q1, 2017 Q4, 2018 Q1 — AM Peak (6 AM to 10 AM), Off-Peak Day (10 AM to 3 PM), PM Peak (3 PM to 7 PM), Off-Peak Night (7 PM to 6 AM)	**Largest Magnitude Decrease over one year ago** AM Peak -2.1% ⬇ **Largest Magnitude Increase over one year ago** PM Peak 1.1% ⬆	**Largest Magnitude Decrease over last quarter** PM Peak -14.6% ⬇ **Largest Magnitude Increase over last quarter** —
Average Number of Good and Bad Detectors	Number of Detectors — Average of Good, Average of Bad — 2017 Q1: 3,388 / 7,386; 2017 Q4: 3,463 / 7,633; 2018 Q1: 3,512 / 7,651	Change in Good over one year ago 4% ⬆ Change in Bad over one year ago 4% ⬆	Change in Good over last quarter 0% Change in Bad over last quarter 1% ⬆

		Vehicle Hours of Delay at 35 mph			Difference 2018 Q1-2017 Q1		Difference 2018 Q1-2017 Q4		Rank		
Route	County	2017 Q1	2017 Q4	2018 Q1	Absolute	Percentage	Absolute	Percentage	2017 Q1	2017 Q4	2018 Q1
I80	Alameda	1014194.8	1240545.9	1053255.8	39061	4%	(187,290)	-15%	1	1	1
I880	Alameda	884048.4	1096135.6	953024.9	68976.5	8%	(143,111)	-13%	2	2	2
US101	Santa Clara	732845.3	809861.9	710969.3	-21876	-3%	(98,893)	-12%	3	3	3
I580	Alameda	601753.6	718864.6	592551.2	-9202.4	-2%	(126,313)	-18%	4	4	4
I280	Santa Clara	437767.1	625236.2	461685.6	23918.5	5%	(163,551)	-26%	6	5	5
US101	Sonoma	351158.2	0	432907.2	81749	23%	432,907		9		6
SR85	Santa Clara	432397	565166.1	415797.2	-16599.8	-4%	(149,369)	-26%	7	6	7
US101	San Mateo	531250.8	515217.9	409359.2	-121891.6	-23%	(105,859)	-21%	5	7	8
SR24	Contra Costa	306033.5	396844.6	332273.8	26240.3	9%	(64,571)	-16%	11	8	9
SR84	Alameda	209805.5	283378.8	305162.3	95356.8	45%	21,784	8%	16	13	10
US101	San Francisco	281729.1	304303.3	287680.5	5951.4	2%	(16,623)	-5%	15	10	11
I680	Contra Costa	291079.5	371316.2	267663.6	-23415.9	-8%	(103,653)	-28%	14	9	12
SR4	Contra Costa	299832.2	290156	256493.1	-43339.1	-14%	(33,663)	-12%	13	11	13
SR237	Santa Clara	189260.2	288733.7	251365.3	62105.1	33%	(37,368)	-13%	18	12	14
I680	Alameda	309598	270154.8	248764.7	-60833.3	-20%	(21,390)	-8%	10	15	15
I80	Contra Costa	303118.9	281636	212116.5	-91002.4	-30%	(69,520)	-25%	12	14	16
SR12	Solano	38392	0	210707.2	172315.2	449%	210,707		34		17
I80	San Francisco	374423.1	220919.2	207406.4	-167016.7	-45%	(13,513)	-6%	8	19	18
SR92	San Mateo	156858.7	238957.6	206993.9	50135.2	32%	(31,964)	-13%	21	17	19
I880	Santa Clara	133806.8	228893.2	187655.9	53849.1	40%	(41,237)	-18%	23	18	20
I280	San Mateo	208442.5	155381.7	182483.2	-25959.3	-12%	27,102	17%	17	22	21
SR92	Alameda	169641.5	192339.9	154790.8	-14850.7	-9%	(37,549)	-20%	19	20	22
I680	Santa Clara	155464.2	254327.5	144777	-10687.2	-7%	(109,551)	-43%	22	16	23
I80	Solano	102996.1	0	143723.3	40727.2	40%	143,723		25		24
SR238	Alameda	119281.3	138411.1	134431.7	15150.4	13%	(3,979)	-3%	24	23	25
US101	Marin	167742.2	158197.1	132415.4	-35326.8	-21%	(25,782)	-16%	20	21	26
SR37	Solano	77556.9	0	119073.5	41516.6	54%	119,074		28		27
SR24	Alameda	71433.9	112005.7	111157.4	39723.5	56%	(848)	-1%	29	25	28
SR87	Santa Clara	102158.8	110217	93474.4	-8684.4	-9%	(16,743)	-15%	26	26	29
I280	San Francisco	86836.1	83982.9	86236.8	-599.3	-1%	2,254	3%	27	28	30
SR17	Santa Clara	67830.6	96615.3	81008.2	13177.6	19%	(15,607)	-16%	31	27	31
SR152	Santa Clara	31044.4	34653	68047.6	37003.2	119%	33,395	96%	35	30	32
SR242	Contra Costa	61848.2	81304.2	67184.4	5336.2	9%	(14,120)	-17%	32	29	33
SR37	Sonoma	68002.3	0	56293.2	-11709.1	-17%	56,293		30		34
I580	Contra Costa	56723.5	117833.7	49412.9	-7310.6	-13%	(68,421)	-58%	33	24	35
SR12	Napa	7024.5	27111.3	22793.6	15769.1	224%	(4,318)	-16%	38	31	36
I680	Solano	22784.6	0	22041.9	-742.7	-3%	22,042		37		37
SR37	Marin	30686.8	14845.4	21227.1	-9459.7	-31%	6,382	43%	36	33	38
I580	Marin	1910.4	487.6	8445	6534.6	342%	7,957	1632%	41	37	39
I980	Alameda	6769	20886.3	8263.6	1494.6	22%	(12,623)	-60%	39	32	40
SR25	Santa Clara	6081.5	7808.8	4427.6	-1653.9	-27%	(3,381)	-43%	40	34	41
SR160	Contra Costa	0	2334.7	3374.2	3374.2		1,040	45%		35	42
SR1	San Francisco	0	2114.3	1611.7	1611.7		(503)	-24%		36	43
I780	Solano	0.1	0	760.1	760	760000%	760		45		44
I80	Napa	116	118.8	67.7	-48.3	-42%	(51)	-43%	43	38	45
SR29	Napa	390.3	0.3	2.2	-388.1	-99%	2	633%	42	40	46
I880S	Alameda	0	0	0	0		-				
SR13	Alameda	0	0	0	0		-				
SR156	Santa Clara	12	104.4	0	-12	-100%	(104)	-100%	44	39	
TOTALS		9,502,130	10,357,403	9,721,358	219,228	2.3%	-636,045	-6.1%			

Congestion by Route