District 04 Mobility Performance Report

2019 Fourth Quarter

ABBREVIATIONS

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

2019 Fourth 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 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.

FINDINGS

In the fourth quarter, the total delay equaled 10.5 million VHD at the 35 mph speed threshold, and 20.5 million VHD at the 60 mph threshold. Compared to the same quarter the year before, there was a 1.8% increase in the 35 mph total quarterly delay and 3.8% increase in the 60 mph total quarterly delay.

The average weekday delay experienced in this quarter was approximately 141 thousand VHD at 35 mph, and 279 thousand VHD at 60 mph. Thursday was the most congested day of the week. Thursday was also the most congested day in the same quarter a year ago and the prior quarter. Monday had the largest magnitude increase over one year ago of 21.1%.

Santa Clara County with 3.08 million vehicle hours of total delay at 35 mph during the fourth quarter was the most congested county in the District. This county experienced the largest magnitude decrease of -9.6% over the last quarter. Also, all nine counties had a decrease in vehicle hours of total delay.

Alameda County with 2.96 million vehicle hours of total delay at 35 mph was the second most congested county in the District. Alameda experienced the largest magnitude decrease of -10% over one year ago. During this quarter and the previous quarter, all detectors along SR84 were not working as they were out of commission in the first quarter of 2019; therefore, no delay was reported by PeMS. This contributed to the bigger decrease in total delay for Alameda County from a year ago.

Since last quarter, there has been a total decrease in vehicle hours of delay and vehicle miles of travel. The VHD decrease could be due to a -3% decrease in the number of good working detector and 7% increase in the number of bad detectors that are no longer able to capture the congestion.

Top Ten Bottlenecks for the 2019 Fourth Quarter:

Rank	CO	Freeway	Approximate Location	Period	Abs PM	CA PM	# of Active Days	Avg Extent (miles)	Total Delay (veh-hours)	Avg Duration (hours)
1	SCL	US101-S	N 13th St-Oakland Rd	PM	387.3	37.61	60	6.7	239,300	4.2
2	SCL	I280-S	Bird Ave	PM	2.9	R2.85	58	7.0	223,800	3.8
3	ALA	I80-W	I-880S	AM	7.7	2.41	55	0.5	176,400	3.8
4	CC	I80-E	Pinole Valley Rd	PM	21.9	8.59	58	5.3	143,900	2.9
5	ALA	I80-E	University Ave	PM	11.0	5.7	60	3.0	126,100	3.5
6	ALA	I880-N	Tennyson Rd	PM	26.0	15.8	56	7.2	125,400	2.7
7	ALA	I880-N	Auto Mall Pkwy	PM	15.1	4.84	56	3.2	106,800	4.2
8	SCL	SR85-S	Union Ave	PM	9.1	9.10	57	2.52	101,010	3.9
9	CC	SR24-E	Pleasant Hill Rd	PM	12.3	7.91	60	2.9	88,300	3.2
10	ALA	I580-E	Lakeshore Ave	PM	59.4	43.47	50	2.10	79,600	3.7

Measure	Graph	Percentage Change	
		Over one year ago	Over last quarter
Vehicle Miles of Travel (VMT)	Miles (Billions) — 2018 Q4: 7.7, 2019 Q3: 8.2, 2019 Q4: 7.9	2.7% ⬆	-3% ⬇
Total Vehicle Hours of Delay (VHD) at 35 mph	Hours (Millions) — 2018 Q4: 10.3, 2019 Q3: 11.5, 2019 Q4: 10.5	1.8% ⬆	-9.3% ⬇
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	Hours (Thousands) — 2018 Q4: 143, 2019 Q3: 143, 2019 Q4: 141	-1.4% ⬇	-0.9% ⬇
Total Vehicle Hours of Delay (VHD) at 60 mph	Hours (Millions) — 2018 Q4: 19.7, 2019 Q3: 22.3, 2019 Q4: 20.5	3.8% ⬆	-8.3% ⬇
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	Hours (Thousands) — 2018 Q4: 276, 2019 Q3: 286, 2019 Q4: 279	1.3% ⬆	-2.4% ⬇

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph		**Largest Magnitude Decrease over one year ago** **Tuesday -5.5%** ↓ **Largest Magnitude Increase over one year ago** **Monday 21.1%** ↑	**Largest Magnitude Decrease over last quarter** **Sun/Hol -28.9%** ↓ **Largest Magnitude Increase over last quarter** –
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		**Largest Magnitude Weekday Decrease over one year ago** **7 PM -10.4%** ↓ **Largest Magnitude Weekday Increase over one year ago** **9 AM 4.7%** ↑	**Largest Magnitude Weekday Decrease over last quarter** **2 PM -22.7%** ↓ **Largest Magnitude Weekday Increase over last quarter** **6 PM 16.8%** ↑
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		**Largest Magnitude Saturday Decrease over one year ago** **7 PM -19.2%** ↓ **Largest Magnitude Saturday Increase over one year ago** N/A	**Largest Magnitude Saturday Decrease over last quarter** **12 PM -38.6%** ↓ **Largest Magnitude Saturday Increase over last quarter** **6 PM 29.9%** ↑
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays		**Largest Magnitude Sun./Holiday Decrease over one year ago** **9 PM -28.1%** ↓ **Largest Magnitude Sun./Holiday Increase over one year ago** **2 PM 28.5%** ↑	**Largest Magnitude Sun./Holiday Decrease over last quarter** **1 PM -47.5%** ↓ **Largest Magnitude Sun./Holiday Increase over last quarter** **8 AM 536.1%** ↑

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph		**Largest Magnitude Decrease over one year ago** Alameda -10%	**Largest Magnitude Decrease over last quarter** Santa Clara -9.6%
		Largest Magnitude Increase over one year ago Santa Clara 15.1%	**Largest Magnitude Increase over last quarter** –
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph		**Largest Magnitude Decrease over one year ago** Off-Peak Night -1.2%	**Largest Magnitude Decrease over last quarter** Off-Peak Day -19.8%
		Largest Magnitude Increase over one year ago PM Peak 4.7%	**Largest Magnitude Increase over last quarter** PM Peak 6.4%
Average Number of Good and Bad Detectors		**Change in Good over one year ago** -6%	**Change in Good over last quarter** -3%
		Change in Bad over one year ago 10%	**Change in Bad over last quarter** 7%

		Vehicle Hours of Delay at 35 mph			Difference 2019 Q4-2018 Q4		Difference 2019 Q4-2019 Q3		Rank		
Route	County	2018 Q4	2019 Q3	2019 Q4	Absolute	Percentage	Absolute	Percentage	2018 Q4	2019 Q3	2019 Q4
I580	Alameda	756785.9	1014451.5	917040.3	160254.4	21%	(97,411)	-10%	4	1	1
US101	Santa Clara	764328.6	1012743.3	914742.6	150414	20%	(98,001)	-10%	3	2	2
I880	Alameda	932041.9	794778.6	807477.7	-124564.2	-13%	12,699	2%	1	4	3
I80	Alameda	878850.9	700754.9	694502	-184348.9	-21%	(6,253)	-1%	2	6	4
SR85	Santa Clara	533237	579400.4	651403.8	118166.8	22%	72,003	12%	6	7	5
US101	Sonoma	376698.9	730251.5	533258.4	156559.5	42%	(196,993)	-27%	9	5	6
I280	Santa Clara	536472.5	859646.7	494711.4	-41761.1	-8%	(364,935)	-42%	5	3	7
US101	San Mateo	500718	453582.5	462573.9	-38144.1	-8%	8,991	2%	7	9	8
SR237	Santa Clara	300451.5	366856.6	361923.7	61472.2	20%	(4,933)	-1%	12	11	9
US101	San Francisco	291715.9	387253.8	359928	68212.1	23%	(27,326)	-7%	13	10	10
I80	Contra Costa	249749.4	304552	357230.2	107480.8	43%	52,678	17%	15	16	11
I680	Contra Costa	377545.7	352877.1	355498.8	-22046.9	-6%	2,622	1%	8	12	12
I80	Solano	301598.2	477478.1	314385.8	12787.6	4%	(163,092)	-34%	11	8	13
SR24	Contra Costa	365511.2	319075.9	294270.4	-71240.8	-19%	(24,806)	-8%	10	15	14
I280	San Mateo	192712.4	322216.1	271671.4	78959	41%	(50,545)	-16%	21	14	15
SR4	Contra Costa	264804.8	323951.1	262255.4	-2549.4	-1%	(61,696)	-19%	14	13	16
SR92	San Mateo	204771.8	250574.1	260671.3	55899.5	27%	10,097	4%	19	17	17
I880	Santa Clara	232041.7	171553.9	215034.8	-17006.9	-7%	43,481	25%	17	19	18
SR92	Alameda	170377.8	159749.6	195658.5	25280.7	15%	35,909	22%	22	22	19
I680	Santa Clara	131160.6	135972.4	172420.5	41259.9	31%	36,448	27%	25	24	20
I80	San Francisco	233907.7	160133.1	150117.5	-83790.2	-36%	(10,016)	-6%	16	21	21
I680	Alameda	199152.5	195162.5	137070.3	-62082.2	-31%	(58,092)	-30%	20	18	22
SR87	Santa Clara	99709.3	118341.9	136858.3	37149	37%	18,516	16%	29	27	23
SR1	San Francisco	218804.5	148536.3	132171.6	-86632.9	-40%	(16,365)	-11%	18	23	24
SR37	Solano	141669.3	87813.8	130238.7	-11430.6	-8%	42,425	48%	23	31	25
SR238	Alameda	104381.2	168889.3	129597.3	25216.1	24%	(39,292)	-23%	26	20	26
US101	Marin	135339.5	109268.2	111276.3	-24063.2	-18%	2,008	2%	24	28	27
I280	San Francisco	100255.3	94604.5	98848.7	-1406.6	-1%	4,244	4%	28	30	28
SR24	Alameda	103269	99130.7	84122	-19147	-19%	(15,009)	-15%	27	29	29
SR242	Contra Costa	78640.4	82986.7	80321.6	1681.2	2%	(2,665)	-3%	32	33	30
SR17	Santa Clara	48323.5	122285.6	78141.4	29817.9	62%	(44,144)	-36%	34	25	31
SR12	Solano	86324.1	84454.4	65637.9	-20686.2	-24%	(18,817)	-22%	30	32	32
I580	Contra Costa	80736.2	71492	55281.3	-25454.9	-32%	(16,211)	-23%	31	34	33
SR37	Sonoma	23330.9	118469.3	53807.6	30476.7	131%	(64,662)	-55%	36	26	34
SR152	Santa Clara	19050.4	25035.5	43681.8	24631.4	129%	18,646	74%	38	37	35
SR12	Napa	21031.8	29542.9	29231.9	8200.1	39%	(311)	-1%	37	36	36
I680	Solano	36004	60967.2	19619.6	-16384.4	-46%	(41,348)	-68%	35	35	37
I980	Alameda	5929.2	15390.9	12498	6568.8	111%	(2,893)	-19%	42	39	38
SR37	Marin	17461.9	10188.1	11472.1	-5989.8	-34%	1,284	13%	39	41	39
SR25	Santa Clara	7497.7	11627.2	7990	492.3	7%	(3,637)	-31%	41	40	40
I580	Marin	7689.1	23492	6939.4	-749.7	-10%	(16,553)	-70%	40	38	41
I780	Solano	0.4	2201.2	1658.8	1658.4	414600%	(542)	-25%	48	42	42
I80	Napa	192	139.7	294.6	102.6	53%	155	111%	43	43	43
SR29	Napa	0	97.4	62.5	62.5		(35)	-36%		45	44
SR13	Alameda	5.6	18.2	18.2	12.6	225%	-	0%	47	46	45
SR160	Contra Costa	5.8	5.1	15	9.2	159%	10	194%	46	48	46
SR156	Santa Clara	27.6	117.8	12.5	-15.1	-55%	(105)	-89%	44	44	47
I880S	Alameda	7.2	11.7	11.7	4.5	63%	-	0%	45	47	48
SR84	Alameda	52929.9	0	0	-52929.9	-100%	-		33		
TOTALS		**10,183,251**	**11,558,123**	**10,473,656**	**290,405**	**2.9%**	**-1,084,468**	**-9.4%**			