

District 03 Mobility Performance Report

2018 Second Quarter

DEPARTMENT OF TRANSPORTATION

August 1, 2018
Office of Freeway Operations

District 03 Mobility Performance Report

2018 Second Quarter

EXECUTIVE SUMMARY

Overview

Caltrans District 3 is comprised of eleven counties located in northern California. Most of the congestion and delay on the state highway system takes place in the urbanized areas of Sacramento, Yolo and Placer counties.

The Mobility Performance Report (MPR) quarterly analysis compares information from this quarter with information from the previous quarter and the prior year. The following performance measures were used to quantify freeway congestion in District 3 as well as to compare the different quarters:

- Bottleneck Locations
- 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 by automated vehicle detector stations deployed on urban area freeways from the Caltrans Performance Measurement System (PeMS) every day of the quarter, twenty-four hours a day, where congestion is regularly experienced. The MPR presents congestion information for 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 traffic engineering experience and District 3 Office of Freeway Operations input.

FINDINGS

In the Second Quarter of 2018, total delay equaled 1.2 million vehicle hours of delay (VHD) at the 35-mph speed threshold, and 3.3 million VHD at the 60 mph threshold. The average weekday delay experienced in this quarter was approximately 16,000 VHD at 35 mph, and 45,000 VHD at 60 mph. SR-51 continues to be the worst performing freeway in District 3 for total delay caused by traffic bottleneck with a total of 110,800 veh-hrs.

Top Ten Bottlenecks for 2018 Second Quarter

Fwy	Name	Shift	Abs PM	CA PM	# Days Active	Avg Extent (Miles)	Total Delay (veh-hrs)	Total Duration (mins)
SR70-E	North Beale Road	PM	20.13	13.5	52	3.42	46,844	7,445
SR51-N	SB Watt Ave.	PM	7.85	7.85	63	3.43	44,082	8,450
SR99-N	WB 47th Ave	AM	295.47	21	62	3.42	28,218	4,640
US50-W	25th Street	PM	5.32	L2.166	57	1.56	27,277	8,395
SR99-S	WB Consumnes River	PM	290.77	16.321	53	2.15	25,340	6,400
SR51-S	Auburn Blvd	AM	7.55	7.569	63	1.38	24,410	8,950
SR65-S	Pleasant Grove Blvd	PM	66.64	R6.925	64	1.56	23,999	11,805
SR51-N	Elvas UP	PM	2.40	2.4	44	2.10	23,438	3,930
I5-S	EB W. El Camino Ave	AM	521.19	25.9	62	1.76	20,291	5,075
SR51-N	North of A St.	PM	2.00	2	61	1.43	18,871	5,375

Note:

1. For the table above, the quarterly delay calculation was based upon a 60 mph threshold, for the a.m. or p.m. weekday peak period.
2. Caltrans District 3, has plans to construct High Occupancy Vehicle (HOV) lanes on I-5, US-50, SR-51 in Sacramento County, and SR-65 in Placer County. These projects are expected to reduce delay at nearby bottlenecks identified above. However, these HOV lane projects are funded for Design only; construction funds are not available at this time.

3. The HOV lane projects on I-5 and US-50 were nominated for SB-1 funding in 2017.

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>Period</th><th>Value</th></tr> <tr><td>2017 Q2</td><td>2.6</td></tr> <tr><td>2018 Q1</td><td>2.4</td></tr> <tr><td>2018 Q2</td><td>2.3</td></tr> </table>	Period	Value	2017 Q2	2.6	2018 Q1	2.4	2018 Q2	2.3	-13.8%	-7.3%
Period	Value										
2017 Q2	2.6										
2018 Q1	2.4										
2018 Q2	2.3										
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Period</th><th>Value</th></tr> <tr><td>2017 Q2</td><td>1.00</td></tr> <tr><td>2018 Q1</td><td>1.10</td></tr> <tr><td>2018 Q2</td><td>1.20</td></tr> </table>	Period	Value	2017 Q2	1.00	2018 Q1	1.10	2018 Q2	1.20	17.9%	7.5%
Period	Value										
2017 Q2	1.00										
2018 Q1	1.10										
2018 Q2	1.20										
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Period</th><th>Value</th></tr> <tr><td>2017 Q2</td><td>13.0</td></tr> <tr><td>2018 Q1</td><td>15.0</td></tr> <tr><td>2018 Q2</td><td>16.0</td></tr> </table>	Period	Value	2017 Q2	13.0	2018 Q1	15.0	2018 Q2	16.0	23.7%	7.7%
Period	Value										
2017 Q2	13.0										
2018 Q1	15.0										
2018 Q2	16.0										
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Period</th><th>Value</th></tr> <tr><td>2017 Q2</td><td>2.9</td></tr> <tr><td>2018 Q1</td><td>3.0</td></tr> <tr><td>2018 Q2</td><td>3.3</td></tr> </table>	Period	Value	2017 Q2	2.9	2018 Q1	3.0	2018 Q2	3.3	15.6%	10.1%
Period	Value										
2017 Q2	2.9										
2018 Q1	3.0										
2018 Q2	3.3										
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Period</th><th>Value</th></tr> <tr><td>2017 Q2</td><td>39</td></tr> <tr><td>2018 Q1</td><td>42</td></tr> <tr><td>2018 Q2</td><td>45</td></tr> </table>	Period	Value	2017 Q2	39	2018 Q1	42	2018 Q2	45	15.9%	7.8%
Period	Value										
2017 Q2	39										
2018 Q1	42										
2018 Q2	45										

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
		-	Monday -11.6%
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 PM -18.2%	6 PM -23.4%
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
		11 AM -46.9%	6 PM -34.9%
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
		3 PM -24.2%	5 PM -72.7%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Tuesday 25.4%	Friday 17.6%
		Largest Magnitude Weekday Increase over one year ago	Largest Magnitude Weekday Increase over last quarter
		7 AM 47.7%	3 PM 21.1%
		Largest Magnitude Saturday Increase over one year ago	Largest Magnitude Saturday Increase over last quarter
		4 PM 42.5%	4 PM 38.7%
		Largest Magnitude Sun./Holiday Increase over one year ago	Largest Magnitude Sun./Holiday Increase over last quarter
		8 PM 83.3%	1 PM 27.2%

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
		Yolo -21.9% ↓	Placer -16.5% ↓
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
Sacramento 16.5% ↑	Yolo 44.9% ↑		
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
		- ↓	PM Peak -6.5% ↓
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
AM Peak 54% ↑	Off-Peak Day 8.2% ↑		
Average Number of Good and Bad Detectors		Change in Good over one year ago	Change in Good over last quarter
		17% ↑	6% ↑
		Change in Bad over one year ago	Change in Bad over last quarter
-39% ↓	-28% ↓		

Note: As is identified by the detector health graph above, the District's detector health has improved over the previous quarter and past year. Caltrans has a Traffic Monitoring Station project (EA: 3F840) under construction to help improve detector health. Two other projects, in the programming phase, will cover locations that were missed by this and other previous projects.

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
SR51	Sacramento	214,627	215,830	247,037	32,410	15.1%	31,207	14.5%	1	1	1
SR99	Sacramento	145,848	153,084	181,026	35,178	24.1%	27,942	18.3%	3	4	2
US50	Sacramento	147,706	161,354	159,506	11,800	8.0%	-1,848	-1.1%	2	3	3
I5	Sacramento	139,650	176,490	144,067	4,418	3.2%	-32,423	-18.4%	5	2	4
180	Yolo	141,612	78,922	128,808	-12,804	-9.0%	49,886	63.2%	4	6	5
180	Placer	20,076	112,382	85,986	65,910	328.3%	-26,396	-23.5%	10	5	6
180	Sacramento	24,342	41,630	54,081	29,739	122.2%	12,452	29.9%	9	8	7
SR70	Yuba	35,416	35,206	53,758	18,342	51.8%	18,552	52.7%	7	9	8
SR65	Placer	33,198	44,362	45,056	11,859	35.7%	694	1.6%	8	7	9
180	Nevada	5,279	14,000	14,566	9,287	175.9%	566	4.0%	13	11	10
US50	Yolo	37,276	24,660	13,816	-23,460	-62.9%	-10,844	-44.0%	6	10	11
SR160	Sacramento	13,846	11,419	13,421	-425	-3.1%	2,003	17.5%	11	12	12
I5	Yolo	4,132	911	8,915	4,784	115.8%	8,004	878.9%	14	14	13
US50	El Dorado	3382.7	3223.4	4228.3	845.6	25.00%	1004.9	31.18%	15	13	14
SR113	Yolo	12,468	853	1,069	-11,399	-91.4%	216	25.3%	12	15	15
SR99	Butte	1,526	650	479	-1,047	-68.6%	-171	-26.3%	16	16	16
SR99	Sutter	4	7	65	62	1708.3%	58	791.8%	17	18	17
180	Sierra	1	0	6	6	611.1%	6		18		18
SR267	Placer	0	151	3	3		-147	-97.8%		17	19
SR12	Sacramento	0	0	0	0		0				
SR275	Yolo	0	0	0	0		0				
TOTALS		980,390	1,075,133	1,155,896	175,507	17.9%	80,763	7.5%			

I-5 in Yolo County and SR 99 in Sutter County had the highest rate of increase in delay at 879% and 792% respectively, when compared with the previous quarter (Q2 2018). The cause of the increase in delay but can be mostly attributed due to insufficient data resulting from poor detection health. On page 4, it should be noted that decreased VMT from the previous quarter is accompanied by increased delay for total vehicle hours and average weekday hours at the 35 and 65 mph thresholds. The second chat on page 5 could explain this phenomenon. As indicated by this chat, Delay on weekday (from 6:00 to 10:00 AM) is increased significantly. Since the un-employment rate is at all time low, it means more people are going to work and causes more delay on the commute hours.

Based upon total delay by route, SR-51 continues to be the worst performing freeway in District 3. The top four most congested routes are located in Sacramento County, which is due to the higher travel demand associated with Sacramento County’s higher population and regional employment

and educational centers. As identified on page 3 of this document, Caltrans is planning to construct HOV lane on SR-51, I-5, US-50, and to mitigate congestion on these routes. The District continues to explore best possible ways to reduce the delay in the impacted areas.