

District 03 Mobility Performance Report

2016 First Quarter

DEPARTMENT OF TRANSPORTATION

April 28, 2016
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District 03 Mobility Performance Report

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EXECUTIVE SUMMARY

Overview

Caltrans District 3 contains eleven counties that are located in northern California. Most of its congestion and delay take place in urbanized counties of Sacramento, Yolo, and Placer.

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), Bottleneck Locations
- 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 first quarter, total delay equaled 1.1 million Vehicle Hours of Delay (VHD) at the 35 mph speed threshold, and 2.9 million VHD at the 60 mph threshold. The average weekday delay experienced in this quarter was approximately 12 thousand VHD at 35 mph, and 39 thousand VHD at 60 mph. SR51 is the worst performing freeway in District 3 since it has the highest Total Delay per route.

Top Ten Bottlenecks for this Quarter

Fwy	Location	Shift	Abs PM	CA PM	# Days Active	Average Extent (Miles)	Total Delay (veh-hrs)	Total Duration (minutes)
US50-E	Stockton Blvd.	PM	6.35	R.711	52	2.3	33,519	5,345
US50-W	15th St	PM	4.51	L1.351	43	2.5	33,213	5,330
SR51-N	North of A St.	PM	2.00	2.00	62	1.5	32,109	7,565
SR51-S	EB Exposition Bl.	PM	3.32	3.32	62	1.0	29,718	11,895
SR99-N	EB 47th Ave	AM	295.27	20.80	58	3.1	26,471	4,870
I5-N	L St.	PM	518.86	23.57	62	0.9	20,481	7,520
SR99-S	EB Consumnes River	PM	290.64	16.20	36	1.9	19,888	6,390
SR51-N	SB Watt Ave.	PM	7.85	7.85	42	3.0	18,591	3,880
SR160-S	51/160 IC	PM	49.35	46.75	62	0.7	17,512	12,460
US50-W	Occidental Dr.	AM	10.13	R4.5	52	1.7	16,874	4,065

Note: For the table above, the quarterly delay calculation was based on 60 mph threshold, AM or PM weekday peak period.

Quarterly Mobility Statistics

Measure	Graph	Percentage Change									
Vehicle Miles of Travel (VMT)	<p>Miles (Billions)</p> <table border="1"> <tr><th>Quarter</th><th>Value</th></tr> <tr><td>2015 Q1</td><td>2.3</td></tr> <tr><td>2015 Q4</td><td>2.4</td></tr> <tr><td>2016 Q1</td><td>2.5</td></tr> </table>	Quarter	Value	2015 Q1	2.3	2015 Q4	2.4	2016 Q1	2.5	Over one year ago	Over last quarter
Quarter	Value										
2015 Q1	2.3										
2015 Q4	2.4										
2016 Q1	2.5										
		13.2%	5.5%								
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>2015 Q1</td><td>0.6</td></tr> <tr><td>2015 Q4</td><td>1.1</td></tr> <tr><td>2016 Q1</td><td>1.0</td></tr> </table>	Quarter	Value	2015 Q1	0.6	2015 Q4	1.1	2016 Q1	1.0	Over one year ago	Over last quarter
Quarter	Value										
2015 Q1	0.6										
2015 Q4	1.1										
2016 Q1	1.0										
		53.2%	-14.9%								
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>2015 Q1</td><td>9.0</td></tr> <tr><td>2015 Q4</td><td>16</td></tr> <tr><td>2016 Q1</td><td>12</td></tr> </table>	Quarter	Value	2015 Q1	9.0	2015 Q4	16	2016 Q1	12	Over one year ago	Over last quarter
Quarter	Value										
2015 Q1	9.0										
2015 Q4	16										
2016 Q1	12										
		39.6%	-21.3%								
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>2015 Q1</td><td>2.0</td></tr> <tr><td>2015 Q4</td><td>2.9</td></tr> <tr><td>2016 Q1</td><td>2.9</td></tr> </table>	Quarter	Value	2015 Q1	2.0	2015 Q4	2.9	2016 Q1	2.9	Over one year ago	Over last quarter
Quarter	Value										
2015 Q1	2.0										
2015 Q4	2.9										
2016 Q1	2.9										
		46.1%	-2%								
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>2015 Q1</td><td>28</td></tr> <tr><td>2015 Q4</td><td>40</td></tr> <tr><td>2016 Q1</td><td>39</td></tr> </table>	Quarter	Value	2015 Q1	28	2015 Q4	40	2016 Q1	39	Over one year ago	Over last quarter
Quarter	Value										
2015 Q1	28										
2015 Q4	40										
2016 Q1	39										
		39.2%	-4%								

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph	<p>Hours (Thousands)</p> <p>Legend: 2015 Q1, 2015 Q4, 2016 Q1</p> <p>(5)</p>	Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		-	Monday -17.5%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Friday 41.9%	Sun/Hol 32.8%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays	<p>Hours (Thousands)</p> <p>Legend: Weekday (2015 Q1), Weekday (2015 Q4), Weekday (2016 Q1)</p> <p>Hour of Day</p>	Largest Magnitude Weekday Decrease over one year ago	Largest Magnitude Weekday Decrease over last quarter
		-	5 PM -18.9%
		Largest Magnitude Weekday Increase over one year ago	Largest Magnitude Weekday Increase over last quarter
		4 PM 29.1%	5 AM 8.1%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays	<p>Hours (Thousands)</p> <p>Legend: Saturday (2015 Q1), Saturday (2015 Q4), Saturday (2016 Q1)</p> <p>Hour of Day</p>	Largest Magnitude Saturday Decrease over one year ago	Largest Magnitude Saturday Decrease over last quarter
		9 AM -23.6%	9 AM -73.5%
		Largest Magnitude Saturday Increase over one year ago	Largest Magnitude Saturday Increase over last quarter
		2 PM 118.2%	7 PM 22.9%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays	<p>Hours (Thousands)</p> <p>Legend: Sunday/Holiday (2015 Q1), Sunday/Holiday (2015 Q4), Sunday/Holiday (2016 Q1)</p> <p>Hour of Day</p>	Largest Magnitude Sun./Holiday Decrease over one year ago	Largest Magnitude Sun./Holiday Decrease over last quarter
		-	8 AM -54%
		Largest Magnitude Sun./Holiday Increase over one year ago	Largest Magnitude Sun./Holiday Increase over last quarter
		2 PM 169.2%	3 PM 184.7%

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph	<p>Hours (Thousands)</p> <p>Legend: 2015 Q1 (Blue), 2015 Q4 (Purple), 2016 Q1 (Dark Purple)</p>	Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		El Dorado -87.1% ↓	Sacramento -13.3% ↓
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Sacramento 51.5% ↑	Placer 0.6% ↑
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph	<p>Miles</p> <p>Legend: 2015 Q1 (Blue), 2015 Q4 (Purple), 2016 Q1 (Dark Purple)</p>	Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		- ↓	PM Peak -17.4% ↓
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		PM Peak 24.4% ↑	-
Average Number of Good and Bad Detectors	<p>Number of Detectors</p> <p>Legend: Average of Good (Green), Average of Bad (Grey)</p>	Change in Good over one year ago	Change in Good over last quarter
		-15% ↓	-10% ↓
		Change in Bad over one year ago	Change in Bad over last quarter
		48% ↑	22% ↑

Congestion by Route											
Route	County	Vehicle Hours of Delay at 35 mph			Difference 2016 Q1-2015 Q1		Difference 2016 Q1-2015 Q4		Rank		
		2015 Q1	2015 Q4	2016 Q1	Absolute	Percentage	Absolute	Percentage	2015 Q1	2015 Q4	2016 Q1
SR51	Sacramento	183,210	293,784	282,809	99,598	54.4%	-10,975	-3.7%	1	1	1
US50	Sacramento	109,975	181,918	163,194	53,219	48.4%	-18,725	-10.3%	2	3	2
SR99	Sacramento	93,173	209,663	142,885	49,712	53.4%	-66,777	-31.8%	3	2	3
I5	Sacramento	68,398	103,592	105,505	37,107	54.3%	1,913	1.8%	5	4	4
I80	Yolo	71,482	70,845	81,245	9,763	13.7%	10,400	14.7%	4	5	5
I80	Placer	20,922	40,797	42,070	21,148	101.1%	1,273	3.1%	7	8	6
US50	Yolo	20,276	23,033	35,655	15,379	75.8%	12,622	54.8%	8	11	7
I80	Sacramento	27,502	55,361	34,736	7,234	26.3%	-20,625	-37.3%	6	7	8
SR160	Sacramento	18,065	30,440	28,942	10,877	60.2%	-1,498	-4.9%	9	10	9
SR65	Placer	11,088	16,581	15,667	4,579	41.3%	-914	-5.5%	10	12	10
SR113	Yolo	3,904	60,703	14,514	10,610	271.8%	-46,189	-76.1%	12	6	11
I80	Nevada	699	14,830	13,518	12,820	1835.1%	-1,312	-8.8%	14	13	12
SR70	Yuba	5,597	11,767	11,606	6,009	107.4%	-161	-1.4%	11	14	13
I5	Yolo	2,582	32,279	3,670	1,087	42.1%	-28,609	-88.6%	13	9	14
SR99	Butte	61	1,139	553	492	805.7%	-587	-51.5%	17	15	15
US50	El Dorado	664	1,128	86	-579	-87.1%	-1,042	-92.4%	15	16	16
SR99	Sutter	66	220	59	-8	-11.5%	-162	-73.4%	16	17	17
TOTALS		637,663	1,148,080	976,712	339,049	53.2%	-171,369	-14.9%			

As identified by the congestion table above, there was a 53.2% increase in delay when comparing the same quarter with the previous year; and the VMT was 13.2% higher. The increase in delay could be caused by higher traffic demand since the VMT was significantly higher.

I-80 in Nevada County had the highest rate of increase in delay with 1,835% when comparing with previous year for the same quarter. The increase in delay could be contributed by higher recreational traffic demand, and snow storm delay in the sierra area. Since California had one of driest years in 2015, there was very little recreational traffic and weather delays in the first quarter of the year. In 2016, California had normal snow falls and higher recreational traffic demand that had contributed delays on I-80. As the result, there was a significant increase in delays along I-80 in Yolo, Sacramento, Placer and Nevada Counties.