

District 03 Mobility Performance Report

2017 Third Quarter

DEPARTMENT OF TRANSPORTATION

October 25, 2017
Office of Freeway Operations

District 03 Mobility Performance Report

2017 Third Quarter

EXECUTIVE SUMMARY

Overview

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

The Mobility Performance Report quarterly analysis compares information with the past year and the previous quarter using the following performance measures:

- 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 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 Mobility Performance Report (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 engineering experience and District 3 Office of Freeway Operations input.

FINDINGS

In the 2017 Third Quarter, total delay equaled 1.1 million vehicle hours of delay (VHD) at the 35 mph speed threshold, and 3.0 million VHD at the 60 mph threshold. The average weekday delay experienced in this quarter was approximately 14,000 VHD at 35 mph, and 40,000 VHD at 60 mph.

Top Ten Bottlenecks for 2017 Third Quarter

Fwy	Location	Shift	Abs PM	CA PM	# Days Active	Average Extent (Miles)	Total Delay (veh-hrs)	Total Duration (mins)
I80-E	E of CR 105d	PM	76.69	4.501	55	3.83	39,691	5,905
US50-E	Stockton Blvd.	PM	6.35	R.711	60	1.97	35,287	7,445
SR51-N	SB Watt Ave.	PM	7.85	7.85	57	3.16	34,467	7,575
I5-S	S Land Park Dr.	PM	512.07	16.78	63	2.12	30,224	8,995
SR70-E	North Beale Road	PM	20.13	13.5	36	4.14	26,259	4,190
I5-S	Vallejo Way	PM	517.09	21.8	55	2.43	25,739	4,590
SR99-S	EB Consumnes River	PM	290.64	16.198	54	2.05	23,682	8,975
SR51-N	North of A St.	PM	2.00	2	62	1.26	23,301	7,870
I80-E	W of Webster UC	PM	77.89	5.704	40	4.33	21,639	2,930
SR51-S	EB Exposition Bl.	PM	3.32	3.32	63	0.80	20,369	12,385

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, and SR-51 near downtown Sacramento. These projects are expected to reduce delay at nearby bottlenecks identified above. However, these HOV lane projects are funded for Plans Specifications and Estimate (PS&E) only; construction funds are not available at this time.

Quarterly Mobility Statistics

Measure	Graph	Percentage Change									
Vehicle Miles of Travel (VMT)	<p>Miles (Billions)</p> <table border="1"> <caption>Vehicle Miles of Travel (VMT) - Miles (Billions)</caption> <thead> <tr> <th>Quarter</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>2016 Q3</td> <td>2.8</td> </tr> <tr> <td>2017 Q2</td> <td>2.6</td> </tr> <tr> <td>2017 Q3</td> <td>2.6</td> </tr> </tbody> </table>	Quarter	Value	2016 Q3	2.8	2017 Q2	2.6	2017 Q3	2.6	Over one year ago	Over last quarter
Quarter	Value										
2016 Q3	2.8										
2017 Q2	2.6										
2017 Q3	2.6										
		-6.8%	-1.3%								
		↓	↓								
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Millions)</p> <table border="1"> <caption>Total Vehicle Hours of Delay (VHD) at 35 mph - Hours (Millions)</caption> <thead> <tr> <th>Quarter</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>2016 Q3</td> <td>1.10</td> </tr> <tr> <td>2017 Q2</td> <td>1.00</td> </tr> <tr> <td>2017 Q3</td> <td>1.10</td> </tr> </tbody> </table>	Quarter	Value	2016 Q3	1.10	2017 Q2	1.00	2017 Q3	1.10	Over one year ago	Over last quarter
Quarter	Value										
2016 Q3	1.10										
2017 Q2	1.00										
2017 Q3	1.10										
		-0.8%	10.3%								
		↓	↑								
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table border="1"> <caption>Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph - Hours (Thousands)</caption> <thead> <tr> <th>Quarter</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>2016 Q3</td> <td>15.0</td> </tr> <tr> <td>2017 Q2</td> <td>13.0</td> </tr> <tr> <td>2017 Q3</td> <td>14.0</td> </tr> </tbody> </table>	Quarter	Value	2016 Q3	15.0	2017 Q2	13.0	2017 Q3	14.0	Over one year ago	Over last quarter
Quarter	Value										
2016 Q3	15.0										
2017 Q2	13.0										
2017 Q3	14.0										
		-4.4%	9%								
		↓	↑								
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Millions)</p> <table border="1"> <caption>Total Vehicle Hours of Delay (VHD) at 60 mph - Hours (Millions)</caption> <thead> <tr> <th>Quarter</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>2016 Q3</td> <td>3.2</td> </tr> <tr> <td>2017 Q2</td> <td>2.9</td> </tr> <tr> <td>2017 Q3</td> <td>3.0</td> </tr> </tbody> </table>	Quarter	Value	2016 Q3	3.2	2017 Q2	2.9	2017 Q3	3.0	Over one year ago	Over last quarter
Quarter	Value										
2016 Q3	3.2										
2017 Q2	2.9										
2017 Q3	3.0										
		-3.9%	5.3%								
		↓	↑								
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <table border="1"> <caption>Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph - Hours (Thousands)</caption> <thead> <tr> <th>Quarter</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>2016 Q3</td> <td>43</td> </tr> <tr> <td>2017 Q2</td> <td>39</td> </tr> <tr> <td>2017 Q3</td> <td>40</td> </tr> </tbody> </table>	Quarter	Value	2016 Q3	43	2017 Q2	39	2017 Q3	40	Over one year ago	Over last quarter
Quarter	Value										
2016 Q3	43										
2017 Q2	39										
2017 Q3	40										
		-5.9%	4%								
		↓	↑								

Measure	Graph	Percentage Change	
<p>Average Vehicle Hours of Delay by Day of Week at 60 mph</p>	<p>Hours (Thousands)</p> <p>Legend: 2016 Q3, 2017 Q2, 2017 Q3</p>	<p>Largest Magnitude Decrease over one year ago</p>	<p>Largest Magnitude Decrease over last quarter</p>
		<p>Thursday -9.4% </p>	<p>Thursday -1.9% </p>
		<p>Largest Magnitude Increase over one year ago</p>	<p>Largest Magnitude Increase over last quarter</p>
		<p>Sun/Hol 29.4% </p>	<p>Tuesday 13.6% </p>
<p>Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays</p>	<p>Hours (Thousands)</p> <p>Legend: Weekday (2016 Q3), Weekday (2017 Q2), Weekday (2017 Q3)</p>	<p>Largest Magnitude Weekday Decrease over one year ago</p>	<p>Largest Magnitude Weekday Decrease over last quarter</p>
		<p>5 PM -6.7% </p>	<p>10 AM -9.4% </p>
		<p>Largest Magnitude Weekday Increase over one year ago</p>	<p>Largest Magnitude Weekday Increase over last quarter</p>
		<p>7 AM 6.3% </p>	<p>6 PM 31.7% </p>
<p>Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays</p>	<p>Hours (Thousands)</p> <p>Legend: Saturday (2016 Q3), Saturday (2017 Q2), Saturday (2017 Q3)</p>	<p>Largest Magnitude Saturday Decrease over one year ago</p>	<p>Largest Magnitude Saturday Decrease over last quarter</p>
		<p>12 PM -25% </p>	<p>11 AM -22.5% </p>
		<p>Largest Magnitude Saturday Increase over one year ago</p>	<p>Largest Magnitude Saturday Increase over last quarter</p>
		<p>9 AM 83.6% </p>	<p>4 PM 49.1% </p>
<p>Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays</p>	<p>Hours (Thousands)</p> <p>Legend: Sunday/Holiday (2016 Q3), Sunday/Holiday (2017 Q2), Sunday/Holiday (2017 Q3)</p>	<p>Largest Magnitude Sun./Holiday Decrease over one year ago</p>	<p>Largest Magnitude Sun./Holiday Decrease over last quarter</p>
		<p>2 AM -8% </p>	<p>1 AM -29.2% </p>
		<p>Largest Magnitude Sun./Holiday Increase over one year ago</p>	<p>Largest Magnitude Sun./Holiday Increase over last quarter</p>
		<p>3 PM 73.9% </p>	<p>3 PM 38.8% </p>

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph	<p>Hours (Thousands)</p> <p>Legend: 2016 Q3 (Blue), 2017 Q2 (Purple), 2017 Q3 (Green)</p>	Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		Sacramento -12.3%	Yuba -5.7%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Yolo 24.2%	Yolo 21.1%
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph	<p>Miles</p> <p>Legend: 2016 Q3 (Blue), 2017 Q2 (Purple), 2017 Q3 (Green)</p>	Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		Off-Peak Night -79%	
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		PM Peak 3.7%	PM Peak 17.9%
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
		17%	11%
		Change in Bad over one year ago	Change in Bad over last quarter
		-25%	-17%

Note: As is identified by the detector health graph above, the District's detector health is generally improving. 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 previous projects.

Congestion by Route											
Route	County	Vehicle Hours of Delay at 35 mph			Difference 2017 Q3-2016 Q3		Difference 2017 Q3-2017 Q2		Rank		
		2016 Q3	2017 Q2	2017 Q3	Absolute	Percentage	Absolute	Percentage	2016 Q3	2017 Q2	2017 Q3
SR51	Sacramento	256,452	214,627	198,264	-58,188	-22.7%	-16,363	-7.6%	1	1	1
I80	Yolo	135,549	141,612	168,908	33,359	24.6%	27,296	19.3%	4	4	2
US50	Sacramento	170,830	147,706	154,414	-16,416	-9.6%	6,708	4.5%	2	2	3
I5	Sacramento	120,751	139,650	150,418	29,667	24.6%	10,766	7.7%	5	5	4
SR99	Sacramento	164,477	145,848	143,384	-21,093	-12.8%	-2,464	-1.7%	3	3	5
US50	Yolo	50,429	37,276	62,216	11,787	23.4%	24,940	66.9%	6	6	6
I80	Placer	47,617	20,076	56,726	9,112	19.1%	36,652	182.6%	7	10	7
SR65	Placer	16,130	33,198	36,713	20,583	127.6%	3,515	10.6%	11	8	8
SR70	Yuba	47,039	35,416	33,402	-13,637	-29.0%	-2,014	-5.7%	8	7	9
I80	Sacramento	40,343	24,342	29,907	-10,436	-25.9%	5,564	22.9%	9	9	10
US50	El Dorado	616	3,383	19,946	19,330	3139.0%	16,563	489.6%	15	15	11
SR160	Sacramento	31,911	13,846	12,016	-19,895	-62.3%	-1,830	-13.2%	10	11	12
I80	Nevada	377	5,279	8,848	8,471	2247.5%	3,569	67.6%	17	13	13
I5	Yolo	2,216	4,132	3,401	1,185	53.5%	-731	-17.7%	14	14	14
SR113	Yolo	2,471	12,468	2,193	-278	-11.3%	-10,275	-82.4%	13	12	15
SR99	Butte	2,640	1,526	906	-1,734	-65.7%	-620	-40.6%	12	16	16
SR267	Placer	0	0	153	153		153				17
SR99	Sutter	614	4	24	-591	-96.2%	20	555.6%	16	17	18
I80	Sierra	0	1	0	0		-1	-100.0%			18
SR12	Sacramento	0	0	0	0		0				
SR275	Yolo	0	0	0	0		0				
TOTALS		1,090,461	980,390	1,081,840	-8,622	-0.8%	101,450	10.3%			

SR-99 in Sutter County and US-50 in El Dorado County had the highest rate of increase in delay at 555.6% and 489.6%, when compared with the previous quarter. The increase in delay was caused by a repair of the detection system, which was brought back into operation after it was out of service for months. The repaired detection system recorded a significant increase in delay when compared with previous quarters. SR-113 in Yolo County had the greatest rate of decrease in delay at -82.4%, when compared with the previous quarter. The decrease in delay was due to a decrease in detector health. The increase in delay for Yolo US-50 was due to the Pioneer Bridge resurfacing project. This construction project is completed.

As identified by the congestion table above, there was a 10.3% increase in overall delay in comparison to the previous quarter although the VMT was 1.3% lower. The majority of this increased delay was on I-80 and US-50.

Based upon total delay by route, SR-51 has been continually the worst performing freeway in District 3 although congestion has improved by 22.7% over Q3 2016 and 7.6% over Q2 2017. The District continues to explore best possible ways to reduce the delay in the impacted areas.