

District 03 Mobility Performance Report

2018 Third Quarter

DEPARTMENT OF TRANSPORTATION

November 1, 2018
Office of Freeway Operations

District 03 Mobility Performance Report

2018 Third 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 35mph 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 third quarter of 2018, the total delay equaled 1.3 million vehicle hours of delay (VHD) at the 35mph speed threshold, and 3.4 million VHD at the 60mph threshold. The average weekday delay experienced in this quarter was approximately 17,000 VHD at 35 mph, and 46,000 VHD at 60 mph. SR-51 continues to be the worst performing freeway in District 3 for total delay caused by traffic bottleneck with 105,145 vehicle hours of delay.

SR 70E at North Beal Rd was the top bottleneck for the second straight quarter and occurs in the PM peak hour just west of the Yuba River Bridge upon entering the City of Marysville. This route handles a significant work commute volume of Yuba County residents returning home from Sacramento. The jump down from the freeway facility to dense city main street continues to be the main source of congestion for this bottleneck.

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	46	3.53	39,570.70	6,335.00
SR51-N	SB Watt Ave.	PM	7.85	7.85	61	3.10	37,591.40	8,070.00
SR99-S	WB Consumes River	PM	290.77	16.321	50	2.25	25,639.90	7,280.00
SR99-N	WB 47th Ave	AM	295.47	21	55	3.76	24,869.50	3,455.00
I80-E	NB Mace Blvd.	PM	74.99	2.8	63	1.32	23,598.10	10,950.00
SR51-S	EB Exposition Bl.	PM	3.32	3.32	63	0.77	23,389.60	13,850.00
SR51-N	30 & E St.	PM	1.50	1.5	62	0.96	22,359.10	7,135.00
SR51-N	North of A St.	PM	2.00	2	62	1.45	21,804.60	6,275.00
I5-S	EB W. El Camino Ave	AM	521.19	25.9	59	1.95	21,001.40	4,455.00
US50-E	25th St	PM	5.32	12.166	37	2.13	20,651.60	3,805.00

Notes:

1. For the table above, the quarterly delay calculation was based upon a 60mph 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.
3. The HOV lane projects on I-5 and US-50 were nominated for SB-1 funding in 2017. The project on SR 65/I-80 interchange is currently in construction for Phase 1 only which includes the WB I-80 connector to NB SR-65 capacity improvement and Stanford Ranch/Galleria interchange improvements. The remainder of the SR 65 project is not currently funded. The project on SR 51 is currently pursuing full funding for PA&ED.
4. There are currently no projects planned to address the bottleneck at SR70-E North Beal Rd.

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>Year</th><th>Q3</th><th>Q2</th><th>Q3</th></tr> <tr><td>2017</td><td>2.6</td><td>-</td><td>-</td></tr> <tr><td>2018</td><td>-</td><td>2.3</td><td>2.4</td></tr> </table>	Year	Q3	Q2	Q3	2017	2.6	-	-	2018	-	2.3	2.4	-6.5%	7%
Year	Q3	Q2	Q3												
2017	2.6	-	-												
2018	-	2.3	2.4												
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Year</th><th>Q3</th><th>Q2</th><th>Q3</th></tr> <tr><td>2017</td><td>1.10</td><td>-</td><td>-</td></tr> <tr><td>2018</td><td>-</td><td>1.20</td><td>1.30</td></tr> </table>	Year	Q3	Q2	Q3	2017	1.10	-	-	2018	-	1.20	1.30	16.6%	9.1%
Year	Q3	Q2	Q3												
2017	1.10	-	-												
2018	-	1.20	1.30												
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year</th><th>Q3</th><th>Q2</th><th>Q3</th></tr> <tr><td>2017</td><td>14.0</td><td>-</td><td>-</td></tr> <tr><td>2018</td><td>-</td><td>16.0</td><td>17.0</td></tr> </table>	Year	Q3	Q2	Q3	2017	14.0	-	-	2018	-	16.0	17.0	19.5%	5.3%
Year	Q3	Q2	Q3												
2017	14.0	-	-												
2018	-	16.0	17.0												
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Year</th><th>Q3</th><th>Q2</th><th>Q3</th></tr> <tr><td>2017</td><td>3.0</td><td>-</td><td>-</td></tr> <tr><td>2018</td><td>-</td><td>3.3</td><td>3.4</td></tr> </table>	Year	Q3	Q2	Q3	2017	3.0	-	-	2018	-	3.3	3.4	10.8%	0.9%
Year	Q3	Q2	Q3												
2017	3.0	-	-												
2018	-	3.3	3.4												
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year</th><th>Q3</th><th>Q2</th><th>Q3</th></tr> <tr><td>2017</td><td>40</td><td>-</td><td>-</td></tr> <tr><td>2018</td><td>-</td><td>45</td><td>46</td></tr> </table>	Year	Q3	Q2	Q3	2017	40	-	-	2018	-	45	46	13.2%	1.5%
Year	Q3	Q2	Q3												
2017	40	-	-												
2018	-	45	46												

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph		<p>Largest Magnitude Decrease over one year ago</p> <p>Saturday -11% </p>	<p>Largest Magnitude Decrease over last quarter</p> <p>Friday -8.3% </p>
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		<p>Largest Magnitude Weekday Decrease over one year ago</p> <p>5 PM -2.5% </p>	<p>Largest Magnitude Weekday Decrease over last quarter</p> <p>5 PM -5% </p>
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		<p>Largest Magnitude Saturday Decrease over one year ago</p> <p>4 PM -39.9% </p>	<p>Largest Magnitude Saturday Decrease over last quarter</p> <p>4 PM -37.1% </p>
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays		<p>Largest Magnitude Sun./Holiday Decrease over one year ago</p> <p>9 PM -50.8% </p>	<p>Largest Magnitude Sun./Holiday Decrease over last quarter</p> <p>9 PM -43.4% </p>
		<p>Largest Magnitude Sun./Holiday Increase over one year ago</p> <p>Tuesday 30% </p>	<p>Largest Magnitude Sun./Holiday Increase over last quarter</p> <p>Tuesday 17.7% </p>

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 -27.3%	Yuba -10.5%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Sacramento 18%	Placer 43.5%
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
		-	-
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		AM Peak 40.6%	Off-Peak Night 178.6%
Average Number of Good and Bad Detectors		Change in Good over one year ago	Change in Good over last quarter
		5%	-1%
		Change in Bad over one year ago	Change in Bad over last quarter
		-24%	2%

Note: As is identified by the detector health graph above, the District's detector health has improved over the past year showing a 24% reduction in the number of bad detection. Caltrans has a Traffic Monitoring Station project (EA: 3F840) completed to help improve detector health. Two other projects 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 Q3-2017 Q3		Difference 2018 Q3-2018 Q2		Rank		
		2017 Q3	2018 Q2	2018 Q3	Absolute	Percentage	Absolute	Percentage	2017 Q3	2018 Q2	2018 Q3
SR51	Sacramento	198264	247037.3	208590.6	10326.6	5%	-38446.7	-16%	1	1	1
I5	Sacramento	150417.9	144067.2	198315.1	47897.2	32%	54247.9	38%	4	4	2
SR99	Sacramento	143383.8	181026.3	186883.4	43499.6	30%	5857.1	3%	5	2	3
US50	Sacramento	154413.9	159506.3	166021.7	11607.8	8%	6515.4	4%	3	3	4
I80	Yolo	168907.7	128808	154206.5	-14701.2	-9%	25398.5	20%	2	5	5
I80	Placer	56728.3	85985.8	152257.6	95529.3	168%	66271.8	77%	7	6	6
SR70	Yuba	33402.3	53758	48093.8	14691.5	44%	-5664.2	-11%	9	8	7
I80	Sacramento	29906.8	54081.2	42290.8	12384	41%	-11790.4	-22%	10	7	8
SR65	Placer	36713	45056.4	35767.1	-945.9	-3%	-9289.3	-21%	8	9	9
I80	Nevada	8847.9	14565.6	28758	19910.1	225%	14192.4	97%	13	10	10
US50	El Dorado	19946	4228.3	11229.3	-8716.7	-44%	7001	166%	11	14	11
I5	Yolo	3400.7	8915.1	10151	6750.3	198%	1235.9	14%	14	13	12
SR160	Sacramento	12016.1	13421.2	10101.5	-1914.6	-16%	-3319.7	-25%	12	12	13
US50	Yolo	62215.8	13816	7244.8	-54971	-88%	-6571.2	-48%	6	11	14
SR99	Butte	906.2	479.2	641.7	-264.5	-29%	162.5	34%	16	16	15
SR113	Yolo	2192.9	1069.3	401.4	-1791.5	-82%	-667.9	-62%	15	15	16
SR99	Sutter	23.6	65.1	178.4	154.8	656%	113.3	174%	18	17	17
SR267	Placer	152.9	3.3	63.7	-89.2	-58%	60.4	1830%	17	19	18
I80	Sierra	0	6.4	41.4	41.4		35	547%		18	19
SR12	Sacramento	0	0	0	0		-				
SR275	Yolo	0	0	0	0		-				
TOTALS		1,081,840	1,155,896	1,261,238	179,398	16.6%	105,342	9.1%			

The following routes had the highest rate of increase in delay when compared with the previous quarter (Q2 2018).

- SR 267 in Placer Co. at 1830%
- I80 in Sierra Co. at 547%

The cause of the increase in delay can be mostly attributed to summer and winter season recreational traffic demand in the Lake Tahoe/Reno area as these peaks occur mainly in the 1st and 3rd quarters. On pages 4 and 5, it should be noted that delay continues to increase by quarter where VMT has been more sporadic looking at the average weekday hours at the 35mph and 65 mph thresholds. The second chart on page 5 shows Delay on weekday (from 6:00 to 10:00 AM) is increased significantly in quarter 2 and quarter 3 compared to the previous year. Since the unemployment rate is at an all-time low, it means more people are going to work causing more delay during 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 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 continues the process to implement HOV lane projects on SR-51, I-5, US-50 in efforts to mitigate congestion on these routes. The District continues to explore best possible ways to reduce the delay in the impacted areas of District 3.