

# District 06 Mobility Performance Report

2018 Third Quarter

**DEPARTMENT OF TRANSPORTATION**

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: Terence Cortez

## District 06 Mobility Performance Report

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2018 Third Quarter

### EXECUTIVE SUMMARY

#### Overview

Caltrans District 6 is geographically diverse, and the second largest of the 12 Districts statewide, stretching from the southernmost part of Yosemite National Park in the north to the Mojave Desert. Also referred to as the Central Valley, District 6 encompasses Madera, Fresno, Tulare, Kings, and Kern counties. District 6 maintains and operates 476 miles of freeway and 1,554 miles of rural and urban highway. This District has the largest portion of road miles to maintain in the state highway system with 2,030 miles. Interstate 5 and State Route 99 span District 6, connecting the Central Valley to Northern and Southern California. These two routes support substantial truck traffic for the agricultural base of the region.

The Mobility Performance Report (MPR) quarterly analysis compares current data with information from the same quarter of the previous year, and from the previous quarter using the following performance measures:

- Vehicle Miles of Travel (VMT)
- Vehicle Hours of Delay (VHD)
- Lost Lane Miles (equivalent lost productivity)
- Detector Health

This information is based on continuous data collected by automated vehicle detector stations deployed on urban-area freeways with recurrent congestion. The MPR presents congestion delay 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. The criteria for speed thresholds are set by Caltrans and are based on engineering experience and District input.

## FINDINGS

In the third quarter of 2018, the total delay equaled 446 thousands Vehicle Hours of Delay (VHD) at the 35 mph speed threshold, and 1624 thousands VHD at the 60 mph threshold. The average weekday delay experience was approximately 5,640 VHD at 35 mph, and 21 thousands VHD at 60 mph.

For the entire District, the VHD for the third quarter experienced an overall increase of 40.1 percent when compared to the previous quarter, however the VHD varied with respect to each County. The overall increase in VHD could also correspond with the increase in VMT, as it has increased 3 percent from the second quarter. Fresno County reported the largest measure of VHD (174 thousands) at 35 mph, and Kings County reported the largest percentage increase of VHD (483 percent) from the previous quarter.

An increase in VHD was observed on State Route 99 in Kern County. Ongoing projects continue to advance on this route affecting the flow of traffic. The increase for the quarter 3 could be attributed to a rise in detectors reporting good data (northbound direction), and the increase in approved lane closures in the third quarter when compared to the previous quarter.

An increase in VHD was observed on State Route 99 in Tulare County over the previous quarter. As ongoing projects continue to affect the flow of traffic, the cause for the increase in VHD could be attributed to an increase in approved lane closures during the third quarter when compared to the second quarter.

An increase in VHD was observed on Interstate 5 in Kings County in comparison with the previous quarter. The increase in VHD could be attributed to insufficient data, and controllers being down for longer durations in the third quarter when compared to the previous quarter.

An increase in VHD was observed on SR 41 in Kings County in comparison with the previous quarter. Cause for the increase could be related to multiple ongoing construction projects scheduled for SR 41.

## **CENTRAL REGION ONGOING PROJECTS**

For Quarter 3, the following projects are considered to possibly have an impact on delay in District 6.

### **Fresno County**

State Route 41; 06-0T320 0615000062 Construct Auxiliary Lane (PM R22.8/R23.7)

State Route 99; 06-0V560 0616000179 Signalization of Intersection and Off-Ramp Widening (PM 16.0)

State Route 99; 06-0W250 0617000161 Cold Plane 0.10” Existing Open Graded, Overlay 0.10” RHMA-Open Graded (BWC) from ETW to ETW (PM 20.2/31.6)

State Route 99; 06-2HT10 0612000287 Route 99 Realignment (PM 23.7/26.2)

State Route 180; 06-34253 0600000382 2C to 4E on New Alignment (PM 75.0/78.2)

### **Kern County**

State Route 99; 06-0R140 0614000038 Construct CRCP (PM 10.5/20.5)

State Route 99; 06-0V180 0617000169 Cold Plane, Repair Failed AC Pavement, Resurface with RHMA-O (BWC) (PM 49.3/57.6)

State Route 99; 06-0X480 0618000079 Replace 4-inch Striping with 6-inch (PM 0.0/57.6)

State Route 99; 06-0Y300 0618000248 Shoulder Grind/Pave (PM 22.6/25.6)

### **Kings County**

Interstate Route 5; 06-0S490 0615000050 Pavement Rehabilitation (2R) – Replace Failed Concrete Slab Panels, Resurface with HMA (PM 0.0/9.0)

State Route 41; 06-0T240 0615000041 Intersection Improvements (PM 34.7)

State Route 41; 06-0V860 0617000039 Construct Center Line, Shoulder Rumble Strips and Pave HMA (PM 8.1/48.28)

**Tulare County**

State Route 99; 06-0T800 0615000231 Resurface Existing Pavement with RHMA Open Graded (BMC) Overlay (PM 37.3/41.3)

State Route 99; 06-0Y290 0618000249 Grind/Pave (PM 27.6/29.6)

### BOTTLENECKS REPORTED FOR QUARTER 3

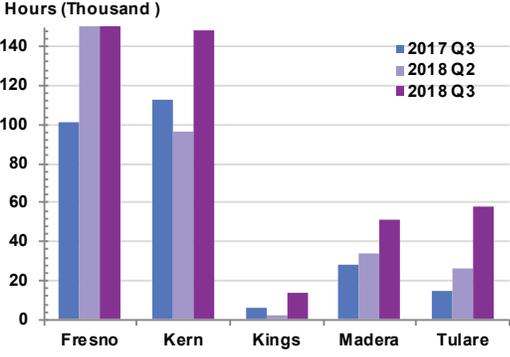
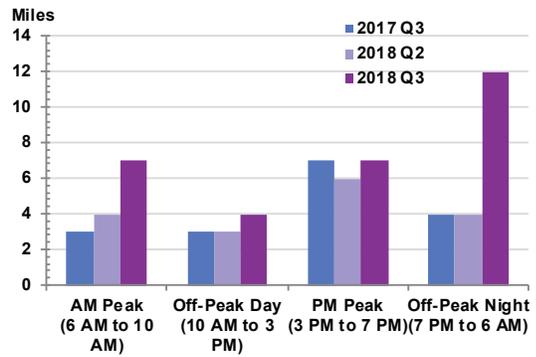
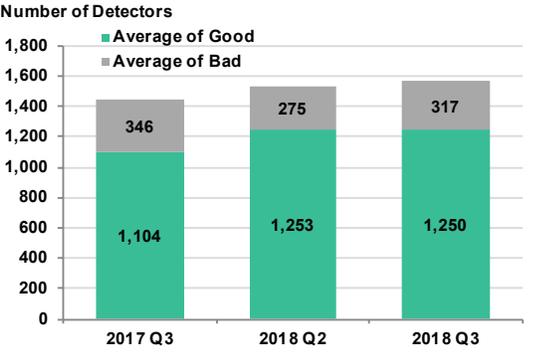
County	Fwy	Location	Shift	Abs PM	CA PM	# Days Active	Avg Extent (Miles)	Avg Delay (veh-hrs)	Avg Duration (mins)
Fresno	SR180-W	WB SR-180 Ramp to SR-99	PM	32.9	R56.5	54	2.8	104.5	94.5

Depicted in the table above is the only bottleneck reported for District 6 during the third quarter. Further investigations (VDS 601264) show that the number two and three lanes did not report data due to the card being off for the majority of the third quarter.

## QUARTERLY MOBILITY STATISTICS

Measure	Graph	Percentage Change	
Vehicle Miles of Travel (VMT)	<p>Miles (Billions)</p> <p>2017 Q3: 1.9</p> <p>2018 Q2: 1.9</p> <p>2018 Q3: 2.0</p>	Over one year ago	Over last quarter
		7%	3%
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <p>2017 Q3: 263.1</p> <p>2018 Q2: 319.6</p> <p>2018 Q3: 446.4</p>	Over one year ago	Over last quarter
		69.8%	39.8%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours</p> <p>2017 Q3: 3059</p> <p>2018 Q2: 3781</p> <p>2018 Q3: 5640</p>	Over one year ago	Over last quarter
		84.4%	49.2%
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Millions)</p> <p>2017 Q3: 1.4</p> <p>2018 Q2: 1.4</p> <p>2018 Q3: 1.6</p>	Over one year ago	Over last quarter
		19.1%	16.8%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <p>2017 Q3: 17</p> <p>2018 Q2: 18</p> <p>2018 Q3: 21</p>	Over one year ago	Over last quarter
		25.1%	20.7%

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
		Sun/Hol -6.6%	Friday -3.9%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Wednesday 74%	Wednesday 78.9%
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
		12 AM -33.9%	7 AM -2.3%
		Largest Magnitude Weekday Increase over one year ago	Largest Magnitude Weekday Increase over last quarter
		3 PM 76%	4 PM 39.1%
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
		4 AM -66.6%	9 PM -56.1%
		Largest Magnitude Saturday Increase over one year ago	Largest Magnitude Saturday Increase over last quarter
		10 AM 69.2%	10 AM 79.4%
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
		7 PM -29.1%	7 AM -56.3%
		Largest Magnitude Sun./Holiday Increase over one year ago	Largest Magnitude Sun./Holiday Increase over last quarter
		3 PM 135.4%	3 PM 180.4%

Measure	Graph	Percentage Change																									
<p><b>Total Vehicle Hours of Delay (VHD) by County at 35 mph</b></p>	 <table border="1"> <caption>Total Vehicle Hours of Delay (VHD) by County at 35 mph</caption> <thead> <tr> <th>County</th> <th>2017 Q3</th> <th>2018 Q2</th> <th>2018 Q3</th> </tr> </thead> <tbody> <tr> <td>Fresno</td> <td>100</td> <td>145</td> <td>145</td> </tr> <tr> <td>Kern</td> <td>110</td> <td>95</td> <td>145</td> </tr> <tr> <td>Kings</td> <td>5</td> <td>10</td> <td>15</td> </tr> <tr> <td>Madera</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td>Tulare</td> <td>15</td> <td>25</td> <td>55</td> </tr> </tbody> </table>	County	2017 Q3	2018 Q2	2018 Q3	Fresno	100	145	145	Kern	110	95	145	Kings	5	10	15	Madera	25	35	50	Tulare	15	25	55	<p>Largest Magnitude Decrease over one year ago</p>	<p>Largest Magnitude Decrease over last quarter</p>
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<p><b>Average Number of Good and Bad Detectors</b></p>	 <table border="1"> <caption>Average Number of Good and Bad Detectors</caption> <thead> <tr> <th>Quarter</th> <th>Average of Good</th> <th>Average of Bad</th> </tr> </thead> <tbody> <tr> <td>2017 Q3</td> <td>1,104</td> <td>346</td> </tr> <tr> <td>2018 Q2</td> <td>1,253</td> <td>275</td> </tr> <tr> <td>2018 Q3</td> <td>1,250</td> <td>317</td> </tr> </tbody> </table>	Quarter	Average of Good	Average of Bad	2017 Q3	1,104	346	2018 Q2	1,253	275	2018 Q3	1,250	317	<p>Change in Good over one year ago</p> <p>13% </p>	<p>Change in Good over last quarter</p> <p>0%</p>												
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		<p>Change in Bad over one year ago</p> <p>-8% </p>	<p>Change in Bad over last quarter</p> <p>15% </p>																								

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
SR99	Kern	27,818	41,964	83,305	55,486	199.5%	41,340	98.5%	5	4	1
I5	Fresno	30,305	67,675	59,541	29,236	96.5%	-8,134	-12.0%	3	1	2
I5	Kern	65,652	47,082	58,801	-6,851	-10.4%	11,719	24.9%	1	2	3
SR99	Tulare	14,545	25,680	57,983	43,438	298.6%	32,303	125.8%	7	7	4
SR99	Fresno	31,593	43,628	57,667	26,074	82.5%	14,039	32.2%	2	3	5
SR99	Madera	28,182	33,601	51,310	23,128	82.1%	17,709	52.7%	4	5	6
SR41	Fresno	27,149	29,271	44,155	17,006	62.6%	14,884	50.8%	6	6	7
I5	Kings	887	719	7,238	6,351	716.3%	6,519	907.0%	15	15	8
SR180	Fresno	4,785	9,401	6,842	2,056	43.0%	-2,559	-27.2%	10	8	9
SR58	Kern	5,806	6,566	5,295	-511	-8.8%	-1,271	-19.4%	9	9	10
SR41	Kings	3,200	566	5,261	2,061	64.4%	4,694	828.8%	12	16	11
SR180S	Fresno	3,019	6,165	4,612	1,593	52.8%	-1,553	-25.2%	13	10	12
SR198	Kings	2,069	1,133	1,607	-462	-22.3%	474	41.8%	14	13	13
SR168S	Fresno	4,186	3,555	1,527	-2,660	-63.5%	-2,028	-57.1%	11	11	14
SR46	Kern	12,984	1,166	1,100	-11,884	-91.5%	-66	-5.6%	8	12	15
SR198	Tulare	754	525	172	-582	-77.2%	-353	-67.2%	16	17	16
SR178	Kern	174	4	0	-174	-99.8%	-4	-93.2%	17	18	17
<b>TOTALS</b>		<b>263,108</b>	<b>318,700</b>	<b>446,413</b>	<b>183,305</b>	<b>69.7%</b>	<b>127,713</b>	<b>40.1%</b>			

Vehicle Hours of Delay is in Hours