

District 05 Mobility Performance Report

2018 Fourth Quarter

DEPARTMENT OF TRANSPORTATION

January 23, 2018
: Sam Toh

2018 Fourth Quarter

EXECUTIVE SUMMARY

Overview

Caltrans District 5 contains five counties located in central coast California: Santa Barbara, San Luis Obispo, Monterey, Santa Cruz and San Benito Counties. Detection were implemented along SR25 on Bolsa Rd (PM 59.5) and SR156 from San Juan Bautista to Hollister (PM 1.71-R12.024) respectively. Therefore, there are no comparable data for 2017 for San Benito County. All the counties are in an urban setting within the cities limit and rural outside city limit. Santa Cruz and Santa Barbara are the top two most congested counties in the 4th quarter.

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 fourth quarter, total delay equaled 314,100 thousand vehicle hours of delay (VHD) at the 35 mph speed threshold, and 740,000 thousand VHD at the 60 mph threshold. The average weekday delay experienced in this quarter was approximately 4,400 VHD at 35 mph, and 10,000 VHD at 60 mph.

Top Ten Bottlenecks for Quarter 4

County	Fwy	Location	Type	Shift	Abs PM	CA PM	# Days Active	Avg Extent (Miles)	Total Delay (veh-hrs)	Total Duration (mins)
SCR	SR1-S	STATE PARK DR AT HWY 1 SB VDS ML	ML	PM	362.07	10.772	57	3.49649	34027.5	9150
SCR	SR1-N	41ST ST EXIT AT HWY 1 SB VDS MLN	ML	AM	365.27	13.929	51	3.86863	11203.6	5375
SCR	SR1-S	NB1 to NB 17 conn	ML	PM	368.018	16.72	30	6.43	7811.9	1920
SCR	SR1-N	RIO DEL MAR BLVD AT HWY 1 SB VDS	ML	AM	360.894	9.553	53	2.92264	6734.6	3380
SCR	SR1-S	SOQUEL DR NEXT EXIT SIGN HWY 1 N	ML	PM	365.708	14.41	53	1.01887	6698.5	6410
SCR	SR1-S	NB1 to NB 17 conn	ML	AM	368.018	16.72	34	7.05294	6313.6	2390
SCR	SR1-S	PARK AVE AT HWY 1 NB VDS MLSB SB	ML	PM	363.178	11.88	53	2.14151	5906.1	2810
MON	SR1-N	SOUTH OF HWY 68 EAST AT HWY 1 NB	ML	PM	328.558	78.023	40	1.5575	4908.9	3205
SB	US101-S	SANTA MONICA RD 101 NB VDS MLSB	ML	PM	86.792	3.896	40	2.2	3981.3	3750
SLO	US101-S	SPYGLASS DR 101 SB VDS MLSB SB	ML	PM	193.322	19.797	42	2.09048	3848.5	3540

Mobility Performance Report | 1/23/2018

District Congestion Relief Projects

State Highway 1, Santa Cruz county currently has a 2 Tier project to address the recurring congestion on this corridor. The Tier 1 project is a HOV & TSM project (FED, project ID 050000023, postmile 10.5-16.8) that include reconstruction of several interchanges. The Tier 2 projects are auxiliary lane projects in Soquel to Morrissey interchange (completed) and 41st – Soquel interchange (PA&ED, project ID 0512000228, postmile 13.6-14.9). For other seven (7) prioritized auxiliary lane projects, please refer to the project Traffic Operation Report (April 2012).

State Route 1, Monterey county is currently experiencing recurring congestion during the PM peak period (Monday to Friday). The maximum extents of the congestion could spans approximately between postmile 73 – 80, a roughly 4-7 miles long queue in the northbound direction. There is no known congestion in the southbound direction I the AM or PM peak. A congestion relief project is recommended through this corridor in the northbound direction. Please see the screenshot on page 6 for a typical Tuesday traffic in Google map.

US101, Pismo Beach, San Luis Obispo county is currently experiencing a recurring congestion in the southbound PM peak hour. There is currently a Left Shoulder Part Time Travel Lane (LSPTTL) congestion relief project (PA&ED, project ID 0515000063, postmile 16.2-R20.3). A Traffic Analysis is currently on going to and the anticipated opening year of the LSPTTL is 2026.

District 05

Quarterly Mobility Statistics

Measure	Graph	Percentage Change									
Vehicle Miles of Travel (VMT)	<p>Miles (Millions)</p> <table border="1"> <tr><th>Quarter</th><th>VMT (Millions)</th></tr> <tr><td>2017 Q4</td><td>788.1</td></tr> <tr><td>2018 Q3</td><td>846.2</td></tr> <tr><td>2018 Q4</td><td>824</td></tr> </table>	Quarter	VMT (Millions)	2017 Q4	788.1	2018 Q3	846.2	2018 Q4	824	Over one year ago	Over last quarter
		Quarter	VMT (Millions)								
2017 Q4	788.1										
2018 Q3	846.2										
2018 Q4	824										
		4.6%	-2.6%								
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Quarter</th><th>VHD (Thousands)</th></tr> <tr><td>2017 Q4</td><td>332.1</td></tr> <tr><td>2018 Q3</td><td>526.8</td></tr> <tr><td>2018 Q4</td><td>314.1</td></tr> </table>	Quarter	VHD (Thousands)	2017 Q4	332.1	2018 Q3	526.8	2018 Q4	314.1	Over one year ago	Over last quarter
		Quarter	VHD (Thousands)								
2017 Q4	332.1										
2018 Q3	526.8										
2018 Q4	314.1										
		-5.4%	-40.4%								
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours</p> <table border="1"> <tr><th>Quarter</th><th>VHD (Hours)</th></tr> <tr><td>2017 Q4</td><td>4751</td></tr> <tr><td>2018 Q3</td><td>6167</td></tr> <tr><td>2018 Q4</td><td>4392</td></tr> </table>	Quarter	VHD (Hours)	2017 Q4	4751	2018 Q3	6167	2018 Q4	4392	Over one year ago	Over last quarter
		Quarter	VHD (Hours)								
2017 Q4	4751										
2018 Q3	6167										
2018 Q4	4392										
		-7.6%	-28.8%								
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Quarter</th><th>VHD (Millions)</th></tr> <tr><td>2017 Q4</td><td>0.69</td></tr> <tr><td>2018 Q3</td><td>1.2</td></tr> <tr><td>2018 Q4</td><td>0.74</td></tr> </table>	Quarter	VHD (Millions)	2017 Q4	0.69	2018 Q3	1.2	2018 Q4	0.74	Over one year ago	Over last quarter
		Quarter	VHD (Millions)								
2017 Q4	0.69										
2018 Q3	1.2										
2018 Q4	0.74										
		7.4%	-38.7%								
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Quarter</th><th>VHD (Thousands)</th></tr> <tr><td>2017 Q4</td><td>10</td></tr> <tr><td>2018 Q3</td><td>14</td></tr> <tr><td>2018 Q4</td><td>10</td></tr> </table>	Quarter	VHD (Thousands)	2017 Q4	10	2018 Q3	14	2018 Q4	10	Over one year ago	Over last quarter
		Quarter	VHD (Thousands)								
2017 Q4	10										
2018 Q3	14										
2018 Q4	10										
		3.9%	-28.7%								

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
		Monday -6.2%	Sun/Hol -65.7%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Saturday 28.5%	-
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
		6 PM -30.1%	5 PM -33.6%
		Largest Magnitude Weekday Increase over one year ago	Largest Magnitude Weekday Increase over last quarter
		7 AM 23.6%	8 AM 36.9%
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 -48.5%	12 PM -74.7%
		Largest Magnitude Saturday Increase over one year ago	Largest Magnitude Saturday Increase over last quarter
		3 PM 57.7%	9 AM 49.4%
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
		12 PM -16.3%	1 PM -76.9%
		Largest Magnitude Sun./Holiday Increase over one year ago	Largest Magnitude Sun./Holiday Increase over last quarter
		6 PM 42.6%	8 AM 226.6%

Measure	Graph	Percentage Change	
<p>Total Vehicle Hours of Delay (VHD) by County at 35 mph</p>		<p>Largest Magnitude Decrease over one year ago</p>	<p>Largest Magnitude Decrease over last quarter</p>
		<p>Santa Cruz -11.9% </p>	<p>Santa Cruz -37.4% </p>
		<p>Largest Magnitude Increase over one year ago</p>	<p>Largest Magnitude Increase over last quarter</p>
		<p>San Benito -65.3% </p>	<p>Santa Barbara 3.2% </p>
<p>Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph</p>		<p>Largest Magnitude Decrease over one year ago</p>	<p>Largest Magnitude Decrease over last quarter</p>
		<p>-</p>	<p>-</p>
		<p>Largest Magnitude Increase over one year ago</p>	<p>Largest Magnitude Increase over last quarter</p>
		<p>PM Peak 4869.5% </p>	<p>PM Peak 3558% </p>
<p>Average Number of Good and Bad Detectors</p>		<p>Change in Good over one year ago</p>	<p>Change in Good over last quarter</p>
		<p>11% </p>	<p>21% </p>
		<p>Change in Bad over one year ago</p>	<p>Change in Bad over last quarter</p>
		<p>113% </p>	<p>64% </p>

Congestion by Route

Route	County	Vehicle Hours of Delay at 35 mph			Difference 2018 Q4-2017 Q4		Difference 2018 Q4-2018 Q3		Rank		
		2017 Q4	2018 Q3	2018 Q4	Absolute	Percentage	Absolute	Percentage	2017 Q4	2018 Q3	2018 Q4
		SR1	Santa Cruz	199,360	276,462	178,267	-21,093	-10.6%	-98,195	-35.5%	1
US101	Santa Barbara	51,082	47,529	49,044	-2,038	-4.0%	1,514	3.2%	2	3	2
SR1	Monterey	39,315	89,008	32,881	-6,434	-16.4%	-56,127	-63.1%	3	2	3
US101	San Luis Obispo	20,016	38,948	19,841	-176	-0.9%	-19,107	-49.1%	4	5	4
SR17	Santa Cruz	16,411	27,162	11,786	-4,625	-28.2%	-15,376	-56.6%	5	6	5
SR156	San Benito	0	42,850	10,010	10,010		-32,841	-76.6%		4	6
US101	Monterey	5,951	3,677	6,998	1,047	17.6%	3,322	90.3%	6	7	7
SR25	San Benito	0	1,148	5,278	5,278		4,131	360.0%		8	8
TOTALS		332,135	526,784	314,105	-18,031	-5.4%	-212,680	-40.4%			

Aggregation of new detection data for San Benito County started in quarter 1, 2018. Detection were implemented along SR25 on Bolsa Rd (PM 59.5) and SR156 from San Juan Bautista to Hollister (PM 1.71-R12.024) respectively. Therefore, there are no comparable data for 2017 Q3 for this two Routes.

Recommend initiating a congestion relief project in the northbound direction on State Route 1 in Monterey county.

