

District 12 Mobility Performance Report

2017 1st. Quarter

DEPARTMENT OF TRANSPORTATION

April 13, 2017
District 12 TMC

DISTRICT 12 MOBILITY PERFORMANCE REPORT

2017 1st. Quarter

EXECUTIVE SUMMARY

Overview

Caltrans District 12 (Orange County) is located in southern California and is neighbors with District 7 (Los Angeles), District 8 (San Bernardino), and District 11 (San Diego). As of July 2016 the total population in Orange County was 3,172,532. Orange County is the third most populous county in California, the sixth-most populous in the United States, and more populous than twenty-one U.S. states. Its county seat is Santa Ana. It is the second most densely populated county in the state.

The Mobility Performance quarterly analysis compares information from the most recent quarter and the previous 4 quarters, involving the following performance measures:

- Vehicle Miles of Travel (VMT)
- Vehicle Hours of Delay (VHD)
- Lost Lane Miles (LLM)
- 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 uses congestion at two speed thresholds: delay from vehicles traveling below 35 MPH and delay from vehicles traveling below 60 mph. The 35 MPH limit represents severe congestion while the 60 MPH limit represents light and heavy congestion. These thresholds/limits are set by Caltrans and are based upon engineering experience and District input.

FINDINGS

In the first quarter, at 35 mph threshold, the total delay equaled to 2.7 million vehicle hours of delay (VHD) and at 60 mph threshold, the total delay was 6.9 million VHD. The average weekday VHD in this quarter was 40 thousand hours of delay at 35 MPH and 98 thousand hours of delay at 60 MPH.

Top 10 Bottlenecks for 1st Quarter

Name	Type	Shift	Abs PM	CA PM	Latitude	Longitude	# Days Active	Avg Extent (Miles)	Total Delay (veh-hrs)	Total Duration (mins)
EDINGER 2	ML	PM	9.41	R9.41	33.726049	-117.83503	62	3.475806452	89008	12830
BROOKHUR2	ML	PM	13.74	13.97	33.707312	-117.956518	61	3.729508197	58306.5	8195
WARNER	ML	AM	14.49	14.72	33.714839	-117.965935	61	3.71147541	52231.5	8985
CHAPMAN 3	ML	AM	6.531	17.18	33.872312	-117.880462	61	4.431147541	47574.1	13615
LINCOLN 2	ML	PM	17.102	17.12	33.837111	-117.834992	58	3.694827586	42571.9	11625
BEACH 2	ML	PM	16.53	16.76	33.734759	-117.992088	36	2.655555556	35453.7	5150
VICTORIA1	ML	PM	2.77	R2.77	33.651901	-117.908673	47	2.7	32541.4	6160
MAIN 1	ML	AM	105.188	33	33.766429	-117.866976	62	1.517741935	31000.5	11485
NEWLAND	ML	PM	15.64	15.87	33.726501	-117.980188	28	4.525	30345.6	2860
1ST	ML	PM	103.051	30.8	33.744413	-117.841283	62	0.717741935	28966.6	14900

Quarterly Mobility Statistics

Measure	Graph	Percentage Change										
Vehicle Miles of Travel (VMT)	Miles (Billions) <table><thead><tr><th>Period</th><th>VMT (Billions)</th></tr></thead><tbody><tr><td>2016 Q1</td><td>3.3</td></tr><tr><td>2016 Q4</td><td>3.3</td></tr><tr><td>2017 Q1</td><td>3.3</td></tr></tbody></table>	Period	VMT (Billions)	2016 Q1	3.3	2016 Q4	3.3	2017 Q1	3.3	Over one year ago	Over last quarter	
Period	VMT (Billions)											
2016 Q1	3.3											
2016 Q4	3.3											
2017 Q1	3.3											
		1.2%	-1.6%									
		↑	↓									
Total Vehicle Hours of Delay (VHD) at 35 mph	Hours (Millions) <table><thead><tr><th>Period</th><th>VHD (Millions)</th></tr></thead><tbody><tr><td>2016 Q1</td><td>2.8</td></tr><tr><td>2016 Q4</td><td>3.4</td></tr><tr><td>2017 Q1</td><td>2.7</td></tr></tbody></table>	Period	VHD (Millions)	2016 Q1	2.8	2016 Q4	3.4	2017 Q1	2.7	Over one year ago	Over last quarter	
Period	VHD (Millions)											
2016 Q1	2.8											
2016 Q4	3.4											
2017 Q1	2.7											
		-4.2%	-20.8%									
		↓	↓									
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	Hours (Thousands) <table><thead><tr><th>Period</th><th>VHD (Thousands)</th></tr></thead><tbody><tr><td>2016 Q1</td><td>42</td></tr><tr><td>2016 Q4</td><td>50</td></tr><tr><td>2017 Q1</td><td>40</td></tr></tbody></table>	Period	VHD (Thousands)	2016 Q1	42	2016 Q4	50	2017 Q1	40	Over one year ago	Over last quarter	
Period	VHD (Thousands)											
2016 Q1	42											
2016 Q4	50											
2017 Q1	40											
		-3.9%	-19.7%									
		↓	↓									
Total Vehicle Hours of Delay (VHD) at 60 mph	Hours (Millions) <table><thead><tr><th>Period</th><th>VHD (Millions)</th></tr></thead><tbody><tr><td>2016 Q1</td><td>6.9</td></tr><tr><td>2016 Q4</td><td>8</td></tr><tr><td>2017 Q1</td><td>6.9</td></tr></tbody></table>	Period	VHD (Millions)	2016 Q1	6.9	2016 Q4	8	2017 Q1	6.9	Over one year ago	Over last quarter	
Period	VHD (Millions)											
2016 Q1	6.9											
2016 Q4	8											
2017 Q1	6.9											
		-1%	-13.9%									
		↑	↓									
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	Hours (Thousands) <table><thead><tr><th>Period</th><th>VHD (Thousands)</th></tr></thead><tbody><tr><td>2016 Q1</td><td>99</td></tr><tr><td>2016 Q4</td><td>114</td></tr><tr><td>2017 Q1</td><td>98</td></tr></tbody></table>	Period	VHD (Thousands)	2016 Q1	99	2016 Q4	114	2017 Q1	98	Over one year ago	Over last quarter	
Period	VHD (Thousands)											
2016 Q1	99											
2016 Q4	114											
2017 Q1	98											
		-1%	-13.7%									
		↑	↓									

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
		Friday -7.3%	Thursday -19.8%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Thursday 8.6%	Friday 3.6%
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
		5 PM -12%	5 PM -20.7%
		Largest Magnitude Weekday Increase over one year ago	Largest Magnitude Weekday Increase over last quarter
		9 AM 26.3%	10 AM 8.8%
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
		2 PM -12.1%	5 PM -44%
		Largest Magnitude Saturday Increase over one year ago	Largest Magnitude Saturday Increase over last quarter
		12 PM 18.9%	12 PM 16.7%
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
		8 PM -63.3%	5 PM -60.7%
		Largest Magnitude Sun./Holiday Increase over one year ago	Largest Magnitude Sun./Holiday Increase over last quarter
		3 PM 13.3%	—

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph	Hours (Millions) 2016 Q1 2016 Q4 2017 Q1 Orange	Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		Orange -4.2%	Orange -20.8%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph	Miles 2016 Q1 2016 Q4 2017 Q1 AM Peak (6 AM to 10 AM) Off-Peak Day (10 AM to 3 PM) PM Peak (3 PM to 7 PM) Off-Peak Night (7 PM to 6 AM)	Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		PM Peak -12.1%	PM Peak -19.7%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
Average Number of Good and Bad Detectors	Number of Detectors Average of Good Average of Bad 2016 Q1 2016 Q4 2017 Q1	Off-Peak Day 21.2%	-
		Change in Good over one year ago	Change in Good over last quarter
		-5%	-7%
		Change in Bad over one year ago	Change in Bad over last quarter
		33%	32%

Congestion by Route											
Route	County	Vehicle Hours of Delay at 35 mph			Difference 2017 Q1-2016 Q1		Difference 2017 Q1-2016 Q4		Rank		
		2016 Q1	2016 Q4	2017 Q1	Absolute	Percentage	Absolute	Percentage	2016 Q1	2016 Q4	2017 Q1
I405	Orange	841,197	880,160	13,438	-827,759	-98.4%	-866,722	-98.5%	2	2	1
I5	Orange	894,138	901,516	12,010	-882,128	-98.7%	-889,507	-98.7%	1	1	2
SR55	Orange	483,868	501,147	7,314	-476,554	-98.5%	-493,833	-98.5%	3	4	3
SR91	Orange	421,028	642,451	3,707	-417,321	-99.1%	-638,744	-99.4%	5	3	4
SR57	Orange	428,991	392,755	3,511	-425,480	-99.2%	-389,244	-99.1%	4	5	5
SR22	Orange	147,306	136,610	3,216	-144,090	-97.8%	-133,394	-97.6%	6	6	6
SR73	Orange	121,335	127,576	907	-120,428	-99.3%	-126,669	-99.3%	7	7	7
SR241	Orange	26,683	31,632	557	-26,126	-97.9%	-31,075	-98.2%	8	8	8
I605	Orange	13,431	25,311	61	-13,370	-99.5%	-25,250	-99.8%	10	9	9
SR133	Orange	15,766	9,697	24	-15,742	-99.8%	-9,672	-99.7%	9	10	10
SR261	Orange	680	727	6	-674	-99.1%	-721	-99.2%	11	11	11
SR39	Orange	292	0	0	-292	-100.0%	0		12		
SR142	Orange	118	0	0	-118	-100.0%	0		13		
SR74	Orange	18	0	0	-18	-100.0%	0		14		