

District 12 Mobility Performance Report

2019 1st Quarter

DEPARTMENT OF TRANSPORTATION

April 25, 2019
District 12 TMC

DISTRICT 12 MOBILITY PERFORMANCE REPORT

2019 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 2017, the total population in Orange County was 3,190,400. The jurisdictional boundaries of Orange County encompass a metropolitan area of 794 square miles, including 34 cities, and 17 state highway routes. The county has 1,059 lane miles of general purpose lanes and 226 lane miles of High-Occupancy Vehicle (HOV) lanes, which is one of California's largest HOV lane networks. 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 1st quarter, of 2018, total delay equaled to 2.1 million vehicle hours of delay (VHD) at the 35mph speed threshold and 6.1 million VHD at 60mph threshold. Compared to the fourth quarter, there was an 6.4 percent increase in 35mph VHD and 2.3 percent increase in 60mph VHD.

The average weekday VHD experienced in this quarter was approximately 31 thousand VHD at 35mph and 88 thousand VHD at 60mph. Compared to the third quarter, there was 13.3 percent increase in 35 mph VHD and 8.3 percent increase in 60 mph VHD.

Top 10 Bottlenecks for the 1st Quarter of 2019

Abs PM	CA PM	# Days Active	Avg Extent (Miles)	Total Delay (veh-hrs)	Total Duration (mins)
13.51	13.74	61	3.762295	152559	16215
14.93	15.16	61	3.093443	39729.8	12400
9.41	R9.41	61	3.347541	27277.4	12680
12.892	13.122	61	2.1	26108.9	16505
105.851	33.6	59	2.867797	21839.4	9530
103.051	30.8	61	0.670492	21058.9	14190
6.57	6.8	57	1.136842	18782.6	7665
99.811	27.56	59	1.986441	18481.8	12700
10.67	10.9	58	1.108621	17176.2	12770
28.453	R10.08	53	2.949057	16088.2	10195

Quarterly Mobility Statistics

Measure	Graph	Percentage Change													
Vehicle Miles of Travel (VMT)	<p>Miles (Billions)</p> <table border="1"> <tr><th>Year</th><th>Q1</th><th>Q4</th><th>Q1</th></tr> <tr><td>2018</td><td>3.5</td><td>3.4</td><td></td></tr> <tr><td>2019</td><td></td><td></td><td>3.3</td></tr> </table>	Year	Q1	Q4	Q1	2018	3.5	3.4		2019			3.3	Over one year ago	Over last quarter
		Year	Q1	Q4	Q1										
2018	3.5	3.4													
2019			3.3												
		-6.3% ↓	-3.2% ↓												
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Year</th><th>Q1</th><th>Q4</th><th>Q1</th></tr> <tr><td>2018</td><td>2.1</td><td>2</td><td></td></tr> <tr><td>2019</td><td></td><td></td><td>2.1</td></tr> </table>	Year	Q1	Q4	Q1	2018	2.1	2		2019			2.1	Over one year ago	Over last quarter
		Year	Q1	Q4	Q1										
2018	2.1	2													
2019			2.1												
		1.6% ↑	6.4% ↑												
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year</th><th>Q1</th><th>Q4</th><th>Q1</th></tr> <tr><td>2018</td><td>29</td><td>27</td><td></td></tr> <tr><td>2019</td><td></td><td></td><td>31</td></tr> </table>	Year	Q1	Q4	Q1	2018	29	27		2019			31	Over one year ago	Over last quarter
		Year	Q1	Q4	Q1										
2018	29	27													
2019			31												
		5% ↑	13.3% ↑												
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Year</th><th>Q1</th><th>Q4</th><th>Q1</th></tr> <tr><td>2018</td><td>5.8</td><td>5.9</td><td></td></tr> <tr><td>2019</td><td></td><td></td><td>6.1</td></tr> </table>	Year	Q1	Q4	Q1	2018	5.8	5.9		2019			6.1	Over one year ago	Over last quarter
		Year	Q1	Q4	Q1										
2018	5.8	5.9													
2019			6.1												
		5% ↑	2.3% ↑												
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year</th><th>Q1</th><th>Q4</th><th>Q1</th></tr> <tr><td>2018</td><td>80</td><td>81</td><td></td></tr> <tr><td>2019</td><td></td><td></td><td>88</td></tr> </table>	Year	Q1	Q4	Q1	2018	80	81		2019			88	Over one year ago	Over last quarter
		Year	Q1	Q4	Q1										
2018	80	81													
2019			88												
		9.3% ↑	8.3% ↑												

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 -28.9% ↓	Thursday -8.3% ↓
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Tuesday 19.8% ↑	Monday 43.9% ↑
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
		-10.1% ↓	-2% ↓
		Largest Magnitude Weekday Increase over one year ago	Largest Magnitude Weekday Increase over last quarter
		58.5% ↑	11.7% ↑
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
		-20.4% ↓	-38.5% ↓
		Largest Magnitude Saturday Increase over one year ago	Largest Magnitude Saturday Increase over last quarter
		8.6% ↑	80.9% ↑
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
		-53.9% ↓	-42.9% ↓
		Largest Magnitude Sun./Holiday Increase over one year ago	Largest Magnitude Sun./Holiday Increase over last quarter
		49.6% ↑	145% ↑

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph	<p>Hours (Millions)</p>	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
		Orange 1.6% ↑	Orange 6.4% ↑
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph	<p>Miles</p>	Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		AM Peak -2.5% ↓	PM Peak -4.4% ↓
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Off-Peak Day 23.3% ↑	Off-Peak Day 1.1% ↑
Average Number of Good and Bad Detectors	<p>Number of Detectors</p>	Change in Good over one year ago	Change in Good over last quarter
		1% ↑	-5% ↓
		Change in Bad over one year ago	Change in Bad over last quarter
		-8% ↓	14% ↑

**2019 Q1
Quarterly Mobility Statistics
District 12**

Congestion by Route											
Route	County	Vehicle Hours of Delay at 35 mph			Difference 2019 Q1-2018 Q1		Difference 2019 Q1-2018 Q4		Rank		
		2018 Q1	2018 Q4	2019 Q1	Absolute	Percentage	Absolute	Percentage	2018 Q1	2018 Q4	2019 Q1
I405	Orange	731,993	596,244	611,078	-120,915	-16.5%	14,834	2.5%	1	1	1
I5	Orange	543,515	497,969	533,581	-9,934	-1.8%	35,613	7.2%	2	2	2
SR91	Orange	374,128	253,372	281,296	-92,832	-24.8%	27,923	11.0%	4	3	3
SR55	Orange	381,052	157,785	155,772	-225,281	-59.1%	-2,013	-1.3%	3	4	4
SR22	Orange	169,251	107,555	124,404	-44,847	-26.5%	16,849	15.7%	6	5	5
SR57	Orange	303,981	49,302	107,777	-196,205	-64.5%	58,475	118.6%	5	7	6
SR73	Orange	85,869	77,723	89,943	4,074	4.7%	12,220	15.7%	7	6	7
SR241	Orange	52,639	36,706	31,104	-21,535	-40.9%	-5,602	-15.3%	8	8	8
I605	Orange	30,944	17,349	20,980	-9,964	-32.2%	3,632	20.9%	9	10	9
SR133	Orange	7,798	17,598	16,935	9,137	117.2%	-663	-3.8%	10	9	10
SR74	Orange	0	1,498	890	890		-609	-40.6%		12	11
SR142	Orange	0	3,186	705	705		-2,481	-77.9%		11	12
SR261	Orange	1,509	290	37	-1,472	-97.5%	-253	-87.1%	11	13	13
SR1	Orange	51	0	32	-19	-37.7%	32		12		14
SR39	Orange	0	0	0	0	-100.0%	0		13		