

District 12 Mobility Performance Report

2020 First Quarter

DEPARTMENT OF TRANSPORTATION

May 6, 2020

DISTRICT 12 TMC

DISTRICT 12 MOBILITY PERFORMANCE REPORT

2020 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 2020, total delay equaled to 1.3 million vehicle hours of delay (VHD) at the 35mph speed threshold and 4.5 million VHD at 60mph threshold. Compared to the fourth quarter, there was a -39.8 percent decrease in 35mph VHD and -27.4 percent decrease in 60mph VHD.

The average weekday VHD experienced in this quarter was approximately 18 thousand VHD at 35mph and 65 thousand VHD at 60mph. Compared to the third quarter, there was -40.2 percent decrease in 35 mph VHD and -26.9 percent decrease in 60 mph VHD.

Top 10 Bottlenecks for the 1st Quarter of 2020

Fwy	Location	Shift	Abs PM	CA PM	# Days Active	Avg Extent (Miles)	Total Delay (veh-hrs)	Total Duration (mins)
I405-N	BROOKHUR1	PM	13.51	13.74	51	3.33	36,045.90	8,740.00
I5-N	B ST	PM	102.25	30	50	4.11	21,561.90	10,765.00
I405-N	CATION 5013	PM	12.89	13.122	49	2.71	20,070.50	3,190.00
I5-S	S OF 22	AM	105.99	33.8	51	1.12	18,734.60	9,580.00
I5-S	EUCLID 1	AM	111.49	39.3	49	2.58	16,143.00	5,760.00
I405-S	TMS 5015 SB	AM	15.49	15.722	50	2.95	13,517.40	3,025.00
SR55-N	TAFT	PM	15.78	15.8	46	2.97	11,634.00	9,305.00
I5-N	1ST	PM	103.05	30.8	32	0.77	11,627.50	7,435.00
SR91-E	LAKEVIEW1	PM	28.45	R10.08	52	2.61	10,709.60	8,475.00
I405-N	TMS 5015 NB	PM	15.43	15.66	28	1.25	10,651.80	2,570.00

Quarterly Mobility Statistics

2020 Q1 Quarterly Mobility Statistics District 12

Measure	Graph	Percentage Change													
Vehicle Miles of Travel (VMT)	<p>Miles (Billions)</p> <table border="1"> <tr><th>Year</th><th>Quarter</th><th>Value (Billions)</th></tr> <tr><td>2019</td><td>Q1</td><td>3.26</td></tr> <tr><td>2019</td><td>Q4</td><td>3.25</td></tr> <tr><td>2020</td><td>Q1</td><td>2.97</td></tr> </table>	Year	Quarter	Value (Billions)	2019	Q1	3.26	2019	Q4	3.25	2020	Q1	2.97	Over one year ago	Over last quarter
		Year	Quarter	Value (Billions)											
2019	Q1	3.26													
2019	Q4	3.25													
2020	Q1	2.97													
		-8.9%	-8.6%												
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Year</th><th>Quarter</th><th>Value (Millions)</th></tr> <tr><td>2019</td><td>Q1</td><td>2.1</td></tr> <tr><td>2019</td><td>Q4</td><td>2.1</td></tr> <tr><td>2020</td><td>Q1</td><td>1.3</td></tr> </table>	Year	Quarter	Value (Millions)	2019	Q1	2.1	2019	Q4	2.1	2020	Q1	1.3	Over one year ago	Over last quarter
		Year	Quarter	Value (Millions)											
2019	Q1	2.1													
2019	Q4	2.1													
2020	Q1	1.3													
		-40.3%	-39.8%												
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year</th><th>Quarter</th><th>Value (Thousands)</th></tr> <tr><td>2019</td><td>Q1</td><td>30</td></tr> <tr><td>2019</td><td>Q4</td><td>31</td></tr> <tr><td>2020</td><td>Q1</td><td>18</td></tr> </table>	Year	Quarter	Value (Thousands)	2019	Q1	30	2019	Q4	31	2020	Q1	18	Over one year ago	Over last quarter
		Year	Quarter	Value (Thousands)											
2019	Q1	30													
2019	Q4	31													
2020	Q1	18													
		-39.4%	-40.2%												
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Year</th><th>Quarter</th><th>Value (Millions)</th></tr> <tr><td>2019</td><td>Q1</td><td>6.1</td></tr> <tr><td>2019</td><td>Q4</td><td>6.2</td></tr> <tr><td>2020</td><td>Q1</td><td>4.5</td></tr> </table>	Year	Quarter	Value (Millions)	2019	Q1	6.1	2019	Q4	6.2	2020	Q1	4.5	Over one year ago	Over last quarter
		Year	Quarter	Value (Millions)											
2019	Q1	6.1													
2019	Q4	6.2													
2020	Q1	4.5													
		-25.7%	-27.4%												
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year</th><th>Quarter</th><th>Value (Thousands)</th></tr> <tr><td>2019</td><td>Q1</td><td>86</td></tr> <tr><td>2019</td><td>Q4</td><td>88</td></tr> <tr><td>2020</td><td>Q1</td><td>65</td></tr> </table>	Year	Quarter	Value (Thousands)	2019	Q1	86	2019	Q4	88	2020	Q1	65	Over one year ago	Over last quarter
		Year	Quarter	Value (Thousands)											
2019	Q1	86													
2019	Q4	88													
2020	Q1	65													
		-24.7%	-26.9%												

2020 Q1
Quarterly Mobility Statistics
District 12

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 -36.4% ↓	Friday 38.8% ↓
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 -40.4% ↓	5 PM -40.6% ↓
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 PM -53.8% ↓	5 PM -50.6% ↓
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
		4 PM -67.3% ↓	4 PM -53.5% ↓
		Largest Magnitude Saturday Increase over one year ago	Largest Magnitude Saturday Increase over last quarter
		11 PM 18.8% ↑	-
		Largest Magnitude Sunday/Holiday Increase over one year ago	Largest Magnitude Sunday/Holiday Increase over last quarter
		6 AM 11.1% ↑	3 AM 28% ↑

2020 Q1
Quarterly Mobility Statistics
District 12

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph	<p>Hours (Millions)</p> <p>2019 Q1: 2.1 2019 Q4: 2.08 2020 Q1: 1.25</p> <p>Orange</p>	Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		Orange 40.3% ↓	Orange -39.8% ↓
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph	<p>Miles</p> <p>2019 Q1 2019 Q4 2020 Q1</p> <p>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)</p>	Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		PM Peak -26.5% ↓	PM Peak -34.2% ↓
Average Number of Good and Bad Detectors	<p>Number of Detectors</p> <p>Average of Good Average of Bad</p> <p>2019 Q1 2019 Q4 2020 Q1</p>	Change in Good over one year ago	Change in Good over last quarter
		-11% ↓	-5% ↓
		Change in Bad over one year ago	Change in Bad over last quarter
		-4% ↓	4% ↑

**2020 Q1
Quarterly Mobility Statistics
District 12**

Congestion by Route											
Route	County	Vehicle Hours of Delay at 35 mph			Difference 2020 Q1-2019 Q1		Difference 2020 Q1-2019 Q4		Rank		
		2019 Q1	2019 Q4	2020 Q1	Absolute	Percentage	Absolute	Percentage	2019 Q1	2019 Q4	2020 Q1
I5	Orange	516,905	528,946	337,866	-179,040	-34.6%	-191,080	-36.1%	2	1	1
I405	Orange	586,241	471,857	282,330	-303,912	-51.8%	-189,528	-40.2%	1	2	2
SR91	Orange	347,765	345,495	222,665	-125,100	-36.0%	-122,830	-35.6%	3	3	3
SR55	Orange	233,619	323,434	138,704	-94,915	-40.6%	-184,729	-57.1%	4	4	4
SR57	Orange	109,188	152,316	98,455	-10,732	-9.8%	-53,861	-35.4%	6	5	5
SR22	Orange	129,748	106,308	72,478	-57,270	-44.1%	-33,829	-31.8%	5	6	6
SR73	Orange	107,251	92,510	54,077	-53,174	-49.6%	-38,433	-41.5%	7	7	7
SR241	Orange	26,855	36,479	27,753	898	3.3%	-8,726	-23.9%	8	8	8
I605	Orange	20,801	9,425	6,001	-14,800	-71.2%	-3,424	-36.3%	9	9	9
SR74	Orange	998	3,662	5,523	4,525	453.6%	1,861	50.8%	12	12	10
SR133	Orange	20,537	9,213	4,659	-15,878	-77.3%	-4,555	-49.4%	10	10	11
SR142	Orange	1,338	4,630	3,623	2,285	170.8%	-1,007	-21.7%	11	11	12
SR261	Orange	219	456	786	567	258.6%	331	72.6%	13	13	13
SR1	Orange	48	0	0	-48	-100.0%	0		14		
TOTALS		2,101,514	2,084,730	1,254,920	-846,594	-40.3%	-829,810	-39.8%			