

District 12 Mobility Performance Report

2021 2nd Quarter

DEPARTMENT OF TRANSPORTATION

August 6, 2021

District 12 Traffic Operations Northwest

DISTRICT 12 MOBILITY PERFORMANCE REPORT

2021 2nd 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 April 1, 2020, the total population in Orange County was 3,010,232. 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 2nd quarter of 2021, total delay equaled to 1.4 million vehicle hours of delay (VHD) at the 35 MPH speed threshold and 4.7 million VHD at 60 MPH threshold. Compared to the previous quarter, there was a 91 percent increase in 35 MPH VHD and 54.3 percent increase in 60 MPH VHD.

The average weekday VHD experienced in this quarter was approximately 18 thousands VHD at 35 MPH and 61 thousands VHD at 60 MPH. Compared to the previous quarter, there was 90.8 percent increase in 35 MPH VHD and 45.1 percent increase in 60 mph VHD.

Top 10 Bottlenecks for the 2nd Quarter of 2021

CO	Shift	Fwy	Dir	Name	Abs PM	CA PM	Latitude	Longitude	# Days Active	Avg Extent (Miles)	Total Delay (veh-hrs)	Total Duration (mins)
Ora	PM	I405	N	Brookhur1	13.51	13.74	33.70	-117.95	63	2.91	76131	9975
Ora	PM	I5	N	Tustin Ranch	100.35	28.1	33.72	-117.80	64	4.42	48678	14530
Ora	PM	SR91	E	Lakeview1	28.45	R10.08	33.85	-117.81	57	2.91	22233	8075
Ora	PM	SR91	E	West of Gypsum	34.14	R15.793	33.87	-117.72	64	2.52	19761	8575
Ora	AM	I5	S	Main 1	105.19	33	33.77	-117.87	63	0.65	17255	9590
Ora	PM	SR55	N	Taft	15.78	15.8	33.82	-117.83	51	2.90	15424	6995
Ora	PM	SR91	E	W of Scale	31.72	R13.349	33.87	-117.76	46	3.03	15348	5255
Ora	PM	SR91	W	Lakeview2	28.55	R10.14	33.85	-117.81	59	1.25	14916	6575
Ora	PM	I405	N	Beach 2	16.53	16.76	33.73	-117.99	64	0.71	14575	11970
Ora	AM	SR91	W	E of Coal	36.85	R18.435	33.87	-117.68	64	0.80	14557	12200

2021 Q2 Quarterly Mobility Statistics

Measure	Graph	Percentage Change									
Vehicle Miles of Travel (VMT)	<p>Miles (Billions)</p> <table border="1"> <tr><th>Year</th><th>Q2</th></tr> <tr><td>2020</td><td>2.31</td></tr> <tr><td>2021</td><td>2.82</td></tr> <tr><td>2021</td><td>3.17</td></tr> </table>	Year	Q2	2020	2.31	2021	2.82	2021	3.17	Over one year ago	Over last quarter
		Year	Q2								
2020	2.31										
2021	2.82										
2021	3.17										
		37.3% ↑	12.4% ↑								
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Year</th><th>Q2</th></tr> <tr><td>2020</td><td>0.3</td></tr> <tr><td>2021</td><td>0.7</td></tr> <tr><td>2021</td><td>1.4</td></tr> </table>	Year	Q2	2020	0.3	2021	0.7	2021	1.4	Over one year ago	Over last quarter
		Year	Q2								
2020	0.3										
2021	0.7										
2021	1.4										
		372.4% ↑	91% ↑								
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year</th><th>Q2</th></tr> <tr><td>2020</td><td>4</td></tr> <tr><td>2021</td><td>9</td></tr> <tr><td>2021</td><td>18</td></tr> </table>	Year	Q2	2020	4	2021	9	2021	18	Over one year ago	Over last quarter
		Year	Q2								
2020	4										
2021	9										
2021	18										
		358.3% ↑	90.8% ↑								
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Year</th><th>Q2</th></tr> <tr><td>2020</td><td>1.5</td></tr> <tr><td>2021</td><td>3.1</td></tr> <tr><td>2021</td><td>4.7</td></tr> </table>	Year	Q2	2020	1.5	2021	3.1	2021	4.7	Over one year ago	Over last quarter
		Year	Q2								
2020	1.5										
2021	3.1										
2021	4.7										
		209.9% ↑	54.3% ↑								
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year</th><th>Q2</th></tr> <tr><td>2020</td><td>21</td></tr> <tr><td>2021</td><td>42</td></tr> <tr><td>2021</td><td>61</td></tr> </table>	Year	Q2	2020	21	2021	42	2021	61	Over one year ago	Over last quarter
		Year	Q2								
2020	21										
2021	42										
2021	61										
		185% ↑	45.1% ↑								

Measure	Graph	Percentage Change	
<p>Average Vehicle Hours of Delay by Day of Week at 60 mph</p>		<p>Largest Magnitude Decrease over one year ago</p> <p>–</p>	<p>Largest Magnitude Decrease over last quarter</p> <p>–</p>
		<p>Largest Magnitude Increase over one year ago</p>	<p>Largest Magnitude Increase over last quarter</p>
		<p>Tuesday ↑ 231.7%</p>	<p>Tuesday ↑ 83.7%</p>
<p>Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays</p>		<p>Largest Magnitude Weekday Decrease over one year ago</p> <p>–</p>	<p>Largest Magnitude Weekday Decrease over last quarter</p> <p>12 AM ↓ -17.7%</p>
		<p>Largest Magnitude Weekday Increase over one year ago</p>	<p>Largest Magnitude Weekday Increase over last quarter</p>
		<p>5 PM ↑ 391.3%</p>	<p>5 PM ↑ 84.4%</p>
<p>Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays</p>		<p>Largest Magnitude Saturday Decrease over one year ago</p> <p>–</p>	<p>Largest Magnitude Saturday Decrease over last quarter</p> <p>1 AM ↓ -52.8%</p>
		<p>Largest Magnitude Saturday Increase over one year ago</p>	<p>Largest Magnitude Saturday Increase over last quarter</p>
		<p>1 PM ↑ 533.1%</p>	<p>1 PM ↑ 99.3%</p>
<p>Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays</p>		<p>Largest Magnitude Sun./Holiday Decrease over one year ago</p> <p>–</p>	<p>Largest Magnitude Sun./Holiday Decrease over last quarter</p> <p>2 AM ↓ -48.9%</p>
		<p>Largest Magnitude Sun./Holiday Increase over one year ago</p>	<p>Largest Magnitude Sun./Holiday Increase over last quarter</p>
		<p>1 PM ↑ 391.1%</p>	<p>1 PM ↑ 116.1%</p>

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph	<p>Hours (Millions)</p> <p>■ 2020 Q2 ■ 2021 Q1 ■ 2021 Q2</p> <p>Orange</p>	Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		<p>—</p> <p>Largest Magnitude Increase over one year ago</p> <p>Orange 372.4% ↑</p>	<p>—</p> <p>Largest Magnitude Increase over last quarter</p> <p>Orange 91% ↑</p>
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph	<p>Miles</p> <p>■ 2020 Q2 ■ 2021 Q1 ■ 2021 Q2</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
		<p>—</p> <p>Largest Magnitude Increase over one year ago</p> <p>PM Peak 260.8% ↑</p>	<p>—</p> <p>Largest Magnitude Increase over last quarter</p> <p>PM Peak 69.3% ↑</p>
Average Number of Good and Bad Detectors	<p>Number of Detectors</p> <p>■ Average of Good ■ Average of Bad</p> <p>2020 Q2 2021 Q1 2021 Q2</p>	Change in Good over one year ago	Change in Good over last quarter
		<p>24%</p> <p>↑</p>	<p>131%</p> <p>↑</p>
		Change in Bad over one year ago	Change in Bad over last quarter
		<p>-15%</p> <p>↓</p>	<p>18%</p> <p>↑</p>

Congestion by Route

Route	County	Vehicle Hours of Delay at 35 mph			Difference 2021 Q2-2020 Q2		Difference 2021 Q2-2021 Q1		Rank		
		2020 Q2	2021 Q1	2021 Q2	Absolute	Percentage	Absolute	Percentage	2020 Q2	2021 Q1	2021 Q2
I5	Orange	68,398	229,130	503,334	434,936	635.9%	274,203	119.7%	2	1	1
SR91	Orange	88,481	219,653	338,140	249,658	282.2%	118,487	53.9%	1	2	2
I405	Orange	55,834	98,267	171,286	115,452	206.8%	73,019	74.3%	3	3	3
SR55	Orange	26,055	38,849	148,668	122,613	470.6%	109,819	282.7%	4	5	4
SR57	Orange	18,998	71,223	103,760	84,762	446.2%	32,538	45.7%	6	4	5
SR73	Orange	7,374	20,302	54,629	47,255	640.8%	34,327	169.1%	7	7	6
SR22	Orange	21,186	33,698	39,523	18,337	86.6%	5,825	17.3%	5	6	7
SR241	Orange	4,874	7,213	11,257	6,382	130.9%	4,044	56.1%	8	8	8
SR133	Orange	571	3,031	8,145	7,574	1325.9%	5,114	168.7%	10	10	9
I605	Orange	1,172	3,057	5,457	4,285	365.5%	2,400	78.5%	9	9	10
SR74	Orange	500	629	1,579	1,080	216.1%	951	151.2%	11	12	11
SR142	Orange	105	989	975	870	831.2%	-14	-1.4%	12	11	12
SR261	Orange	40	63	22	-17	-43.6%	-41	-64.6%	13	13	13
SR1	Orange	0	3	0	0		-3	-100.0%		14	
TOTALS		293,589	726,106	1,386,774	1,093,185	372.4%	660,668	91.0%			