

District 12 Mobility Performance Report

2020 3rd Quarter

DEPARTMENT OF TRANSPORTATION

September 30, 2020

District 12 Traffic Operations Northwest

DISTRICT 12 MOBILITY PERFORMANCE REPORT

2020 3rd 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 3rd quarter, of 2020, total delay equaled to .5 million vehicle hours of delay (VHD) at the 35mph speed threshold and 2.5 million VHD at 60mph threshold. Compared to the second quarter, there was a 69.4 percent increase in 35mph VHD and 61.8 percent increase in 60mph VHD.

The average weekday VHD experienced in this quarter was approximately 6 thousands VHD at 35mph and 33 thousands VHD at 60mph. Compared to the second quarter, there was 60.6 percent increase in 35 mph VHD and 53 percent increase in 60 mph VHD.

Top 10 Bottlenecks for the 3rd Quarter of 2020

County	Shift	Fwy	Direction	Abs PM	CA PM	Latitude	Longitude	# Days Active	Avg Extent (Miles)	Total Delay (veh-hrs)	Total Duration (mins)
Ora	PM	I405	N	13.51	13.74	33.70	-117.95	40	1.83	16,926.90	4,085.00
Ora	PM	I405	N	16.53	16.76	33.73	-117.99	65	0.70	14,908.70	12,485.00
Ora	PM	SR91	E	34.14	R15.793	33.87	-117.72	54	2.99	14,761.90	5,015.00
Ora	AM	I405	S	17.75	17.98	33.75	-118.01	47	0.50	12,363.60	9,545.00
Ora	PM	SR22	E	10.50	R9.04	33.78	-117.90	63	0.64	11,641.10	10,080.00
Ora	PM	SR91	E	32.99	R14.62	33.87	-117.74	60	1.73	11,160.70	5,985.00
Ora	AM	SR91	W	28.55	R10.14	33.85	-117.81	57	1.18	9,553.70	5,605.00
Ora	PM	SR91	W	28.55	R10.14	33.85	-117.81	52	0.87	6,849.30	4,420.00
Ora	PM	I405	N	15.16	15.39	33.72	-117.97	44	0.50	6,747.40	7,540.00
Ora	PM	SR55	N	8.12	R8.12	33.71	-117.85	56	1.56	6,662.70	3,600.00

2020 Q3 Quarterly Mobility Statistics

Measure	Graph	Percentage Change									
Vehicle Miles of Travel (VMT)	Miles (Billions) <table><tr><th>Quarter</th><th>VMT (Billions)</th></tr><tr><td>2019 Q3</td><td>3.34</td></tr><tr><td>2020 Q2</td><td>2.31</td></tr><tr><td>2020 Q3</td><td>2.82</td></tr></table>	Quarter	VMT (Billions)	2019 Q3	3.34	2020 Q2	2.31	2020 Q3	2.82	Over one year ago	Over last quarter
		Quarter	VMT (Billions)								
		2019 Q3	3.34								
2020 Q2	2.31										
2020 Q3	2.82										
-15.5%	22.2%										
Total Vehicle Hours of Delay (VHD) at 35 mph	Hours (Millions) <table><tr><th>Quarter</th><th>VHD (Millions)</th></tr><tr><td>2019 Q3</td><td>2.2</td></tr><tr><td>2020 Q2</td><td>0.3</td></tr><tr><td>2020 Q3</td><td>0.5</td></tr></table>	Quarter	VHD (Millions)	2019 Q3	2.2	2020 Q2	0.3	2020 Q3	0.5	Over one year ago	Over last quarter
		Quarter	VHD (Millions)								
		2019 Q3	2.2								
2020 Q2	0.3										
2020 Q3	0.5										
-77.3%	69.4%										
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	Hours (Thousands) <table><tr><th>Quarter</th><th>VHD (Thousands)</th></tr><tr><td>2019 Q3</td><td>29</td></tr><tr><td>2020 Q2</td><td>4</td></tr><tr><td>2020 Q3</td><td>6</td></tr></table>	Quarter	VHD (Thousands)	2019 Q3	29	2020 Q2	4	2020 Q3	6	Over one year ago	Over last quarter
		Quarter	VHD (Thousands)								
		2019 Q3	29								
2020 Q2	4										
2020 Q3	6										
-78.8%	60.6%										
Total Vehicle Hours of Delay (VHD) at 60 mph	Hours (Millions) <table><tr><th>Quarter</th><th>VHD (Millions)</th></tr><tr><td>2019 Q3</td><td>6.7</td></tr><tr><td>2020 Q2</td><td>1.5</td></tr><tr><td>2020 Q3</td><td>2.5</td></tr></table>	Quarter	VHD (Millions)	2019 Q3	6.7	2020 Q2	1.5	2020 Q3	2.5	Over one year ago	Over last quarter
		Quarter	VHD (Millions)								
		2019 Q3	6.7								
2020 Q2	1.5										
2020 Q3	2.5										
-63.1%	61.8%										
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	Hours (Thousands) <table><tr><th>Quarter</th><th>VHD (Thousands)</th></tr><tr><td>2019 Q3</td><td>89</td></tr><tr><td>2020 Q2</td><td>21</td></tr><tr><td>2020 Q3</td><td>33</td></tr></table>	Quarter	VHD (Thousands)	2019 Q3	89	2020 Q2	21	2020 Q3	33	Over one year ago	Over last quarter
		Quarter	VHD (Thousands)								
		2019 Q3	89								
2020 Q2	21										
2020 Q3	33										
-63.2%	53.2%										

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph	Hours (Thousands) ■ 2019 Q3 ■ 2020 Q2 ■ 2020 Q3	Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		Thursday -67.5%	—
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays	Hours (Thousands) — Weekday (2019 Q3) — Weekday (2020 Q2) — Weekday (2020 Q3)	Largest Magnitude Weekday Decrease over one year ago	Largest Magnitude Weekday Decrease over last quarter
		5 PM -84%	—
		Largest Magnitude Weekday Increase over one year ago	Largest Magnitude Weekday Increase over last quarter
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays	Hours (Thousands) — Saturday (2019 Q3) — Saturday (2020 Q2) — Saturday (2020 Q3)	Largest Magnitude Saturday Decrease over one year ago	Largest Magnitude Saturday Decrease over last quarter
		4 PM -83.5%	2 AM -16.8%
		Largest Magnitude Saturday Increase over one year ago	Largest Magnitude Saturday Increase over last quarter
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays	Hours (Thousands) — Sunday/Holiday (2019 Q3) — Sunday/Holiday (2020 Q2) — Sunday/Holiday (2020 Q3)	Largest Magnitude Sun./Holiday Decrease over one year ago	Largest Magnitude Sun./Holiday Decrease over last quarter
		2 PM -72.4%	—
		Largest Magnitude Sun./Holiday Increase over one year ago	Largest Magnitude Sun./Holiday Increase over last quarter
		6 AM 60.5%	3 PM 110.5%

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph	Hours (Millions) 2.19 0.29 0.5 Orange ■ 2019 Q3 ■ 2020 Q2 ■ 2020 Q3	Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		Orange -77.3%	—
		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 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) ■ 2019 Q3 ■ 2020 Q2 ■ 2020 Q3	Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		PM Peak -73.1%	—
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
Average Number of Good and Bad Detectors	Number of Detectors 7,500 5,000 2,500 0 2019 Q3 2020 Q2 2020 Q3 ■ Average of Good ■ Average of Bad 783 1,486 1,129 4,447 3,615 3,752	Change in Good over one year ago	Change in Good over last quarter
		-16%	4%
		Change in Bad over one year ago	Change in Bad over last quarter
		44%	-24%

Congestion by Route											
Route	County	Vehicle Hours of Delay at 35 mph			Difference 2020 Q3-2019 Q3		Difference 2020 Q3-2020 Q2		Rank		
		2019 Q3	2020 Q2	2020 Q3	Absolute	Percentage	Absolute	Percentage	2019 Q3	2020 Q2	2020 Q3
SR91	Orange	334,208	88,481	147,772	-186,436	-55.8%	59,290	67.0%	3	1	1
I5	Orange	557,987	68,398	127,369	-430,618	-77.2%	58,971	86.2%	1	2	2
SR57	Orange	190,739	18,998	62,138	-128,602	-67.4%	43,139	227.1%	5	6	3
I405	Orange	536,417	55,834	59,778	-476,639	-88.9%	3,944	7.1%	2	3	4
SR55	Orange	304,896	26,055	43,058	-261,838	-85.9%	17,003	65.3%	4	4	5
SR22	Orange	105,698	21,186	33,397	-72,300	-68.4%	12,211	57.6%	6	5	6
SR73	Orange	95,162	7,374	15,031	-80,131	-84.2%	7,657	103.8%	7	7	7
SR241	Orange	33,745	4,874	3,925	-29,820	-88.4%	-950	-19.5%	8	8	8
SR133	Orange	5,012	571	2,233	-2,778	-55.4%	1,662	291.0%	10	10	9
I605	Orange	20,423	1,172	1,846	-18,577	-91.0%	674	57.5%	9	9	10
SR142	Orange	4,535	105	534	-4,000	-88.2%	430	410.2%	11	12	11
SR74	Orange	4,182	500	171	-4,011	-95.9%	-328	-65.7%	12	11	12
SR261	Orange	118	40	51	-67	-56.9%	11	28.0%	13	13	13
SR1	Orange	0	0	0	0		0				
TOTALS		2,193,120	293,589	497,303	-1,695,817	-77.3%	203,715	69.4%			