

District 12 Mobility Performance Report

2019 4th Quarter

DEPARTMENT OF TRANSPORTATION

February 24, 2019
District 12 Traffic Management Center

DISTRICT 12 MOBILITY PERFORMANCE REPORT

2019 4th 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 fourth quarter, of 2019, total delay equaled to 2.1 million vehicle hours of delay (VHD) at the 35mph speed threshold and 6.2 million VHD at 60mph threshold. Compared to the third quarter, there was an -4.9 percent decrease in 35mph VHD and -7.2 percent decrease in 60mph VHD.

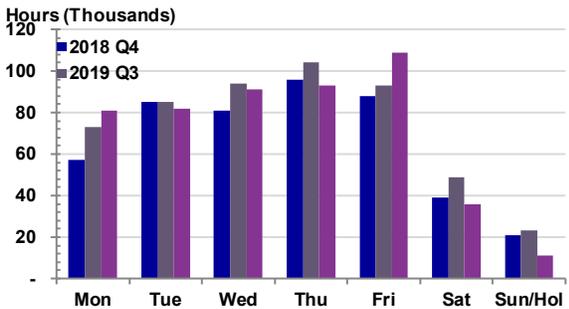
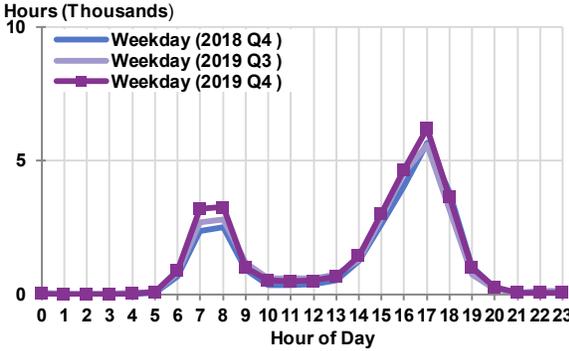
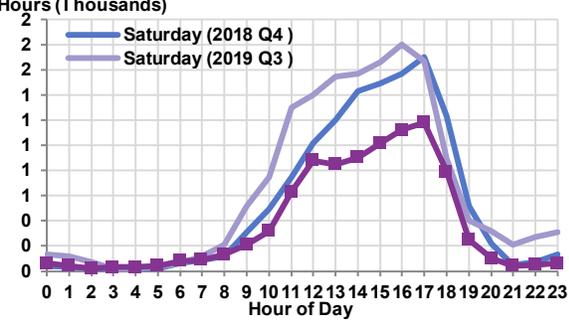
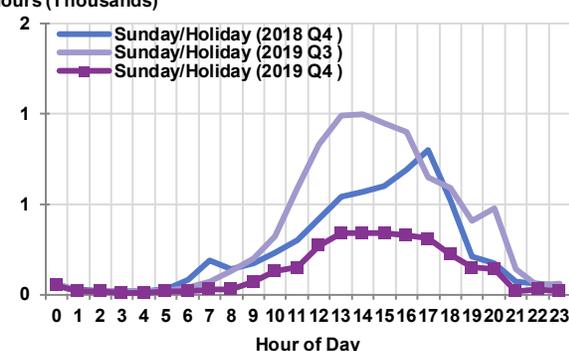
The average weekday VHD experienced in the 4th quarter was approximately 31 thousand VHD at 35mph and 91 thousand VHD at 60mph. Compared to the third quarter, there was 7.7 percent increase in 35 mph VHD and 1.8 percent increase 60 mph VHD.

Top 10 Bottlenecks for the 4th Quarter of 2019

Fwy	Location	Shift	Abs PM	CA PM	# Days Active	Avg Extent (Miles)	Total Delay (veh-hrs)	Total Duration (mins)
I405-N	LOCATION 5013 NB	PM	12.892	12.892	13.122	3.062712	69603.3	6435
SR55-S	MAIN	AM	13.51	6.35	6.35	2.8	62822.7	6185
I405-N	BROOKHUR1	PM	102.251	13.51	13.74	3.377586	57359.8	8375
I5-S	S OF 22	AM	6.35	105.988	33.8	1.145455	22186.6	10930
I5-N	NEWPORT*	PM	103.051	102.041	29.79	3.797674	21839.8	8460
I5-S	EUCLID 1	AM	91.525	111.488	39.3	2.675	21443	7040
SR91-E	LAKEVIEW1	PM	12.892	28.453	R10.08	2.875472	21077.9	10535
SR55-S	MAIN	PM	5.8	6.35	6.35	2.8	20971.2	2620
SR55-N	TAFT	PM	15.782	15.782	15.8	2.9875	20222.3	11710
I405-N	TMS 5015 NB	PM	105.988	15.43	15.66	1.397727	20085.3	4235

Quarterly Mobility Statistics

Measure	Graph	Percentage Change									
Vehicle Miles of Travel (VMT)	<p>Miles (Billions)</p> <table border="1"> <thead> <tr> <th>Quarter</th> <th>Miles (Billions)</th> </tr> </thead> <tbody> <tr> <td>2018 Q4</td> <td>3.4</td> </tr> <tr> <td>2019 Q3</td> <td>3.3</td> </tr> <tr> <td>2019 Q4</td> <td>3.2</td> </tr> </tbody> </table>	Quarter	Miles (Billions)	2018 Q4	3.4	2019 Q3	3.3	2019 Q4	3.2	Over one year ago	Over last quarter
Quarter	Miles (Billions)										
2018 Q4	3.4										
2019 Q3	3.3										
2019 Q4	3.2										
		-3.6% ↓	-2.9% ↓								
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Millions)</p> <table border="1"> <thead> <tr> <th>Quarter</th> <th>Hours (Millions)</th> </tr> </thead> <tbody> <tr> <td>2018 Q4</td> <td>2</td> </tr> <tr> <td>2019 Q3</td> <td>2.2</td> </tr> <tr> <td>2019 Q4</td> <td>2.1</td> </tr> </tbody> </table>	Quarter	Hours (Millions)	2018 Q4	2	2019 Q3	2.2	2019 Q4	2.1	Over one year ago	Over last quarter
Quarter	Hours (Millions)										
2018 Q4	2										
2019 Q3	2.2										
2019 Q4	2.1										
		5.6% ↑	-4.9% ↓								
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table border="1"> <thead> <tr> <th>Quarter</th> <th>Hours (Thousands)</th> </tr> </thead> <tbody> <tr> <td>2018 Q4</td> <td>27</td> </tr> <tr> <td>2019 Q3</td> <td>29</td> </tr> <tr> <td>2019 Q4</td> <td>31</td> </tr> </tbody> </table>	Quarter	Hours (Thousands)	2018 Q4	27	2019 Q3	29	2019 Q4	31	Over one year ago	Over last quarter
Quarter	Hours (Thousands)										
2018 Q4	27										
2019 Q3	29										
2019 Q4	31										
		15.2% ↑	7.7% ↑								
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Millions)</p> <table border="1"> <thead> <tr> <th>Quarter</th> <th>Hours (Millions)</th> </tr> </thead> <tbody> <tr> <td>2018 Q4</td> <td>5.9</td> </tr> <tr> <td>2019 Q3</td> <td>6.7</td> </tr> <tr> <td>2019 Q4</td> <td>6.2</td> </tr> </tbody> </table>	Quarter	Hours (Millions)	2018 Q4	5.9	2019 Q3	6.7	2019 Q4	6.2	Over one year ago	Over last quarter
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2019 Q3	6.7										
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Quarter	Hours (Thousands)										
2018 Q4	81										
2019 Q3	90										
2019 Q4	91										
		12.4% ↑	1.8% ↑								

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>Sun/Hol -46.2%</p> <p>↓</p>	<p>Largest Magnitude Decrease over last quarter</p> <p>Saturday -27.3%</p> <p>↓</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>6 PM -4%</p> <p>↓</p>	<p>Largest Magnitude Weekday Decrease over last quarter</p> <p>9 AM -13.5%</p> <p>↓</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>2 PM -36.9%</p> <p>↓</p>	<p>Largest Magnitude Saturday Decrease over last quarter</p> <p>1 PM -44.9%</p> <p>↓</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>5 PM -60.7%</p> <p>↓</p>	<p>Largest Magnitude Sun./Holiday Decrease over last quarter</p> <p>2 PM -66.4%</p> <p>↓</p>
		<p>Largest Magnitude Sun./Holiday Increase over one year ago</p>	<p>Largest Magnitude Sun./Holiday Increase over last quarter</p> <p>1 AM 5.8%</p> <p>↑</p>

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph	<p>Hours (Millions)</p> <p>■ 2018 Q4 ■ 2019 Q3 ■ 2019 Q4</p> <p>Orange</p>	Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		-	Orange -4.9% ↓
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Orange 5.6% ↑	-
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph	<p>Miles</p> <p>■ 2018 Q4 ■ 2019 Q3 ■ 2019 Q4</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
		Off-Peak Night -0.9% ↓	Off-Peak Day -22.9% ↓
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		PM Peak 6.7% ↑	PM Peak 4.6% ↑
Average Number of Good and Bad Detectors	<p>Number of Detectors</p> <p>■ Average of Good ■ Average of Bad</p> <p>2018 Q4 2019 Q3 2019 Q4</p>	Change in Good over one year ago	Change in Good over last quarter
		-11% ↓	-11% ↓
		Change in Bad over one year ago	Change in Bad over last quarter
		6% ↑	69% ↑

Route	County	Vehicle Hours of Delay at 35 mph			Difference 2019 Q4-2018 Q4		Difference 2019 Q4-2019 Q3		Rank		
		2018 Q4	2019 Q3	2019 Q4	Absolute	Percentage	Absolute	Percentage	2018 Q4	2019 Q3	2019 Q4
I5	Orange	497,969	552,548	557,987	60,018	12.1%	5,439	1.0%	2	2	1
I405	Orange	596,244	552,910	536,417	-59,827	-10.0%	-16,494	-3.0%	1	1	2
SR91	Orange	253,372	293,981	334,208	80,835	31.9%	40,227	13.7%	3	3	3
SR55	Orange	157,785	206,833	304,896	147,111	93.2%	98,063	47.4%	4	4	4
SR57	Orange	49,302	137,414	190,739	141,437	286.9%	53,325	38.8%	7	5	5
SR22	Orange	107,555	90,582	105,698	-1,858	-1.7%	15,116	16.7%	5	6	6
SR73	Orange	77,723	77,867	95,162	17,439	22.4%	17,295	22.2%	6	7	7
SR241	Orange	36,706	33,931	33,745	-2,962	-8.1%	-186	-0.5%	8	8	8
I605	Orange	17,349	18,875	20,423	3,074	17.7%	1,548	8.2%	10	9	9
SR133	Orange	17,598	7,105	5,012	-12,586	-71.5%	-2,094	-29.5%	9	10	10
SR142	Orange	3,186	2,240	4,535	1,349	42.3%	2,294	102.4%	11	12	11
SR74	Orange	1,498	3,717	4,182	2,684	179.1%	465	12.5%	12	11	12
SR261	Orange	290	194	118	-172	-59.3%	-76	-39.3%	13	13	13
SR1	Orange	0	24	0	0		-24	-100.0%		14	
SR39	Orange	0	0	0	0		0				