

District 12 Mobility Performance Report

2020 2nd Quarter

DEPARTMENT OF TRANSPORTATION

August 31, 2020

District 12 Traffic Operations Northwest

DISTRICT 12 MOBILITY PERFORMANCE REPORT

2020 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 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 2nd quarter, of 2020, total delay equaled to 300,000 vehicle hours of delay (VHD) at the 35mph speed threshold and 1.5 million VHD at 60mph threshold. Compared to the first quarter, there was a -76.6 percent decrease in 35mph VHD and -66.1 percent decrease in 60mph VHD.

The average weekday VHD experienced in this quarter was approximately 4 thousands VHD at 35mph and 21 thousands VHD at 60mph. Compared to the third quarter, there was -79 percent decrease in 35 mph VHD and -66.8 percent decrease in 60 mph VHD.

Top 10 Bottlenecks for the 2nd Quarter of 2020

| Fwy | Name | Shift | Abs PM | CA PM | # Days Active | Avg Extent (Miles) | Total Delay (veh-hrs) | Total Duration (mins) |
|--------|----------------|-------|--------|---------|---------------|--------------------|-----------------------|-----------------------|
| SR91-E | West OF GYPSUM | PM | 34.14 | R15.793 | 43 | 3.16 | 16,122 | 3,875 |
| I405-N | BEACH 2 | PM | 16.53 | 16.76 | 64 | 0.72 | 15,002 | 12,170 |
| I405-S | GOLDEN WEST | AM | 17.75 | 17.98 | 44 | 0.50 | 11,363 | 8,740 |
| SR57-N | TONNER | PM | 11.27 | 22 | 29 | 1.17 | 10,226 | 5,515 |
| SR91-E | WEIR CNYN2 | PM | 32.99 | R14.62 | 52 | 1.73 | 9,055 | 3,470 |
| SR91-E | East OF WEIR | PM | 33.48 | R15.11 | 39 | 2.49 | 5,192 | 1,905 |
| SR55-S | SANTA CLARA | AM | 12.28 | 12.3 | 17 | 0.50 | 4,521 | 3,355 |
| I5-N | GRAND 1 | PM | 103.85 | 31.6 | 64 | 0.20 | 4,281 | 12,580 |
| I405-N | MAGNOLIA1 | PM | 14.94 | 15.17 | 45 | 0.31 | 4,022 | 8,255 |
| I5-S | LAKE FOR1 | PM | 92.00 | 19.8 | 32 | 0.36 | 3,979 | 5,705 |

2020 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>2019</td><td>3.39</td></tr> <tr><td>2020</td><td>2.31</td></tr> </table> | Year | Q2 | 2019 | 3.39 | 2020 | 2.31 | Over one year ago | Over last quarter |
| | | Year | Q2 | | | | | | |
| | | 2019 | 3.39 | | | | | | |
| 2020 | 2.31 | | | | | | | | |
| -31.9% | -22.2% | | | | | | | | |
| 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>2019</td><td>2</td></tr> <tr><td>2020</td><td>0.3</td></tr> </table> | Year | Q2 | 2019 | 2 | 2020 | 0.3 | Over one year ago | Over last quarter |
| | | Year | Q2 | | | | | | |
| | | 2019 | 2 | | | | | | |
| 2020 | 0.3 | | | | | | | | |
| -85.2% | -76.6% | | | | | | | | |
| 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>2019</td><td>27</td></tr> <tr><td>2020</td><td>4</td></tr> </table> | Year | Q2 | 2019 | 27 | 2020 | 4 | Over one year ago | Over last quarter |
| | | Year | Q2 | | | | | | |
| | | 2019 | 27 | | | | | | |
| 2020 | 4 | | | | | | | | |
| -85.8% | -79% | | | | | | | | |
| 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>2019</td><td>6</td></tr> <tr><td>2020</td><td>1.5</td></tr> </table> | Year | Q2 | 2019 | 6 | 2020 | 1.5 | Over one year ago | Over last quarter |
| | | Year | Q2 | | | | | | |
| | | 2019 | 6 | | | | | | |
| 2020 | 1.5 | | | | | | | | |
| -74.6% | -66.1% | | | | | | | | |
| 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>2019</td><td>81</td></tr> <tr><td>2020</td><td>21</td></tr> </table> | Year | Q2 | 2019 | 81 | 2020 | 21 | Over one year ago | Over last quarter |
| | | Year | Q2 | | | | | | |
| | | 2019 | 81 | | | | | | |
| 2020 | 21 | | | | | | | | |
| -73.6% | -66.8% | | | | | | | | |

| 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>Wednesday -76% ↓</p> | <p>Largest Magnitude Decrease over last quarter</p> <p>Wednesday -72.3% ↓</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>5 PM -89.2% ↓</p> | <p>Largest Magnitude Weekday Decrease over last quarter</p> <p>5 PM -83.8% ↓</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>4 PM -92.1% ↓</p> | <p>Largest Magnitude Saturday Decrease over last quarter</p> <p>5 PM -82.8% ↓</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>2 PM -75% ↓</p> | <p>Largest Magnitude Sun./Holiday Decrease over last quarter</p> <p>5 PM -69.3% ↓</p> |
| | | <p>Largest Magnitude Sun./Holiday Increase over one year ago</p> <p>10 PM 3.7% ↑</p> | <p>Largest Magnitude Sun./Holiday Increase over last quarter</p> <p>10 PM 97.4% ↑</p> |

| Measure | Graph | Percentage Change | |
|---|--|--|--|
| Total Vehicle Hours of Delay (VHD) by County at 35 mph | <p>Hours (Millions)</p> <p>■ 2019 Q2 ■ 2020 Q1 ■ 2020 Q2</p> <p>Orange</p> | Largest Magnitude Decrease over one year ago | Largest Magnitude Decrease over last quarter |
| | | Orange -85.2% ↓ | Orange -76.6% ↓ |
| | | 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 | <p>Miles</p> <p>■ 2019 Q2 ■ 2020 Q1 ■ 2020 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 |
| | | PM Peak -80.8% ↓ | PM Peak -75.5% ↓ |
| | | Largest Magnitude Increase over one year ago | Largest Magnitude Increase over last quarter |
| Average Number of Good and Bad Detectors | <p>Number of Detectors</p> <p>■ Average of Good ■ Average of Bad</p> <p>2019 Q2 2020 Q1 2020 Q2</p> | Change in Good over one year ago | Change in Good over last quarter |
| | | -19% ↓ | -4% ↓ |
| | | Change in Bad over one year ago | Change in Bad over last quarter |
| | | 43% ↑ | 8% ↑ |

Congestion by Route

| Route | County | Vehicle Hours of Delay at 35 mph | | | Difference 2020 Q2-2019 Q2 | | Difference 2020 Q2-2020 Q1 | | Rank | | |
|---------------|--------|-------------------------------------|------------------|----------------|-------------------------------|---------------|-------------------------------|---------------|---------|---------|---------|
| | | 2019 Q2 | 2020 Q1 | 2020 Q2 | Absolute | Percentage | Absolute | Percentage | 2019 Q2 | 2020 Q1 | 2020 Q2 |
| SR91 | Orange | 293,981 | 222,665 | 88,481 | -205,500 | -69.9% | -134,184 | -60.3% | 3 | 3 | 1 |
| I5 | Orange | 552,548 | 337,866 | 68,398 | -484,150 | -87.6% | -269,468 | -79.8% | 2 | 1 | 2 |
| I405 | Orange | 552,910 | 282,330 | 55,834 | -497,076 | -89.9% | -226,495 | -80.2% | 1 | 2 | 3 |
| SR55 | Orange | 206,833 | 138,704 | 26,055 | -180,778 | -87.4% | -112,649 | -81.2% | 4 | 4 | 4 |
| SR22 | Orange | 90,582 | 72,478 | 21,186 | -69,396 | -76.6% | -51,292 | -70.8% | 6 | 6 | 5 |
| SR57 | Orange | 137,414 | 98,455 | 18,998 | -118,416 | -86.2% | -79,457 | -80.7% | 5 | 5 | 6 |
| SR73 | Orange | 77,867 | 54,077 | 7,374 | -70,492 | -90.5% | -46,703 | -86.4% | 7 | 7 | 7 |
| SR241 | Orange | 33,931 | 27,753 | 4,874 | -29,057 | -85.6% | -22,878 | -82.4% | 8 | 8 | 8 |
| I605 | Orange | 18,875 | 6,001 | 1,172 | -17,703 | -93.8% | -4,828 | -80.5% | 9 | 9 | 9 |
| SR133 | Orange | 7,105 | 4,659 | 571 | -6,534 | -92.0% | -4,088 | -87.7% | 10 | 11 | 10 |
| SR74 | Orange | 3,717 | 5,523 | 500 | -3,218 | -86.6% | -5,024 | -91.0% | 11 | 10 | 11 |
| SR142 | Orange | 2,240 | 3,623 | 105 | -2,136 | -95.3% | -3,518 | -97.1% | 12 | 12 | 12 |
| SR261 | Orange | 194 | 786 | 40 | -155 | -79.6% | -747 | -95.0% | 13 | 13 | 13 |
| SR1 | Orange | 24 | 0 | 0 | -24 | -100.0% | 0 | | 14 | | |
| TOTALS | | 1,978,223 | 1,254,920 | 293,589 | -1,684,634 | -85.2% | -961,331 | -76.6% | | | |