

District 08 Mobility Performance

2017 First Quarter

DEPARTMENT OF TRANSPORTATION

April 18, 2017
: Ramin Ghodsi

District 08 Mobility Performance Report

2017 First Quarter

EXECUTIVE SUMMARY

Overview

Caltrans District 8 contains two counties located in southern California: San Bernardino and Riverside Counties. Both counties are part of the Inland Empire, with Riverside County has a population of almost 2.3 million residents and San Bernardino County with 2.1 million residents. Although these are urban counties, they do contain a large amount of sparsely populated National Forest and National Recreation Area land.

The Mobility Performance quarterly analysis compares information with over a year ago and over last quarter in the following performance measures:

- Vehicle Miles of Travel (VMT))
- Vehicle Hours of Delay (VHD), Bottleneck Locations
- Lost Lane Miles (equivalent lost productivity)
- 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 presents congestion information at two speed thresholds: delay from vehicles traveling below 35 miles per hour (mph), and delay from vehicles traveling below 60 mph. The delay at the 35 mph threshold represents severe congestion while delay at 60 mph represents all congestion, both light and heavy. These thresholds are set by Caltrans and are based upon engineering experience and District input.

FINDINGS

In the first quarter of 2017, total delay equaled 1.6 million Vehicle Hours of Delay (VHD) at the 35 mph speed threshold, and 5.6 million VHD at the 60 mph threshold. The average weekday delay experienced in this quarter was approximately 23 thousand VHD at 35 mph, and 78 thousand VHD at 60 mph. The Vehicle Miles of Travel (VMT) equaled 7.2 billion miles for this quarter. The total delay at 35 mph is 771,721 for Riverside County and 849,800 for San Bernardino County. The total delay at 60 mph is 2,625,586 for Riverside County and 2,949,613 for San Bernardino County.

PROJECT STATUS

The Following District 8 projects are currently being constructed or are scheduled for construction for 2017. These current and future (planned) projects will relieve congestion in District 8:

RIVERSIDE COUNTY

RIV 215; INSTALL AND UPGRADE TMS ELEMENTS; EA 0G780

Install new Fiber Optic infrastructure on Rte 215 from PM 8.40/38.80 and upgrade newly installed wireless vehicle detection stations. Connect all the existing TMS elements to the newly installed Fiber Optic infrastructure.

Approve Construction Contract Date- 3/30/2016

RIV 91; CIP; EA 0F540

Construct 1 MF lane & 2 Toll Express lane each direction on RTE 91 from PM 0.00/11.55. Project in Construction Express Lanes scheduled to be opened in January 2017.

Approve Construction Contract Date- 5/09/2013

RIV 15; EA 1E300

Install Ramp Metering System at both NB & SB Entrance Ramps at Temescal Canyon RD to Weirick RD on RTE 15 from PM 33.10/35.80.

Approve Construction Contract Date- 6/15/2016

RIV 60; EA 1C640

Replace Wireless Communication System with Fiber Optic Infrastructure & connect it to the existing components on Rte 60 from PM 0.00/12.20.

Approve Construction Contract Date- 6/23/2017

SAN BERNARDINO COUNTY

SBD 15; I-15/215 DEVORE INTERCHANGE IMPROVEMENT; EA 0K710

I-15/I-215 Devore Interchange Improvement.

Approve Construction Contract Date- 11/26/2012 & CCA-06/12/2017

SBD 10; REPLACE RANDOM SLABS ON MAINLINE & CONNECTORS; EA 0Q760

Replace random slabs on Mainline & Connectors. Also upgrade all the detection TMS elements on Rte 10 from PM 0.00/30.90

Approve Construction Contract Date- 01/15/15

SBD 15; RECONSTRUCT EXISTING “D” STREET & STODDARD WELLS RD IC ; EA 3555V

Reconstruct existing “D”, “E” ST, & Stoddard Wells RD IC, Widen Victorville separation overhead. PM 42.50/ 46.00

Approve Construction Contract Date- 11/05/15

SBD 210; INSTALL FIBER OPTIC COMMUNICATION (FOC), CLOSED CIRCUIT TELEVISION CAMERAS (CCTV) AND CHANGEABLE MESSAGE SIGN (CMS); EA 0E551

Install Fiber Optic Communication (FOC), Closed Circuit Television (CCTV) and Changeable Message Sign (CMS) PM 21.80/ 27.30

Approve Construction Contract Date- 01/11/17

Top Ten Bottleneck AM Period

| Rank | County | Freeway | CA Postmile | Approximate Location | Average Extent (miles) | Total Delay (hours) | Total Duration (hours) | Period |
|------|----------------|---------|-------------|----------------------|------------------------|---------------------|------------------------|--------|
| 1 | Riverside | I215-N | 40.93 | MARTIN LUTHER KING | 2.31 | 41115.5 | 201.42 | AM |
| 2 | Riverside | I15-N | 45.93 | .25 N/O 6th ST. | 2.53 | 26239.4 | 102.42 | AM |
| 3 | Riverside | I215-S | 44.91 | Center St | 3.05 | 21835.7 | 91.42 | AM |
| 4 | Riverside | I15-N | 52.27 | PHILADELPHIA UC | 0.80 | 15829.4 | 141.50 | AM |
| 5 | San Bernardino | I15-S | 0.97 | JURUPA | 1.51 | 14791.6 | 82.75 | AM |
| 6 | Riverside | SR71-S | 2.50 | S/O PRADO DAM RD | 1.43 | 11818.6 | 225.67 | AM |
| 7 | Riverside | SR91-W | 4.72 | Smith Ave | 0.83 | 11681.6 | 82.08 | AM |
| 8 | Riverside | SR91-W | R3.688 | SERFAS CLUB | 0.81 | 11368.4 | 128.92 | AM |

Top Ten Bottleneck PM Period

| Rank | County | Freeway | CA Postmile | Approximate Location | Average Extent (miles) | Total Delay (hours) | Total Duration (hours) | Period |
|------|----------------|---------|-------------|----------------------|------------------------|---------------------|------------------------|--------|
| 1 | Riverside | I15-N | 3.20 | 4TH ST NB ONR | 1.35 | 49381.5 | 208.58 | PM |
| 2 | Riverside | SR60-E | 16.60 | PERRIS EB ONR | 1.04 | 42238 | 228.83 | PM |
| 3 | San Bernardino | I15-S | 0.97 | JURUPA | 1.67 | 37502.2 | 151.58 | PM |
| 4 | Riverside | I215-S | R32.5 | OLEANDER AVE | 3.80 | 36637.7 | 154.42 | PM |
| 5 | San Bernardino | I210-E | 8.00 | E/B MILLIKEN ONR | 3.23 | 28521.2 | 124.17 | PM |
| 6 | San Bernardino | I10-E | 25.40 | WATERMAN AVE | 1.90 | 26034 | 110.67 | PM |
| 7 | Riverside | SR60-E | 14.51 | PIGEON PASS | 1.87 | 25587.9 | 184.67 | PM |
| 8 | San Bernardino | I210-E | 3.69 | CAMPUS EB ON | 1.23 | 24476.8 | 135.17 | PM |
| 9 | Riverside | SR91-E | R3.054 | SERFAS CLUB RD | 1.00 | 23996.7 | 211.50 | PM |
| 10 | San Bernardino | I210-E | 2.00 | .4 M E/O MOUNTAIN | 1.07 | 21616.5 | 147.42 | PM |

Quarterly Mobility Statistics

| Measure | Graph | Percentage Change | | | | | | | | | | | | | |
|--|---|-------------------|-------------------|----|----|------|-----|-----|---|------|---|---|-----|-------|--------|
| | | Over one year ago | Over last quarter | | | | | | | | | | | | |
| Vehicle Miles of Travel (VMT) | <p>Miles (Billions)</p> <table border="1"> <tr><th>Year</th><th>Q1</th><th>Q4</th><th>Q1</th></tr> <tr><td>2016</td><td>6.9</td><td>7.2</td><td>-</td></tr> <tr><td>2017</td><td>-</td><td>-</td><td>7.2</td></tr> </table> | Year | Q1 | Q4 | Q1 | 2016 | 6.9 | 7.2 | - | 2017 | - | - | 7.2 | 3.4% | -7.4% |
| Year | Q1 | Q4 | Q1 | | | | | | | | | | | | |
| 2016 | 6.9 | 7.2 | - | | | | | | | | | | | | |
| 2017 | - | - | 7.2 | | | | | | | | | | | | |
| Total Vehicle Hours of Delay (VHD) at 35 mph | <p>Hours (Millions)</p> <table border="1"> <tr><th>Year</th><th>Q1</th><th>Q4</th><th>Q1</th></tr> <tr><td>2016</td><td>1.7</td><td>2.0</td><td>-</td></tr> <tr><td>2017</td><td>-</td><td>-</td><td>1.6</td></tr> </table> | Year | Q1 | Q4 | Q1 | 2016 | 1.7 | 2.0 | - | 2017 | - | - | 1.6 | -5.1% | -18.2% |
| Year | Q1 | Q4 | Q1 | | | | | | | | | | | | |
| 2016 | 1.7 | 2.0 | - | | | | | | | | | | | | |
| 2017 | - | - | 1.6 | | | | | | | | | | | | |
| Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph | <p>Hours (Thousands)</p> <table border="1"> <tr><th>Year</th><th>Q1</th><th>Q4</th><th>Q1</th></tr> <tr><td>2016</td><td>23</td><td>27</td><td>-</td></tr> <tr><td>2017</td><td>-</td><td>-</td><td>23</td></tr> </table> | Year | Q1 | Q4 | Q1 | 2016 | 23 | 27 | - | 2017 | - | - | 23 | 0% | -15.2% |
| Year | Q1 | Q4 | Q1 | | | | | | | | | | | | |
| 2016 | 23 | 27 | - | | | | | | | | | | | | |
| 2017 | - | - | 23 | | | | | | | | | | | | |
| Total Vehicle Hours of Delay (VHD) at 60 mph | <p>Hours (Millions)</p> <table border="1"> <tr><th>Year</th><th>Q1</th><th>Q4</th><th>Q1</th></tr> <tr><td>2016</td><td>5.5</td><td>6.3</td><td>-</td></tr> <tr><td>2017</td><td>-</td><td>-</td><td>5.6</td></tr> </table> | Year | Q1 | Q4 | Q1 | 2016 | 5.5 | 6.3 | - | 2017 | - | - | 5.6 | 1.3% | -11.5% |
| Year | Q1 | Q4 | Q1 | | | | | | | | | | | | |
| 2016 | 5.5 | 6.3 | - | | | | | | | | | | | | |
| 2017 | - | - | 5.6 | | | | | | | | | | | | |
| Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph | <p>Hours (Thousands)</p> <table border="1"> <tr><th>Year</th><th>Q1</th><th>Q4</th><th>Q1</th></tr> <tr><td>2016</td><td>74</td><td>86</td><td>-</td></tr> <tr><td>2017</td><td>-</td><td>-</td><td>78</td></tr> </table> | Year | Q1 | Q4 | Q1 | 2016 | 74 | 86 | - | 2017 | - | - | 78 | 5.4% | -9.2% |
| Year | Q1 | Q4 | Q1 | | | | | | | | | | | | |
| 2016 | 74 | 86 | - | | | | | | | | | | | | |
| 2017 | - | - | 78 | | | | | | | | | | | | |

| 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 |
| | | Saturday -15.9% | Monday -18.7% |
| 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 |
| | | 6 AM -23.9% | 5 PM -17.9% |
| | | Largest Magnitude Weekday Increase over one year ago | Largest Magnitude Weekday Increase over last quarter |
| | | 5 PM 10.6% | 10 PM 33.8% |
| 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 -40.5% | 5 PM -47.6% |
| 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 |
| | | 7 PM -64.2% | 5 PM -52% |
| | | Largest Magnitude Sun/Holiday Increase over one year ago | Largest Magnitude Sun/Holiday Increase over last quarter |
| | | 4 PM 21% | 12 AM 65.3% |

| Measure | Graph | Percentage Change | |
|---|--|--|--|
| Total Vehicle Hours of Delay (VHD) by County at 35 mph | <p>Hours (Millions)</p> <p>■ 2016 Q1 ■ 2016 Q4 ■ 2017 Q1</p> | Largest Magnitude Decrease over one year ago | Largest Magnitude Decrease over last quarter |
| | | Riverside -15.6% ↓ | San Bernardino -18.2% ↓ |
| | | Largest Magnitude Increase over one year ago | Largest Magnitude Increase over last quarter |
| | | San Bernardino 7% ↑ | - ↑ |
| Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph | <p>Miles</p> <p>■ 2016 Q1 ■ 2016 Q4 ■ 2017 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 |
| | | Off-Peak Night -23.8% ↓ | PM Peak -18% ↓ |
| | | Largest Magnitude Increase over one year ago | Largest Magnitude Increase over last quarter |
| | | PM Peak 8.3% ↑ | - ↑ |
| Average Number of Good and Bad Detectors | <p>Number of Detectors</p> <p>■ Average of Good ■ Average of Bad</p> | Change in Good over one year ago | Change in Good over last quarter |
| | | -7% ↓ | -4% ↓ |
| | | Change in Bad over one year ago | Change in Bad over last quarter |
| | | 9% ↑ | 6% ↑ |

| Congestion by Route | | | | | | | | | | | |
|---------------------|----------------|-------------------------------------|------------------|------------------|-------------------------------|--------------|-------------------------------|---------------|---------|---------|---------|
| Route | County | Vehicle Hours of Delay at 35 mph | | | Difference 2017 Q1-2016 Q1 | | Difference 2017 Q1-2016 Q4 | | Rank | | |
| | | 2016 Q1 | 2016 Q4 | 2017 Q1 | Absolute | Percentage | Absolute | Percentage | 2016 Q1 | 2016 Q4 | 2017 Q1 |
| I215 | Riverside | 192728.7 | 272371.6 | 278233.5 | 85504.8 | 44% | 5,862 | 2% | 5 | 4 | 1 |
| I10 | San Bernardino | 218529.7 | 291819.5 | 258424.1 | 39894.4 | 18% | (33,395) | -11% | 3 | 3 | 2 |
| I15 | San Bernardino | 292131 | 326717 | 251875.4 | -40456.6 | -14% | (75,042) | -23% | 2 | 1 | 3 |
| SR91 | Riverside | 413064.1 | 294210.7 | 207311.8 | -205752.3 | -50% | (88,899) | -30% | 1 | 2 | 4 |
| I15 | Riverside | 211690.1 | 213823.8 | 155425 | -56255.1 | -27% | (58,399) | -27% | 4 | 5 | 5 |
| I210 | San Bernardino | 124074.2 | 174932.4 | 144766.3 | 20692.1 | 17% | (30,166) | -17% | 6 | 6 | 6 |
| SR60 | Riverside | 63852.6 | 104978.9 | 106985 | 43132.4 | 68% | 2,006 | 2% | 8 | 8 | 7 |
| SR60 | San Bernardino | 85022.1 | 133065.1 | 92677.3 | 7655.2 | 9% | (40,388) | -30% | 7 | 7 | 8 |
| I215 | San Bernardino | 40221.4 | 73762.4 | 64238 | 24016.6 | 60% | (9,524) | -13% | 9 | 9 | 9 |
| SR71 | San Bernardino | 34355 | 38026 | 39017.3 | 3662.3 | 11% | (9) | 0% | 10 | 10 | 10 |
| SR71 | Riverside | 27475.5 | 32375.8 | 12020.3 | -15455.2 | -56% | (20,356) | -63% | 11 | 11 | 11 |
| I10 | Riverside | 6004.9 | 25937.2 | 11747 | 5742.1 | 96% | (14,190) | -55% | 12 | 12 | 12 |
| SR259 | San Bernardino | 74.1 | 13.5 | 1.4 | -72.7 | -98% | (12) | -90% | 13 | 13 | 13 |
| TOTALS | | 1,709,213 | 1,982,034 | 1,621,522 | -87,691 | -5.1% | -360,512 | -18.2% | | | |