2016 Corridor Capacity Report

WSDOT’S COMPREHENSIVE ANNUAL ANALYSIS OF MULTIMODAL STATE HIGHWAY SYSTEM PERFORMANCE

DANIELA BREMMER, Director, Office of Strategic Assessment and Performance Analysis
SREENATH GANGULA, Multimodal Mobility and Traffic Engineer
BRADLEY BOBBITT, Transportation Data Analyst

Washington State Transportation Commission
February 16, 2017
2016 CCR – Purpose and Intent

• **Informs** the Legislature, WSDOT executives and the public about multimodal highway system conditions

• **Supports** WSDOT Agency Emphasis Areas (Practical Solutions, Workforce Development, and Inclusion)

• **Provides** baseline multimodal system performance information for policymakers, planners and engineers

• **Prepares** Washington to comply with state and federal performance reporting requirements (Results Washington, MAP-21/FAST Act)

• **Serves** a variety of customers and provides analysis of specific corridors, regions, and the state
2016 CCR - WSDOT Partnerships
“A glimmer of hope: JBLM no longer a traffic logjam”

“The JBLM corridor now the bright spot in South Sound’s commuting landscape”

“Seattle-area traffic up 35 percent from 2013-2015”

“Washington Highway travel is up”
Corridor Analysis Example:
I-5 South Puget Sound

Between 2013 and 2015:

- Person miles traveled increased 1.5%
- Vehicle delay increased 88%
- GHG emissions decreased 2.5%
- Annual passenger miles traveled on transit increased 5.9%
- Capacity savings due to transit increased 13%
- Percent of transit seats occupied increased 4%
- Percent of park and ride spaces occupied increased 3%
Digging Deeper: Commute Trip Measures

### Commute travel times

**Olympia to Tacoma**
- Morning: 7:30 a.m.; Trip length 26 miles
  - 2013: 30, 31, 37
  - 2015: 32, 46
  - SOV: 30, 32, 46
  - Transit: 31, 46, 52

**Tacoma to Federal Way**
- Morning: 5:35 a.m.; Trip length 12 miles
  - 2013: 16, 18, 28
  - 2015: 22, 31
  - SOV: 16, 22, 31
  - Transit: 18, 31, 41

**Tacoma to Olympia**
- Evening: 4:50 p.m.; Trip length 26 miles
  - 2013: 43, 41, 68
  - 2015: 41, 61
  - SOV: 43, 41, 68
  - Transit: 41, 61, 65

**Federal Way to Tacoma**
- Evening: 5:15 p.m.; Trip length 12 miles
  - 2013: 27, 33, 39
  - 2015: 24, 34
  - SOV: 27, 33, 39
  - Transit: 33, 34, 48

See Appendix pp. 30-36 for more commute routes

### Transit system use

**By commute**

<table>
<thead>
<tr>
<th></th>
<th>Daily peak period riders</th>
<th>Percent of seats occupied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olympia to Tacoma</td>
<td>282, 260</td>
<td>24% 22%</td>
</tr>
<tr>
<td>Tacoma to Federal Way</td>
<td>3,493, 3,684</td>
<td>61% 67%</td>
</tr>
<tr>
<td>Evening</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tacoma to Olympia</td>
<td>455, 425</td>
<td>34% 35%</td>
</tr>
<tr>
<td>Federal Way to Tacoma</td>
<td>2,896, 3,356</td>
<td>56% 61%</td>
</tr>
</tbody>
</table>

### Park and ride capacity

**Olympia-Federal Way commute**

<table>
<thead>
<tr>
<th>Park and ride (spaces)</th>
<th>2013 percent occupied</th>
<th>2015 percent occupied</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR 512 Lakewood (493)</td>
<td>98%</td>
<td>98%</td>
</tr>
<tr>
<td>Tacoma Dome (2,273)</td>
<td>98%</td>
<td>95%</td>
</tr>
<tr>
<td>Lakewood Station (600)</td>
<td>74%</td>
<td>78%</td>
</tr>
<tr>
<td>DuPont (126)</td>
<td>70%</td>
<td>74%</td>
</tr>
<tr>
<td>Martin Way (318)</td>
<td>40%</td>
<td>48%</td>
</tr>
<tr>
<td>Hawks Prairie (332)</td>
<td>15%</td>
<td>39%</td>
</tr>
</tbody>
</table>
Apples to Apples? Not Quite Yet
Multimodal Corridor Analysis

• Olympia to Tacoma AM
  – Reliable Transit Travel
    Time down by one minute
  – Percent of Seats
    Occupied down 2
    percentage points

• Washington State Ferries
  – Reliability (actual sailings)
    steady at 99.5%
  – On-time performance at
    94.4% (departures)
  – Ridership up 6%
  – Capacity utilization up 2%
    for vehicles, no change for
    drivers+passengers

• Amtrak Cascades
  – On-time performance at
    73% (arrivals)
  – Ridership down 3.2%
  – Capacity utilization down
    3% (passengers)

Note: Statistics are for 2015, changes are for 2013 to 2015
Serving a Variety of Customers

<table>
<thead>
<tr>
<th>Target Audience</th>
<th>Report Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policymakers: Legislators, WSDOT executives</td>
<td>Executive Summary (1), Dashboard (1)</td>
</tr>
<tr>
<td>Media</td>
<td>State and Regional Indicators (1), Press Release</td>
</tr>
<tr>
<td>Stakeholders, general public</td>
<td>Story maps (4), Corridor Analysis (1)</td>
</tr>
<tr>
<td>Planners, Engineers, other transportation professionals</td>
<td>Main report (1), handbook (3), appendix (2), corridor analysis (1)</td>
</tr>
<tr>
<td>Universities and Researchers</td>
<td>Main report (1), handbook (3), appendix (2)</td>
</tr>
</tbody>
</table>
Multiple, High-Level Indicators at a Glance: Dashboard

<table>
<thead>
<tr>
<th>2016 Corridor Capacity Report Dashboard of Indicators</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>Difference '13 vs. '15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic and economic indicators</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State population (in millions)</td>
<td>6.77</td>
<td>6.82</td>
<td>6.88</td>
<td>6.97</td>
<td>7.06</td>
<td>2.6%</td>
</tr>
<tr>
<td>Gasoline price per gallon (annual average)²</td>
<td>$3.92</td>
<td>$3.96</td>
<td>$3.71</td>
<td>$3.56</td>
<td>$2.70</td>
<td>-27.2%</td>
</tr>
<tr>
<td>Washington total employment (in thousands of workers)³</td>
<td>2,872</td>
<td>2,919</td>
<td>2,986</td>
<td>3,065</td>
<td>3,154</td>
<td>5.6%</td>
</tr>
<tr>
<td>Taxable retail sales (in billions of dollars)²</td>
<td>$109.3</td>
<td>$112.6</td>
<td>$119.2</td>
<td>$125.0</td>
<td>$135.4</td>
<td>13.5%</td>
</tr>
<tr>
<td>Statewide multimodal performance measures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drive alone commuting rate⁴</td>
<td>73.3%</td>
<td>72.2%</td>
<td>72.7%</td>
<td>72.4%</td>
<td>72.4%</td>
<td>-0.3%</td>
</tr>
<tr>
<td>Carpool commuting rate⁴</td>
<td>10.2%</td>
<td>10.7%</td>
<td>10.1%</td>
<td>10.1%</td>
<td>9.8%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Bicycling and walking commuting rate⁴</td>
<td>4.2%</td>
<td>4.5%</td>
<td>4.3%</td>
<td>4.5%</td>
<td>4.7%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Public transit commuting rate⁴</td>
<td>5.6%</td>
<td>5.8%</td>
<td>6.3%</td>
<td>6.3%</td>
<td>6.2%</td>
<td>-0.1%</td>
</tr>
<tr>
<td>Transit ridership⁶ (in millions)</td>
<td>195.1</td>
<td>218.1</td>
<td>221.2</td>
<td>227.2</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>WSDOT Ferries ridership⁶ (in millions)</td>
<td>22.3</td>
<td>22.2</td>
<td>22.5</td>
<td>23.2</td>
<td>23.9</td>
<td>6.2%</td>
</tr>
<tr>
<td>Amtrak Cascades ridership⁶ (in thousands)</td>
<td>742</td>
<td>725</td>
<td>694</td>
<td>700</td>
<td>672</td>
<td>-3.2%</td>
</tr>
<tr>
<td>Statewide congestion indicators</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Per person, total vehicle miles traveled on all public roads, state highways only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All public roads vehicle miles traveled (VMT) (in billions)</td>
<td>56.965</td>
<td>56.607</td>
<td>57.211</td>
<td>58.060</td>
<td>59.653</td>
<td>4.3%</td>
</tr>
<tr>
<td>All public roads per person VMT (miles)</td>
<td>8,417</td>
<td>8,303</td>
<td>8,313</td>
<td>8,332</td>
<td>8,448</td>
<td>1.6%</td>
</tr>
<tr>
<td>State highways VMT (in billions)</td>
<td>31,455</td>
<td>31,214</td>
<td>31,649</td>
<td>32,177</td>
<td>33,335</td>
<td>5.3%</td>
</tr>
<tr>
<td>State highways per person VMT (miles)</td>
<td>4,648</td>
<td>4,578</td>
<td>4,599</td>
<td>4,618</td>
<td>4,721</td>
<td>2.7%</td>
</tr>
</tbody>
</table>
Comparing Statewide Trends

In 2015 compared to 2013,

- Vehicle Miles Traveled increased 4.3%
- Passenger vehicle registrations increased 8.3%
- The number of licensed drivers in Washington increased 4%
- The drive-alone commuting rate decreased 0.3%
- Washington State Ferries ridership increased 6%
- Amtrak Cascades ridership decreased 3.2%
- Transit passenger miles traveled on urban commute corridors during peak periods increased 6%
- Emissions on high-demand urban commute corridors decreased 2.9%
- WSDOT’s Incident Response crews provided an economic benefit of $80.2 million
Comparing Regional Trends

• In the Central Puget Sound Region:
  – Congestion on the five monitored freeway corridors (I-5, I-405, I-90, SR 520, SR 167) increased 35.7% between 2013 and 2015
  – High Occupancy Vehicle (HOV) lanes accounted for 38% of person miles traveled on the five monitored freeways in 2015

• In the South Sound, Vancouver and Spokane areas:
  – Delay on urban corridors increased by up to 90% between 2013 and 2015
  – I-5 southbound morning commute into Portland is the worst commute in the state; it takes over four times as long as it would at maximum throughput speed (in comparison, the second-worst commute in the state, the morning commute from Tukwila to Bellevue on I-405, takes 2.6 times longer than it would at maximum throughput speed)

• In the Tri-Cities Region:
  – Annual vehicle delay increased by 7.6% between 2013 and 2015
Data Anyone Can See: Interactive Online Story Maps

http://www.wsdot.wa.gov/accountability/congestion/

bit.ly/CCR16statewidemap
Questions?

For additional information on the 2016 Corridor Capacity Report, please contact:

Daniela Bremmer, WSDOT
360-705-7953; BremmeD@wsdot.wa.gov

Sreenath Gangula, WSDOT
360-705-6888; GangulS@wsdot.wa.gov