FHWA NPRM on National Performance Measures - NHS Bridges

Oregon DOT and Oregon MPO’s

Trends in NHS Bridge Performance Values and Setting Four-year Targets
Condition* of Oregon (all ownership) NHS^ Bridges
(^2013 NHS Classification retroactive to previous years)

*Good Condition: All NBI Items 58, 59, and 60 or NBI Item 62 above 6.

Poor Condition: Any NBI Items 58, 59, 60 or NBI Item 62 below 5
• Historical Trends

• Most recent trends, if changing

• Historical deterioration rates, projected deterioration rates based on age, detailing, design standards, legal/permit load changes

• Algorithm, utility function or adjustments to trend lines
Oregon DOT
Bridge Performance Targets

2016 Baseline (First Baseline Report due to FHWA 2017??)
• NHS bridges in Good Condition - 14.3%
• NHS bridges in Poor Condition - 1.9%

2018 Target (Mid Performance Period Progress Report due 2019??)
• NHS bridges in Good Condition - 13.9%
• NHS bridges in Poor Condition - 2.3%

2020 Baseline (First 4-year Report due to FHWA 2021??)
• NHS bridges in Good Condition - 12.3%
• NHS bridges in Poor Condition - 2.9%
• 10-Year (2004-2014) Bridge Improvement Bonding Program (OTIA III) replaced or rehabilitated over 200 structurally deficient bridges.

• Bond payback is from the State Bridge Program, reduced available funding by 38% through 2018. Funding restored in 2018 - 2021.

• 20-year needs study shows deterioration rate increase and sharp decline in condition of aging inventory.
Bridges need major new funding

Predicted Percent of Non-Distressed Bridges with Variable Funding Levels (2010 - 2060)

Out of 2681 State Owned NBI Bridges
Metropolitan Planning Organizations (MPOs) in Oregon (and current number of NHS bridges*)

- METRO (Portland) 335
- Eugene-Springfield 94
- Salem-Keizer 65
- Medford-Ashland 54
- Albany 33
- Middle Rogue (Grants Pass) 29
- Bend 25
- Corvallis 18
- Walla-Walla Valley 1
- Longview-Rainer 1

*All bridge ownership. MPO boundaries as of 2013
Percent by condition of All Ownership, NHS^ bridges within an MPO (\(^{2013}\) Classification)
2016 Baseline  (First Baseline Report due to FHWA 2017 ?)
  • NHS bridges in Good Condition - 10.9%
  • NHS bridges in Poor Condition - 2.1%

2018 Target  (Mid Performance Period Progress Report due 2019 ?)
  • NHS bridges in Good Condition - 10.5%
  • NHS bridges in Poor Condition - 2.5%

2020 Baseline  (First Baseline Report due to FHWA 2021 ?)
  • NHS bridges in Good Condition - 10.2%
  • NHS bridges in Poor Condition - 2.9%
Condition* of Oregon DOT NHS^ Bridges
Within an MPO
(2013 NHS Classification retroactive to previous years)

*Good Condition: All NBI Items 58, 59, and 60 or NBI Item 62 above 6.
Poor Condition: Any NBI Items 58, 59, 60 or NBI Item 62 below 5
Percent by condition of ODOT, County, City, NHS\(^\text{^\textregistered}}\) bridges within an MPO (\(^\text{^\textregistered}2013\) Classification retroactive)

- METRO - Fair
- METRO - Good
- METRO - Poor

335 Bridges as of 2016
Percent by condition of ODOT, County, City, NHS^ bridges within an MPO
(^2013 Classification retroactive)

Eugene/Springfield - 8% Good, 87% Fair, 5% Poor

94 Bridges as of 2016
Medford - 5.2% Good, 94.4% Fair, 0.4% Poor

Percent by condition of ODOT, County, City, NHS^ bridges within an MPO
(^2013 Classification retroactive)

- Medford - Fair
- Medford - Good
- Medford - Poor

54 Bridges as of 2016
Albany - 14% Good, 86% Fair, 0% Poor

Percent by condition of ODOT, County, City, NHS^ bridges within an MPO
(^2013 Classification retroactive)

33 Bridges as of 2016
Middle Rogue - 2% Good, 93% Fair, 5% Poor

Percent by condition of ODOT, County, City, NHS^ bridges within an MPO
(^2013 Classification retroactive)

Middle Rogue - Fair
Middle Rogue - Good
Middle Rogue - Poor

29 Bridges as of 2016
Percent by condition of ODOT, County, City, NHS^ bridges within an MPO
(^2013 Classification retroactive)

Bend - 64% Good, 36% Fair, 0% Poor

29 Bridges as of 2016
Corvallis - 5% Good, 95% Fair, 0% Poor

Percent by condition of ODOT, County, City, NHS^ bridges within an MPO
(^2013 Classification retroactive)

Corvallis - Fair
Corvallis - Good
Corvallis - Poor

18 Bridges as of 2016


Year
Walla Walla - 0% Good, 100% fair, 0% Poor

Percent by condition of ODOT, County, City, NHS^ bridges within an MPO
(^2013 Classification retroactive)

Walla Walla Valley - Fair

Walla Walla Valley - Good

Walla Walla Valley - Poor

18 Bridges as of 2016
Percent by condition of ODOT, Conty, City, NHS^ bridges within an MPO

(^2013 Classification retroactive)

- Longview/Kelso/Rainier - Fair
- Longview/Kelso/Rainier - Good
- Longview/Kelso/Rainier - Poor

1 Bridge as of 2016
## National Bridge Targets for NHS MPO Bridges

<table>
<thead>
<tr>
<th>MPO</th>
<th>NHS Bridges</th>
<th>Good %</th>
<th>Poor %</th>
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</thead>
<tbody>
<tr>
<td>METRO (Portland)</td>
<td>335</td>
<td>7</td>
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<tr>
<td>Eugene-Springfield</td>
<td>94</td>
<td>7</td>
<td>4</td>
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<td>Salem-Keizer</td>
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<tr>
<td>Medford-Ashland</td>
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<tr>
<td>Albany</td>
<td>33</td>
<td>14</td>
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<td>Middle Rogue (Grants Pass)</td>
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<td>6</td>
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<tr>
<td>Bend</td>
<td>25</td>
<td>60</td>
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<tr>
<td>Corvallis</td>
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<tr>
<td>Walla-Walla Valley</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Longview-Rainer</td>
<td>1</td>
<td>0</td>
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</tbody>
</table>

*All bridge ownership. MPO boundaries as of 2013*
Percent by condition of All Ownership, NHS\(^*\) bridges within an MPO (\(^*\)2013 Classification)
Oregon DOT
Bridge Performance Target Setting

- Historical Trends
- Most recent trends, if changing
- Historical deterioration rates, projected deterioration rates based on age, detailing, design standards, legal/permit load changes
- Funding and funding category amounts (Rep, Reh, Pres)
- Algorithm, utility function or adjustments to trend lines
- Set state targets, then work with MPO’s to support those or justify their own if they embark on a major effort to invest in transportation.
Factors that determine performance targets:
- Performance measure trends
- Deterioration rates
- Inventory characteristics
- Funding levels
- Program goals and strategies
- Environmental and natural hazard risks

MPO bridges in Oregon are too small a sample to develop meaningful projections or targets

MPO’s may elect to develop MPO-specific targets if a specific goal, strategy or funding scenario impacts overall transportation planning

Many agencies have complex multi-objective goals or strategies that are more meaningful than Federal measures making target setting for simplistic draft national measures trivial unless they are near the penalty value. Those agencies will likely conduct national target setting as a separate effort outside the more complex state DOT target management program.