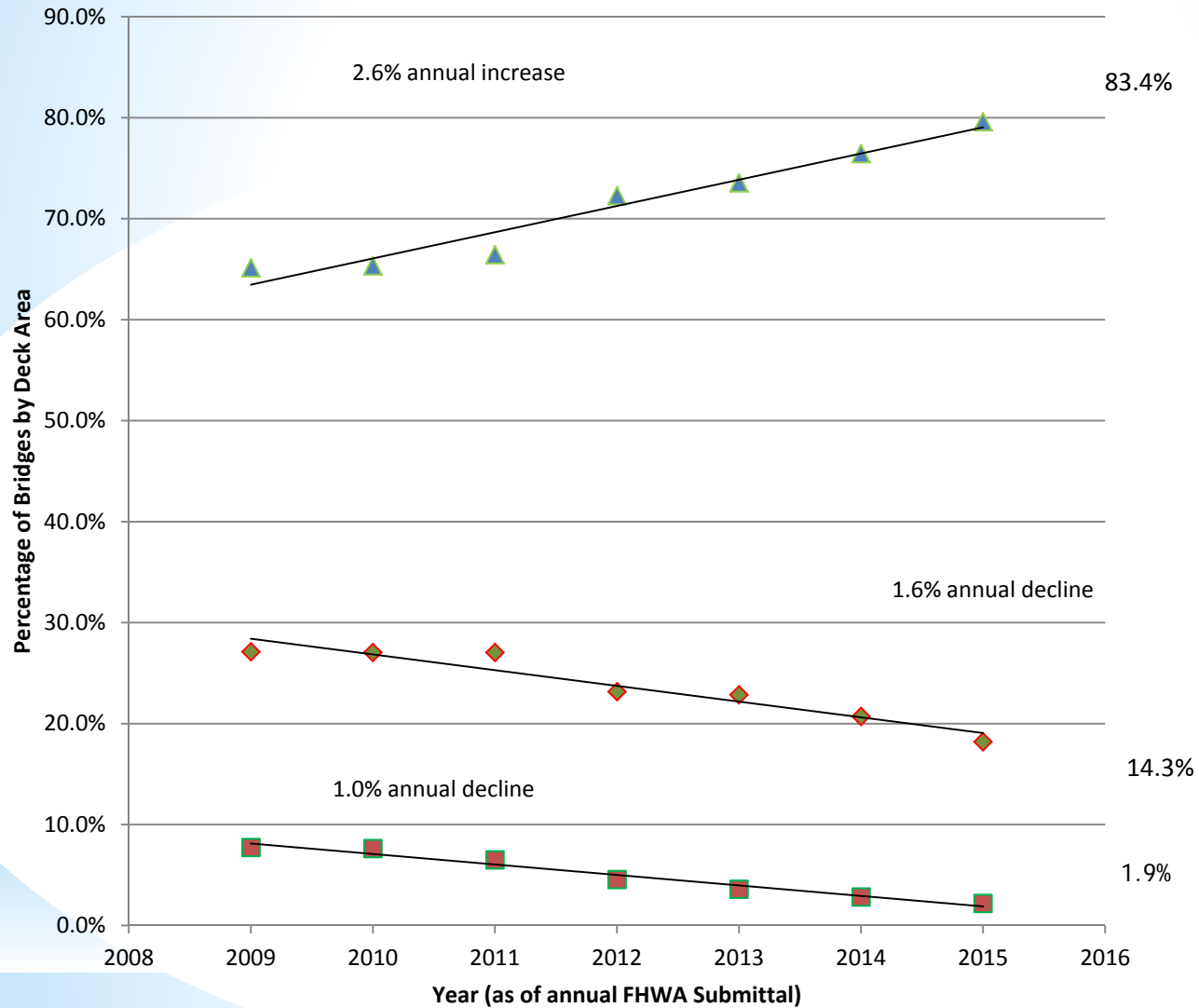


# FHWA NPRM on National Performance Measures - NHS Bridges

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)



- ▲ Fair
- ◆ Good
- Poor

\*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

# 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
- 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??)

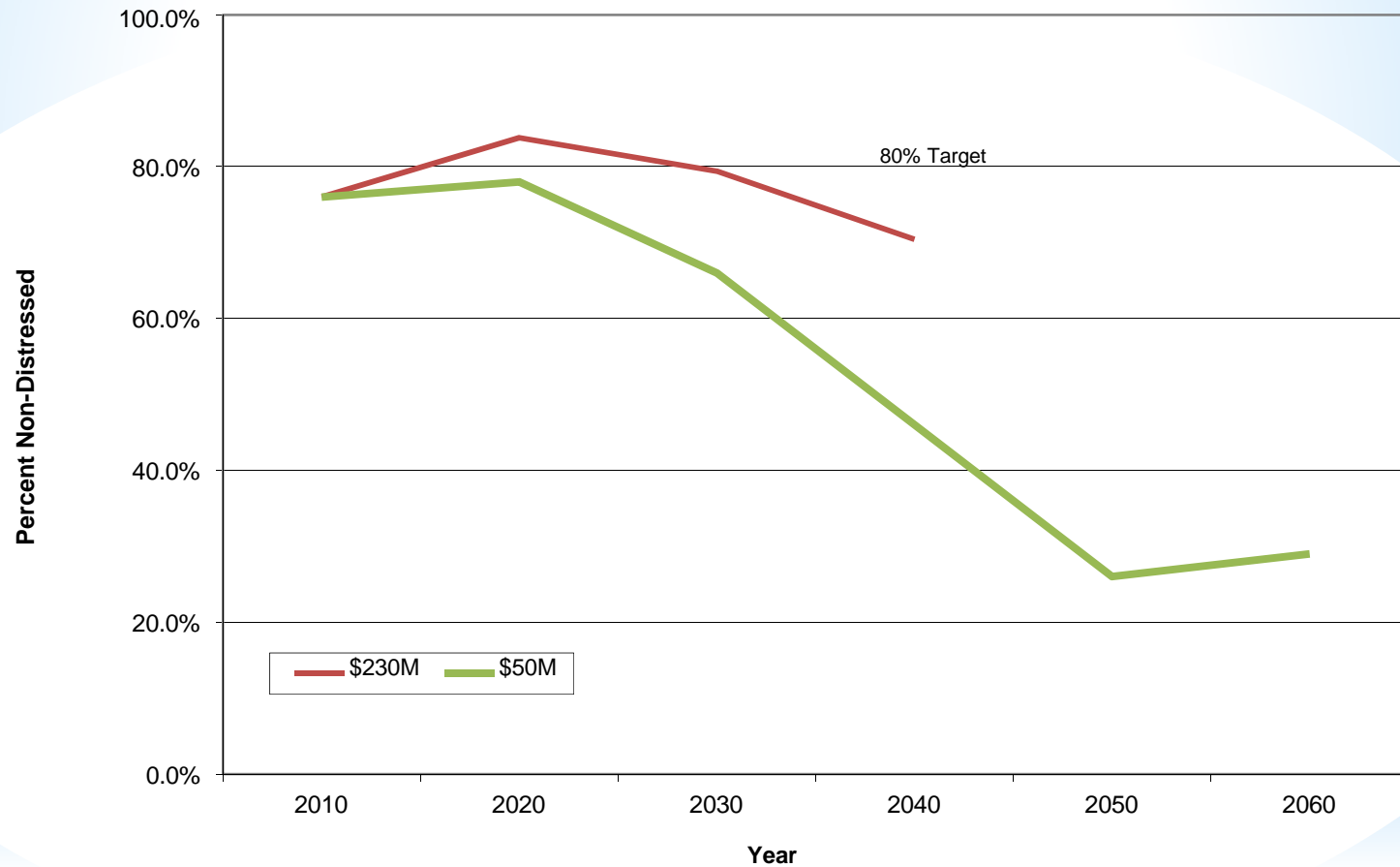
- NHS bridges in Good Condition - 12.3%
- NHS bridges in Poor Condition - 2.9%

# Investment Strategy Discussion

- 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

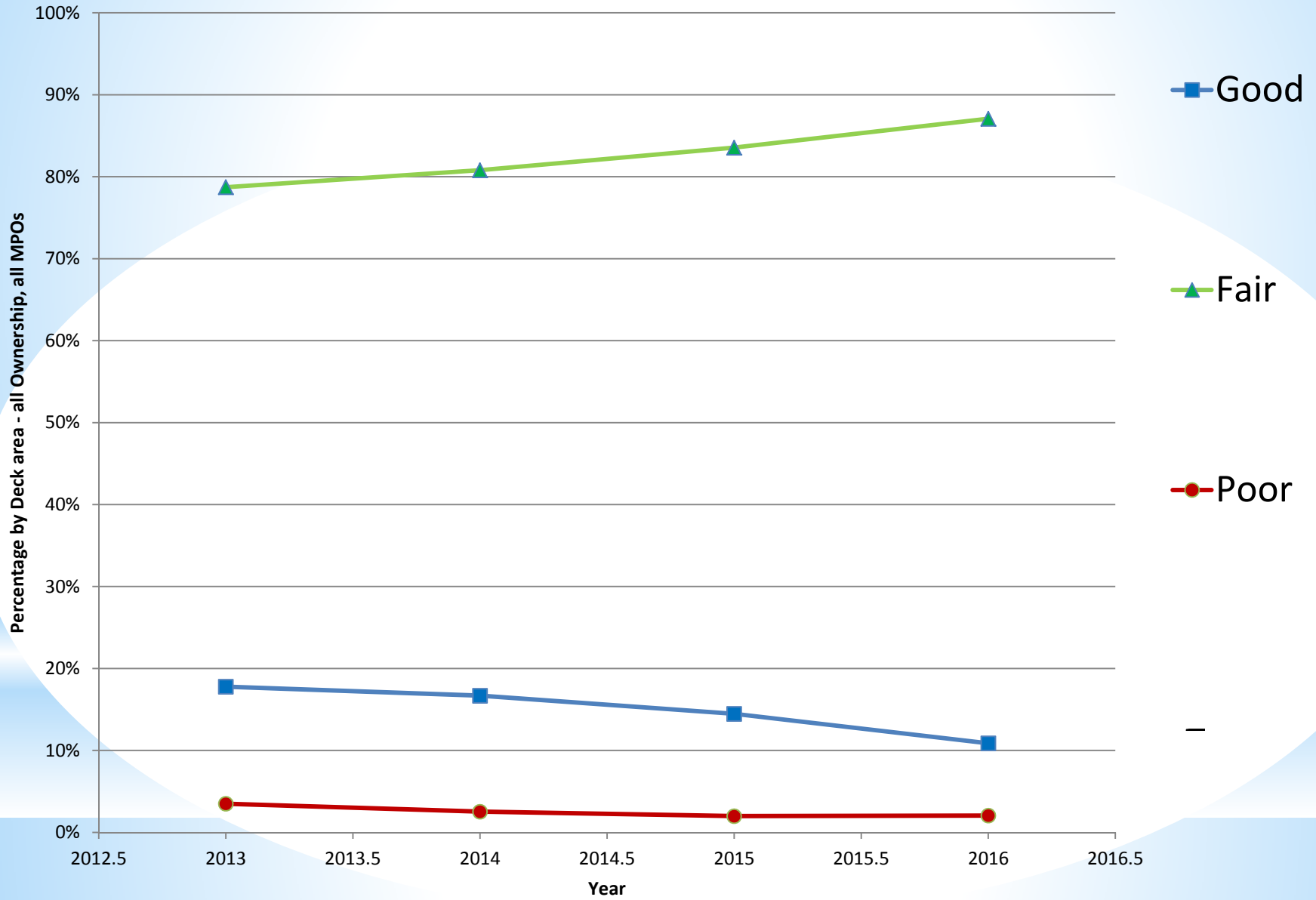


# Metropolitan Planning Organizations (MPOs) in Oregon (and current number of NHS bridges\*)

• 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-Rainier	1

\*All bridge ownership. MPO boundaries as of 2013

# Percent by condition of All Ownership, NHS^ bridges within an MPO (^2013 Classification)





# Oregon MPO's Bridge Performance Targets

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 ?)

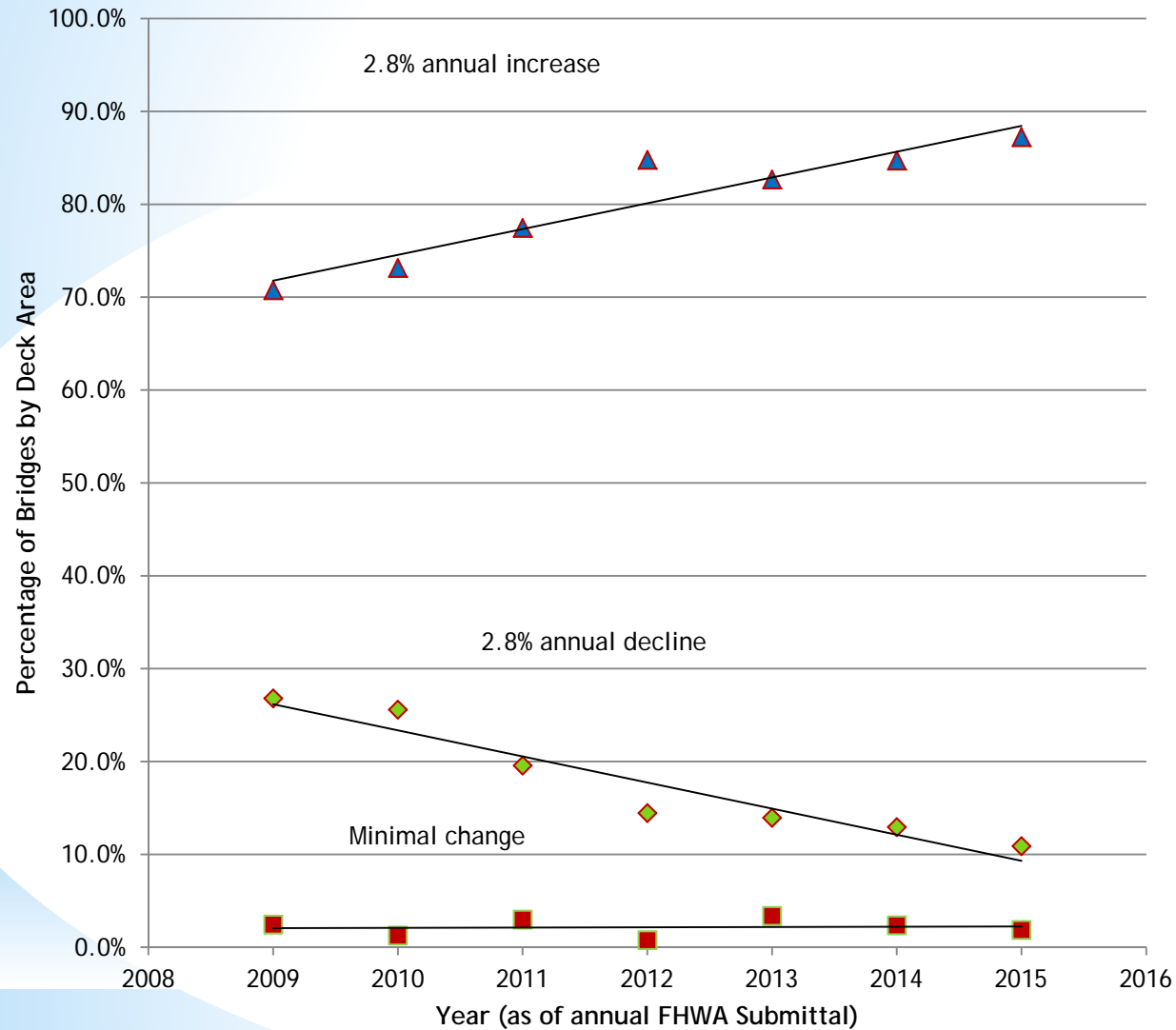
- NHS bridges in Good Condition - 10.5%
- NHS bridges in Poor Condition - 2.5%

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)



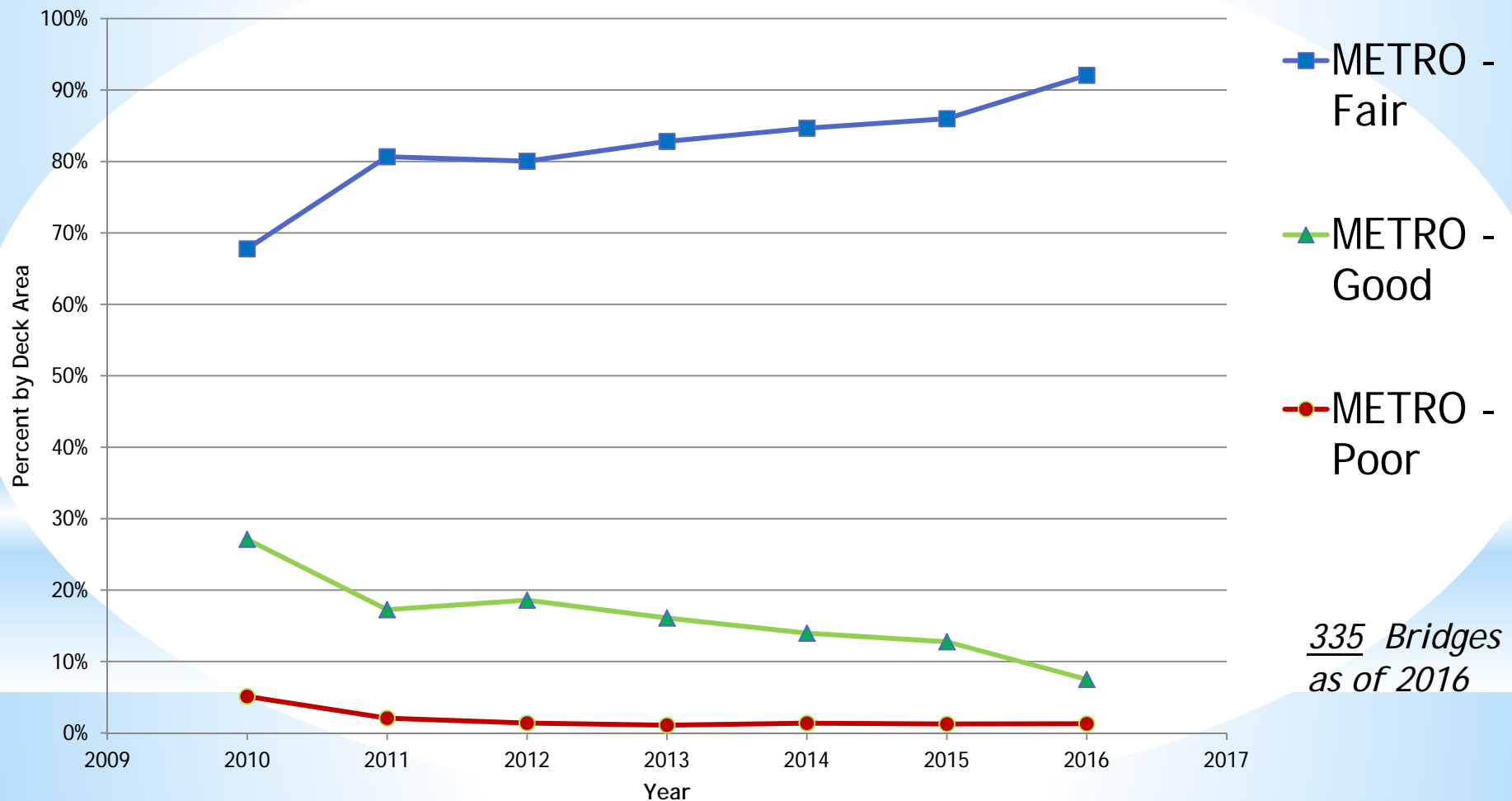
- ▲ Fair
- ◆ Good
- Poor

\*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

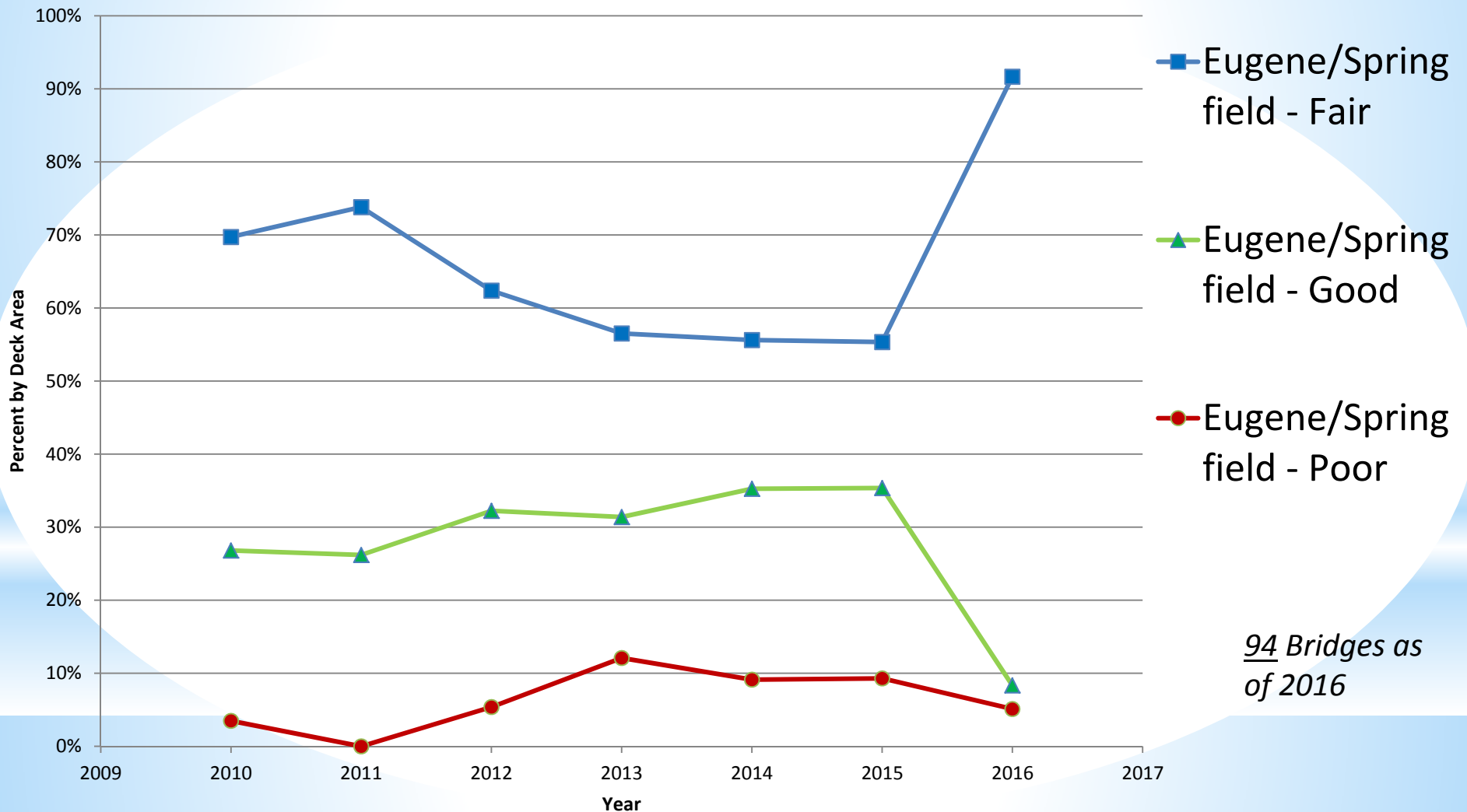
# Metro - 8% Good, 91% Fair, 1% Poor

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



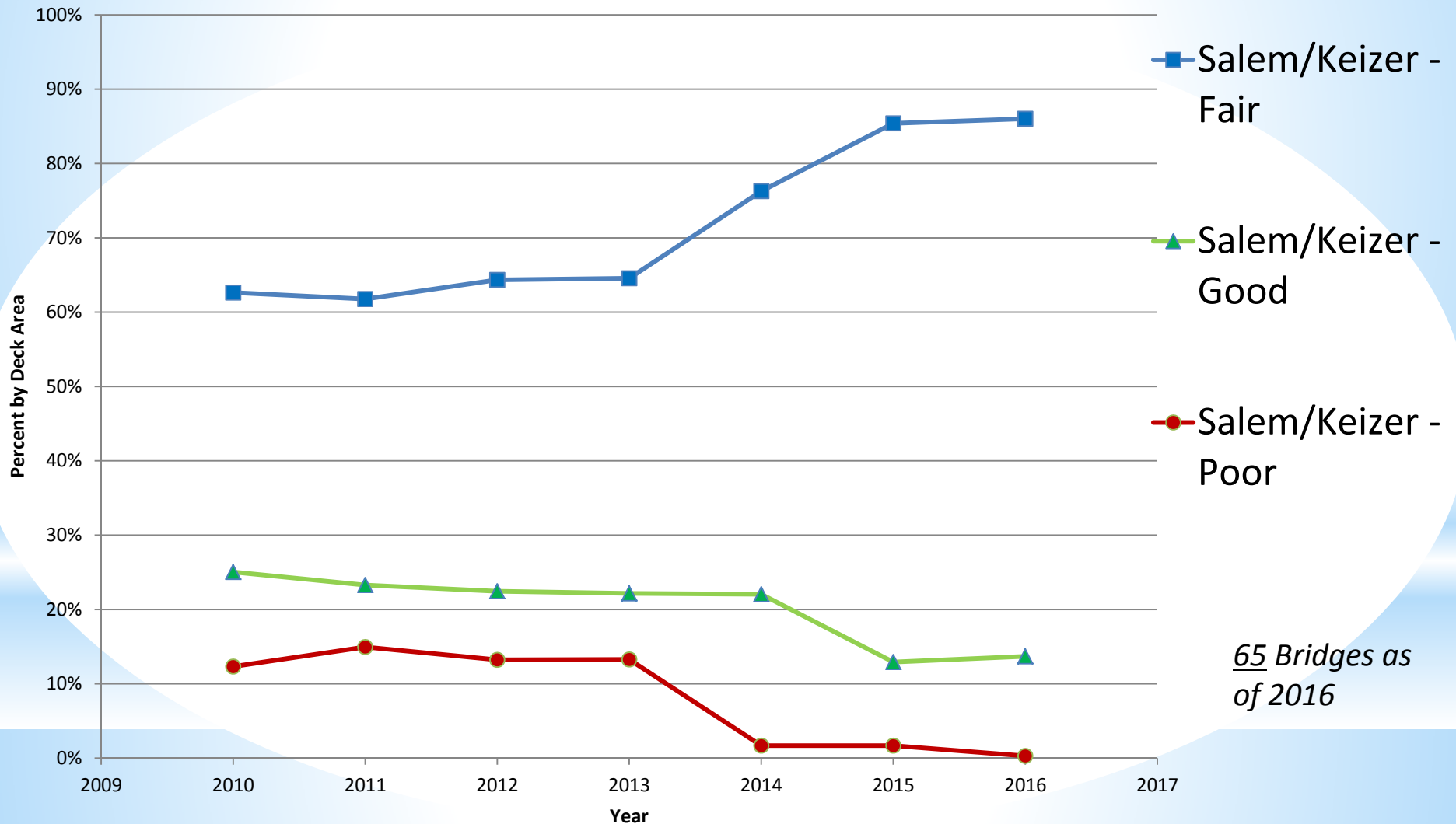
# Eugene/Springfield - 8% Good, 87% Fair, 5% Poor

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



# \* Salem/Keiser 13.7% Good, 86% Fair, 0.3% Poor

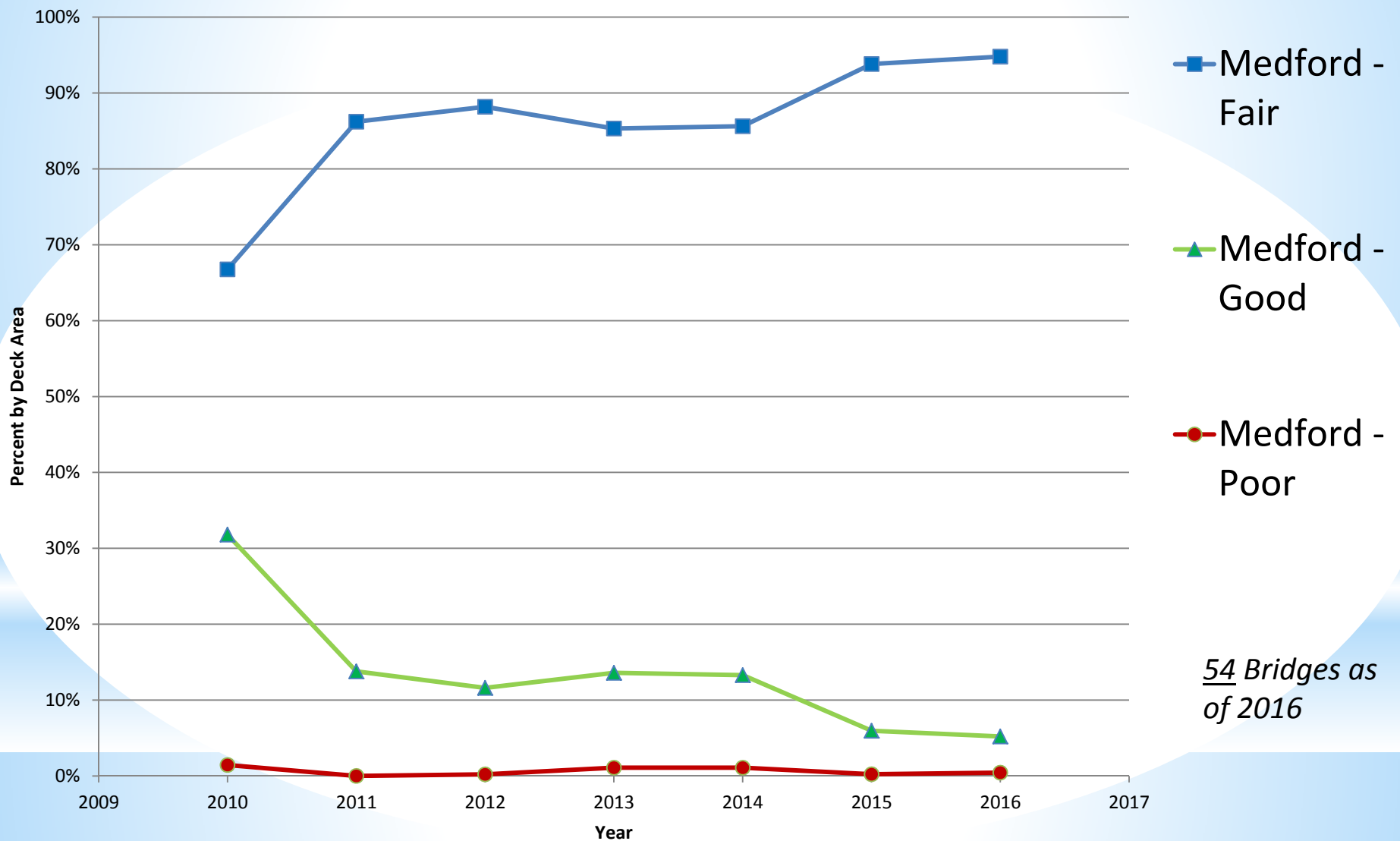
Percent by condition of ODOT, County, City, NHS^ bridges within an MPO  
(^2013 Classification retroactive)



*65 Bridges as of 2016*

# Medford - 5.2% Good, 94.4% Fair, 0.4% Poor

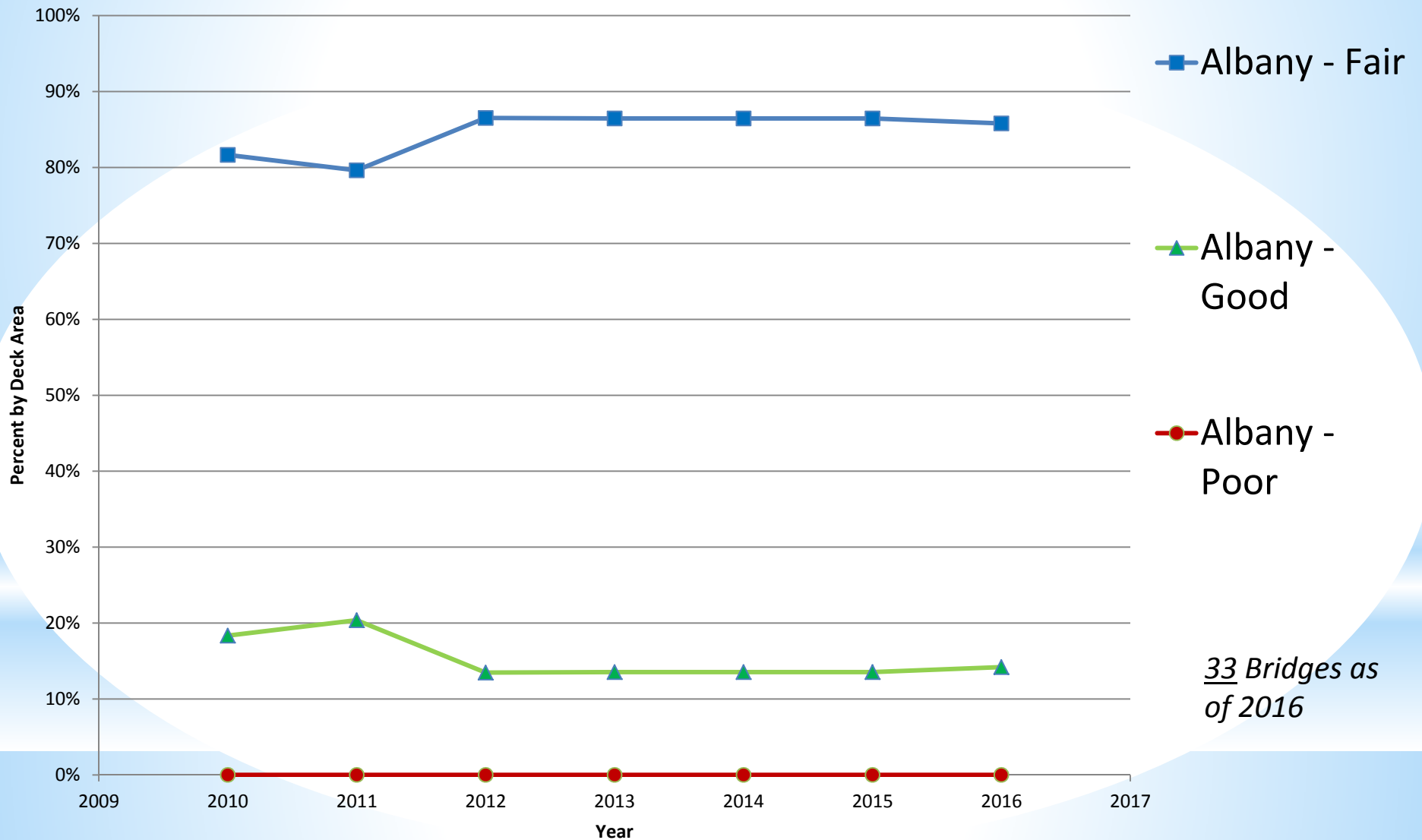
Percent by condition of ODOT, County, City, NHS<sup>^</sup> bridges within an MPO  
(<sup>^</sup>2013 Classification retroactive)



*54 Bridges as of 2016*

# Albany - 14% Good, 86% Fair, 0% Poor

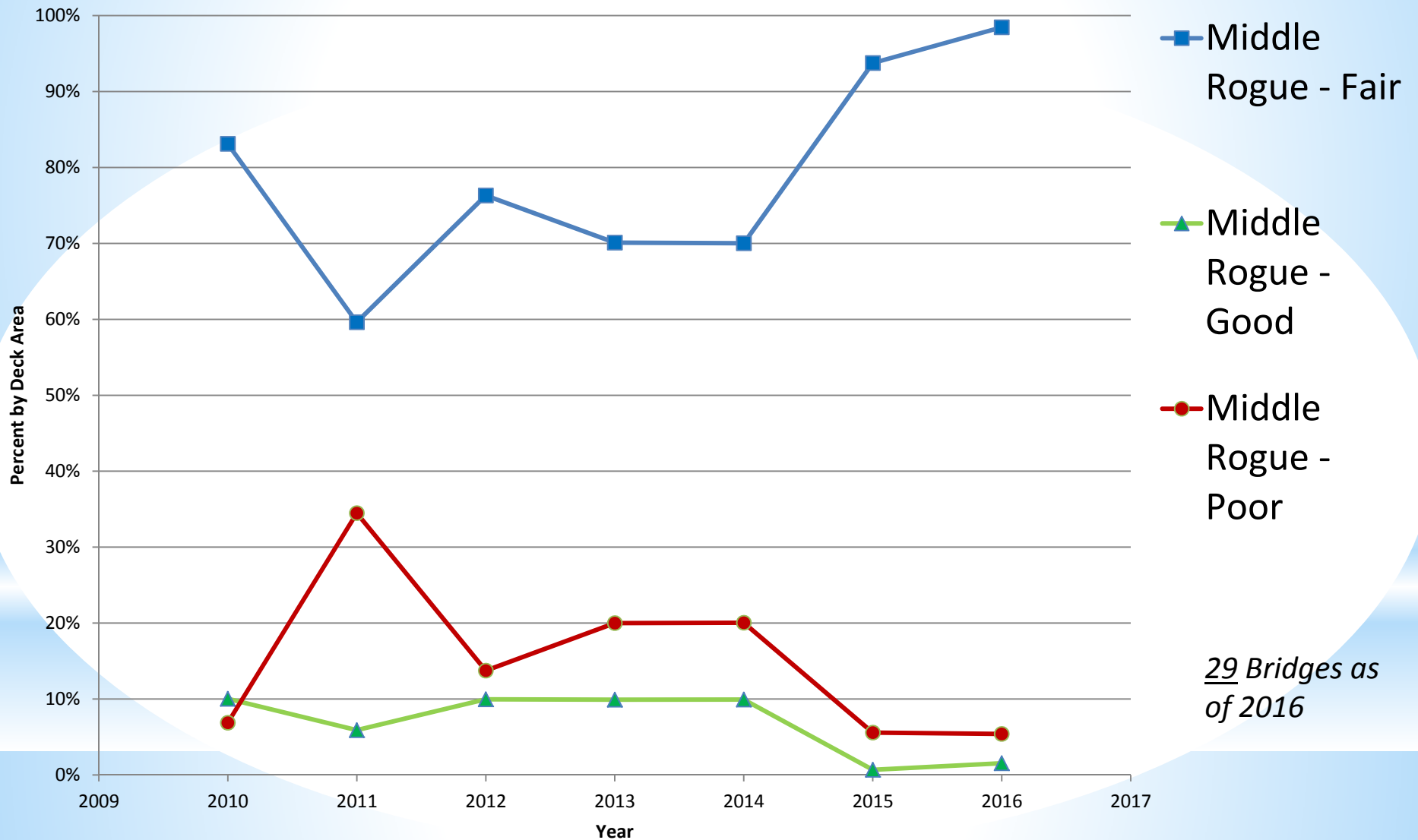
Percent by condition of ODOT, County, City, NHS<sup>^</sup> bridges within an MPO  
(<sup>^</sup>2013 Classification retroactive)



*33 Bridges as of 2016*

# Middle Rogue - 2% Good, 93% Fair, 5% Poor

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

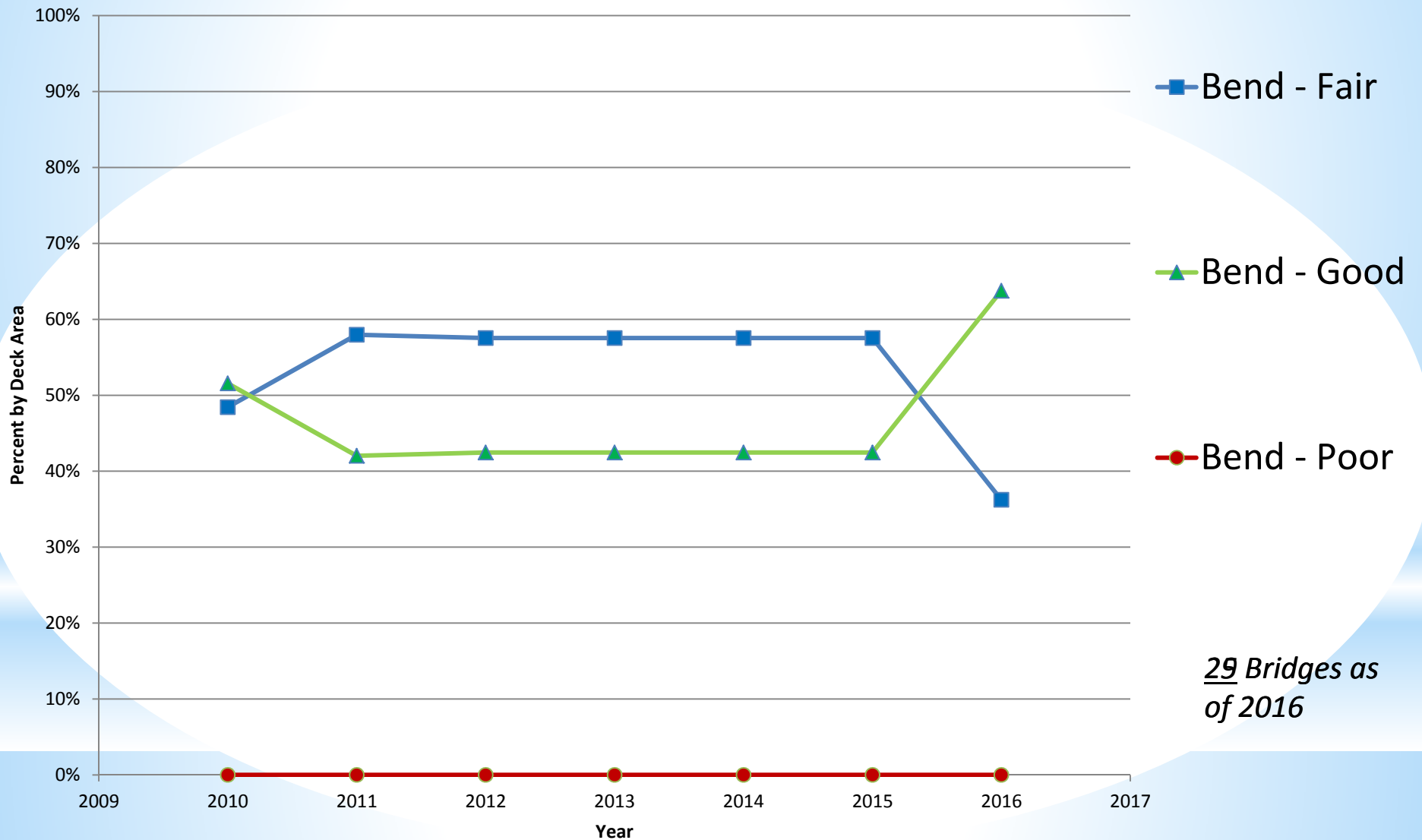


*29 Bridges as of 2016*



# \* Bend - 64% Good, 36% Fair, 0% Poor

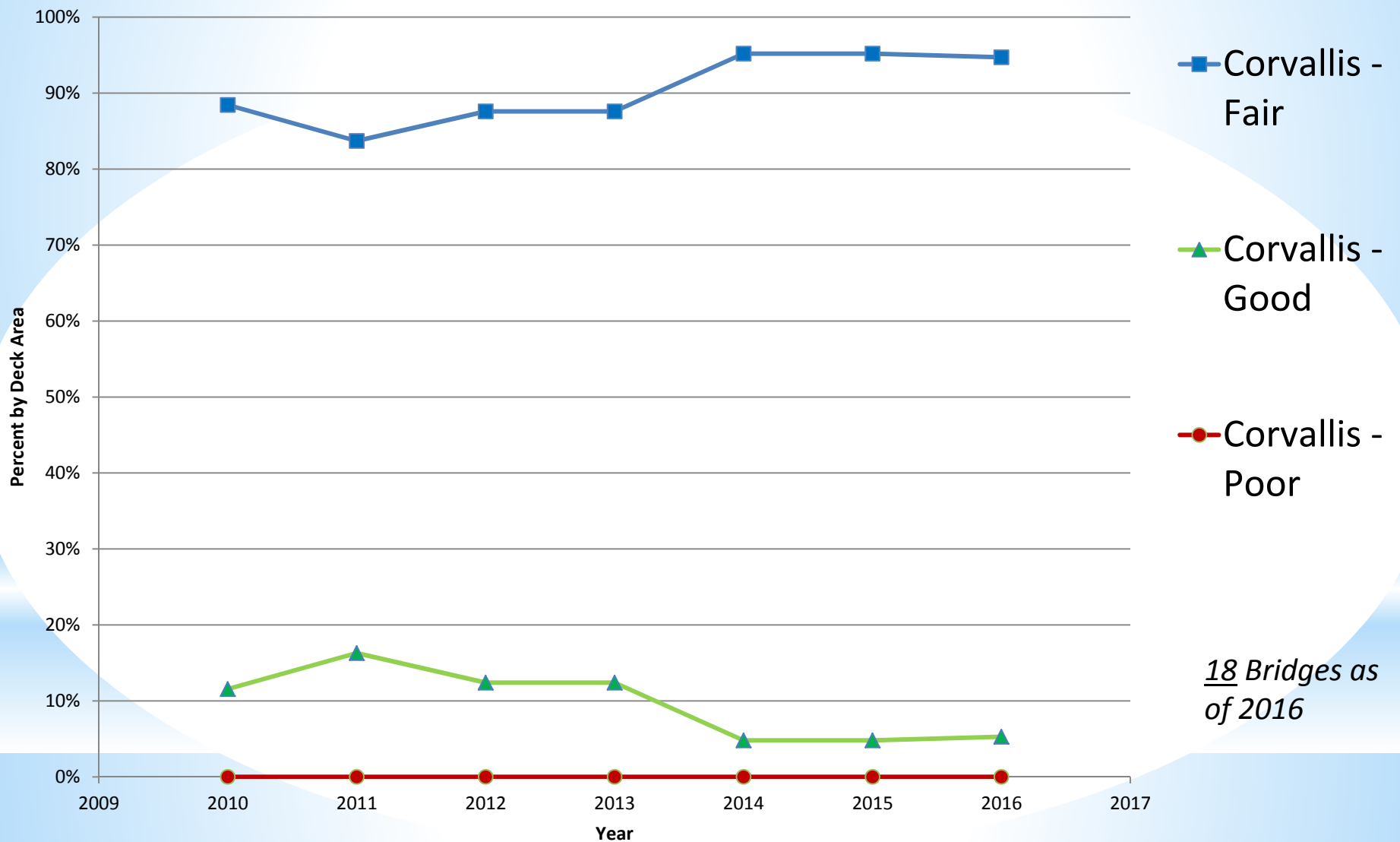
Percent by condition of ODOT, County, City, NHS^ bridges within an MPO  
(^2013 Classification retroactive)



*29 Bridges as of 2016*

# \* Corvallis - 5% Good, 95% Fair, 0% Poor

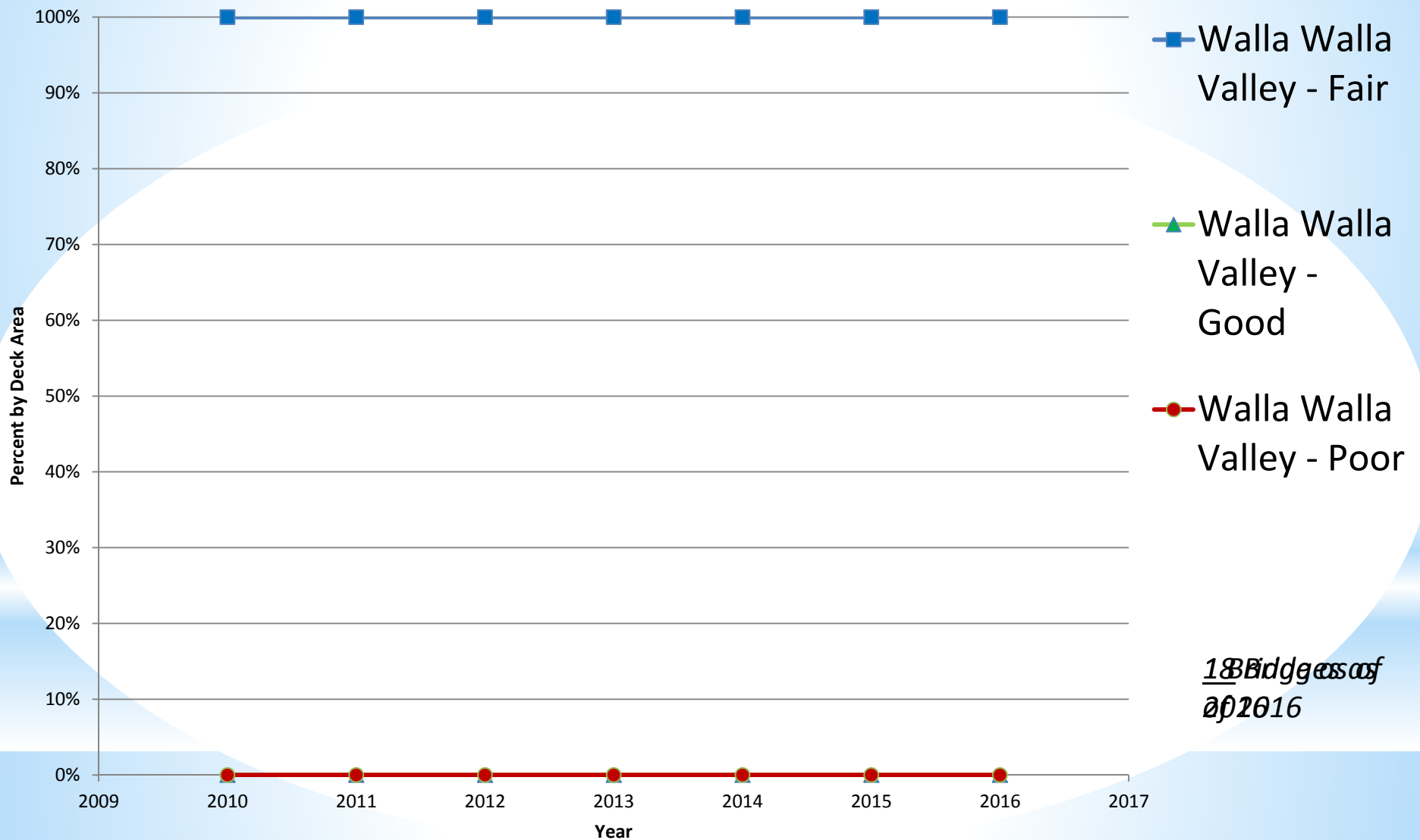
Percent by condition of ODOT, County, City, NHS^ bridges within an MPO  
(^2013 Classification retroactive)



*18 Bridges as of 2016*

# \* Walla Walla - 0% Good, 100% fair, 0% Poor

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

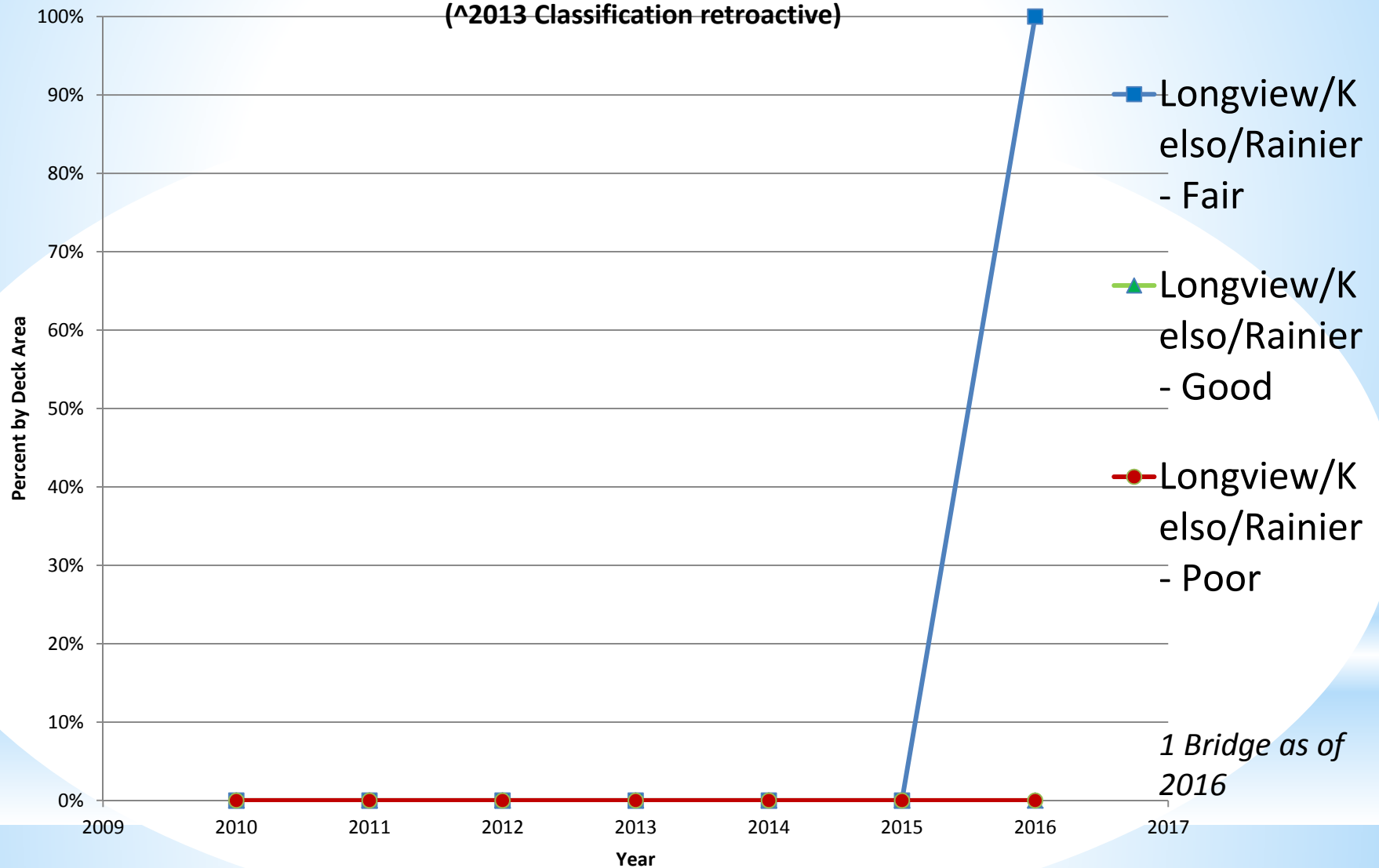


*18 Bridges as of 08/2016*

# \* Longview - 0% Good, 100% Fair, 0% Poor

Percent by condition of ODOT, Conty, City, NHS^ bridges within an MPO

(^2013 Classification retroactive)



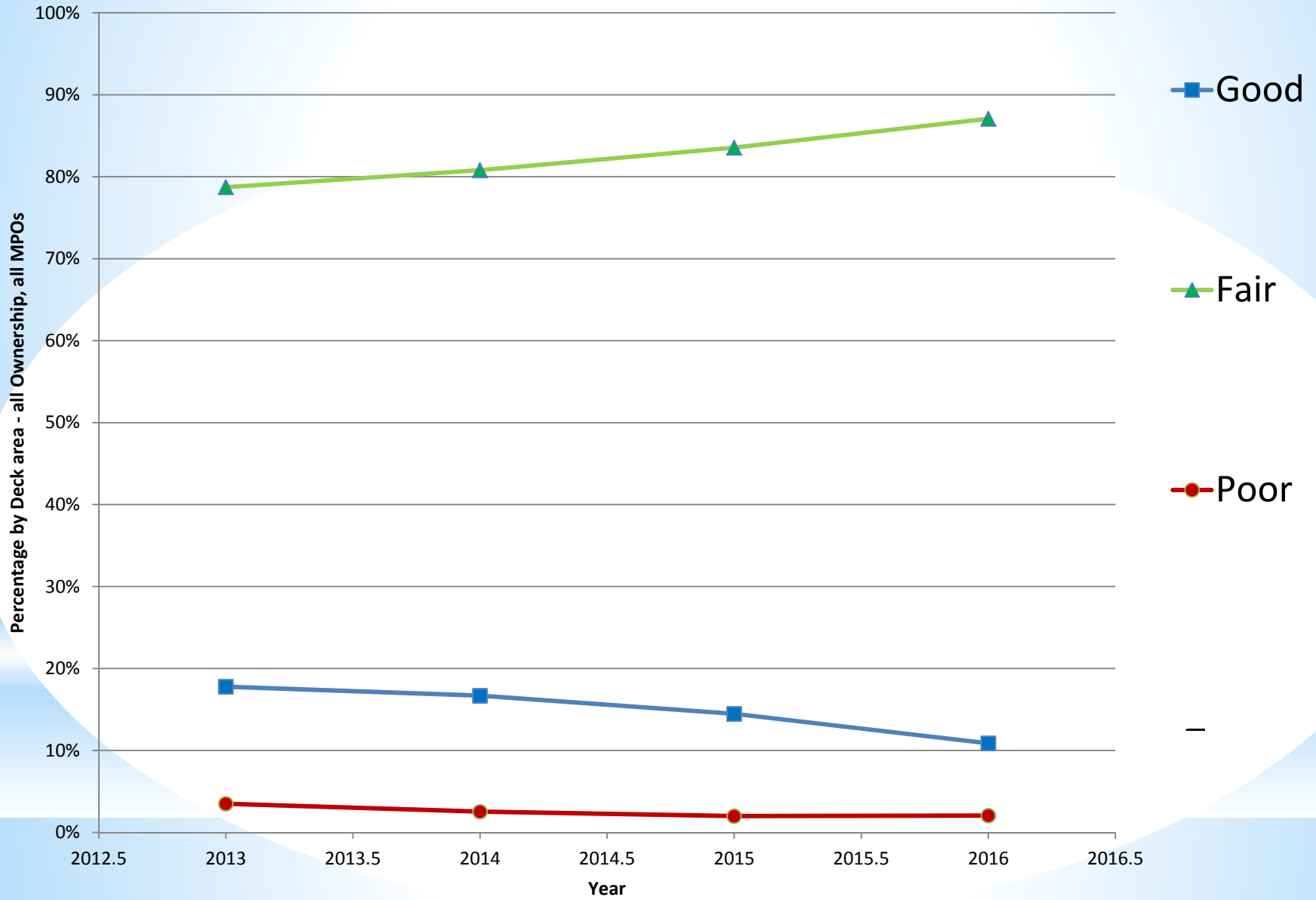
1 Bridge as of 2016

# National Bridge Targets for NHS MPO Bridges

<u>MPO</u>	<u>NHS Bridges</u>	<u>Good %</u>	<u>Poor %</u>
• METRO (Portland)	335	7	1
• Eugene-Springfield	94	7	4
• Salem-Keizer	65	13	1
• Medford-Ashland	54	5	1
• Albany	33	14	0
• Middle Rogue (Grants Pass)	29	1	6
• Bend	25	60	0
• Corvallis	18	5	0
• Walla-Walla Valley	1	0	0
• Longview-Rainier	1	0	0

\*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.

# Conclusions

- 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.