

# FEDERAL PERFORMANCE BASED PLANNING AND PROGRAMING UPDATE

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## 2015 Assessment of Highway and Bridge Conditions

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TPB Technical Committee  
December 2, 2016



# Federal PBPP Update

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- Performance Based Planning and Programming (PBPP) Rulemaking Schedule
- PBPP Calendar: 2017-2018
- PBPP Next Steps
- 2015 Pavement and Bridge Condition Analysis



# PBPP Rulemaking Schedule

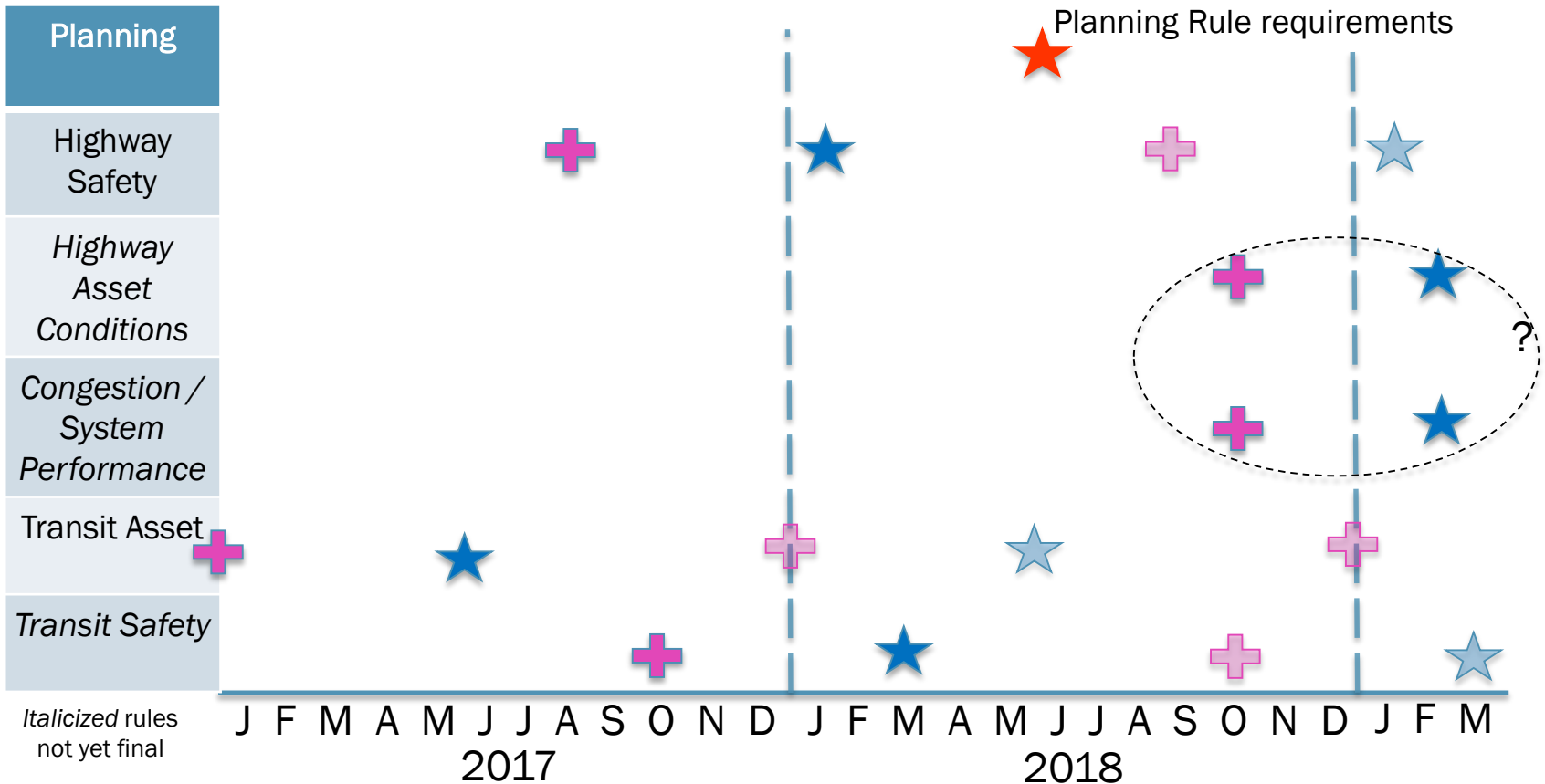
	<b>Planning Rules</b> <i>USDOT Significant Rulemaking Report, October 2016</i> <i>FHWA TPB website Schedule</i>	<b>Proposed Rulemaking</b>	<b>Final Rulemaking</b>
Planning	<ul style="list-style-type: none"> <li>Statewide and Metropolitan and Non-metropolitan Planning</li> </ul>	June 2014	May 2016
Highway Safety	<ul style="list-style-type: none"> <li>Safety Performance Measure Rule</li> <li>Highway Safety Improvement Program (HSIP)</li> </ul>	March 2014	March 2016
Highway Asset Conditions	<ul style="list-style-type: none"> <li>Pavement and Bridges Performance Measurement</li> <li>Asset Management Plan</li> </ul>	January/February 2015	<i>December 2016</i>
Congestion / System Performance	<ul style="list-style-type: none"> <li>System Performance Measures Rule (NHS, Freight and CMAQ)</li> </ul>	April 2016	<i>December 2016</i>
Transit	<ul style="list-style-type: none"> <li>Transit Asset Management</li> <li>Public Transportation Agency Safety Plan</li> </ul>	September 2015 (Transit Asset) February 2016 (Transit Safety)	July 2016 (Transit Asset) <i>January 2017</i> (Transit Safety)



# PBPP Calendar: 2017-2018

**+** DOT / TA set targets (annual or biennial)

**★** TPB sets targets (within 180 days)



# PBPP Next Steps

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1. Transit Asset Management target-setting
  - Still requirement for transit agencies to set targets by the end of the year.
  - TPB to set transit asset management (TAM) targets for the metropolitan area in the May 2017 timeframe.
2. PBPP Agreement on Coordinated Process
  - Letter in development to all agencies asking for coordination on documenting PBPP process.
  - Leading to formal documentation of responsibilities as required in the new Statewide and Metropolitan Planning rule.



# Pavement and Bridge Performance Measures

Proposed Performance Measures for Highway and Bridge Condition were issued in January 2015. Awaiting final rulemaking.

- New analysis completed with 2015 pavement data, which became available in October.

## *Proposed Performance Measures*

(1) Percentage of pavements on the Interstate System in Good condition

(2) Percentage of pavements on the Interstate System in Poor condition

(3) Percentage of pavements on the NHS (excl. Interstate System) in Good condition

(4) Percentage of pavements on the NHS (excl. Interstate System) in Poor condition.

(5) Percentage of NHS Bridges Classified as in Good Condition

(6) Percentage of NHS Bridges Classified as in Poor Condition



# 2015 Pavement Conditions

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- Data from Highway Performance Monitoring System (HPMS)
- Data submitted in June for prior year; available for analysis in October

Extent – Entire NHS reported in 0.1 mile sections

*Interstate – 2 Directions*

*Non Interstate National Highway System – 1 Direction*

three inventory data elements:

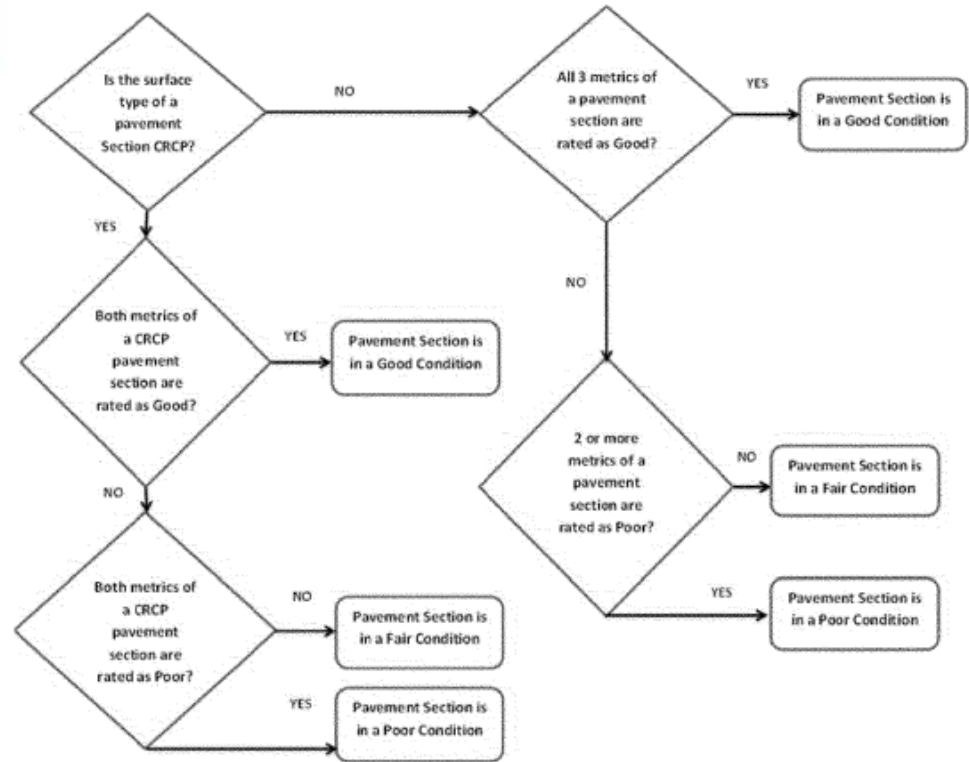
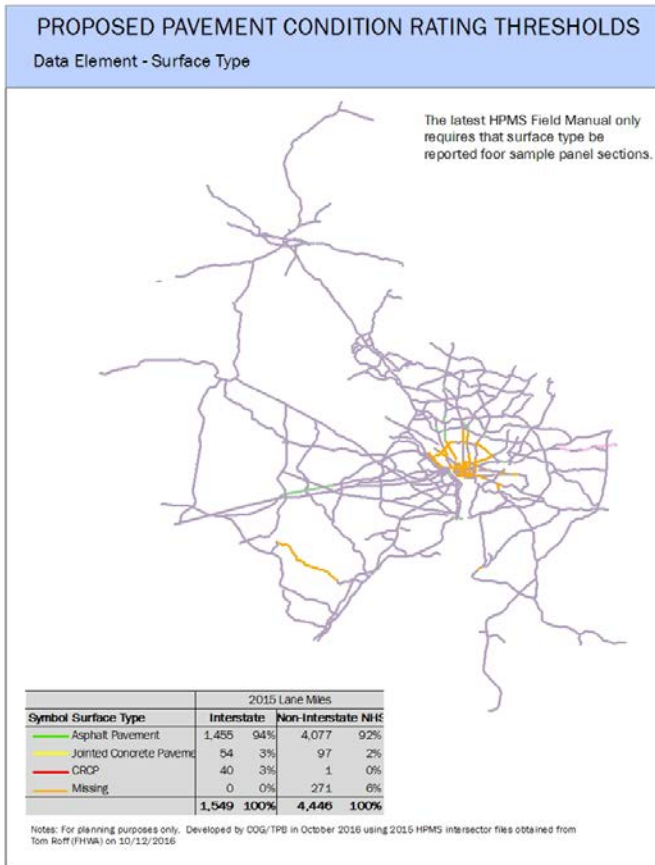
1. Structure Type
2. Through Lanes
3. Surface Type

four metrics:

1. IRI (International Roughness Index)
2. Cracking Percent
3. Rutting (*asphalt only*)
4. Faulting (*jointed concrete only*)



# Proposed Overall Pavement Condition Measure for Each Section



Legend: CRCP=Continuously Reinforced Concrete Pavement

Figure 9 -Flow Chart of Proposed Overall Pavement Condition Measure for Each Section

Note: Proposed overall pavement condition measure for non-interstate NHS based upon IRI rating until data collection cycle ending December 31, 2019



# Data Extent

## PROPOSED PAVEMENT CONDITION RATING THRESHOLDS

Extent - Interstate System - Both Directions of Travel

The four metrics and three inventory data elements would be required to be reported in both directions of travel on the interstate.



Symbol Direction	2015 Length	
	Interstate	
— Both Directions	9	4%
— Inventory Direction Only	221	96%
	<b>229</b>	<b>100%</b>

Notes: For planning purposes only. Developed by COG/TPB in October 2016 using 2015 HPMS intersector files obtained from Tom Roff (FHWA) on 10/12/2016

## PROPOSED PAVEMENT CONDITION RATING THRESHOLDS

Extent - Section Length

The four metrics and three inventory data elements would be required to be reported in segments of 0.1 mile.



Shorter sections may be used at the beginning of a route, end of a route, or at location where a section length of 0.1 mile is not achievable.

Symbol Section Length	2015 Lane Miles			
	Interstate		Non-Interstate NHS	
— < 0.1 mile	748	48%	1,720	39%
— = 0.1 mile	746	48%	2,224	50%
— > 0.1 mile	55	4%	503	11%
	<b>1,549</b>	<b>100%</b>	<b>4,446</b>	<b>100%</b>

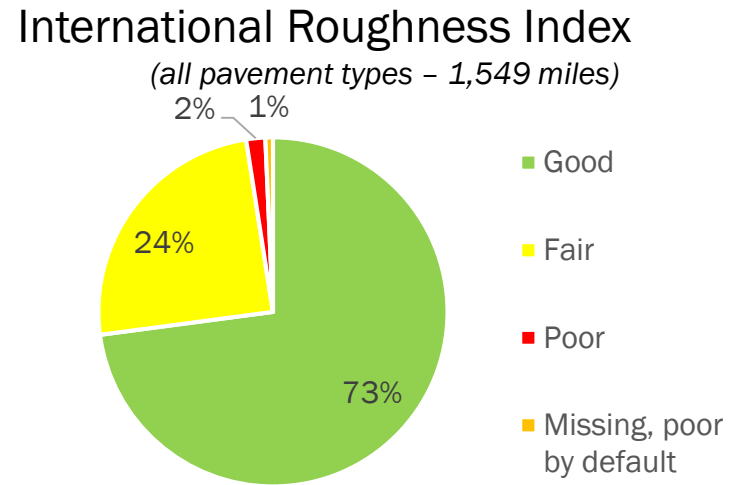
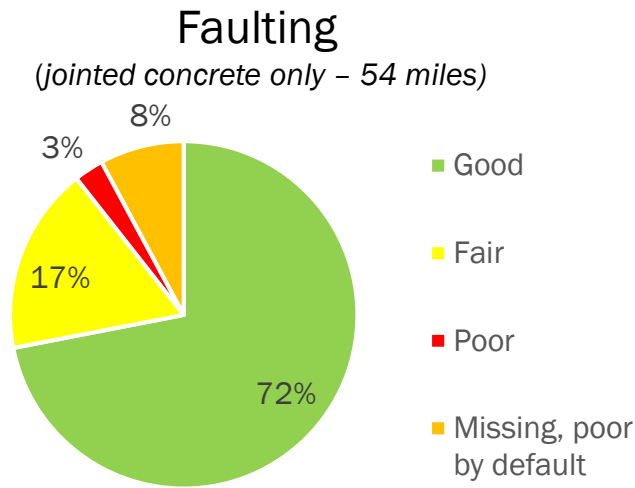
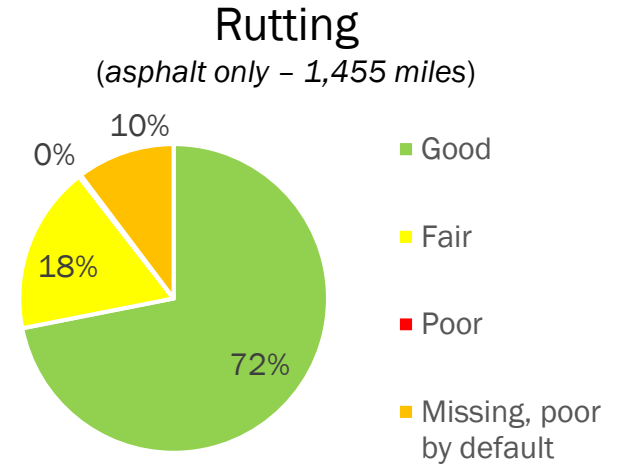
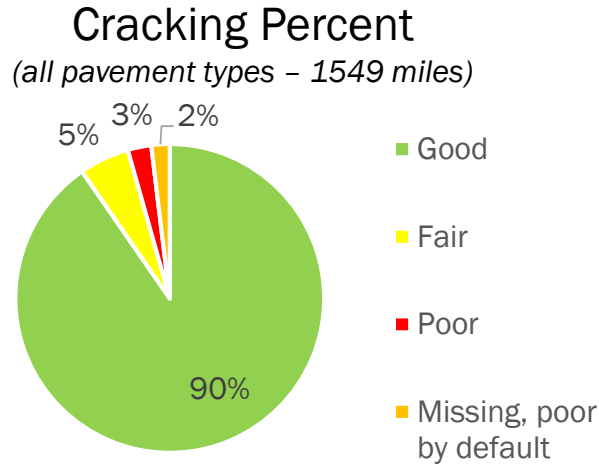
Notes: For planning purposes only. Developed by COG/TPB in October 2016 using 2015 HPMS intersector files obtained from Tom Roff (FHWA) on 10/12/2016

Note: Summary for Inventory Direction only.



# 2015 Pavement Metrics

## (Interstate – Inventory Direction Only)

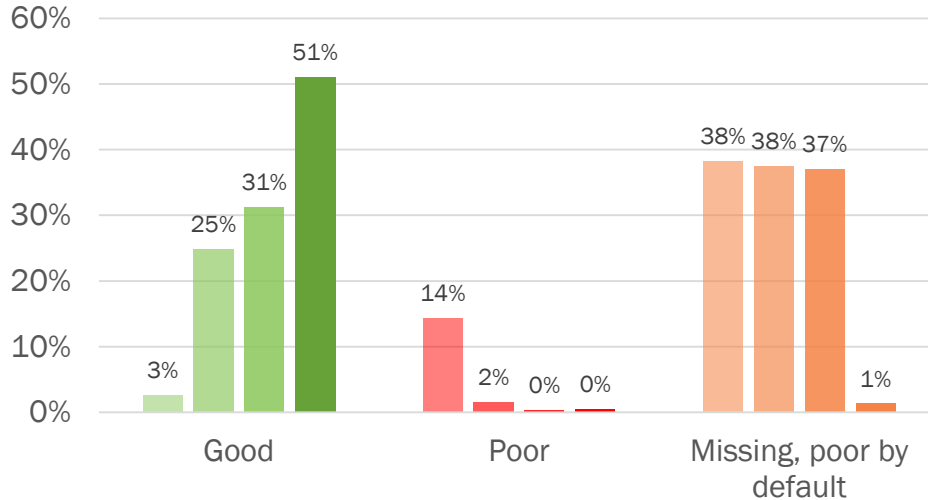


Above Analysis for sections where: (1) Structure Type not equal to bridge and (2) Facility type not equal to Ramp, Non Mainline, Non Inventory Direction, or Planned/Unbuilt

# Overall Pavement Conditions

(For inventory direction only; Interstate must be reported in both directions)

Overall Pavement Condition – Interstate, Inventory Direction Only, 2012-2015

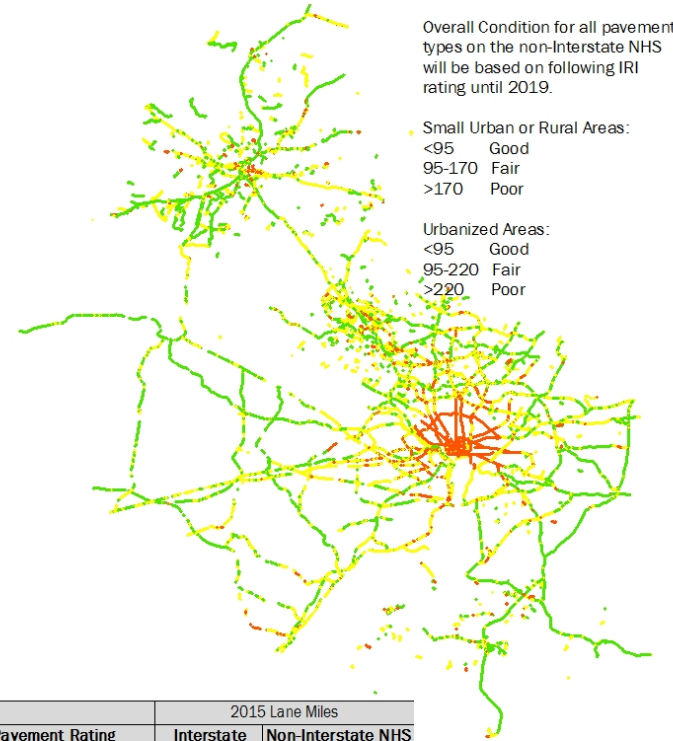


In 2015, where data is available, the region met the proposed statewide minimum condition level (less than 5 percent in poor condition) with less than 2 percent of interstate lane miles in poor condition but:

- (1) Data is **not consistent** with how the proposed rule requires it be reported
- (2) This is **only** for the inventory direction; the proposed rule requires both directions be reported

## PROPOSED PAVEMENT CONDITION RATING THRESHOLDS

Overall Pavement Condition



Symbol Pavement Rating	2015 Lane Miles			
	Interstate		Non-Interstate NHS	
Good	787	51%	1,848	42%
Fair	733	47%	1,827	41%
Poor	7	0%	760	17%
Missing, poor by default	21	1%	11	0%
	<b>1,549</b>	<b>100%</b>	<b>4,446</b>	<b>100%</b>

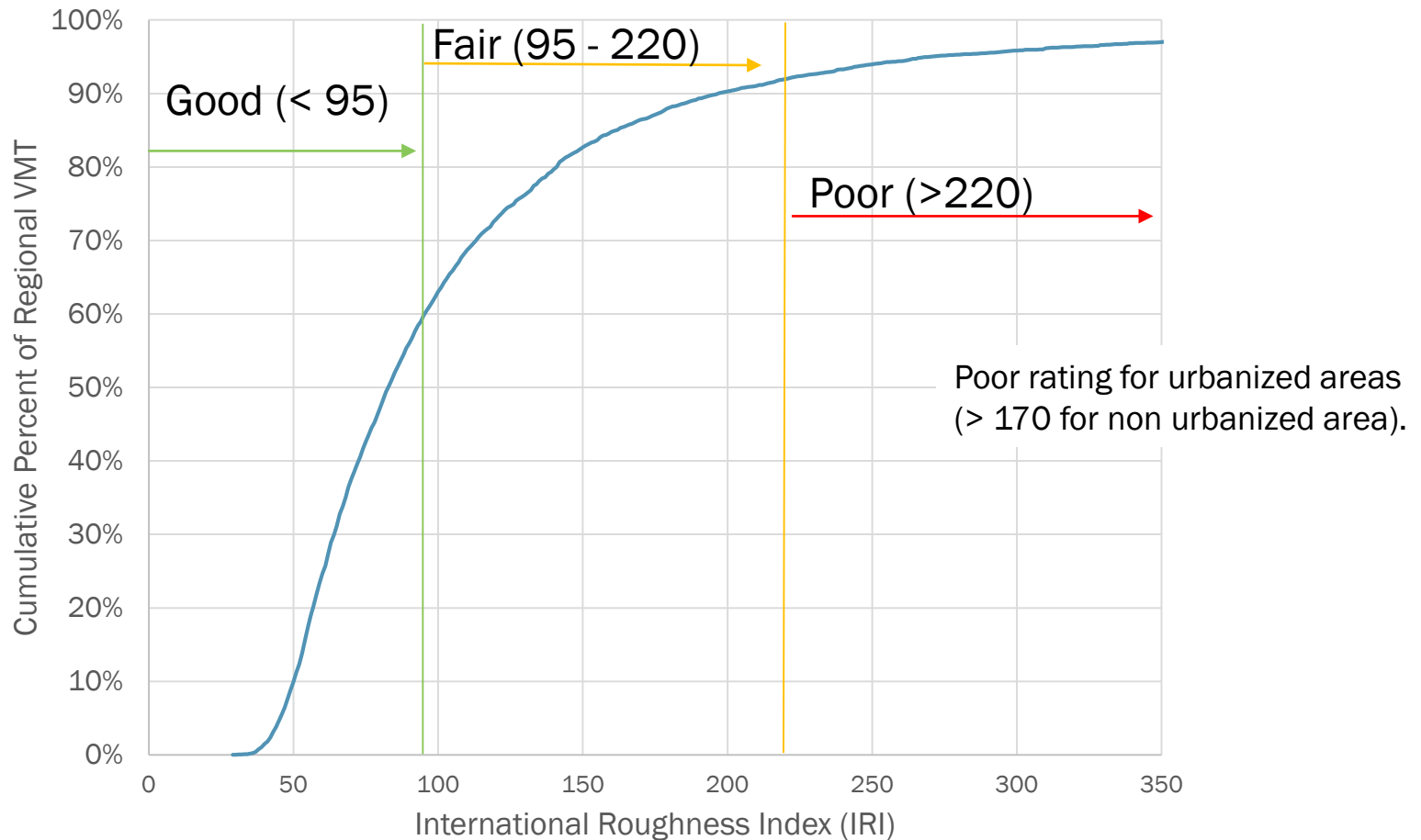
Notes: For planning purposes only. Developed by DOG/TPB in October 2016 using 2015 HPMS intersector files obtained from Tom Roff (FHWA) on 10/12/2016

Note: Summary for sections where (1) Structure Type not equal to bridge and (2) Facility type not equal to Ramp, Non Mainline, Non Inventory Direction, or Planned/Unbuilt



# Regional IRI Quality Distribution

What drivers experience on the roads.



Note: IRI reported for sections with 99.6% of VMT on NHS; Summary for sections where (1) Structure Type not equal to bridge and (2) Facility type not equal to Ramp, Non Mainline, Non Inventory Direction, or Planned/Unbuilt



# Condition of Bridges

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- Data from National Bridge Inventory (NBI)
- Data submitted by April 1 for current year but may be corrected or updated throughout the year; considered final and published at the end of each calendar year
- All NHS bridges including bridges on ramps connecting to the NHS and NHS bridges that cross a State border regardless of ownership or maintenance responsibility.
- Condition -
  - Minimum NBI Condition Ratings: Deck, Superstructure, Substructure, and Culverts
- Minimum level –
  - Structurally Deficient Classification: Same as above, plus Structural Evaluation and Waterway Adequacy



# Classification Process for Condition of each Bridge

Percentage (X.X%) of NHS Bridges in a Classification  
 =  $100.0 * \frac{\text{Total Deck Area of NHS Bridges in a Classification}}{\text{Total Deck Area of NHS Bridges in a State}}$

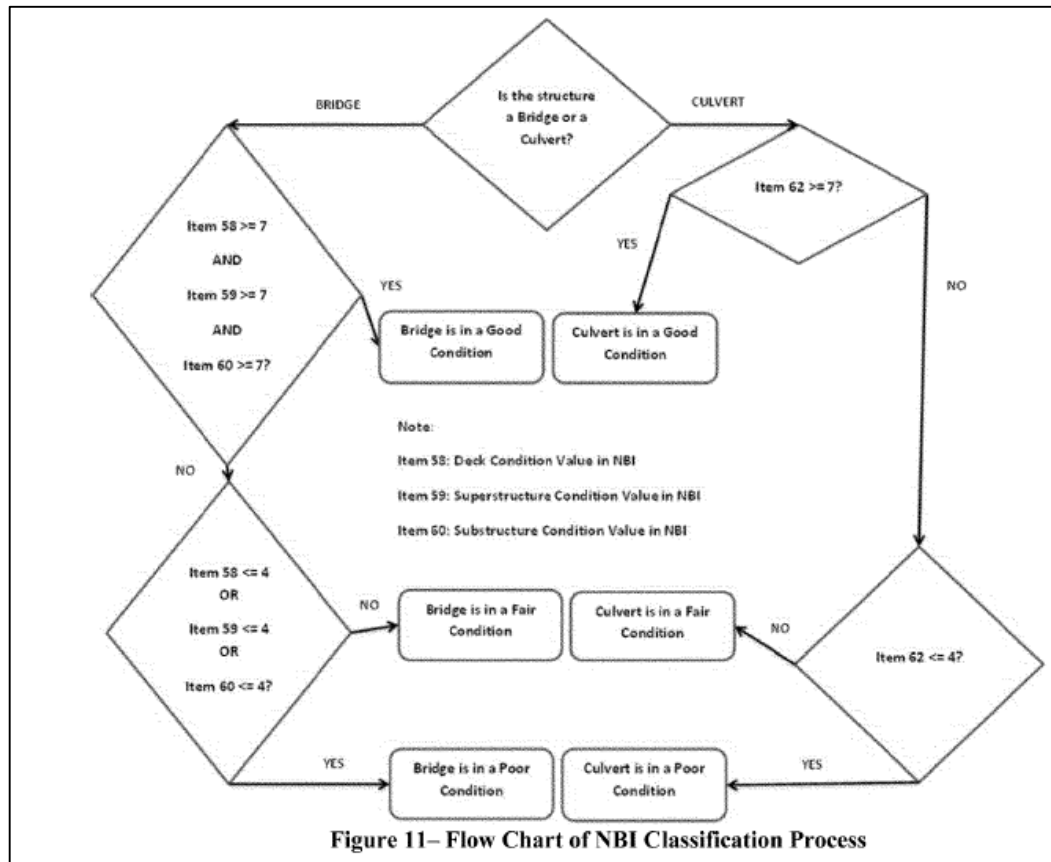
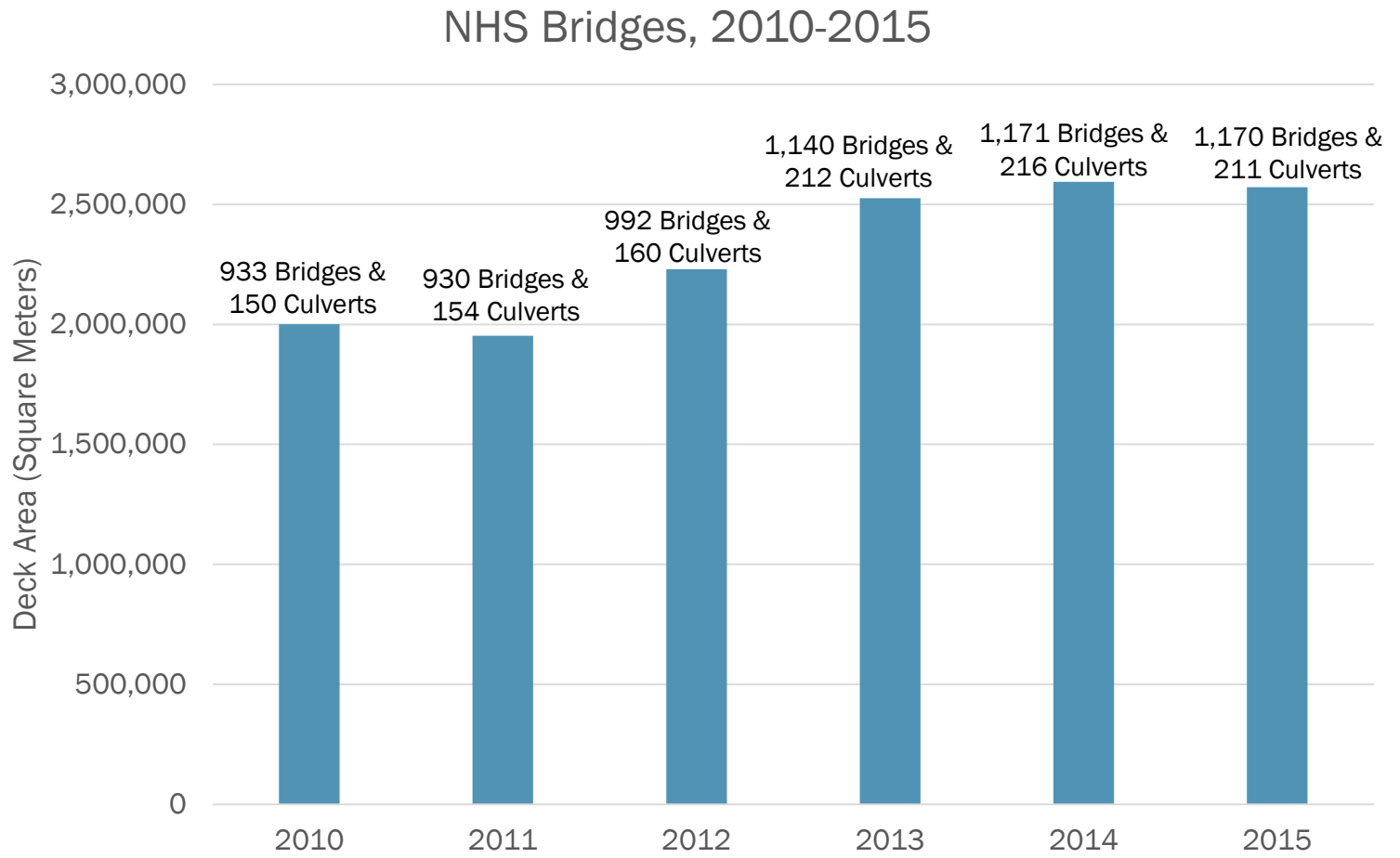


Figure 11– Flow Chart of NBI Classification Process

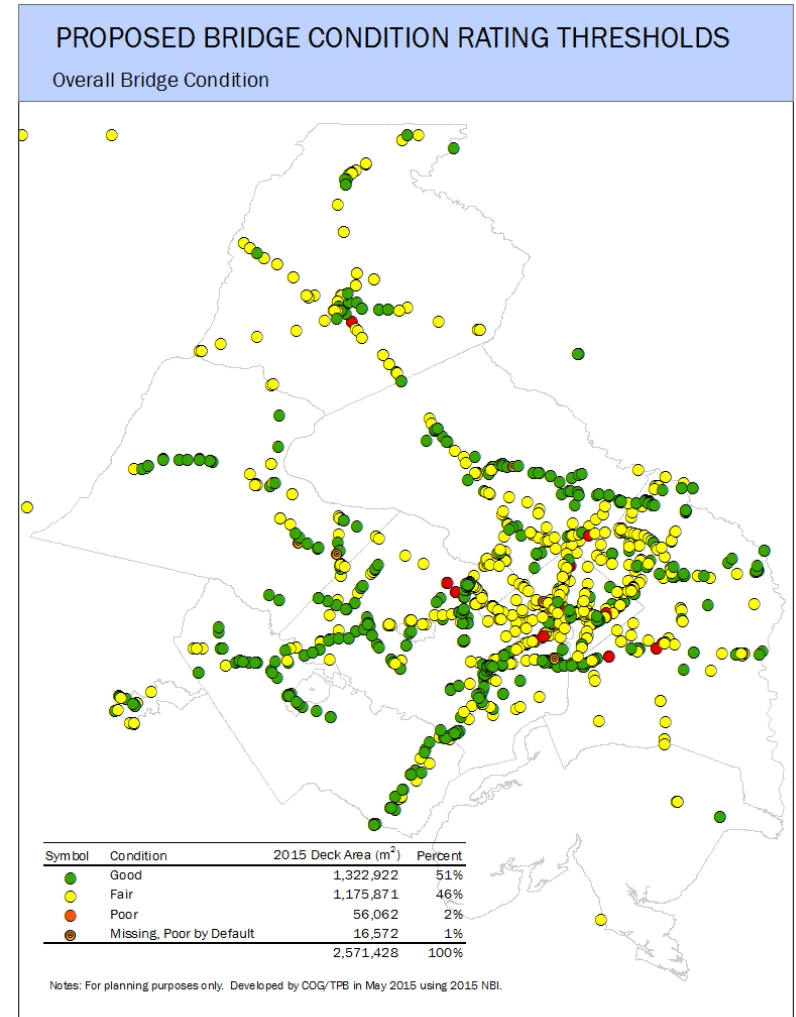
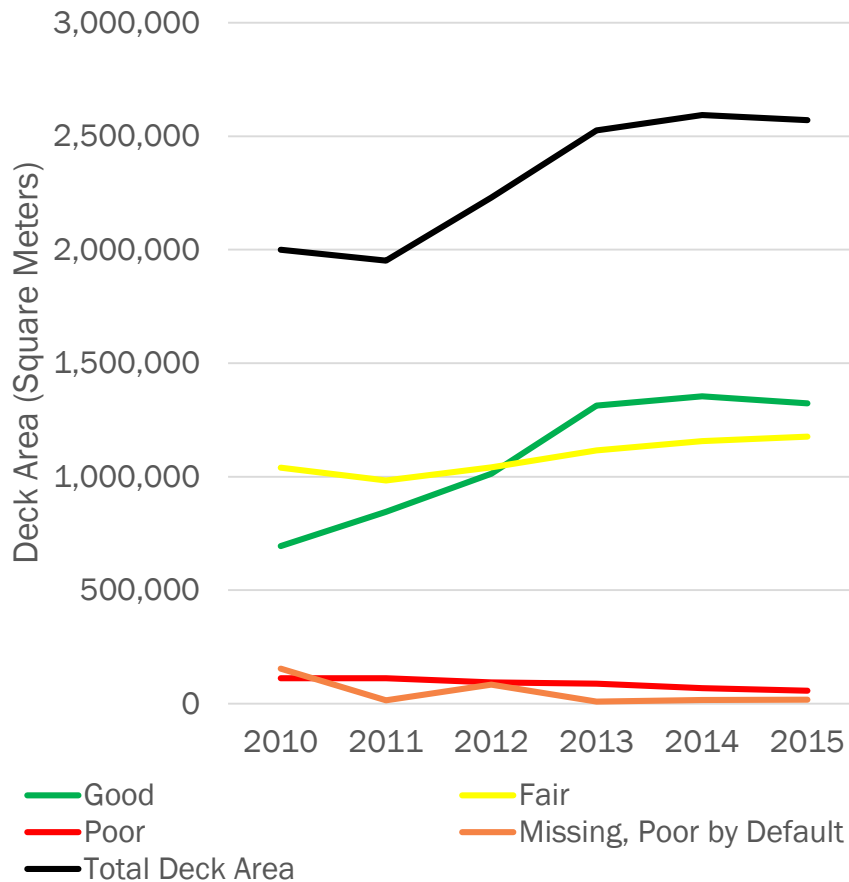


# Bridges in NHS



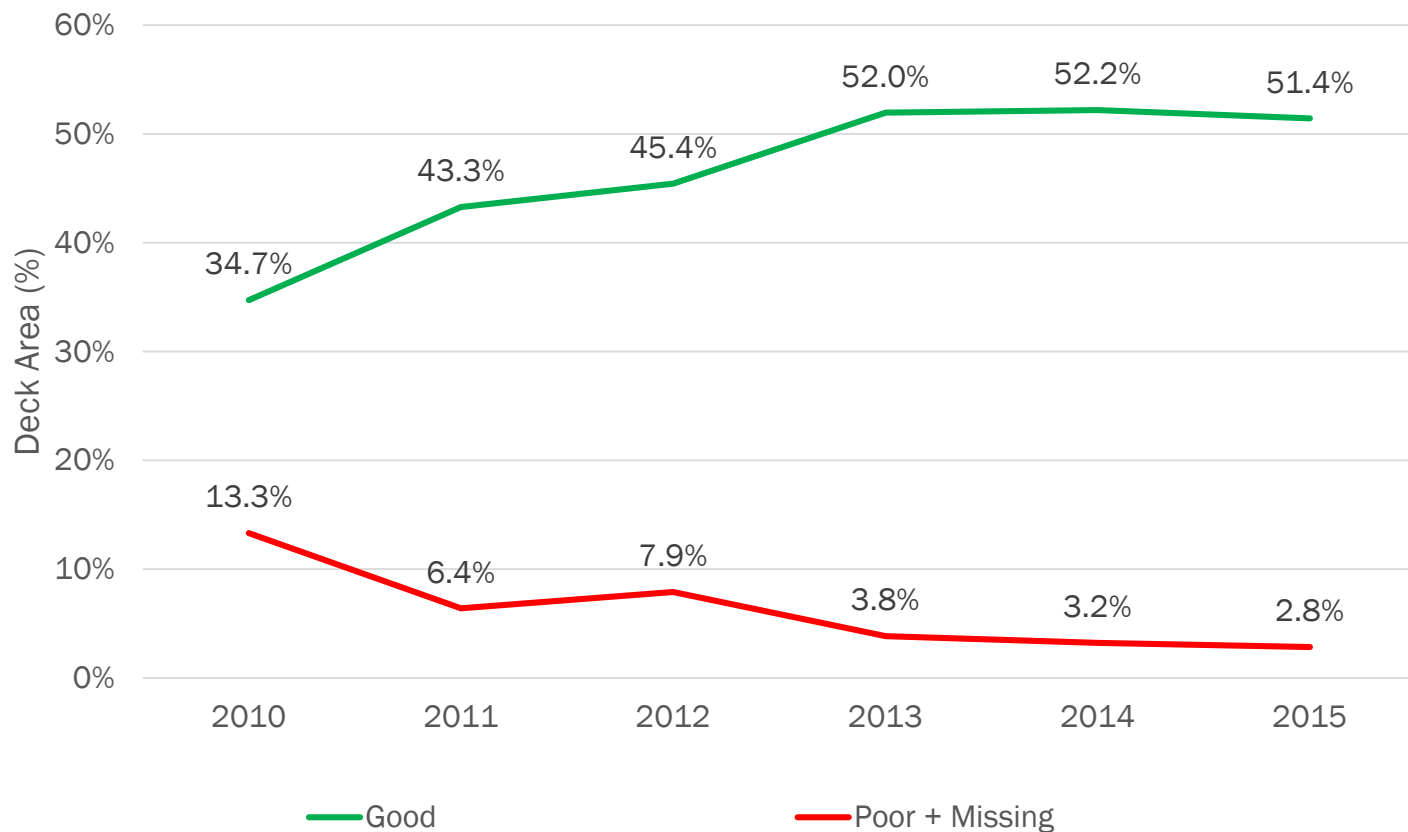
# Overall Condition of Bridges

## Overall Condition of Bridges

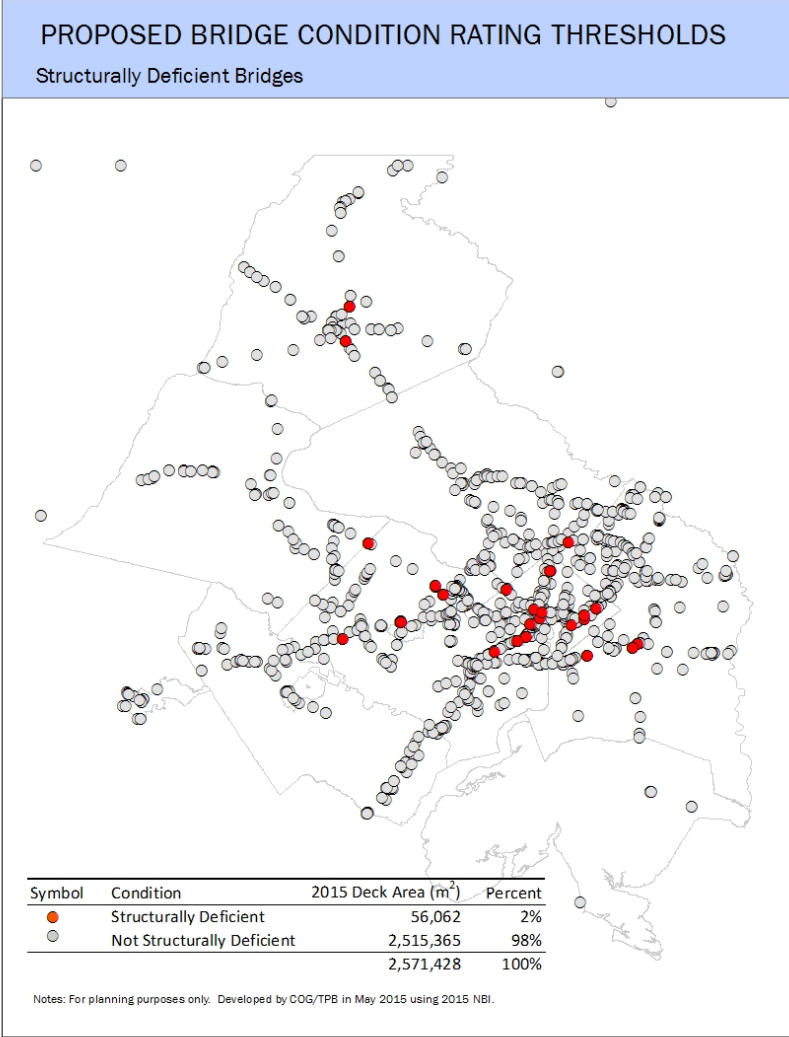
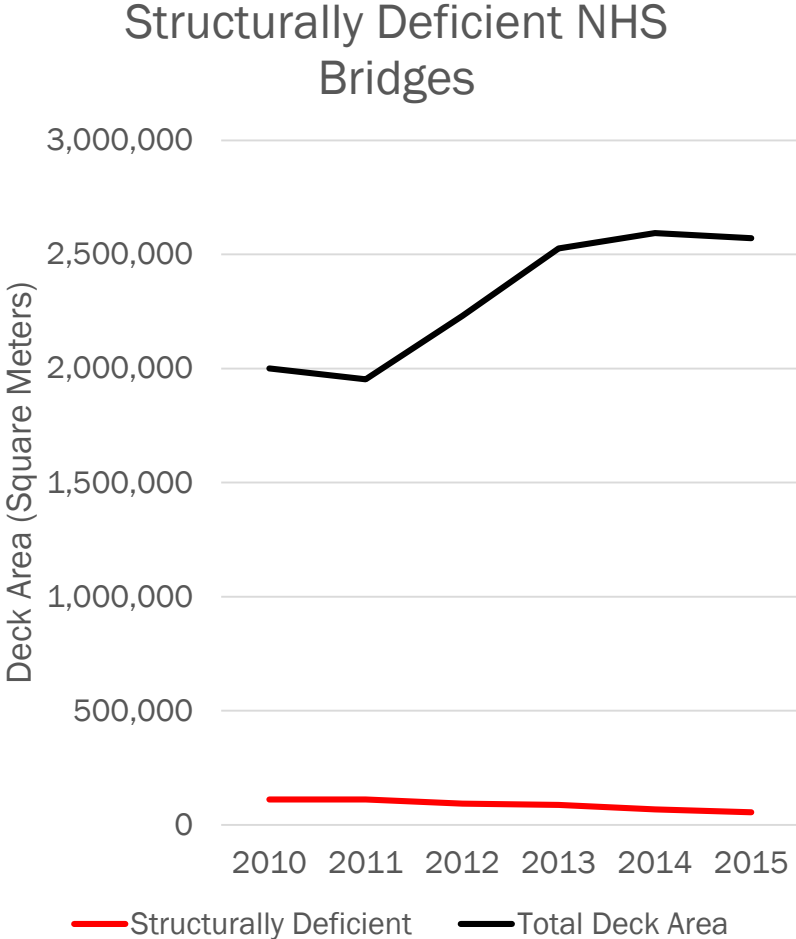




# Regional Progress on the Measures to be Reported



# Structurally Deficient Bridges

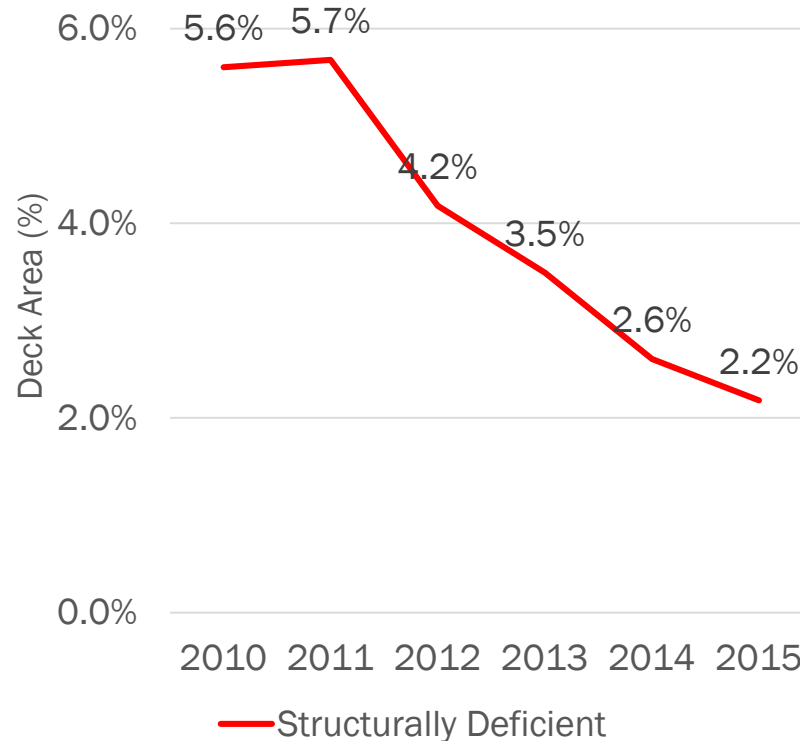


# Percentage of NHS Bridges rated as Structurally Deficient



In 2015, the region met the proposed statewide minimum condition level (less than 10 percent structurally deficient) with 2.2 percent of the total deck area of bridges in the region classified as structurally deficient.

Percentage of NHS Bridges rated as Structurally Deficient



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