



**Department of  
Transportation**

# Bridge Performance Measures

NYSAMPO  
July 16, 2019

# BRIDGE PERFORMANCE MEASURES

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## Final Rulemaking

The Federal Highway Administration (FHWA) published in the *Federal Register* (82 FR5886) a [final rule](#) establishing performance measures for State Departments of Transportation (DOTs) to use in managing pavement and bridge performance on the National Highway System (NHS). The National Performance Management Measures; Assessing Pavement Condition for the National Highway Performance Program and Bridge Condition for the National Highway Performance Program Final Rule addresses requirements established by the Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21) and reflects passage of the Fixing America's Surface Transportation (FAST) Act. The rule is effective **May 20, 2017**.

# Key Dates

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<b>May 20, 2017</b>	Final rule effective date.
<b>January 1, 2018</b>	1st 4- year performance period begins.
<b>May 20, 2018</b>	Initial 2- and 4-year targets established.
<b>October 1, 2018</b>	Baseline Performance Period Report for the 1 <sup>st</sup> Performance Period due. State DOTs report 2-year and 4-year targets; etc.
<b>Within 180 days of relevant State DOT(s) target establishment</b>	MPOs must commit to support State target or establish separate quantifiable target.
<b>October 1, 2020</b>	Mid Performance Period Progress Report for the 1 <sup>st</sup> Performance Period due. State DOTs report 2-year condition/performance; progress toward achieving 2-year targets; etc.
<b>December 31, 2021</b>	1st 4-year performance period ends.
<b>October 1, 2022</b>	Full Performance Period Progress Report for 1 <sup>st</sup> performance period due. State DOTs report 4-year condition/performance; progress toward achieving 4-year targets; etc. Baseline report due for 2 <sup>nd</sup> performance period due. State DOTs report 2- and 4-year targets; baseline condition, etc.

# National Bridge Performance Measures

➔ National Highway System [NHS] Only

➔ Measures

- 10% Poor\*

- Setting Targets

  - Poor\*

  - Good

\* Poor does not mean unsafe

# NHS description

- ➔ NHS System Only
- ➔ NHS is generally:
  - Interstate
  - Principle Arterials
- ➔ NHS includes:
  - All bridges on the NHS
  - On and off ramps connected to the NHS
  - Cross State borders

# Baseline NHS bridge conditions

Owner	% Good	% Fair	% Poor
<b>NYSDOT</b>	28.7	59.4	11.9
<b>Authorities &amp; Commissions</b>	9.4	79.4	11.2
<b>Municipalities</b>	19.4	67.9	12.7
<b>Other</b>	72.6	24.4	3.0
<b>Total</b>	20.2	68.0	11.7

# National Bridge Inspection data

- ➔ Collected by all States since 1970's
- ➔ Major elements rated on a scale of 1 to 9
- ➔ Condition of entire bridge, not worst
- ➔ Scale
  - 1 – Imminent Failure condition
  - 4 – Poor\* condition      \* Poor does not mean unsafe
  - 7 - Good condition

# National Bridge Inspection data

- ➔ Major Components
  - Deck
  - Superstructure
  - Substructure
  - Culvert (bridge size, culvert type)



# FHWA Condition Ratings

- ➔ “The primary considerations in classifying structural deficiencies are the bridge component condition ratings. The NBI database contains condition ratings of the three primary components of a bridge: the deck, superstructure, and substructure, which provides support of the entire bridge”

# Structurally Deficient (SD)

- ➔ “This term was previously defined in {Additional Guidance on 23 CFR 650 D} as having a condition rating of 4 or less for Item 58 (Deck), Item 59 (Superstructure), Item 60 (Substructure), or Item 62 (Culvert), OR having an appraisal rating of 2 or less for Item 67 (Structural Condition) or Item 71 (Waterway Adequacy)
- ➔ ***Beginning with the 2018 data archive***, this term will be defined in accordance with the {23 CFR Part 490}, published in January of 2017, as a classification given to a bridge which has any component [Item 58, 59, 60, or 62] in Poor or worse condition [code of 4 or less].“
- ➔ *Note: { } denote edits to quote: originally hyperlinks.*

# FHWA Rating Definition & Scale

## ➔ Poor\* Bridge

- ❑ New definition effective from 1/1/2018
  - Similar to old “Structurally Deficient” definition
  
- ❑ Any of the following NBI Items  $\leq 4$  (0-9 Scale)
  - Deck (Item 58)
  - Superstructure (Item 59)
  - Substructure (Item 60)
  - Culverts (Item 62) (bridge size culvert structures)

\* Poor does not mean unsafe

# FHWA commentary on SD #1

- ➔ “What makes a bridge structurally deficient, and are structurally deficient bridges unsafe?”
- ➔ Structurally deficient bridges are **not** inherently unsafe.
  - ❑ Bridges are considered structurally deficient if significant load-carrying elements are found to be in poor or worse condition due to deterioration and/or damage,”

# FHWA comment on SD #2

- ➔ “The classification of a bridge as structurally deficient does not imply that it is likely to collapse or that it is unsafe. By conducting properly scheduled inspections, unsafe conditions may be identified; if the bridge is determined to be unsafe, the structure must be closed. A deficient bridge, when left open to traffic, typically requires significant maintenance and repair to remain in service and eventual rehabilitation or replacement to address deficiencies. To remain in service, structurally deficient bridges often have weight limits that restrict the gross weight of vehicles using the bridges to less than the maximum weight typically allowed by statute.”

# FHWA Rating Definition & Scale

## ➔ Good Bridge

- ☐ All NBI Items 58-60,62  $\geq 7$  (0-9 Scale)

## ➔ Fair Bridge

- ☐ Lowest of above NBI Items 5 or 6

# National Bridge Performance Measures

- NHS Deck area of bridges in good condition
  - Baseline 20.2%
  - Target 23.0% (2yr)  
24.0% (4yr)
- NHS Deck area of bridges in poor\* condition
  - Baseline 11.7%
  - Target 11.6% (2yr)  
11.7% (4yr)

\*Poor does not mean unsafe

# FAST Act 2017

- ➔ 23 CFR Part 490, Subpart D
  - ❑ Performance Management Measures – NHS Targets
  - ❑ Maximum 10% NHS Bridge Deck Area Poor\*
    - 3 consecutive years
  - ❑ NYSDOT has to set aside NHPP funds to be used exclusively for eligible bridge projects in the NHS before we can use the funding flexibility of FAST Act.

\* Poor does not mean unsafe



# Bridge Performance Measures

## ➔ NHS Bridge Condition by Deck Area



- ➔ (iii) If significant progress is not made for either target established for the NHS bridge condition measures, §490.407(c)(1) and (2), then the State DOT shall document the actions it will take to achieve NHS bridge condition target;

# Questions?