

NATIONAL HIGHWAY SYSTEM BRIDGE AND PAVEMENT PERFORMANCE MEASURES AND TARGETS

Note: Boston Region Metropolitan Planning Organization (MPO) staff has updated this document, first presented on November 8, 2018, to indicate the MPO's adoption of the Commonwealth of Massachusetts' National Highway System (NHS) bridge and pavement condition performance targets discussed herein.

The tables in this document describe Massachusetts' statewide targets for federally required performance measures pertaining to 1) bridge condition on the National Highway System (NHS), 2) pavement condition on the Interstate Highway System, and 3) pavement condition on the non-Interstate NHS. For each set of performance measures, the Federal Highway Administration has specified thresholds that classify bridges or pavements as being in *good* or *poor* condition. Massachusetts Department of Transportation (MassDOT) staff presented information about these measures and the Commonwealth's targets at the MPO's November 8, 2018, meeting. The Boston Region MPO voted to adopt the Commonwealth's targets for the six NHS infrastructure condition performance measures at that meeting. By adopting the Commonwealth's targets for these measures, the MPO agrees to plan and program projects that help the Commonwealth achieve these targets. The MPO will have the opportunity to revisit targets for these federally required performance measures in the future and can monitor and set targets for other performance measures related to bridge and pavement condition.

**COMMONWEALTH OF MASSACHUSETTS’ NATIONAL HIGHWAY SYSTEM
BRIDGE CONDITION PERFORMANCE TARGETS ADOPTED BY THE BOSTON REGION MPO**

Federally Required Bridge Condition Performance Measure	2018 Measure Value (Baseline)	Two-Year Target (CY 2019)^a	Four-Year Target (CY 2021)^a
Percent of NHS Bridges [by deck area] that are in <i>good</i> condition ^b	15.2%	15.0%	16.0%
Percent of NHS Bridges [by deck area] that are in <i>poor</i> condition ^b	12.4%	13.0%	12.0%

Note: There are 2,246 NHS bridges in Massachusetts (cumulative deck area of 29,457,351 square feet). The Massachusetts Department of Transportation (MassDOT) owns 2,173 of these bridges (cumulative deck area of 28,560,106 square feet, or approximately 97 percent of Massachusetts NHS bridge deck area).

^a The two-year target reflects conditions as of the end of CY 2019, and the four-year target reflects conditions as of the end of CY 2021.

Metropolitan planning organizations must establish four-year targets for federally required NHS bridge condition performance measures, either by adopting the state’s targets or establishing separate quantifiable targets.

^b These performance measures classify NHS bridge condition as *good*, *fair*, or *poor* based on the condition ratings of three bridge components: the deck, the superstructure, and the substructure. National Bridge Inventory data is used to rate these components on a scale of 0 (worst) to 9 (best). The Federal Highway Administration has classified these bridge ratings into *good* (7, 8, or 9 on the scale), *fair* (5 or 6), or *poor* (4 or less). The lowest rating of the three components determines the overall bridge condition. (Note: Culverts are assigned an overall condition rating.) The measure expresses the share of NHS bridges in a certain condition by deck area, divided by the total deck area of NHS bridges.

CY = calendar year. NHS = National Highway System.

Source: MassDOT.

**COMMONWEALTH OF MASSACHUSETTS' INTERSTATE HIGHWAY SYSTEM
PAVEMENT CONDITION PERFORMANCE TARGETS ADOPTED BY THE BOSTON REGION MPO**

Federally Required Reliability Performance Measure	2017 Measure Value (Baseline)	Two-Year Target (CY 2019)^a	Four-Year Target (CY 2021)^a
Percent of Interstate Highway System pavements that are in <i>good</i> condition ^b	74.2%	70.0%	70.0%
Percent of Interstate Highway System pavements that are in <i>poor</i> condition ^b	0.1%	4.0%	4.0%

Note: There are approximately 3,204 lane miles on the Interstate Highway System in Massachusetts. The Massachusetts Department of Transportation (MassDOT) has jurisdiction over the Interstate Highway System.

^a The two-year target reflects conditions as of the end of CY 2019, and the four-year target reflects conditions as of the end of CY 2021. For this first federal performance period (2018–21), the Federal Highway Administration has only required states to report four-year targets for pavement condition on the Interstate Highway System. Metropolitan planning organizations must establish four-year targets for federally required Interstate Highway System pavement condition performance measures, either by adopting the state’s targets or establishing separate quantifiable targets.

^b These performance measures classify Interstate Highway System pavements as in *good*, *fair*, or *poor* condition based on the pavements’ International Roughness Index (IRI) value and one or more pavement distress metrics (cracking and/or rutting and faulting) depending on the pavement type (asphalt, jointed concrete, or continuous concrete). The Federal Highway Administration sets thresholds for each metric that determine whether the metric value is *good*, *fair*, or *poor*, along with thresholds that determine whether the pavement segment as a whole is considered to be in *good*, *fair*, or *poor* condition.

CY = calendar year.

Source: MassDOT.

COMMONWEALTH OF MASSACHUSETTS' NON-INTERSTATE NATIONAL HIGHWAY SYSTEM PAVEMENT CONDITION PERFORMANCE TARGETS ADOPTED BY THE BOSTON REGION MPO

Federally Required Reliability Performance Measure	2017 Measure Value (Baseline)	Two-Year Target (CY 2019) ^a	Four-Year Target (CY 2021) ^a
Percent of non-Interstate NHS pavements that are in <i>good</i> condition ^b	32.9%	30.0%	30.0%
Percent of non-Interstate NHS pavements that are in <i>poor</i> condition ^b	31.4%	30.0%	30.0%

Note: There are approximately 7,319 lane miles of non-Interstate NHS highways in Massachusetts. The Massachusetts Department of Transportation (MassDOT) has jurisdiction over approximately 62 percent of non-Interstate NHS lane mileage, and municipalities have jurisdiction over 35 percent. The remainder (approximately 3 percent) is under the jurisdiction of the Massachusetts Department of Conservation and Recreation, the Massachusetts Port Authority, and other entities.

^a The two-year target reflects conditions as of the end of CY 2019, and the four-year target reflects conditions as of the end of CY 2021.

Metropolitan planning organizations must establish four-year targets for federally required non-Interstate NHS pavement condition performance measures, either by adopting the state's targets or establishing separate quantifiable targets.

^b These performance measures classify non-Interstate Highway System pavements as in *good*, *fair*, or *poor* condition based on the pavements' International Roughness Index (IRI) value. The Federal Highway Administration sets thresholds for IRI values that are considered *good*, *fair*, or *poor*. States will be required to collect data for pavement distress metrics for non-Interstate pavements starting in 2020. These distress metrics will be incorporated into future performance monitoring.

CY = calendar year. NHS = National Highway System.

Source: MassDOT.