

Des Moines Area MPO Road and Bridge Condition Performance

Targets and Methodology

October 2018

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BACKGROUND

In April 2016, the Federal Highway Administration (FHWA) released the final rulemaking for pavement condition of the Interstate and non-Interstate National Highway System (NHS) and bridge condition of the NHS performance measures. Included in the rulemaking are definitions of key terms, the applicability of the rule, and guidance on how to establish performance targets, determine if progress is achieved, and reporting targets for the NHS.

The condition measures required to be reported include:

1. Percentage of pavements of the Interstate System in Good condition
2. Percentage of pavements of the Interstate System in Poor condition
3. Percentage of pavements of the non-Interstate NHS in Good condition
4. Percentage of pavements of the non-Interstate NHS in Poor condition
5. Percentage of NHS bridges classified as in Good condition
6. Percentage of NHS bridges classified as in Poor condition

Performance targets were established by states beginning in May 2018. The Des Moines Area Metropolitan Planning Organization (MPO) has 180 days after the state sets its targets to either:

- 1) Agree to support the Iowa Department of Transportation (DOT) target.
- 2) Establish target for each of the five performance measures specific to the MPO planning area.

MPO target achievement will be monitored through the continued planning efforts of the Des Moines Area MPO including long-range planning, project evaluation, and performance monitoring reports

Condition Goals in *Mobilizing Tomorrow*

In 2014 the Des Moines Area MPO approved *Mobilizing Tomorrow* as the long-range, regional transportation plan for the year 2050. *Mobilizing Tomorrow* outlines four high-level goals to direct Greater Des Moines toward a more vibrant transportation system. Each of these goals identified several performance measures to help track the plan's progress. Goal 2 in *Mobilizing Tomorrow* seeks to "manage and optimize transportation infrastructure and services" and includes measures related to, but does not directly address, measures required by federal rulemaking.

In addition to setting baseline values for tracking the performance in the long-range plan, a target was set for the year 2050 to be used to evaluate the on-going performance of the transportation system. In *Mobilizing Tomorrow* those measures have a 2050 target of maintaining the system at the baseline level set when the plan was adopted.

STATEWIDE TARGETS

In May 2018, the Iowa DOT established statewide performance targets for the 2018-2021 time-period as shown in Table 1.

Table 1: Iowa DOT 2018-2021 Condition Performance Targets

| Performance Measures | 2018-2021 Forecasting and Targeting | | | |
|---|-------------------------------------|---------------|-----------------|---------------|
| | 2-Year Forecast | 2-Year Target | 4-Year Forecast | 4-Year Target |
| Percentage of pavements of the Interstate System in Good condition | 51.1% | N/A | 52.1% | 49.4% |
| Percentage of pavements of the Interstate System in Poor condition | 1.8% | N/A | 2.2% | 2.7% |
| Percentage of pavements of the non-Interstate NHS in Good condition | 49.0% | 48.8% | 47.1% | 46.9% |
| Percentage of pavements of the non-Interstate NHS in Poor condition | 13.0% | 13.2% | 14.3% | 14.5% |
| Percentage of NHS bridges classified as in Good condition | 47.0% | 45.2% | 46.5% | 44.6% |
| Percentage of NHS bridges classified as in Poor condition | 2.7% | 3.7% | 1.7% | 3.2% |

Per 23 CFR § 490, the Des Moines Area MPO must establish condition targets within 180 days of the statewide targets being established, by November 16, 2018. The Des Moines Area MPO maintains two options for setting regional performance targets:

1. Support the State's targets by agreeing to plan and program projects so that they contribute toward the accomplishment of the Iowa DOT condition target for that performance measure
2. Set a quantifiable target for that performance measure for the MPO

The Des Moines Area MPO presented and discussed the statewide targets with the MPO Technical Committee and the Planning and Engineering Subcommittees in October 2018 to gather feedback on making the decision to support the State's targets or set targets for the Des Moines Area MPO planning area.

Based on discussion with the MPO Committees and the condition performance targets established for 2050 in *Mobilizing Tomorrow*, the MPO determined setting condition targets for the Des Moines Area MPO planning area was the appropriate action for the 2018-2021 time-period.

DES MOINES AREA MPO CONDITION PERFORMANCE METHODOLOGY

Des Moines Area MPO 2017 Baseline

In the previous report prepared by the MPO entitled “Des Moines Area MPO Safety Performance Targets and Methodology”, an analytical based approach was used to determine a Des Moines Area MPO specific baseline and set targets. The safety performance methodology utilized data going back to 2006. However, for the PM2 pavement and bridge condition targets there is only one data point available for the MPO Planning Area. The Iowa DOT provided 2017 pavement and bridge data in June of 2018, however, previous years’ data is not available. Because of this, it is not possible to determine any sort of trend or forecast due to a lack of sufficient data.

Table 2 presents the 2017 data that was provided to the MPO by the Iowa DOT.

Table 2: Des Moines Area MPO Condition Performance Baselines

| Performance Measure | Des Moines Area MPO 2017 Pavement and Bridge Data |
|---|---|
| Percentage of pavements of the Interstate System in Good condition | 47.5% |
| Percentage of pavements of the Interstate System in Poor condition | 0.9% |
| Percentage of pavements of the non-Interstate NHS in Good condition | 32.5% |
| Percentage of pavements of the non-Interstate NHS in Poor condition | 22.4% |
| Percentage of NHS bridges classified as in Good condition | 69.8% |
| Percentage of NHS bridges classified as in Poor condition | 1.3% |

2018-2021 Condition Targets

Due to the limited data available for the Des Moines region and with the targets identified in Mobilizing Tomorrow, the 2018-2021 condition performance targets will be set to maintain the identified transportation system. Therefore, the Des Moines Area MPO specific final 4 year targets for PM-2 identified in Table 3 are recommended for the 2018-2021 time-period.

Table 3: 2018-2021 Condition Performance Targets

| Performance Measure | 2018-2021 Target |
|---|------------------|
| Percentage of pavements of the Interstate System in Good condition | 47.5% |
| Percentage of pavements of the Interstate System in Poor condition | 0.9% |
| Percentage of pavements of the non-Interstate NHS in Good condition | 32.5% |
| Percentage of pavements of the non-Interstate NHS in Poor condition | 22.4% |
| Percentage of NHS bridges classified as in Good condition | 69.8% |
| Percentage of NHS bridges classified as in Poor condition | 1.3% |

Moving forward, as additional data points for the Des Moines Area MPO becomes available the above targets will be reviewed utilizing a more analytical approach. After review they will be adjusted given the results of additional baseline forecasting in a similar manner to which the Safety Performance Targets were set.

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