



MEMORANDUM

TO: TPB Technical Committee
FROM: Ian Newman, TPB Transportation Planner
SUBJECT: Travel Time Reliability Targets: Interstates, NHS Non-Interstates, and Truck Travel Time-DRAFT
DATE: September 4, 2026

This memorandum provides an update on the performance measures tracking of Level of Travel Time Reliability for Interstates (LOTTR-I), for National Highway System (NHS) non-Interstates (LOTTR-NI), and Freight Reliability as measured by the Truck Travel Time Reliability Index (TTTRI). These federally required measures are part of the TPB's performance-based planning and programming process (PBPP) for which the TPB evaluates and sets new targets every four years, with the option for reviewing targets every two years for potential modification.

The TPB has adopted targets for these three measures since 2018. At the September 4, 2026, Transportation Planning Board Technical Committee meeting, TPB staff will brief the Committee on the National Capital Region's progress in meeting its previous Level of Travel Time Reliability and Freight Reliability targets and review the process for establishing new targets for the 2026-2029 reporting period.

OVERVIEW OF TRAVEL TIME RELIABILITY REQUIREMENTS

The following table provides a description of these performance measures with references to the Federal Code, data sources, and the required frequency of reporting. This section also summarizes the coordination requirements with State DOTs, the MPO's reporting requirements, potential consequences for not meeting targets, and the TPB's goals supported by these performance measures.

Performance Measure	Description	Federal Code	Data Source	Frequency of Reporting
Level of Travel Time Reliability-Interstates (LOTTR-I)	The percentage of person-miles traveled, that are deemed reliable, by both trucks and passenger vehicles on the TPB Region's interstate facilities' aggregated general purpose and express lanes, over four observed time periods.	23 CFR 490.507	NPMRDS INRIX-TMC Segments	Every four years, set new two- and four-year targets.

Performance Measure	Description	Federal Code	Data Source	Frequency of Reporting
Level of Travel Time Reliability-NHS Facilities Excluding Interstates (LOTTR-NI)	The percentage of person-miles traveled, that are deemed reliable, by both trucks and passenger vehicles on the TPB Region's National Highway System (NHS) facilities, excluding its interstates, over four observed time periods.	23 CFR 490.507	NPMRDS-TMC Segments	Every four years, set new two- and four-year targets.
Truck Travel Time Reliability Index (TTRI)	A ratio that illustrates the reliability of truck travel times on the TPB Region's interstate facilities, only by trucks, over five observed time periods	23 CFR 490.607	NPMRDS INRIX-TMC Segments	Every four years, set new two- and four-year targets.

Coordination Requirements with State DOTs

MPOs are required to establish their performance targets in coordination with all state DOTs and MPOs intersecting with the urban area, and these targets should be data-driven, realistic, and unified. The requirement for these targets to be evidence-based and predictive of anticipated outcomes does not supersede or diminish any aspirational targets to which local, regional, or state jurisdictions are committed.

MPO Requirements

MPOs that include any portion of the National Highway System (NHS) shall establish performance targets for the Travel Time Reliability and Freight Reliability performance measures in accordance with 23 CFR 490.507 and 23 CFR 490.607.

State DOTs and MPOs shall establish statewide and metropolitan planning area-wide targets, respectively, that represent the condition/performance of the transportation network or geographic area. After the state DOTs establish their Travel Time Reliability and Freight Reliability targets, MPOs have 180 days to adopt a target.

TPB Goals

The Travel Time Reliability and Freight Reliability measures support the TPB in assessing progress toward its established goal of planning a transportation network that delivers reliability.

TRAVEL TIME RELIABILITY-INTERSTATES

The following sections describe past performance, target-setting methodology, and draft targets for the LOTTR-I as reported in and measured by the percentage of reliable person-miles traveled.

Past Performance-Interstate Reliability

LOTTR-I is measured in the percentage of reliable person-miles traveled on the NHS interstate facilities for a region, for both trucks and passenger vehicles. During the pre-pandemic period (2016-

2019) there was year-to-year improvement and relatively low variability in interstate reliability for the TPB Region.

During the COVID years (2020-2021), there was a significant reduction in traffic volumes and a corresponding increase in reliability on the TPB Region's interstates from the pre-pandemic period. During the post-COVID years (2022-2023), the TPB Region witnessed a considerable increase in travel and corresponding decrease in reliability. However, in the most recent period, the New Normal period (2024-2025) there has been improvement in reliability on interstates as there was an increase in reliability from 2024-2025. In 2025, interstate reliability in the TPB Region was 56.1% reliable person-miles traveled, which did not meet the previously approved target of 61.1%.

Methodology

TPB staff utilized the National Performance Management Research Data Set (NPMRDS) from the FHWA to collect data for LOTTR-I on the Traffic Messaging Channel (TMC) segment level. This was gathered for the TPB Region's interstates' both general purpose and express lanes. This was done through the RITIS platform's NPMRDS Analytics and Probe Data Analytics suites' tools.

TPB staff used a combination of calendar year (CY)2016-2019 and CY2024-2025 data to serve as the observed data trend's data, due to the exceptional year-to-year variance from 2020-2023, to perform a simple linear regression. This was also performed for model data, using the *Percent Congested VMT During the AM Peak Hour* model data extrapolation for years 2026-2030. The model data is used to account for project impacts from both existing projects and project openings within the model data's timeframe in addition to population, land use, and job trend changes.

For both the observed data and model data trends, staff applied the regression slopes (annual rate of change) incrementally, year-over-year, from the 2025 observed LOTTR-I value. The two trends were then averaged together to derive values for 2026-2029, in which the 2027 and 2029 values served as the two- and four-year targets, respectively.

Level of Travel Time Reliability-Interstate (LOTTR-I) Draft Targets

Using the described methodology, TPB staff developed regional LOTTR-I targets for the 2026-2029 period, shown below.

- Draft Two-Year (CY2027) Target: **55.3%**
- Draft Four-Year (CY2029) Target: **54.6%**

LEVEL OF TRAVEL TIME RELIABILITY-(NHS) NON-INTERSTATES (LOTTR-NI)

The following sections describe past performance, target-setting methodology, and draft targets for the LOTTR-NI as reported in the percentage of reliable person-miles traveled.

Past Performance-NHS Non-Interstates Reliability

LOTTR-NI is measured in the percentage of reliable person-miles traveled on the NHS facilities, excluding the interstate facilities, for both trucks and passenger vehicles for a region. Similar to the Level of Travel Time Reliability on the TPB Region's interstates, the Level of Travel Time Reliability on the TPB Region's NHS facilities, excluding interstates, was relatively stable during the pre-pandemic years (2016-2019) with even less volatility than the interstates. During the COVID years (2020-

2021), though, there was also a large increase in reliable person-miles traveled on these facilities, though not as significant as the increase found for interstates. The post-COVID years (2022-2023) witnessed a decline in reliability on these facilities as travel demand increased, leading to greater levels of traffic volumes than experienced during the COVID years. In the new normal period (2024-2025), reliability on these NHS roadways at first increased from the post-COVID years, but declined within this period. However, the reliability in this period is still greater than it was during the pre-COVID period. The LOTTR-NI's observed data has exceeded targets for the last two reporting periods, with the most recent target of 2025 being met by over 4% (observed = 82.8%, target = 78.6%).

Methodology

TPB staff utilized the National Performance Management Research Data Set (NPMRDS) from the FHWA, to collect data for LOTTR-NI on the Traffic Messaging Channel (TMC) segment level, for the TPB Region's NHS facilities, excluding interstates. This was done through the RITIS platform's NPMRDS Analytics Suite's Dashboard tool's PM3 Widgets.

TPB staff used the last four years of observed LOTTR-NI data, for CY2022-2025, to serve as the observed data trend. This data, for the observed data trend, was used to perform a simple linear regression, to estimate the LOTTR-NI for years 2026-2029 based on the observed data, only. Similar to LOTTR-I, TPB staff also used the model data, using the *Percent Congested VMT During the AM Peak Hour* model data extrapolation for years 2026-2030.

For both the observed data and model data trends, TPB staff applied the regression slopes incrementally, year-over-year, from the 2025 observed LOTTR-NI value. The two trends were then averaged together to derive annualized values for each year between 2026-2029, in which the 2027 and 2029 values served as the two- and four-year targets, respectively.

Level of Travel Time Reliability-NHS Non-Interstates (LOTTR-NI) Draft Targets

Using the above methodology, TPB staff developed regional LOTTR-NI targets for the 2026-2029 period shown below.

- Draft Two-Year (CY2027) Target: **81.3%**
- Draft Four-Year (CY2029) Target: **79%**

TRUCK TRAVEL TIME RELIABILITY INDEX(TTTRI)

The following sections describe past performance, target-setting methodology, and draft targets for TTTRI.

Past Performance-Freight Reliability

The TTTRI is a ratio that compares the conditions of truck travel time during the worst periods versus normal conditions, averaged across interstate segments based on their length, for a region's interstates and trucks only. The greater this ratio is, the worse the reliability conditions are. During the pre-pandemic years (2016-2019) there was zero volatility in the year-to-year change in the TTTRI; it declined minimally, year-over-year at the same rate during this period. However, the COVID years (2020-2021) witnessed a significant increase in truck travel time reliability due to the decreased

traffic volumes. These traffic volumes began increasing again, similar to the other reliability metrics, for trucks during the post- COVID period (2022-2023) though the TTTRI at the end of this period remained lower than it was at the end of the post-COVID period. This can be due to a multitude of factors, including the opening of the I-66 Outside the Beltway Express Lanes in November 2022. Since 2023, during the new normal period (2024-2025), the TTTRI has consistently increased, though is lower than it was previously during the pre-pandemic period. This measure has met both of its previous performance period targets with the latest target, 2025, being met (observed = 2.44, target = 2.56).

Methodology

The methodology to derive TTTRI targets is similar to that of the two Level of Travel Time Reliability measures. TPB staff utilized the NPMRDS to collect data for TTTRI on the TMC segment level, for the TPB Region's interstate's general purpose and express lanes. The express lanes were considered for I-66 Outside the Beltway only as this is the only interstate express lanes in the TPB Region that allow trucks, as measured by FHWA vehicle class 4 and above, to utilize the express lane facilities. This was done through the RITIS platform's NPMRDS Analytics Suite's Dashboard tool's PM3 Widgets.

TPB staff utilized the last four years of observed TTTRI data, 2022-2025, for the observed data trend, and similarly used the *Percent Congested VMT During the AM Peak Hour* for model years 2026-2030, for the model data trend. The observed-data regression slope was then incrementally, year-over-year applied from the 2025 observed value, for the observed-data trend. This was applied for the model-data trend as well, and then averages were taken for each year between 2026 through 2029. The 2027 and 2029 years were extracted as the two- and four-year targets, respectively.

TTTRI Draft Targets

Using the above methodology, TPB staff developed regional TTTRI targets for the 2026-2029 period shown below.

- Draft Two-Year (CY2027) Target: **2.5**
- Draft Four-Year (CY2029) Target: **2.56**

NEXT STEPS

September 16, 2026: TPB staff present draft Travel Time Reliability targets to the TPB.

October 2026: TPB staff present final Travel Time Reliability targets to the Technical Committee and the TPB. TPB approves new targets.