



(American Legion Bridge over the Potomac River VDOT/[Flickr](#))

TRAVEL TIME RELIABILITY: INTERSTATES, NHS NON-INTERSTATES, AND TRUCK TRAVEL TIME

TPB Performance Measures and Targets

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Transportation Planning Board Technical Committee
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National Capital Region
Transportation Planning Board

Agenda Item #4

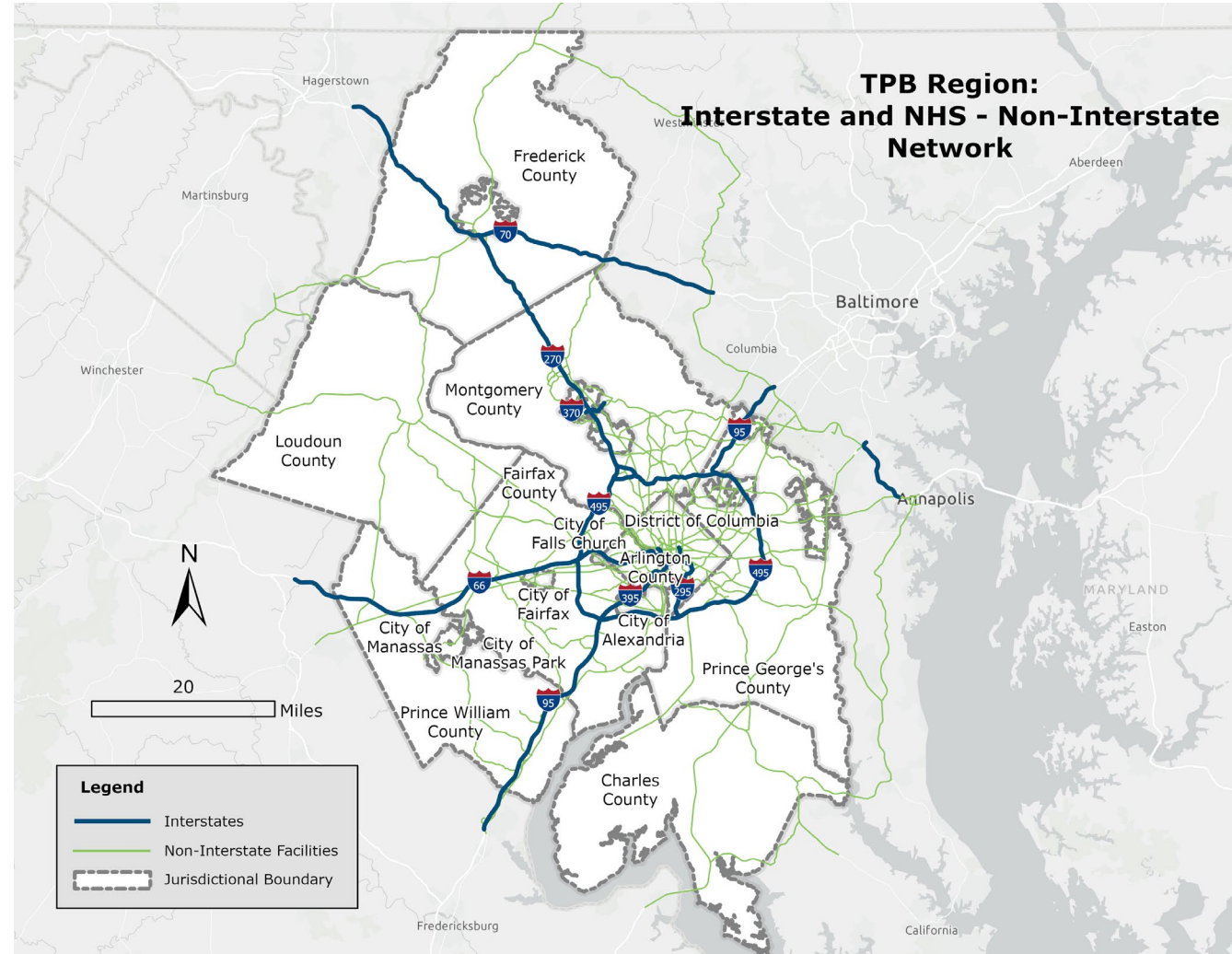
Overview of Performance Measures

Performance Measure	Definition of Measure	Explanation of Measure
Level of Travel Time Reliability – Interstates (LOTTR-I)	The measure of how reliable conditions are on the region's interstates, only.	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.
Level of Travel Time Reliability – NHS Facilities Excluding Interstates (LOTTR-NI)	The measure of how reliable conditions are for the region's National Highway System (NHS) roadways/facilities excluding the interstates.	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.
Truck Travel Time Reliability Index (TTTRI)	The measure of how reliable conditions are on the interstates for trucks, only.	A ratio that illustrates the reliability of truck travel times on only the TPB Region's interstate facilities, by trucks only, over five observed time periods.

The data source was consistent for all three metrics: the NPMRDS derived from INRIX data for TMC segments, accessed via RITIS.



National Highway System Map

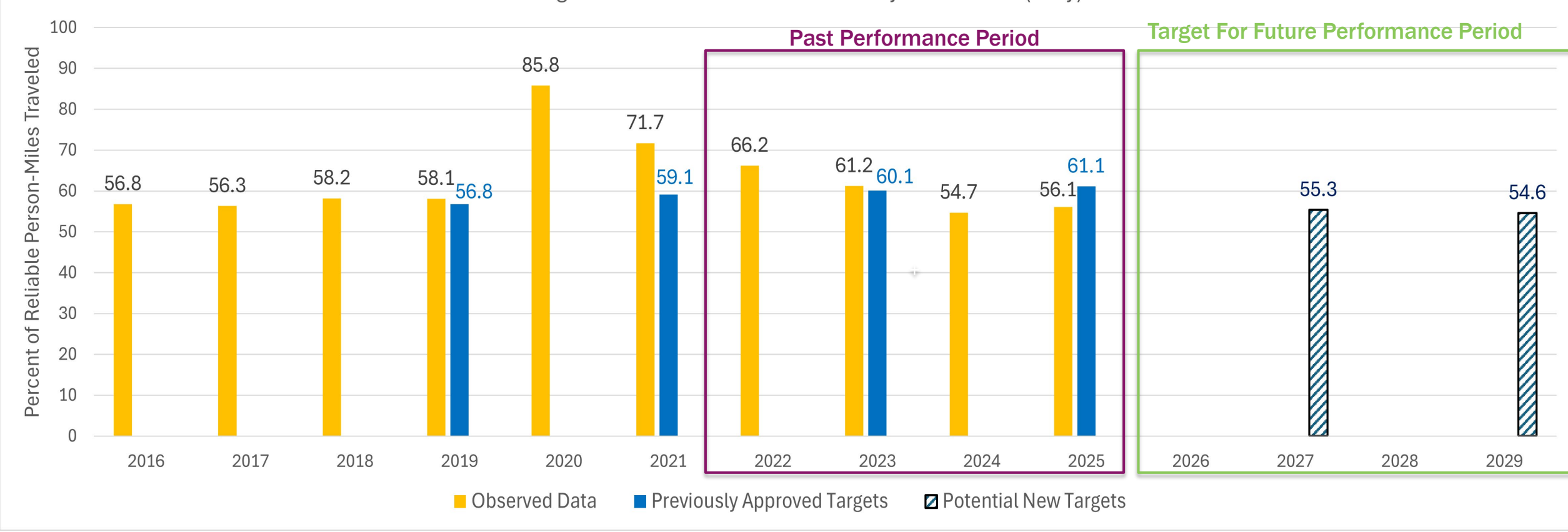


Travel Time Reliability on Interstates

↑
Desired Trend

↓
Expected Trend

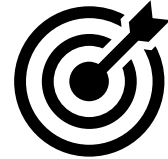
TPB Region - Level of Travel Time Reliability - Interstates (Only)



2023 Target Met; 2025 Target Not Met



Travel Time Reliability on Interstates - Proposed Targets



Two-Year (CY 2027) Target: **55.3%**

Four-Year (CY 2029) Target: **54.6%**

Context:

- Pre-pandemic period (2016-2019), year-to-year improvement in the TPB Region's interstates' reliability with low year-to-year variability
- Recent 6-year period (2020-2025):
 - COVID years (2020-2021) – significant reduction in travel and corresponding increase in reliability
 - Post COVID years (2022-2023) – considerable increase in travel and corresponding decrease in reliability
 - New Normal years (2024-2025) – relatively stable travel and no meaningful change in reliability
- Data from COVID and Post COVID years (2020-2023) was considered atypical; not appropriate for use in target setting
- Seeing improvement since 2024
 - 2025 witnessed a 1.4% increase in reliability from 2024



Travel Time Reliability on Interstates - Methodology

- **Linear regression of [observed data trend](#):** Combination of CY2016-CY2019 + CY2024-CY2025
 - Utilizing pre-pandemic data, in addition to the 2024-2025 data, serves as a Covid adjustment factor
- **Linear regression of [model data trend](#):** *Percent Congested VMT During the AM Peak Hour*, model years 2026-2030
- **Extrapolate the observed data trend:** Apply the observed-data regression slope (annual rate of change) incrementally, year-over-year, from the 2025 observed value (approximately -0.21%)
- **Extrapolate the model data trend:** Apply the model-data regression slope similarly to derive projected values for 2026-2029 (-0.55%)
- **Average the two independently derived trend lines:** for each year, 2026-2029
- **Extract the averaged 2027 value and 2029 value:** to be used as the two- and four-year targets



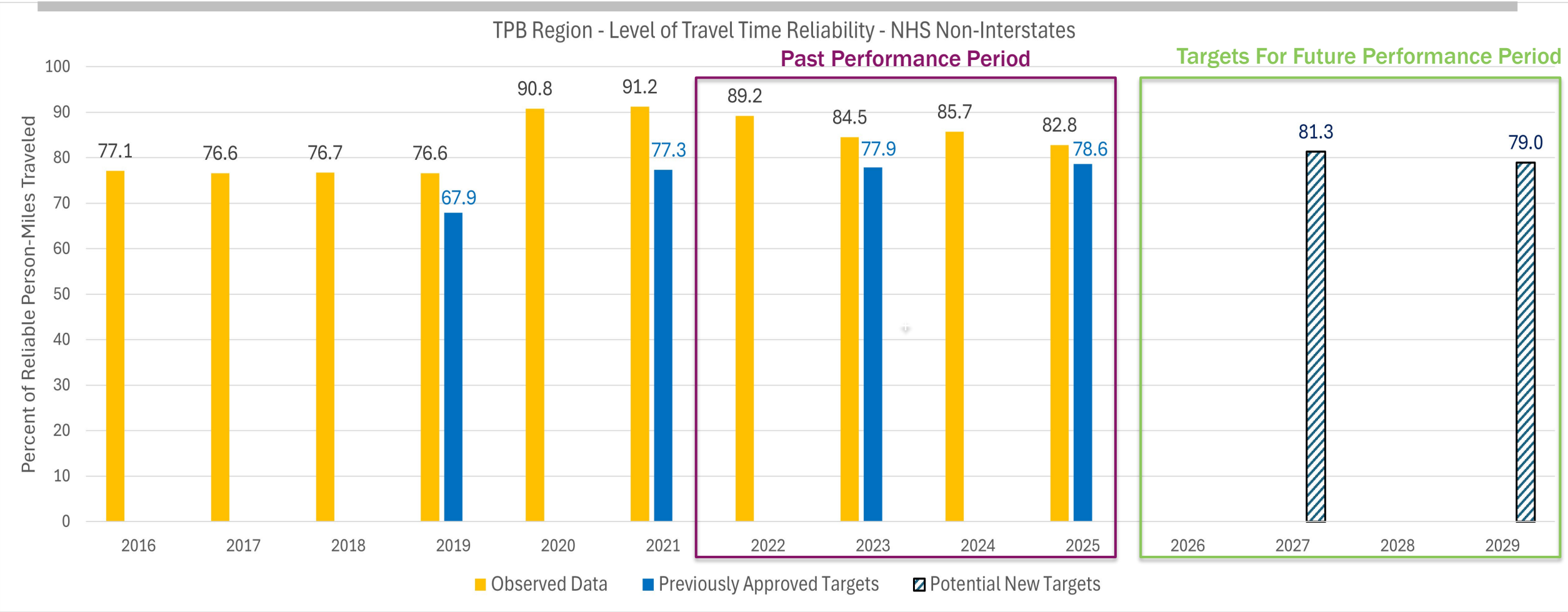
Travel Time Reliability on NHS Non-Interstates



Desired Trend



Expected Trend



2023 Target Met; 2025 Target Met



Travel Time Reliability on NHS Non-Interstates - Proposed Targets



Two-Year (CY 2027) Target: **81.3%**

Four-Year (CY 2029) Target: **79%**

Context:

- Pre-pandemic period (2016-2019), year-to-year decrease in with low year-to-year variability
- Recent 6-year period (2020-2025):
 - COVID years (2020-2021) – significant reduction in travel with some reduction in reliability
 - Post COVID years (2022-2023) – some increase in travel with corresponding decrease in reliability
 - New Normal years (2024-2025) – relatively stable travel and reliability
- Data from COVID years (2020-2021) was considered atypical and not appropriate for helping establish trend for target setting
- Unlike with interstates, the low variability in reliability during the Post COVID and New Normal years (2022-2025) data was considered acceptable for target setting



Travel Time Reliability on NHS Non-Interstates - Methodology

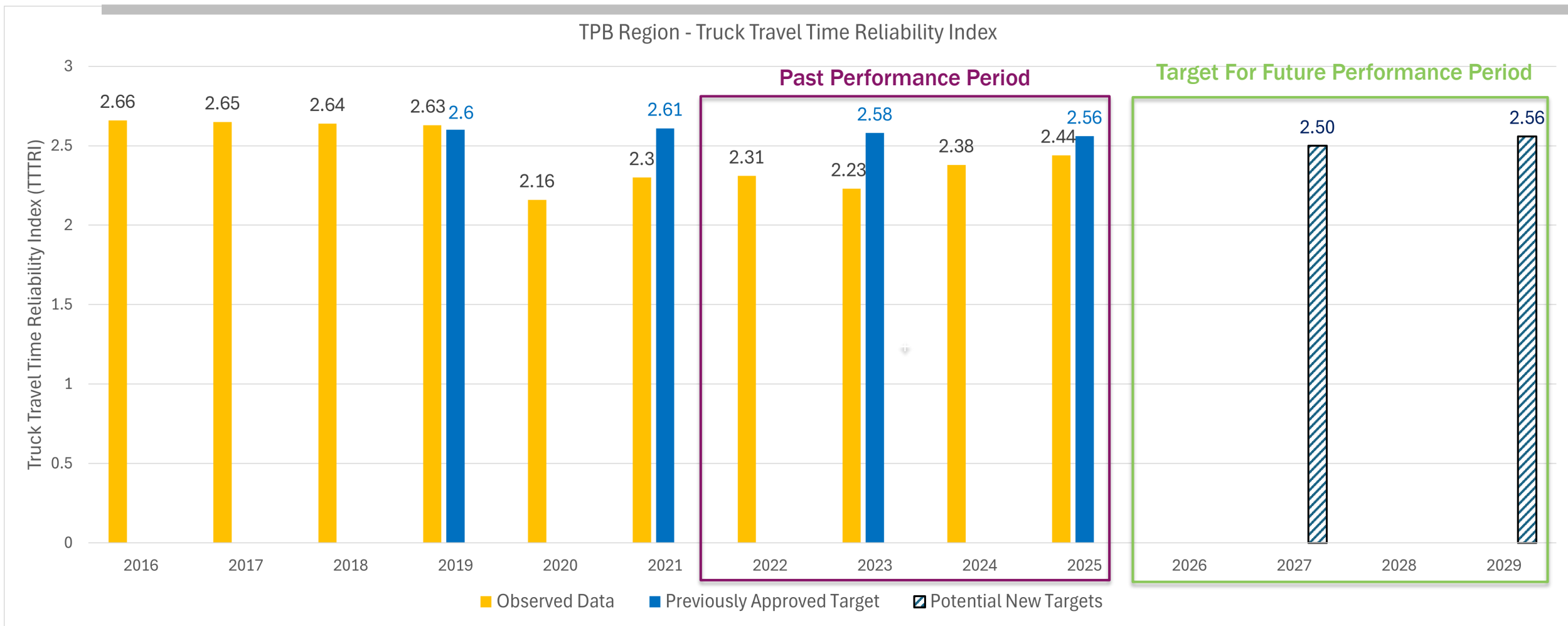
- **Linear regression of observed data trend:** CY2022-CY2025
- **Linear regression of model data trend:** *Percent Congested VMT During the AM Peak Hour*, model years 2026-2030
- **Extrapolate the observed data trend:** Apply the observed-data regression slope (annual rate of change) incrementally, year-over-year, from the 2025 observed value (-1.8%)
- **Extrapolate the model data trend:** Apply the model-data regression slope similarly to derive projected values for 2026-2029 (-0.55)
- **Average the two independently derived trend lines:** for each year, 2026-2029
- **Extract the averaged 2027 value and 2029 value:** to be used as the two- and four-year targets



Truck Travel Time Reliability Index


Desired Trend


Expected Trend

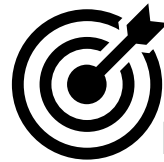


2023 Target Met; 2025 Target Met



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Truck Travel Time Reliability Index - Proposed Targets



Two-Year (CY 2027) Target: 2.5

Four-Year (CY 2029) Target: 2.56

Context:

- Pre-pandemic period (2016-2019), year-to-year decrease with zero variability
- Recent 6-year period (2020-2025):
 - COVID years (2020-2021) – significant reduction in truck travel and reduction in reliability
 - Post COVID years (2022-2023) – some increase in truck travel with an increase in reliability
 - New Normal years (2024-2025) – relative (to recent years) stable truck travel and reliability
- Like Travel Time Reliability – NHS Non-Interstates, data from COVID years was considered atypical and not suitable for target setting, and data from Post COVID and New Normal years was considered most appropriate for use in target setting
- The latest TTTRI (2025) for the TBP Region is still well below Pre-pandemic period levels



Truck Travel Time Reliability Index - Methodology

- Linear regression of observed data trend: CY2022-CY2025
- Linear regression of model data trend: *Percent Congested VMT During the AM Peak Hour*, model years 2026-2030
- **Extrapolate the observed data trend:** Apply the observed-data regression slope (annual rate of change) incrementally, year-over-year, from the 2025 observed value (0.054)
- **Extrapolate the model data trend:** Apply the model-data regression slope similarly to derive projected values for 2026-2029 (0.0055)
- **Average the two independently derived trend lines:** for each year, 2026-2029
- **Extract the averaged 2027 value and 2029 value:** to be used as the two- and four-year targets



Key Takeaways

Performance Measure	2023 Target	2025 Target	DRAFT Two-Year Targets 2026–2027	DRAFT Four-Year Targets 2026–2029
LOTTR-I	61.2% met 60.1% target	56.1% did not meet 61.1% target	55.3%	54.6%
LOTTR-NI	84.5% met 77.9% target	82.8% met 78.6% target	81.3%	79.0%
TTTRI	2.23 met 2.58 target	2.44 met 2.56 target	2.50	2.56



Next Steps

- September
 - 9/16 TPB Staff present draft measures and targets to TPB
 - October
 - 10/2 TPB Staff present final measures and targets to the Technical Committee
 - 10/21 TPB Staff present final measures and targets to the TPB
- => TPB approves new targets**



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