Capital District Transportation Committee

2023 PM3 System and Freight Performance Measures Target Updates

Background

On January 18, 2017, the Federal Highway Administration (FHWA) published the System Performance, Freight, and CMAQ (Congestion Mitigation and Air Quality) Program Performance Measures Final Rule in the Federal Register. This rule, also known as "PM3", had an effective date of May 20, 2017, and established six measures to assess the performance of the National Highway System (NHS), freight movement on the Interstate System, and traffic congestion and on-road mobile source emissions for the CMAQ Program.

There are two NHS-based PM3 performance measures that represent the reliability of travel times for all vehicles, calculated on Interstate and non-Interstate NHS roadway, known as the LOTTR. The LOTTR is defined as the ratio of longer travel times (80th percentile) to a normal travel time (50th percentile) during four time periods from the hours of 6:00 AM to 8:00 PM each day (AM peak, midday, and PM peak on Mondays through Fridays and weekends). The LOTTR ratio is calculated for each segment of applicable roadway. A segment is reliable if its LOTTR is less than 1.5 during all time periods. If one or more time periods has a LOTTR of 1.5 or above, that segment is unreliable. The measures are expressed as the percentage of person-miles traveled on the Interstate and non-Interstate NHS that are reliable.

The freight movement performance measure represents the reliability of travel times for trucks on the Interstate System. FHWA established the Truck Travel Time Reliability (TTTR) Index, defined as the ratio of longer truck travel times (95th percentile) to a normal truck travel time (50th percentile). The TTTR Index is calculated for each segment of the Interstate System over five time periods from all hours of each day (AM peak, midday, and PM peak on Mondays through Fridays, overnights for all days, and weekends). The highest TTTR Index value among the five time periods is multiplied by the length of the segment, and the sum of all length-weighted segments is then divided by the total length of Interstate to generate the TTTR Index.

There are three traffic congestion and on-road mobile source emissions performance measures that represent peak hour excessive delay per capita (PHED), non-single occupancy vehicle (SOV) travel, and total on-road mobile source emissions reductions. The CDTC meets all current air quality standards and is not subject to establishing targets for these performance measures.

NYSDOT established the initial statewide system performance and freight performance targets on May 20, 2018. The CDTC agreed to support the NYSDOT statewide targets on September 6, 2018, via Resolution #18-4. Per Federal requirements, NYSDOT is required to establish new 2-year and 4-year system performance and freight performance targets every four years.

Trends

Data for the three (3) system and freight performance measures (Interstate LOTTR, non-Interstate LOTTR, and TTTR) from 2018 through 2022 was compiled and is shown in Table 1 and Figures 1 through 3.

Table 1: LOTTR and TTTR Targets and Trends

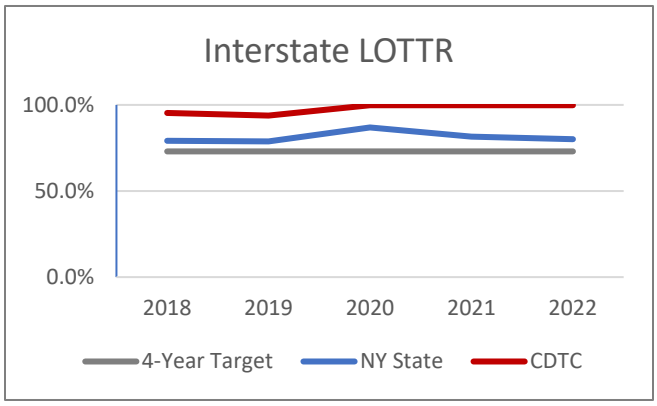
		Percent of person-miles on the Interstate System that are reliable (Interstate LOTTR)		Percent of person-miles on the non-Interstate NHS that are reliable (non-Interstate NHS LOTTR)		Truck Travel Time Reliability Index (TTTR)	
		NY State	CDTC	NY State	CDTC	NY State	CDTC
2018 Adopted Targets	2-year Target	73.1%		n/a		2.00	
	4-Year Target	73.0%		63.4%		2.11	
Actual Performance*	2018	79.1%	95.3%	77.9%	85.8%	1.46	1.40
	2019	78.8%	93.8%	80.1%	89.7%	1.47	1.42
	2020	86.9%	99.8%	86.7%	93.8%	1.33	1.19
	2021	81.5%	99.8%	85.4%	91.7%	1.39	1.18
	2022	80.1%	99.8%	85.4%	94.6%	1.41	1.22
2023 Proposed Targets	2-year Target	75.0%		70.0%		2.00	
	4-year Target	75.0%		70.0%		2.00	

*Data extracted from SUNY University at Albany Visualization And Informatics (AVAIL) Lab's National Performance Management Research Data Set (NPMRDS) data tool on March 15, 2023

Figure 1: Percent of person-miles on the Interstate System that are reliable (Interstate LOTTR)

In 2018, CDTC adopted New York State's 2-year and 4-year Interstate Level of Travel Time Reliability (LOTTR) targets, at 73.1% and 73.0% respectively.

From 2018 to 2022, CDTC and New York State met and/or exceeded the targets set in 2018. CDTC had a higher percentage of person-miles on the Interstate System that are reliable than New York State, i.e., the region performed better than the state.

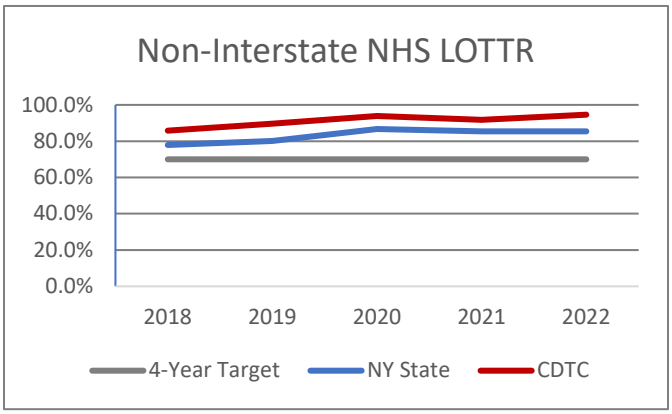


Based on recent trends, the CDTC region should be able to attain the new Interstate LOTTR targets (75.0%) established by NYSDOT.

Figure 2: Percent of person-miles on the non-Interstate NHS that are reliable (non-Interstate NHS LOTTR)

In 2018, CDTC adopted New York State's 4-year non-Interstate NHS Level of Travel Time Reliability (LOTTR) target, at 63.4%.

From 2018 to 2022, CDTC and New York State met and/or exceeded the target set in 2018. CDTC had a higher percent of person-miles on the non-Interstate NHS that are reliable than New York State, i.e., the region performed better than the state.

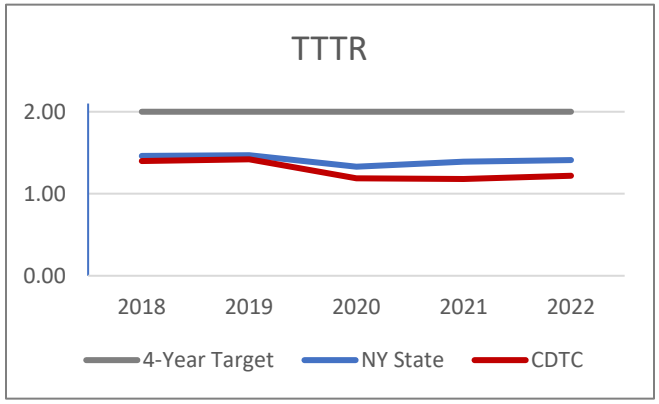


Based on recent trends, the CDTC region should be able to attain the new non-Interstate NHS LOTTR targets (70.0%) established by NYSDOT.

Figure 3: Truck Travel Time Reliability Index (TTTR)

In 2018, CDTC adopted New York State's 2-year and 4-year Truck Travel Time Reliability (TTTR) targets, at 2.00 and 2.11, respectively.

From 2018 to 2022, CDTC and New York State met and/or exceeded the targets set in 2018. CDTC had a lower (better) level of Truck Travel Time Reliability than New York State, i.e., the region performed better than the state.



Based on recent trends, the CDTC region should be able to attain the new TTTR target (2.00) established by NYSDOT.

Recommendation

NYSDOT established the statewide system performance and freight performance targets on December 16, 2022. Per Federal requirements, CDTC has 180 days to support the NYSDOT targets or establish its own targets. CDTC Staff recommends supporting the 2-year and 4-year System Performance Targets established by NYSDOT as follows.

- Percent of person-miles on the Interstate System that are reliable (Interstate LOTTR)
  - 2-year target – 75.0%
  - 4-year target – 75.0%

- Percent of person-miles on the non-Interstate NHS that are reliable (non-Interstate NHS LOTTR)
    - 2-year target – 70.0%
    - 4-year target – 70.0%
- Truck travel time reliability index (TTTR)
    - 2-year target – 2.00
    - 4-year target – 2.00