Transportation Performance Management in MPO TIPs

Background

Pursuant to federal requirements, MPOs must employ a transportation performance management approach in carrying out their federally required planning and programming activities. Chapter 23 part 150(b) of the United States Code [23USC §150(b)] includes the following seven national performance goals for the Federal-Aid Highway Program:

- Safety To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
- Capital Assets Condition To maintain the highway infrastructure and transit capital asset systems in a state of good repair.
- Congestion Reduction To achieve a significant reduction in congestion on the National Highway System.
- System Reliability To improve the efficiency of the surface transportation system.

• Freight Movement and Economic Vitality – To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.

• Environmental Sustainability – To enhance the performance of the transportation system while protecting and enhancing the natural environment.

• Reduced Project Delivery Delays – To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practice.

On the public transportation side, transportation performance management shall be utilized to advance the general policy and purposes of the public transportation program as included in 49USC §5301(a) and (b).

The U.S. Department of Transportation established several performance measures that states, MPOs, and public transportation providers must use to conduct a performance-based approach to transportation decision making to support the national goals described above. The performance measures address highway safety, pavement and bridge conditions, passenger and freight travel reliability, congestion and mobile source emissions, transit asset condition, and transit safety. This section discusses those measures.

The SMTC TIP was developed and is managed in cooperation with NYSDOT and the CNYRTA. It reflects the investment priorities established in the SMTC's 2050 LRTP 2020 Update, the SMTC's Metropolitan Transportation Plan (MTP), which incorporates comments and input from affected agencies, organizations, and the public.

TIPs "shall include, to the maximum extent practicable, a description of the anticipated effects of the transportation improvement program toward achieving the performance targets established in the metropolitan transportation plan, linking investment priorities to those performance targets" [23USC §134(j)(2)(D)]. TIPs and MTPs must include this information for the following federal performance areas:

- Highway Safety (PM1)
- Transit Asset Management
- Pavement and Bridge Condition (PM2)
- System Performance/Freight/Congestion Mitigation & Air Quality Improvement Program (PM3)
- Transit Safety.

This portion of the adopted TIP meets the requirements of 23USC §134(j)(2)(D).

Highway Safety (PM1)

The Federal Highway Administration Highway Safety (PM1) rule established five performance measures for safety on all public roads. The performance measures are calculated as five-year rolling averages.

The 2023 New York Strategic Highway Safety Plan (SHSP) is intended "to promote best practices and strategies that, if implemented, could have a substantial impact on reducing fatal and serious injury crashes." The SHSP was developed through a collaborative process involving public and private sector safety partners. It guides NYSDOT, the MPOs, and other safety partners in addressing safety and defines a framework for implementation activities to be carried out across New York State. The NYSDOT Highway Safety Improvement Program (HSIP) Annual Report documents statewide performance targets.

Performance Targets

In August 2024, NYSDOT set 2025 statewide highway safety targets. Those targets are shown in Exhibit 1. The SMTC agreed to support the NYSDOT statewide 2025 targets for the following safety measures on February 27, 2025, via Policy Resolution 2025-05.

Measure	NY Statewide 2025 Target
Number of Fatalities	1,011.0
Rate of Fatalities per 100 million Vehicle Miles Traveled (VMT)	0.881
Number of Serious Injuries	11,034.1
Rate of Serious Injuries per 100 million VMT	9.557
Number of Non-Motorized Fatalities and Serious Injuries	2,615.2

Exhibit 1: New York State 2025 Safety Performance Management Targets

Anticipated Effects

Safety is a critical component of SMTC's mission, and the projects on the TIP are consistent with the need to address safety. Safety is a primary consideration in the selection of projects to be included in the TIP. The project selection process utilized at the SMTC is consistent with, and aligns to, the agency's LRTP that contains goals, objectives, performance measures and adopted performance targets such as those for highway safety performance management. The LRTP adheres to the performance-based planning and programming requirements established in federal surface transportation authorizations and guides projects associated with the SMTC's annual work program and the TIP. As the LRTP is the blueprint that guides transportation investment in the MPA, all new projects are evaluated against the community goals, objectives, and performance measures established in the LRTP and are applicable to the federal surface transportation authorization authorization authorization national goals as identified above and its planning factors.

Relative to TIP project selection, project proposal forms are available for different project types; Bicycle/ Pedestrian, Bridge, Paving, Safety, Transportation System Management & Operations and Public Transit. The Safety application form that potential sponsors use for safety focused capital projects requires applicants to answer explicit safety relevant questions. Responses to the questions, in addition to the relationship with the LRTP, are used in the evaluation process. This approach provides a clear linkage between the TIP program of projects and the policies, goals, objectives, performance measures and targets outlined in the LRTP.

As indicated, safety is a principal goal of the LRTP. While the remaining project types (i.e., Bicycle/Pedestrian, Bridge, Paving, Transportation System Management & Operations, and Public Transit) have their own application forms, these project types are also evaluated in relation to the safety goal and objectives of the LRTP. The TIP includes a number of projects that are expected to materially benefit the safety of the traveling public on

roadways throughout the metropolitan planning area. Three such efforts are shown below that are programmed with HSIP funds.

- Safety Improvements, Rt 11 @ Rt 49 Intersection
- Safety Improvements, Rt 11, I-81 Off ramp to Rt 11A
- Onondaga Lake Parkway Safety Improvements, Old Liverpool Rd to I-81 Ramp

The anticipated effect of the overall program is that it will contribute toward achieving NYSDOT's safety performance targets.

Transit Asset Management

The Federal Transit Administration Transit Asset Management (TAM) rule applies to all recipients and subrecipients of Federal transit funding that own, operate, or manage public transportation capital assets. The rule requires that public transportation providers develop and implement TAM plans, and establishes performance measures for four transit asset categories: rolling stock, equipment, transit infrastructure, and facilities.

Each year, public transportation providers must establish TAM targets for the following fiscal year. Each provider shares its targets with the MPO in which the provider's projects and services are programmed in the MPO's TIP. MPOs are not required to establish TAM targets annually after the transit provider establishes targets. Instead, MPOs must set TAM targets when the MPO updates its LRTP.

FTA defines two tiers of public transportation providers based on the number of vehicles and operating mode parameters. Tier I transit agencies, which are generally larger providers, establish their own TAM targets, while Tier II providers, generally smaller agencies, may participate in a group plan where targets are established by a plan sponsor (e.g., NYSDOT) for the entire group. NYSDOT's 2024 Group TAM Plan is available <u>here</u>.

Performance Targets

When establishing transit asset management targets, the MPO can either agree to program projects that will support the transit provider targets or establish its own separate transit asset management targets for the MPO planning area.

Performance Measure	Asset Class	Useful Life Benchmark	Target			
Rolling Stock						
Age - % of revenue vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark	Over The Road	14	0%			
	Bus	14	0%			
	Cut-A-Way	8	0%			
Equipment						
Age - % of non-revenue vehi- cles within a particular asset class that have met or exceed- ed their Useful Life Benchmark	Car	8	0%			
	Truck/Van	8	0%			
Facilities						
Condition - % of facilities with a condition rating below 3.0 on the FTA Transit Economic Requirements Model (TERM) Scale	Admin/Maintenance	3 (condition benchmark)	0%			
	Passenger Parking	3 (condition benchmark)	0%			

Exhibit 2: CNYRTA Transit Asset Management Targets

The SMTC has one Tier I provider operating in the region: the Central New York Regional Transportation Authority (CNYRTA).

The CNYRTA set the transit asset targets in December 2023 (Exhibit 2). The SMTC agreed to support these current/latest transit asset targets on June 13, 2025, via Policy Resolution 2025-10. With this action, the SMTC agrees to plan and program projects in the TIP that will, once implemented, make progress toward achieving the transit asset targets.

Anticipated Effects

The SMTC TIP was developed and is managed in cooperation with the CNYRTA. The TIP includes specific investment priorities that support the MPO's goals, including transit asset management, using a project selection process that is anticipated to address transit State of Good Repair (SGR) in the MPO planning area. The MPO's goal of addressing transit asset condition is linked to the investment plan of the CNYRTA, and the process used to prioritize the projects within the TIP is consistent with federal requirements.

The focus of SMTC's investments that address transit SGR include: transit bus and vehicle replacements, transit facility rehabilitation, and preventive maintenance of transit assets. Transit vehicles are maintained to the highest standards and oftentimes replaced prior to reaching, or close to, the FTA defined useful life, which is evident within the adopted rolling stock, equipment, and facilities targets.

The SMTC anticipates that the transit projects on the TIP, once implemented, will contribute toward achieving the established transit asset management targets. Improving the SGR of transit capital assets is an overarching goal of the SMTC.

Pavement and Bridge Condition (PM2)

The FHWA Pavement and Bridge Condition rules (PM2) established six performance measures for all bridges and pavements on the NHS.

The pavement condition measures represent the percentage of lane-miles on the Interstate and non-Interstate NHS that are in good or poor condition. To assess pavement condition, FHWA established pavement condition metrics for roughness, cracking, rutting, faulting, and a Present Serviceability Rating (PSR), and set a threshold for each metric to establish good, fair, or poor condition. Each section of pavement is assessed and classified as being in good, fair or poor condition based upon the ratings of the metrics applicable to that pavement type. The pavement performance measures only consider good and poor pavement conditions.

The bridge condition measures represent the percentage of bridges, by deck area, on the NHS that are in good condition or poor condition. The condition of each bridge is evaluated by assessing the bridge's deck, superstructure, substructure, and culverts. FHWA developed a metric rating threshold for each bridge component to establish good, fair, or poor condition. If the lowest rating of the components is greater than or equal to seven, the structure is classified as good. If the lowest rating is less than or equal to four, the structure is classified as poor. If the lowest rating is five or six, it is classified as fair.

Performance Targets

NYSDOT established statewide pavement and bridge condition performance targets for 2023 and 2025 on December 1, 2022. In September 2024, NYSDOT adjusted its 2025 pavement targets. Those targets are shown in Exhibit 3, as well as recent performance. The SMTC agreed to support the NYSDOT statewide targets on February 23, 2023 for the initial targets and on February 27, 2025 for adjusted PM2 pavement condition performance targets via Policy Resolutions 2023-07 and 2025-04, respectively.

Exhibit 3: Pavement and Bridge Condition Statewide Performance and Targets

Performance Measure	2022 Performance	2023 Performance	2023 Target	2025 Target
Percentage of Interstate pavements in good condition	36.9%	50.7%	53.2%	48.2%
Percentage of Interstate pavements in poor condition	1.8%	1.0%	1.4%	1.6%
Percentage of non-Interstate NHS pavements in good condition	16.3%	20.3%	22.3%	18.6%
Percentage of non-Interstate NHS pavements in poor condition	7.5%	7.1%	9.3%	8.4%
Percentage of NHS bridges (by deck area) in good condition	24.7%	24.1%	24.1%	21.1%
Percentage of NHS bridges (by deck area) in poor condition	11.2%	13.0%	12.5%	12.8%

Anticipated Effects

Maintaining (and, where possible, improving) the condition of NHS pavements and bridges is a critical component of SMTC's mission, and the projects on the TIP are consistent with the need to address the condition of these infrastructure assets. NHS highway and bridge conditions are primary considerations in the selection of projects to be included in the TIP. The bridge and pavement project proposal forms were revised several years ago to account for the importance of work on NHS facilities. Additionally, the extensive transportation system in the SMTC planning area contains 364 centerline miles of NHS pavement and 256 NHS bridges (179 carry NHS, 77 cross NHS). These figures further breakdown as 162 Interstate centerline miles, 202 centerline miles non-Interstate, 190 bridges Interstate and 66 bridges non-Interstate NHS. The NHS facilities are often prioritized over non-NHS bridges and pavement given their importance to the movement of people and goods.

As a result of the TIP project selection that is directed by the 2050 LRTP goals, objectives, and related performance measures, the TIP includes projects programmed with NHPP funds and, flexible funds and apportioned large urban funds for the SMTC urbanized area from the STBG. Not accounting for the 2 I-81 Viaduct Opportunities contracts in the 2026-2030 TIP (i.e., PIN 350196, PIN 350197) at time of adoption, the 2026-2030 TIP has 20 projects focused on NHS bridges and pavements.

The SMTC anticipates that the projects in the TIP, once implemented, will contribute toward achieving NYSDOT's pavement and bridge condition performance targets.

System Performance, Freight, and Congestion Mitigation and Air Quality (PM3)

The FHWA System Performance, Freight, and Congestion, Mitigation and Air Quality Improvement Program (CMAQ) Performance Measures Final rule (PM3) established six performance measures to assess the reliability of travel on the NHS, freight movement on the Interstate System, and traffic congestion and on-road mobile source emissions for the CMAQ Program.

Two system performance measures represent the reliability of travel times for all vehicles on the Interstate and non-Interstate NHS. The measures are expressed as the percentage of person-miles traveled on the Interstate and non-Interstate NHS that are reliable.

One freight performance measure represents the reliability of travel time for trucks on the Interstate system using a Truck Travel Time Reliability (TTTR) Index, which is defined as the ratio of longer truck travel times (95th percentile) to a normal truck travel time (50th percentile).

Three CMAQ performance measures assess traffic congestion and on-road mobile source emissions: peak hour excessive delay per capita (PHED), non-single occupancy vehicle (SOV) travel, and total on-road mobile source emission reductions from CMAQ-funded projects.

Performance Targets

Exhibit 4 presents recent performance for all PM3 measures that apply in the SMTC planning area, as well as the 2023 and 2025 targets. NYSDOT established the statewide system performance targets for 2023 and 2025 on December 1, 2022. The SMTC agreed to support the NYSDOT statewide targets on February 23, 2023 via Policy Resolution 2023-07. The SMTC meets all current air quality standards and is not required to establish targets for the CMAQ performance measures.

Performance Measure	2022 Performance	2023 Performance	2023 Target	2025 Target
Percentage of person-miles on the Interstate system that are reliable	80.1%	79.0%	75.0	75.0
Percentage of person-miles on the non- Interstate NHS that are reliable	85.4%	85.7%	70.0	70.0
Truck travel time reliability index (TTTR)	1.41	1.40	2.0	2.0

Exhibit 4: System	n Performance	Statewide	Performance	and Targets

Anticipated Effects

Providing for the reliable movement of people and goods is a critical component of SMTC's mission, and the projects on the TIP are consistent with the need to address the reliability of travel times for vehicles, including trucks. These are primary considerations in the selection of projects to be included in the TIP. Travel Time Reliability in the current TIP project selection process is considered for projects identified on the "CMP Network" or part of the identified "CMP freight network," created in the SMTC's Congestion Management Process and freight planning efforts. In many instances, the location of these facilities is synonymous with the NHS. The 2050 LRTP established several goals and related objectives that are supportive of the national performance measure. The TIP includes projects programmed with funds from various funding programs that have benefits to reliability in travel times for people and freight. Projects and/or project types on the TIP include bridges, pavements, traffic signal upgrades on non-interstate NHS segments, Freeway Incident Management Systems buildout, and operations and maintenance support of the NYSDOT and City of Syracuse Transportation Management Centers.

In the SMTC planning area, reliability along the Interstate (LOTTR and TTTR) and non-interstate NHS facilities (LOTTR) show very few locations that are not reliable. Nearly 100% of the Interstate miles area shown to be reliable per the LOTTR performance measure (99.8%), while the TTTR measure calculates an index of 1.22, below the 2.0 target. LOTTR on the non-interstate NHS roads is calculated at 93%. Again, showing the SMTC's transportation system operates well for these system reliability measures.

The SMTC anticipates that the projects in the TIP, once implemented, will contribute toward achieving NYSDOT's system performance and freight performance targets.

Transit Safety

The FTA Public Transportation Agency Safety Plan (PTASP) rule applies to all operators of public transportation that are a recipient or sub-recipient of FTA Urbanized Area Formula Grant Program funds under 49 U.S.C. Section 5307, or that operate a rail transit system that is subject to FTA's State Safety Oversight Program. These providers must develop and implement a PTASP that includes performance targets for the following performance measures:

- Total number of reportable fatalities by mode.
- Reportable fatality rate per total vehicle revenue miles (VRM) by mode.
- Total number of reportable injuries by mode.
- Rate of reportable injuries per total vehicle revenue miles by mode.

- Total number of reportable safety events by mode.
- Rate of reportable safety events per total vehicle revenue miles by mode.
- System reliability mean distance between major mechanical failures by mode.

Providers subject to the rule must annually certify a PTASP and establish targets for the transit safety measures. The providers must make the targets available to the SMTC. The SMTC was required to establish PTASP targets within 180 days after the providers established their first targets and must update the MPO's targets when it adopts a new MTP. When establishing PTASP targets, the SMTC can either agree to program projects that will support the transit provider targets or establish separate regional targets for the MPO planning area.

Agencies that operate passenger ferries that are regulated by the United States Coast Guard or rail service that is regulated by the Federal Railroad Administration are not required to develop a PTASP for those modes of service.

The following transit providers subject to the PTASP rule operate in the SMTC planning area: CNYRTA. This provider is responsible for developing a PTASP and establishing transit safety targets annually.

Performance Targets

The CNYRTA established the transit safety targets included in Exhibit 5 in December 2024.

Mode	Fatalities (Total)	Fatalities (per 1M VRM)	Injuries (Total)	Injuries (per 1M VRM)	Safety Events (Total)	Safety Events (per 1M VRM)	System Reliability
Fixed Route	0	0	27.55	6.8	20.9	5.16	221
Paratransit	0	0	3.8	2.48	2.85	1.86	35

Exhibit 5: Transit Safety Targets

The SMTC agreed to support the CNYRTA public transportation safety targets on June 13, 2025, via Policy Resolution 2025-09, thus agreeing to plan and program projects that are anticipated to make progress toward achieving the targets.

Anticipated Effects

The SMTC TIP was developed and is managed in cooperation with the CNYRTA. The TIP includes specific investment priorities that support the MPO's goals, including transit safety, using a project selection process that is anticipated to address transit operations in the MPO planning area. The MPO's goal of addressing transit safety is linked to the safety plans of the CNYRTA, and the process used to prioritize the projects within the TIP is consistent with federal requirements. Improving the safety of travelers in the SMTC planning area is an overarching goal of the MPO. Several safety program goals from CNYRTA's PTASP that are intended to maintain a safe environment for all individuals served include, but are not limited to:

- Instill a safety attitude ensuring a safe workplace and customer service environment.
- Develop and maintain a comprehensive Safety Program including providing formalized safety training.
- Reduce accident and injury rates.
- Select equipment that promotes and enhances safety and safeguards against hazards.

The focus of SMTC's investments that address transit safety include several vehicle replacements. Current goals contained in the LRTP also consider the value of transit system reliability and safety.

The SMTC anticipates that the transit projects in the TIP, once implemented, will contribute toward achieving the established transit safety targets. The SMTC will continue to coordinate with the region's transit provider(s) to improve the safety of travelers in the MPO planning area and maintain transit assets in a state of good repair.