

4.) Performance Measures

Overview of Performance-Based Planning and Programming

Performance-Based Planning and Programming (PBPP) refers to a transportation agency's application of performance management in their planning and programming processes. The foundation of PBPP was initially federally-legislated through Moving Ahead for Progress in the 21st Century (MAP-21) and reaffirmed in the new Bipartisan Infrastructure Law (BIL). The requirement for PBPP transformed the federal-aid highway program by establishing new requirements for performance management to ensure the most efficient investment of federal transportation funds that support the following National Goals:

1. Safety
2. Infrastructure Condition
3. Congestion Reduction
4. System Reliability
5. Freight Movement and Economic Activity
6. Environmental Sustainability
7. Reduced Project Delays

In addition to the federal requirements for Metropolitan Planning Organizations (MPOs) to integrate PBPP into their transportation processes, MPOs are required to adhere to the federal Continuing, Cooperative, and Comprehensive ("3C") Metropolitan Transportation Planning Process. For MPOs, this includes activities and products that address a range of planning emphasis areas typically undertaken by a transportation agency together with other agencies, interested stakeholders and the public. The planning emphasis areas (PEAs) of particular interest to the CMMPO are Safety, Security, State of Good Repair, Congestion, Multimodal, Sustainability, Equity, Economic Vitality & Freight Movement, Stormwater Management & Infrastructure Resiliency and Travel & Tourism. In 2021, FHWA issued updated PEAs to focus on climate change & clean energy, equity, complete streets, public involvement, Department of Defense (DOD) coordination, Federal Land Management Agency (FLMA) coordination, planning & environmental linkages, and data sharing in the transportation planning process. Each of these emphasis areas are fully considered when the CMMPO is developing strategies, projects, plans or initiatives. Examples include the following:

- Long-Range Transportation Plans (LRTPs)
- Other plans and processes, including those that are federally-required, such as Strategic Highway Safety Plans, Asset Management Plans, the Congestion Management Process
- Transit Agency Asset Management Plans and Transit Agency Safety Plans as well as others that are not required by regulation and
- Programming documents, including state and metropolitan Transportation Improvement Programs (STIPs and TIPs)

The CMMPO’s PBPP process is guided by both the federal transportation performance management requirements and the MPO’s own customized goals and objectives, which are included in the CMMPO’s LRTP. These goals and objectives have been integrated through the various planning emphasis areas when developing transportation plans. By addressing the planning emphasis areas in all aspects of the transportation process, the CMMPO has been able to produce balanced and well-rounded transportation products for the region. Further, the overall intent of PBPP is to ensure that transportation investment decisions—both long-term planning and short-term programming—are based on the ability to meet the established goals.

Federal Performance Management Requirements

The US Department of Transportation (DOT) had previously published three performance rules that require all States, MPOs and public transit providers to interactively coordinate and set performance targets. Collectively, the three published performance measure rulemakings establish the regulations necessary to more effectively evaluate and report on safety, infrastructure condition, on-road mobile source emissions, and surface transportation performance across the Nation. State DOTs and MPOs should use the information and data subsequently generated to inform ongoing and future transportation planning and programming decisions. In turn, the FHWA and FTA use the information to more reliably assess and report on the impacts of federal funding investments.

Table 1 shows the federally-required highway performance measures.

TABLE 1: FEDERALLY-REQUIRED HIGHWAY PERFORMANCE MEASURES				
National Goal	Highway Performance Area	FHWA Rule	Performance Measure	MPO Goal Area
Safety	Injuries & Fatalities	Safety (PM1)	<ul style="list-style-type: none"> • # of fatalities • Fatality rate per 100 million vehicle-miles traveled • # of serious injuries • Serious injury rate per 100 million vehicle-miles traveled • # of non-motorized fatalities and non-motorized serious injuries 	Safety
Infrastructure Condition	Pavement Condition	Pavement & Bridge (PM2)	<ul style="list-style-type: none"> • % of pavements on the Interstate system in <i>good</i> condition • % of pavements on the Interstate system in <i>poor</i> condition • % of pavements on the non-Interstate NHS in <i>good</i> condition • % of pavements on the non- 	State of Good Repair

TABLE 1: FEDERALLY-REQUIRED HIGHWAY PERFORMANCE MEASURES				
National Goal	Highway Performance Area	FHWA Rule	Performance Measure	MPO Goal Area
Interstate NHS in <i>poor</i> condition				
Infrastructure Condition	Bridge Condition	Pavement & Bridge (PM2)	<ul style="list-style-type: none"> • % of NHS bridges by deck area classified as in <i>good</i> condition • % of NHS bridges by deck area classified as in <i>poor</i> condition 	State of Good Repair
System Reliability	Performance of the National Highway System	System Performance, Freight & CMAQ (PM3)	<ul style="list-style-type: none"> • % of person-miles traveled on the Interstate system that are reliable • % of person-miles traveled on the non-Interstate NHS that are reliable 	Congestion / Mobility
Freight Movement & Economic Vitality	Freight Movement on the Interstate System	System Performance, Freight & CMAQ (PM3)	<ul style="list-style-type: none"> • Truck travel time reliability on the Interstate system (average truck reliability index) 	Economic Vitality / Freight
Congestion Reduction	Traffic Congestion	System Performance, Freight & CMAQ (PM3)	<ul style="list-style-type: none"> • Percent of non-single-occupant vehicle travel • Annual hours of peak-hour excessive delay per capita 	Congestion / Mobility
Environmental Sustainability	On-Road Mobile Source Emissions	System Performance, Freight & CMAQ (PM3)	<ul style="list-style-type: none"> • Total emissions reduction 	Reduce GHG / Promote Sustainability

The CMMPO has and will continue to set targets on a periodic basis for the three federally-required performance rules and will also continue to coordinate PBPP activities with MassDOT, the WRTA, other MPOs and stakeholders. To date, the CMMPO has consistently decided to adopt MassDOT’s performance targets as they essentially match the CMMPO’s trends, which has resulted in the creation of an effective, integrated, and informative PBPP process.

Safety Performance Measures (PM1)

The CMMPO has consistently voted to adopt the statewide safety performance measure targets set by MassDOT, most recently for Calendar Year (CY) 2024 at their February 21, 2024 meeting. In setting these targets, MassDOT has followed FHWA guidelines by using statewide crash data and Highway Performance Monitoring System (HPMS) data for vehicle miles traveled (VMT) to calculate 5-year, rolling average trend lines for all FHWA-defined safety measures.

Due to higher rates of speeding caused, in part, by decreased vehicle miles traveled (VMT) amid pandemic shutdowns in 2020 and the lingering impacts in 2021 and 2022, roadway fatalities and serious injuries were increasing relative to previous years. This increase meant MassDOT was unable to use a pure trendline approach to set CY 2024 targets that demonstrate constant or improved performance as required by the BIL. Rather than adopt a target that depicts an increase in the trend line, MassDOT developed targets by projecting 2023 and 2024 fatalities and serious injury to be in line with pre-COVID data. This methodology was developed to project a future downward trend without being significantly influenced by the lingering impacts of the pandemic.

In recent years, MassDOT and the CMMPO have invested in “complete streets,” bicycle and pedestrian infrastructure, intersection, and safety improvements in both the Capital Investment Plan (CIP) and Statewide Transportation Improvement Program (STIP) to address increasing mode share and to incorporate safety mitigation elements into projects. Moving forward, CMMPO, alongside MassDOT, is actively seeking to improve data collection and methodology for bicycle and pedestrian VMT counts and to continue analyzing crash clusters and crash counts that include both motorized and non-motorized modes to address safety issues at these locations.

In all safety categories, MassDOT has established a long-term target of “Toward Zero Deaths” through their Performance Measures Tracker² and will continue to establish safety targets for the MPOs to consider for adoption each calendar year. While the MPOs are not required by FHWA to report on annual safety performance targets, FHWA guidelines require MPOs to either adopt MassDOT’s annual targets or to establish their own targets each year.

The safety measures MassDOT has established for CY 2024, recently adopted by the CMMPO, are as follows:

- 1) Fatalities: The target number of fatalities for CY 2024 is 377, down from an average of 378 fatalities for the years 2018-2022. [See Figure 1 for the CMMPO vs. statewide comparison of the trend for this performance measure.]

² [MassDOT Annual Performance Management Tracker Reports](#)

- 2) Rate of Fatalities per 100 million VMT: The target fatality rate for CY 2024 is 0.61, equivalent to the 0.62 average for years 2018-2022. [See Figure 1 for the CMMPO vs. statewide comparison of the trend for this performance measure.]
- 3) Serious Injuries: The target number of serious injuries for CY 2024 is 2,708, same as the years 2018–2022 but expected to decrease to 2,603 in 2026. [See Figure 2 for the CMMPO vs. statewide comparison of the trend for this performance measure.]
- 4) Rate of Serious Injuries per 100 million VMT: The serious injury rate target for CY 2024 is 4.36 per year, down from the 4.42 average rate for the years 2018–2022. [See Figure 2 for the CMMPO vs. statewide comparison of the trend for this performance measure.]
- 5) Total Number of Combined Serious Injuries and Fatalities for Non-Motorized Modes: The CY 2024 target number of fatalities and serious injuries for non-motorists is 445 per year, down from an average of 480 during the years 2018–2022. [See Figure 3 for the CMMPO vs. statewide comparison of the trend for this performance measure.]

Figure 1

Total Fatalities and Fatality Rate comparison between MassDOT and CMMPO

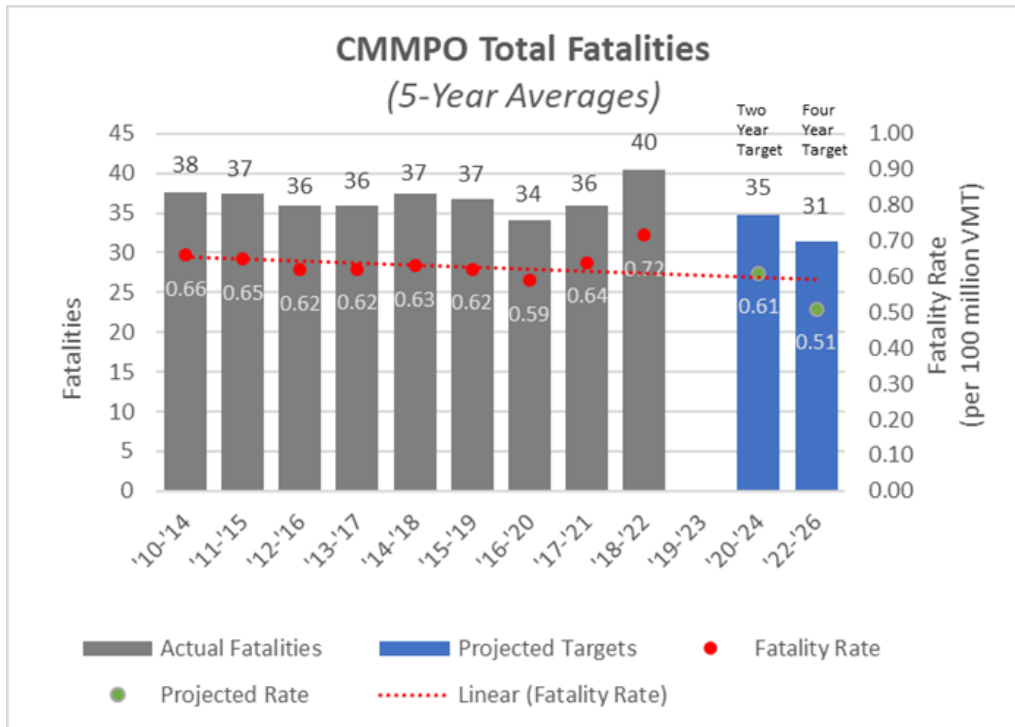
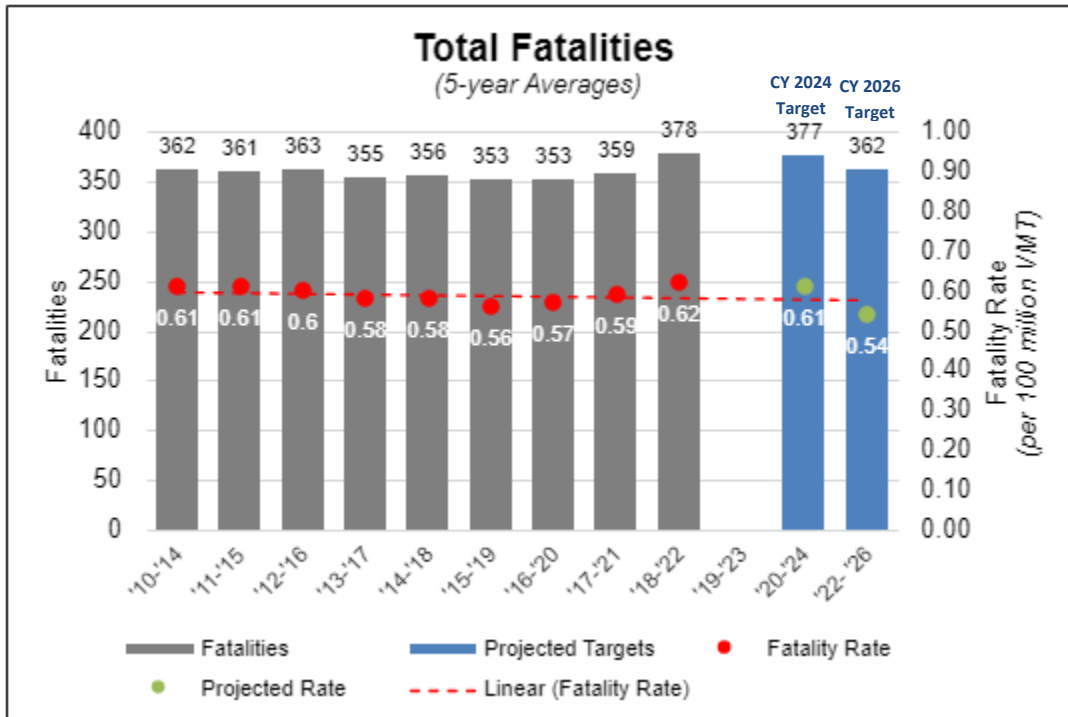


Figure 2

Total Serious Injuries and Serious Injury Rate comparison between MassDOT and CMMPO

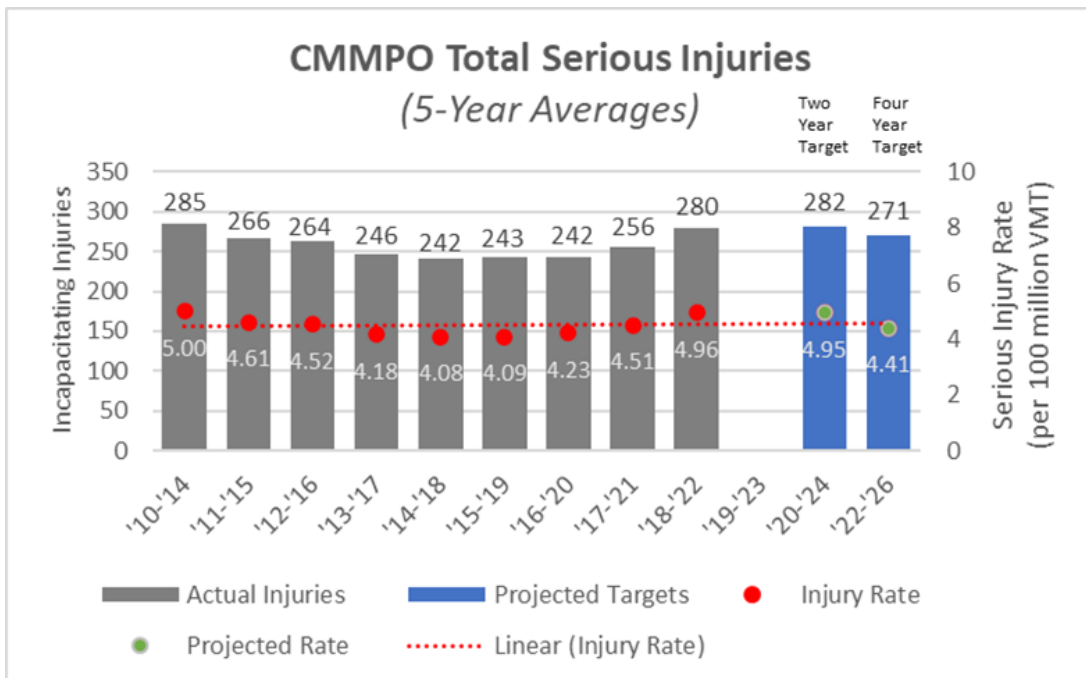
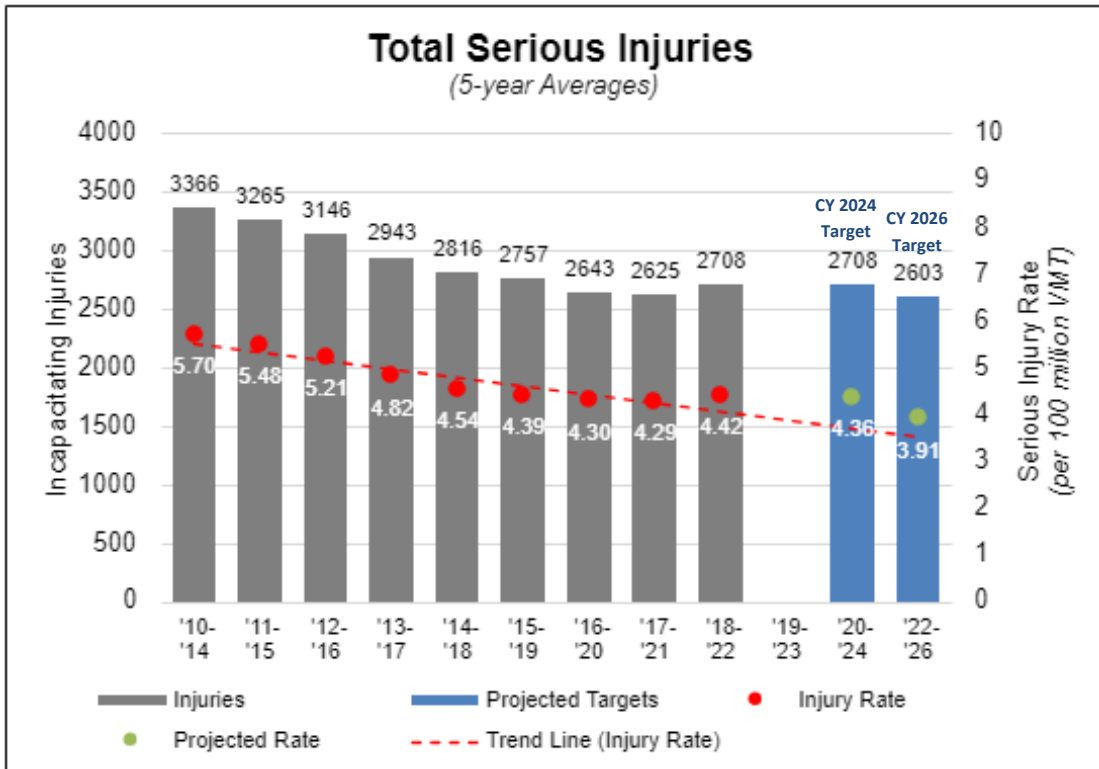
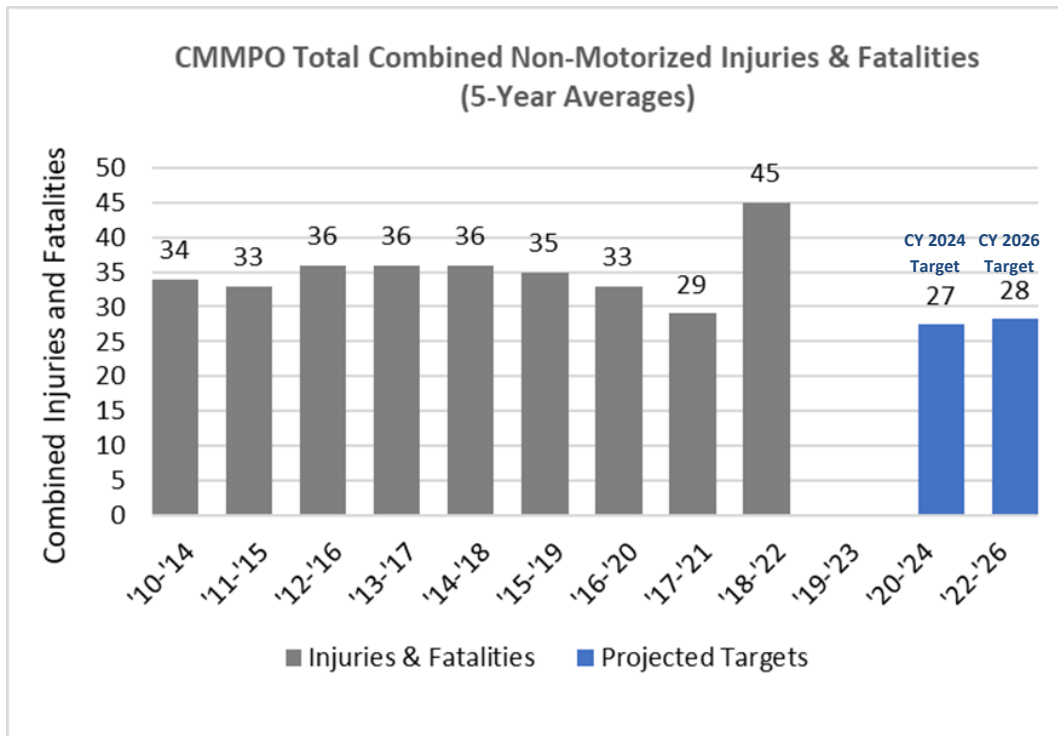
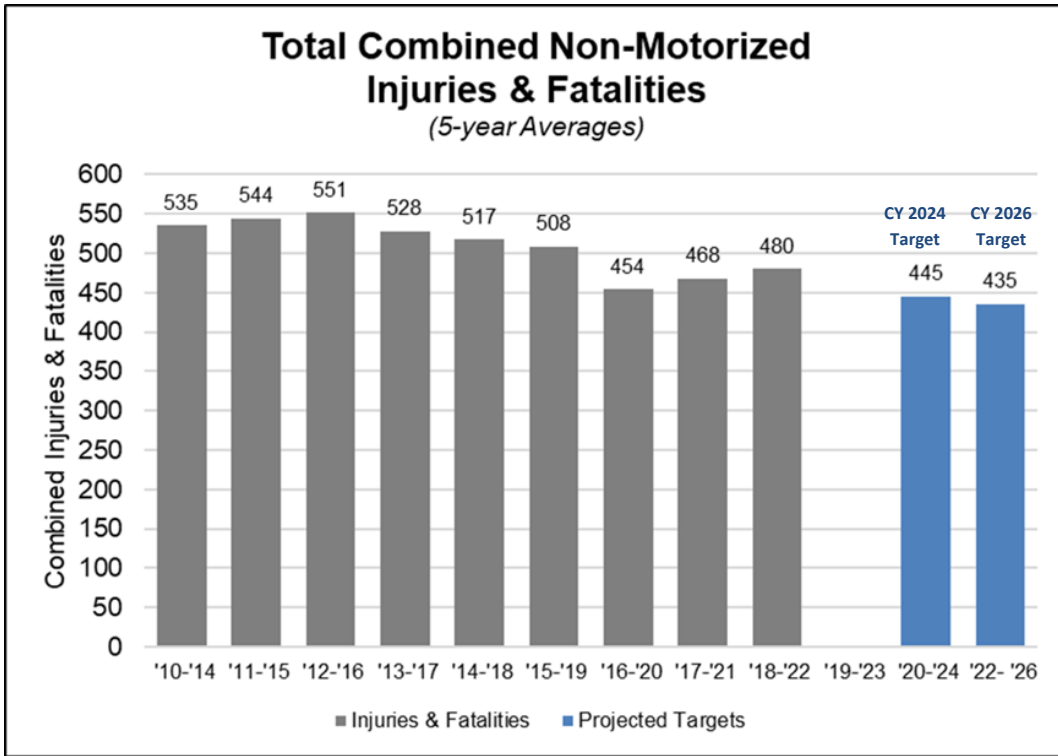


Figure 3
Total Combined Non-Motorized Injuries & Fatalities comparison
between MassDOT and CMMPO



Bridge & Pavement Performance Measures (PM2)

The CMMPO has chosen to adopt the 2-year (2024) and 4-year (2026) statewide bridge and pavement performance measure targets set by MassDOT at their March 15, 2023 meeting. MassDOT was required to adopt a statewide target by December 16th, 2022. In setting these targets, MassDOT has followed FHWA guidelines by measuring bridges and pavement condition using the 9-point National Bridge Inventory Standards (NBIS); the International Roughness Index (IRI); the presence of pavement rutting; and the presence of pavement cracking. 2-year and 4-year targets were set for six individual performance measures: 1) percent of bridges in good condition; 2) percent of bridges in poor condition; 3) percent of Interstate pavement in good condition; 4) percent of Interstate pavement in poor condition; 5) percent of non-Interstate pavement in good condition; and 6) percent of non-Interstate pavement in poor condition. All the above performance measures are tracked in greater detail in MassDOT’s 2022 Transportation Asset Management Plan³ (TAMP).

Targets for bridge-related performance measures were determined by identifying which bridge projects are programmed and projecting at what rate bridge conditions deteriorate. The bridge-related performance measures measure the percentage of deck area, rather than the total number of bridges. There are numerous bridge projects programmed in the 2025 – 2029 TIP.

Performance targets for pavement-related performance measures were based on a single year of data collection, and thus were set to remain steady under the guidance of FHWA. These measures are to be revisited at the 2-year mark (2024), once three years of data are available, for more informed target setting.

MassDOT continues to measure pavement quality and to set statewide short-term and long-term targets in the MassDOT Performance Management Tracker⁴ using the Pavement Serviceability Index (PSI), which differs from IRI. These measures and targets are used in conjunction with federal measures to inform program sizing and project selection. Table 2 below shows the 2-year and 4-year targets and the 2021 condition for the Bridge & Pavement Performance Measures (PM2).

Table 2 – PM2 Measures & Targets

Performance Measure	2021 Condition	2-year target (2024)	4-year target (2026)
Bridges in good condition	16%	16%	16%
Bridges in poor condition	12.2%	12%	12%

³ <https://www.mass.gov/lists/massdot-asset-management>

⁴ [MassDOT Annual Performance Management Tracker Reports](#)

Performance Measure	2021 Condition	2-year target (2024)	4-year target (2026)
Interstate Pavement in good condition	71.8%	70%	70%
Interstate Pavement in poor condition	0.0%	2%	2%
Non-Interstate Pavement in good condition		30%	30%
Non-Interstate Pavement in poor condition		5%	5%

Reliability, Congestion, & Emissions Performance Measures (PM3)

The CMMPO has chosen to adopt the 2-year (2024) and 4-year (2026) statewide reliability, congestion, and emissions performance measure targets set by MassDOT at their March 15, 2023 meeting. MassDOT was required to adopt a statewide target by December 16, 2022, with MPOs either adopting the statewide target or establishing their own by June 2023.

MassDOT followed FHWA regulation in measuring Level of Travel Time Reliability (LOTTR) on both the Interstate and non-Interstate NHS as well as Truck Travel Time Reliability (TTTR) on the Interstate system using the National Performance Management Research Dataset (NPMRDS) provided by FHWA. These performance measures aim to identify the predictability of travel times on the roadway network by comparing the average travel time along a given segment against longer travel times. For LOTTR, the performance of all segments of the Interstate and of the non-Interstate NHS are defined as either reliable or unreliable based on a comparison between the 50th percentile travel time and the 80th percentile travel time, and the proportion of reliable segments is reported. For TTTR, the ratio between the 50th percentile travel time and the 90th percentile travel time for trucks only along the Interstate system is reported as a statewide measure. Table 3 compares the LOTTR and TTTR between Statewide and the CMMPO planning region from 2017 to 2021. The data is from the Probe Data Analytics Suite of the Regional Integrated Transportation Information System (RITIS) website.

Table 3 – CMMPO vs Statewide LOTTR & TTTR

Year	Statewide LOTTR		CMMPO LOTTR		Statewide Interstate TTTR	CMMPO Interstate TTTR
	Interstate %	Non-Interstate %	Interstate %	Non-Interstate %		
2017	70.4%	80.1%	89.7%	87.1%	1.81	1.71
2018	69.8%	80.4%	87.3%	89.6%	1.88	1.79
2019	69.1%	82.8%	84.6%	88.9%	1.84	1.77
2020*	94.4%	91.3%	99.1%	94.1%	1.44	1.22
2021	84.2%	87.9%	96.4%	92.9%	1.61	1.59
2022	78.4%	87.0%	95.9%	92.0%	1.71	1.61

2023	74.4%	86.1%	93.4%	93.5%	1.74	1.70
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**COVID-19 pandemic occurred during 2020*

The CMMPO—an agency whose planning area includes communities in the Boston Urbanized Area (UZA), and as a signatory to the 2018 Boston UZA Memorandum of Understanding (Boston UZA MOU)—has also adopted 2-year (2024) and 4-year (2026) Boston UZA-wide congestion performance measure targets. These performance measures are the percentage of non-single occupancy vehicle (SOV) travel and the Peak Hour Excessive Delay (PHED). Targets were developed in coordination with state Departments of Transportation and neighboring MPOs with planning responsibility for portions of the Boston UZA.

The percentage of non-SOV travel is approximated using the U.S. Census Bureau’s American Community Survey (ACS) Journey-to-Work data. This metric is based on the percentage of people commuting to work using a mode other than a single occupancy vehicle. In the Boston UZA, the proportion of non-SOV travel has been steadily increasing and is projected to continue increasing at a rate of 1.4% annually.

PHED is measured by totaling the number of hours spent in excessive delay (defined as travel time at 20 miles per hour or at 60% of the posted speed limit, whichever is greater) in peak hours (between 6:00am and 10:00am, and between 3:00pm and 7:00pm) divided by the total UZA population. For this reporting period, targets are proposed considering the uncertainty of the trend post-pandemic and follow a trendline approach similar to the TTR measures. In the Boston UZA, the 2024 target is set at a realistic 24, while the 2026 target of 22 is proposed to establish an improving target and one that is below pre-pandemic numbers.

The CMMPO—an agency whose planning area includes communities in the Worcester Urbanized Area (UZA), and as a signatory to the 2020 Worcester UZA Memorandum of Understanding (Worcester UZA MOU)—has also adopted 2-year (2024) and 4-year (2026) Worcester UZA-wide congestion performance measure targets. These performance measures are the percentage of non-single occupancy vehicle (SOV) travel and the Peak Hour Excessive Delay (PHED). Targets were developed in coordination with state Departments of Transportation and neighboring MPOs with planning responsibility for portions of the Worcester UZA.

The percentage of non-SOV travel is approximated using the U.S. Census Bureau’s American Community Survey (ACS) Journey-to-Work data. This metric is based on the percentage of people commuting to work using a mode other than a single occupancy vehicle. In the Worcester UZA, the proportion of non-SOV travel has been steadily increasing and is projected to continue increasing at a rate of 0.09% annually.

In the Worcester UZA, the PHED 2024 target is proposed at 7 to account for uncertainty, while the 2026 target of 5 is proposed to establish an improving target and one that is below pre-pandemic numbers.

Emissions reduction targets are measured as the total of all emissions reductions anticipated through CMAQ-funded projects in non-attainment or air quality maintenance areas (currently the cities of Lowell, Springfield, Waltham, and Worcester, and the town of Oak Bluffs) identified in the Statewide Transportation Improvement Program (STIP). This anticipated emissions reduction is calculated using the existing CMAQ processes. Table 4 below shows the 2-year and 4-year targets and the 2021 current condition of the Reliability, Congestion, and Emissions Performance Measures (PM3).

Table 4 – PM3 Measures & Targets

Measure	Current (2021)	2-year (2024)	4-year (2026)
Interstate LOTTR	84.2%	74.0%	76.0%
Non-Interstate LOTTR	87.2%	85.0%	87.0%
TTTR	1.61	1.80	1.75
PHED (Boston UZA)	18.0	24.0	22.0
PHED (Springfield UZA)	6.2	6.5	6.0
PHED (Worcester UZA)	6.8	7.0	5.0
% non-SOV (Boston UZA)	36.9%	38.8%	39.8%
% non-SOV (Springfield UZA)	21.5%	22.2%	22.2%
% non-SOV (Worcester UZA)	23.4%	25.4%	26.1%
Emissions Reductions: PM2.5			
Emissions Reductions: NOx	0.490	0.000	0.000
Emissions Reductions: VOC	0.534	0.000	0.000
Emissions Reductions: PM10			
Emissions Reductions: CO	6.637	0.354	0.354

A new GHG performance measure for the percent change in tailpipe carbon dioxide (CO2) emissions on the National Highway System (NHS) compared to the reference year of CY 2022 was going to be required under PM3, but the U.S. District Court vacated the U.S. Department of Transportation rule, thus nullifying the new GHG measure at this time. The established targets were supposed to show declining tailpipe CO2 emissions on the NHS.

State DOTs would have been required to establish and report 2-year and 4-year targets for this measure. Additionally, MPOs would have also been required to establish 4-year targets for the GHG measure for their metropolitan planning area. In addition, when the boundaries of two or more metropolitan planning areas intersect any portion of the same urbanized area (UZA), the MPOs serving that UZA would have been required to establish a single joint 4-year target for the UZA.

Before the District Court ruling, MassDOT submitted their 2025 GHG target to FHWA on February 5, 2024. The MassDOT submitted target for the 2022-2025 performance period was 12.72 million metric tons CO2 equivalent (MMTCO2e), which represents a 7.9% reduction in NHS GHG emissions relative to the calendar year (CY) 2022 reference year, in which GHG emissions were 13.82 MMTCO2e. At its discretion, the CMMPO may choose to adopt their own GHG targets.

Table 5 contains the federally-required performance measures for transit in regards to safety and infrastructure condition.

TABLE 5: FEDERALLY-REQUIRED TRANSIT PERFORMANCE MEASURES			
National Goal	Transit Performance Area / Asset Category	Performance Measure	MPO Goal Area
Safety	Fatalities	<ul style="list-style-type: none"> Total # of reportable fatalities and rate per total vehicle revenue miles by mode Total # of reportable injuries and rate per total vehicle revenue miles by mode Total # of reportable events and rate per total vehicle revenue miles by mode Mean distance between major mechanical failures by mode 	Safety
	Injuries		
	Safety Events		
	System Reliability		
Infrastructure Condition	Equipment	<ul style="list-style-type: none"> % of vehicles that have met or exceeded their Useful Life Benchmark (ULB) % of revenue vehicles within a particular asset class that have met or exceeded their ULB % of facilities within an asset class rated below 3.0 on the FTA Transit Economic Requirements Model Scale 	State of Good Repair
	Rolling Stock		
	Infrastructure		
	Facilities		

Transit Asset Condition

The CMMPO and Worcester Regional Transit Authority (WRTA) originally developed a Transit Asset Management Plan (TAM Plan) in October 2018. All transit agencies that own, operate, or manage capital assets used in the provision of public transportation and that receive federal financial assistance under 49 U.S.C. Chapter 53 - either as recipients or subrecipients - must develop a TAM Plan. A TAM Plan is a necessary tool that assists transit providers in:

1. Assessing the current condition of its capital assets
2. Determining what the condition and performance of its assets should be (if they are not already in a state of good repair)
3. Identifying the unacceptable risks, including safety risks, in continuing to use an asset that is not in a state of good repair
4. Deciding how to best balance and prioritize reasonably anticipated funds (revenues from all sources) towards improving asset condition and achieving a sufficient level of performance within those means
5. TAM Plans must include at a minimum an asset inventory, condition assessments of inventoried assets, and a prioritized list of investments to improve the state of good repair of their capital assets.

One provision of the TAM Plan is for transit agencies to work with MPOs to set performance targets for each four-year cycle. On an annual basis, the RTAs must submit an annual condition report of assets to the National Transit Database (NTD). RTAs must also set targets every four years for the performance of assets. Each asset category has its own performance measure by which to set targets:

- Rolling stock: % of revenue vehicles exceeding Useful Life Benchmark (ULB)
- Equipment: % of nonrevenue service vehicles exceeding ULB
- Facilities: % of facilities rated under 3.0 on the Transit Economic Requirements Model (TERM) scale

The WRTA updated its TAM Plan and the WRTA Advisory Board adopted the new plan on September 22, 2022. The WRTA's new TAM Plan covers the period beginning on October 1, 2022 and ending on September 20, 2026. The CMMPO concurred with the WRTA TAM Plan targets at their November 16, 2022 meeting. Table 6 shows the updated WRTA Asset Condition Performance Targets included in the [TAM Plan](#).

Table 6 – WRTA TAM Plan Performance Targets

WRTA ASSET CONDITION PERFORMANCE TARGETS		
Category	Class	Performance Target
Rolling Stock	Buses >30'	100% of fleet meets or exceeds ULB of 12 years
	Short Buses <30'	100% of fleet meets or exceeds ULB of 10 years
	Vans (A,E,E2)	100% of fleet meets or exceeds ULB of 6 years
	Vans (LF)	100% of fleet meets or exceeds ULB of 7 years
Equipment	Support Vehicles	100% of fleet meets or exceeds ULB of 7 years
	Service Vehicles	100% of fleet meets or exceeds ULB of 10 years
Facilities	Admin/Maintenance Facility	0% of facilities rated under 3.0 on TERM scale
	Passenger/Parking Facility	0% of facilities rated under 3.0 on TERM scale

FTA defines ULB as “the expected lifecycle of a capital asset for a particular transit provider’s operating environment, or the acceptable period of use in service for a particular transit provider’s operating environment.” For example, FTA’s default ULB value for a bus is 14 years. FTA’s Transit Economic Requirements Model (TERM) scale, which pertains to the facilities measure, is a rating system that describes asset condition. The scale values are 1 (poor), 2 (marginal), 3 (adequate), 4 (good), and 5 (excellent). Because each measure is intended to represent the share of transit assets that are not in a state of good repair, the goal is to minimize the value for all four required measures.

Within the 2025-2029 Transit TIP, projects include the purchase of support vehicles and new electric buses (35'). By purchasing the new support vehicles and buses, the WRTA will maintain their rolling stock in excellent condition and meet the performance targets within the TAM Plan. Additionally, other projects in the transit TIP include the rehabilitation and renovation of both the bus terminal “Hub” and the maintenance facility which will help maintain the good to excellent conditions suggested by the current TAM Plan targets.

Public Transportation Agency Safety Plan (PTASP)

The FTA has adopted the principals and methods of Safety Management Systems (SMS) as the basis for enhancing the safety of public transportation in the United States. Each Public Transportation Agency Safety Plan (PTASP) will incorporate SMS principles and methods tailored to the size, complexity, and scope of the public transportation system and the

environment in which it operates. Transit agencies were required to develop, certify, and implement an Agency Safety Plan by 12/31/20 while the CMMPO had up to 180-days after the Plan is certified to adopt the included targets. The WRTA PTASP was finalized and subsequently endorsed by the WRTA Advisory Board in November 2020 and later adopted by the CMMPO at their February 17, 2021 meeting. Since then, the WRTA has updated its [PTASP](#) with new targets and it was endorsed by the WRTA Advisory Board on April 20, 2023 and the CMMPO concurred with the new targets at their May 17, 2023 meeting. The Plan utilizes existing agency safety practices as well as identifies industry best practices to be implemented to meet the new regulation in 49 CFR Part 673 of the federal guidelines. The following seven (7) measures must be included in the PTASP:

1. Total number of injuries
2. Injury rate per total vehicle revenue miles
3. Total number of fatalities
4. Fatality rate per total vehicle revenue miles
5. Total number of safety events
6. Safety events rate per total vehicle revenue miles
7. System reliability mean distance between major mechanical failures

The below targets are based on a review of the previous five years (2018-2022) of the WRTA’s safety performance data for both Fixed-Route and Demand Response transit services. Rates are calculated per 1,000,000 vehicle revenue miles. Table 7 shows the safety targets that were set for 2022. New targets will be updated annually based on 5-year rolling averages.

Table 7 - 2022 WRTA Safety Targets							
Mode of Transit Service	Fatalities (Total)	Fatalities (Rate)	Injuries (Total)	Injuries (Rate)	Safety Events (Total)	Safety Events (Rate)	System Reliability (Miles between Failures)
Fixed Route	0	0	26	2.8	14	1.5	9,500
Demand Response	0	0	6	1.2	8	1.6	125,000

Similar to the WRTA’s TAM Plan, new buses and support vehicle purchases included in the 2025-2029 Transit TIP is also anticipated to help reach the safety targets listed in the PTASP. The new buses and support vehicles replacing the older vehicles are expected to be more reliable and safer on the roadways. In addition, the purchasing of support equipment and

associated capital maintenance items will assist in the repair of older vehicles. Further, the purchase of new bus shelters will help keep the transit riders safe while waiting for the bus.

CMMPO Regionally-Customized Performance Measures

In addition to the federally-required performance measures, the CMMPO has established regionally-customized measures for the region. These measures are based on a range of transportation planning emphasis areas that are not part of the federal PM1, PM2, or PM3 requirements. The planning areas addressed with regionally-customized measures are security, multimodality, sustainability, equity, economic, stormwater management, travel & tourism, and climate change & clean energy. Although some measures are only used in the project scoring criteria, the following summarizes those measures currently used by the CMMPO:

- Condition of Sidewalks
- Condition of ADA Ramps
- Miles of Bicycle Lanes
- WRTA Ridership
- Jobs to housing ratio
- Percent of EJ & Vulnerable Populations Intersecting WRTA Fixed Route Service
- Percent of CMMPO Subregion Costs Per Capita that Benefit from a TIP Project to Provide Equal Opportunity to All Communities
- Accessibility to Jobs
- Culvert Assessments
- Expansion of Electric Vehicle (EV) chargers

Annual System Performance reports have been produced since 2016. The results of the above listed regionally-customized performance measures are included in the reports along with the federally-required performance measures. The reports can be found on the [CMRPC Performance Management](#) website page.

Performance and Project Selection

The CMMPO's selection of projects for the TIP has evolved into a collaborative process involving both the CMMPO's Advisory Committee and the CMRPC Transportation Planning Committee. The overall intent is to select projects that will advance the region towards both the federal and regionally-customized targets adopted by the CMMPO. As such, the CMMPO uses a TIP Project Screening Scoresheet (shown in Section 6) to inform the transportation investment decision making process within the PBPP framework. The TIP Project Screening Scoresheet includes a checklist for assessing how a certain project might potentially meet the established targets. Each candidate project eligible for TIP programming is analyzed and subsequently scored by the CMMPO staff working with both the committees.