

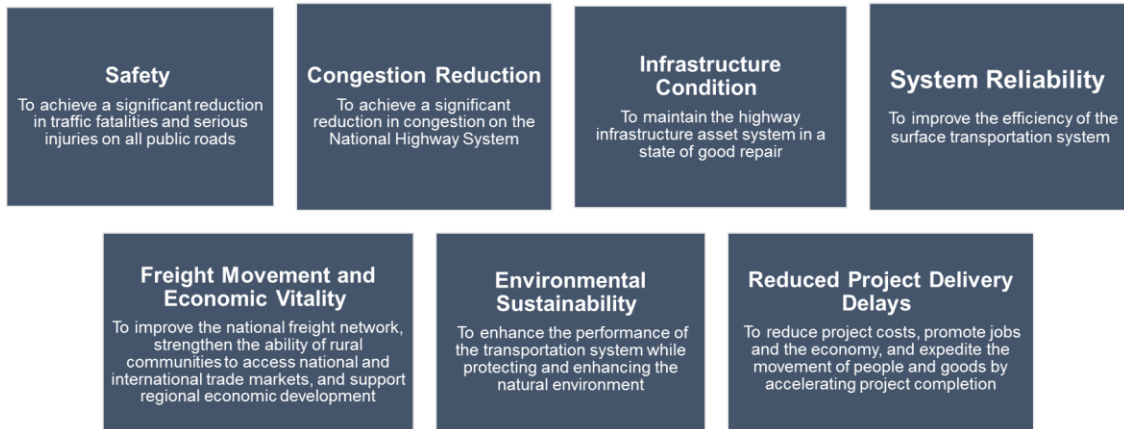


Greater Buffalo Niagara Regional Transportation Council

Transportation System Performance Report

March 2023

Pursuant to federal requirements, MPOs must employ a Transportation Performance Management (TPM) approach in carrying out their federally required planning and programming activities. This approach uses system information to make investment and policy decisions to achieve outcomes related to the seven national performance goals. These goals include safety, infrastructure condition, congestion reduction, system reliability, freight movement and economic vitality, environmental sustainability, and reduced project delivery delays.



The Federal Highway Administration defines Transportation Performance Management (TPM) as a strategic approach that uses system information to make investment and policy decisions to achieve national performance goals.



The FHWA defines TPM as a strategic approach that uses system performance information to make investment and policy decisions to achieve national performance goals. In short, TPM:

- Is systematically applied providing key information to help decision makers understand the consequences of investment decisions across transportation assets or modes
- Improves communication between decision makers, stakeholders, and the traveling public
- Ensures targets and measures are developed in cooperative partnerships and based on data and objective information.

The GBNRTC MTP was developed and managed in cooperation with the NYSDOT and NFTA. It reflects the regional investment priorities and incorporates comments and input from affected agencies, organizations, and the public. The GBNRTC Moving Forward 2050 update was adopted on May X, 2023. As required by federal transportation law, Metropolitan transportation plans must include performance targets for the measures associated with the following performance management rulemakings:

- FHWA Safety
- FTA Transit Asset Management
- FHWA Pavement & Bridge Condition
- FHWA Performance of NHS, Freight, & CMAQ
- Transit Safety

This section of the Plan document serve as a System Performance Report, which summarizes condition and performance of the transportation system with respect to required performance targets, and reports on progress achieved in meeting the targets in comparison with baseline data and previous reports.

HSIP and Highway Safety

On March 15, 2016, the Federal Highway Administration (FHWA) published the final rule for the HSIP and Safety Performance Management (Safety PM) Measures in the *Federal Register* with an effective date of April 14, 2016.

The 2017 New York Strategic Highway Safety Plan (SHSP) is intended to reduce “the number of fatalities and serious injuries resulting from motor vehicle crashes on public roads in New York State.” The SHSP guides the 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 the statewide performance targets.

On August 31, 2022, NYSDOT established statewide safety targets for calendar year 2023. The GBNRTC agreed to support the NYSDOT statewide 2023 targets on September 7, 2022 via Resolution 2022-10. Table 1 presents the 2023 safety targets as well as safety performance in recent years.

Table 1. Statewide Safety Performance and 2023 Targets

2023 Targets and Supporting Data						
Measure	Last Annual and 5 year baseline		Step 1: Forecast using 5-year Moving Average Trendline		Step 2: Round and apply 1% cap	
	2020 Annual	2020 Baseline 2016-2020 average	2023 Forecast	% Change 2019-2023 vs 2016-2020	Rounded / Capped Percent	NYS DOT Target 2023
Number of Fatalities	1,046	998.2	895.1	-11.46%	-1.00%	988.2
Fatality Rate	1.021	0.844	0.768	-9.01%	-1.00%	0.836
Number of Serious Injuries	10,634	11,198.2	11,034.1	-1.47%	-1.00%	11,086.2
Serious Injury Rate	10.377	9.431	9.370	-0.65%	-1.00%	9.337
Number of Non-Motorized Fatalities and Serious Injuries	2,525	2,660.0	2,503.3	-5.89%	-1.00%	2,633.4

Table 2 below illustrates the regional safety performance in Erie and Niagara Counties within the context of New York State relative to the percent of population. During all three (3) safety performance analysis periods the regional population has comprised slightly less than 6% of New York State total population. The number of fatalities and the number of serious injuries in the region slightly exceeded the proportion of statewide population by approximately 0.5% to 2.0%. Conversely, the combined number of non-motorized fatalities and serious injuries was slightly below the proportion of statewide population by approximately 0.5%.

Table 2. Regional Safety Performance and NYS 2023 Targets

Safety Performance Measure	2016 5-yr Rolling Average (2012-2016)	2017 5-yr Rolling Average (2013-2017)	2018 5-yr Rolling Average (2014-2018)	2019 5-yr Rolling Average (2015-2019)	2020 5-yr Rolling Average (2016-2020)
Number of Fatalities <i>Statewide Percentage</i>	69.8 <i>6.2%</i>	67.2 <i>6.2%</i>	61.8 <i>6.0%</i>	59.4 <i>5.5%</i>	61.4 <i>5.9%</i>
Number of Serious Injuries <i>Statewide Percentage</i>	837.2 <i>7.3%</i>	838.2 <i>7.5%</i>	856.6 <i>7.7%</i>	876.6 <i>8.0%</i>	886.6 <i>8.0%</i>
Number of Combined Non-Motorized Fatalities and Non-Motorized Serious Injuries <i>Statewide Percentage</i>	147 <i>5.2%</i>	142 <i>5.2%</i>	144 <i>5.4%</i>	144 <i>5.3%</i>	141 <i>5.4%</i>

Population	ACS 2012-2016	ACS 2013-2017	ACS 2014-2018	ACS 2015-2019	ACS 2016-2020
New York State	19,697,457	19,798,228	19,618,453	19,572,319	19,514,849
Number of Serious Injuries <i>Statewide Percentage</i>	1,135,503 <i>5.8%</i>	1,136,670 <i>5.7%</i>	1,131,570 <i>5.8%</i>	1,130,175 <i>5.8%</i>	1,129,018 <i>5.8%</i>

The Moving Forward 2050 update addresses safety needs, strategies, and programs within the GBNRTC planning area and provides funding for select safety improvements. The GBNRTC is formalizing its project selection process through the development of a regional Safety Action Plan. One component of the plan will include an assessment of current policies, plans, guidelines, and standards with the identification of opportunities to improve how processes prioritize transportation safety and recommend revised or new processes, as appropriate. Another component of the regional Safety Action Plan is an official public commitment, by resolution, to the reduction and eventual elimination of roadway fatalities and serious injuries.

Transit Asset Management

On July 26, 2016, the Federal Transit Administration (FTA) published the final Transit Asset Management rule. This rule applies to all recipients and subrecipients of Federal transit funding that own, operate, or manage public transportation capital assets. The rule defines the term “state of good repair,” requires that public transportation providers develop and implement transit asset management (TAM) plans and establishes state of good repair standards and performance measures for four asset categories: rolling stock, equipment, transit infrastructure, and facilities. The rule became effective on October 1, 2016.

Public transportation providers set transit asset targets annually and must provide the targets to each MPO in which the transit provider’s projects and services are programmed in the Transportation Improvement Program (TIP). MPOs must then set targets after transit agencies set initial targets, and again when updating subsequent MTPs. MPOs can either agree to program projects that will support the transit provider’s targets or set their own separate regional targets for the MPO’s planning area.

The NFTA set the transit asset targets listed in Table 3 on February 27, 2023. The GBNRTC agreed to support these transit asset targets on March 3, 2023 via Resolution 2023-7. With this action, the GBNRTC agrees to plan and program projects that will, once implemented, make progress toward achieving the transit asset targets.

Table 3. Transit Asset Targets

1. Rolling Stock - Percent of revenue vehicles that have not met or exceeded their useful life benchmark				
Performance Measure	2022 Target (%)	2022 Performance (%)	2022 Difference	2023 Target (%)
AB - Articulated Bus	N/A	N/A	N/A	N/A
AO - Automobile	N/A	N/A	N/A	N/A
BR - Over-the-Road Bus	N/A	N/A	N/A	N/A
BU - Bus	28.00	21.77	6.23	22.00
CU - Cutaway	20.00	35.29	-15.29	25.00
DB - Double Decker Bus	N/A	N/A	N/A	N/A
LR - Light Rail Vehicle	100.00	100.00	0.00	100.00
MV - Minivan	0.00	100.00	-100.00	100.00
OR - Other	N/A	N/A	N/A	N/A
SB - School Bus	N/A	N/A	N/A	N/A
SV - Sports Utility Vehicle	N/A	N/A	N/A	N/A
VN - Van	N/A	N/A	N/A	N/A
VT - Vintage Trolley	N/A	N/A	N/A	N/A

2. Equipment - Percent of service vehicles that have met or exceeded their useful life benchmark				
Performance Measure	2022 Target (%)	2022 Performance (%)	2022 Difference	2023 Target (%)
Automobiles	100.00	100.00	0.00	100.00
Trucks and Other Rubber Tire Vehicles	60.00	62.26	-2.26	60.00
Steel Wheel Vehicles	N/A	N/A	N/A	N/A

3. Facility - Percent of facilities rated below 3 on the condition scale				
Performance Measure	2022 Target (%)	2022 Performance (%)	2022 Difference	2023 Target (%)
Passenger / Parking Facilities	3.00	9.38	-6.38	8.00
Administrative / Maintenance Facilities	16.00	16.67	-0.67	16.00

4. Infrastructure - Percent of track segments with performance restrictions				
Performance Measure	2022 Target (%)	2022 Performance (%)	2022 Difference	2023 Target (%)
LR - Light Rail	6.00	11.25	-5.25	8.00

The Moving Forward 2050 update was developed in cooperation with the NFTA. The Plan update includes specific investment priorities that support the GBNRTC’s goals, which guide project selection. Improving access and expanding multimodal options by all residents to key destinations and maintaining all elements of the regional transportation system in a state of good repair are top priorities in the Plan.

Pavement and Bridge Condition Measures (PM2)

On January 18, 2017, FHWA published the Pavement and Bridge Condition Performance Measures Final Rule in the Federal Register. This second FHWA performance measure rule, which has an effective date of May 20, 2017, established six performance measures to assess pavement conditions and bridge conditions for the National Highway Performance Program (NHPP).

The pavement condition measures represent the percentage of lane-miles on the Interstate and non Interstate National Highway System (NHS) that are in good or poor condition. FHWA established five pavement condition metrics: International Roughness Index (IRI); cracking percent; rutting; faulting; and Present Serviceability Rating (PSR). FHWA set a threshold for each metric to establish good, fair, or poor condition. A pavement section is classified as being in good condition if three or more metric ratings are good, and in poor condition if two or more metric ratings are poor. Pavement sections that are not good or poor are classified as fair.

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 four bridge components: deck, superstructure, substructure, and culverts. The Final Rule created a metric rating threshold for each component to establish good, fair, or poor condition. If the lowest rating of the four metrics 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.

NYS DOT set the Pavement and Bridge Condition (PM2) Performance and Targets listed in Table 4 in December 2022. The two-year and four-year targets represent expected pavement and bridge condition at the end of calendar years 2024 and 2026, respectively.

The GBNRTC agreed to support these transit asset targets on March 3, 2023 via Resolution 2023-6.

Table 4. Pavement and Bridge Condition (PM2) Performance and Targets

Table 4 | Pavement and Bridge Condition (PM2) Performance and Targets

Performance Measure	GBNRTC Performance 2019**	NYS Base Line 2022	NYS 2-Year Target 2024	NYS 4-Year Target 2026
Percentage of Pavements of the Interstate System in Good Condition	84.5%	45.3%	53.2%	54.3%
Percentage of Pavements of the Interstate System in Poor Condition	0.0%	1.1%	1.4%	1.7%
Percentage of Pavements of the Non-Interstate NHS in Good Condition	30.2%	18.9%	22.3%	20.7%
Percentage of Pavements of the Non-Interstate NHS in Poor Condition	4.1%	7.6%	9.3%	10.9%
Percentage of NHS Bridges Classified as in Good Condition	39.6%	25.3%	24.1%	21.1%
Percentage of NHS Bridge Classified as in Poor Condition	7.3%	11.3%	12.5%	12.8%

***GBNRTC Data Sources: NYSDOT Pavement Inventory File 2019 and NBI Bridge File 2021: NYSDOT pavement surface score ratings >=8 equate to federal measure 'good', surface score rating <=5 equate to federal measure 'poor'. The federal bridge regulation defines three classes for bridge condition assessment using the lowest of the four NBI ratings (Deck, Superstructure, Substructure and Culverts) on a 0-9 Scale, Good when the lowest rating is =7, Fair if lowest rating is 5 or 6, and Poor if lowest rating is =4.*

The 2050 Moving Forward update addresses preservation of the transportation system, identifies infrastructure needs within the Buffalo Niagara region, and provides funding for pavement and bridge condition improvements. Maintaining (and, where possible, improving) the condition of NHS pavements and bridges is a critical component of GBNRTC's vision, and the MTP projects are consistent with the need to address the condition of these infrastructure assets. Over 60% of available funding is allocated to system preservation and maintenance projects.

System Performance, Freight, and Congestion, Mitigation & Air Quality Improvement Program Measures (PM3)

On January 18, 2017, FHWA published the system performance, freight, and congestion mitigation and air quality (CMAQ) Performance Measures Final Rule in the Federal Register. This third and final FHWA performance measure rule, which has an effective date of May 20, 2017 established six performance measures to assess the performance of the NHS, freight movement on the Interstate System, and traffic congestion and on-road mobile source emissions for the CMAQ Program.

There are two NHS performance measures that represent the reliability of travel times for all vehicles on the Interstate and non-Interstate NHS. FHWA established the Level of Travel Time Reliability (LOTTR) metric to calculate reliability on both the Interstate and non-Interstate NHS. 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 AM to 8 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 nonInterstate NHS that are reliable.

The single 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, which is 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 GBNRTC meets all current air quality standards and is not subject to establishing targets for these performance measures.

In December 2022, NYSDOT reported system performance results for the last two years of the performance period (2020 and 2021) to FHWA, as well as progress toward achieving the four-year targets. The two-year and four-year targets represent expected performance at the end of calendar years 2024 and 2026, respectively. The GBNRTC agreed to support these transit asset targets on March 3, 2023 via Resolution 2023-6.

Table 5 presents baseline performance for the LOTTR and TTTR measures for New York as well as the two-year and four-year targets established by NYSDOT.

Table 5. System Performance and Freight (PM3) Performance and Targets

Table 5 | System Performance and Freight (PM3) Performance and Targets

Performance Measure	GBNRTC Performance 2021	NYS Base Line 2022	NYS 2-Year Target 2024	NYS 4-Year Target 2026
Percent of Person-Miles Traveled on the Interstate that are Reliable	98.7%	82.2%*	75.0%	75.0%
Percent of Person-Miles Traveled on the Non-Interstate NHS that are Reliable	96.1%	85.7%	70.0%	70.0%
Truck Travel Time Reliability (TTTR) Index	1.24	1.38*	2.00	2.00

**FHWA will be adjusting several baselines for reporting:
 Percent of the Person-Miles Traveled on the Interstate that are reliable will be adjusted to 81.6%
 Truck Travel Time Reliability (TTTR) will be adjusted to 1.39*

The planning process addresses system performance and freight reliability, identifies infrastructure needs within the Buffalo Niagara region, and provides funding for targeted improvements through the 2050 MTP, GBNRTC Congestion Management Plan and the GBNRTC’s Urban Area Freight Transportation Study update. The GBNRTC 2050 update addresses system performance and freight reliability, identifies infrastructure needs within the Buffalo Niagara region, and provides funding for targeted improvements.

Transit Safety

The Federal Transit Administration (FTA) published a final Public Transportation Agency Safety Plan (PTSAP) rule on July 19, 2018. Under this rulemaking, providers of public transportation systems 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, must develop and implement a PTASP based on a Safety Management Systems approach. As the transit provider in the region, the NFTA is subject to the PTASP rule. NFTA is responsible for developing a PTASP and establishing transit safety targets annually.

Transit Safety Targets

Table 6 presents the transit safety targets established by the NFTA on February 27, 2023. The GBNRTC agreed to support NFTA’s transit safety targets on March 3, 2023 via Resolution 2023-8. With this action, the GBNRTC agrees to plan and program projects that will, once implemented, make progress toward achieving the transit safety targets.

Table 6. Transit Safety Performance Targets for NFTA

NFTA 2023 Performance Measure	Mode	2020	2021	2022	3-Year Average	2023 Goal	2023 Target
1. Total number of fatalities reported to NTD by mode	Light Rail	2	0	2	1.33	0	0
	Bus	0	1	1	0.66	0	0
	Paratransit Access Line (PAL)	0	0	0	0.00	0	0
2. Fatality rate per 1M vehicle revenue miles (VRM) by mode	Light Rail	1.94	0.00	4.79	2.24	0.00	0.00
	Bus	0.00	0.10	0.11	0.07	0.00	0.00
	Paratransit Access Line (PAL)	0.00	0.00	0.00	0.00	0.00	0.00
3. Total number of injuries reported to NTD by mode	Light Rail	18	16	1	11.66	5% Reduction	11.08
	Bus	48	60	25	44.33	5% Reduction	42.11
	Paratransit Access Line (PAL)	4	3	4	3.66	5% Reduction	3.48
4. Injury rate per 1M VRM by mode	Light Rail	17.66	18.96	2.39	13.00	5% Reduction	12.35
	Bus	4.96	6.62	2.98	4.85	5% Reduction	4.61
	Paratransit Access Line (PAL)	2.67	1.50	1.87	2.01	5% Reduction	1.91
5. Total number of safety events reported to NTD by mode	Light Rail	24	16	5	15	5% Reduction	14.25
	Bus	42	48	15	35	5% Reduction	33.25
	Paratransit Access Line (PAL)	3	3	3	3	5% Reduction	2.85