

ITEM 7 – Information

November 16, 2022

SAFETY TOPICS

7A. RECAP OF SAFETY WORK SESSION

A brief summary of the morning's work session will be provided.

7B. PBPP: DRAFT TARGETS FOR TRANSIT SAFETY

The board will be briefed on draft regional targets for transit safety performance measures, including fatalities, injuries, safety events, and system reliability, as required under the federal performance based planning and programming (PBPP) rulemaking for public transportation providers and MPOs. The board will be asked to approve the regional targets at its December meeting.

7C. PBPP: DRAFT TARGETS FOR HIGHWAY SAFETY

The board will be briefed on the proposed 2019-2023 targets for highway safety performance measures as part of federal PBPP requirements. The board will be asked to approve the regional targets at its December meeting.



MEMORANDUM

TO: Transportation Planning Board
FROM: Eric Randall, TPB Transportation Engineer
SUBJECT: Performance-Based Planning and Programming (PBPP) Regional Transit Safety Targets – DRAFT for 2022
DATE: November 10, 2022

This memorandum provides an update on implementation of the federal performance-based planning and programming (PBPP) target-setting requirements under federal surface transportation regulations for the area of transit safety. Applicable providers of public transportation are required to set targets for four transit safety performance measures, following which metropolitan planning organizations (MPOs) are required to establish overall transit safety targets for their planning area.

TRANSIT SAFETY RULEMAKING

The Public Transportation Agency Safety Plan (PTASP) final rule was issued on June 19, 2018. The issuance of this final rule served as a capstone for a collection of rules making up the Public Transportation Safety Program, including the National Public Transportation Safety Plan Rule which defined the four transit safety performance measures for which providers of public transportation and MPOs have to set targets.

The PTASP rule applies to providers of public transportation that are recipients and sub-recipients of Federal Transit Administration (FTA) Section 5307 funding and that fall under the safety jurisdiction of the FTA. Applicable providers of public transportation are required to develop and certify Public Transportation Agency Safety Plans. In addition, they are required to set annual targets for the four transit safety measures, following which the MPO must set transit safety targets for the metropolitan planning area within 180 days.

Transit Safety Performance Measures	
Fatalities	Total number of reportable fatalities and the rate per total vehicle revenue miles by mode
Injuries	Total number of reportable injuries and the rate per total vehicle revenue miles by mode
Safety Events (Collisions, derailments, fires, or life safety evacuations)	Total number of reportable events and the rate per total vehicle revenue miles by mode
System Reliability	Mean distance between major mechanical failures by mode

MPO targets are not evaluated by the FTA, and there are no consequences for MPOs if they fail to meet their targets. The FTA, however, will review how MPOs incorporate and discuss safety performance measures and targets in their long-range transportation plans and transportation improvement plans (TIPs) during quadrennial MPO certification reviews (the next such MPO certification process for TPB is anticipated to occur in 2023).

TRANSIT SAFETY FOR THE NATIONAL CAPITAL REGION

The following providers of public transportation in the region are required to set transit safety targets in accordance with the PBPP requirements. These targets are required for each mode operated by the provider, including heavy rail, streetcar, commuter bus, local bus, and paratransit (demand response).

Regional recipients of FTA Section 5307 funding and the modes they operate

- WMATA: Metrorail, Metrobus, MetroAccess
- DDOT: DC Circulator, DC Streetcar
- MDOT-MTA: MTA Commuter Bus
- PRTC OmniRide: commuter bus, local bus, and paratransit

Regional sub-recipients of FTA Section 5307 funding

- VanGo (Charles Co.)
- TransIT (Frederick Co.)
- Ride On (Montgomery Co.)
- The Bus (Prince George's Co.)

Note that while local bus systems in Suburban Maryland are sub-recipients of FTA funds through the State of Maryland's Locally Operated Transit systems (LOTS) funding programs, the local bus systems operated by jurisdictions in Northern Virginia do not receive federal funds and the PTASP rule is not applicable. In addition, commuter rail systems including MARC and VRE have their safety regulated by the Federal Railroad Administration (FRA) and the PTASP rule does not apply to them.

CALCULATION OF REGIONAL SAFETY TARGETS

Targets for the region are based on those adopted or reported by each provider of public transportation. Measures are calculated for each mode:

- Number of Fatalities/Serious Injuries/Incidents – total number for all providers of that mode.
- Rate of Fatalities/Serious Injuries/Incidents – total number for all providers of the mode divided by the total number of Vehicle Revenue Miles (VRM) for that mode (reported in rate per 100,000 VRM).
- Mean Distance Between Failure (MDBF) – the total number of VRM for that mode divided by the total number of failures for all providers of the mode.

2022 REGIONAL TRANSIT SAFETY TARGETS

The 2022 regional transit safety targets are based on the targets adopted or in the process of being adopted by each applicable provider of public transportation. The draft 2022 transit safety targets will be briefed to the TPB at its November briefing. Comments will be taken through the end of November, after which the targets will be finalized for adoption at the TPB's December meeting.

Following adoption, the Visualize 2045 long-range metropolitan transportation plan System Performance Report (Appendix D) will be updated with the 2022 targets as well as available information on recent performance in relation to targets (i.e., 2021 performance vs. 2021 targets).

SAFETY TOPICS

Work Session Recap, Draft Transit Safety and Highway Safety Targets

Andrew Meese
TPB Program Director, Systems Performance Planning

Eric Randall
TPB Transportation Engineer

Janie Nham
TPB Transportation Planner

Transportation Planning Board
November 16, 2022



TPB Safety Work Session

- Scheduled the morning of November 16, immediately prior to the TPB meeting
- State DOT representatives invited to provide updates on their safety activities and challenges
- Scheduled speakers
 - Charlie Willson and Christine Mayeur, DDOT Vision Zero analysts
 - Douglas Mowbray of the Maryland Highway Safety Office, with University of Maryland specialists
 - Stephen Read, VDOT Highway Safety Planning Mgr.



PBPP: Draft 2022 Transit Safety Targets



Transit Safety: Presentation Items

- Transit Agency Safety Plans Rule
- Transit Safety Performance Measures
- Applicability
- Adopted 2021 Regional Transit Safety Targets
- 2021 Transit Safety Performance
- 2022 Draft Regional Transit Safety Targets
- Schedule



Federal Requirement: Transit Agency Safety Plans

- Federal Performance Based Planning and Programming (PBPP) regulations requires applicable providers of public transportation to develop and certify an agency safety plan
- Applicable transit providers are required to annually set targets for four (4) Transit Safety performance measures
- MPOs have 180 days following to adopt Transit Safety targets for the metropolitan planning area (i.e., regional targets)



Transit Safety Performance Measures

	Performance Measures
Fatalities	Total number of reportable fatalities and the rate per total vehicle revenue miles by mode
Injuries	Total number of reportable injuries and the rate per total vehicle revenue miles by mode
Safety Events*	Total number of reportable events and the rate per total vehicle revenue miles by mode
System Reliability	Mean distance between major mechanical failures by mode

*Collisions, derailments, fires, or life safety evacuations



Applicable Regional Agencies

- Transit safety requirements apply to providers of public transportation that are recipients and sub-recipients of federal Section 5307 funding under FTA regulation
 - WMATA: Metrorail, Metrobus, MetroAccess
 - DDOT: DC Circulator, DC Streetcar
 - MDOT-MTA: MTA Commuter Bus
 - PRTC: Bus and paratransit
 - and local systems in Suburban Maryland:
 - VanGo (Charles Co.)
 - TransIT (Frederick Co.)
 - Ride On (Montgomery Co.)
 - The Bus (Prince George's Co.)
- Northern Virginia local bus systems do not use federal funds, so the safety targets requirements are not applicable*



2021 Regional Transit Safety Targets

Final targets for the region adopted by the TPB on November 17, 2021

	Fatalities		Serious Injuries		Safety Events		Reliability
	Number	Rate	Number	Rate	Number	Rate	MDBF
Heavy Rail (HR)	0	0	244	0.31	84	0.11	254,000
Streetcar Rail (SR)	0	0	0	0.00	4	0.27	672
Urban Bus (MB)	0	0	411	0.69	463	0.78	13,654
Commuter Bus (CB)	0	0	6	0.07	20	0.23	13,265
Demand Response (DR)	0	0	40	0.19	18	0.08	0
Vanpools (VP)	0	0	6	0.05	118	1.05	9,500

Rate - Per 100,000 Vehicle Revenue Miles

MDBF = Mean Distance Between Failures



2021 Regional Transit Safety Performance

As reported to the FTA National Transit Database, Safety & Security time-series.
Data may be incomplete

2021	Fatalities*		Serious Injuries		Safety Events	
	Number	Rate	Number	Rate	Number	Rate
Heavy Rail (HR)	2	0.002	13	0.016	97	0.12
Streetcar Rail (SR)	0	0	0	0	5	4.68
Urban Bus (MB)	6	0.011	247	0.43	217	0.43
Commuter Bus (CB)	0	0	0	0	1	0.015
Demand Response (DR)	0	0	15	0.16	30	0.16
Vanpools (VP)	0	0	0	0	0	0

Rate - Per 100,000 Vehicle Revenue Miles

* Excludes suicides

2022 Regional Transit Safety Targets - **DRAFT**

Some agencies are still formalizing their targets

	Fatalities		Serious Injuries		Safety Events		Reliability
	Number	Rate	Number	Rate	Number	Rate	MDBF
Heavy Rail (HR)	0	0	255	0.29	23	0.04	14,000
Streetcar Rail (SR)	0	0	0	0.00	4	0.27	1,000
Urban Bus (MB)	0	0	268	0.49	404	0.74	10,918
Commuter Bus (CB)	0	0	4	0.06	2	0.03	18,596
Demand Response (DR)	0	0	46	0.24	39	0.20	22,903
Vanpools (VP)	0	0	4	0.04	0	0.00	53,000

Rate - Per 100,000 Vehicle Revenue Miles

MDBF = Mean Distance Between Failures



Timeline

- October – Collect 2022 targets, previous year’s performance vs. target information from applicable Transit Agencies
- October – TPB Regional Public Transportation Subcommittee briefed on draft 2022 targets
- November – Technical Committee briefed on requirements and draft 2022 regional transit safety targets
- **November** – TPB briefed on requirements and draft 2022 regional transit safety targets
- December – TPB will be asked to adopt resolution with final regional transit safety targets



PBPP: Draft 2019-2023 Highway Safety Targets



Highway Safety: Presentation Items

- Part I: Review of Federal Requirements
- Part II: 2017-2021 Highway Safety Targets and Trends
- Part III: Staff Recommended 2019-2023 Regional Safety Targets
- Part IV: Next Steps



Federal Requirement: Highway Safety

- Federal Highway Administration (FHWA) issued the Safety Performance Management Measures (Safety PM) Final Rule in March 2016, which requires State DOTs and MPOs to:
 - Adopt annual safety performance targets in five (5) safety performance measures
 - Measure and report progress towards those targets each year
 - State DOTs are required to report their safety targets annually through their HSIP report by August 31, and MPOs are required to report their safety targets within 180 days thereafter
- Requirement supports implementation of the Highway Safety Improvement Program (HSIP), which requires States to improve highway safety on public roads using a data-drive, strategic approach



Highway Safety Performance Measures

Performance Measure	Description
Number of Fatalities <i>(5 year rolling average)</i>	Total number of fatalities during a calendar year
Rate of Fatalities per 100 million VMT <i>(5 year rolling average)</i>	Ratio of total fatalities to VMT
Number of Serious Injuries <i>(5 year rolling average)</i>	Total number of serious injuries during a calendar year
Rate of Serious Injuries per 100 million VMT <i>(5 year rolling average)</i>	Ratio of total serious injuries to VMT
Number of Non-Motorized Fatalities and Serious Injuries <i>(5 year rolling average)</i>	Total number of fatalities and serious injuries during a calendar year

Target Setting Methodology

- TPB targets for each performance measure is a composite of sub-targets developed for each State
 - Apply Maryland’s approach to identify a “sub-target” for the Maryland portion of the NCR
 - Apply a modified version of Virginia’s suggested approach for its MPOs to identify a sub-target for the Virginia portion of the NCR
 - Incorporate the District of Columbia’s target as a sub-target for the DC portion of the NCR
 - Combine the three sub-targets into a regional target for the NCR
 - If a calculated target is higher than the previous target, set the target equal to the previous target



2017-2021 NCR Annual Highway Safety Data

	2017	2018	2019	2020	2021	Change from 2020 to 2021
# of Fatalities	313	303	300	321	360 ¹	↑ 12.1 %
Fatality Rate (per 100 MVMT)	0.695	0.673	0.659	0.876	0.886 ¹	↑ 1.1 %
# of Serious Injuries	2,613	2,464	2,371	1,839	2,221	↑ 20.8 %
Serious Injury Rate (per 100 MVMT)	5.755	5.473	5.211	5.026	5.277	↑ 5.0 %
# Nonmotorist Fatalities & Serious Injuries	586	552	595	440	518	↑ 17.8 %

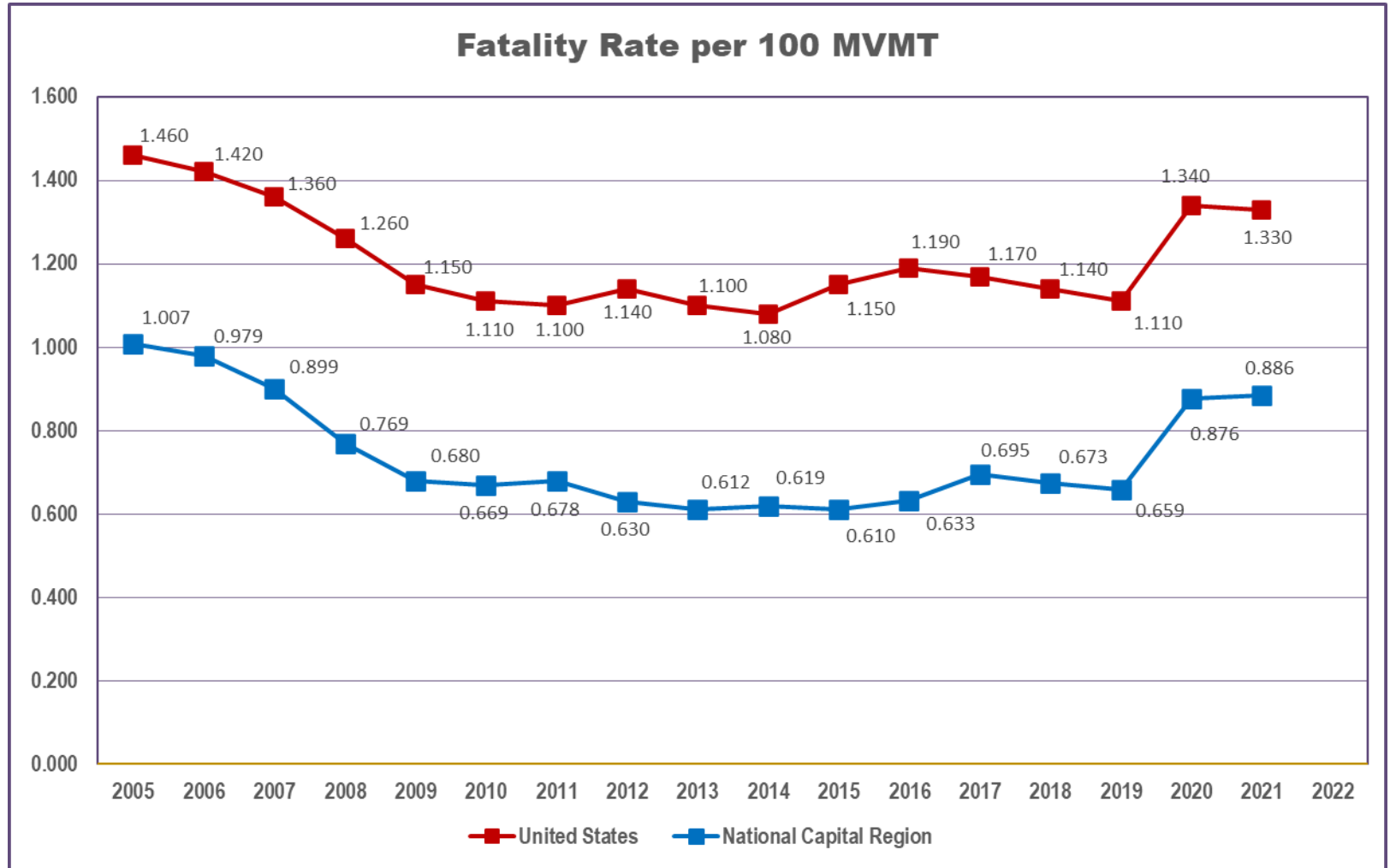
Note ¹: Figures listed are from state fatality data; 2021 FARS data not yet published

2017-2021 NCR Actual vs. Targets

Performance Measure (5-year rolling average)	2017-2021 Target	2017-2021 Actual	Status
# of Fatalities	253.0	319.4 ¹	Not met
Fatality Rate (per 100 MVMT)	0.588	0.750 ¹	Not met
# of Serious Injuries	2,435.8	2,301.6	Met
Serious Injury Rate (per 100 MVMT)	5.539	5.393	Met
# Nonmotorist Fatalities & Serious Injuries	508.6	545.1	Not met

Note ¹: Figures listed are a combination of FARS and state fatality data; 2021 FARS data not yet published

Fatality Rates: USA and National Capital Region



Staff Observations

- Challenges introduced by the pandemic are still present
 - Highway fatalities remain elevated
 - Regional performance echoes national trend
- Future trajectory of serious injuries is to be determined
 - Highway safety performance can have year-to-year variations
 - Highway safety practitioners consider multi-year trends vs. annual figures (e.g., FHWA evaluates performance as five-year averages)
- NCR highway safety performance measures remain below (better than) national average
 - Underscores importance of safety efforts



NCR Highway Safety Targets (*pre-cap*) - **DRAFT**

	2018-2022 Target	2019-2023 Target	Difference	Percent Difference
# of Fatalities	271.0	<u>282.7</u>	11.7	4.3%
Fatality Rate (per 100 MVMT)	0.632	<u>0.644</u>	0.012	1.9%
# of Serious Injuries	1,889.7	<u>1,757.4</u>	-132.3	-7.0%
Serious Injury Rate (per 100 MVMT)	3.867	<u>3.733</u>	-0.134	-3.5%
# Nonmotorist Fatalities & Serious Injuries	492.4	<u>486.9</u>	-5.5	-1.1%

NCR Highway Safety Targets (*with cap*) - **DRAFT**

	2018-2022 Target	2019-2023 Target	Difference	Percent Difference
# of Fatalities	253.0	<u>253.0</u>	0.0	0.0%
Fatality Rate (per 100 MVMT)	0.588	<u>0.588</u>	0.000	0.0%
# of Serious Injuries	1,889.7	<u>1,757.4</u>	-132.3	-7.0%
Serious Injury Rate (per 100 MVMT)	3.867	<u>3.733</u>	-0.134	-3.5%
# Nonmotorist Fatalities & Serious Injuries	492.4	<u>486.9</u>	-5.5	-1.1%



Summary: NCR Highway Safety Targets

Performance Measure (5-year rolling average)	Adopted 2017- 2021 Targets	Adopted 2018- 2022 Targets	DRAFT 2019- 2023 Targets	Difference	Percent Difference
# of Fatalities	253.0	253.0	<u>253.0</u>	0.0	0.0%
Fatality Rate (per 100 MVMT)	0.588	0.588	<u>0.588</u>	0.0	0.0%
# of Serious Injuries	2,435.8	1,889.7	<u>1,757.4</u>	-132.3	-7.0%
Serious Injury Rate (per 100 MVMT)	5.539	3.867	<u>3.733</u>	-0.134	-3.5%
# Nonmotorist Fatalities & Serious Injuries	508.6	492.4	<u>486.9</u>	-5.5	-1.1%



Timeline

- November 16: TPB Safety Work Session
- November 16: Present staff-proposed regional safety targets to the TPB
- Finalize staff-proposed targets based on board feedback
- December 21: Request board approval of targets



Andrew Meese

TPB Program Director, Systems Performance Planning

(202) 962-3789

ameese@mwkog.org

Eric Randall

TPB Transportation Engineer

(202) 962-3254

erandall@mwkog.org

Janie Nham

TPB Transportation Planner

jnham@mwkog.org

mwkog.org/tpb

Metropolitan Washington Council of Governments

777 North Capitol Street NE, Suite 300

Washington, DC 20002



National Capital Region
Transportation Planning Board