System Performance Report

This report documents the transportation performance measures and performance targets that WVDOT tracks consistent with Federal requirements and documents recent and current performance of West Virginia's transportation system in several key performance areas.

1. Introduction

West Virginia's 2050 Statewide Long-Range Transportation Plan (LRTP) defines West Virginia's transportation vision. It assesses the current and future condition of West Virginia's multimodal transportation system, identifies transportation priorities and funding options to prepare for future challenges and opportunities, and provides a blueprint to strategically preserve, modernize, and manage the state's assets for future generations.

In support of the 2050 LRTP, the West Virginia Department of Highways (WVDOH) developed this System Performance Report. This report documents the transportation performance measures and performance targets West Virginia is required by federal law to follow and reports on recent and current performance of West Virginia's transportation system in several key performance areas.

Under federal transportation planning requirements, state departments of transportation (DOT), metropolitan planning organizations (MPO), and public transportation providers must apply a transportation performance management (TPM) approach when carrying out their transportation planning and programming activities. TPM requires agencies to use a coordinated performance-based approach to make transportation decisions that support national goals established in Moving Ahead for Progress in the 21st Century (MAP-21) for the federal-aid highway and public transportation programs. These national goals are:

Goal Area	Goal
Safety	To achieve a significant reduction in traffic fatalities and serious injuries on all public roads and public transportation systems
Infrastructure 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 (NHS)
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

2050 LRTP – Performance Management

The US Department of Transportation (USDOT), in consultation with states, MPOs, and other stakeholders, has established measures in performance areas relevant to the national goals through a series of federal rulemakings. These rulemakings between 2016 and 2019 establish performance measures for the federal-aid highway and transit programs. **The performance measure rules fall into five broad categories – highway safety, highway asset management, highway system performance, transit asset management and public transportation safety.**

- The highway safety performance measures track roadway, bicycle, and pedestrian fatalities and serious injuries.
- The highway asset management performance measures track the condition of pavement and bridges.
- The highway system performance measures track the reliability of passenger and freight travel, as well as highway congestion and emissions in areas that are nonattainment or maintenance areas for national air quality standards.
- The transit asset management performance measures track the condition of transit vehicles, equipment, and facilities.
- The public transportation safety measures focus on transit related fatalities, serious injuries, and incidents.

USDOT also put in place new state DOT and MPO planning requirements to foster implementation of the performance management approach. States and MPOs must include a description of the federal performance measures and targets and a System Performance Report in their long-range transportation plans. The System Performance Report evaluates the condition and performance of the transportation system with respect to the federal performance targets, including progress achieved in meeting those targets.

In fall 2016, WVDOT was awarded a Strategic Highway Research Program (SHRP2) grant from USDOT to help establish a performance-based planning process and institute a system to facilitate transportation performance management.

This effort, which concluded in June 2019 as part of two consecutive grants, helped WVDOT and MPO partners develop data to support the process and institute regular coordination activities to support performance reviews and target setting. The process supported development of WVDOTs 2018 Baseline Performance Report and the 2020 Mid-Performance Period Report to FHWA as well as ongoing efforts to manage the Transportation Asset Management Plan (TAMP), Highway Safety Improvement Program (HSIP), and Transit Asset Management Plan (TAM).

System Performance Report Content

The 2050 LRTP System Performance Report documents the performance measures and the statewide performance targets WVDOH established for the following federal performance areas:

- Highway safety on all public roads
- Condition of pavement and bridges on West Virginia's Interstates and non-Interstate NHS
- Reliability of passenger vehicle and truck travel on the Interstate and non-Interstate NHS
- Emission reductions in air quality nonattainment and maintenance areas
- Condition of public transportation assets
- Public transportation safety

For each federal performance area, this report reviews baseline and recent performance, performance targets, and progress made toward achieving the targets.

2. Highway Safety

FHWA established five highway safety performance measures to carry out the Highway Safety Improvement Program (HSIP). The safety performance measures are:

1. Number of fatalities
2. Rate of fatalities per 100 million vehicle miles traveled
3. Number of serious injuries
4. Rate of serious injuries per 100 million vehicle miles traveled
5. Number of combined non-motorized fatalities and non-motorized serious injuries.

The federal safety performance measures are aligned with Goal 2 of the 2050 LRTP, Safety & Security for All Users. These measures address fatalities and serious injuries from traffic incidents that occur on all public roads in the State. West Virginia collects a wide range of crash data and reports the data to FHWA on a regular basis. WVDOH collaborates with safety partners to analyze the data, identify specific actions to improve roadway safety, and establish statewide performance targets annually for each safety performance measure.

West Virginia's statewide safety performance for 2016 through 2019 is presented in Table 1, along with safety targets for calendar year 2021. Performance is expressed as an annual five-year rolling average, which is the average of five individual, consecutive annual points of data. A five-year rolling average provides a smoothing effect for variations in safety data from year to year and helps to better evaluate performance over time. Each MPO in West Virginia agreed to support the 2021 statewide safety targets.

Table 1 – Highway Safety Performance and Targets

Performance Measure (five-year rolling average)	2016 Statewide (2012-2016)	2017 Statewide (2013-2017)	2018 Statewide (2014-2018)	2019 Statewide (2015-2019)	2021 Statewide Target (2017-2021)
Number of Fatalities	296.0	289.0	281.4	279.0	263.7
Rate of Fatalities per 100 million Vehicle Miles Traveled (VMT)	1.528	1.494	1.450	1.438	1.457
Number of Serious Injuries	1,431.6	1,270.0	1,171.8	1,081.4	1002.4
Rate of Serious Injuries per 100 million VMT	7.394	6.562	6.040	5.570	5.023
Number of Combined Non-Motorized Fatalities and Non-Motorized Serious Injuries	103.6	94.8	97.0	97.2	86.2

As shown in Table 1, the five-year rolling average for all five safety measures in 2019 was below 2016 levels. West Virginia has experienced four consecutive years of decreases in fatalities, fatality rate, serious injuries, and serious injury rate. Combined non-motorized fatalities and serious injuries decreased from 2016 to 2017 but rose in 2018 and again in 2019. These trends reflect improved performance over this time period.

Each year, FHWA completes an assessment of progress toward achieving previous safety targets. FHWA determines that a state made significant progress toward its safety targets when at least four of the five targets were met, or the actual outcome was better than the baseline performance. In spring 2021, FHWA assessed West Virginia's progress toward achieving its 2019 safety targets. Based on FHWA's review, West Virginia demonstrated significant progress toward achieving its safety targets.

2020 safety performance outcomes and 2022 targets are being reviewed as part of the annual process to submit targets within the Highway Safety Plan (HSP) and the HSIP. The HSP is submitted to the National Highway Traffic Safety Administration (NHTSA) by the West Virginia Governors Highway Safety Program (GHSP) by June 30th. The HSIP is submitted to FHWA by August 31, 2021. These reports identify strategies and countermeasures to address safety challenges on West Virginia roads and also establish 2022 targets for the five federally required measures.

More information on West Virginia's safety trends and targets are available through FHWA here:
State Highway Safety Report (2019) - West Virginia - State - Reporting - Transportation Performance Management - Federal Highway Administration (dot.gov)

The current Highway Safety Plan for Federal fiscal year 2021 is available here:
West Virginia FFY 2021 Highway Safety Plan (wv.gov)

More information on HSIP reports is available here:
Highway Safety Improvement Program (HSIP) - Safety | Federal Highway Administration (dot.gov)

Strategies and Actions in the 2050 LRTP Supporting Safety

The 2050 LRTP identified the following five highest priority actions for implementation this decade to proactively address systemic and roadway design factors impacting traffic safety in West Virginia. Other high priority and long-term safety actions are documented on the LRTP website here: Implementation Plan (wv.gov)

Strategy	Action	Performance Result
Increase traffic safety awareness, education, and enforcement	Reach young drivers through social media and educational programs to emphasize the importance of safe driving decisions.	Reduce the annual 250+ fatalities that occur on West Virginia roadways, particularly the 65% that cite roadway departure as a contributing factor.
	Improve how traffic accident data (injuries, fatalities, and violations) are reported between state and local officials	
Reduce crashes through more traffic safety related improvements	Install more safety devices, such as guardrails and brighter pavement markings, to prevent crashes.	
Expand coverage of traffic technology and operations infrastructure	Update emergency management plans to better coordinate and respond to crashes and make drivers aware of detours to avoid major delays.	Lessen the $1.4 billion in annual economic cost from crashes in West Virginia, helping to keep the system moving safely around events.
Expand freight rail market access and intermodal opportunities	Plan for and install more crossing safety devices at highway-rail crossings to reduce accidents and limit gate running.	Increase the number of grade crossings with active warning devices from the current 56% to decrease the 115 crossing incidents reported in West Virginia since 2013.

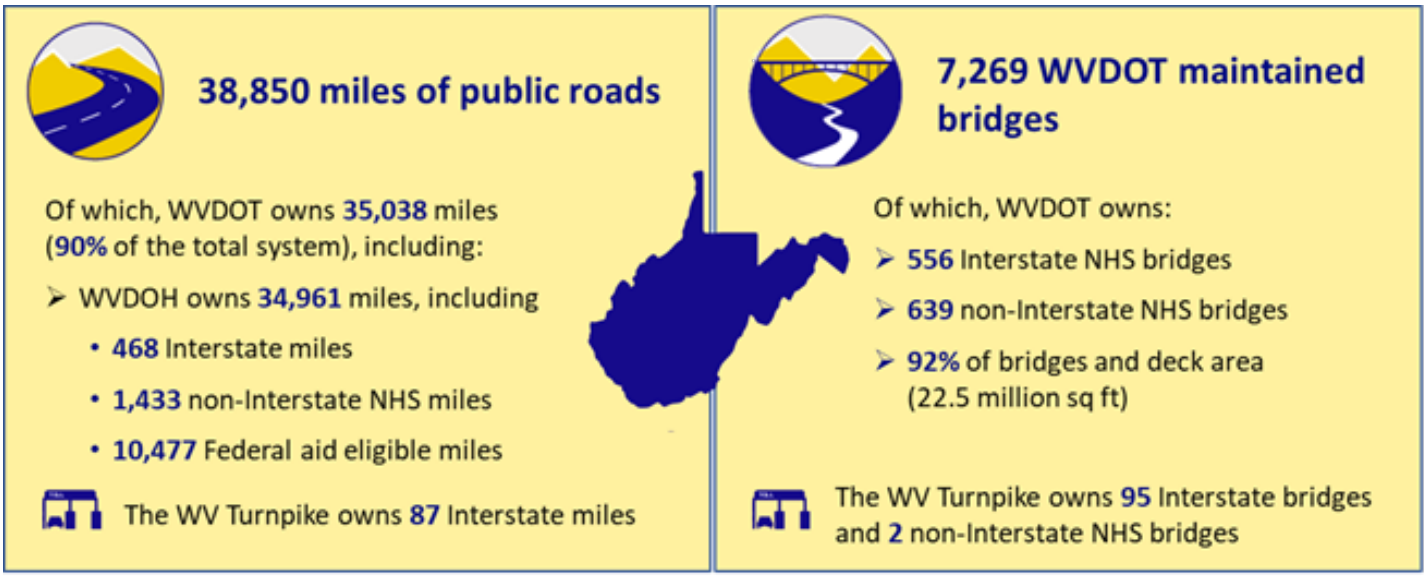
2. Pavement and Bridge Condition

FHWA established six performance measures to assess pavement condition and bridge condition for the National Highway Performance Program:

1. Percent of Interstate pavements in good condition
2. Percent of Interstate pavements in poor condition
3. Percent of non-Interstate National Highway System (NHS) pavements in good condition
4. Percent of non-Interstate NHS pavements in poor condition
5. Percent of NHS bridges by deck area classified as in good condition
6. Percent of NHS bridges by deck area classified as in poor condition

The federal pavement and bridge performance measures are closely aligned with Goal 1 of the 2050 LRTP, System Condition, Efficiency, & Fiscal Sustainability. The pavement condition measures represent the percentage of lane-miles on the Interstate or non-Interstate NHS that are in good, fair, and poor condition based on an assessment of roughness and cracking, rutting, faulting, or serviceability. The bridge condition measures represent the percentage of bridges on the NHS, by deck area, that are in good, fair, or poor condition based on an assessment of primary bridge components. Pavement and bridges in good condition do not require major investment, while those in poor condition will need substantial reconstruction or replacement.

WVDOT is in a unique position regarding its NHS bridge and pavement assets relative to the remainder of the system. **With the over 35,000 miles of roads that WVDOT owns and maintains (including the WV Turnpike), only 6 percent of these miles are tracked through the required Federal measures. For the 7,269 bridges that WVDOT owns and maintains (including the WV Turnpike), 18 percent of these bridges are tracked through the required Federal measures.** In other words, the Federal measures, while important, only cover a small proportion of the complete system that WVDOT is responsible for.



Note, all miles presented as centerline miles. All mileage stats from FHWA 2018 Highway Statistics series.

West Virginia collects and reports pavement and bridge condition data to FHWA each year through the Highway Performance Monitoring System (HPMS) and the National Bridge Inventory (NBI). This data is used to establish two-year and four-year targets and to track performance and progress toward the targets. West Virginia's current two-year and four-year targets represent expected pavement and bridge condition at the end of 2019 and 2021, respectively.

Table 2 presents statewide pavement and bridge performance for the 2017 baseline year and for 2018 and 2019, the most recent year of available data. Table 2 also shows the 2019 and 2021 statewide targets that WVDOH established on May 18, 2018. Each MPO in West Virginia agreed to support these statewide targets.

Table 2 – Pavement and Bridge Condition Performance and Targets

Performance Measures	Baseline Performance (2017)	Actual Performance (2018)	Actual Performance (2019)	2-year Target (2019)	4-year Target (2021)
Percent of Interstate pavements in good condition	73.4%	78.7%	80.6%	n/a	75.0%
Percent of Interstate pavements in poor condition	0.1%	0.2%	0%	n/a	4.0%
Percent of non-Interstate NHS pavements in good condition (full distress + IRI)	40.9%	42.6%	43.0%	40.0%	45.0%
Percent of non-Interstate NHS pavements in poor condition (full distress + IRI)	1.2%	1.2%	2.0%	5.0%	5.0%
Percent of NHS bridges (by deck area) in good condition	13.9%	13.1%	11.6%	14.0%	*11.0%
Percent of NHS bridges (by deck area) in poor condition	11.9%	15.3%	13.5%	10.0%	*13.0%

* The four-year Bridge Condition targets established in 2018 were adjusted in October 2020, during submission of the required Mid-Performance Period Report to FHWA to reflect recent performance trends.

As shown in Table 1, pavement condition on the Interstate system improved between 2017 and 2019, with the percent in good condition increasing and the percent in poor condition remaining almost the same. On the non-Interstate NHS system, the results were mixed, with a higher percentage of pavement in good condition in 2019 but also with slightly more pavement in poor condition. Although the percentage of pavement in poor condition increased slightly, the value is well below the two-year target. West Virginia made progress toward achieving the two-year targets for non-Interstate NHS pavement condition. Two-year targets were not required for Interstate pavements.

For NHS bridges in good condition, performance declined from the 2017 baseline of 13.9% to 11.6% in 2019. NHS bridges in poor condition increased from the 2017 baseline of 11.9% to 13.5% in 2019, however 2019 did show a significant improvement from 2018. As a result, progress toward the two-year bridge targets was not achieved. WVDOT received notification of this determination from FHWA in January 2021 and is continuing to develop documentation within TAMP Consistency Report reviews with FHWA detailing investment and management strategies to address bridge condition trends.

WVDOH is taking several steps to improve pavement and bridge performance. The Department is addressing its asset management challenges through internal process improvement and pavement and bridge management system validation and calibration, including establishing new standard operating procedures for project and programming

coordination among Districts, asset management staff, and the WVDOH Programming Division; ensuring the system is delivering the most efficient treatment recommendations and training for staff to optimize system use. WVDOH is currently integrating its different IT systems, including its Asset Management Systems with capital project and financial systems. WVDOH is also establishing written standard operating procedures for BMS and PMS analysis, Gap Analysis and Target Revision, Risk Register and Mitigation Strategies, Emergency Event (Part 667) Reporting, Consistency Review Reporting, and TAMP / STIP coordination and integration. Continued commitment to following asset management principles detailed in West Virginia's Transportation Asset Management Plan (TAMP) and currently programmed investments will support the State in meeting the four-year targets.

Although WVDOH is taking these steps, several factors make it unlikely that current bridge condition trends will reverse soon enough to enable the State to meet the 2021 bridge targets that were established in 2018. As a result, the Department adjusted the 2021 targets in October 2020. The new targets of 11.0% for bridges in good condition (previously 16%) and 13.0% for bridges in poor condition (previously 10.0%) reflect a goal of stabilizing the downward trend experienced during 2018-2019 and is consistent with the most recent bridge condition data, project schedules, and asset management principles.

More information on West Virginia's asset performance trends and targets are available through FHWA here: State Highway Infrastructure Report - West Virginia - State - Reporting - Transportation Performance Management - Federal Highway Administration (dot.gov)

The current 2019 Transportation Asset Management Plan is available here: https://transportation.wv.gov/highways/programplanning/Documents/2019-Final-TAMP.pdf

Strategies and Actions in the 2050 LRTP Supporting Bridges and Pavement

The 2050 LRTP identified the following seven highest priority actions for implementation this decade to advance WVDOTs comprehensive, systemwide asset management strategy. Other high priority and long-term safety actions are documented on the LRTP website here: Implementation Plan (wv.gov)

Strategy	Action	Performance Result
Strengthen statewide bridge system and Turnpike condition	Link bridge-related asset management and analysis systems for efficient data flow	Linking bridge and pavement asset management systems will allow for better, data-driven decisions to address the wave of bridge projects expected in the next 10-15 years, while also maintaining high NHS pavement performance and understanding comprehensive non-NHS pavement needs.
Strengthen statewide pavement system and Turnpike condition	Link pavement-related asset management and analysis systems for efficient data flow	
	Provide necessary funding amounts to prevent decline in current asset condition	
Strengthen Non-NHS (local) bridge and pavement condition	Improve and increase communication across offices to leverage best practices	
Focus on stormwater and roadside management to protect and repair assets	Based on past flood and repair data, identify locations that may need additional attention	Better vulnerability assessments and proactive responses to slip failures will help reduce flood events and associated road closures which lead to economic losses for WV residents and businesses.
	Use best-available and sustainable technology in poor-drainage areas to reduce potential stormwater issues	
Expand the use of asset performance tools and decision support systems	Test more durable and longer-lasting materials for infrastructure such as bridge structures and road pavement.	Increase the lifespan of new bridges and pavements in a cost-effective manner, 30% of which will need to be replaced in the near future.

3. NHS Reliability, Freight Movement, and CMAQ

FHWA established six measures to assess performance of the National Highway System, freight movement on the Interstate system, and the Congestion Mitigation and Air Quality Improvement (CMAQ) Program:

National Highway System Performance

1. Percent of person-miles on the Interstate system that are reliable
2. Percent of person-miles on the non-Interstate NHS that are reliable

Freight Movement on the Interstate

3. Truck Travel Time Reliability Index (TTTR)

Congestion Mitigation and Air Quality Improvement (CMAQ) Program

4. Annual hours of peak hour excessive delay per capita (PHED)
5. Percent of non-single occupant vehicle travel (non-SOV)
6. Cumulative two-year and four-year reduction of on-road mobile source emissions for CMAQ funded projects (CMAQ Emission Reduction)

The system performance, freight movement, and CMAQ measures are closely aligned with the following 2050 LRTP goals: Goal 3: Economic Vitality & Freight Movement; Goal 4: Multimodal Mobility, Reliability, & Accessibility; and Goal 5: Livable & Health Communities.

The two system performance measures assess the reliability of travel times on the Interstate and non-Interstate NHS. Reliability is a measurement of how much travel times on a given route differ from day to day. Travel that is reliable will usually take about the same amount of time on any given day, while travel that is unreliable means the amount of time required to complete a trip will vary widely, usually due to non-recurring bottlenecks, crashes and other incidents, or weather. These two measures are expressed in person-miles, which considers the number of people traveling in vehicles on these roads. A higher percentage for these measures means better performance.

The freight movement performance measure assesses reliability for trucks traveling on the Interstate. A TTTR index is generated based on the ratio of actual truck travel times to normal travel times. A lower TTTR value means better performance, i.e., more reliable truck travel. Data for both sets of reliability measures is sourced from the National Performance Measure Research Data Set (NPMRDS) which is built from INRIX travel speed data collected through in-vehicle and mobile device GPS information.

The CMAQ Emission Reduction measure assesses performance of the CMAQ Program through measurement of total cumulative reductions of on-road mobile source PM2.5 and PM10 emissions resulting from CMAQ funded projects in applicable regions in West Virginia managed under the Clean Air Act national ambient air quality standards.

The PHED measure quantifies the hours of delay resulting from excessive traffic congestion on the NHS during peak travel times, on a per capita basis. The non-SOV travel measure quantifies the percent of travel that occurs by any mode other than driving alone in a motorized vehicle. Currently, these two measures apply only in areas that have a population of more than one million people and are nonattainment or maintenance with National air quality standards. These measures do not currently apply in West Virginia.

West Virginia collects and reports travel time and CMAQ emissions reduction data to FHWA each year. Travel time measure data is reported annually through the HPMS. CMAQ emissions reduction data is submitted through FHWAs CMAQ Public Access System. This data is used to establish two-year and four-year targets and to track performance and

progress toward the targets. West Virginia's current two-year and four-year targets represent expected performance at the end of 2019 and 2021, respectively.

Table 3 presents statewide performance for the 2017 baseline year and for 2018 and 2019, the most recent year of available data. Table 2 also shows the 2019 and 2021 statewide targets that WVDOH established on May 18, 2018. Each MPO in West Virginia agreed to support these statewide targets.

Table 3 – System Performance, Freight Movement, and CMAQ Performance and Targets

Performance Measure	Baseline Performance (2017)	Actual Performance (2018)	Actual Performance (2019)	2-year Target (2019)	4-year Target (2021)
Percent of person-miles on the Interstate system that are reliable	99.8%	99.0%	99.1%	98.0%	96.0%
Percent of person-miles on the non-Interstate NHS that are reliable	91.9%	94.6%	93.7%	n/a	87.0%
Truck Travel Time Reliability Index (TTTR)	1.21	1.27	1.28	1.25	*1.40
CMAQ PM2.5 Cumulative Emission Reductions	0.092 kg/day	-	0.122 kg/day	0.092 kg/day	0.092 kg/day
CMAQ PM10 Cumulative Emission Reductions	0.000 kg/day	-	0.133 kg/day	0.000 kg/day	0.000 kg/day

* The four-year TTTR target established in 2018 was adjusted in October 2020 to reflect expected performance trends.

As shown in Table 3, the percent of person-miles traveled in reliable conditions has remained stable and high throughout the performance period across the entire Interstate and non-Interstate NHS in West Virginia. Travel time is very reliable statewide, and trends have held steady between 2017 and 2019. The State experienced a slight decline in the statewide percent of person-miles traveled on the Interstate that are reliable, from the 2017 baseline of 99.8% reliable to 99.1% in 2019. This is due to extensive work zones on the NHS as a result of implementation of the Roads to Prosperity program. Even with this slight decline, performance in 2019 was above the two-year target of 98.0%, showing progress toward achieving the target. A two-year target was not required for reliability on the non-Interstate NHS.

Truck travel on the West Virginia Interstate system is also generally reliable. Since 2017, the TTTR index increased slightly, primarily as a result of the spread of new work zones on the Interstate system. Although Interstate truck travel is generally reliable, the state did not make progress toward achieving the two-year target for TTTR. Performance declined slightly from a TTTR of 1.21 in 2017 to 1.28 in 2019, exceeding the 2019 target of 1.25. The increase in TTTR is primarily tied to work zones associated with ongoing asset management or capacity activities. For example, the Wheeling area experienced a large increase in TTTR in 2019 resulting from the start of the I-70 bridge project. Other projects include turnpike widening project in the Beckley region and projects along the I-64 corridor west of Charleston toward Nitro/US 35. WVDOH is actively managing these work zones to minimize disruptions, particularly during peak travel periods, and WVDOT's traffic incident management program is also helping foster efficient management of incidents.

WVDOT reviewed committed projects and work zones planned for 2021 and estimated 2021 TTTR based on 2019 indices in work zones. Given the level of programmed construction through 2021 across the Interstate system and anticipated recovery in traffic in 2021 after decreased volumes in 2020 due to the COVID-19 pandemic, there is a risk that TTTR in 2021 may increase beyond the four-year target of 1.30. As a result, within the Mid-Performance Period Report submitted to FHWA in October 2020, WVDOT adjusted the 2021 TTTR target from 1.30 to 1.40.

For the CMAQ Emission Reduction targets, total PM2.5 and PM10 emission reductions from CMAQ projects for 2019 are higher than the two-year targets, which signifies that CMAQ projects implemented in the state are performing better than expected. The baseline PM2.5 emission reductions and the 2019 and 2021 targets were based on a limited set of quantified emission reduction projects due to limited recent project examples. Targets were set equal to the baseline estimate until more data was available. For PM10, there were no CMAQ funded projects in the Weirton PM10 maintenance area with PM10 reductions, therefore the baseline PM10 emissions and the targets were set equal to 0.0.

More information on West Virginia's reliability performance trends and targets are available through FHWA here: State Highway Reliability Report - West Virginia - State - Reporting - Transportation Performance Management - Federal Highway Administration (dot.gov)

More information on West Virginia's emissions performance trends and targets are available through FHWA here: State On-Road Mobile Source Emissions Reductions Report - West Virginia - State - Reporting - Transportation Performance Management - Federal Highway Administration (dot.gov)

Strategies and Actions in the 2050 LRTP Supporting Reliability and Emissions

The 2050 LRTP identified the following six highest priority actions for implementation this decade to advance improved system reliability, environmental quality, public health, and accessibility to essential services. Other high priority and long-term safety actions are documented on the LRTP website here: Implementation Plan (wv.gov)

Strategy	Action	Performance Result
Expand coverage of traffic technology and operations infrastructure	Update emergency management plans to better coordinate and respond to crashes and make drivers aware of detours to avoid major delays.	Lessen the $1.4 billion in annual economic cost from crashes in West Virginia, helping to keep the system moving safely around events.
Expand statewide mobility services, information, and demand management	Develop plans to coordinate all transit providers within the state to prepare for shifts in commuting patterns, such as the increase of people working-from-home.	Integrated local, regional, and statewide mobility options enhances cross coordinated transit service and asset, safety, and security planning.
Build safe and connected active transportation networks	Install cross-state bike route signage and markings and promote cross-state bike routes through the West Virginia Department of Tourism.	Decrease the annual 30+ pedestrian and bicyclist fatalities and increase access for tourism along recreation and scenic routes, creating economic benefits for West Virginia communities.
	Develop a plan to design and construct more sidewalks and trails to provide pedestrian connections.	
Improve reliable access to West Virginia recreational and heritage locations	Promote via web ease of access to safe, healthy & fun outdoor attractions statewide for everyone to enjoy.	Increase the tourism revenue from West Virginia's 50+ national and state parks/recreation areas through convenient and reliable connections.
	Promote areas with real high-speed internet access as broadband expansion continues through the use of WVDOT right-of-way.	Facilitates virtual educational opportunities to raise 83% rural high school graduation rate and fosters wider employment options like remote worker lifestyle.

4. Transit Assets

FTA requires that public transportation providers that receive federal transit funding develop and implement Transit Asset Management (TAM) plans to maintain transit assets in a state of good repair (SGR). FTA created TAM performance measures for four asset categories:

1. Rolling Stock: percent of revenue vehicles exceeding useful life benchmark (ULB)
2. Equipment: percent of non-revenue service vehicles exceeding ULB
3. Facilities: percent of facilities rated under 3.0 on FTA's Transit Economic Requirements (TERM) scale
4. Infrastructure: percent of track segments under performance restrictions

Useful life benchmark (ULB) is defined as the expected lifecycle of a capital asset, or the acceptable period of use in service, for a particular transit provider's operating environment.

FTA defines two tiers of public transportation providers for TAM purposes and categorizes providers based on size parameters. Tier I providers are those that operate rail service or more than 100 vehicles in all fixed route modes, or more than 100 vehicles in one non-fixed route mode. Tier II providers are those that are a subrecipient of FTA 5311 funds, or an American Indian Tribe, or have 100 or less vehicles across all fixed route modes or have 100 vehicles or less in one nob-fixed route mode.

A Tier I provider must establish its own TAM Plan and transit asset targets. A Tier II provider has the option to establish its own TAM plan and targets, or to participate in a Group TAM Plan with other Tier II providers. A plan sponsor, typically a state DOT, develops a group plan for Tier II providers.

In 2018, the West Virginia Division of Public Transit developed a Group TAM Plan on behalf of the participating Tier II providers in the State.[1] The Group Plan guides the Division and the participating providers in operating, maintaining, upgrading, and replacing public transportation capital assets effectively through the lifecycle of the assets in order to provide safe and reliable public transportation services. Ultimately, the Group Plan functions as a decision support tool to assist the Division and transit providers to plan more strategically and efficiently in the use of all available transit funds.

The Group Plan includes performance targets for each applicable asset class as well as a list of the participating providers. Group Plan targets are updated annually. Table 4 presents the 2020 and 2021 Group TAM Plan targets for West Virginia's Tier II providers and 2020 performance for each asset category.

[1] https://transportation.wv.gov/publictransit/Documents/TAMPFinalVersion.pdf

Table 4 – West Virginia Group TAM Plan Targets and Performance

Asset	Actual Performance (2020)	2020 Targets	2021 Targets
Rolling Stock – Percent in State of Good Repair			
12 Year/500k Miles (Large, heavy duty transit buses)	99%	94%	100%
10 Year/350k Miles (Medium-size, heavy-duty transit buses)	95%	85%	96%
7 Year/200k Miles (Medium-size, medium duty transit buses)	79%	85%	82%
5 Year/150k Miles (Medium-size, light-duty transit buses)	88%	88%	90%
4 Year/100k Miles (Other light-duty buses and vans)	89%	89%	90%
Equipment – Percent in State of Good Repair			
Support Vehicles	94%	77%	95%
Maintenance Equipment	45%	100%	50%
Facilities – Percent in State of Good Repair			
Admin, Maintenance, Storage	100%	100%	100%
Transfer Center	100%	100%	100%

As shown in Table 4, 2020 targets for most of the asset categories were met or exceeded, while two targets (medium-size, medium duty buses and maintenance equipment) were not met. The 2021 targets reflect expected asset condition based on available funding and maintenance during the current year. West Virginia will update the Group TAM Plan at least once every four years and will continue to establish annual performance targets.

More information on TAM Plan requirements and practices are available through FTA here:
TAM Plans | FTA (dot.gov)

Access to transit asset data and other transit performance data is available within the National Transit Database:
The National Transit Database (NTD) | FTA (dot.gov)

Strategies and Actions in the 2050 LRTP Supporting Transit Asset Management

Transit asset management is a continuous process as transit provider revenue vehicle, maintenance vehicle, and other facilities are routinely maintained and when needed, replaced. The 2050 LRTP identified high priority actions (with possible implementation later this decade to expand opportunities to update transit fleets and strategically expand service to address needs and leverage new mobility services. Other high priority and long-term asset management actions are documented on the LRTP website here: Implementation Plan (wv.gov)

5. Public Transportation Agency Safety Plan

FTA's Public Transportation Agency Safety Plan (PTSAP) rule requires certain operators of public transportation systems that receive federal financial assistance to develop and implement a PTASP based on a safety management systems approach. Development and implementation of PTSAPs is anticipated to help ensure that public transportation systems are safe nationwide. Transit providers subject to the rule set targets in the PTASP annually based on the following safety performance measures established by FTA:

1. Total number of reportable fatalities and rate of reportable fatalities per total vehicle revenue miles by mode.
2. Total number of reportable injuries and rate of reportable injuries per total vehicle revenue miles by mode.
3. Total number of reportable safety events and rate of reportable events per total vehicle revenue miles by mode.
4. System reliability - Mean distance between major mechanical failures by mode.

Providers initially were required to certify a PTASP and targets by July 20, 2020. However, on April 22, 2020, FTA extended the deadline to December 31, 2020, to provide regulatory flexibility due to the extraordinary operational challenges presented by the COVID-19 public health emergency. On December 11, 2020, FTA extended the PTASP deadline for a second time to July 20, 2021. Under the PTASP rule, a state will draft and certify a PTASP on behalf of any small transit provider (fewer than 101 vehicles in peak revenue service and does not operate rail) unless that provider develops its own plan. There are eight providers in West Virginia that are subject to the PTASP requirements. Each provider opted to develop its own PTASP and establish transit safety targets. Therefore, there are no statewide transit safety targets to report on in this System Performance report.

More information on PTASP requirements and practices are available through FTA here:
Public Transportation Agency Safety Plans | FTA (dot.gov)

Information on the eight providers who developed PTASP's are available here:

- Eastern Panhandle Transit Authority: Home (eptawv.com)
- Kanawha Valley Regional Transportation Authority: KRT – Kanawha Valley Regional Transportation Authority (rideonkrt.com)
- Mid-Ohio Valley Transit Authority: Easy Rider Bus | Mid-Ohio Valley Transit Authority
- Mountain Lion Transit Authority: MLTA (busride.org)
- New River Transit Authority: New River Transit Authority | The New River Transit Authority
- Ohio Valley Regional Transit Authority: Ohio Valley / Eastern Ohio Regional Transportation Authority | (ovrta.org)
- Tri-State Transit Authority: Tri-State Transit Authority | Your convenient source for schedules, news and fare information. (tta-wv.com)
- Weirton Transit Corporation: Home | Weirton Transit Corporation | Weirton, WV

Strategies and Actions in the 2050 LRTP Supporting Transit Safety and Security

Transit safety is a continuous process as transit providers implement training programs for operators and important capital improvements to ensure a safe and accessible transit system. The 2050 LRTP identified high priority actions (with possible implementation later this decade to expand opportunities to update transit fleets and strategically expand service to address needs. Other high priority and long-term safety actions are documented on the LRTP website here: Implementation Plan (wv.gov)