

9: PERFORMANCE MEASURES

INTRODUCTION

Performance management uses system information to make investment and policy decisions to achieve goals for the multimodal transportation systems in an MPO study area. Performance-Based Planning and Programming (PBPP) refers to the methods transportation agencies use to apply performance management as standard practice in their planning and programming processes.

The goal of PBPP is to ensure that transportation investment decisions—both long-term planning and short-term programming—depend on the ability to meet established goals.

As a federal requirement, states will invest resources in projects to achieve individual targets that make collective progress toward national goals. MPOs are also responsible for developing LRTPs and TIPs through a performance-driven, outcome-based approach to planning.



GPATS is now developing its PBPP process to meet federal requirements—including requirements to track specific measures and set targets—and to meet the unique planning needs of the region.

This document is meant to serve as a bridge as GPATS transitions to a more strategic PBPP. This document describes:

- National goal areas and measures
- Federal requirements
- Safety goal area and targets
- The region's next steps

National Goal Areas and Measures

Highway Performance

Through the federal rulemaking process, the FHWA requires state DOTs and MPOs to monitor the transportation system using specific performance measures associated with the national goal areas prescribed in MAP-21 and the FAST Act. The following list describes these national goal areas for highway performance as well as performance measures. However, GPATS can take on additional measures beyond what is described.

Safety

- Injuries and Fatalities

Infrastructure Condition

- Pavement Condition
- Bridge Condition

System Reliability

- Performance of National Highway System

Freight Movement and Economic Vitality

- Movement on Interstate System

Congestion Reduction

- Traffic Congestion

Environmental Stability

- On-Road Mobile Source Emissions

Reduced Project Delivery Delay

Note: For GPATS, targets for these measures will be set based on those set by the state and performance reports will be added once data becomes available.

Transit Performance

Public transit fund recipients—which can include states, local authorities, and public transportation operators—are required to establish performance targets for safety and state of good repair, to develop transit asset management and safety plans, and to report their progress toward achieving targets. Public transportation operators must share information with MPOs and states so that all plans and performance reports are coordinated. The list below identifies performance measure goals outlined in the FTA *National Public Safety Transportation Plan* and in the final rule for transit asset management. GPATS will be required to coordinate with public transportation operators to set targets for these measures.

Safety

- Fatalities
- Injuries
- Safety Events
- System Reliability

Infrastructure Condition

- Equipment
- Rolling Stock
- Facilities

Note: For GPATS, targets for these measures will be set based on those set by the state and performance reports will be added once data becomes available.

For more detailed information on any of these performance measures, see Appendix E (<http://www.gpats.org/plans/horizon2040>).

FEDERAL REQUIREMENTS

Targets

- GPATS is required to establish performance targets no later than 180 days after SCDOT or a public transportation operator sets performance targets.
- For each performance measure, the policy committee will either decide to support a statewide target or establish a quantifiable target specific to the planning area.
- SCDOT, MPOs, and public transit operators must coordinate performance measure targets to ensure consistency to the extent practicable.

Reporting

- *Horizon 2040* must describe the performance measures and targets, evaluate the performance of the transportation system, and report on progress made.
- The TIP must link investment priorities to the targets in the LRTPs and describe, to the extent practicable, the anticipated effect of the program on achieving established targets.
- GPATS must also report to SCDOT the baseline roadway transportation system condition, performance data, and progress toward achieving targets.

Assessments

- FHWA and FTA will not directly evaluate GPATS' progress toward meeting performance measure targets. Instead, GPATS' performance will be assessed as part of regular cyclical transportation planning process reviews, including Transportation Management Area certification reviews, small MPO self-certification reviews, and the Federal Planning Finding, which is associated with approval of the STIP.
- FHWA will determine if SCDOT has met or made significant progress toward selected targets for the highway system.

SAFETY

South Carolina has the highest traffic fatality rate in the nation. It is 67% higher than the national rate and 40% higher than the states in the Southeast. Reducing the number of transportation-related collisions, injuries, and fatalities is SCDOT's highest priority and makes safety everyone's business. In 2011, the Director of the South Carolina Department of Public Safety (SCDPS), who also serves as the Governor's Representative for Highway Safety in South Carolina, announced the Agency's goal of zero traffic-related deaths for the State. This goal, also strongly supported by SCDOT and the South Carolina Department of Motor Vehicles, became the starting point for the State's update of the strategic highway safety plan (SHSP), entitled Target Zero. Target Zero is an aspirational goal for South Carolina and is based on the philosophy that no fatalities

are acceptable. The state will set targets advancing this goal during the next 20 years. For more information on statewide efforts to reach this goal, see Appendix E (see <http://www.gpats.org/plans/horizon2040>).

Safety Needs within the GPATS Region

SCDOT provided a safety workshop for GPATS with data specific to the study area boundary. The workshop examined the crash data within the GPATS region to provide some perspective on what safety problems the region is experiencing. Potential focus areas include:

- Roadway departure
- Intersections
- Access management
- Non-motorized roadway users

These areas could be influenced by GPATS as a project moves through the planning, programming, and delivery process.

More detail on these problem areas and traditional engineering countermeasure techniques can be found in Appendix E (see <http://www.gpats.org/plans/horizon2040>).

Safety Strategies

The safety of the regional transportation system is a top priority for GPATS. Therefore, additional Guideshare funding has been allocated in the *Horizon 2040* financial plan for safety and intersection improvements. Making these projects a priority should help move the baseline and improve overall safety in the coming years.

Safety Targets

SCDOT evaluated and was required to report on safety targets for the five measures on August 31, 2017. This action started the 180-day clock for GPATS to take action to either set region-specific targets or accept and support the state’s targets.

When setting safety performance targets for the state, statisticians performed extensive analysis of the data related to each measure (i.e., traffic fatalities and severe injuries and vehicle miles traveled). South Carolina used a seven-data-point graphical analysis with a five-year rolling average. After the data points were plotted and graphical representations of the data were created, trend lines were added to predict future values. The trend lines were based on linear and

non-linear equations with R-squared (i.e., best fit measure) values.

Using the models, statisticians predicted the values for the current year. Examining current and planned education and engineering safety initiatives, they estimated reductions in fatalities and severe injuries to calculate the state’s safety performance targets. Staff from the SCDOT Traffic Engineering Office also met with representatives from the MPOs and COGs to deliver a presentation on the state’s target-setting methods. The table below shows GPATS, South Carolina, and National baseline information. It also includes the state’s targets.

For the 2018 performance period, GPATS has elected to accept and support the state’s safety targets for all five safety performance measures. This means GPATS will:

- Address areas of concern for fatalities or serious injuries within the region, coordinating with SCDOT and incorporating safety considerations on all projects
- Integrate safety goals, objectives, performance measures, and targets into the planning process
- Include the anticipated effect on achieving the targets noted above within the TIP, linking investment priorities to safety target achievement

SAFETY TARGETS BASELINE (2012-2016 AVERAGE)

	Traffic Fatalities	Fatality Rate*	Severe Injuries	Severe Injury Rate*	Non-motorized
SC Baseline	890.2	1.75	3194.4	6.3	376.4
SC Targets	970.4	1.81	3067.0	5.71	371.3
GPATS Baseline	92.2	1.77	325.4	6.33	42.2

Next steps

Additional Measures Coming Soon

In the future, GPATS will need to decide whether it will support state targets or set its own targets for other federally-required performance measures related to infrastructure condition, system reliability, congestion reduction, freight movement and economic vitality, and environmental sustainability. GPATS staff will provide updated information as time lines for these federally-required performance measures are established. Then GPATS will choose whether to establish other (i.e., non-federally required) performance measures for other goal areas and develop targets for these measures.

As GPATS proceeds, the performance measures will be added to this document until the next LRTP update. At that point, GPATS will fully integrate a performance-based LRTP, combining the PBPP with LRTP elements and the associated decision-making processes.