

## **NOTICE OF PROPOSED GUIDANCE DOCUMENT**

DTIM-BPED27

Pursuant to Wis. Stat. s. 227.112, the Wisconsin Department of Transportation is hereby seeking comment on DTIM-BPED27, FAST Act, a proposed guidance document.

### **PUBLIC COMMENTS AND DEADLINE FOR SUBMISSION**

Comments may be submitted to the Wisconsin Department of Transportation for 21 days by:

1. Department's website: <https://appengine.egov.com/apps/wi/dot/guidance-docs?guidDocId=DTIM-BPED27>

2. Mailing written comments to:

Division of Transportation Investment Management  
Wisconsin Department of Transportation  
4822 Madison Yards Way  
PO Box 7913  
Madison, WI 53707-7913

### **WEBSITE LOCATION OF FINAL GUIDANCE DOCUMENT**

The final version of this guidance document will be posted at [wisconsin.dot.gov](http://wisconsin.dot.gov) to allow for ongoing comment.

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# Performance Measures

## Introduction

MAP-21 and FAST ACT requires incorporation of Performance-Based Planning and Programming (PBPP) in the development of the State's Long-Range Transportation Plans (LRTP) and Statewide Transportation Improvement Plans (STIP). The incorporation of PBPP in the STIP will contribute to the achievement of National Performance goals (23 USC 150). The Statewide and Nonmetropolitan Transportation Planning; Metropolitan Transportation Planning; Final Rule further defined that the STIP shall include, to the maximum extent practicable, a description of the anticipated effect of the STIP toward achieving the performance measures targets identified in the statewide transportation or State Performance-based plan(s), linking investment priorities to those performance targets (23 CFR 450.218(q)).

### 23 USC 150: National performance measure goals are:

- **Safety** - To achieve a significant reduction in traffic fatalities and serious injuries on all public roads
- **Infrastructure Condition** - To maintain the highway infrastructure asset system in a state of good repair
- **Congestion Reduction** - To achieve a significant reduction in congestion on the National Highway System
- **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 practices\_ <https://www.fhwa.dot.gov/tpm/about/goals.cfm>

## WisDOT Performance-Based Planning and Programming processes

### MAPSS Performance Improvement

WisDOT has utilized the MAPSS Performance Improvement Program since January 2012 to track improvements. MAPSS is organized around five strategic department goal areas: Mobility, Accountability, Preservation, Safety, and Service. Many of the MAPSS performance measures are closely related to the MAP-21/FAST Act performance measures. Mobility performance measures include Delay (hours of vehicle delay) and Reliability (planning time index). Preservation performance measures include State Highway Pavement Condition and State Bridge Condition. Safety performance measures include the number of Traffic Fatalities and Serious Injuries. Additional performance measures are included within each of the MAPSS goal areas. Current measures are posted on the WisDOT MAPSS internet site: <https://wisconsin.gov/Pages/about-wisdot/performance/mapss/default.aspx> .

## **WisDOT data-driven project development**

WisDOT has embraced a “data-driven” asset management approach to the development of projects and programs that improve the State Trunk Highway Network. In conjunction with this reliance on data for decision-making, WisDOT has committed to a process of continual data quality improvement (e.g. standards for collection and storage, leverage of technology, integration strategies, etc.).

WisDOT has developed a comprehensive set of data and analysis tools for developing and managing the Six Year Highway Improvement Program. The primary components of the dataset include a geographically integrated set of corporate databases (using specialized tools) representing:

- Pavement and bridge condition
- Six Year Program information
- Highway geometric and attribute information
- Highway crashes, highway capacity, etc.
- Pavement and bridge deterioration and improvement “reset” models
- Analysis models for evaluating alternatives, costing, priorities, and budget constraints

The data is used to:

- Identify, scope, and prioritize projects
- Evaluate Program performance (e.g. before/after analyses)
- Estimate future conditions and needs
- Establish Program goals
- Allocate resources for Programs and Highway Transportation Regions

To date, utilization of the data-driven project development approach has provided significant insight into the condition, needs, and priorities related to the Wisconsin State Trunk Highway System. These efforts have enhanced statewide program development consistency by facilitating an improved understanding of how program goals and performance measurements are established.

### **MAP-21/FAST Act Performance Measures**

MAP-21/Fast Act Performance Measures as established in 49 USC 625 and 23 CFR 490 are:

- Transit
  - Rolling Stock: The percentage of revenue vehicles (by type) that exceed the useful life benchmark (ULB)
  - Equipment: The percentage of non-revenue service vehicles (by type) that exceed the ULB
  - Facilities: The percentage of facilities (by group) that are rated less than 3.0 on the Transit Economic Requirements Model (TERM) Scale
  - Infrastructure: The percentage of track segments (by mode) that have performance restrictions. Track segments are measured to the nearest 0.01 of a mile

- Safety
  - Number of fatalities
  - Fatalities per 100 million vehicle miles traveled
  - Number of serious injuries
  - Serious injuries per 100 million vehicle miles traveled
  - Number of non-motorized fatalities and non-motorized serious injuries
  
- Infrastructure
  - Percentage of pavements of the Interstate System in *Good* condition
  - Percentage of pavements of the Interstate System in *Poor* condition
  - Percentage of pavements of the non-Interstate NHS in *Good* condition
  - Percentage of pavements of the non-Interstate NHS in *Poor* condition
  - Percentage of NHS bridges classified as in *Good* condition
  - Percentage of NHS bridges classified as in *Poor* condition
  
- System Performance on NHS
  - Interstate Travel Time Reliability Measure: The percent of person-miles traveled on the Interstate that are reliable
  - Non-Interstate Travel Time Reliability Measure: The percent of person-miles traveled on the non-Interstate NHS that are reliable
  
- Freight Movement
  - Freight Reliability Measure: Truck Travel Time Reliability (TTTR) Index
  
- CMAQ - Congestion Reduction
  - Peak Hour Excessive Delay (PHED) Measure: Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita
  - Non-Single Occupancy Vehicle Travel (SOV) Measure: Percent of Non-Single Occupancy Vehicle (SOV) Travel
  - Emissions Measure: Total Emission Reductions
  - Percent Change in Tailpipe CO2 Emissions on the NHS Compared to the Calendar Year 2017 Level

These performance measures have been established within a series of FHWA and FTA rulemaking regulations. The Transit and Safety performance measure targets have been established based on the final rules for those measures and included in the STIP.

Other separate final rules and the deadlines to establish the Infrastructure, System Performance on NHS, Freight Movement, and CMAQ - Congestion Reduction performance measure targets extended into calendar year 2018. These additional performance measure targets have been established and will be included in future STIP Amendments as required by the Statewide and Nonmetropolitan Transportation Planning; Metropolitan Transportation Planning; Final Rule.

A description of the Transit and Safety performance measure targets and methodologies are included in the following discussions.

## 2019 Transit Performance Target of Capital Assets

In accordance with 49 CFR Parts 625 and 630 for Transit Asset Management (TAM), the Wisconsin Department of Transportation (WisDOT), is the TAM sponsor for all Section 5311 Formula Grants for Rural Areas, Section 5310 Enhanced Mobility for Seniors and Individuals with Disabilities, and some Section 5307 Formula Grants for Urbanized Areas subrecipients.

### Methodology

WisDOT provided an opt-in opportunity for all Section 5311 Formula Grants for Rural Areas, Section 5310 Enhanced Mobility for Seniors and Individuals with Disabilities, and some Section 5307 Formula Grants for Urbanized Areas sub recipients to be included in the WisDOT TAM Plan. WisDOT worked with subrecipients to update the inventory information of federally funded vehicles, equipment, and facilities in its BlackCat web-based grants management system.

In early 2018, WisDOT staff presented the TAM targets and a draft TAM Plan at a WisDOT Planning Section meeting with representatives from the state Metropolitan Planning Organizations (MPOs) and Regional Planning Commissions (RPCs). WisDOT staff fielded questions from attendees and provided them with a PowerPoint presentation about the federal TAM initiative as well as a copy of the draft plan.

### Vehicles

WisDOT evaluated the inventory of its sub-recipient vehicle capital items and used FTA's Useful Life Age Benchmark (ULB) set in FTA 5010.1D, page IV-7 to determine if the vehicles were beyond their useful life. WisDOT and its sub-recipients have set the following TAM performance targets:

#### Rolling Stock – Acceptable percentage of revenue vehicle fleet that is past its useful life

Performance Measure	2018 Performance (%)	2019 Target (%)
AO – Automobile	100.00	20.00
BU – Bus	19.23	58.00
CU – Cutaway	10.31	54.00
MV – Minivan	33.33	47.00

#### Equipment – Acceptable percentage of non-revenue vehicle fleet that is past its useful life

Performance Measure	2018 Performance (%)	2019 Target (%)
AO – Automobile	n/a	20.00

## Facility Targets

WisDOT evaluated the condition of the facilities in its sponsored TAM plan using the remaining useful life standards outlined in FTA 5010.1D, page IV-18, 2(f) as a guide. Each facility has been given the useful life of 40 years.

### Facility – Acceptable percentage of facilities that are past their useful life

Performance Measure	2018 Performance (%)	2019 Target (%)
Administrative/Maintenance Facilities	10.00	10.00

Most transit facilities in WisDOT's sponsored TAM Plan are relatively new and in excellent condition. None of the facilities are beyond their useful life of 40 years or reached below adequate condition. WisDOT and its sub-recipients set the TAM performance target to only allow 10 percent of the facilities to go beyond their useful life.

### Next Steps for the TAM and Transit Targets

In 2019, approximately \$6,800,000 of funding is dedicated to replacing priority vehicles within the TAM Plan as transit providers continue to operate services with aging fleets. At least 56 percent of the vehicles reported in the WisDOT TAM Plan will be beyond their useful life in 2019 and 25 percent of the fleet reported in the state's plan have been in use for at least a decade. There will be a growing financial gap from year to year associated with the number of vehicles needed to be replaced in order to meet the established TAM targets and the funding levels for vehicles that are currently available.

WisDOT will assist transit providers on how to use the useful life benchmarks established in the TAP Plan to prioritize their vehicles requests at the time of grant application, and are working to share best practices on vehicle maintenance across agencies and organizations.

WisDOT will also continue to work closely with its sub-recipients and FTA on any additional asset management requirements or changes, and update the TAM targets and plan as necessary.

## 2018 Highway Safety Improvement Program Performance Measures

The Highway Safety Improvement Program (HSIP) is a core Federal-aid program with the purpose of achieving a significant reduction in fatalities and serious injuries on all public roads. As per 23 U.S.C. 148(h) and 23 CFR 924.15, states are required to report annually on the progress being made to advance HSIP implementation and evaluation efforts.

### HSIP Project Prioritization

Wisconsin evaluates potential HSIP projects by comparing the estimated crash reduction benefits expected from the project with the cost of that project. Crash reduction benefits are estimated by multiplying up to two crash modification factors (CMF) by five years of observed crash data. CMFs and target crashes are identified by the safety analyst and a spreadsheet tool is used to calculate the estimated crash reduction benefits. The spreadsheet tool incorporates the WisDOT CMF Table and logic described in our statewide policy described at the following link:

<https://wisconsin.gov/dtsdManuals/traffic-ops/manuals-and-standards/teops/12-03.pdf>

A key component in the development of the HSIP is the Project Evaluation Factor (PEF). The PEF is a measurement that is used to evaluate and compare proposed projects. It provides a comparison of the estimated crash reduction potential of a proposed improvement with the overall cost of the project. Although it has similarities to a benefit/cost analysis, it does not include all the elements of a traditional benefit/cost analysis tool for ranking the relative merits of a group of projects, and should not be compared to a benefit/cost analysis.

### Internal and External Coordination

The HSIP Program is managed by WisDOT's Division of Transportation Investment Management (DTIM) and the Bureau of State of Highway Programs (BSHP). DTIM/BSHP makes all final application approvals or denials and related project change or cost increase requests. However, DTIM/BSHP coordinates its efforts with several internal partners that both directly and indirectly influence the decision-making process. Below is a summary of these partners and their role in the program:

- Traffic Safety Council (TSC): The TSC is comprised of representatives from Division of Transportation System Development (DTSD), DTIM, DMV, Division of State Patrol (DSP), and various Executive Offices within WisDOT. Among this group's responsibilities is developing and maintaining the Wisconsin Strategic Highway Safety Plan (SHSP), which helps guide the safety efforts of the HSIP Program.

- Safety Engineer Executive Group (SEEG): This is a high-level group comprised of representatives from DTSD and DTIM management. Its focus is to identify safety trends and issues to develop and offer direction and initiatives to both the HSIP Program and the TSC on important safety engineering issues throughout the state.

- Traffic Safety Engineering Workgroup (TSEWG): TSEWG is comprised of the State HSIP Coordinator, State Traffic Safety Engineer, and the Regional Traffic Safety Engineers. In some cases, the Regional HSIP Coordinators also participate. This group identifies and evaluates

potential safety initiatives both within and outside of the HSIP Program, provides peer support, and reviews proposed HSIP projects. After a group evaluation, a recommendation to approve or not approve is forwarded to the State HSIP Coordinator for final review

- State Project Oversight Engineers: The State Project Oversight Engineers are a critical component of the joint process with the TSEWG for application review and approval. The DTSD State Project Oversight Engineers, Regional Traffic Safety Engineers, the State Traffic Safety Engineer, and the State HSIP Coordinator provide a consensus approval or disapproval of HSIP funding after a comprehensive in-person peer review. Each Region has one Project Oversight Engineer. State Project Oversight Engineers only review applications originating from the Region in which they are assigned. This consensus approval or disapproval is advisory to DTIM/BSHP.

The HSIP is fully coordinated and integrated with the work of other organizations, associations, and stakeholders (e.g., law enforcement, academia, local governments, and MPOs) that play a role in reducing fatalities and serious injuries. One of the basic foundations of the HSIP is the direct linkage between the data-driven priorities established in the Strategic Highway Safety Plan (SHSP) and the identification, development, and implementation of HSIP projects. Local and regional governments alike both contribute towards achieving the goals and objectives of the SHSP and help guide program decisions and project selections. More specifically, where there are a high percentage of crashes that occur off the state system, WisDOT works with local jurisdictions to help them develop and implement HSIP projects that address priority safety issues on locally-owned roadways. This is either done by locals doing work as local force accounts or they are let by WisDOT. Stakeholders will continue to contribute to and support the goals established in the SHSP. This in turn encourages safety projects that meet established safety performance targets.

Coordination with MPOs and RPCs on safety targets were part of multiple quarterly Directors meetings over the past couple of years. Starting with the Notice of Proposed Rulemaking, Final Rule publication and establishment of WisDOT and MPO safety targets. WisDOT continues coordinating with individual MPOs as they establish their planning area safety targets.



## Calendar Year 2019 Targets

Safety Targets are calculated as five-year rolling averages for each performance measure.

Number of Fatalities 555.7

The 2% reduction in traffic fatalities is supported by the stated goals and actions steps of the SHSP.

Number of Serious Injuries 2,967.6

The 5% reduction in number of serious injuries is supported by the stated goals and action steps of the SHSP.

Fatality Rate 0.915 per 100 Million Vehicle Miles Traveled

The 2% reduction in the rate of fatalities is supported by the stated goals and action steps of the SHSP.

Serious Injury Rate 4.785 per 100 Million Vehicle Miles Traveled

The 5% reduction in rate of serious injuries is supported by the stated goals and action steps of the SHSP.

Total Number of Non-Motorized 342.0 Fatalities and Serious Injuries

The 5% reduction in non-motorized fatalities and serious injuries is supported by the stated goals and action steps of the SHSP.

HSIP projects are included in the STIP. In addition, safety is a major consideration in the scoping, prioritization, selection, and development of all WisDOT state and local projects. The efforts made toward addressing safety within the HSIP and all projects will continue to impact how progress is made toward achieving Highway Safety Improvement Program performance measure targets.

### Future Performance Measure Actions

As WisDOT establishes additional performance measure targets, a description of the anticipated effect of the STIP toward achieving those performance measures targets will be included within future STIP amendments and/or updates.