

Transportation Performance Measures

GAMPO Meeting

Date: September 26, 2022



Agenda

- Performance Management Purposes
- Federal Requirements
- This year's action items at-a-glance
- Schedule
- Measures and Targets presentation by asset/program owners
 - ➢ First Performance Period (2018 2021)
 - Updates
 - Conditions and Targets
 - Second Performance Period (2022 2025)
 - Requirements and updates
 - o Targets
- PM3 Notable update
 - Greenhouse Gas (GHG) Emissions Performance Measure
 - Status: in Rulemaking process. Comments due by October 13th.

Performance Management Purposes

- Provide the most efficient investment of Federal Transportation funds
- Refocus on national transportation goals
- Increase accountability and transparency
- Improve decision-making through performance-based planning and programming

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Federal Requirements

- Performance-based planning requirements created by:
 Moving Ahead for Progress in the 21st Century Act (MAP-21)
- Supported and updated in subsequent Transportation Bills
 Fixing America's Surface Transportation Act (FAST Act)
 Infrastructure Investment and Jobs Act (IIJA)
- Coordination is required between DOTs and MPOs

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This year's action items at-a-glance

Due Dates	Action Items	Performance Measures
August 31, 2022	Highway Safety Improvement Plan (HSIP) targets	PM1: Safety
October 1*, 2022	Submit State DOTs 4-year performance report for 1st performance period to FHWA	PM2: Bridges and Pavements PM3: Systems Reliability, CMAQ, Freight
October 1*, 2022	Submit State DOTs Baseline report (2- and 4-year targets) for the 2nd performance period (2022 – 2025)	PM2: Bridges and Pavements PM3: Systems Reliability, CMAQ, Freight, <u>GHG baseline</u> targets

- MPOs can either support State DOTs targets or select and submit their own. MPOs have 180 days from October 1, 2022 to submit their own targets, if so desired.
- *October 3rd this year due to the 1st being a Saturday.





Federal Highway Administration





PM1: Safety



Performance Measure (PM1) - Safety

Program Area	Measure Area	Performance Measures
Highway Safety Improvement Program (HSIP) *	Safety performance of all public roads for the purpose of carrying out the HSIP	Number of fatalities
		Rate of fatalities per 100 million Vehicle Miles Traveled (VMT)
		Number of serious injuries
		Rate of serious injuries per 100 million VMT
		Number of non-motorized fatalities and non- motorized serious injuries

* Each measure is based on a five-year rolling average and considers all public roads.



Performance Measures	CY 2021 Performance Data	CY 2021 Targets
Number of fatalities	1840*	1603
Rate of fatalities per 100 million Vehicle Miles Traveled (VMT)	1.525	1.27
Number of serious injuries	8654	7058
Rate of serious injuries per 100 million VMT	7.171	5.762
Number of non-motorized fatalities and non-motorized serious injuries	1021*	761

* Estimates prior to FARS Publication.

Next Steps - TPM Safety Requirements

- State DOTs must report the performance and establish statewide targets. Current targets we established based on a five-year rolling safety data average ending with the reporting year (i.e. in CY 2020, report was be based on 2016 – 2020 rolling average).
- Progress is reported yearly on August
- MPOs may either support the relevant State DOT(s) or establish their own. (how long do MPOs have to establish their own targets, if so desired?)

GDOT TPM Safety Targets for Calendar Year 2023 Methodology and Decision-Making

- Georgia DOT participates with a multi-disciplinary team from other state agencies and universities. CODES/TRCC Task Team is defined in the state's SHSP
- The team coordinates with FHWA and NHTSA
- All estimates and calculations are reviewed by the team. Findings must be approved by the team before they can be reported in the HSP and HSIP

Georgia Department of Transportation GDOT TPM Safety Targets for Calendar Year 2023 Methodology and Decision-Making

- Use the statewide five-year rolling average (2016-2020 FARS and GEARS SI data)
- The team plots the five most recent data points to determine the "best fit" model (linear or quadratic polynomial) that shows the relationship between the five-year rolling average and time. The model with the highest R2 value (reflective of a correlation between the five-year rolling average and time) is used to derive the FY2023 target values and determine FY2022 progress status
- Many traffic safety practitioners and data analysts consider the 2020 year to be an anomaly; however, the full impact of the COVID-19 pandemic on traffic safety is still unknown. The methodology used to determine the FY2022 traffic safety performance measures progress status and the FY2023 targets were not adjusted to address the rise in 2020 traffic fatalities due to the COVID-19

GDOT TPM Safety Targets for Calendar Year 2023 Methodology and Decision-Making

Data Considerations

- 2018-2019 Transition form Old Serious Injury to New Suspected Serious Injury
- 3 more years of mixed SI definitions
- (Old) Any injury that prevents the injured person from walking, driving, or normally continuing the activities that, that person was capable of performing prior to the accident.
- (New) A suspected serious injury is any injury other than fatal which results in one or more of the following:

Severe laceration resulting in exposure of underlying tissues/muscle/organs or resulting in significant loss of blood or Broken or distorted extremity (arm or leg) or Crush injuries or Suspected skull, chest or abdominal injury other than bruises or minor lacerations or Significant burns (second and third degree burns over 10% or more of the body) or Unconsciousness when taken from the crash scene or Paralysis

GDOT TPM Safety Targets for Calendar Year 2023 Methodology and Decision-Making

- 13 Current Software Providers Statewide
- Training is provided by GPSTC and FTO
- 95% of reports are electronic submissions
- MPO region is not part of the crash report
- Manual mapping of all Fatality and Serious Injury crashes started in 2020
- Quality of GIS data
 - Crash
 - Boundary
 - **Road Centerlines**



GDOT's Calendar Year 2023 Statewide Targets for Safety (2019 - 2023 rolling average)

Performance Measures	Targets (to maintain numbers under)
Number of fatalities	1,680
Rate of fatalities per 100 million Vehicle Miles Traveled (VMT)	1.36
Number of serious injuries	8,966
Rate of serious injuries per 100 million VMT	7.679
Number of non-motorized fatalities and non-motorized serious injuries	802



Performance Measures (PM2): Bridges

Georgia Department of Transportation Performance Measure (PM2) - Bridges

Program Area	Measure Area	Performance Measures
National Highway	y Condition of bridges on the NHS	Percentage of deck area of NHS bridges classified as in Good condition
Program (NHPP)		Percentage of deck area of NHS bridges classified as in Poor condition

Georgia Department of Transportation GDOT's 2- and 4- Year Targets for Bridges for the 1st Performance Period (2018 - 2021)

NHS	Condition	Current Condition 2021	2022 4- Year Targets
Deck Area	Good	79%	≥ 60%
	Fair	21%	-
	Poor	<1%	≤ 10%

• GDOT met its four-year targets for the first Performance Period.

Next Steps : TPM Bridges' Requirements and Updates for the 2nd Performance Period (2022 -2025)

Requirements:

- Must establish targets for all bridges carrying the NHS, which includes on- and offramps connected to the NHS within a State, and bridges carrying the NHS that cross a State border, regardless of ownership.
- Must submit baseline 2- and 4- year targets by October 1, 2022. Must report on the 2year targets and may adjust 4-year targets at the Mid Performance Period Progress Report (October 1, 2024).
- MPOs may either support the relevant State DOT(s) 4-year target or establish their own by 180 days after the State DOT(s) target is established.

Update:

• GDOT will not be adjusting its targets for the 2nd Performance Period.

Measure Computation Methodology

%_Good = <u>Deck_Area_Good</u> + <u>Deck_Area_Fair</u> + <u>Deck_Area_Poor</u> ×100

%_Poor = <u>Deck_Area_Good + Deck_Area_Fair + Deck_Area_Poor</u> ×100

Where,

%_Good:	"Percentage of NHS bridges classified as in Good condition" measure;
%_Poor:	"Percentage of NHS bridges classified as in Poor condition" measure;
Deck_Area_Good:	total deck area of NHS bridges classified as in Good condition;
Deck_Area_Fair:	total deck area of NHS bridges classified as in Fair condition; and
Deck_Area_Poor:	total deck area of NHS bridges classified as in Poor condition

Source: U.S. Department of Transportation Federal Highway Administration (TPM)

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GDOT's 2- and 4- Year Targets for Bridges for the 2nd Performance Period (2022-2025)

NHS	Condition	2- Year Targets	4- Year Targets
	Good	≥ 50%	≥ 60%
Interstate	Fair	-	-
	Poor	≤ 10%	≤ 10%
Non-	Good	≥ 50%	≥ 60%
Interstate	Fair	-	-
NHS	Poor	≤ 10%	≤ 10%



Performance Measures (PM2): Pavements



Performance Measure (PM2) - Pavements

Program Area	Measure Area	Performance Measures
National Highway	Condition of pavements on the Interstate System	Percentage of pavements of the Interstate System in Good condition Percentage of pavements of the Interstate System in poor
Performance Program (NHPP)	Condition of pavements on the non- Interstate NHS	Percentage of pavements of the non-Interstate NHS in Good condition Percentage of pavements of the non-Interstate NHS in Poor condition



GDOT's 2- and 4-Year Targets for Pavements for the 1st Performance Period (2018 - 2021)

NHS	Condition	Current Condition (%) 2021	4- Year Targets
	Good	57.0%	≥50.0%
Interstate	Fair	-	-
	Poor	0.3%	≤5.0%
	Good	46.5%	≥40.0%
Non- Interstate	Fair	-	-
	Poor	0.8%	≤12.0%

• GDOT met its four-year targets for the first Performance Period.

Next Steps - TPM Pavements' Requirements and Updates for the 2nd Performance Period (2022 -2025)

Requirements:

- State DOTs must establish targets, regardless of ownership, for the full extent of the Interstate and non-Interstate NHS pavements.
- Must submit baseline 2- and 4- year targets by October 1, 2022. Must report on the 2year targets and may adjust 4-year targets at the Mid Performance Period Progress Report (October 1, 2024).
- MPOs can either support the relevant State DOT(s) 4-year target or establish their own by 180 days after the State DOT(s) target is established.

Update:

• GDOT will not be adjusting its targets for the 2nd Performance Period.

TPM Pavements Targets Methodology and Decision-Making: Forecasting

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Year	% Poor (OCI 0-60)	% Fair (OCI 60-85)	% Good (OCI 85-100)	Avg OCI
2021	1.41	52.30	46.28	83.13
2022	2.55	52.57	44.88	82.34
2023	3.09	52.04	44.87	81.65
2024	4.18	51.43	44.39	81.02
2025	4.92	50.89	44.18	80.34
2026	6.70	51.25	42.04	79.64
2027	9.82	50.21	39.98	78.97
2028	13 18	44 48	42 34	78 54
2029	17.48	37.65	44.86	78.22
2030	20.55	34.13	45.32	77.87



GDOT's 2- and 4- Year Targets for Pavements for the 2nd Performance Period (2022-2025)

NHS	Condition	2- Year Targets	4- Year Targets
	Good	-	≥50.0%
Interstate	Fair	-	-
	Poor	-	≤5.0%
	Good	≥40.0%	≥40.0%
NON- Interstate	Fair	-	-
interstate	Poor	≤12.0%	≤12.0%



Performance Measure (PM3) - System Performance, Freight, and CMAQ

Performance Measure (PM3) - Measures

Georgia Department of Transportation



*GDOT, Atlanta Regional Commission, and Cartersville-Bartow Metropolitan Planning Organization are required to establish and report single targets

GDOT's 2- and 4-Year Targets for System, Freight, and CMAQ for the 1st Performance Period (2018 – 2021)

Performance Measure	2-Year Target	4-Year Target	2-Year and 4-Year Targets Met
System and Freight			
Percent of Person-Miles Traveled on the Interstate that are Reliable	73.0%	67.0%	
Percent of Person-Miles Traveled on the Non-Interstate NHS that are Reliable	n/a	81.0%	
Truck Travel Time Reliability (TTTR) Index	1.66	1.78	
CMAQ			
Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita	n/a	24.6 hours	
Percent of Non-Single Occupancy Vehicle (SOV) Travel	22.1%	22.1%	
Total Emissions Reduction	VOC: 205.7 kg/day; NOx: 563.3 kg/day	VOC: 386.6 kg/day; NOx: 1,085.0 kg/day	Ø

GDOT's 2- and 4-Year Targets for System and Freight for the 1st Performance Period (2018 - 2021)



*Performance Measures for 2021 are certified by CATT Lab on May 14, 2022

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Georgia Department of Transportation GDOT's 2- and 4- Year Targets for CMAQ for the 1st Performance Period (2018 - 2021)



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Next Steps - TPM System, Freight and CMAQ Requirements and Updates for the 2nd Performance Period (2022 - 2025)

Requirements:

- State DOTs must establish statewide 2- and 4- year baseline targets by October 2022. Must report on the 2-year targets and may adjust 4-year targets at the Mid Performance Period Progress Report (October 1, 2024).
- MPOs may either support the relevant State DOT(s) 4-year target or establish their own by 180 days after the State DOT(s) target is established.

Updates:

- GDOT has established new baseline targets for the 2nd performance period which will be reported to FHWA through Performance Management Form (PMF) once it is open.
- MPOs can either support GDOTs' targets establish their own

of Transportation **TPM System and Freight and CMAQ Targets** Methodology and Decision-Making

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New Targets - GDOT's 2- and 4-Year Targets for System, Freight, and CMAQ for the 2nd Performance Period (2022 - 2025)

Performance Measure	2-Year	4-Year Target
System and Freight		
Percent of Person-Miles Traveled on the Interstate that are Reliable	73.9%	68.4%
Percent of Person-Miles Traveled on the Non- Interstate NHS that are Reliable	n/a	85.3%
Truck Travel Time Reliability (TTTR) Index	1.62	1.65
CMAQ		
Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita	n/a	27.2 hours
Percent of Non-Single Occupancy Vehicle (SOV) Travel	22.7%	22.7%
Total Emissions Reduction*	VOC: 139.2 kg/day;	VOC: 280.5 kg/day;
	NOx: 456.0 kg/day	NOx: 930.1 kg/day



New Targets - GDOT's 2- and 4-Year Comparison of Targets for Travel Time-Related Measures (2022 - 2025)

	2-year Targets		4-year Targets	
Performance Measure	1st Period Target	Recommended 2nd Period Targets	1st Period F Target	Recommended 2nd Period Targets
System and Freight				
Percent of Person-Miles Traveled on the Interstate that are Reliable	73.0%	73.9%	67.0%	68.4%
Percent of Person-Miles Traveled on the Non-Interstate NHS that are Reliable	NA	NA	81.0%	85.3%
Truck Travel Time Reliability (TTTR) Index	1.66	1.62	1.78	1.65
CMAQ				
Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita	NA	NA	24.6 hours	27.2 hours



GDOT Contacts

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PM2

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PM3: Systems, Freight, and CMAQ

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Thank You

