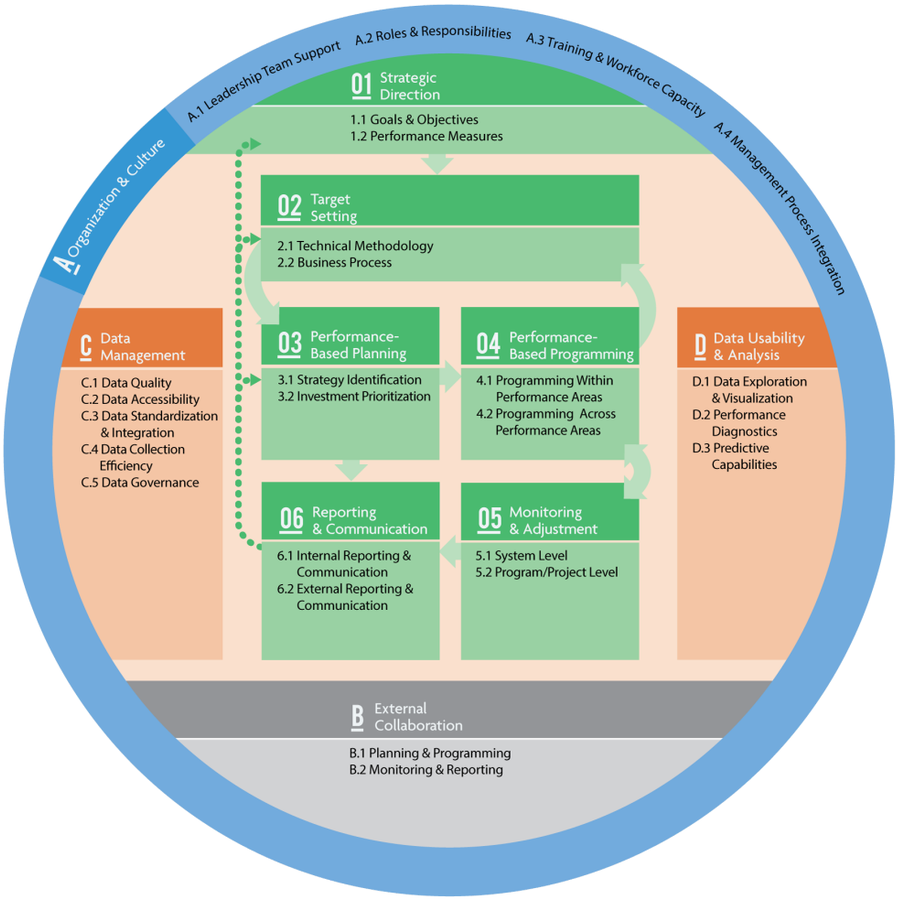
BANGOR AREA COMPREHENSIVE
BACTS
TRANSPORTATION SYSTEM

Transportation Performance Management



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Transportation Performance Management Framework

There are ten components to the Transportation Performance Management (TPM) Framework.

Organization and Culture - Institutionalization of a transportation performance management culture within the organization, as evidenced by leadership support, employee buy-in, and embedded organizational structures and processes that support TPM.

External Collaboration and Coordination - Established processes to collaborate and coordinate with agency partners and stakeholders on planning/ visioning, target setting, programming, data sharing, and reporting. External collaboration allows agencies to leverage partner resources and capabilities, as well as increase understanding of how activities impact and are impacted by external factors

Data Management - A set of coordinated activities for maximizing the value of data to an organization. Including data collection, creation, processing, storage, backup, organization, documentation, protection, integration, dissemination, archiving, and disposal.

Data Usability and Analysis - Existence of useful and valuable data sets and analysis capabilities available in accessible, convenient forms to support TPM.

Strategic Direction - The establishment of an agency's focus through well-defined goals and objectives, enabling assessment of the agency's progress toward meeting goals and objectives by specifying a set of aligned performance measures.

Target Setting - The use of baseline data, information on possible strategies, resource constraints, and forecasting tools to collaboratively establish a quantifiable level of performance the agency wants to achieve within a specific time frame. Targets make the link between investment decisions and performance expectations transparent across all stakeholders.

Performance-Based Planning - The use of agency goals and objectives and performance trends to drive the development of strategies and priorities in the long-range transportation plan and other performance-based plans and processes. The resulting planning documents become the blueprint for how an agency intends to achieve its desired performance outcomes.

Performance-Based Programming - The use of strategies and priorities to guide the allocation of resources to projects that are selected to achieve goals, objectives, and targets. Performance-based programming establishes clear linkages between investments made and expected performance outputs and outcomes.

Monitoring and Adjustment - A set of processes used to track and evaluate actions taken and outcomes achieved, thereby establishing a feedback loop to refine planning, programming, and target setting decisions. Using performance data is key to using insights into the effectiveness of decisions and identifying where adjustments need to be made.

Reporting and Communication - The products, techniques, and processes used to communicate performance information to different audiences for maximum impact. Reporting is an important element for increasing accountability and transparency to external stakeholders and for explaining internally how transportation performance management is driving a data-driven approach to decision making.

Performance Management Elements and Framework

FHWA defines TPM as a strategic approach that uses system information to make investment and policy decisions to achieve national performance goals. Performance management outcomes are grouped into six elements.

National Goals - Congressionally established goals or program purpose to focus the Federal-aid highway program into specific areas of performance.

Measures - FHWA-established measures to assess performance/condition in carrying out performance-based Federal-aid highway programs.

Targets - Targets established by Federal-aid highway funding recipients for the measures to document future performance expectations

Plans - Development of strategic and/or tactical plans by Federal funding recipients to identify strategies and investments that address performance needs.

Reports - Development of reports by Federal funding recipients that document progress toward target achievement, including the effectiveness of Federal-aid highway investments.

Accountability and Transparency - FHWA-developed requirements for Federal funding recipients to use to achieve or make significant progress toward targets.

National Goals

The National FHWA program performance goals as established by Congress are listed below.

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.

Performance Based Planning and Programming Requirements and Performance Measures

Under the performance-based approach to transportation decision making, the metropolitan transportation planning process must include the establishment of performance targets that address the performance measures or standards established by the FHWA and the FTA to use in tracking progress toward attainment of critical outcomes for the region in support of national transportation goals.

Metropolitan Planning Organization (MPO) Responsibilities

For each roadway performance measure, BACTS is required to establish a regional performance target or adopt and support the Maine Department of Transportation (DOT) established target and therefore agree to plan and program projects that contribute toward meeting the targets. PM-1 Safety targets are updated annually. PM-2 Infrastructure Condition and PM-2 System Performance targets are based on a 4-year performance period. The first performance period was 2018-2021. Separate 2-year and 4-year targets are established for various particular measures under PM-2 and PM-3.

Transit performance measures require that BACTS establish initial regional performance targets within 180 days of the establishment of the transit provider targets or standards established for both Infrastructure Condition (Transit Asset Management State of Good Repair) and Safety. An MPO may choose to set new regional transit performance targets more frequently; however, regional transit performance targets are required to be updated with the preparation and submission of the system performance report that is required as part of the Metropolitan Transportation Plan (MTP).

BACTS is responsible for integrating performance measures in plans and programs, including providing a system performance report in the MTP which provides a description of the performance measures and targets used to assess system performance, evaluate the performance of the transportation system with respect to the performance targets and report on progress made. The Transportation Improvement Plan (TIP) must link investment priorities to the targets noted in the MTP and describe, to the maximum extent practicable, the anticipated effect of the program toward achieving established targets.

The Performance Based Planning and Programming rule requires that an MPO integrate (directly or by reference) the goals, objectives, performance measures, and targets described in

state transportation plans and transportation processes, as well as any plans developed by providers of public transportation, required as part of a performance based-program. These plans include:

1. The State Asset Management Plan for the NHS (as defined in 23 U.S.C. 119(e))
2. Transit Asset Management Plan (49 U.S.C. 5326)
3. Applicable portions of the HSIP, including the SHSP (23 U.S.C. 148)
4. The Public Transportation Agency Safety Plan (49 U.S.C. 5329(d))
5. Other safety and security planning and review processes, plans, and programs, as appropriate
6. The Congestion Mitigation and Air Quality Improvement Program performance plan, as applicable (23 U.S.C. 149(l))
7. Appropriate (metropolitan) portions of the State Freight Plan (MAP-21 § 1118)
8. The congestion management process, if applicable (23 CFR 450.322)
9. Other State transportation plans and transportation processes required as part of a performance-based program.

FHWA Performance Measures

Federal Highway Administration Performance Measures
23 CFR 490

Rulemaking	National Goal	Performance Area	Performance Measure
PM1	Safety	Injuries & Fatalities	• Number of fatalities • Fatality rate (p/100m VMT) • Number of serious injuries • Serious injury rate (p/100m VMT) • Number of non-motorized fatalities and non-motorized serious injuries
PM2	Infrastructure Condition	Pavement Condition	• Percentage of pavements on the Interstate System in Good condition • Percentage of pavements on the Interstate System in Poor condition • Percentage of pavements on the non-Interstate NHS in Good condition • Percentage of pavements on the non-Interstate NHS in Poor condition
		Bridge Condition	• Percentage of NHS bridges classified as Good condition • Percentage of NHS bridges classified as Poor condition
PM3	System Reliability	System Performance: National Highway System	• Percent of person miles traveled on the Interstate System that are reliable • Percent of person miles traveled on the non-Interstate NHS that are reliable
	Freight Movement/ Economic Vitality	System Performance: Freight Movement on Interstate System	• Percentage of Interstate System mileage providing reliable truck travel time - Truck Travel Time Reliability Index (TTTR)
	Congestion Reduction	System Performance: Traffic Congestion	• Annual hours of peak-hour excessive delay per capita • Percent of non-single occupant vehicle travel
	Environmental Sustainability	System Performance: Congestion Mitigation and Air Quality Program	• On-Road Mobile Source Emissions Reduction

PM-1 Safety Performance Targets

Federal regulations require BACTS to establish safety targets (expressed as five-year rolling averages and compared with a five-year rolling average base period comprising of the five calendar years ending prior to the year the targets are due) each year by either:

1. Agreeing to plan and program projects so that they contribute toward the accomplishment of the State DOT safety target for that performance measure; or
2. Committing to a quantifiable target for that performance measure for their metropolitan planning area.

The BACTS Policy Committee has committed to support the performance targets for all five safety performance measures developed by MaineDOT and plan and program projects so that they contribute toward the accomplishment of these targets.

The following factors are likely to influence the ability of Maine to meet previous safety performance targets and need to be considered for future projections:

- Maine's 2020 VMT was approximately 12.48% lower than 2019 levels, and 2021 VMT rebounded to just 3% below that experienced in 2019. Still, some highway corridors were lagging in the amount of recovery. Most notable among those corridors is I-295 where volumes in 2021 were still around 10% below 2019 volumes. The I-295 corridor and other corridors that traditionally carry commuters to their office jobs in urban centers have seen reduced commuting traffic due to an increase in telework (people working their jobs from home). There was some evidence that recreational travel and immigration helped to buffer the losses on commuter corridors, however. This trend appears to be continuing in 2022, with 2022 VMT similar to 2021 levels, but still lower than that of 2019.
- Maine's economy has been and will continue to be affected by Covid-19 economic impacts on both businesses and citizens' household finances. The latest economic forecasts indicate significant increases in the costs of fuel, food, and construction materials which have been rising steadily this past year. Labor shortages in many economic sectors exist right now. It remains to be seen how severely this could impact the tourism industry in Maine in 2022 and beyond.
- Multi-agency safety efforts will continue to be refined and focused on primary serious crash trends such as lane departure and vulnerable users.
- Based on recruitment difficulties along with state and local budgetary constraints, law enforcement agencies will continue to experience staffing challenges, reducing the effective crash-reducing impact that their on-road presence has.
- Impaired driving is a growing concern both due to legalization of marijuana and increased illicit drug usage. The growing impairment problem translates to serious crash exposures.

Maine Statewide PM-1 Safety Performance Targets					
	2023	**2022**	**2021**	**2020**	**2019**
Number of Fatalities	160	160	158	161	165
Number of Serious Injuries	710	715	725	737	737.6
Rate of Fatalities	1.12	1.12	1.12	1.07	1.1
Rate of Serious Injuries	4.8	4.9	5.02	4.9	4.9
Number of Non-Motorized Fatalities and Serious Injuries	85	87	89	90	91

The MaineDOT Office of Safety has developed BACTS metropolitan planning area specific calculations applying the same assumptions and methodology used to develop the Statewide performance targets as shown below.

BACTS Planning Area PM-1 Safety Performance Targets					
	2023	**2022**	**2021**	**2020**	**2019**
Number of Fatalities	6	6	6	5.6	6
Number of Serious Injuries	33	34	36	38	39
Rate of Fatalities	0.75	0.74	0.66	0.66	0.71
Rate of Serious Injuries	3.98	4.08	4.23	4.5	4.64
Number of Non-Motorized Fatalities and Serious Injuries	8	9	9	9	9.8

Source: MaineDOT Office of Safety

PM-1 Safety Performance Report

Maine Statewide PM-1 Safety Performance Report						
	2023	**2022**	**2021**	**2020**	**2019**	**2018**
Number of Fatalities	Information not available as of date of report.		153	164	156.2	136
Number of Serious Injuries			710	607	720.4	685
Rate of Fatalities			1.04	1.24	1.042	0.91
Rate of Serious Injuries			4.81	4.59	4.798	4.56
Number of Non-Motorized Fatalities and Serious Injuries			83	61	86.8	79.0
Vehicle Miles Traveled (in hundred millions)			147.66301804	132.16632192	151.0066873050	150.127039630

BACTS Planning Area PM-1 Safety Performance Report						
	2023	**2022**	**2021**	**2020**	**2019**	**2018**
Number of Fatalities	Information not available as of date of report.		10	10	11	1
Number of Serious Injuries			29	28	30	32
Rate of Fatalities			1.18	1.33	1.28	0.12
Rate of Serious Injuries			3.42	3.73	3.48	3.78
Number of Non-Motorized Fatalities and Serious Injuries			4	7	13	4
Vehicle Miles Traveled (in hundred millions)			8.47231185	7.504194213	8.613135802	8.47339452

Source - MaineDOT Office of Safety

References

State Highway Safety Report
Maine FY2022 Highway Safety Plan
Maine's 2017 Strategic Highway Safety Plan
Maine FY 2021 Highway Safety Annual Report

PM-2 Pavement and Bridge Condition Performance Targets

Federal regulations requires targets to be established every four (4) years thereafter, related to each of the six performance measures by either:

1. Agreeing to plan and program projects so that they contribute toward the accomplishment of the State DOT target for that performance measure; or
2. Committing to a quantifiable target for that performance measure for the metropolitan planning area.

MaineDOT owns the entire NHS system in Maine except for the Maine Turnpike. MaineDOT collects 100% of the pavement data for the National Highway System (NHS) (including the Turnpike) and inspects all non-Turnpike bridges. Maine NHS pavement data is collected annually by a single collection vehicle and a single MaineDOT crew; therefore, maximizing the potential for consistent data collection. MaineDOT inspects NHS bridges on a 24-month cycle using both above and underwater inspection teams.

As MaineDOT has responsibility and authority for planning and programming all projects for the Interstate and major bridge planning activities, the BACTS Policy Committee has agreed to support the relevant MaineDOT established 4-year pavement and bridge condition performance

targets and support the planning and programming of projects that contribute to MaineDOT's performance targets as shown below.

Maine Statewide PM-2 Pavement and Bridge Condition Performance Targets					
		Existing Conditions (2022)	**2-Year Target (2024)**	**4-Year Target (2028)**	**State of Good Repair**
Interstate Pavement	Good Fair Poor	31.1% 68.7% 0.2%	28.0% 1.5%	32.0% 1.5%	35.0% 62.0% 3.0%
Non-Interstate Pavement	Good Fair Poor	42.9% 51.9% 5.2%	40.0% 6.2%	40.0% 7.5%	40.0% 52.5% 7.5%
NHS Bridges	Good Fair Poor	25.3% 67.6% 7.1%	26.2% 7.1%	27.5% 5.5%	40.0% 53.0% 7.0%

PM-2 Pavement and Bridge Condition Performance

Maine Statewide PM-2 Pavement and Bridge Condition Performance Report			
		2-Year Condition/ Performance (2020)	**4-Year Target Adjustment (2021)**
Interstate Pavement	Good Poor	20.1% 0.9%	40.0%
Non-Interstate Pavement	Good Poor	42.8% 5.4%	34.0%
NHS Bridges	Good Poor	26.2% 6.5%	30.0%

Minimum acceptable pavement conditions require that not more than five percent (5%) of Interstate pavements be in poor condition. FHWA will make yearly determinations of minimum pavement conditions and if it is determined that the Interstate pavement condition falls below the minimum level for any given year, MaineDOT will be required to obligate the National Highway Performance Program (NHPP) and transfer a portion of its Surface Transportation Program (STP) funds to adequately address pavement conditions.

Minimum acceptable conditions for NHS bridges require that not more than ten percent (10%) of the total deck area of a State's NHS bridges are classified as structurally deficient for three consecutive years. FHWA will make a yearly determination for the minimum bridge condition and if that minimum is not met for three (3) consecutive years, MaineDOT will be required to obligate NHPP funds and reserve funds for eligible bridge projects.

References

MaineDOT Transportation Asset Management Plan
State Highway Infrastructure Report

PM-3 System Performance and Freight Performance Targets

Federal regulations required BACTS to establish initial System Performance and Freight reliability performance targets on or before November 16th, 2018, and every four years thereafter, related to each of these performance measures by either:

1. Agreeing to plan and program projects so that they contribute toward the accomplishment of the State DOT targets for system performance and freight reliability performance measure; or
2. Committing to a quantifiable target for that performance measure for their metropolitan planning area.

The BACTS Policy Committee agreed to support the MaineDOT developed performance targets and plan and program projects to contribute toward the accomplishment of the relevant MaineDOT established 4-year System Performance and Freight Reliability performance targets as shown below. The MaineDOT Results and Information Office also provided BACTS with region specific baseline system performance and freight reliability condition data as shown below.

Maine Statewide and BACTS Planning Area PM-3 System Performance and Freight Reliability on NHS Performance Targets			
Performance Measure		**2021 Data**	**MaineDOT Target**
Truck Travel Time Reliability Index (TTTR)	Statewide BACTS	1.24 1.32	1.4
% PMT Reliable on Interstate	Statewide BACTS	100% 100%	95%
% PMT Reliable on Non-Interstate NHS	Statewide BACTS	93.1% 90.0%	90%

PM-3 System Performance and Freight Performance Report

Maine Statewide and BACTS Planning Area PM-3 System Performance and Freight Reliability on NHS Performance Report					
Performance Measure		**2021**	**2020**	**2019**	**2018**
Truck Travel Time Reliability Index (TTTR)	Statewide BACTS	1.24 1.32	1.20 1.28	1.27 1.31	1.24 1.29
% PMT Reliable on Interstate	Statewide BACTS	100% 100%	100% 100%	100% 99.5%	100% 100%
% PMT Reliable on Non-Interstate NHS	Statewide BACTS	93.1% 90.0%	94.90% 91.20%	91.5% 91.1%	91.5% 85.5%

BACTS will track and monitor non-interstate NHS performance to determine if decline in performance is related to any specific area, related to weather events, construction events or other non-traffic related issues. BACTS will continue to support local, regional and state-wide efforts to improve system performance and reliability.

Note - The BACTS area does not contain any part of a nonattainment or maintenance area for any of the criteria pollutants, as provided in 23 CFR 490.105(f)(6); and is therefore not subject to the CMAQ traffic congestion measure (23 CFR 490.703), or on-road mobile source emissions measures (23 CFR 490.707 and 23 CFR 490.807).

References

Maine Integrated Freight Strategy
State Highway Reliability Report

FTA Performance Measures

Federal Transit Administration Performance Measures
49 USC 5326 (c) and 49 USC 5329 (d)

National Goal	Performance Area	Performance Measure
Infrastructure Condition	Rolling Stock	• Percentage of revenue vehicles (by type) that exceed ULB
	Equipment	• Percentage of non-revenue service vehicles (by type) that exceed ULB
	Facilities	• Percentage of facilities (by group) that are rated less than 3.0 on the FTA TERM scale
	Infrastructure	• Percentage of track segments (rail) that have performance restrictions
Safety	Fatalities	• Total number of reportable fatalities and rate (p/100,00 VRM) by mode
	Injuries	• Total number reportable injuries and rate (p/100,000 VRM) by mode
	Safety Events	• Total number reportable events and rate (p/100,000 VRM) by mode
	System Reliability	• Mean distance between major mechanical failures by mode

Infrastructure Condition

Transit agencies are required to set performance targets and report on the National Transit Database (NTD) report. They are also required, on an annual basis, to report on the performance of meeting these targets to the MPO and the MaineDOT.

The City of Bangor - Community Connector develops a Transit Asset Management Plan (TAMP) Tier II which details the performance targets for infrastructure condition as well as classifications for transit asset infrastructure (including rolling stock, equipment, and facilities) and useful life benchmarks (ULBs). The TAMP for the City of Bangor - Community Connector can be found here.

Safety Performance Measures

Transit agencies are required to review their Public Transportation Agency Safety Plans (PTASP), and performance targets, annually. Just as with TAM SGR performance targets, MPOs are not required to set new transit safety targets each year, but can revisit the regional safety performance targets based on the schedule for preparation of its system performance report that is part of the MTP.

Safety Performance Targets

The City of Bangor - Community Connector develops a PTASP Transit Safety Performance Measures and Targets annually, this document can be found here for the most recently available fiscal year. The BACTS Policy Committee adopted the transit safety performance measures and targets on **January 17th, 2023**. The safety performance targets will be revisited with the update of the MTP in 2023.