MaineDOT Bus and Bus Facilities
Competitive Grant Application

FY 2024

Attachment C

Policy Documents

GPCOG GREATER PORTLAND COUNCIL OF GOVERNMENTS

PACTS PORTLAND AREA COMPREHENSIVE TRANSPORTATION SYSTEM

Portland Area Comprehensive Transportation System (PACTS)

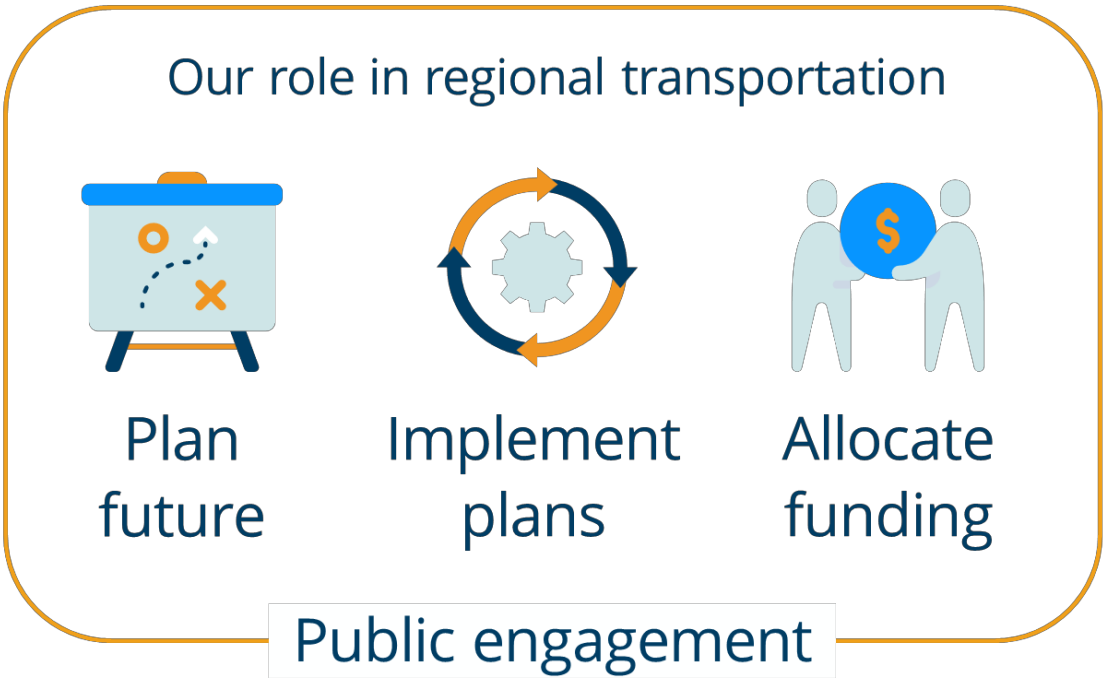
Transportation Improvement Program (TIP)

2024-2027

Adopted by the Policy Board on 3/28/24

Introduction

The Portland Area Comprehensive Transportation System (PACTS) is the state's largest Metropolitan Planning Organization (MPO), encompassing 18 communities with an urbanized area population of over 200,000. Pursuant to federal statute, PACTS was established in 1964 as a collaborative effort of municipal, regional, state and federal representatives responding to the transportation-related goals and objectives of the Greater Portland region and its citizens. PACTS' core functions center on allocating Federal and State transportation funding, planning for the future, and implementing transportation plans through projects, programs, and policies. These collective actions, among other things, help analyze travel patterns in the area, forecast future needs, and develop plans for improvements necessary to maintain a transportation system that will provide for the safe and efficient movement of goods and people in the Greater Portland region. Public engagement and input are foundational to the work at PACTS and the Greater Portland Council of Governments (GPCOG).



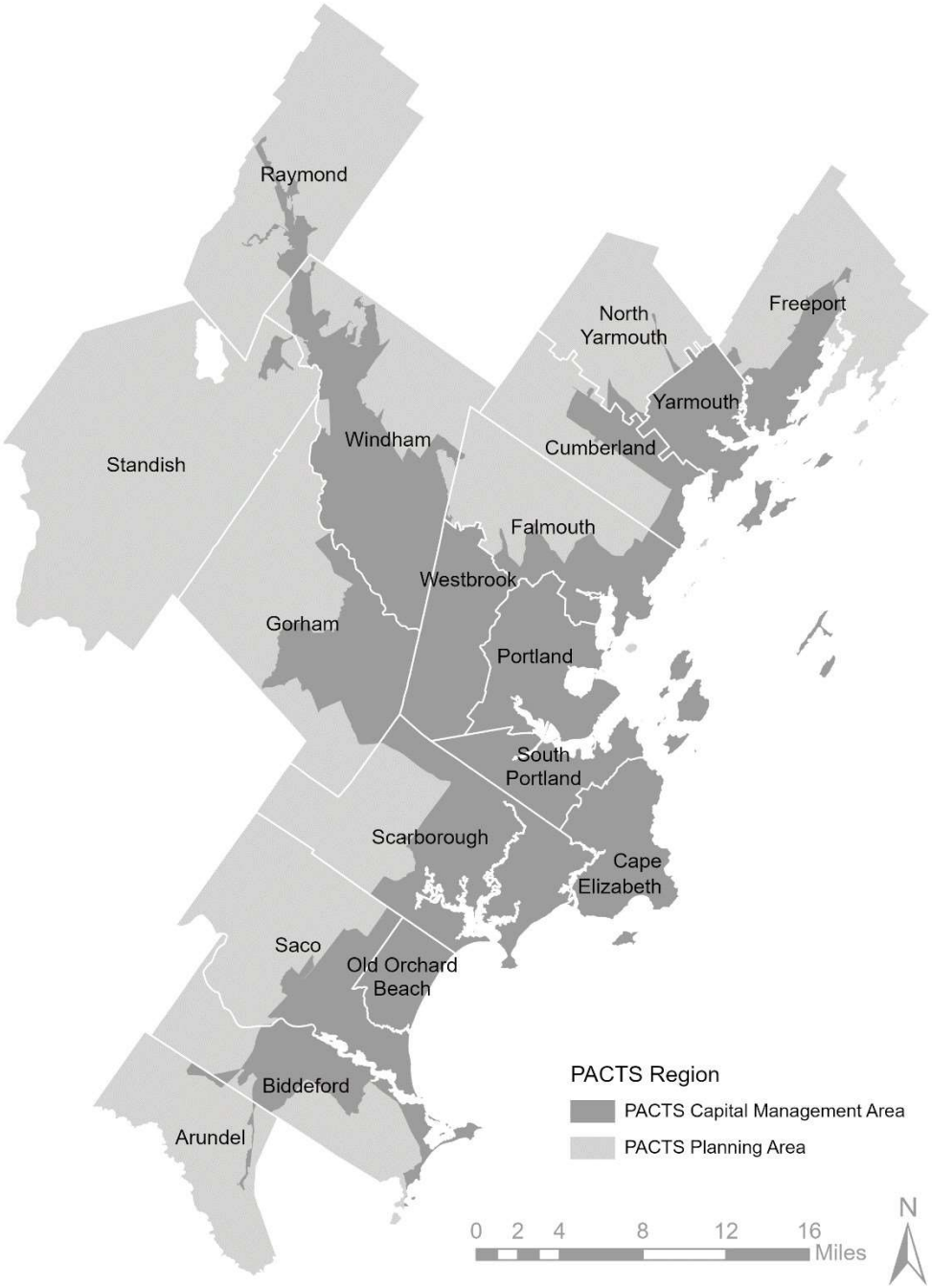
The PACTS area includes 18 member communities with 7 public transportation providers and engages and serves public and private transportation organizations, and the region's residents. The member communities are Arundel, Biddeford, Cape Elizabeth, Cumberland, Falmouth, Freeport, Gorham, North Yarmouth, Old Orchard Beach, Portland, Raymond, Saco, Scarborough, South Portland, Standish, Westbrook, Windham and Yarmouth (Figure 1).

The public transportation providers include:

- Biddeford Saco Old Orchard Beach Transit
- Casco Bay Island Transit District
- Greater Portland Transit District (METRO)
- Northern New England Passenger Rail Authority
- Regional Transportation Program
- City of South Portland Bus Service
- York County Community Action Corporation

The PACTS “Planning Area” is the entire 18-municipality region (Figure 1). This geographical area determines eligible locations for transportation planning studies, projects, and programs through the Unified Planning Work Program (UPWP).

Figure 1: PACTS Planning Area and Capital Management Area



The PACTS Capital Management Area (also shown in Figure 1) is the Federally designated urbanized area, a regional subset of the "Planning Area." This geographic area, updated by PACTS in 2023, determines eligible locations for transportation capital investments (e.g. design, engineering, and construction projects). **Appendix B** includes additional maps, including: population and employment density; the regional transit network; transit-reliant populations; and regional transit demand score, which considers multiple demographic characteristics that influence transit ridership, such as population and job density, the size of youth and senior populations, the percentage of the population living below poverty level, the percentage of minority populations, and the percentage of households with limited vehicle access.

PACTS is governed by the Policy Board (formerly referred to as the "Policy Committee"), which is composed of municipal officials from member communities, transit agency representatives, designated community representatives, and officials from state and federal transportation agencies. The PACTS Policy Board has responsibility for planning and prioritizing transportation improvement projects funded in part by the U.S. Department of Transportation (USDOT). The USDOT funds are provided through the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA).

In 2018, PACTS and the Greater Portland Council of Governments (GPCOG)—a regional planning agency and economic development district—voted to combine their staffs to better serve the region. The agreement was approved by the governing boards of both organizations. On February 11, 2020, PACTS and GPCOG fully merged. As an entity within GPCOG, PACTS continues to act as the region's MPO and administer federal highway and transit funds.

For a full list of terms referenced in this document and other PACTS materials, refer to the "Glossary of Terms" on the GPCOG website: https://gpcog.org/635/Glossary-of-Terms.

Purpose

The Transportation Improvement Program (TIP) for fiscal years 2024 to 2027 is the four-year assessment of priorities for federally funded transportation project implementation in the PACTS metropolitan area, as required by the 2015 federal legislation, Fixing America's Surface Transportation (FAST). It is required, as a condition of the receipt of federal capital or operating assistance, to maintain the transportation system covered by the continuing, cooperative and comprehensive transportation planning process. The TIP serves as a link between project planning and implementation. The TIP is an integral part of the transportation planning process in the metropolitan area. All projects included in the TIP are consistent with Connect 2045, the PACTS Metropolitan Transportation Plan (MTP). TIP projects may be proposed or developed by PACTS representatives, or by state, regional, or local officials.

The TIP development process is governed by the joint FHWA and FTA regulations for urban transportation planning (23 CFR 450 subpart B). These regulations require that the TIP meet the following criteria:

1. Include improvements selected from the urbanized area's transportation plan.
2. Cover a period of not less than four (4) years.
3. Indicate the area's priorities.
4. Include realistic estimates of the total costs and revenues for the program period.
5. Identify proposed sources of funding and implementing agencies.
6. Identify funding sources that are reasonably consistent with the amount of Federal funds

expected to be available in that area.

Appendices D, E, and F provide detailed information about projects, including the location, improvement type, estimated costs, annual activities, sources of funding, and the agency responsible for project implementation.

Public Involvement and Comment Process

Under the United States Department of Transportation's (USDOT's) Metropolitan Planning Regulations (23 CFR 450), all MPOs are required to develop a Public Involvement Process for the development and update of Transportation Plans and TIPs. The process shall include a proactive approach to public involvement that provides complete information, timely public notice, full access to decisions, and supports early and continuing involvement in the development of the TIP. The PACTS Public Involvement Policies and Practices can be found at www.gpcog.org.

The Federal Transit Administration (FTA) requires that each recipient of a Section 5307 grant shall develop, publish, afford an opportunity for a public hearing on, and submit for approval a Program of Projects (POP). FTA allows a grantee to rely on the locally adopted public participation requirements for the PACTS Transportation Improvement Program (TIP) in lieu of the process required in the development of the POP if the grantee has coordinated with the MPO and ensured that the public is aware that the TIP development process is being used to satisfy the POP Public Participation requirements.

The PACTS public participation process satisfies the POP participation process requirements for the following FTA Direct Recipients in the PACTS region:

- Biddeford Saco Old Orchard Beach Transit Committee
- Casco Bay Island Transit District
- Greater Portland Transit District
- Maine Department of Transportation
- Northern New England Passenger Rail Authority
- South Portland Bus Service

PACTS' public notices for the TIP have an explicit statement that public notice of public involvement activities and time established for public review of any comments on the TIP will satisfy the POP requirements.

Public Involvement for the PACTS TIP

A notice, along with a link to the draft TIP was posted to the GPCOG website on February 16th, 2024 and subsequently emailed to the PACTS Interested Parties Notification List, as well as PACTS committee and board members. The Interested Parties list is made up of local citizens, media outlets and non- governmental organizations.

All PACTS Committee and Board meetings are open to the public. At these meetings the public are afforded the opportunity to speak on all topics including discussions about project selection.

PACTS Policies and Procedures and Project Selection Processes

While the existing PACTS' Policies and Procedures describes the current process for selecting PACTS-funded projects, several of the PACTS funding programs have stand-alone policies (discussed below).

On April 6, 2021, the PACTS Executive Committee (the predecessor to the Executive Board) approved a new Transportation Funding Framework. This framework was developed to ensure funding is allocated to projects in a way that is consistent, data-driven, more transparent to the public, and aligned with regional goals. Funding allocations for "Complex Projects" were informed by this document beginning in 2021. Transit investments are informed by the "Funding Framework" as of 2023.

In addition, PACTS recently updated several other funding policies, including the PACTS Municipal Partnership Initiative (MPI) policy and the PACTS Collector Paving Program policy. These new policies will be incorporated in the TIP Policies and Procedures. Finally, in October 2021, PACTS convened a "Complex Projects Task Force" to recommend revisions to the policies for selecting and funding complex projects, focusing on the policies related to project selection in PACTS' financially constrained environment.

Finally, PACTS is working with the MaineDOT to develop a memorandum of understanding (MOU) / cooperative agreement, which will specify the roles and responsibilities of both agencies in planning for and investing in the region's transportation system.

Municipal Financial Capacity and Planning

The FAST Act requires the TIP to be financially constrained by reflecting realistic assumptions of capital improvement, operational and maintenance costs. Only projects for which construction and operating funds can reasonably be expected to be available may be included. Funding estimates in the TIP are based on past funding levels and reasonable projections of expected new funding sources. Table 1 indicates the funding sources for the TIP and the percentages that federal, state, and local organizations are responsible for.

Table 1: TIP Funding Sources

Funding Source	Federal Share	State Share	Local Share
National Highway System	75%	0%	25%
Surface Transportation Program	75%	0%	25%
Transportation Alternatives	75%	0%	25%
Congestion Mitigation Air Quality Program	80% (up to 100%)	Varies	Varies
Interstate Maintenance	80%	20%	0%
FTA Urban Formula	80%	0%	20%

Municipalities participating in the TIP have agreed to provide the local match. Payment of the local match is worked out directly between MaineDOT and the municipality when a project's status becomes "active".

Metric	Datapoint
% of Poor Deck Area	4.0%

Table 9 represents the performance measure targets for PACTS NHS Bridges.

Table 9: PACTS Region NHS Bridge Measures

Metric	Datapoint
SD Deck Area	28,571
Total Deck Area	836,336
% of SD Deck Area	3.4%
% of Good Deck Area	24.8%
% of Poor Deck Area	3.4%

Additional information about Maine DOT's pavement and bridge condition performance measures, performance target methodology and implementation strategies are referenced in the following document:

MaineDOT Transportation Asset Management Plan:
https://www.maine.gov/mdot/publications/docs/plansreports/MaineDOT_Transportation_Asset_M_Plan.pdf

Transit Safety Performance Targets

The Federal Transit Administration's (FTA) Public Transportation Agency Safety Program requires MPOs to integrate performance measures and targets from their state and local transit agencies' Agency Safety Plans into their planning process by developing regional safety performance targets.

This information is incorporated into the TIP. FTA's National Public Transportation Safety Plan requires that a public transit agency's Agency Safety Plan include safety performance targets based on the following safety performance measures:

- Total fatalities
- Fatalities per 100,000 vehicle revenue miles (VRM)
- Total injuries
- Injuries per 100,000 VRM
- Total safety events
- Safety events per 100,000 VRM
- System reliability (mean VRM between major mechanical failures)

PACTS develops its regional transit safety performance targets by applying a factor to the five-year average of each performance measure. The target for measures that should reduce over time (fatalities, injuries, safety events, and the rates of each) is developed by reducing the five-year average by 10 percent. The target for measures that should increase over time (system reliability) is developed by increasing the five-year average by 10 percent. Based on this methodology and 2018–2022 NTD data (the

most recent five-year period for which full data are available), Table 4 shows the 2024 Transit Safety Performance Targets:

Table 4: Transit Safety Targets

	Total Fatalities	Rate of Fatalities	Total Injuries	Rate of Injuries	Total Safety Events	Rate of Safety Events	System Reliability[a]
Motor Bus	0.00	0.00	0.54	0.03	1.44	0.07	93,358
Demand Response	0.00	0.00	0.18	0.02	0.18	0.02	-
Ferry Boat	Exempt. Casco Bay Lines' safety program is overseen by US Coast Guard.						
Commuter Rail	Exempt. NNEPRA's safety program is overseen by Amtrak and FRA.						

[a]System reliability includes data from GP Metro only. BSOOB Transit and South Portland Bus Service are not required to report major mechanical failures.

As these targets indicate, using transit is much safer than driving a car. Nationwide, traveling by transit is ten times safer per mile than traveling by car, per the American Public Transportation Association. Vision Zero Greater Portland highlights additional safety benefits of transit and encourages mode shift from single occupancy vehicles to transit wherever appropriate.

Transit State of Good Repair Performance Targets

FTA's Performance Management program requires MPOs to integrate performance measures and targets from their local transit agencies' Transit Asset Management plans into their planning process by developing regional state of good repair performance targets. This information must be incorporated into the TIP, per FTA's 2020 PACTS Certification Review. FTA's Transit Asset Management Final Rule established the following State of Good Repair performance measures:

Table 5: Transit State of Good Repair Performance Measures

Asset Category	Performance Measure
Rolling Stock	Percent of revenue vehicles exceeding useful life benchmark (ULB)
Equipment	Percent of non-revenue service vehicles exceeding ULB
Facilities	Percent of facilities rated under 3.0 on the Transit Economic Requirements Model (TERM) scale
Infrastructure	Percent of track segments under performance restriction

PACTS has not previously incorporated regional State of Good Repair performance targets into the TIP. To develop performance targets, staff reviewed the latest performance targets (from 2022 or 2023) for each of the region's transit agencies. Staff found that targets for some asset classes vary by agency. For example, performance targets for buses range from 0 to 50 percent exceeding useful life benchmark. Table 6 shows the 2024 State of Good Repair Performance Measures.

Table 6: Transit State of Good Repair Targets

Asset Category	Asset Class	Performance Target	Note
Rolling Stock	Bus	0%	a
	Over-the-Road Bus	33%	a
	Cutaway	0%	a
	Van	20%	a
	Minivan	20%	a
	Ferryboat	40%	a
Equipment	Automobiles	0%	a
	Trucks and Other Rubber Tire Vehicles	0%	a
Facilities	Administrative / Maintenance Facilities	0%	b
	Passenger / Parking Facilities	0%	b
Infrastructure	Rail Fixed Guideway including Signal Systems	3%	c

a—Percent exceeding ULB. Includes only asset classes for which transit agencies have a direct capital responsibility.

b—Percent rated under 3.0 on the TERM scale

c—Percent of track segments under performance restriction

FTA Transit Performance Measures

The Moving Ahead for Progress in the 21st Century Act and subsequent federal rulemaking established four state of good repair performance measures under the transit asset management (TAM) rule for a strategic and systematic process of operating, maintaining, and improving public capital assets effectively through their entire life cycle.

In 2019, the transit agencies operating in the PACTS region agreed to adopt the National Transit Database (NTD) data as a starting point, with the understanding that measures may be eliminated, and others added. These metrics include the following and are evaluated in Table 11 and Table 12.

- Transit Asset Management (TAM) measure for the percentage of a fleet exceeding useful life (*see NTD note below)
- Operating expenses per vehicle revenue hour
- Operating expenses per unlinked passenger trip
- Unlinked trips per vehicle revenue hour
- Fare recovery (fare revenue divided by total operating expenses)
- Safety and security (as reported to the NTD based on Safety and Security Reporting Manual requirements)

*Transit agencies are responsible for reporting their Transit Asset Management Plans (TAMs) to the National Transit Database (NTD), pursuant to federal guidance: "each entity developing a TAM Plan must report annually to FTA's National Transit Database (NTD). These submissions include: asset inventory data; condition assessments and performance results; projected targets for the next fiscal year; and a narrative report on changes in transit system conditions and the progress toward achieving previous performance targets."

Although public transit agencies are required to set and report transit state of good repair targets annually, MPOs are not required to set planning area targets annually. MPOs may choose to set targets more often, however, state of good repair targets are required to be revisited and updated when updating the Metropolitan Transportation Plan. PACTS will continue revisiting the topic of performance measures with the regions' transit agencies in the future, with the expectation that more robust metrics and targets will be adopted in future TIPs.

Table 11: Transit Performance Metrics (2022) – *see legend below*

Metric	BSOOB	CBITD	METRO	NNEPRA	RTP	SPBS	YCCAC
Fare Recovery (fare revenues divided by operating expenses)	8%	34%	17%	36%	38%	11%	0%
Operating Expenses per Vehicle Revenue Hour	$122.64	$408.97	$124.14	$271.41	$111.58	$86.95	$175.40
Operating Expenses per Unlinked Passenger Trip	$21.12	$7.71	$9.96	$55.03	$55.94	$9.62	$45.27
Unlinked Trips per Vehicle Revenue Hour	5.8	53.0	12.5	4.9	2.0	9.0	3.9
Percentage of Fleet Beyond Useful Life	26%	25%	0%	-	12%	0%	0%

Table 12: Transit Performance Metrics (5-Year Average [2018-2022]) – *see legend below*

Metric	BSOOB	CBITD	METRO	NNEPRA	RTP	SPBS	YCCAC
Fare Recovery (fare revenues divided by operating expenses)	11%	32%	16%	36%	51%	12%	3%
Operating Expenses per Vehicle Revenue Hour	$111.04	$377.81	$108.20	$295.76	$84.25	$84.86	$121.09
Operating Expenses per Unlinked Passenger Trip	$15.50	$8.28	$8.18	$71.55	$40.00	$7.87	$34.46
Unlinked Trips per Vehicle Revenue Hour	8.22	57.38	14.72	5.44	2.18	11.78	3.66
Percentage of Fleet Beyond Useful Life	53%	25%	7%	--	8%	0%	13%

Table legend (above):

- *BSOOB – Biddeford Saco Old Orchard Beach Transit*
- *CBITD – Casco Bay Island Transit District*
- *METRO – Greater Portland Transit District*
- *NNEPRA – Northern New England Passenger Rail Authority*
- *RTP – Regional Transportation Program*
- *SPBS – South Portland Bus Service*
- *YCCAC – York County Community Action Corporation*

ATRC

Androscoggin Transportation Resource Center

2022-2025

Transportation Improvement Program

Adopted March 24, 2022

Program of Projects (POP) Public Notice

Public notice involvement activities and time established for public review and comment on this Transportation Improvement Program (TIP) will satisfy the POP requirements of the Federal Transit Administration (FTA) Section 5307 Program.

"The preparation of this document has been funded in part by the U.S. Department of Transportation, Federal Highway Administration and the Federal Transit Administration. The contents of this document do not necessarily state or reflect the official views or policies of the U.S. Department of Transportation."

Non-Discrimination Policy Statement

The Androscoggin Transportation Resource Center (ATRC), as a recipient of Federal financial assistance and under Title VI of the Civil Rights Act of 1964 and related statutes and regulations, is committed to ensuring that no person shall, on the grounds of race, color, national origin, gender, age, disability, income, or limited English proficiency, be excluded from participation in, be denied benefit of, or otherwise be subjected to discrimination under any program or activity conducted by ATRC, regardless of whether programs and activities are federally funded or not.

Metropolitan Planning Organization (MPO) Certification Statement

The Maine Department of Transportation has conducted statewide evaluations to determine if there are reasonable alternatives to roads, highways, and bridges that have required repair and reconstruction activities on two or more occasions due to emergency events per the requirements of 23 CFR § 667. As a result of this evaluation, it can be certified that there are no locations meeting these parameters within the metropolitan planning boundaries. No further action is required at this time but if this statute is triggered in the future, all appropriate steps will be taken to develop reasonable alternatives to address the problem areas.

ENDORSEMENT OF THE ATRC 2022-2025 TIP

The FY 2022-2025 TIP was adopted at ATRC's Policy Committee on March 24, 2022**.**

Jennifer L. Williams, PE
ATRC Director

OVERVIEW

The ATRC Transportation Improvement Program (TIP) for 2022-2025 continues the objectives, goals and initiatives established in the previous programs; namely, to provide a more balanced multimodal transportation system that meets the needs of a broad array of transportation users.

ATRC recognizes the need for Metropolitan Planning Organizations (MPO) to promote the development of transportation systems that embrace all modes of transportation in a manner that efficiently maximizes the mobility of people and goods within the urbanized area, while minimizing transportation-related air pollution.

INTRODUCTION

The Androscoggin Transportation Resource Center (ATRC), as a Metropolitan Planning Organization (MPO) for the region and in accordance with the requirements of 23 CFR Parts 450 and 500 and 49 CFR Part 613, develops and endorses a Transportation Improvement Program (TIP), in cooperation with the State every two years.

The Metropolitan Area Boundary, covered by ATRC's 2022-2025 TIP, consists of the existing urbanized and contiguous areas expected to become urbanized over the next 20 years, which includes all of the Cities of Lewiston and Auburn, and the Towns of Lisbon and Sabattus.

This document includes the proposed highway, bridge, intermodal, transit, bicycle and pedestrian projects, which are all consistent with the ATRC 20-Year Transportation Plan.

TIP Financial Revision Thresholds

Table 1 - Financial Threshold Guidelines		
Projects Current Approved Funding	**Funding Change Thresholds**	
	Administrative Modification	**Amendment**
Less Than or Equal to $2 Million	For changes up to $1,000,000	Required for changes greater than $1,000,000
Greater Than $2 Million	For changes up to 50% of current approved funding	Required for changes greater than 50% of current approved funding

Contract Awards and Change Orders require no action. (Changes to MPO-sponsored projects require approval by the MPO.)

Table 2 - Linear Project-Location Limits Change Thresholds		
Asset	**Administrative Modification**	**Amendment**
Interstate	Unlimited	n/a
Non-Interstate	Up to 1 Mile	>1 mile

PERFORMANCE MEASURES AND PROJECT SELECTION

A key feature of MAP-21 and the FAST Act is the establishment of a performance and outcome-based program. The objective of this performance and outcome-based program is for States to invest resources in projects that collectively will make progress toward the achievement of the national goals. The National policy in support of performance management states that, "Performance management will transform the Federal-aid highway program and provide a means to the most efficient investment of Federal transportation funds by refocusing on national transportation goals, increasing the accountability and transparency of the Federal-aid highway program, and improving project decision-making through performance-based planning and programming." [23 USC 150 (a)]

ATRC has chosen to support the MaineDOT agreed upon targets, and as such, has agreed to plan and program projects so that they contribute to the MaineDOT targets.

FTA Project Selection and Performance Targets

The Lewiston-Auburn Transit Committee (LATC), owner of Lewiston-Auburn's citylink fixed route transit system is a Tier II Provider under Federal Transit Administration (FTA) TAM Rule, 49 CFR 625. Transit Asset Management, or TAM, is a business model that prioritizes funding based on condition of transit assets to achieve a State of Good Repair (SGR) for all transit assets. The TAM Plan enables a transit agency to monitor and manage their transit assets, improve safety, increase reliability and performance, and establish performance measures in order to keep the transit system operating smoothly and efficiently.

LATC is a Tier II provider, operating less than 100 revenue vehicles. As a Tier II provider, LATC's TAM Plan includes four key elements – 1) An inventory of assets; 2) A condition assessment of inventoried assets; 3) Description of a decision support tool; and, 4) A prioritized list of investments. The TAM Plan, October 1, 2018 - September 30, 2022, is a four year plan from which LATC uses to set annual performance targets.

FTA Transit Asset Management Performance Targets – FY2021

LATC as a fleet of 11 eleven buses, seven (7) 12-year heavy-duty buses and four (4) 7-year cutaway buses.; and 2 Passenger Facilities. Based on current service levels, LATC's ideal fleet size is ten (10) vehicles. LATC currently has 11 vehicles in its fleet – seven (7) buses and four (4) cutaway buses. LATC did not meet its FY2021 target of 66% for cutaways. The FY2021 cutaway target was based on LATC disposing of one cutaway bus reducing the fleet size from four (4) to three (3). That fourth cutaway has been kept as a spare until the three (3) new Gillig buses are delivered in early 2022. Two of the cutaways are scheduled for disposal in FY2022. FY2022 target goal will change to 100% for cutaways, due to the fact that the remaining two cutaways have met or exceeded their useful life, but will be kept on as spares. The FY2022 goals for buses will remain at 0%.

LATC's two passenger facilities met the performance goal of 0% in FY 2021. The average age of the facilities is 10.5 years, and the average TERM condition is 4.0, above the 3.0 rating for the ULB. The target goal for FY 2022 is 0%.

Asset Category	Vehicle Class/Type	Fleet Size	Avg. Vehicle Age	ULB/ TERM Rating	FY21 Performance Metric (% Exceeding ULB)	FY22 Target
Revenue Vehicles	Bus	7	8	12	0%	0%
	Cutaway Bus	4	12	7	100%	100%
Facilities	Passenger	2	4.0	3.0	0%	0%

FTA Transit Safety Performance Targets – FY2021

The Public Transportation Agency Safety Plan (PTASP) regulation, at 49 CFR Part 673, requires covered public transportation providers and State Departments of Transportation (DOT) to establish safety performance targets (SPTs) to address the safety performance measures (SPMs) identified in the National Public Transportation Safety Plan (NSP) (49 CFR § 673.11(a)(3)).

As described in the NSP, transit providers must establish by mode seven SPTs in four categories:

- Fatalities: Total number of fatalities reported to NTD and rate per total vehicle revenue miles (VRM) by mode.
- Injuries: Total number of injuries reported to NTD and rate per total VRM by mode.
- Safety Events: Total number of safety events reported to NTD and rate per total VRM by mode.
- System Reliability: Mean distance between major mechanical failures by mode.

Data of the four Maine transit agencies participating in the initial development of this plan was combined to determine initial safety performance targets. Targets were compiled using the five-year average methodology based on data from 2014-2018 National Transit Database (NTD) reporting years. The exception to this is data on major mechanical failures, as reduced reporters are not required to submit that information to the NTD. Each individual agency provided historical data from their maintenance logs. Rates were calculated per 100,000 vehicle revenue miles.

The two modes of transit are defined as Fixed/Flex Route (MB) and Non-Fixed Route [Demand Response (DR)]. Lewiston Auburn Transit Committee (LATC), operates both MB and DR service, Biddeford-Saco-Old Orchard Beach Transit Committee (BSOOBTransit) operates MB service; and Regional Transportation Program, Inc, (RTP) and York County Community Action Program (YCCAC) both operate DR service.

Transit agencies are required to review their PTASP and performance targets annually; however they are not required to set new transit safety targets each year. The initial ATRC metropolitan planning area transit safety performance targets were adopted by the ATRC Policy Committee on May 28, 2020.

Mode of Transit Service	Fatalities per NTD Reporting Year (total)	Fatalities (per 100 thousand VRM)	Injuries per NTD Reporting Year (total)	Injuries (per 100 thousand VRM)	Safety Events per NTD Reporting Year(total)	Safety Events (per 100 thousand VRM)	System Reliability (VRM / failures)
MB	0.00	0.00	1.2	0.19	1.40	0.22	82,941
DR	0.00	0.00	0.20	0.02	0.20	0.02	20,873

The ATRC 2022-2025 TIP incorporates the Lewiston-Auburn Transit Committee's goals and objectives in the most recent PTASP, as approved May 13, 2020.

Financial Plan

All of the funds for the 2022-2025 TIP are reasonably expected to be available based on both past funding and agreements with the MaineDOT for the federal and state funds and the local communities for their share of projects.

The following tables indicate the funding the ATRC will be receiving for the years indicated. As the State of Maine operates on a yearly funding cycle for a three-year work plan, only 2022-2024 funds have been tentatively allocated to ATRC.

The 2022-2025 ATRC TIP is therefore fiscally constrained.

MAINE LOCALLY COORDINATED PLAN 2024–2028

Final Plan

December 2023

MaineDOT

MAINE LOCALLY COORDINATED PLAN 2024–2028

Final Plan

prepared for

MaineDOT

prepared by

CAMBRIDGE SYSTEMATICS

date

December 2023

1. INTRODUCTION

MaineDOT has developed this locally coordinated plan (LCP) for statewide transit pursuant to federal transit law, specifically 49 USC Section 5310-Enhanced Mobility for Seniors and Individuals with Disabilities, and 23 MRSA §4209. As mandated, the plan identifies transit providers and transit service partners serving Maine. The plan also includes a needs assessment focusing on transit needs of the general public, including individuals with disabilities, older adults, low-income individuals/those living below the poverty line, and those without access to a vehicle. To address identified needs, a set of strategies and a corresponding prioritization and implementation plan are proposed for the 2024 through 2028 period of this plan.

The 2024–2028 LCP draws heavily from the findings, strategies, and outreach conducted for the 2023 *Maine State Transit Plan (STP)*. The STP was developed as part of MaineDOT's Family of Plans, a set of multimodal and modal transportation planning documents that lay out the department's vision for Maine's transportation system. With a particular focus on rural accessibility, mobility, technology, and climate change needs, the STP is a detailed and holistic assessment of Maine's public transit system, including key needs and corresponding strategies. The STP also included a strong stakeholder outreach component, including a public survey, virtual public meeting and open comment period, and a project steering committee. This thorough statewide transit assessment, guided by strong stakeholder engagement, informed the LCP development process.

Additional information on state agency transportation programs, as well as corresponding funding levels, is provided in Appendix A.

2.4 Transit Funding

Most transit operating and capital funding in Maine is from federal sources, supplemented by state and local sources, marketing revenue, and farebox revenue. Federal funding sources include Section 5310—Enhanced Mobility for Older Adults and People with Disabilities, Section 5311—Formula Grants for Rural Areas, and Section 5307—Urbanized Area Formula Grants. The STP provides additional information on funding, including allocated funding by source.

3. NEEDS ASSESSMENT

The Maine 2024–2028 LCP Needs Assessment identifies the public transportation needs of the general public, including individuals with disabilities, older adults, people with low incomes, and others with enhanced mobility needs. The LCP Needs Assessment utilizes the 2019–2023 LCP as a foundation for identifying LCP target population needs and is informed by the STP.

The Needs Assessment is guided by the extensive public engagement included in the development of the STP and ongoing participation of MaineDOT staff in meetings and discussions related to public transit in Maine. Outreach specific to the LCP process includes a virtual public meeting on September 12, 2023, and open public comment period, as well as a presentation to the Moving Maine Network Steering Committee on September 14, 2023.

3.1 Identified Needs

People in Maine likely to have unmet transportation needs include:

- Low-income residents, including significant numbers of veterans, immigrants, and homeless individuals.
- Older adults, especially those living in rural areas.
- Individuals with developmental or visual impairments.
- Individuals living in zero-car households or without the ability to drive or access a car, in both urban and rural locations.
- Evening/night and weekend workers, including those in the retail, medical, and warehousing industries.
- General populations reliant on public transit in areas with transit services that are too infrequent or offered less than daily.

Several factors contribute to these unmet transportation needs:

- Many people with unmet transit needs live in rural areas with infrequent or less than daily service. Rural areas may also experience issues with the technology that provides information on transportation services and connections. The state's aging vehicle fleet also reduces reliability and imposes additional costs for providers.

- There is a relatively high degree of fragmentation in the provision of transportation services. In addition to public transit services, there are several options provided separately by social services organizations. This can lead to gaps in how information is disseminated on available transportation services and in the overall effectiveness and efficiency of services. Part of this fragmentation stems from a strong reliance on federal funding, which comes with regulations governing how funding can be applied towards transportation, including trip purpose eligibilities.
- Public transit services designed prior to the onset of COVID-19 may not effectively serve travel patterns that have been altered by the pandemic. Labor shortages, exacerbated by the pandemic, have also impacted the provision of transportation services.
- Existing levels of funding may be insufficient to meet the expanding and increasingly complex transit demands of Maine's population. Although Maine has received supplementary federal transit funding following the COVID-19 pandemic, the overall benefits of increased funding have been diminished due to inflationary pressures. Annual fluctuations in federal funding levels make it difficult to accurately plan for operations and capital programs. The amount of state funding for public transit is a policy decision and is not set by statute. State funding for public transit is also limited by the Maine Constitution's prohibition against the use of Highway Fund revenues for other modes such as public transit.

4. STRATEGIES

The strategies discussed below build upon the findings from the LCP needs assessment and are informed by the findings and strategies from the previous LCP and the recently completed STP.

» **Improve Coordination Among MaineDOT and Maine DHHS:** Coordination was a major theme identified in both the previous LCP and most recent STP. The theme continues to be a pivotal component for providing effective public transit due to the large number of transportation providers as well as the mechanisms used to fund service. MaineDOT has been proactive in addressing coordination. Since the previous LCP was released and following the recommendations of Maine DHHS' internal evaluation, MaineDOT and Maine DHHS have discussed opportunities to better link transportation services overseen by both agencies. According to evaluations conducted by Maine DHHS and the STP, the existing brokerage for NET which DHHS oversees does not use available public transit services as efficiently as possible. This includes existing transit services which already serve medical facilities. As a result, some public transit providers may be missing out on additional passengers, revenue, and service opportunities, while DHHS is more reliant on other transportation services, decreasing efficiency and increasing costs.

  With implementation of this LCP, and following recommendations from the STP, it is recommended that MaineDOT and Maine DHHS continue their coordination efforts. Specifically, this should include MaineDOT and Maine DHHS holding periodic coordination meetings to identify progress, milestones, and next steps to fully implement and manage a successful resource-sharing model. This work should be informed by the efforts of the federal Coordinating Council on Access and Mobility (CCAM). CCAM released its 2023–2026 strategic plan in 2022 and later in 2023 is expected to provide additional guidance and a cost sharing model which will maintain consistency with program requirements and reduce complexities around funding between agencies and programs.

  MaineDOT should continue to engage with the Maine Departments of Economic and Community Development, Education, Labor, Governor's Office of Policy Innovation and the Future, and MaineHousing. This engagement should prioritize the transit and everyday transportation needs of populations with a disability, over the age of 65, and those living below the poverty line.

» **Increase Transit Service as Warranted.** As noted in the STP, increases in transit service (including expansions of service areas, increased frequencies, and expanded hours of service) may be warranted in several areas of the state, particularly in the northern, eastern, and western regions with relatively high concentrations of individuals with disabilities, over 65, and/or living below the poverty line, who tend to rely on transit more than the overall population.

The STP's recommendations for increased transit service include:

- Increased flex route frequencies on services that operate on one hour or less intervals.
- Increased availability of demand-response services for locations that are served by transit on a less-than-daily basis.
- Geographic increases in transit coverage to serve the region north of Bangor, near Lewiston/Auburn, Augusta/Waterville, the Midcoast Region, and the Norway/Oxford/South Paris region.

It is recommended that MaineDOT further examine these regions for feasible opportunities to add transit service, directly engaging with local and regional transit providers and stakeholders to identify transit improvements and expansions that would benefit LCP populations.

» As discussed in the STP, MaineDOT should further examine the use of microtransit in low to moderate density areas with limited access to fixed route transit. Microtransit is a technology-based form of shared mobility in which transportation service is shared amongst users, typically concurrently. The service is characterized by flexible, on-demand availability, in which a user can request service in advance. Such a service is currently being examined by YCCAC to enhance commuting options for workers at the Portsmouth Naval Shipyard along the Kittery-Sanford corridor. Additional transit agencies in the PACTS region are also looking to develop microtransit service in portions of their service areas. Further strategies for increasing transit, especially in rural locations, include strengthening and encouraging volunteer driver programs, and continuing support of pilot projects to support workforce transportation needs across Maine.

» **Improve and Maintain Transit Infrastructure.** Maine's transit infrastructure consists of vehicles, as well as provider and user facilities such as garages, operation centers, transit centers, signage, benches, lighting, sidewalks, and bike racks. Proper maintenance and

management of these facilities is crucial to ensuring users have access to safe and reliable transit service. As part of maintaining and upgrading these facilities, information and ADA accessibility improvements should be prioritized. Although many of these transportation infrastructure components are present throughout the state's urban centers, they can often be lacking in rural areas, including those locations served by demand-response service. MaineDOT should coordinate with these transit agencies to identify potential locations which function as important trip generators, such as medical and social service offices, as well as supermarkets, for targeted accessible infrastructure upgrades.

- Vehicles are maintained by each provider according to their asset management plans. Primarily the case for rural providers, MaineDOT assists in coordinating vehicle purchases, including helping to meet required local matches for federal funding. To assist operators with the requirements of managing and maintaining vehicles, MaineDOT should procure a statewide asset management platform to support the capital planning, prioritization, and federal reporting functions. More information on the details associated with procuring an asset management platform can be found in the STP. In accordance with the previous LCP, the STP, and *Maine Will not Wait*, MaineDOT should also continue to spearhead the transition of statewide operators to hybrid, electric, and other low- and zero-emission vehicles.
- **Increase Use of Technology in Transit Operations.** Technology is a broad but important key theme identified in the previous LCP and the STP. Multiple forms of technology can help to improve transit operations, increase information access, and provide transit users with an overall better and more accessible service. Examples include modernized fare payment systems which allow users to pay using additional methods besides cash, Computer-Aided Dispatch/Automatic Vehicle Location (CAD/AVL) software, asset management software, and General Transit Feed Specification (GTFS). Each of these transportation technologies is discussed in greater detail in the STP.

  Although many of these technologies are already used in the state's larger transit systems, they are less prevalent across Maine's smaller and rural transit agencies. The STP noted that, aside from some rural portions of certain transit areas, the Internet access that supports these transit technologies is generally not an issue for agencies.

  Specific strategies which could benefit transit agencies and the LCP populations they serve include a full statewide rollout of CAD/AVL and GTFS. CAD/AVL systems allow transit

operators to efficiently schedule and dispatch vehicles and know the location of each vehicle in real time. GTFS implementation creates a standard and consistent platform for data dissemination, and would also allow for services to be searchable on Google Maps and other platforms such as GO MAINE. Other agencies could adopt a unified fare payment system similar to that currently used by Biddeford Saco Old Orchard Beach Transit, South Portland Bus Service, and Greater Portland Metro.

» **Address Driver and Labor Shortage Issues.** The driver and labor shortage issues identified in the previous LCP and recent STP continue to be a challenge for many providers. The STP found many agencies who are not actively experiencing staffing shortages lacked a comprehensive driver retention and talent attraction strategy. Workforce challenges for transit providers, as for employers throughout the state, were exacerbated by the COVID-19 pandemic. Some agencies have been forced to reduce service due to staff shortages, creating challenges for LCP populations and others who rely on transit services for access to vital resources and services and other activities.

  As identified in the STP, addressing these labor shortage issues can include revamped driver education and regional training programs that pool resources across agencies and serve a greater number of communities. MaineDOT and transit agencies can also work with the Maine Department of Labor to identify and quantify required competencies, difficult to fill positions, and regional needs. MaineDOT can also work with vocational schools and community colleges to establish and encourage training for commercial drivers' licenses, mechanics, and other skills to ensure that a longer-term pipeline of talent is available.

» **Pursue Funding to Support the Strategies and Vision for Maine's Public Transportation System.** As identified in the previous LCP and STP, adequate funding is critical to support LCP transit needs. Given a wide range of needs, spread amongst many operators and services, MaineDOT should continue to work with local, state, and federal stakeholders to maximize existing funding and identify new innovative funding sources, such as grants authorized through the Infrastructure Investment and Jobs Act (IIJA) through 2026:

  - Integrated mobility management or on-demand mobility service projects ($1.3 billion).
  - Innovative Coordinated Access and Mobility (ICAM) pilot programs ($5 billion).
  - Public Transportation Innovation Program, and its Mobility, Access, and Transportation Insecurity: Creating Links to Opportunity Demonstration Research Program ($6 billion).

- The Rural Surface Transportation Grant program, which allows applicants to use one application for up to three separate discretionary grant opportunities: Mega Grants, Infrastructure for Rebuilding America (INFRA) Grants, and Rural Surface Transportation Grants ($2 billion).

The STP includes information on additional potential state and local funding sources.

4.1 Addressing Identified Needs

Broadly, the Needs Assessment components can be grouped into several categories:

» Rural Coverage and Accessibility

» Transit Service Parameters

» Coordination

» Post-COVID Travel Needs

» Driver and Labor Shortages

» Funding

Table 4.1 identifies the Needs Assessment theme which each strategy broadly addresses.

Table 4.1 LCP Strategies Applied to Needs Assessment

	Needs Assessment Theme					
LCP Strategy	Rural Coverage and Accessibility	Transit Service Parameters	Coordination	Post-COVID Travel Needs	Driver and Labor Shortages	Funding Needs
Improve Coordination among MaineDOT and Maine DHHS	Yes	Yes	Yes	Yes	Yes	Yes
Increase Transit Service as Warranted	Yes	Yes	Yes	Yes		
Improve and Maintain Transit Infrastructure	Yes		Yes			
Increase Use of Technology in Transit Operations	Yes		Yes			
Address Driver and Labor Shortage Issues			Yes		Yes	
Pursue Funding to Support the Strategies and Vision for Maine's Public Transportation System	Yes	Yes	Yes		Yes	Yes

5. PRIORITIZATION AND IMPLEMENTATION

The following steps in the LCP development process will ensure that these strategies are carried out, and the objectives of the LCP are met.

5.1 Prioritization

The strategies put forth in the LCP development can be prioritized based on projected timeline. Given that each strategy consists of multiple components, specific suggested steps are listed under each time period as relevant.

5.1.1 Immediate (2024–2025)

The following actions are recommended for MaineDOT during the immediate timeframe of the LCP period:

- Maintain state of good repair across all transit providers by replacing aging fleets and maintaining existing vehicles, within the limitations of available funding and ongoing supply chain issues.
- Continue to improve coordination between MaineDOT and Maine DHHS. Ideally, a target date for full coordination should be identified. The release of the CCAM cost sharing model should inform this coordination.
- Develop a framework for increased technology use for transit operations, including automated fare payment, CAD/AVL, and GTFS Flex. Assess agency needs for implementing cost-effective and efficient CAD/AVL, GTFS, and automated fare payment across all operations.
- Develop a draft request for proposals (RFP) for a statewide asset management platform, including determining which features would be most relevant and useful for the agency. The RFP should also ask vendors how their product would facilitate coordination amongst multiple transit providers.
- With transit providers, identify and assess potential adjustments, including microtransit, to existing transit service as warranted.
- Work with transit providers, partner agencies, and educational institutions, as appropriate, to explore approaches for addressing driver and labor shortages.

- Continue to identify grant and funding opportunities focused on the transit needs of populations with a disability, over the age of 65, and those living below the poverty line.

5.1.2 Mid-Term (2026–2028)

The following actions are recommended for MaineDOT during the mid-term timeframe of the LCP period:

- Implementation of formalized coordination between MaineDOT and Maine DHHS. This should include periodic ongoing meetings which focus on identifying efficiency and cost sharing opportunities to streamline transportation accessibility.
- Implement additional technology across transit operations. This includes asset management platforms deployed to MaineDOT, as well as CAD/AVL, GTFS, and automated fare payment applied across all operations.
- Identify, assess, and implement transit adjustments where warranted.
- Reassess and continue to monitor and identify driver and labor shortage needs and strategies.
- Apply for relevant grants where warranted, and monitor new funding opportunities, including through the next federal transportation funding bill.

5.2 Implementation

MaineDOT is responsible for overseeing the strategies identified in the LCP. This includes the dissemination of federal funding, including Section 5310 Program funding to Regional Transit Providers, and all private non-profit entities for capital and mobility management needs. This also includes identifying general opportunities and policies, including in relation to coordinating with partner agencies, for the purposes of meeting LCP population and human services transit needs. MaineDOT staff will monitor progress and prepare reports for scheduled discussions with stakeholders such as the Public Transit Advisory Council and Maine Transit Association. In accordance with state statute, the Maine Legislature will be kept informed through the Public Transit Advisory Council report submitted every odd-numbered year. Early in 2028, MaineDOT will develop an approach to prepare the next quinquennial LCP for 2029 through 2033.

LONG-RANGE
TRANSPORTATION PLAN
–Working to **Move Maine**–

Working to Move Maine: MaineDOT's Long-Range Transportation Plan

MaineDOT

date

March 2023

Working to Move Maine: MaineDOT's Long-Range Transportation Plan

Prepared for

Maine Department of Transportation

Prepared by

CAMBRIDGE
SYSTEMATICS

Executive Summary

Working to Move Maine:
MaineDOT's Long-Range Transportation Plan

The *Long-Range Transportation Plan*

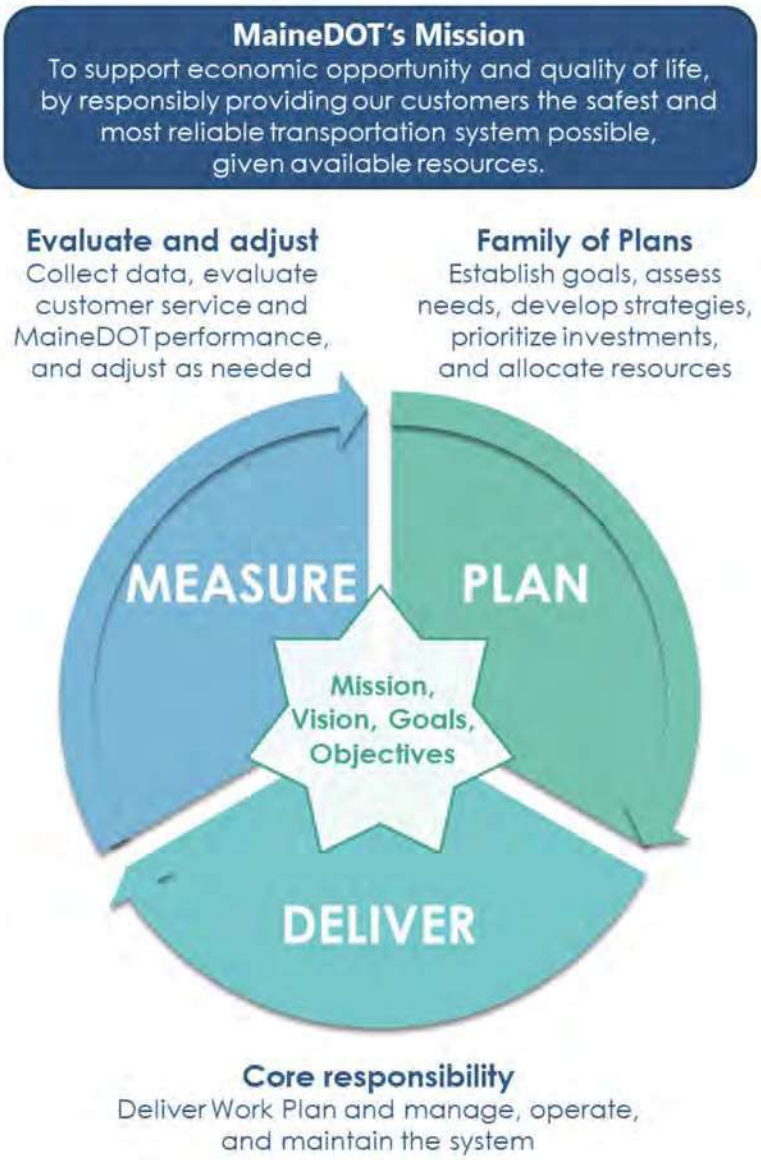
The *Long-Range Transportation Plan* (*LRTP*) is the Maine Department of Transportation's (MaineDOT's) overarching plan to communicate the vision for the transportation system and the strategies that MaineDOT and our partners plan to deliver throughout the next 20+ years.

Maine's *LRTP* is a policy document that lays out the framework to manage Maine's transportation system in all modes, support economic opportunity and quality of life, and build reliability and trust throughout the coming decades. The *LRTP* was developed consistent with federal and state requirements for consultation with partners, officials, and input from Maine citizens.

This policy document shapes investments that appear in MaineDOT's *Work Plan*, which includes the work in the federal *Statewide Transportation Improvement Program (STIP)*. Decisions on these investments today and into the future support the LRTP goals, meet MaineDOT responsibilities, and address immediate needs while also seizing opportunities to manage the impacts of trends and potential disruptions.

MaineDOT's Mission
To support economic opportunity and quality of life, by responsibly providing our customers the safest and most reliable transportation system possible, given available resources.

The *LRTP* is the **foundation of a cycle of planning** to address needs and prioritize resources to ensure a safe, well-maintained, and reliable system, **delivering projects and programs** to keep the system efficient for all users, and **monitoring system performance** to ensure we are serving our customers and meeting our goals.



MaineDOT's Family of Plans includes many modally-focused plans, each addressing a unique purpose within the planning cycle and linking to delivery and measurement. The Family of Plans includes the *LRTP*, the *Maine State Rail Plan* (*Rail*), *Maine State Aviation System Plan* (*Aviation*), *Maine State Active Transportation Plan* (*Active*), *Maine State Transit Plan* (*Transit*), *Strategic Highway Safety Plan* (*Safety*), *Integrated Freight Strategy* (*Freight*), and Metropolitan Planning Organization *Metropolitan Transportation Plans* (*MTPs*).

Building the Long-Range Transportation Plan

Each step of building the LRTP relied upon prior steps, helping to create a platform of data and insights to inform the development of strategies and implementation approach.

1. Context & Guiding Principles

The *LRTP* helps MaineDOT and our partners look forward, anticipating how continued changes inside and outside Maine will impact our transportation investment decisions. Originating from a desire to deliver achievable results, MaineDOT uses a set of practical guiding principles which frame how MaineDOT planning, development, implementation, and operations be conducted. These three guiding principles require department-wide, conscientious effort to center strategies and actions.

Meet customers where they are	**Commit to pursuing equitable solutions** that best address the diverse needs of all users of Maine's transportation system.
Be responsible stewards by making reasoned, long-term decisions	**Serve as responsible stewards of the funds entrusted to MaineDOT** by seeking the most cost-effective solutions to demonstrated transportation needs. **Make reasoned, fact-based decisions** including those relating to system and asset management, resource allocation, and the selection, scoping, and development of projects. **Consider long-term benefits and costs of transportation investment** including the need for ongoing funding for operations and maintenance.
Improve continuously and embrace the future	**Be open to new ideas, best practices, and technologies** that will result in continuous and sustainable improvement. **Anticipate and meet future transportation needs** - including the transition to cleaner transportation – through thoughtful study and pragmatic implementation including pilots when feasible.

2. Maine Transportation Today

Maine's multimodal transportation system is the backbone of our economy. This system supports the movement of goods, access to jobs and healthcare, and tourism and recreation. The transportation system also has a substantial impact on Maine's environmental sustainability and climate change. The *LRTP* presents the state of the system, including highlights of the system scope and travel characteristics.

MaineDOT delivers capital projects and programs, maintenance and operations activities, planning initiatives, and administrative functions across a multimodal system spanning 8,800 miles of state jurisdiction highways, in addition to trails, sidewalks, transit systems, rail lines, airports, and ports managed by MaineDOT and its partners.[1] MaineDOT describes the work activities supporting this system through our *Three-Year Work Plan*. The *Work Plan* is financed through many funding sources, including Maine's State Highway Fund, which is the foundational state source of revenue for MaineDOT capital investments and operations. The State Highway Fund represents 28 percent of the Work Plan and is leveraged by 44 percent from federal sources, 13 percent from the general fund, and 15 percent from a combination of sources including municipal funds.

There are many trends driving the direction of Maine's economy, population, and transportation system. The *LRTP* focuses attention on eight topics: Transportation Safety, Population, Development, Labor Market, Technology, Global Trade, Climate, and Tourism.

These topics are crucial for understanding the future of Maine's transportation system, particularly how each trend could impact future MaineDOT *Work Plans* and ongoing planning, delivery, and performance measure processes. MaineDOT will continue to keep our eye on these topics, while also tracking emerging trends including topics like energy uncertainty and information security.

Bipartisan Infrastructure Law

The LRTP was developed during the passing of the Bipartisan Infrastructure Law (BIL) by Congress in November 2021. The BIL calls for MaineDOT to receive more than $1.5 billion in federal highway and bridge funding from 2022 to 2026, translating to an average of an additional $66 million in reliable formula funding per year beyond existing levels (a 28-percent annual increase). In addition, transit formula funding received a 33-percent increase. These increases are beneficial, but not transformative, as the increase comes at a time when labor and materials costs continue to rise, with construction cost inflation increases of 40 to 50 percent over the last four years.

[1] Maine Department of Transportation, "Three-Year Work Plan, 2023 Edition," January 25, 2023, https://www.maine.gov/mdot/projects/workplan/docs/2023/WORK%20PLAN%20FINAL%202023_2024_2025-3.pdf

3. Maine's Transportation Future

The spectrum of needs reviewed in the *LRTP*, and across the Family of Plans, highlights issues that limit our customer's access to a seamless and integrated transportation system.

The *LRTP* looks at two need dynamics. The first dynamic looks at four questions: **when (or timing to meet the need), how much (what is the cost), where (how do needs vary by community)**, and **who (partners MaineDOT works with to address needs)**. The second dynamic looks at **real needs by type of trip, including commuting to work; accessing goods and services; tourism and recreation; and goods movement.**

Understanding the diverse needs of Maine's transportation system and the needs of our customers is foundational to the development of the *LRTP*'s vision and goals. The vision represents MaineDOT's desired future for multimodal transportation.

Maine Citizen Needs

All Maine people want to feel safe as they travel, with confidence that they can securely navigate from origin to destination by any mode without injury.

Infrastructure maintenance and improvements were identified as the number one priority for MaineDOT investment. These investments can promote safety and help ensure that travel is reliable.

Transportation should meet all Maine people where they are – not only in terms of geography, but their life stages, priorities, and habits.

MaineDOT customers want practical multimodal mobility solutions that enhance the ability to travel across Maine to meet all travel needs.

Our Vision:

MaineDOT will provide a transportation system that:

- Within available resources, supports the economic opportunity and the quality of life that makes Maine a world-class and welcoming place for all.
- Reinvigorates quintessential New England charm and provides for natural resource, technology, manufacturing, and tourism-based economies.
- Enhances the lives of Maine people, supports our businesses to prosper locally and globally, and demonstrates leadership in sustainability.

Our goals describe what guides us toward attaining the vision and highlight our overall desired outcomes. Our goals shape objectives, which are measurable outcomes describing how MaineDOT will attain the *LRTP* goals. The *LRTP* has 15 unique objectives across the five goals.

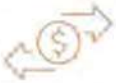
4. Implementation: Maine's Path Forward

To reach our goals and make progress against the objectives, the *LRTP* recommends holistic and cross-cutting strategies to achieve our vision for the transportation system.

GOALS	OBJECTIVES	STRATEGIES
Provide a safe transportation system for all users and modes of transportation	Reduce fatalities and serious injuries Reduce crashes involving vulnerable users	Reduce crashes, fatalities, and serious injuries for all transportation users and promote safe and connected active transportation options
Effectively manage Maine's existing transportation system within reliable funding levels to provide levels of service that are acceptable to our customers	Maintain a state of good repair Improve system performance for customers Support and pilot innovation Leverage funding opportunities	Maintain and make targeted or strategic improvements to asset condition Enhance the overall travel experience for customers using Maine's highways Diversify and stabilize funding sources to enhance sustainability Enhance the transportation system Improve the customer experience through technology
Invest in transportation initiatives that support economic opportunity for Maine people, communities, and businesses	Support job and economic growth Improve supply chain efficiency Expand the transportation workforce Expand connections to global economies	Improve freight connections, reliability, and efficiency Connect Maine to the world Improve system mobility to grow the economy
Invest in practical transportation solutions that mitigate impacts on the natural world and prepare for the realities of climate change	Reduce greenhouse gas emissions Mitigate environmental impacts Reduce disruptions	Position for an electric vehicle future Prepare for climate change Lead by example
Ensure that all Maine people have access to safe and reliable transportation regardless of who you are or where you are	Improve access for all Mainers Reduce disparities in accessibility	Provide reliable and connected mobility solutions Support communities across Maine Foster opportunities for flexible commuting

MaineDOT strives to implement the *LRTP* recommendations using a process that is fiscally realistic and anchored in policy. Implementation of the strategies occurs across four initiatives – **process, program, policy, and partnership**. Each strategy is supported and further detailed within the Family of Plans.

Process initiatives are the practices, tools, and other resources within MaineDOT that institutionalize and operationalize the programmatic and policy strategies.



Program initiatives direct MaineDOT's future investment decisions, such as program and project prioritization for annual *Work Plans*.

Policy initiatives shape MaineDOT's priorities, roles, and responsibilities by establishing standards for planning, project design and delivery, and standards for coordination with partners.

Partnership initiatives allow MaineDOT to leverage existing relationships and forge new alliances to meet our goals.

Implementation actions help facilitate the 15 recommended strategies in the *LRTP*. The actions are executable within the next five years, are within MaineDOT's purview to lead and execute, do not require legislative action, and rely on existing resources.

Implementation actions internal to MaineDOT include:

1. Annually, prior to setting resource allocation goals for each Work Plan, the Bureau of Planning and the Results and Information Office will meet to ensure that the resource allocation is consistent, given available resources, with the goals and strategies of the Family of Plans.

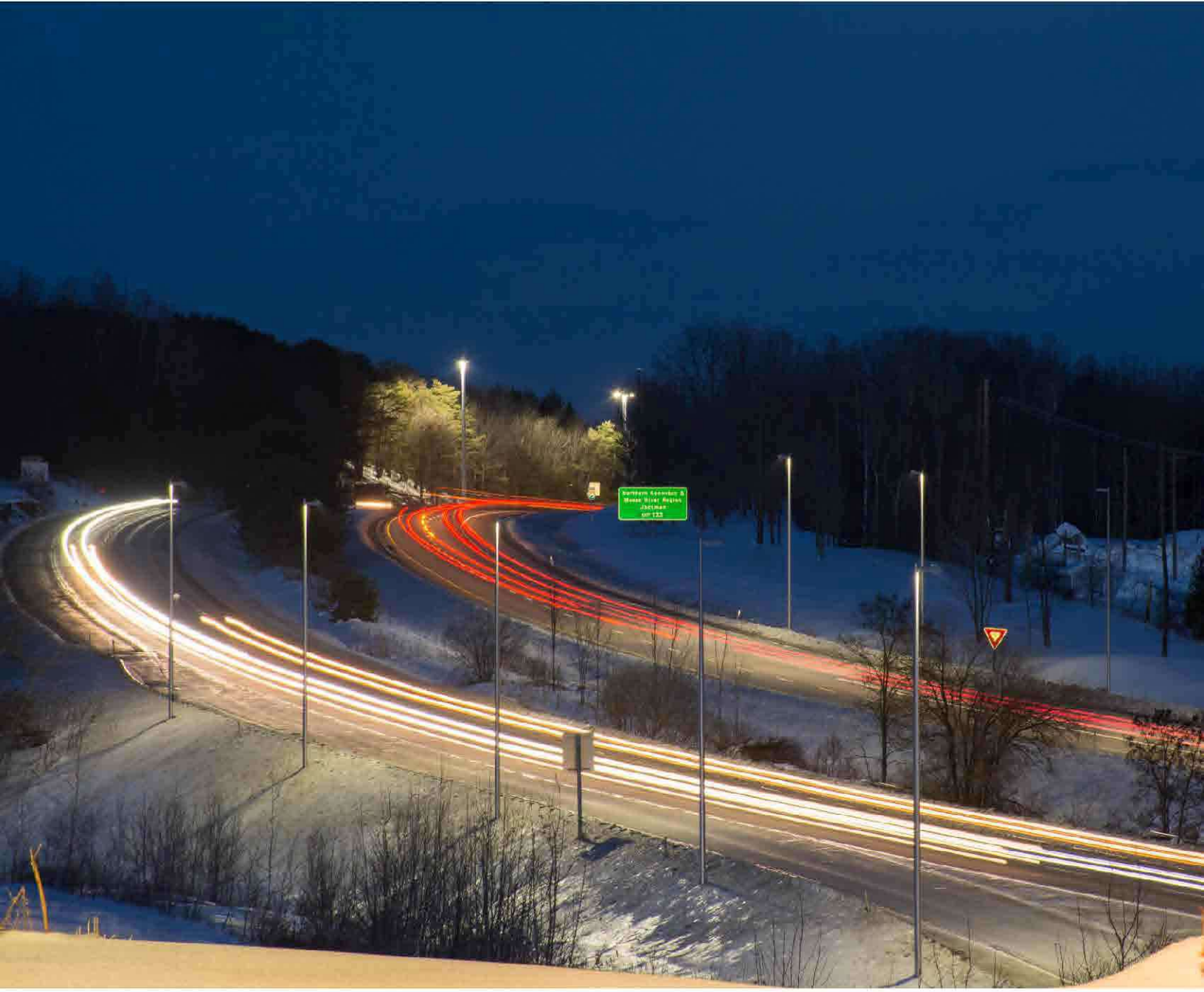
2. MaineDOT Bureau of Planning will annually review ongoing implementation initiatives within the Family of Plans and update the Commissioner on progress.

3. Develop policy establishing how MaineDOT will amend or update Family of Plans documents to address changing conditions, legislation, and regulations to best position Maine to compete for grant opportunities and leverage partnerships.

Implementation actions where MaineDOT will coordinate with external partners include:

4. Conduct ongoing public and stakeholder coordination that briefs partners on plan implementation activities and engages opportunities for partnerships (including resource sharing).

5. Expand partnerships with Tribes and Nations, MPOs, RPOs, and transit operators on long-range and strategic regional planning opportunities consistent with Family of Plans outcomes, goals, and objectives.

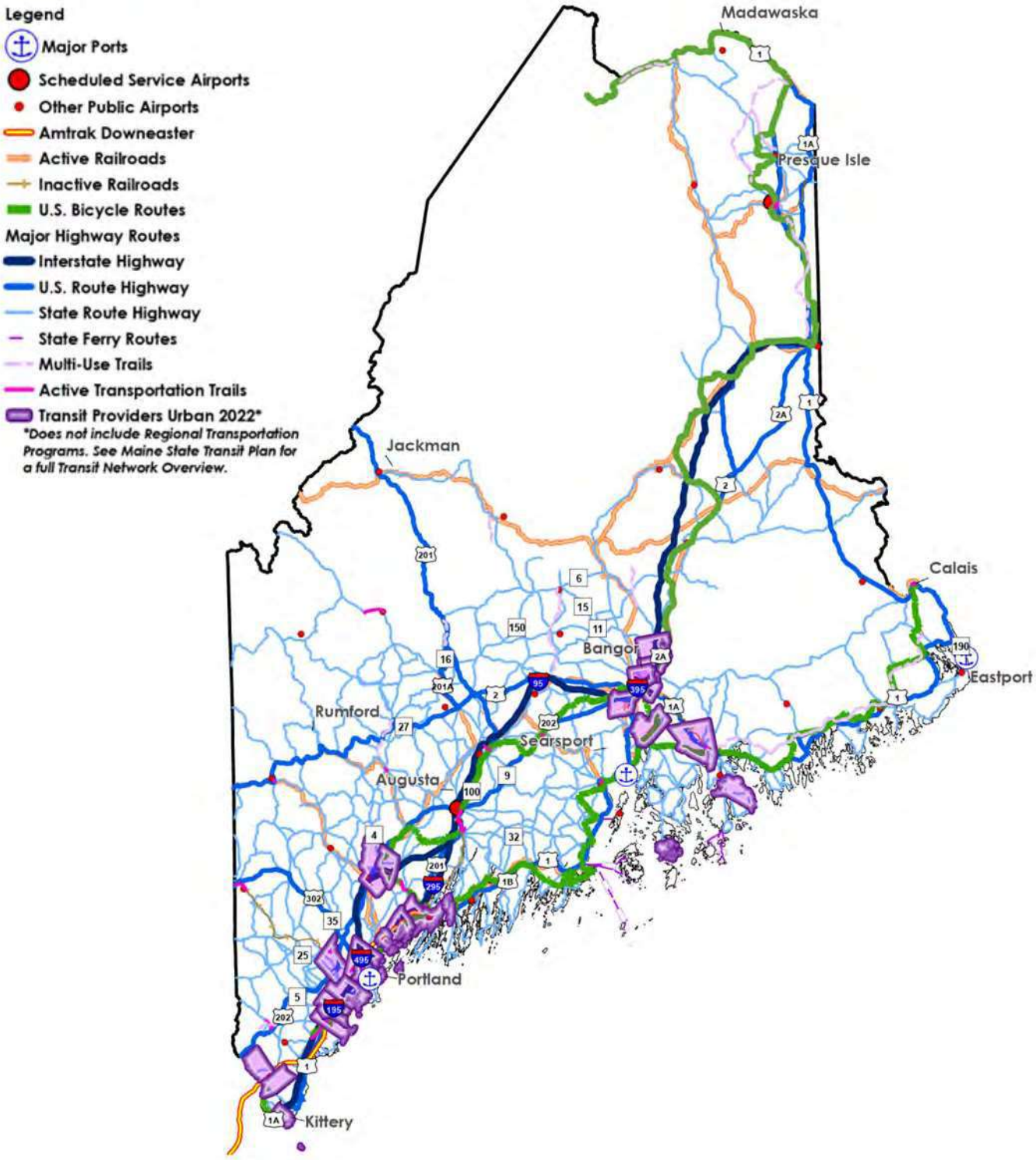


2. Maine Transportation Today

Appraisal of our multimodal system, Family of Plans, and funding situation

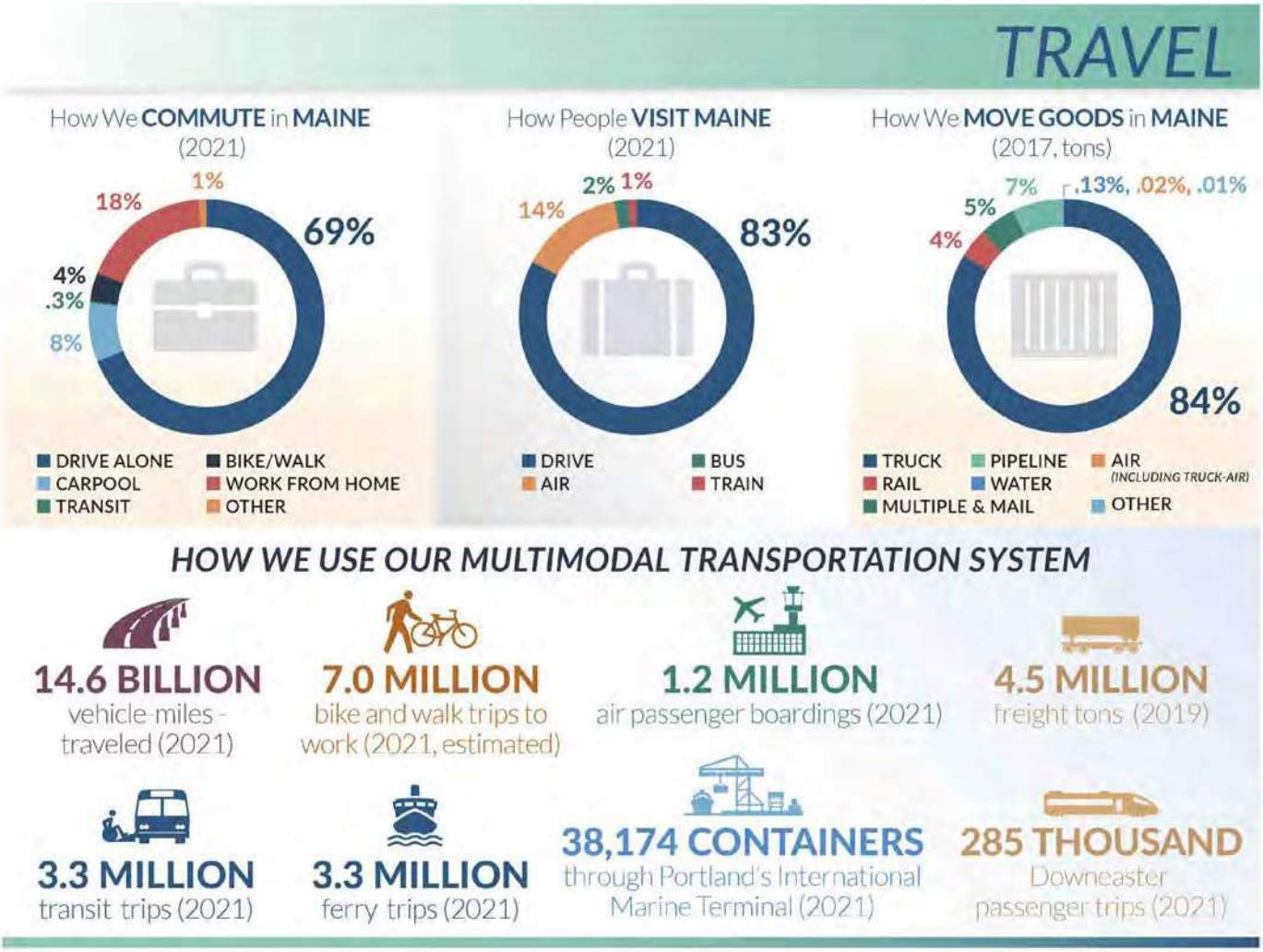
2.1 Our Transportation System: A Snapshot

Figure 2.1 Maine's Comprehensive Multimodal Transportation System[5]



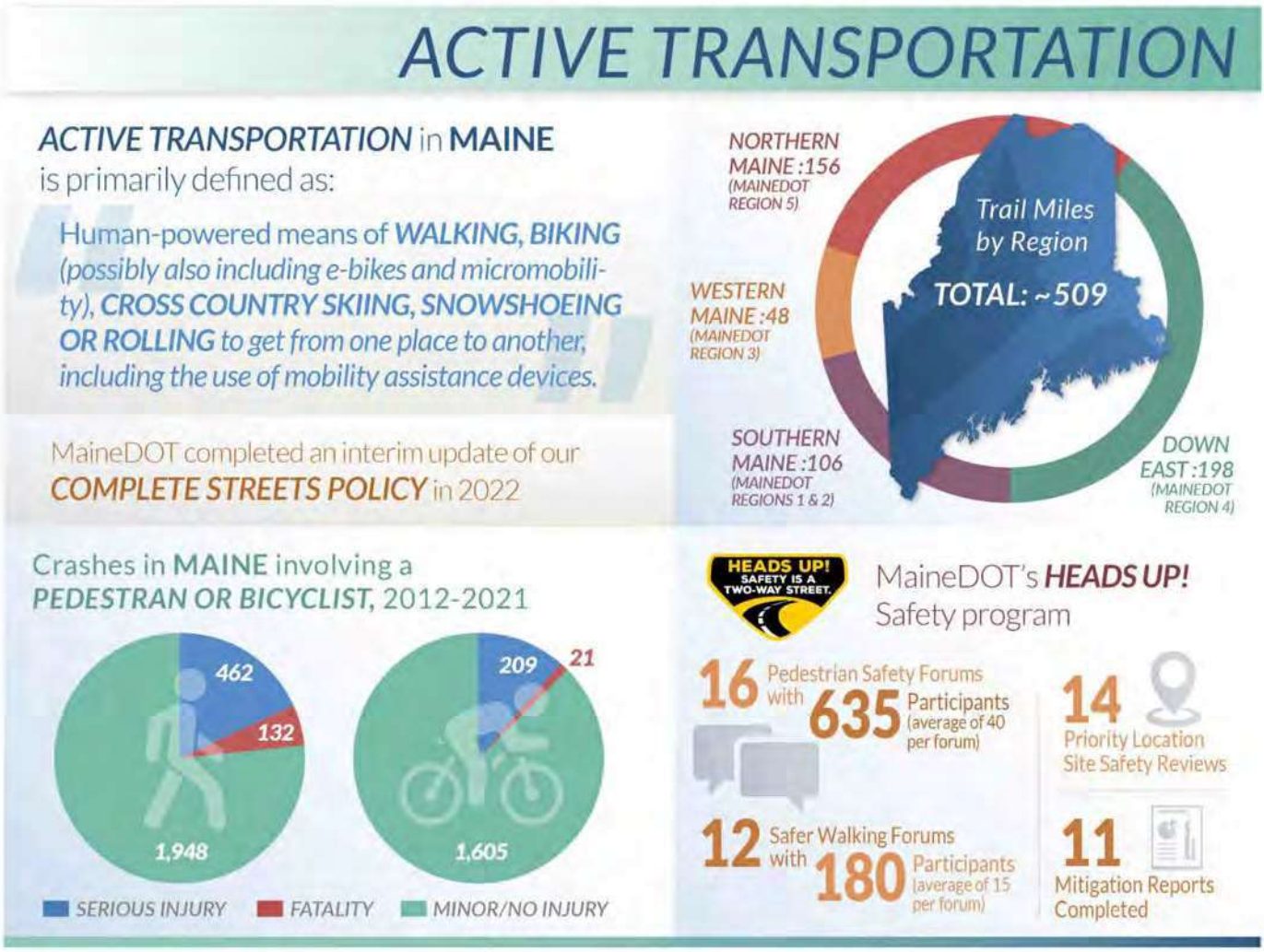
[5] For a map of private intercity bus services in Maine, please see the Massachusetts Bay Transportation Authority's "New England Regional Transportation Map" available here: https://cdn.mbta.com/sites/default/files/2023-01/2023-01-23-system-map.pdf

The following eight infographics summarize and highlight the existing state of Maine's transportation system. More information on the data sources supporting these graphics is available in **Appendix D**.



Travel in Maine: While Maine's transportation system is comprehensive and multimodal, most travel in the state is conducted by driving a personal or commercial vehicle. This is the case for commuting, tourism, and freight. In 2019, 88 percent of workers in Maine drove or rode in personal automobiles for their commute. The COVID-19 pandemic shifted these patterns: in 2021, 18 percent of workers worked from home and 77 percent of workers drove or rode in personal automobiles for their commute. In 2021, 83 percent of visitors drove to Maine, while 14 percent arrived by air travel. The movement of goods, or freight, follows a similar pattern, with 84 percent of tonnage moved by truck.

Initial evidence, based on preliminary data collected by Maine DOT, and as reported by federal partners, suggest that the key travel statistics reported for 2021 are comparable to 2022 travel levels. This includes initial traffic count data outcomes which points to stable vehicle miles traveled compared to 2021, with small increases in transit, passenger rail, and ferry ridership associated with the recovery.



Active Transportation: Maine continues to expand active transportation opportunities, which are imperative to transportation mobility, health, and access to recreational attractions. In the Active Transportation Plan, MaineDOT defines active transportation as "human-powered modes of transportation" —walking, bicycling, skating, skateboarding, operating a wheelchair or other mobility device, cross-country skiing, and snowshoeing, with some exceptions for small-scale electric vehicles such as e-bikes and e-scooters. As of 2022, Maine has approximately 509 miles of trails, with the majority in Down East and Northern Maine. Between 2012 and 2021, there were more than 3,500 crashes with minor or no injuries and 153 fatal crashes involving a pedestrian or bicyclist in Maine—with a total of 157 bicyclist or pedestrian fatalities (some crashes result in multiple fatalities).

To reduce the number of crashes involving pedestrians and bicyclists, MaineDOT has a robust active transportation safety program, Heads Up![ix], which involves location-specific public forums, high crash location site safety reviews, mitigation reports, and project funding for safety improvements. MaineDOT published the *Maine State Active Transportation Plan* in 2023 (in conjunction with the *LRTP*), and will complete an update of our *Complete Streets Policy*[x] in 2023.

2.2 Transportation Funding Today

Funding for transportation infrastructure remains a pressing challenge as growing needs outpace revenues. Today's funding picture is more positive than it has been in decades, as Maine is experiencing an increase in resources thanks to historic general fund (GF) investments at the state level and an infusion of new federal resources through the BIL. While these new revenues are creating opportunities to address needs, the reality is that these funding increases are being primarily used to soften the blow caused by the rising costs of construction labor and materials that MaineDOT has been experiencing for the last several years.

Where Does Funding for Transportation Come From?

MaineDOT delivers capital projects and programs, maintenance and operations activities, planning initiatives, and administrative functions across a multimodal system spanning an 8,800-mile state-jurisdiction highway network, in addition to trails, sidewalks, transit systems, rail lines, airports, and ports. MaineDOT describes the work activities supporting this system through our *Three-Year Work Plan* published early each calendar year. The current *Work Plan* covers calendar years 2023, 2024, and 2025. The funding supporting the *Work Plan* consists of four fundamental streams:

Maine's State Highway Fund is the foundational state source of revenue for MaineDOT capital investments and operations. The Highway Fund is derived from Maine's per-gallon fuel tax. Other revenue comes from motor vehicle registration fees, inspection fees, miscellaneous taxes and fees, fines, and earnings on investments.

- **Maine fuel taxes are currently $0.30/gallon for gasoline and $0.312/gallon for diesel fuel.** These rates have been in place since July 2013. Alternative fuels are also taxed with a variable set of rates, including both transportation and non-transportation fuels. In FY 2022, 64.6 percent of Highway Fund revenues ($222.78 million) came from fuel taxes.
- **Motor vehicle registration fees include staggered annual registrations, title fees, inspection fees, and vanity plate fees.** The combination of these sources in FY 2022 generated 30.6 percent of Highway Fund revenues ($105.38 million).
- **Additional sources** include miscellaneous taxes and fees, fines, earnings on investment, and other sources totaling the remaining 4.8 percent of Highway Fund revenues ($16.69 million).

Federal funds are directed to MaineDOT from the Highway Trust Fund, which is primarily supported through the federal gas tax of $0.184/gallon for gasoline and $0.244/gallon for diesel. Federal aid through formula funding supports federal-aid eligible highway investments and FHWA Grant Anticipation Revenue Vehicles (GARVEE) bond debt service, as well as a variety of transit programs supporting urban and rural services. There is also a diverse set of discretionary grant programs for which MaineDOT competes on an annual basis.

GF support is consistent with the Governor's FY24-FY25 General Fund budget, which is subject to legislative review. This commitment from the Legislature allows MaineDOT to address both the challenge of construction cost inflation and the opportunity in the BIL.

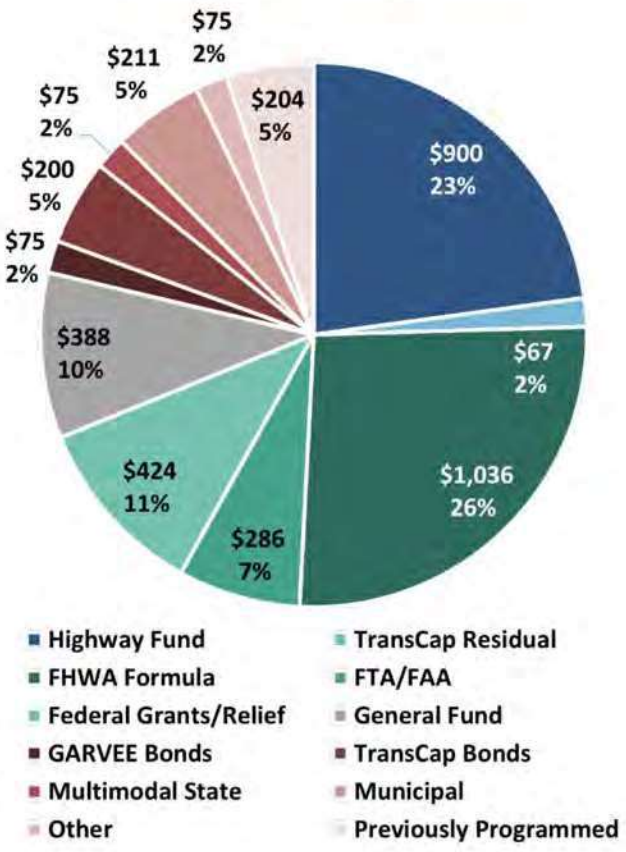
Other sources include bonding capacity and matching funds from Maine municipalities and other transportation partners. In November 2021, more than 70 percent of Maine voters approved an annual $100-million transportation bond, which will be used to match federal and other funds. Matching funds are derived through agreements with municipalities, reflecting the local benefit of projects and activities in the *Work Plan*. This includes local funding for transit operations, local bicycle and pedestrian project funding, airports, and MaineDOT's popular Municipal Partnership Initiative[xi] (MPI).

Funding for operations and management of the Maine Turnpike are supported by toll revenues. The Maine Turnpike Authority is separately funded and not related to MaineDOT.

What Are Our Funding Sources?

The transportation revenue mechanisms discussed above are mixed into a variety of funding sources, each with unique eligibility and spending requirements, and summarized within the *Work Plan*. Figure 2.2 summarizes the revenue sources supporting the *2023-2025 Work Plan*.

Figure 2.2 MaineDOT Sources of All Funds (millions, *2023-2025 Work Plan*)



- **State Highway Fund (HF)** sources, shown as the blue wedges in Figure 2.2, total an estimated $1,167 million and represent 30 percent of the total value of *Work Plan* items. This revenue includes budgeted HF allocations (the dark blue wedge) and funds passing through the TransCap Trust Fund at the Maine Municipal Bond Bank after debt service reserve requirements are met (the light blue wedge).

  Note, revenue from the HF had been steadily increasing since 2014, to more than $346 million in FY 2019 (July 2018 to June 2019). Due to the COVID-19 pandemic impact on travel, total revenue decreased by $22 million in FY 2020, and by $12 million in FY 2021, compared to 2019. FY 2022 revenue, based on actual revenues reported by the Maine Department of Administrative and Financial Services, totaled $345 million (falling just short of the $346 million in total revenue in FY 2019).[xii]

- **Federal funds** of all types (shown in green in Figure 2.2) are estimated to be $1.746 billion, which represents 44 percent of the total value of *Work Plan* items. Funds consist of several types, including core formula programs from FHWA, federal multimodal funds received by MaineDOT, federal multimodal funds received by other transportation partners (including airports and transit agencies), and federal competitive grant funding. Each of these federal funding types includes extensive rules, restrictions, and guidance that designate how the funding can be used.

Bipartisan Infrastructure Law

In November 2021, Congress passed, and President Biden signed, the Infrastructure Investment and Jobs Act, which has since become known as the Bipartisan Infrastructure Law (BIL). The BIL is good for transportation's future in Maine; however, it is not a panacea for all transportation needs. The BIL provides two types of federal funding – formula funds and discretionary grant programs:

Formula funds: The BIL calls for MaineDOT to eventually receive more than $1.5 billion in federal highway and bridge funding from 2022 to 2026, translating to an average additional $66 million in reliable formula funding per year (a 28-percent annual increase).

In addition, transit formula funding received a 33-percent increase. While this increase is beneficial, it is not transformative, as this increase represents only six to seven percent of MaineDOT's annual budget in the ***Work Plan***. This increase comes at a time when labor and materials costs continue to rise, with increases of 30 to 40 percent the last three years.

Discretionary grants: The BIL provides exciting new opportunities to invest in transportation in Maine through dramatic increases to existing grant programs and creation of additional programs. The new grant programs include topics that are already priorities of MaineDOT, like complete streets, villages and downtowns, rural transportation, electric vehicle charging, reconnecting communities, climate change resilience, and active transportation. MaineDOT has worked hard to seek federal grants in the past and will continue to do so in the future.

- **GF** support matches several types of federal funds to support capital programs. Shown in grey in Figure 2.2, GF support totals $388 million, representing about 10 percent of *Work Plan* items.

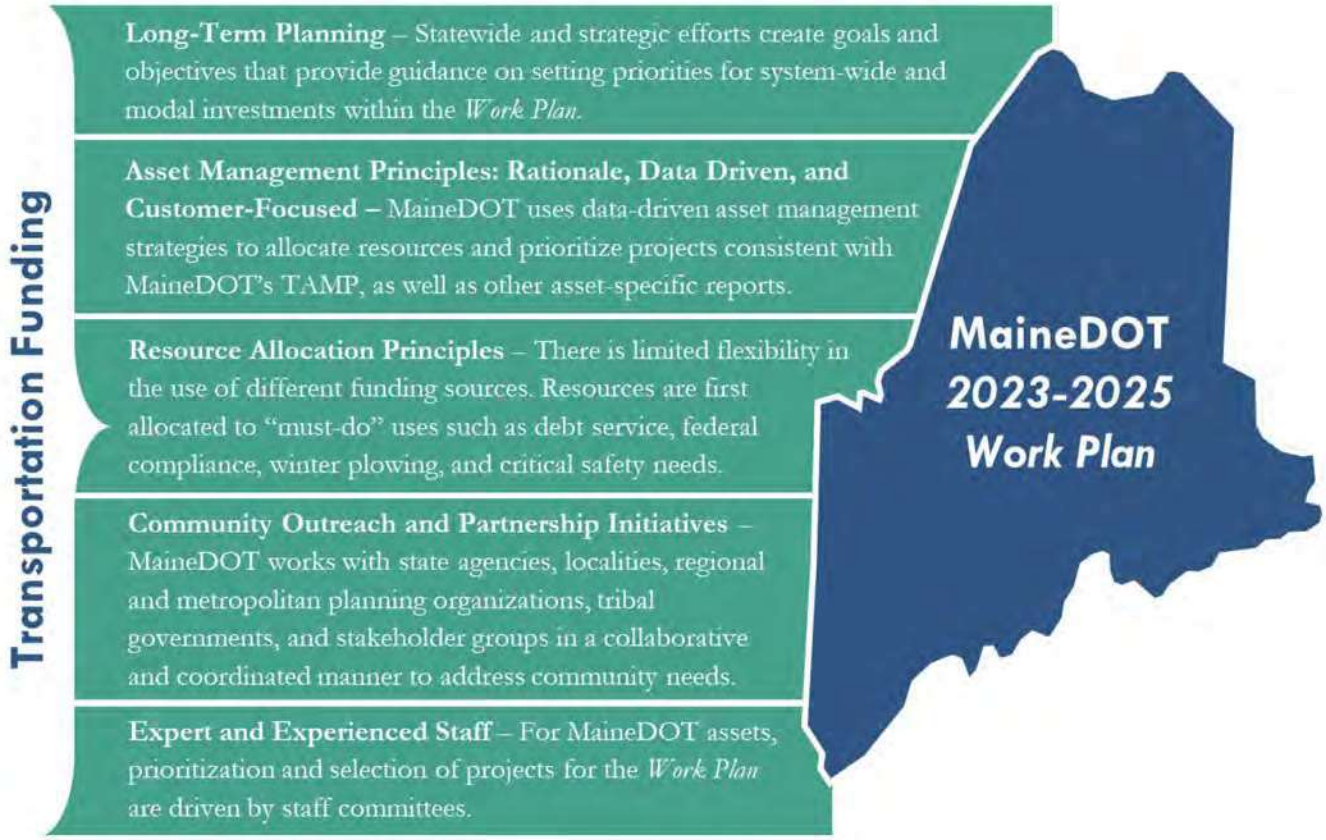
- **Other sources**, shown as the red items in Figure 2.2, include bonding and matching funds from Maine municipalities and other transportation partners. GARVEE bonds, totaling $75 million, are repaid with future federal formula funds. Multimodal funds, which include funding from car rental taxes, aviation fuel taxes, rail taxes, and island ferry subsidies, total $75 million. The *Work Plan* is also based upon the anticipated receipt of about $211 million from municipalities.

- **Previously programmed** funds represent amounts carried forward that were previously programmed, which is typical in a long-term capital program.

How Do We Make Investment Decisions?

MaineDOT continues to fulfill our mission of supporting economic opportunity and quality of life by responsibly providing customers the safest and most reliable transportation system possible, given available resources. Uses of funds to meet MaineDOT's mission are determined by several factors as presented in Figure 2.3.

Figure 2.3 Factors Shaping the Use of Funds



The strategies and processes described above result in the listing and description of individual projects and work activities in the *Work Plan*. As shown in Figure 2.4 and described below, activities in this *Work Plan* can be broken down into four high-level categories: (a) capital work including highway and bridge capital projects and multimodal capital work, (b) operational activities including highway and bridge maintenance and operations and multimodal operations, (c) system management work, and (d) administration. Highway and bridge capital and operations together represent 72 percent of the *Work Plan* (the two blue wedges).

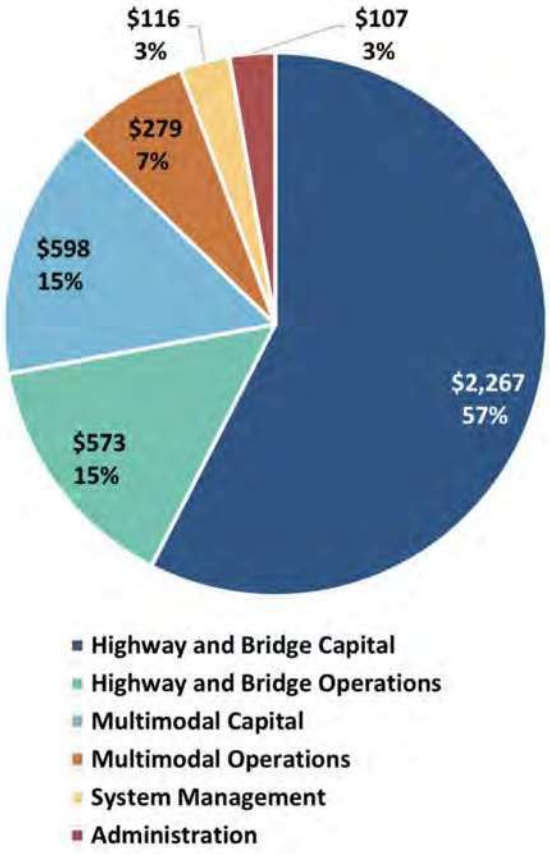
- **Capital Work** – The dark blue and dark green wedges represent more than $2,840 million in capital investments: $2,267 million is committed to highway and bridge projects and $573 million to multimodal projects that together help improve the mobility, accessibility, and safety of the transportation system. In total, this represents 72 percent of all MaineDOT planned investments in the *Work Plan*.

- **Operations Work** – The light blue and green wedges represent $877 million in maintenance and operations work to maintain and preserve assets and operate the system, including transit, passenger rail, ferry service, and aviation.

- **System Management** – The yellow wedge represents $116 million to continuously monitor the performance and condition of transportation assets, making sure the projects and scopes selected are the right ones. System management also includes asset management, planning, environmental work, compliance, and safety efforts.

- **Administration** - Administration includes executive functions, finance and administration, human resources, most non-crew training, legal, information technology, federal compliance activities, and other traditional administrative activities needed to support any large and complex organization.

Figure 2.4 MaineDOT Uses of All Funds (millions, 2023-2025 Work Plan)



How Do We Deliver?

MaineDOT's Mission

To support economic opportunity and quality of life by responsibly providing our customers the safest and most reliable transportation system possible, given available resources.

MaineDOT employs approximately 1,600 people and expends or disburses an amount approaching $1 billion per year, including federal, state, and local funds to support our mission across all Maine communities. This is accomplished across an organization led by the executive office; four bureaus, including finance and administration, maintenance and operations, planning, and project development; and eight offices covering civil rights, creative services, environmental, freight and passenger services, highway safety, human resources, legal, and results and information. MaineDOT has five maintenance regions, each with a headquarters and multiple regional offices to help maintain and keep open approximately 8,800 lane miles and 2,800 bridges. The complete highway system in Maine, maintained by MaineDOT and other state and municipal agencies totals nearly 23,000 lane miles of roadways and 3,800 bridges. MaineDOT provides a regularly updated list of all projects under construction on our website[xiii] as well as unique webpages that share information about specific major projects.

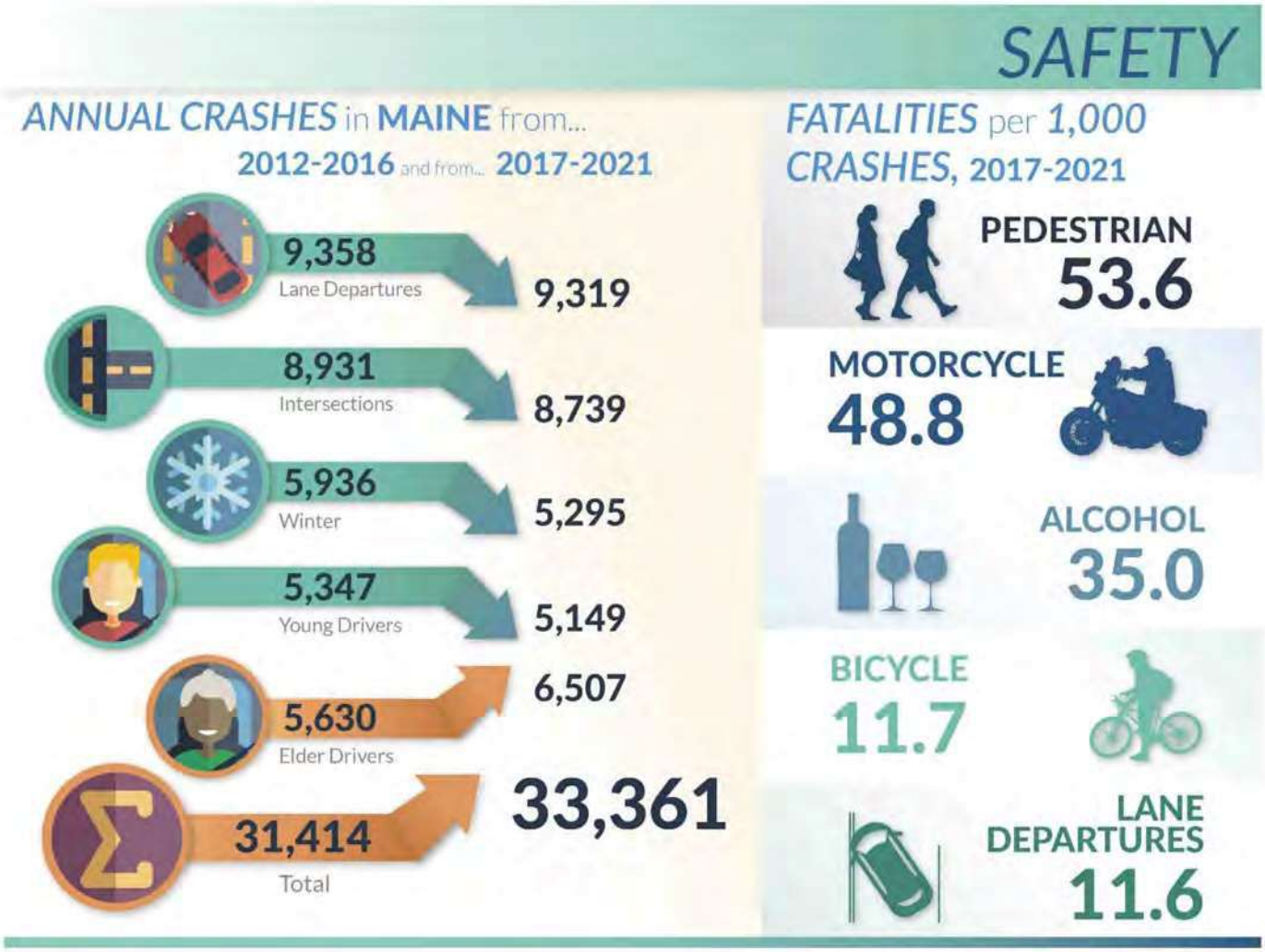
2.3 Future Trends Shaping Transportation

What Trends Will Impact Our Transportation Future?

There are many trends driving the current and future direction of Maine's economy, population, and transportation system. Maine's **aging population** will have implications for roadway safety, the size of the workforce, the types of jobs demanded in the labor market, the types of transportation mobility services offered, and how Maine may benefit from emerging technologies and investments in natural resource and energy sectors.

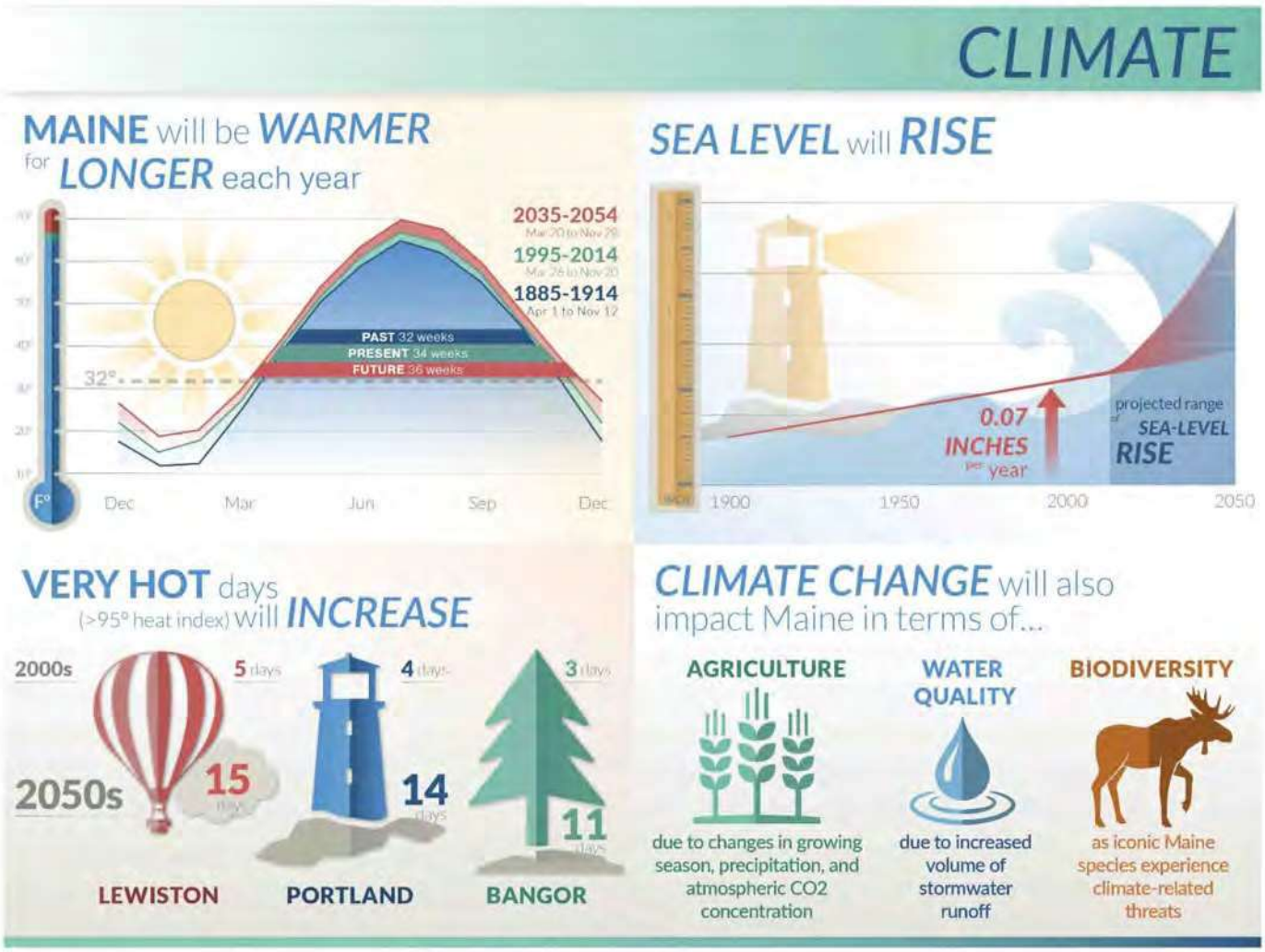
Similarly, **technology** has the potential to shape MaineDOT's ability to address transportation safety challenges, the types of jobs and skills required from Maine's workforce, available tools for mitigating emissions and energy consumption and adapting to the impacts of climate change, the dominant industries in global trade, and the nature of everyday activities in Maine's cities and rural places. **Climate change** will affect migration patterns, Maine's industries and tourism sector, and extreme weather, thereby shifting the calculus around where Maine people live and how we maintain our transportation system.

This section describes trends in Maine around eight key topics: safety, population, development, labor market, technology, global trade, climate, and tourism. MaineDOT considers these topics to be the most crucial in considering the future of Maine's transportation system, particularly in how they impact decisions shaping future MaineDOT *Work Plans* and ongoing planning, delivery, and performance measure processes. MaineDOT will continue to keep our eye on these topics while also tracking emerging trends, including topics like energy uncertainty and information security. More information on the data sources supporting these trends is available in **Appendix D**.



Safety remains MaineDOT's top priority. MaineDOT's goal is to provide a safe transportation system for all users and modes of transportation. Nationwide, roadway safety trends moved in a concerning direction during the COVID-19 pandemic; National Highway Traffic Safety Administration (NHTSA) data indicate that while there was a 13-percent decrease in VMT from 2019 to 2020, that same period saw a 7.2-percent increase in fatalities. Given this context, it is encouraging to see Maine's crashes in many categories decreased in the 2017-2021 period, including lane departures, intersection crashes, wintertime crashes, and crashes involving young drivers.

The state's aging population is driving an uptick in crashes involving older drivers. In 2017, of the 953,927 people in Maine holding a valid Class C driver license, 134,432 (14 percent) were 70 or older. In 2020, 982,155 people in Maine held a Class C license, with 162,947 (17 percent) being 70 or older. Though research nationwide has shown that older adults engage in safer driving behaviors than other age groups, drivers who are 70 or older are more likely to be in a fatal crash compared to younger drivers. Understanding the transportation needs and behaviors of Maine's older population will be an important task in making the state's transportation system safer for everyone.



Climate change will impact Maine's transportation system and economy. Climate models suggest Maine may warm by an additional two to four degrees Fahrenheit (°F) by 2050, depending on global progress in curbing greenhouse gas (GHG) emissions. Since 1895, Maine's statewide annual temperatures have risen by 3.2°F, with coastal areas warming more than the interior of the state. Extreme weather conditions in Maine such as drought and severe rain events are harming agriculture, shellfisheries, and freshwater and coastal ecosystems susceptible to climate change effects. More frequent severe storm events can destroy infrastructure and cut off communities from critical services, while more icing and a more severe freeze-thaw cycle will increase safety risks and pose a maintenance challenge.

The Maine Climate Council report *Maine Won't Wait* outlines transportation's role in contributing to climate change (54% of GHG emissions), the urgency with which Maine must slow the effects of climate change to make a meaningful contribution to global efforts, and the need to take bold action to prepare Maine's people, communities, and environment for climate-related harms to come. It also calls attention to the transformational economic opportunities related to climate change in Maine, such as the growth of clean-energy sources, including floating off-shore wind, and incentives for consumer, business, and industrial investment in energy efficiency through weatherization, innovative building materials, and alternative energy.

3. Maine's Transportation Future

What are our system and customer needs for the future?

3.1 Our Transportation Needs

Connecting Our Plans

A Seamless, Integrated System

A **seamless** system means that there are no gaps between different transportation systems and services and that connections are convenient between transportation modes and to and from destinations. An **integrated** system means that systems and services are coordinated, enabling safe and reliable connections. Attaining a seamless, integrated transportation system in Maine is a fundamental value MaineDOT aims to achieve across the Family of Plans.

Travel is multimodal. People walk, bike, drive, rideshare, ride the bus, take the ferry, fly, ride rail, or choose not to make a trip at all based on their personal needs and circumstance.

The supply chain travels the globe. Every good you own has taken multiple trips and used multiple modes to travel from origin to factory to distribution center to stores and your home.

The spectrum of needs reviewed in the *LRTP* needs assessment, and more broadly, across the Family of Plans needs assessments, acknowledges issues constraining a seamless and integrated system across multiple dimensions, including the transportation experiences of our customers. Needs are reviewed from multiple angles – bottom-up by mode, system, corridor, and location from our modal and strategic plans, and top-down from the multimodal and integrated perspective of the LRTP. These two angles are confirmed by input from our customers and our current investment priorities in the *Work Plan*.

Table 3.1 provides a synthesis of key findings from the needs assessments for each modal and strategic plan within the Family of Plans.

Table 3.1 Needs Synthesis Across Maine Family of Plans

Mode	Near-Term Needs	Long-Term Needs
Rail 	• For both passenger and freight rail, infrastructure conditions, capacity and bottlenecks, rolling stock, and safety. • Improve existing Downeaster service and review opportunities for passenger rail service expansion. • Improved service to existing customers and system improvements to attract new customers (freight rail).	• For both passenger and freight rail, state of good repair and infrastructure capacity upgrades, direct and efficient multimodal and intermodal connections, and safety improvements. • Improved customer access and terminal improvements for freight rail. • Additional feasibility studies to prioritize corridor preservation and potential expansion for passenger rail.

Mode	Near-Term Needs	Long-Term Needs
Transit 	• Increased service frequencies, hours of service, coordination between transit agencies, and geographic coverage. • Increased public transit funding. • Implementation of electric and other zero-emission vehicles. • Technology improvements, including integration of statewide transit services to GTFS and GTFS-flex and CAD/AVL systems on transit vehicles. • Quantification of demand and increased door-to-door service in rural areas.	• Consideration of emerging origin-destination patterns, including in rural areas, to facilitate better multimodal connectivity and accessibility. • Tracking emerging transit needs for Maine's aging population and increasing service to this group. • Consideration of how to structure transit services to meet the needs of transit-dependent populations rather than to maximize ridership levels. • Systems that alleviate driver and labor shortages.
Roads 	• Use of physical interventions, education, and technology applications to address safety issues related to illegal/unsafe speeds, lane departure, seat belt usage, younger drivers, impaired driving, distracted driving, mature drivers (65+), motorcycles, winter crashes, intersection crashes, commercial truck and bus safety, pedestrians and bicycles, large animals, and operating after suspension.	• Increased awareness of seatbelt safety and hazards of distracted, teen, and impaired driving. • Educational programs targeted towards Maine's specific roadway safety needs. • More robust safety programs for senior drivers as the senior population increases.

Active Transportation 	• Safety education (across modes) and active transportation programs for children and adults.
	• Focus on ADA accessibility, transit access, and closing system gaps.
	• Use of pilot projects to rapidly implement and test potential improvements.
	• Enhanced Complete Streets implementation based on land use context and traffic volume/speed.
	• Local cost sharing and equitable funding throughout the state.
		• An interconnected, safe active transportation network that facilitates multimodal connections along High-Priority Active Transportation (HPAT) corridors and in towns and cities:
		  ○ Appropriate on-road connections in rural and urban areas.
		  ○ Off-road trail connections.

MaineDOT customers want practical multimodal mobility solutions that enhance the ability to travel across Maine to meet all travel needs, including commuting, access to goods and services, and recreation. The majority of respondents wish for expanded public transit and passenger rail that provide fast, convenient, frequent, reliable, and affordable options for inter- and intra-city travel. Maine people want transfer points between modes to be accessible, welcoming, and conveniently located. Specific issues identified by respondents included addressing first/last mile transportation, public transit access in rural areas, and limited travel options for Maine people who do not own personal vehicles.

Maine people also seek a sense of connected community within walkable, livable neighborhoods where people feel safe and can easily access amenities. In particular, the majority of respondents want more opportunities to walk, bike, and use other micromobility options. Respondents requested more dedicated active transportation infrastructure, such as sidewalks, shared use paths, widened shoulders, separated bike lanes, bicycle parking, striping, and bicycle rideshare programs. Another example was the creation of connected networks of trails and paths, which could serve work and errand trips in addition to recreation. Maine people also want to feel comfortable and protected while moving about their communities.

Maine's customers want comprehensive solutions to address the impacts of climate change, such as strengthening the state's preparedness for risks due to rising sea levels, more intense storm events, and more frequent inland flooding. Maine people seek the protection and security of their property and communities through adaptive infrastructure design and maintenance. Many respondents stressed that MaineDOT and other agencies must increase the attractiveness and coverage of zero- or low-emissions transportation options, such as electrified buses and EVs. In particular, access must be equitable for all Maine people, regardless of socioeconomic status, vehicle ownership, or geographic location.

Defining and Measuring Needs

Transportation needs in Maine are characterized in the *LRTP* across four dimensions:

- **When?** – Is the need critical today or in the future, and how might it change over time?
- **How Much?** – What is the cost of addressing our needs, and what are the benefits for our customers?
- **Where?** – How do community priorities and context shape the investments we make to meet our needs?
- **Who?** – Who are the partners we work with to plan for, fund, and deliver transportation projects and services, and how do we make sure we serve all Maine people?

When? (Our Most Critical Needs and How They Change Through Time)

Transportation needs vary over time. MaineDOT operates under a single department-wide business process, OneDOT. This process, as depicted in Figure 1.1, incorporates the three basic phases of any management process: plan, deliver (implement), and measure. The process is continuous and helps structure MaineDOT's work phases to prioritize, schedule, and advance investments from concept to delivery.

Understanding Time Horizons

Near-term needs are those that can and should be addressed during the next 10 years. This type of need is often characterized by the following qualities:

- **Specific**: Because it exists in the near future, the need is more concrete and well-defined compared to a longer-term need.
- **Timely**: The need is driven by recent trends and the current vision and goals of residents, visitors, and the State of Maine, including goals and targets established by MaineDOT.
- **Fiscally constrained**: Solutions associated with the need are constrained by projected revenue sources, including both federal formula funds and discretionary grants enabled through BIL.

Figure 3.2 highlights how dynamic needs interact with planning and programming cycles. Near-term needs are addressed through ongoing studies and project development activities that prepare projects ready to compete for funding within future *Work Plans*. Long-term needs are identified through planning studies and positioned in modal and strategic plans as priorities for investment throughout the next ten years and beyond.

Figure 3.2 Plan-Deliver-Measure Cycles

Approaches towards addressing near-term needs are driven by MaineDOT's goals, policy, and funding rules. MaineDOT's *Work Plan* identifies investments during the next three years, while the *STIP* and *MPO Transportation Improvement Programs (TIPs)* identify all projects receiving federal funds throughout the next four years. MaineDOT's *Transportation Asset Management Plan*[SM] (*TAMP*) identifies strategies to maintain NHS bridges and pavements throughout a 10-year period. Addressing near-term needs balances delivering proven solutions with piloting new strategies. This allows Maine to effectively address pressing needs while growing our toolbox, positioning our state to meet changing needs and trends throughout the long term.

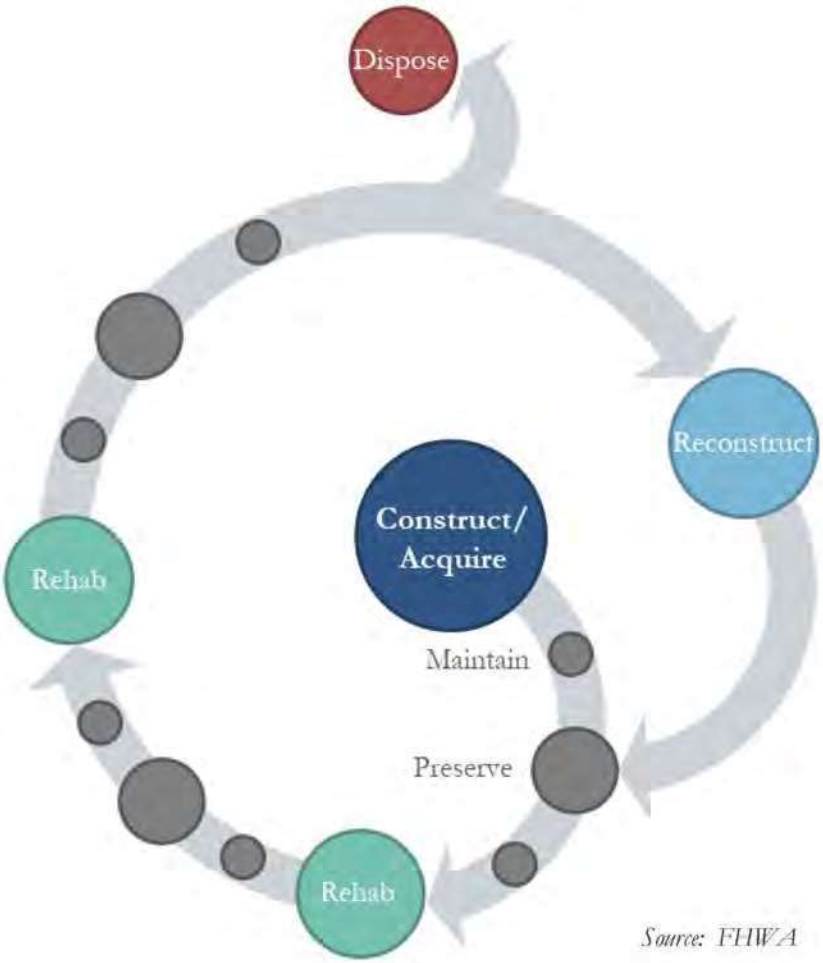
Maine considers our long-term needs to be those most relevant in the 10-year range. Addressing longer-term needs follows the MaineDOT-established vision and goals in a constructive way, being careful not to be "boxed in" in the face of dynamic circumstances. Characteristics of these longer-term needs include:

- **High-Level:** Because of ambiguity regarding the longer-term future, these needs – though clearly defined – will be visionary and conceptual in nature now and clarified over time.
- **Dynamic:** Maine recognizes that changes in trends throughout the coming decades may lead to a shift in needs; longer-term needs are understood to be subject to change.
- **Fiscal:** In the longer-term, funding levels and priorities may change; MaineDOT's strategy for managing the future funding is to estimate early and revise often based on available funding.

Changing Needs

There is a "life cycle", see Figure 3.3, to all transportation investments broken into distinct stages of that asset's useful life. In asset management, life cycle planning defines the collection of treatments that produce the minimum life cycle cost of an asset while achieving a state of good repair or other maximum benefit. Life cycle planning may be done at the asset level (e.g., an individual bridge), the asset class level (e.g., asphalt pavement), and at the network level (e.g., Maine's entire NHS network). Devising optimized strategies for asset management is straightforward when considering current asset condition, asset age, and the expected rate of deterioration. Establishing optimal asset management strategies can be complicated by uncertain or changing constraints such as funding levels or asset tradeoffs among other variables (risks), like weather, extreme events, supply of materials, or workforce shortages.

Figure 3.3 The Life Cycle Asset Management Process



Source: FHWA

In long-range planning, an asset need today may be met by funding tomorrow, but not in perpetuity; life cycle asset management is a cyclical process that involves construction, maintenance, and cycles of rehabilitation.

How Much? (Costs of Maintaining and Operating our System)

There are many factors, both internal and external, that shape the costs of doing business and the costs to address our needs. The anticipated spending outlined in MaineDOT's *Work Plan*, insights gathered from recent strategic plans (including the *TAMP*), and understanding unit costs of specific investments in Maine helps quantify some factors. There are a diversity of investment programs that are available to help meet Maine's transportation needs as well as practices within MaineDOT that ensure efficient use of funding.

MaineDOT's *Work Plan*

The MaineDOT *Work Plan* outlines the work that MaineDOT plans to perform during the next three years. As discussed within the time horizons section, projects and activities listed for Calendar Year 2023 have the most definite schedules and estimates, while those for Calendar Years 2024 and 2025 may be more subject to change. Planned uses of transportation funds in the Work Plan are typically segmented by the mode or scope of work, as was shared in Figure 2.4.

This section deconstructs the *2023-2025 Work Plan* differently by summarizing estimated funding by need category (e.g., mode, system) and need types (e.g., asset management, capital, operations, maintenance). Figure 3.4 summarizes the *2023-2025 Work Plan's* estimated investments by need category. This information provides insight into the average annual spending available to address needs and obligations, showing that investments supporting highway system needs, including bridges, pavement and asset maintenance, and safety and mobility receive the most funding. Note that many investments meeting these needs also may provide multimodal benefits (e.g., a separated bike lanes in a roadway widening project).

Figure 3.4 Estimated *2023-2025 Work Plan* Investments by Need (millions)

Source: MaineDOT 2023-2025 Work Plan

Insights gathered through the Family of Plans and financial data supporting the *Work Plan* informed an estimate that MaineDOT needs about $265 million annually in state capital resources outside of the Highway Fund budget to maximize access to federal funding available within the BIL.

These resources would position the state to seize new federal funding opportunities and meet both our current and emerging needs.

The *Work Plan* represents a fiscally constrained investment program. It addresses a subset of MaineDOT multimodal transportation needs consistent with anticipated resources and funding and programming requirements. Highlights on total investments by different mode are presented below.

- **Highway**: The largest and most heavily used component of Maine's transportation system is the 8,800-mile, state-jurisdiction highway network. Among highway needs, bridge and pavement preservation and maintenance, and mobility and safety are anticipated to be the largest areas of work. These investments, totaling nearly $2.2 billion in the *Work Plan*, include active transportation investments folded into highway projects; funding to maintain and improve other highway infrastructure like signals, signs, and lights; and programs to manage traffic incidents and special events.
- **Transit**: The *Work Plan* supports Maine's 22 regional and local transit providers. MaineDOT allocates an estimated $100.4 million in the *Work Plan* for capital funding investments, such as new transit vehicles. The remaining bulk of transit funding supports allocations for transit operations, totaling $156.1 million in the *Work Plan* towards operational expenses for fixed-route and demand-response transit services and programs and incentives provided through GO Maine.
- **Ferry**: Maine's *Work Plan* allocates $21.1 million in capital funding for the Maine State Ferry Service (MSFS) and Casco Bay Island Transit District (CBITD) capital projects, including funding for ferry rehabilitation and infrastructure improvements at various locations. Other funding supports ferry operations, ferry rehabilitation and maintenance, and ferry facility maintenance activities.
- **Active Transportation**: Maine's *Work Plan* allocates $46.5 million in funding for stand-alone active transportation projects. Investments include sidewalk construction, crossing improvements, off-road transportation-related trails, and active transportation safety improvements. Other active transportation investments include installation of ADA infrastructure, bicyclist signage, roadway striping, and other safety improvements.
- **Passenger and Freight Rail**: MaineDOT allocates funding for NNEPRA (Downeaster passenger rail) capital needs and operations totaling $71.9 million throughout the three-year *Work Plan*. Maine's $131 million in freight capital investments will include operational improvements on state-owned rail lines, improvements at railroad crossings, and improvements to critical rail bridges and other rail line capital projects. Included in that total is $2 million available in 2023 for the Industrial Rail Access Program[xvi] (IRAP), which leverages private funding.
- **Aviation**: MaineDOT's *Work Plan* allocates $169.6 million in funding for aviation capital needs statewide. Capital projects include runway and taxiway reconstruction, safety improvements and devices, and other enhancements to improve airport access and support economic development. Funding also supports airport operations and facilities management.
- **Ports and Harbors**: MaineDOT's *Work Plan* allocates nearly $75 million in total funding for ports and harbor investments, with $32.6 million is allocated to new boat launches, improved parking, and marina/wharf improvements in Lubeck and Camden funded by federal grants. Related funding supports the improvement of intermodal freight facilities adjacent to the International Marine Terminal.

Costs to Maintain the System to Achieve our Goals

Maine's *2022 TAMP* provides insight into the levels of investment required to maintain the state's NHS. The *Keeping Our Bridges Safe*[xvii] *(KOBS) Report* and the *Roads Report*[xviii] *(RR)* expand the insights gathered through the *TAMP* to the entire highway system. As the largest and highest value transportation asset owned by Maine, and as the transportation system which MaineDOT's customers utilize most frequently, the highway system represents the single most critical economic asset for the state.

Within the *TAMP*, multiple scenarios were evaluated on the NHS through 2032, including:

- **Pavement Investment Strategy**: Modeling tested five funding levels ranging from $0 to $65 million annual investment. Results indicated that return on investment (ROI), measured as improved network level pavement condition rating (PCR), significantly decreased beyond a $60 million annual investment.
- **Bridge Investment Strategy**: Modeling tested five funding levels between $0 and "unlimited" annual funding. The ROI, measured as improved network level bridge condition, significantly decreased beyond a $60 million annual investment.

The *2022 TAMP* recommended 10-year investment strategy for MaineDOT-owned NHS bridges and pavement (excluding Maine Turnpike Authority bridges and pavement) is presented in Table 3.2. MaineDOT's primary tool for managing highway assets is through bridge and pavement management tools. These tools allow MaineDOT to analyze multiple budget scenarios and treatments throughout the life of a collection of assets and use insights from tool analysis to inform investment decisions.

Table 3.2 2022 *TAMP* Recommended Investment Strategy (2023-2032)

(millions)	Maintenance	Preservation	Rehabilitation	Reconstruction	Total
NHS Pavement					
Total	$19.0	$452.7	$175.2	$114.9	**$761.8**
Annual	$1.9	$45.2	$17.5	$11.5	**$76.1**
NHS Bridges					
Total	$25.0	$211.5	$22.0	$389.4	**$647.9**
Annual	$2.5	$21.2	$2.2	$38.9	**$64.8**
NHS Total					
Total	**$44.0**	**$664.2**	**$197.2**	**$504.3**	**$1,409.7**
Annual	**$4.4**	**$66.4**	**$19.7**	**$50.4**	**$140.9**

The *KOBS Report* looked at the health of all state-owned and maintained bridges across multiple funding scenarios through 2050. It found that with an annual investment of $240 million to $280 million, Maine will be able to maintain our bridges at a constant high level of performance throughout the coming decades. This

is above the current average annual investment of $200 to $220 million within the *Work Plan*, indicating a funding gap to continue to maintain and advance bridge condition.

There are several factors that impact costs and how they may change in the future:

- **Right-of-Way (ROW)**: Projects may require the taking of property, or ROW. The costs of these acquisitions are often difficult to anticipate; inflation and speculation can occur between ROW estimates and acquisition; damages, court costs, and utility relocation costs are highly variable; and other contextual information may change between project planning and implementation stages.
- **Cost of Materials**: The cost of materials can change significantly during the life of a project. Recent years have seen material cost increases approaching 60 percent, creating significant project delivery challenges. MaineDOT has a number of risk management strategies to help offset the impact of rising material costs.
- **Cost and Availability of Labor**: Labor costs can make up a sizable portion of project cost estimates. The cost of labor is closely tied to inflation; if inflation exceeds anticipated levels, wages may also rise, increasing overall project costs. Availability of labor also can impact costs and project schedules.
- **Borrowing**: There are a number of opportunities to access funding through bonding, loans, and other financial instruments that position MaineDOT to make up-front investments. There are long-term costs associated with these decisions as well as federal and state requirements that MaineDOT considers when exploring these options.

Other Investment Programs

MaineDOT's *Work Plan* is also based upon the anticipated receipt of about $211 million from municipalities, which represents about five percent of the total value of *Work Plan* items. This funding is derived through agreements with municipalities and includes local funding for transit operations, local bicycle and pedestrian project funding, airports, and MaineDOT's popular Municipal Partnership Initiative. The MPI program is a voluntary program in which municipalities take the lead on projects. MaineDOT acts as a funder and partner, providing high-level engineering guidance.

Another funding source is through partnerships with non-governmental agencies. This category includes funding from private sources through projects like the Waterville to Yarmouth rail upgrades, Acadia Gateway Center, and the Saddleback Mountain Road. This category totals $75 million during the three-year period of the *Work Plan*, representing about two percent of the total value of *Work Plan* items. This value includes funding from private sources pledged as part of MaineDOT's Business Partnership Initiative[xix] (BPI). In a typical BPI project, the state contribution is capped at $1 million, with the state share being one third of the total project cost. The remaining two thirds are typically split between a private entity and a municipality.

Critical Needs

While it is critical that we work with our partners to ensure we maximize opportunities for meaningful input and the potential to leverage resources, it is also critical that our transportation investments serve all Maine people. MaineDOT, as well as our federal, regional, and local partners continue to elevate and expand the consideration of equity in every decision.

MaineDOT believes the essence of equity in transportation is to ensure that all people in Maine have access to safe and reliable transportation options that support economic opportunity and quality of life regardless of a person's economic, social, ethnic, racial, age, sexual orientation, physical, mental, or geographic circumstance. MaineDOT is committed to equitable delivery of our programs and services.

Underserved Users of Maine's Transportation System

- Low-income individuals or households
- People of color, including citizens of Maine's Tribes and Nations
- Rural and otherwise geographically isolated communities
- Individuals and households without access to a vehicle and/or for whom a driver's license is unattainable
- Individuals in substance use recovery
- Individuals with physical or mental disabilities
- Individuals for whom English is a second language

This commitment is consistent with Executive Order 13985: Advancing Racial Equity and Support for Underserved Communities Through the Federal Government[xxiii]. MaineDOT's commitment to equity across all activities is described in our current Statement on Equity.

The approach to incorporating equity in all decisions is not only about the communities these Maine people call home, but also about their unique needs. MaineDOT's approach as a customer-driven organization means that we both lead and follow, through what our customers tell us. Our Family of Plans and our supporting strategic plans highlight the "who" question in the following ways:

- Note the value of existing unique programs and services in supporting these communities and addressing unique customer needs, such as the Workforce Transportation Pilot[xxiv].
- Highlight data, tools, and methodologies to better understand the location and needs of these communities so that transportation decisions can be data-driven, and outcomes can be communicated.
- Pilot new initiatives, partnerships, and programs, such as Heads Up!, which facilitates public meetings and education on pedestrian safety across Maine.

3.3 Our Transportation Goals

Our vision represents MaineDOT's desired future for multimodal transportation. Our goals describe what guides us toward attaining the vision and highlight our overall desired outcomes. Figure 3.6 presents the goals and associated descriptions.

Figure 3.6 MaineDOT's Transportation Goals

Safe travel for all	A well-managed system	A vibrant economy and world-class quality of life	Environmentally sustainable transportation system	Equitable access
Provide a safe transportation system for all users and modes of transportation.	Effectively manage Maine's existing transportation system within reliable funding levels to provide levels of service that are acceptable to our customers.	Invest in transportation initiatives that support economic opportunity for Maine people, communities, and businesses.	Invest in practical transportation solutions that mitigate impacts on the natural world and prepare for the realities of climate change.	Ensure that all Maine people have access to safe and reliable transportation regardless of who you are or where you are.

Our **goals** are supported by **objectives,** presented in Section 3.4 of the *LRTP*, which are measurable outcomes describing how MaineDOT will attain the *LRTP* vision and goals. Objectives also shape the long-range strategies and near-term actions presented in Section 4 of the *LRTP*. How we meet our objectives is quantified through performance measures, which help assess the degree to which investments address transportation needs and meet MaineDOT performance targets.

The goals and objectives connect to required federal performance measures and existing MaineDOT performance measures, like customer service levels. Other measures specific to unique modes, systems, or assets are highlighted in the modal and strategic plans. More information on performance measures, trends, and targets are presented in the System Performance Report, available as **Appendix B** to the *LRTP*.

The goals and objectives also connect across the Family of Plans. Each of these plans plays a vital role in the direction and content of this *LRTP*, from understanding priorities to highlighting partners. These plans also inform the strategies and implementation actions that are presented in Section 4. Incorporating these plans and their findings into the *LRTP* implementation process is vital to meeting MaineDOT's vision of increasing the quality of life for all Maine people.

Safe Travel for All: Provide a safe transportation system for all users and modes of transportation.

Safety is a constant priority for MaineDOT's transportation system. Several plans are dedicated to the safety of all modes within the system including the *SHSP*, *FHWA Performance Report: Highway Safety*, and *Public Transportation Agency Safety Plans*. However, almost every plan mentions safety in its vision, goals and objectives, and/or performance measures. This reflects the level of importance that safety holds.

A Well-Managed System: Effectively manage Maine's existing transportation system within reliable funding levels to provide levels of service that are acceptable to our customers.

> Using objective data, funding requirements, and the committee process… MaineDOT allocates resources and selects projects to maximize customer value from each available dollar. Asset management at MaineDOT is a continuous loop of planning, delivery, and measurement…
>
> - *MaineDOT's Three-Year Work Plan (2023)*

In order for MaineDOT to operate our multimodal transportation system, it is essential for the state to continuously take account of and identify opportunities to maintain our assets and essential functions. Plans that address system management are required every few years and include asset strategic plans, such as the *TAMP*. Other plans are dedicated to specific areas of a well-managed system, such as the *SHSP* in terms of safety, and the *Work Plan* for allocating funding in line with MaineDOT's vision and goals. The core Family of Plans shape performance-based planning and programming, strategy development, and future investment scenarios – including identifying opportunities to leverage special federal and other funding to enhance Maine's transportation system in meaningful and innovative ways. The outcomes of each of these plans, particularly due to their coordinated nature in this current cycle of *LRTP* development, must be consistent across each plan and the *LRTP*.

A Vibrant Economy and World-Class Quality of Life: Invest in transportation initiatives that support economic opportunity for Maine people, communities, and businesses.

A reliable, efficient transportation system is the foundation of a strong economy. All transportation-focused plans are inherently linked to economic development for Maine; however, economic-focused plans also inform those transportation plans. The *Maine Economic Development Strategy*[xxv] outlines recommendations that include "establishing an adequate and sustainable funding system for public transportation" and "promoting hubs of excellence," which mention walkable neighborhoods. The Governor's *Maine Jobs & Recovery Plan* highlights the need to "invest in transportation improvements," which pledged funding for the *Work Plan*, launching a workforce transportation pilot, expanding municipal and public EV charging, and protecting infrastructure from climate change. As described, the economic and transportation connection goes beyond freight movement and includes the placemaking Village Partnership Initiative[xxvi], ensuring that every village is a place that people want to stay instead of pass through, buoying local economies across Maine.

Environmentally Sustainable Transportation System: Invest in practical transportation solutions that mitigate impacts on the natural world and prepare for the realities of climate change.

Maine is committed to preventing and mitigating the impacts of climate change, as indicated in its plans solely dedicated to climate action, such as the *Four-Year Climate Action Plan: Maine Won't Wait* and accompanying publications. Transportation is acknowledged as a vital piece to tackling this challenge in the *Clean Transportation Roadmap*[xxvii] and in many other plans, such as the *Work Plan* and *MPO MTPs*.

Recommendations

A: Embrace the Future of Transportation in Maine

- Accelerate Maine's Transition to EVs
- Increase Fuel Efficiency and Alternative Fuels
- Reduce VMT

- *Climate Action Plan: Maine Won't Wait*

Equitable Access: Ensure that all Maine people have access to safe and reliable transportation regardless of who you are or where you are.

Ensuring that all Maine people have access to quality transportation that meets their needs is a core understanding of the department's commitment to equity. The MaineDOT Statement on Equity[xxviii] acknowledges that transportation needs vary by geography and demographics and offers a suite of programs and services to address equity in mobility. Several non-transportation plans are essential links to the goal of improved transportation accessibility. Accessibility can be thought of in many ways, including internet access to rural areas to better serve rural residents (outlined in the *Statewide Broadband Action Plan*[xxix]), efficient and safe transportation programs for older and disabled Maine people who do not drive their own vehicles (*State Plan on Aging*[xxx]), and providing health-promoting, inexpensive, and attractive active transportation options (*State Health Improvement Plan*[xxxi], *Economic Development Strategy*).

Goal 1, Title III B: Access to Services

Objective 1.1: Increase awareness of local services and programs available to older Mainers and their care partners with an emphasis on transportation[…]

- *Maine State Plan on Aging*

3.4 How Do We Meet Our Needs and Prepare for the Future?

Goals and Objectives

Our goals shape objectives, which are measurable outcomes describing how MaineDOT will attain the *LRTP* vision and goals. Objectives also shape the implementation strategies and actions presented in Section 4 of the *LRTP*. Table 3.3 lists the 15 objectives that MaineDOT has established to meet our five goals.

Table 3.3 Goals and Objectives

Goals	Objectives
	• Reduce fatalities and serious injuries for all transportation users. • Reduce the number of crashes involving vulnerable users, such as bicyclists, pedestrians, individuals with disabilities, and seniors.
	• Maintain a state of good repair for the multimodal transportation system. • Improve system performance for our customers, including Maine residents, visitors, and businesses. • Support and pilot innovative methods for multimodal system operations, management, and expansion. • Leverage funding allocations, grants, investments, and partnerships.
	• Support job growth and create economic opportunities in communities across Maine. • Broaden the transportation-related workforce. • Improve supply chain efficiency for the cost effective, clean, secure, and safe movement and storage of goods. • Expand Maine connections to the national and global economy through our seaports, airports, and rail corridors.
	• Reduce greenhouse gas emissions from the use, maintenance, operation, and construction of the transportation system. • Mitigate the transportation system's environmental footprint. • Reduce transportation disruptions due to climate change.
	• Improve access for all Maine people to employment, goods, health and social services, and recreational spaces. • Reduce disparities in accessibility to transportation services for vulnerable and disadvantaged populations.

3.5 How Do Trends and Uncertainties Impact How We Achieve Our Goals?

The *LRTP* goals provide a framework for turning needs, as summarized in this section, into opportunities:

- Opportunities to foster **safe travel for all modes** and drive towards zero deaths through engineering, enforcement, education, and emergency response, and the Safe System approach.
- Opportunities to **manage our system** through maximizing the life cycle and operations of our assets, while also using innovation and technology to be more efficient.
- Opportunities to create a **vibrant economy** where Maine is connected to the world, and our rural economies are given an opportunity to grow and prosper.
- Opportunities to be **environmentally sustainable** through lowering emissions and being resilient to climate impacts.
- Opportunities to ensure **equitable access** for all Maine people to a high quality of life.

Each trend presented in Section 2.3 creates challenges and opportunities related to the potential to reach our goals and the strategies MaineDOT implements to achieve these goals.

- **Opportunities** reflect trends that may make a goal easier to achieve.
- **Risks** reflect trends that might make it more difficult to achieve a goal, causing MaineDOT to adapt and change course on the strategies needed to achieve the goal.
- **Mixed opportunities and risks** reflect situations where the context, including place or corridor type, could impact if the trend makes a goal easier or more difficult to achieve.
- **Unknowns** reflect uncertainties in the relationships between the trend and the goal (i.e., it could be positive or negative, or there might not be a relationship at all).

Table 3.4 highlights the risks and opportunities, where impacts are mixed or unknown at this time, and a brief narrative on these relationships and impacts on strategies.

Table 3.4 Risks and Opportunities Created by Trends Compared to Goals

Trend	Safe Travel	A Well-Managed System	A Vibrant Economy	Environmentally Sustainable Transportation System	Equitable Access
Safety	Risk	Risk	Risk	Unknown	Risk
	Maine's aging population and growing demand for active transportation leads to more vulnerable transportation system users. This impacts the strategies MaineDOT deploys to achieve safety goals, while also changing how to efficiently manage operation of a system with more diverse users.				
Population	Risk	Mixed	Opportunity	Unknown	Risk
	An aging population and in-migration will bring demands for new transportation services, particularly on-demand mobility, senior transportation, and electric vehicle charging, among others. In-migration creates opportunities for economic growth and diversification, as long as new residents are well connected to economic opportunities and provided safe systems.				
Development	Mixed	Risk	Opportunity	Opportunity	Opportunity
	Continued growth in urban areas will put pressure on the operations and safety of the existing transportation system as growth in travel demand runs ahead of capacity. However, more development in mixed-use city, town, and village centers create opportunities for enhanced accessibility to destinations and jobs and can reduce energy consumption and emissions.				
Labor Market	Opportunity	Unknown	Risk	Risk	Opportunity
	An aging workforce, continued shift to a services-based economy, and more flexibility for remote work will lead to more demands for enhanced transportation and communications services and create potential skilled workforce gaps that limit economic growth. Changing commuting patterns create opportunities to improve access to jobs and reduce crashes.				
Technology	Mixed	Mixed	Opportunity	Opportunity	Mixed
	Transportation technologies create opportunities across multiple modes, including electric vehicles reducing emissions, autonomous and connected vehicles reducing traffic, and new freight technologies enabling more efficient goods movement. At the same time, these technologies could increase total vehicle miles traveled annually. The primary issue is equitable roll-out of these technologies.				
Trade	Risk	Risk	Opportunity	Mixed	Mixed
	Freight movement will continue to increase, stressing existing freight routes and creating more conflicts among different user types, leading to potential safety issues. Depending on location, growth in total goods movement could yield accessibility-related benefits, dependent on the freight mode. More total goods movement creates job opportunities and revenue for Maine.				
Climate	Risk	Risk	Risk	Risk	Risk
	The impacts of climate change will create potential risks across every transportation mode, particularly impacting accessibility, safety, and the economy and requiring enhanced approaches to manage system operations and recovery, while also providing an opportunity to attract people escaping extreme climates.				
Tourism	Risk	Mixed	Opportunity	Risk	Opportunity
	Tourism is a key driver of Maine's economy. As Maine's tourism economy is anticipated to continue to grow, more visitors to Maine will demand different services and more out-of-town visitors can create congestion and safety issues and sustainability impacts, particularly in sensitive locations.				

4. Implementation: Maine's Transportation Path Forward

To address changes and achieve our goals, we will pursue proven and new strategies

4.1 How Do We Reach Our Goal

To reach our goals, the *LRTP* recommends holistic and cross-cutting strategies that MaineDOT and our partners will implement in both the near- and long-term to achieve the vision for the transportation system. MaineDOT strives to implement the *LRTP* recommendations using a process that is fiscally realistic and anchored in policy. The *LRTP* creates the structure to facilitate implementation of the strategies and actions within the Family of Plans as well as other related strategic, system, and modal plans.

4.2 Organizing for Implementation

Implementing the Family of Plans requires an understanding of the organization and relationships between recommendations across plans and within each plan. As described in Figure 4.1, within the Family of Plans, the *LRTP* offers goals, objectives, guiding principles, and thematic strategies that shape the specific strategies and actions within MaineDOT modal and strategic plans and programs. In turn, the modal and strategic plans provide structure and tactical activities to meet the *LRTP* goals and objectives. Strategic and tactical priorities defined by the Family of Plans will emerge in MaineDOT's annual *Work Plan*.

Figure 4.1 Family of Plans – Implementation Connections

For these relationship connections to work, organizing for implementation requires definitions that shape what is a "strategy" versus what is an "action." These vary by plan type, as described in Figure 4.2. Consistent to every strategy and action are their direct connections to the *LRTP* objectives, as well as more specific objectives within the modal and strategic plans.

Figure 4.2 Figure Organization of Strategies and Actions

4.3 Strategies and Actions to Get Us There

The *LRTP* recommends 15 statewide strategies that set the priorities for MaineDOT's modal and strategic plans, policies and programs, and state and local partners. The 15 thematic strategies cut across the five goals and 15 objectives in response to the needs defined by Maine's customers and the needs assessment. Each strategy identifies examples and initiatives such as programs, policies, practices, and partnerships that will guide the implementation of the Family of Plans. Strategies are multimodal, intermodal, and interregional, connecting urban and rural communities across Maine.

Guiding Strategy Implementation in the Family of Plans

The *LRTP* takes a statewide and intermodal approach to guiding implementation of strategies, actions, and investments. The strategies are shaped by the guiding principles and respond to outcomes of the needs assessment supporting the Family of Plans.

Several additional factors shape how we implement strategies within the *LRTP*, and more broadly, the Family of Plans.

- **MaineDOT roles and responsibilities and how we work with our partners** – Some strategies are primarily owned by MaineDOT and will require state leadership and commitment to successfully implement. Other strategies require a combination of partners working together and offering resources to successfully implement. Another set of strategies are primarily led by MaineDOT partners, including the private sector, requiring MaineDOT to engage to ensure implementation meets customer needs and follows applicable state and federal regulations.

- **Transportation revenue, funding, and finance** – MaineDOT's current state and federal sources and emerging opportunities from discretionary grants and partnerships determine what we can accomplish. Increasingly, MaineDOT and our partners are looking for innovative and more sustainable future transportation funding sources to better meet changing needs.

- **Agency resources, timing, and trade-offs** – Transportation needs far outpace resources and the gap continues to widen as the cost of doing business (for example, labor, materials, and ROW) increases faster than funding. MaineDOT and our partners make daily decisions that consider many costs and benefits, and the associated trade-offs that are part of every investment decision.

Implementation of strategies will occur across four initiatives – process, program, policy, and partnership. Each initiative provides MaineDOT with a range of approaches for successful implementation of strategies.

Process initiatives are the practices, tools, and other resources within MaineDOT that institutionalize and operationalize the programmatic and policy strategies. Process includes existing and new tools, data, standards, guidebooks, and methods that can streamline decision-making and implementation, such as trade-off analysis and project prioritization.

Program initiatives direct MaineDOT's future investment decisions, such as program and project prioritization for annual *Work Plans*. These initiatives include existing unique MaineDOT programs (for example, the Village Partnership Initiative), future program updates or extensions, and new potential programs.

Policy initiatives shape MaineDOT's priorities, roles, and responsibilities. Policies include existing MaineDOT guidance such as the *Complete Streets Policy*, *Local Cost-Sharing Policy*, and the *Maine Won't Wait* climate action plan, and also include updates and extensions of existing policy. MaineDOT may also develop new policies structured around evolving topics such as electric and autonomous vehicles or climate resilience.

Partnership initiatives allow MaineDOT to leverage existing relationships and forge new alliances to meet our goals. Partnerships can expand upon existing agreements and requirements between MaineDOT and our planning partners, including Maine's Tribes and Nations, MPOs, and RPOs. Partnerships also support programmatic strategies by positioning the state for new opportunities through pursuing discretionary grants and leveraging private investment.

Figure 4.3 presents the five *LRTP* goals with the supporting 15 objectives and 15 strategies.

Figure 4.3 LRTP Goals, Objectives, and Strategies Summary

GOALS	OBJECTIVES	STRATEGIES
Provide a safe transportation system for all users and modes of transportation	Reduce fatalities and serious injuries Reduce crashes involving vulnerable users	Reduce crashes, fatalities, and serious injuries for all transportation users and promote safe and connected active transportation options
Effectively manage Maine's existing transportation system within reliable funding levels to provide levels of service that are acceptable to our customers	Maintain a state of good repair Improve system performance for customers Support and pilot innovation Leverage funding opportunities	Maintain and make targeted or strategic improvements to asset condition Enhance the overall travel experience for customers using Maine's highways Diversify and stabilize funding sources to enhance sustainability Enhance the transportation system Improve the customer experience through technology
Invest in transportation initiatives that support economic opportunity for Maine people, communities, and businesses	Support job and economic growth Improve supply chain efficiency Expand the transportation workforce Expand connections to global economies	Improve freight connections, reliability, and efficiency Connect Maine to the world Improve system mobility to grow the economy
Invest in practical transportation solutions that mitigate impacts on the natural world and prepare for the realities of climate change	Reduce greenhouse gas emissions Mitigate environmental impacts Reduce disruptions	Position for an electric vehicle future Prepare for climate change Lead by example
Ensure that all Maine people have access to safe and reliable transportation regardless of who you are or where you are	Improve access for all Mainers Reduce disparities in accessibility	Provide reliable and connected mobility solutions Support communities across Maine Foster opportunities for flexible commuting

Strategy Summary

Strategy Tagline	Goal	Family of Plans Connections							
		MODAL				STRATEGIC			
		Transit	Rail	Active	Aviation	Safety	Freight	Assets	Other
Reduce crashes, fatalities, and serious injuries for all transportation users and promote safe and connected active transportation options.		■	■	■		■			■
Position for an electric vehicle future.		■							■
Maintain and make targeted or strategic improvements to asset condition.		■		■			■	■	■
Enhance the overall travel experience on Maine highways.				■		■	■	■	■
Provide reliable and connected mobility options.		■	■	■	■				■
Support communities across Maine.		■	■	■		■			■
Foster opportunities for flexible commuting.		■	■	■					■
Prepare for climate change.		■	■				■	■	■
Lead by example.		■	■	■	■	■	■	■	■
Improve the customer experience through technology.		■						■	■
Diversify and stabilize funding sources to enhance sustainability.		■	■	■	■	■	■	■	■
Enhance the transportation system.		■		■		■	■	■	
Improve freight connections, reliability, and efficiency.			■		■	■	■	■	
Connect Maine to the world.		■	■		■		■		
Improve system mobility to grow the economy.		■	■				■		■

The following pages provide a summary of the *LRTP* implementation strategies in the form of strategy templates presenting the goals and objectives, an example of ongoing implementation, insight into process, program, policy, and partnership initiatives, and a summary of plan connections.

LONG-RANGE TRANSPORTATION PLAN
–Working to Move Maine–

POSITION FOR AN ELECTRIC VEHICLE FUTURE.

Support Maine's transition to electric vehicles through Direct Current Fast Charging (DCFC) access on designated Alternative Fuel Corridors (AFC), DCFC/Level 2 access at important statewide and unique community destinations, equitable access in key corridors and destinations in rural regions, support of e-bikes and other personal electric mobility devices, and public education about EVs.

GOALS

LEAD

Environmentally Sustainable Transportation System

PRIMARY RELATED

OBJECTIVES

Improve system performance for our customers.
Support and pilot innovation.
Leverage funding opportunities.

Reduce greenhouse gas emissions.
Mitigate environmental impacts.

Improve access for all Maine people.
Reduce disparities in accessibility.

FAMILY OF PLANS CONNECTIONS

MODAL PLANS			
Transit	Rail	Active	Aviation

STRATEGIC PLANS			
Safety	Freight	Roads/Bridges	**Other***

*Maine Won't Wait

RECENT SUCCESSES

MaineDOT is expanding publicly accessible electric vehicle charging infrastructure at our major facilities in Augusta and eventually at all of our regional offices.

MaineDOT is developing a Transit Bus Electrification Plan to assist eight transit providers with the transition to electric and/or hybrid fleet vehicles.

IMPLEMENTATION INITIATIVES

PROCESS

Maine Plan for Electric Vehicle Infrastructure Deployment strategies; funding for public EV charging stations; EV rebates, tax credits, and other incentives; public information campaigns and education, transit fleet electrification

PROGRAM

National Electric Vehicle Infrastructure Formula Program, Governor's Office Clean Transportation Initiative, Electric Vehicle Accelerator Rebate Program

POLICY

Clean Transportation Roadmap, Complete Streets, MaineDOT Offshore Wind Port Advisory Group

PARTNERSHIPS

State agencies, Efficiency Maine, transit providers, employers, developers and private partners

LONG-RANGE TRANSPORTATION PLAN
–Working to Move Maine–

MAINTAIN AND MAKE TARGETED OR STRATEGIC IMPROVEMENTS TO ASSET CONDITION.

Minimize lifecycle cost and extend lifecycles for all assets through enhancing management systems, piloting new technologies and materials, and streamlining decision-making and delivery processes.

GOALS

LEAD: A Well-Managed System

PRIMARY RELATED:

OBJECTIVES

- Maintain a state of good repair.
- Support and pilot innovation.
- Reduce greenhouse gas emissions.
- Reduce disruptions.

RECENT SUCCESSES

The Hampden Bridge Bundle Project, valued at $44.7 million, is rebuilding eight bridges and rehabilitating one bridge along I-95 in Hampden. The new single-span structures will include non-corrosive materials to reduce future maintenance needs.

IMPLEMENTATION INITIATIVES

PROCESS

OneDOT business process (plan, deliver, measure) institutionalized through work phases (management cycle, process stage, activity groups, activities); Data Quality Management Plan, Risk Management Process (managed by MaineDOT Asset Management Council)

PROGRAM

Highway Corridor Priority and Customer Service Level, dTIMS (Infrastructure Asset Management Software), Asset Management Funding Strategies

POLICY

Resource Allocation Goals

PARTNERSHIPS

FHWA, FTA, Maine Turnpike Authority, transit providers (all eligible FTA funding recipients), localities

FAMILY OF PLANS CONNECTIONS

MODAL PLANS			
Transit	Rail	**Active**	Aviation

STRATEGIC PLANS			
Safety	**Freight**	**Roads/Bridges**	**Other***

* Transportation Asset Management Plan, Transit Asset Management, MaineDOT Three-Year Work Plan

LONG-RANGE TRANSPORTATION PLAN
–Working to Move Maine–

PROVIDE RELIABLE AND CONNECTED MOBILITY SOLUTIONS.

Identify and strive to meet the needs of transit and intercity passenger services travel demand for all trip types, including commuting, long-distance travel, and tourism, including intermodal and first-last-mile connections.

GOALS

LEAD

A Well-Managed System

PRIMARY RELATED

OBJECTIVES

- Improve system performance for our customers.
- Reduce greenhouse gas emissions.
- Mitigate environmental impacts.
- Support job and economic growth.
- Improve access for all Maine people.
- Reduce disparities in accessibility.

FAMILY OF PLANS CONNECTIONS

MODAL PLANS			
Transit	**Rail**	**Active**	**Aviation**

STRATEGIC PLANS			
Safety	Freight	Roads/Bridges	**Other***

* Public Transportation Agency Safety Plans, MPO Metropolitan Transportation Plans, Maine Won't Wait

RECENT SUCCESSES

Supported by MaineDOT, the Island Explorer provides free bus services during tourism season for Acadia National Park.

Maine State Ferry Service provides access to six island communities, and the *2022-2024 Work Plan* includes three new ferries and improved ferry terminal infrastructure in Frenchboro.

IMPLEMENTATION INITIATIVES

PROCESS

Transit provider, regional, and corridor transit planning and route studies, agency specific/group Transit Asset Management Plans

PROGRAM

GO MAINE, Workforce Transportation Pilot Program, Volunteer Driver Programs, FTA formula and discretionary grant programs

POLICY

Public Transit Advisory Council, Transit Bus Electrification Plan, Locally Coordinated Plan, State Management Plan

PARTNERSHIPS

Maine Turnpike Authority, Department of Health and Human Services/MaineCare, Maine Transit Association, Moving Maine Network, transit providers, National Park Service

LONG-RANGE TRANSPORTATION PLAN
–Working to Move Maine–

SUPPORT COMMUNITIES ACROSS MAINE.

Support, partner with, and invest in Maine people through community-based initiatives and engineering solutions that include context-sensitive, accessible, multimodal, safe, and climate-ready investments that meet people where they are, serve vulnerable populations, connect rural places, enhance economic vitality and quality of life, and address shared goals.

GOALS

LEAD: Equitable Access

PRIMARY RELATED:

OBJECTIVES

- Reduce fatalities and serious injuries. Reduce crashes involving vulnerable users.
- Improve system performance for our customers.
- Support job and economic growth.
- Improve access for all Maine people. Reduce disparities in accessibility.

FAMILY OF PLANS CONNECTIONS

MODAL PLANS			
Transit	**Rail**	**Active**	Aviation

STRATEGIC PLANS			
Safety	Freight	Roads/Bridges	**Other***

* MaineDOT Three-Year Work Plan, Community Based Initiatives, Maine Won't Wait

RECENT SUCCESSES

MaineDOT and Waterville have successfully secured two recent Better Utilizing Investments to Leverage Development (BUILD) grants to revitalize downtown Waterville (2018), including improving traffic flow, increasing economic activity, creating a safer pedestrian environment, and replacing the Ticonic Bridge (2020).

IMPLEMENTATION INITIATIVES

PROCESS

MaineDOT Statement on Equity, MaineDOT Engineering practices and procedures, Maine Local Roads Center

PROGRAM

BIL Discretionary Grant Programs (such as RAISE, Reconnecting Communities, and Safe Streets and Roads for All), Village Partnership Initiative, Municipal Partnership

POLICY

Complete Streets, Local Cost Sharing Policy, Sensible Transportation Policy Act, Municipal Comprehensive Planning Rule

PARTNERSHIPS

Tribes and Nations, MPOs, RPOs, localities

LONG-RANGE TRANSPORTATION PLAN
–Working to Move Maine–

PREPARE FOR CLIMATE CHANGE

Assess the vulnerability of infrastructure to climate change and advance system resilience and recovery through new design standards, hardened infrastructure investments, and improved emergency operations and communications.

GOALS

LEAD

Environmentally Sustainable Transportation System

PRIMARY RELATED

OBJECTIVES

- Reduce fatalities and serious injuries.
- Maintain a state of good repair.
- Improve supply chain efficiency.
- Reduce disruptions.
- Improve access for all Maine people. Reduce disparities in accessibility.

FAMILY OF PLANS CONNECTIONS

MODAL PLANS			
Transit	**Rail**	Active	Aviation

STRATEGIC PLANS			
Safety	**Freight**	**Roads/Bridges**	**Other***

* Maine Won't Wait, Transportation Asset Management Plan MaineDOT Three-Year Work Plan, Maine Jobs and Recovery Plan

RECENT SUCCESSES

As part of Maine's Four-Year Plan for Climate Action, MaineDOT is conducting a statewide infrastructure resilience assessment, which will be used to inform project planning. MaineDOT is replacing the Station 46 Bridge on Route 1 bridge in Woolwich, raising the bridge five feet to address flooding concerns and sea level rise.

IMPLEMENTATION INITIATIVES

PROCESS

MaineDOT Climate Initiative – Infrastructure Resilience Assessment, MaineDOT statewide sea level rise model

PROGRAM

Maine Infrastructure Adaptation Fund, FHWA PROTECT program

POLICY

Complete Streets, MaineDOT Bridge Design Guide

PARTNERSHIPS

Efficiency Maine, Maine Climate Council, Maine Department of Environmental Protection, Maine Department of Inland Fisheries and Wildlife, localities

LONG-RANGE TRANSPORTATION PLAN
–Working to Move Maine–

LEAD BY EXAMPLE.

"Lead by Example" through protecting and preserving Maine's natural environment, prioritizing energy efficiency initiatives in facilities and clean energy use, using climate-friendly materials and products, purchasing zero-emission fleet vehicles, and supporting and incentivizing low and zero-emissions transit fleets.

GOALS

LEAD

Environmentally Sustainable Transportation System

PRIMARY RELATED

OBJECTIVES

Support and pilot innovation.
Leverage funding opportunities.

Reduce greenhouse gas emissions.
Mitigate environmental impacts.

FAMILY OF PLANS CONNECTIONS

MODAL PLANS			
Transit	**Rail**	**Active**	**Aviation**

STRATEGIC PLANS			
Safety	**Freight**	**Roads/Bridges**	**Other***

* Maine Won't Wait

RECENT SUCCESSES

In November 2019, Governor Mills signed an Executive Order directing state government agencies to lead by example in pursing energy efficiency, renewable energy, and sustainability measures, all of which are expected to reduce operational costs and reduce state government's carbon emissions.

In 2022, MaineDOT formed an Offshore Wind Port Advisory Group (OSWPAG) to advise it and other state officials regarding the potential development of wind port facilities.

IMPLEMENTATION INITIATIVES

PROCESS

Low and zero-carbon strategies identified in multiple recent plans, including Maine Plan for Electric Vehicle Infrastructure Deployment and Governor's Office of Policy Innovation and the Future's Lead By Example. MaineDOT's Environmental Office reviews and studies.

PROGRAM

National Electric Vehicle Infrastructure Formula Program, Carbon Reduction Program, Volkswagen Mitigation Beneficiary Plan, transit fleet electrification

POLICY

Governor's Office of Policy Innovation and the Future's Lead By Example report, Environmental Office regulations, plans, and guidance

PARTNERSHIPS

Transit providers, Maine Energy Office, Governor's Office of Policy Innovation and the Future, private sector firms, non-profit organizations, localities

LONG-RANGE TRANSPORTATION PLAN
–Working to Move Maine–

DIVERSIFY AND STABILIZE FUNDING SOURCES TO ENHANCE SUSTAINABILITY.

Position MaineDOT and partners to advance sustainable revenue sources, maximize opportunities for federal grants, share resources across state government agencies, partner with non-profits and other advocacy organizations to build relationships, and collaborate with the private sector to finance, deliver, operate, and maintain transportation assets and systems.

GOALS

LEAD

A Well-Managed System

PRIMARY RELATED

RECENT SUCCESSES

In 2022, MaineDOT received over $126.7 million in federal funding under the BIL. This funding was from two grants: RAISE ($49.6 million) and Infrastructure for Rebuilding America (INFRA) ($77.1 million). Additionally, MaineDOT has pending applications for more than $100 million over multiple programs.

OBJECTIVES

Support and pilot innovation.
Leverage funding opportunities.

IMPLEMENTATION INITIATIVES

PROCESS

Annual *Work Plan* development process, OneDOT business process (plan, deliver, measure) institutionalized through work phases (management cycle, process stage, activity groups, activities)

PROGRAM

MaineDOT and BIL discretionary grant programs, Municipal Partnership Initiative, Business Partnership Initiative

POLICY

Local Cost-Sharing Policy, Resource Allocation Goals

PARTNERSHIPS

FHWA, FRA, FTA, MPOs, RPOs, municipalities, non-profits and advocacy groups, private sector

FAMILY OF PLANS CONNECTIONS

MODAL PLANS			
Transit	Rail	Active	Aviation

STRATEGIC PLANS			
Safety	Freight	Roads/Bridges	Other*

* MaineDOT Three-Year Work Plan, MPO Transportation Improvement Plans

LONG-RANGE TRANSPORTATION PLAN
–Working to Move Maine–

ENHANCE THE TRANSPORTATION SYSTEM.

Be flexible in identifying and implementing cost-effective improvements to enhance multimodal system operations and address emerging problems through proven and practical investments.

GOALS

LEAD

A Well-Managed System

PRIMARY RELATED

OBJECTIVES

- Improve system performance for our customers.
- Support and pilot innovation.
- Leverage funding opportunities.

RECENT SUCCESSES

Proactive stormwater management in coordination with Maine Department of Environmental Protection (DEP) helps protect culverts and wildlife. This is an example of preventative improvements that make Maine's transportation system more resilient.

IMPLEMENTATION INITIATIVES

PROCESS

OneDOT business process (plan, deliver, measure) institutionalized through work phases (management cycle, process stage, activity groups, activities), MaineDOT Engineering practices and procedures, Maine Local Roads Center

PROGRAM

MaineDOT Highway Program – Bureau of Project Development, Highway Corridor Priority and Customer Service Levels

POLICY

Resource Allocation Goals, Complete Streets Policy, Local Cost Sharing Policy, Keeping Our Bridges Safe Report, Roads Report, Stormwater Best Management Practices

PARTNERSHIPS

Maine Turnpike Authority, FHWA, transit providers, localities, Maine Department of Environmental Protection

FAMILY OF PLANS CONNECTIONS

MODAL PLANS			
Transit	Rail	Active	Aviation

STRATEGIC PLANS			
Safety	Freight	Roads/Bridges	Other*

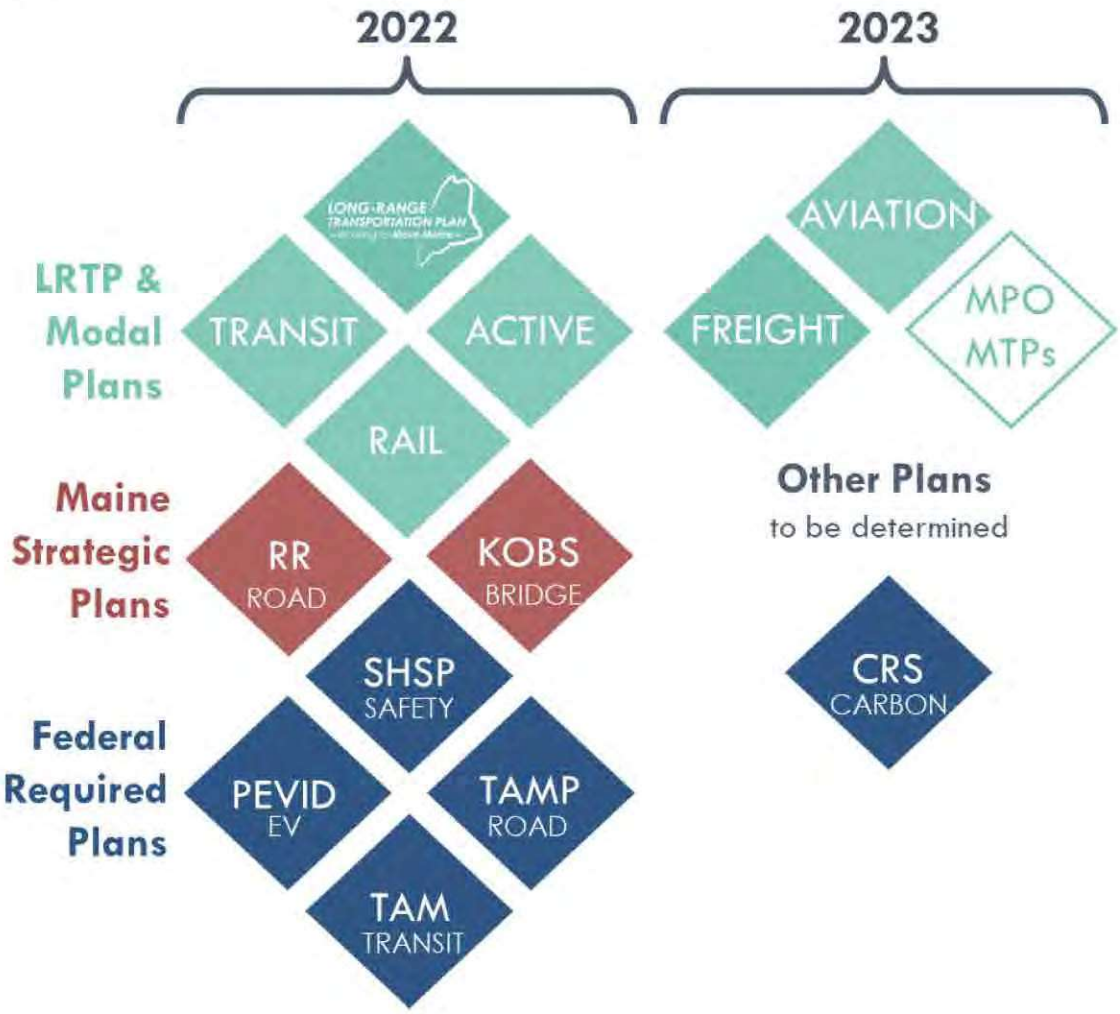
* MaineDOT Three-Year Work Plan, Transportation Asset Management Plan, Transit Asset Management

Implementation Approach

How Do We Implement the Plan?

Ten different long-range, modal, strategic, and federally required statewide plans were developed during 2022 by MaineDOT and our partners. These plans, presented in Figure 4.4, set the stage for MaineDOT planning and programming activities throughout the next decade. In 2023, statewide and regional planning activities will continue with the Integrated Freight Strategy, the Statewide Aviation System Plan, each MPO *MTP* and the federally required Carbon Reduction Strategy (CRS).

Figure 4.4 MaineDOT Statewide and Regional Plans



Planning is continuous. Each of these planning processes and their outcomes create information, new practices and guidance, investment strategies, and in some cases policy that will shape development of future MaineDOT *Work Plans*. Each plan identifies a combination of strategies and actions that will shape internal MaineDOT resource allocation, priorities, and investments to operate, maintain, and improve Maine's multimodal transportation system.

What Are the LRTP Implementation Actions?

Implementation actions in the LRTP facilitate Family of Plans implementation. The implementation actions were identified based on four criteria: (1) MaineDOT and our partners should be able to start-up and execute the strategy within the next five years; (2) Delivery of the action should be within MaineDOT's purview to lead and execute; (3) Legislative action is not needed to facilitate implementation; and, (4) Start-up and implementation of the action should predominantly rely on existing resources.

Internal Implementation Actions

These are actions that MaineDOT fully owns and can implement internally through existing staff resources.

1. Annually, prior to setting resource allocation goals for each *Work Plan*, the Bureau of Planning and the Results and Information Office will meet to ensure that the resource allocation is consistent, given available resources, with the goals and strategies of the Family of Plans.

Description: Following the conclusion of the *LRTP* and the modal and strategic plans within the Family of Plans, MaineDOT will comprehensively review policies and methodologies guiding investment decisions as part of our annual *Work Plan* development process. This policy and methodology review will consider the strategies and actions identified in each plan, particularly the federally required plans such as the *TAMP*, *SHSP*, *PEVID* (NEVI), and development of the *Integrated Freight Strategy* (Freight Plan) and *Carbon Reduction Strategy* in 2023. These federally required plans are particularly relevant for funding decisions as they dictate MaineDOT's direction and enable access to federal funds provided as part of BIL and other funding sources.

More direct and transparent linkage of *Work Plan* decisions to Family of Plans strategies and actions maintains a commitment to partners to implement the Plan – Deliver – Measure process outlined in Figure 1.1.

Considerations: Implementation of this action will require improvements over multiple *Work Plan* cycles. Given the complex nature of *Work Plan* development and the number of funding programs and eligibility requirements, there are guidelines and constraints shaping the *Work Plan* approach. The recommended investment scenarios developed for Maine's highway system across the combination of the *TAMP*, *Keeping Our Bridges Safe*, and *Roads Report* will shape highway spending decisions, which represented 74 percent of investments in the *2022-2024 Work Plan*.

Timing: Ongoing recommendations from *PEVID*, *TAMP*, *KOBS*, and *RR* may directly shape *2023-2025 Work Plan* development, while other Family of Plans strategies and actions may take multiple years to operationalize within the annual *Work Plan* development process.

Roles: MaineDOT Bureau of Planning, Results and Information Office, and other relevant MaineDOT staff will coordinate on this effort.

2. MaineDOT Bureau of Planning will annually review ongoing implementation initiatives within the Family of Plans and update the Commissioner on progress.

Description: MaineDOT's Bureau of Planning staff would meet no less than annually to discuss ongoing initiatives and update the Commissioner on implementation progress across the Family of Plans. This would include progress on targeted strategies and actions recommended by each plan, ongoing plan development activities, changing priorities and assumptions, and specific programs and projects supporting plan goals and objectives.

Considerations: A pre-scheduled annual meeting with clear expectations and time commitment is most efficient.

Timing: Schedule first annual meeting for December 2023.

Roles: MaineDOT Bureau of Planning staff will coordinate on this effort.

3. Develop policy establishing how MaineDOT will amend or update Family of Plans documents to address changing conditions, legislation, and regulations to best position Maine to compete for grant opportunities and leverage partnerships.

Description: Each modal and strategic plan within the Family of Plans should remain dynamic throughout the next five years. Many of these plans are required to be updated again within the next five-year cycle, including the *TAMP*, *SHSP*, *KOBS*, and *RR*, while the *Freight Plan* and *Statewide Aviation Systems Plan* both are being developed throughout 2023. For those plans not on a required update cycle, this action should focus on establishing policies and processes to review and update plan assumptions and priorities on a regular basis.

Considerations: Keeping the Family of Plans dynamic rather than static means being proactive to ensure consistency with and support of emerging state and federal priorities, including state and federal administration direction as well as current and emerging discretionary grant programs. A dynamic stance can also accommodate other external changes like worldwide or domestic events or macroeconomic shifts impacting Maine that the plans should reference and incorporate. This dynamic approach does not require plan rewrites, but succinct fact sheets or addendums that communicate to partners and stakeholders how the plans address emerging topics.

Timing: Establish a framework for policy and process, test in 2023, and fully implement in 2024. Consider formal minor updates every two years beginning in December 2024, and full plan revisions every four years, beginning in November 2026.

Roles: MaineDOT Bureau of Planning staff will coordinate on this effort.

External Implementation Actions

These are actions that will be undertaken by MaineDOT in conjunction with external partners. While MaineDOT will initiate and coordinate, we will reply on our partners to assist in the implementation and execution of these actions.

4. Conduct ongoing public and stakeholder coordination that briefs partners on plan implementation activities and engages opportunities for partnerships (including resource sharing).

Description: Consistent with implementation actions #2 and #3, communication to MaineDOT stakeholders, including elected officials, the membership organization and advocacy community, private partners, and the general public is an important part of maintaining and expanding awareness of the Family of Plans. This could occur through a commitment to regularly provide updates through the MaineDOT website and social media channels. Beyond this, more active engagement in organization and advocacy conferences, and events to discuss the Family of Plans and ongoing activities can help build partnerships.

Considerations: Beyond keeping interested parties informed, there is also a wealth of information created by the Family of Plans process that can support activities of these groups. Making data available that may support their efforts can help to foster a collaborative and positive relationship with these groups and enable better participation and support of future MaineDOT activities and shared goals.

Timing: Ongoing opportunities to brief these groups and seek input, as Family of Plans content is finalized and continually updated in 2023 and beyond.

Roles: MaineDOT Bureau of Planning staff will coordinate with our partners on this effort.

5. Expand partnerships with Tribes and Nations, MPOs, RPOs, municipalities, and transit operators on long-range and strategic regional planning opportunities consistent with Family of Plans outcomes, goals, and objectives.

Description: MaineDOT's regional and local transportation planning and programming partners are critical to the overall success and implementation of the Family of Plans. Identifying leaders within each of these partner groups to participate in the committee (discussed in implementation action #3) will keep MaineDOT's partners engaged in the process and enable them to brief colleagues. As MaineDOT routinely updates the continuing, cooperative, and comprehensive (3-C) agreements with regional and local governments as required by 23 CFR 450 Subpart C, innovative approaches for collaboration consistent with these implementation actions and the overall Family of Plans will be detailed. This includes opportunities for information-sharing that will enable consistency between ongoing and future regional plans led by the Tribes and Nations, MPOs, RPOs, and transit operators.

Considerations: The Family of Plans creates a wealth of information and opportunity to foster improved planning led by regional and local transportation planning organizations and municipalities. Regular sharing of

data, planning tools, and other valuable digital content will help these organizations, often with limited resources, leverage MaineDOT resources, conduct planning through a manner consistent with MaineDOT perspectives, and advance their own practices.

Timing: Ongoing, particularly in 2023 as multiple MPOs embark on *Metropolitan Transportation Plan* updates.

Roles: MaineDOT Bureau of Planning staff will coordinate with our partners on this effort.

Table 4.1 summarizes the implementation actions, initiative type, anticipated timing, and level of resources required to implement.

Table 4.1 Summary of Internal and External Implementation Actions

Internal Implementation Actions	Initiative Type	Timing (years)	Resources
Annually, prior to setting resource allocation goals for each Work Plan, the Bureau of Planning and the Results and Information Office will meet to ensure that the resource allocation is consistent, given available resources, with the goals and strategies of the Family of Plans.	Program	2+	High
MaineDOT Bureau of Planning will annually review ongoing implementation initiatives within the Family of Plans and update the Commissioner on progress.	Process	1	Mid
Develop policy establishing how MaineDOT will amend or update Family of Plans documents to address changing conditions, legislation, and regulations to best position Maine to compete for grant opportunities and leverage partnerships.	Policy	2+	Mid
External Implementation Actions	**Initiative Type**	**Timing (years)**	**Resources**
Conduct ongoing public and stakeholder coordination that briefs partners on plan implementation activities and engages opportunities for partnerships (including resource sharing).	Partnerships	1	Mid
Expand partnerships with Tribes and Nations, MPOs, RPOs, and transit operators on long-range and strategic regional planning opportunities consistent with Family of Plans outcomes, goals, and objectives	Partnerships	1	Low

What Are Real-World Solutions to Meet Our Needs?

MaineDOT and our partners address customer needs through a variety of proven and innovative solutions that meet our customers where they are. These existing and proposed solutions are real examples of the strategies within the *LRTP* and the associated Family of Plans. They also create opportunities for the next generation of strategies to meet emerging and future needs. Example issues highlighted in the needs assessment and associated current solutions implemented by MaineDOT and our partners are presented in Table 4.2.

Table 4.2 Critical Transportation Issues and Current Example Maine Solutions

Issue	Solution
Commuting to Work	
Congestion and delays are a common transportation issue for urban commuters, who primarily commute by driving alone.	GO MAINE[xxxii] is a statewide travel resource program. Examples of GO MAINE's free services include matching up carpoolers and helping with trip planning, while members can earn rewards and can use an Emergency Ride Home.
Transit services often take the rider most of the distance to their final destination but not the entire way. This first/last mile can sometimes be difficult to complete due to the distance, lack of services, or other personal mobility constraints.	Bikeshare started in Portland in summer 2022, with 200 bikes across more than 30 stations. Greater Portland Metro is also proposing the start-up of on-demand transit service in Falmouth. The Transit Plan is assessing the potential for similar approaches in other areas of Maine.
Chaining trips for different purposes, such as driving home from work, picking up a child from school, and picking up groceries is easiest in a personal vehicle. If someone wants to shift to using transit, this can make chaining trips difficult.	The Eastern Maine Development Corp. and area partners will use more than $445,000 in federal funding to study transportation options that will better connect Piscataquis and Penobscot counties, including public transit options.
Riding a bike, walking, or rolling to work has increased in popularly. However, lack of safe, convenient infrastructure, or proper storage facilities at destinations make it more difficult to regularly make this commute choice.	The Harborwalk Trail is a popular 5.2-mile mostly separated path that is used by biking, walking, or rolling commuters to travel around Portland.
Accessing Services	
Often, there are limited transportation options in rural areas if you do not have access to a personal vehicle. This includes limited access to medical appointments or hospital visits, goods such as groceries, and other services.	A priority of the Maine State Office of Rural Health and Primary Care is to "reduce geographic, financial, transportation and other barriers that prevent access to health care services." MaineCare covers non-emergency transportation to medical appointments for eligible members.

Issue	Solution
Rural residents are more likely to be cut off from access to goods and services, including emergency services, by road closures due to weather and traffic crashes, among other reasons.	MaineDOT continues to make infrastructure more resilient to extreme weather. For example, MaineDOT is replacing the Station 46 Bridge on Route 1 in Woolwich, raising the bridge five feet to address flooding concerns and sea level rise.
The growing portion of older Maine people face unique transportation challenges when they are no longer able to drive. Particularly in rural areas, there are limited transportation options if they cannot drive, particularly for non-medical appointments.	Maine Department of Health and Human Services Office of Aging & Disability Services provides several programs for older adults and adults with disabilities, including Adult Day Services to provide the opportunity to engage in community-based services. Staff and volunteers at Maine's five Area Agencies on Aging provide nutritious meals at community dining sites as well as home delivered meals throughout Maine to eligible older individuals who are homebound.
Tourism and Recreation	
The vehicle, pedestrian, and marine traffic congestion (including ferries and personal watercraft) caused by tourism during peak seasons affects the quality of life of Maine's residents and the visitor experience. Overcrowding, traffic, and decline in service quality impacts residents' access to local goods, services, employment, and recreation. Additionally, the number of visitors arriving by car at key tourism destinations is greater than parking and road capacity, which may lead to illegal parking, traffic delays, and unsafe conditions for vehicles, pedestrians, and bicyclists.	In 2022, the Maine Office of Tourism launched an initiative to develop a statewide Destination Management Plan. The plan establishes a framework to monitor visitors and tourism impacts, develop management strategies, and encourage more responsible travel. The Bar Harbor Town Council commissioned a 2019 cruise tourism and traffic congestion report[xxxii] to quantify cruise ship impacts and recommend solutions that maximize the benefits of tourism while minimizing impacts to residents. Solutions center on pedestrian and maritime safety, traffic management, seasonal parking areas, and real time parking capacity signs.
Multimodal access to small towns and rural areas, including national and state parks and trails, is limited, resulting in constrained access for visitors without vehicles. There is little to no intercity bus service for the Kennebec & Moose River Valleys, or Maine Lakes and Mountains regions.	Western Maine Transportation Services, in cooperation with towns, businesses, MaineDOT, and the Federal Transit Administration, operates the Bethel/Sunday River Mountain Explorer free shuttle and seasonal Mountain Express commuter buses and Sugarloaf Explorer free shuttle and Sugarloaf Express commuter buses.
Current limited access to charging stations, particularly fast charging options, in rural tourism destinations creates travel challenges, uncertainty, and inconvenience for EV owners.	In summer 2022 MaineDOT developed the Plan for Electric Vehicle Infrastructure Deployment, which identifies charging station location priorities and enables access to NEVI program funding.

Issue	Solution
Goods Movement	
Maine businesses, particularly those shipping heavy products long distances, benefit from access to high-quality rail networks. The infrastructure in more rural areas including both roads and rail, has some maintenance issues that decrease speeds and increase turn times. Climate-related issues include frozen crossings, frozen switches, and ice and snow on the tracks.	Maine's Industrial Rail Access Program (IRAP) is a public-private freight partnership program overseen by MaineDOT. Under this program, companies can apply for 50 percent matched state investment for a range of rail improvements: accelerated maintenance, rehabilitation, new siding improvements, ROW acquisition, or intermodal facility construction.
E-commerce has reshaped consumer demand; customers now expect goods ordered online to be delivered extremely quickly, prompting an increased need for more distribution centers.	Companies have begun adapting to this new norm by positioning inventory across more facilities. Local and micro-fulfillment centers help create more lower volume "shipping lanes."
As they seek to remain competitive at a global scale, Maine's small businesses continue to seek freight modes that offer competitive costs.	Maine's three major ports – Portland, Searsport, and Eastport – are essential to Maine's competitiveness at a global scale. MaineDOT's continued communication and engagement with the ports can help ensure consistent access to these resources.

4.4 Tracking Progress and Performance

How we meet our objectives is quantified through performance measures, which help assess how investments address transportation needs and meet MaineDOT goals. MaineDOT tracks a wealth of measures that communicate how the multimodal transportation system is performing relative to performance standards and established performance targets. Many of these performance measures are defined by federal surface transportation requirements developed and managed by FHWA and FTA, and are presented in more detail in **Appendix B**, System Performance Report. Federal surface transportation performance measures applicable to Maine fall primarily into three groups which support the *LRTP* goals and objectives.

Safety – Performance measures track fatalities and serious injuries on all public roads in Maine for persons in vehicles, bicyclists, and pedestrians. Performance measures also track the performance of urban area transit systems, tracking fatalities and injuries, as well as the occurrence of safety events, which also includes personal security.

Asset Condition – Performance measures track the condition of NHS (primarily interstate highways and U.S. Routes) pavement and bridges based on annual inspection results. Performance measures also track the age of transit vehicles (buses, shuttles, and vans) and maintenance and support vehicles relative to a useful life standard, and the condition of transit facilities including bus stops and maintenance facilities.

System Performance, Freight, and Congestion Mitigation and Air Quality – System performance measures track the reliability of travel times for person-miles traveled on interstate highways and on other U.S. highways. Freight measures track the reliability of travel times for trucks on interstate highways.

MaineDOT also tracks performance on the MaineDOT owned and maintained highway system through customer service levels[xxxiv] (CSL). There are 11 unique measures organized into three categories (safety, condition, service) tracked across each of the five-highway corridor priority (HCP) levels to build a complete customer service profile for each roadway segment.

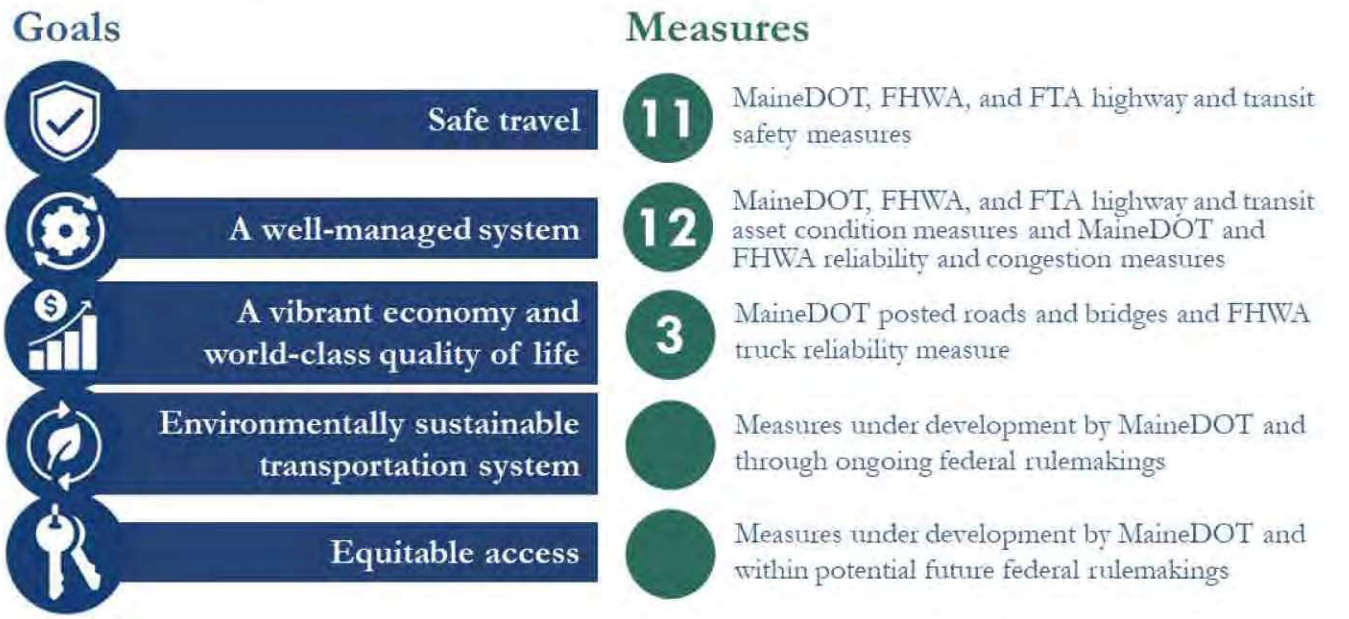
Safety – Performance measures track head-on and run-off-the road crash rates by roadway segment compared to statewide averages and condition measures such as roadway width, pavement rutting, and bridge reliability that are contributors of safety outcomes.

Condition – Performance measures track different condition elements including the pavement condition rating, roadway strength, and bridge condition.

Service – Performance measures track characteristics of the use of the highway system, including the location of posted roads and bridges and congestion (measures of travel delay) during peak travel periods (particularly the summer season).

Figure 4.5 presents existing MaineDOT performance measures including those required by FHWA and FTA. For example, MaineDOT identifies an implementation action focusing on developing new data and associated performance measures to better track needs and accomplishments within the environmentally sustainable transportation system and equitable access goals.

Figure 4.5 Existing MaineDOT Performance Measures



LONG-RANGE TRANSPORTATION PLAN
–Working to **Move Maine**–

Working to Move Maine: MaineDOT's Long-Range Transportation Plan – Family of Plans Engagement Summary

Prepared by

Maine Department of Transportation

date

March 2023

MAINE STATE TRANSIT PLAN

March 2023

MaineDOT

MAINE STATE TRANSIT PLAN

prepared for

MaineDOT

prepared by

CAMBRIDGE SYSTEMATICS

March 2023

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TABLE OF ACRONYMS

ADA	Americans with Disabilities Act
ARPA	American Rescue Plan Act of 2021
ARTS	Aroostook Regional Transportation System
BSOOB	Biddeford | Saco | Old Orchard Beach Transit
CAD/AVL	Computer-Aided Dispatch/Automatic Vehicle Location
CARES Act	Coronavirus Aid, Relief, and Economic Security Act
CCAM	Coordinating Council on Access and Mobility
COAST	Cooperative Alliance for Seacoast Transportation
CRRSAA	Coronavirus Response and Relief Supplemental Appropriations Act of 2021
DCP Rides	Downeast Community Partners Rides
DHHS	Department of Health and Human Services (Maine)
DOT	Department of Transportation (U.S.)
FM/LM	First Mile/Last Mile
FTA	Federal Transit Administration
GTFS	General Transit Feed Specification
GTFS–Flex	General Transit Feed Specification for Flexible Service
KVCAP	Kennebec Valley Community Action Program
LATC	Lewiston–Auburn Transportation Committee (CityLink)
LBS	Location-Based Services (data)
MSFS	Maine State Ferry Service
MTA	Maine Transit Association
NEMT	Non–Emergency Medical Transportation
NNEPRA	Northern New England Passenger Rail Authority
O-D	Origin–Destination
PACTS	Portland Area Comprehensive Transportation System
Penquis CAP	Penquis Community Action Program
RTC	Regional Transportation Coordinators
RTP	Regional Transportation Program (Referring to the Portland area designated Regional Transportation Program)
RTP(s)	Regional Transportation Programs (Referring to Maine's eight statewide regional transit providers)
SPBS	South Portland City Bus Service
ULB	Useful Life Benchmark
Waldo CAP	Waldo Community Action Partners
WMTS	Western Maine Transportation Services
WTP	Workforce Transportation Pilot (grant program)
YCCAC	York County Community Action Corporation

EXECUTIVE SUMMARY

The *Maine State Transit Plan* is the Maine Department of Transportation's (MaineDOT's) comprehensive plan for public transportation in the state. The Plan is consistent with MaineDOT's mission **"To support economic opportunity and quality of life, by responsibly providing our customers the safest and most reliable transportation system possible, given available resources."** This mission guides MaineDOT's vision for transit in Maine:

> *Maine's accessible, coordinated, and efficient public transportation system meets the diverse needs of all Maine people where they are, within existing and anticipated resources. Transit services improve the quality of life for customers and communities and expand economic access for those without access to private automobiles. Service is tailored to the unique needs and circumstances of Maine's communities. Technology enhances access for customers and efficiency for providers. Hybrid and electric vehicles are utilized as appropriate to minimize environmental impacts.*

The *State Transit Plan* reviews the current state of Maine's public transportation system and establishes a framework for public transit in the years ahead. The Plan identifies key focus areas to advance and invest in, with levels to be balanced with other priorities and based on available resources. The Plan focuses on areas in which MaineDOT can and should play a lead role in advancing. The Plan represents the culmination of a year-long effort, which included a review of past studies, plans, and initiatives; a public survey; public meetings; a review of best practices within the transit industry and in other states in terms of coordination among agencies, departments, and stakeholders and in the delivery of services; and meetings with key stakeholders.

Context and Guiding Principles

Originating from a desire to deliver achievable results, MaineDOT uses a set of practical guiding principles which frame how MaineDOT planning, development, implementation, and operations are conducted. These three guiding principles require a department-wide, conscientious effort to center strategies and actions.

Meet customers where they are	**Commit to pursuing equitable solutions** that best address the diverse needs of all users of Maine's transportation system.
Be responsible stewards by making reasoned, long-term decisions	**Serve as responsible stewards of the funds entrusted to MaineDOT** by seeking the most cost-effective solutions to demonstrated transportation needs. **Make reasoned, fact-based decisions** including those relating to system and asset management, resource allocation, and the selection, scoping, and development of projects. **Consider long-term benefits and costs of transportation investment** including the need for ongoing funding for operations and maintenance.
Improve continuously and embrace the future	**Be open to new ideas, best practices, and technologies** that will result in continuous and sustainable improvement. **Anticipate and meet future transportation needs** - including the transition to cleaner transportation – through thoughtful study and pragmatic implementation including pilots when feasible.

Existing Conditions Assessment

The effects of the COVID-19 pandemic are still being felt in public transportation. Maine transit ridership has rebounded but remains at 55 to 70 percent of pre-pandemic levels for many providers, while ridership nationwide in September 2022 was approximately 70 percent of pre-pandemic levels. Throughout the transit industry, indications are that people who are currently using transit generally have limited transportation options and rely on public transit to meet most or all their transportation needs. It remains to be seen if people with transportation options will return to public transit close to pre-pandemic numbers.

The *State Transit Plan* focuses on over-the-road public transportation. Rail and ferry service are discussed at a high level and are addressed in the *Maine State Rail Plan* and ferry asset management plan. In 2019, before the pandemic, over-the-road public transportation

agencies provided 5,693,033 unlinked passenger trips and operated 785,470 vehicle revenue hours and approximately 15 million vehicle revenue miles.

Federal funding represents the largest source of funds for both capital and operations for Maine's transit providers. Federal funding in 2021 was a combination of formula, discretionary, and one-time emergency relief funds. State transit spending was approximately $20.6 million in 2021or $15.03 per capita.

The Plan establishes performance measures to gauge our progress toward our transit vision, grouped into seven major categories: usage, service level, efficiency, safety, state of good repair, sustainability, and technology.

Needs Assessment

The needs assessment quantifies the need for public transportation throughout Maine and, at a very high level, identifies those who are underserved, what their transportation needs are, where they live, and where they are traveling. The needs assessment identified several specific needs, organized by seven themes.

Theme	Specific Need	
1. Rural Transit Demand and Accessibility	➢ Effective quantification of demand ➢ Sufficient door-to-door service ➢ Sufficient multimodal connectivity and accessibility ➢ Effective targeted technology ➢ Appropriate marketing and communication ➢ Responsive service for the aging population	
2. Service Structure and Coordination Needs	➢ Effective service frequencies and hours of service ➢ Effective coordination between transit agencies ➢ Sufficient geographic coverage	
3. Adjusting Service for Post-COVID Needs	➢ Comprehensive assessment of post-COVID travel patterns and service needs, especially for particularly transit-dependent populations	
4. Driver, Labor, and Supply Chain Shortages	➢ Address ongoing driver, labor, and supply chain issues	
5. Climate Change	➢ Continued implementation of hybrid, electric, and other low- and zero-emission vehicles ➢ Robust public transportation system	
6. Additional Technology Needs	➢ Full statewide implementation of GTFS and GTFS-Flex ➢ Implementation of CAD/AVL systems ➢ Scheduling software ➢ Modern fare payment systems ➢ Statewide asset management platform	
7. Funding	➢ Sufficient public transit funding and ability to adapt to changing priorities, circumstances, and opportunities.	

Strategies for Improving Transit in Maine

Based on the existing conditions and needs assessments, [1] informed by national best practices and built upon what is already working in the state, the following strategies will help us move towards the vision for public transit in Maine – and will require additional and funding from local, state, and federal sources.

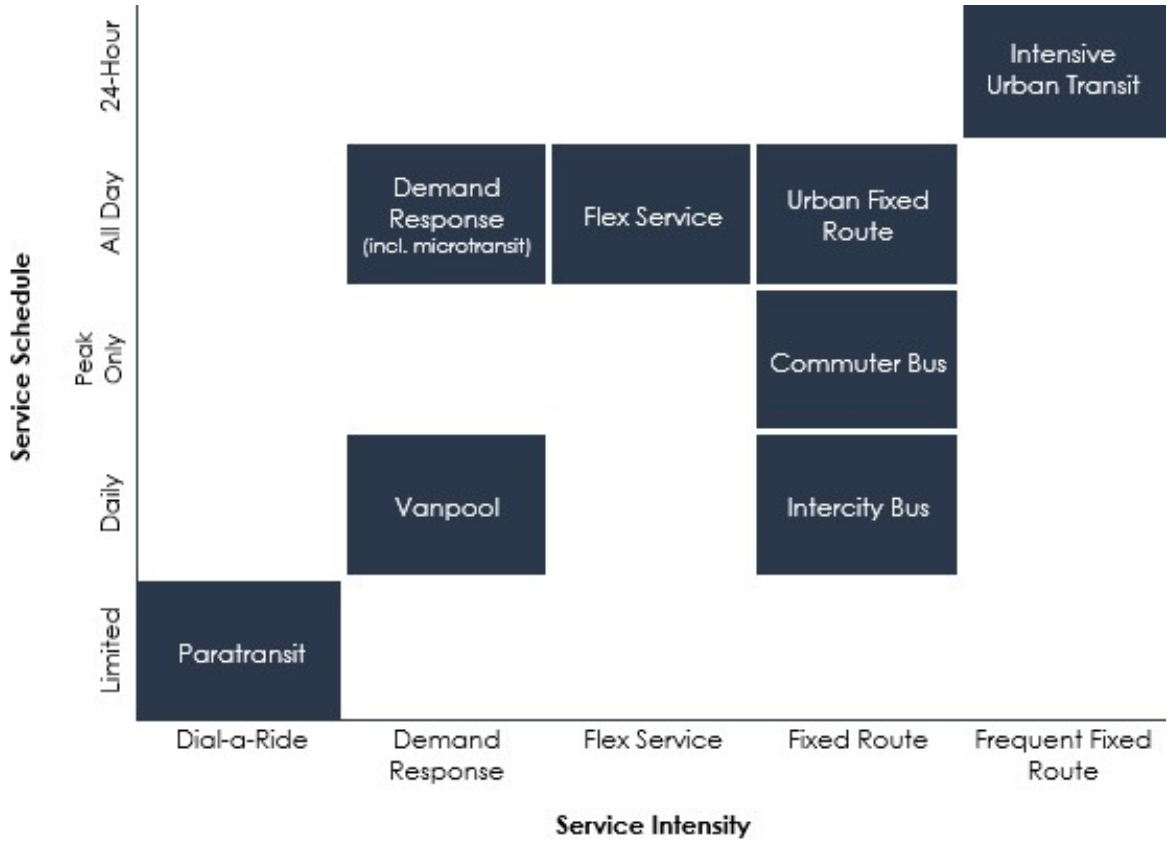
#	Strategy	Description	Needs Addressed
1	**Improve Coordination Among MaineDOT Services and Other State Agencies**	➢ *Strengthen coordination between MaineDOT and other state departments and agencies, including the Maine Department of Health and Human Services (DHHS), Economic and Community Development (DECD), Education (DOE), Justice (DOJ), Labor (DOL), Governor's Office of Policy Innovation and the Future, and MaineHousing to improve customer service and resource sharing across programs*	1, 2, 3, 7
2	**Increase Transit Service as Warranted**	➢ *Increase frequency, spans of service, geographic coverage, intermodal connectivity, and door-to-door service as warranted and as funding allows.*	1, 2, 5
3	**Provide Better Information About Transit to Customers**	➢ *Provide better customer information by improving marketing and communication of transit services, fully implementing GTFS and GTFS-Flex statewide, fully implementing CAD/AVL systems statewide, and expanding GO MAINE.*	1, 2, 3, 5, 6
4	**Remove Barriers to Riding Transit and Make Transit Easier to Use**	➢ *Fully implement modern fare payment systems across Maine's transit systems; improve connections and coordination between transit agencies.*	1, 2, 6
5	**Explore, Pilot, and Implement Programs to Address the Needs of Underserved Populations in Rural Maine**	➢ *Strengthen volunteer driver programs through sharing resources, improving coordination, and expanding as appropriate; pilot and implement creative solutions to improve workforce transportation statewide; enable demand-response agencies to access scheduling software.*	1, 3, 4
6	**Improve Transit Customer Facilities Statewide**	➢ *Improve transit amenities, including bus stops, shelters, signage, stations, transfer points, customer information, and related amenities as appropriate across the statewide transit system.*	1, 2, 5
7	**Address Driver and Labor Shortage Issues**	➢ *Create programs to attract, recruit, train, and license essential transit personnel across Maine and broaden the transportation workforce.*	4
8	**Continue Transition to Electric, Hybrid, and Other Low- and Zero-Emission Vehicles**	➢ *Provide support, financial incentives, and policies to continue transitioning vehicle fleets to cleaner technologies across the statewide transit system.*	5

[1] MaineDOT Family of Plans. https://storymaps.arcgis.com/stories/27763afe326645c285cb1d726ee68cae

#	Strategy	Description	Needs Addressed
9	**Procure a Statewide Asset Management Platform**	➢ *Obtain and utilize a statewide asset management platform to support the capital planning, prioritization, and reporting functions of MaineDOT.*	6
10	**Establish Coordinated Programs for Procurement, Explore Opportunities for a Parts Exchange Program**	➢ *Create a statewide cooperative purchasing program for vehicle procurement and explore opportunities for a parts exchange program, potentially through MaineDOT.*	4
11	**Pursue Funding to Support the Strategies and Vision for Maine's Public Transportation System**	➢ *Work with partners to identify and pursue opportunities to increase overall funding for transit operations and capital from federal, state, local, and private sources.*	1, 2, 3, 4, 5, 6, 7

Maine's transit providers currently use several different transit designs. Different approaches are appropriate for particular regions based on community needs: the number and timing of trips, origins, and destinations and the likelihood that people will use public transit, otherwise known as transit propensity. The framework below depicts a continuum of transit types or intensities that may be appropriate based on an analysis of community needs.

Service Intensity and Schedule



The needs assessment estimated transit propensity based on several factors, with each assigned a weight: population density (30), quantity of travel (20), zero-vehicle housing units (15), low-income households (10), population with disabilities (10), female population share (5), population that is not "white, non-Hispanic" (5), and population aged 65+ (5). This framework can be adjusted as needed over time and for specific circumstances.

Implementation Roles and Investment Actions

Ultimately, MaineDOT will oversee the implementation of the *State Transit Plan* recommendations. The table below provides a tool for understanding and prioritizing these recommendations and identifying key stakeholders and partners.

Description	Strat. #	Needs	When	Cost	Where	Who
Improve marketing and communication of transit services	3	1, 2, 5	Short term	**$**$$	Local	Transit Agencies, Maine Transit Association, MaineDOT
Coordinate schedules and transfer points between agencies	4	1, 2	Short term	**$**$$	Local	Transit Agencies, Ferry Services, Passenger Rail Services
Address driver and labor shortage issues	7	4	Short term	**$**$$ - **$$**$	Local/ Region	Transit Agencies, DOL, Educational Partners
Strengthen and encourage volunteer driver programs	5	1, 4	Short term	**$$**$	State wide	Maine Council on Aging, MaineDOT
Procure a statewide asset management platform	9	6	Short term	**$$**$	State wide	MaineDOT
Fully implement GTFS and GTFS-Flex statewide	3	1, 2, 6	Short term	**$$$**$	State, local	MaineDOT, Transit Agencies
Expand GO MAINE	3	1, 2, 3, 5, 6	Short term	**$$$**$	State wide	MaineDOT, Maine Turnpike Authority
Improve coordination among MaineDOT services and other state agencies	1	1, 2, 3, 7	Short term	**$$$**$	State wide	MaineDOT, DHHS, CCAM
Enable access to scheduling software at transit agencies statewide	5	1, 2, 5, 6	Short term	**$$$**$	State wide	MaineDOT, Transit Agencies
Increase transit service as warranted	2	1, 2, 5	Short term	**$**$$ - **$$$$**	Local	MaineDOT, Transit Agencies
Pursue funding to support the strategies and vision for Maine's public transportation system	11	1, 2, 3, 4, 5, 6, 7	Short term	**$$$$**	State wide	State Legislature, MaineDOT, Maine Transit Association

Description	Strat. #	Needs	When	Cost	Where	Who
Pilot creative solutions for workforce transportation	5	1, 3	Short term	**$$$$**	State wide	MaineDOT, Local Partners
Implement modern fare payment systems	4	1, 2, 6	Short term	**$$$$**	State wide	MaineDOT, Transit Agencies
Continue transition to electric, hybrid, and other low- and zero-emission vehicles	8	5	Short term	**$$$$**	State wide	Transit Agencies, MaineDOT
Enhance transit amenities statewide	6	1, 2, 5	Medium term	**$**$$$ - **$$$$**	Local	MaineDOT, Transit Agencies
Develop a statewide cooperative vehicle purchasing program	10	4	Medium term	**$**$$$ - **$$$$**	State wide	MaineDOT, Transit Agencies
Fully implement CAD/AVL systems statewide	3	1, 2, 5, 6	Medium term	**$$$$**	State wide	MaineDOT, Transit Agencies

2. EXISTING CONDITIONS ASSESSMENT

2.1 Study Context and Underlying Trends

With an average age of 45.1 years and 21 percent of residents aged 65+, Maine is the oldest U.S. state. Maine's older adult population is expected to continue to grow over the next decade. This population is largely scattered throughout Maine, including in some of the most rural and least densely populated portions of the U.S. east of the Mississippi River.

Maine's largest urban centers – including the socio-demographically diverse urban areas of Greater Portland, Lewiston/Auburn, and Bangor – are key economic centers and home to important employment, retail, medical, and population clusters. These locations are also home to significant foreign-born and Limited English proficiency populations and zero-car households, all of whom are more likely to rely on public transit. As a designated "sanctuary jurisdiction," Cumberland County has attracted immigrant populations from all around the world, with many locating in areas outside of the urban core.[4] These growing populations are particularly likely to rely on transit for needs ranging from tourism and hospitality employment to social services access. Maine's transit system also provides travel options for visitors. The effects of climate change are felt across the state, affecting Maine's traditional tourism, agriculture, and forestry industries.

Individual transit agencies - and the state's transit network as a whole - need to offer services that address statewide trends and needs, and meet customers where they are. New technologies such as automated fare payment systems, improved customer information mobile apps, and hybrid, electric and other low- and zero-emission vehicles could allow for improved operations and efficiencies but may be more readily implemented by larger transit agencies than the state's smaller, more rural agencies.

2.1.1 Impacts of COVID-19

With its onset in 2020, the COVID-19 pandemic had pronounced and immediate impacts on public transit. Broad declines in ridership and other performance measures were commonplace across Maine and the U.S., driven by a need to stay home, and in some

[4] Jessica Vaughan and Bryan Griffith, "Map: Sanctuary Cities, Counties, and States," Center for Immigration Studies, March 22, 2021. https://cis.org/Map-Sanctuary-Cities-Counties-and-States

instances, the ability to work from home for some or all of the work week. Public transit, however, continued to provide a vital link for many essential workers, including health practitioners, who continued their in-person duties. Similarly, while transit providers were not able to provide rides for known COVID cases, they provided a key link for persons needing vaccines. Maine transit ridership has rebounded to some extent but is still below pre-pandemic levels, with current ridership at 55 to 70 percent of pre-COVID levels for several providers. The American Public Transportation Association reported in September 2022 that transit ridership nationwide was approximately 70 percent of pre-pandemic levels, due in part to changing travel patterns and needs, including more working from home and increased travel demand outside of the traditional 9:00-to-5:00 work hours.

2.2 Transit Network Overview

The statewide transit network consists of 21 in-state public transportation providers and one New Hampshire-based agency providing some service in Maine. Overviews of each transit provider, including 2016 through 2021 figures, can be found in the Appendix of the existing conditions assessment, and indicate growth in ridership over the decade leading up to 2020. For this analysis, these transit providers were categorized based primarily on their size, type of service, and service area characteristics.

- **Urban Fixed Route Bus:** Regularly-scheduled fixed route bus systems serve Portland, Lewiston/Auburn, Bangor, South Portland, Biddeford and adjacent communities. Serving Maine's largest urban centers, these four systems also include complementary Americans with Disabilities Act paratransit service to eligible riders within 0.75 miles of fixed route service during fixed route hours of service. Cooperative Alliance for Seacoast Transportation (COAST) service out of Portsmouth, NH provides service to portions of southern Maine.

Table 2.1 Urban Fixed Route Systems

Transit Provider	Market Served	Number of Routes	Approximate Weekday Hours of Service	Approximate Weekday Headways	Weekend Service	2019 Ridership
BSOOB Transit	Saco, Biddeford, Old Orchard Beach, Scarborough, Portland	7 (Includes 1 Intercity Service)	5:30 AM–10:30 PM	Varies: 15-150 Minutes	Yes	366,527
CityLink	Lewiston, Auburn	10	5:45 AM–6:15 PM	Varies: 30 to 120 Minutes	Saturday service on most routes	317,453
COAST Maine Ridership	Portsmouth (NH), Dover (NH), Kittery, Berwick, South Berwick	13 total, 3 in ME	5:00 AM–10:00 PM	60 Minutes	Saturday service on most routes (Suspended)	20,458
Community Connector	Bangor	10	5:45 AM–7:00 PM	60 Minutes	Saturday service on most routes (Suspended)	775,994
Greater Portland Transit District	Portland, South Portland, Westbrook, Falmouth	10	5:00 AM–11:00 PM	30 Minutes	Yes	2,111,881
South Portland City Bus Service	South Portland, Portland	3	6:30 AM–11:00 PM	Varies: 45 to 120 Minutes	Yes	259,640

» **Small Urban and Regional Systems:** Two systems consist of flex and scheduled routes serving small urban and regional geographies. These communities include smaller urban centers and adjacent suburban communities outside of Maine's largest cities.

Table 2.2 Small Urban and Regional Systems

Transit Provider	Market Served	Number of Routes	Approximate Weekday Hours of Service	Approximate Weekday Headways	Weekend Service	2019 Base
Bath City Bus	Bath	2	8:00 AM–5:30 AM	60 Minutes	No	11,769
Downeast Transportation	Ellsworth, Bar Harbor, Bucksport, Stonington, Bangor	Downeast Service: 7 Routes Seasonal Island Explorer: 11 Routes, some temporarily suspended	5:30 AM–5:00 PM	1–6 Daily Runs	Seasonal Island Explorer	671,879

» Regional Transportation Programs:

Maine is divided into eight transportation regions which collectively span the entire state. Outside existing urban and small urban transit systems, public transit in these regions is administered by MaineDOT-designated providers, primarily non-profit organizations operating a variety of scheduled services, flex routes, and demand-response systems.

Table 2.3 Regional Transportation Program Systems

Transit Provider	Transit Region	Markets Served	Transit Services	Weekend Service	2019 Ridership
Aroostook Regional Transportation System	1	Caribou, Fort Kent, Madawaska, Houlton, Presque Isle, Surrounding Communities	Caribou Area Bus Service (Demand-Response) St. John Valley Area Bus Service (Demand-Response) Houlton Area Bus Service (Demand-Response) Presque Isle Area Bus Service (Demand-Response) New Freedom Transportation Service (Flex Service Between Above Service Areas)	No	61,804
Downeast Community Partners	2	Eastport, Calais, Princeton, Baileyville, Lubec, Machias, Millbridge	East Port—Pleasant Point (Flex Service/Demand-Response) Princeton—Baileyville (Flex Service/Demand-Response) Lubec—Machias (Flex Service/Demand-Response) Millbridge—Machias (Flex Service/Demand-Response)	No	48,871
Penquis Community Action Program	3	Penobscot County, Piscataquis County	General Public Transportation (Demand-Response)	No	314,314
Kennebec Valley Community Action Program	4	Augusta, Waterville, Lower Somerset County Communities: Skowhegan, Madison, Anson, and Norridgewock	Kennebec Explorer (Flex and Fixed Routes) Somerset Explorer (Flex Route)	No	173,878
Waldo Community Action Partners: Mid Coast Public Transportation	5	Rockland, Belfast, Additional Knox County Communities	Rockland DASH (Flex Route) Belfast DASH (Flex Route) Flex-Route Ride (Flex Route) Bangor Route—Temporarily Suspended (Flex Route) Augusta Route—Temporarily Suspended (Flex Route) Waterville Route—Temporarily Suspended (Flex Route) Additional Demand-Response Service (Demand-Response)	No	86,212

Transit Provider	Transit Region	Markets Served	Transit Services	Weekend Service	2019 Ridership
Regional Transportation Program	6	Portland, Bridgton, Additional Cumberland County Communities	Lakes Region Explorer (Scheduled Service) General Public Transportation (Demand-Response)	Saturday Service on Lakes Region Explorer	94,062
Western Maine Transportation Services	7	Farmington, Auburn, Lewiston, Lisbon, Rangeley, Rumford, Brunswick, Sugarloaf, Bethel	Greenline Commuter (Scheduled Service) Blueline Commuter Pilot (Scheduled Service) Lisbon Connection (Flex Service) Farmington—Rangeley (Flex Service) Greenline Connection (Scheduled Service) Mountain Valley Flex Route—Temporarily Suspended (Flex Service) Brunswick Link (Fixed Route) Sugarloaf Express—Seasonal (Scheduled Service) Mountain Explorer—Seasonal (Scheduled Service)	Seasonal Services	233,472
York County Community Action Corporation	8	Sanford, Springvale, Biddeford, Saco, Wells, York, Ogunquit, Kennebunkport, Additional York County Communities	Sanford Transit (Flex Service) WAVE (Demand-Response) Shoreline Explorer—Seasonal (Flex Service) Local Rides (Demand-Response) KITT—Kennebunk in Town Transportation (Flex Service) Southern Maine Connector (Flex Service) Orange 5 (Scheduled Service)	Shoreline Explorer, Orange 5	144,819

A summary of rural and low-density transit options provided by Regional Transportation Programs by county are shown in Table 2.4.

Table 2.4 Rural and Low-Density Area Transit Availability by County

County	Description of Available Services
Northern Maine Counties	
Aroostook	Frequencies of between daily weekday and weekly flexible and demand-response services to most inhabited portions of the county.
Penobscot	Weekly demand-response service available to each town.
Piscataquis	Weekly demand-response service available to each town.
Midcoast Counties	
Knox	Demand-response service is available subject to geographic considerations and the availability of vehicles and/or drivers. Weekday flex route service around Rockland.
Lincoln	Demand-response service available subject to geographic considerations and availability of vehicles and/or drivers.
Sagadahoc	Demand-response service available subject to geographic considerations and availability of vehicles and/or drivers.
Waldo	Demand-response service available subject to geographic considerations and availability of vehicles and/or drivers. Weekday flex route service around Belfast.
Greater Portland and South Coast Counties	
Cumberland	Weekday demand-response service available. Scheduled services into Portland.
York	Weekly demand-response service to each town. Additional transit services available in denser coastal communities.
Western Maine Counties	
Androscoggin	Demand-response service available subject to geographic considerations and availability of vehicles and/or drivers.
Franklin	Demand-response service available subject to geographic considerations and availability of vehicles and/or drivers.
Kennebec	Weekday flex route services around Augusta, Waterville, and surrounding communities.
Oxford	Flex route services on select weekdays and demand-response service available subject to availability of vehicles and/or drivers.
Somerset	Weekday flex route services in lower portions of the county.
Eastern Maine Counties	
Hancock	Scheduled weekday services to Bar Harbor and coastal communities.
Washington	Weekday flex and demand-response services in coastal portions of the county.

» **Ferry Service:** Several of Maine's inhabited offshore islands are serviced by four waterborne public ferry providers which provide the only public link for residents and visitors. The Maine State Ferry Service is operated by MaineDOT.

Table 2.5 Ferry Systems

Ferry System	Market Served	Mainland Port	Year-Round Service	2019 Ridership
Casco Bay Lines	Inhabited Casco Bay Islands	Portland	Yes	1,099,820
Isle au Haut Boat Service	Isle au Haut	Stonington	Yes	24,827
Maine State Ferry Service	Inhabited Midcoast Islands	Rockland, Bass Harbor, Lincolnville	Yes	465,445
Town of Cranberry Isles Commuter Ferry	Cranberry Isles	Northeast Harbor	Yes	4,000

» **Intercity Bus and Rail Service:** Three long-distance bus systems provide service between key markets in Maine and to points south.[5] Amtrak also provides scheduled rail service to points south. Ridership and performance data are limited for the private intercity bus carriers, not all of whom receive federal assistance. However, these carriers provide service to many Maine people and visitors and are a vital link in Maine's public transportation network. Intercity bus service consists of no more than one daily run, per direction, across most routes. Bangor is the primary transfer hub for service between southern statewide markets (provided by Concord Coach and Greyhound) and northern/eastern markets (provided by Cyr Bus Line and West's Transportation). Direct service is available to Boston and New York City.

[5] In addition to the three long-distance services, BSOOB Transit's Green Line is operated as a feeder intercity service between Saco and Portland through earmarked FTA funding. Since ridership and other performance measures for BSOOB Transit are not broken out by specific route and service, those figures are included in the Small Urban and Regional System section.

Table 2.6 Intercity Bus Systems

Transit Provider	Routes	Daily Service	2019 Ridership
Concord Coach	Bangor—Augusta—Lewiston/Auburn—Portland—Boston	Yes	Private Information
	Bangor—Midcoast Communities—Portland—Boston	Yes	
	Portland—New York City	No Tuesday or Thursday Service	
Cyr Bus Line	Bangor—Howland—Houlton—Presque Isle—Caribou	Yes	Private Information
Greyhound	Bangor – Augusta–Lewiston/Auburn–Portland-Boston	Yes	Private Information
West's Transportation	Bangor—Calais	Yes	8,097
	Steuben—Jonesport	Weekdays	
	Beals Island—Ellsworth	Mondays	
	Steuben—Machias	Tuesdays	

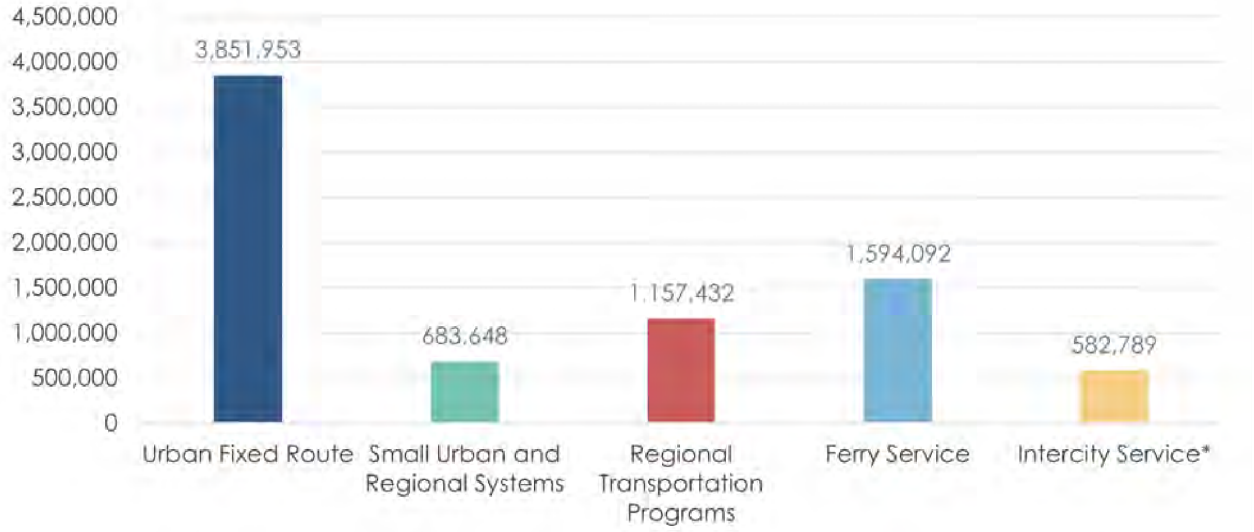
Rail service is provided by Amtrak's Downeaster, managed by the Northern New England Passenger Rail Authority. This service consists of five daily runs between Brunswick, Portland, and points south into Boston. Key service characteristics of the statewide rail service are shown in Table 2.7. In 2019, approximately 33 percent of ridership was commuting to and from work. At 28 percent in September 2022, work commutes are growing but have not returned to 2019 levels. Visiting (25 percent of riders) and recreation (30 percent) were both higher in September 2022 than in 2019 (19 percent and 21 percent, respectively). Generally, about 52 percent of passengers board or alight the Downeaster in Maine.

Table 2.7 Rail System Service

Service	Maine Stops	Daily Runs	Weekend Service	2019 Ridership
Amtrak Downeaster	Wells, Saco, Old Orchard Beach, Portland, Freeport, Brunswick	5	Yes	574,692

Ridership and performance measures by category for 2019, prior to the ridership anomalies associated with the COVID-19 pandemic, are summarized in Figures 2.1 and 2.2. Total ridership was 7.87 million, and total VRM for transit was 18 million miles. For context, total vehicle miles traveled across all modes in the state in 2019 was 15,074 million.

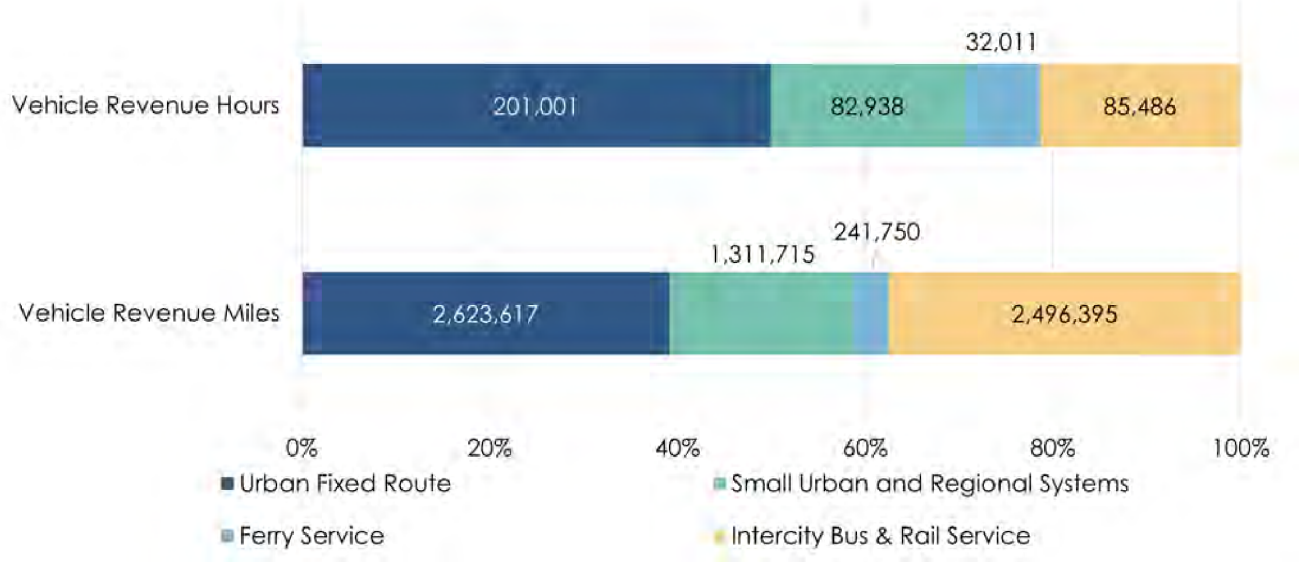
Figure 2.1 2019 Maine Transit Ridership (Unlinked Passenger Trips) by System Category



Source: National Transit Database (NTD). Notes: Includes COAST ridership for routes operating within Maine.

* Excludes Concord Coach, Cyr Bus Line, and Greyhound ridership. As such, Intercity Service is comprised of NNEPRA rail service and West's Transportation ridership. As a result, the majority of this ridership is comprised of Amtrak rail service.

Figure 2.2 2019 Maine Transit Performance Measures by System Category



Source: NTD. Notes: Includes COAST performance measures for routes operating in Maine. Due to the disproportionately high revenue hour and mile figures generated by Amtrak's passenger rail service, as well as the lack of available data on performance measures for most intercity bus services, these figures exclude intercity bus performance measures.

2.4 Transit Funding

2.4.1 Federal Role

Each year, Congress sets formulas which determine the appropriation of each State's transit funding. The Maine transit appropriations are allocated to MaineDOT and urban areas in Maine. This transit funding is provided through the Federal Transit Administration (FTA) and programmed in MaineDOT's Statewide Transportation Improvement Program (STIP) for administration by MaineDOT or urban direct recipients. These are listed in Table 2.8.

Table 2.8 Federal Transit Funding Types

Funding Type	Description
Section 5303—Metropolitan Planning	Funding for urban multimodal transportation planning. Funds are transferred to the Federal Highway Administration (FHWA) and administered by the Metropolitan Planning Organizations (MPOs) for transit projects in their Unified Planning Work Programs (UPWPs).
Section 5304—Statewide Planning	Funding for statewide multimodal transportation planning, allocated to MaineDOT and used to provide technical assistance and oversight for urban transit planning.
Section 5307—Urbanized Area Formula Grants	FTA's largest program provides capital and operating funding, as well as transportation planning-related funds in Urbanized Areas (UZAs). Apportioning of funds is based on the population of the specific UZA. For UZAs with populations of more than 200,000, funds are allocated directly to the recipient. For UZAs with populations between 50,000 and 200,000, funds are allocated through MaineDOT. Public entities in UZAs with populations of fewer than 200,000 apply for funding to FTA directly, except for non-profit entities, which fall under MaineDOT's purview as subrecipients.
Section 5310—Enhanced Mobility of Seniors and Individuals with Disabilities	Formula funding for states for the purpose of assisting private non-profit groups in meeting the transportation needs of older adults and persons with disabilities. Funds are allocated to MaineDOT, except for those funds allocated to the Portland UZA. MaineDOT distributes Section 5310 funding amongst the Regional Transit providers, all private non-profit entities, for capital and mobility management needs.
Section 5311—Nonurbanized Area Formula Grants for Rural Areas	Funding to support public transportation capital, planning, and operating needs in rural areas with populations of fewer than 50,000. Funds are allocated to MaineDOT.
Section 5337—State of Good Repair Grants	Funding for capital assistance related to maintenance, replacement, and rehabilitation projects of high-intensity fixed guideway and bus systems to help transit agencies maintain assets in a state of good repair. Funds through this program are allocated to the Portland UZA. Two recipients administer the funds: Casco Bay Lines and Northern New England Passenger Rail Authority.
Section 5339—Grants for Buses and Bus Facilities	Funding to replace, rehabilitate, and purchase buses and related equipment and to construct bus-related facilities. Funds are allocated to states and urban areas.
Flex Funds	Either Congestion Mitigation and Air Quality (CMAQ) or Surface Transportation Program (STP) funds transferred from FHWA and used in both urban and rural areas for transit. Eligible projects are either capital or operating assistance for new service.

2.4.2 MaineDOT's Role in Administering Federal Funds

MaineDOT administers certain partner transportation services, as highlighted in Section 2.3. MaineDOT also programs federal funds for direct recipients and subrecipients. MaineDOT is required by state law to divide the state into eight transit regions, which are then divided into urban and rural geographies. Within these eight transit regions, a MaineDOT-designated regional transportation provider (see Regional Transportation Programs in Section 2.2) is tasked with providing transportation, typically in the form of demand-response and scheduled services. This is in addition to the urban fixed-route, small urban/regional systems, ferry, and intercity services across the state.

For non-urban FTA funding programs, MaineDOT applies on behalf of all subrecipients and administers the funds; federal regulation does not allow subrecipients to apply directly for FTA funding. Through this process, MaineDOT requires subrecipients to apply for funding and reviews applications, including for eligibility criteria and funding prioritization purposes. MaineDOT's selection of projects to be funded completes the flow of funding from FTA programs to local transit systems and programs. Direct recipients apply directly to FTA for grant funding.

2.4.3 Funding Breakdown by Source

The 21 transit agencies in Maine receive funding for operations and capital from a mix of sources, illustrated in Figure 2.3. These 2021 values may not be representative of available funding going forward, as several factors made 2021 unusual:

- Funding from three federal COVID-19 era relief bills (CARES, CRRSAA, and ARPA) is included;
- CARES funds expended during the fiscal year were allowed at a 100-percent federal share for operations instead of the usual 50-percent federal share;
- It was the last year prior to formula funding program changes – most notably the approximately 30-percent increase in formula funds expected from BIL starting in 2022, from roughly $36.3 million to $47.3 million per year; and
- Ridership recovery – and therefore farebox revenue – was uneven throughout the state.

In addition, allocations and expenditures for any given calendar or fiscal year may not always match. Large capital projects often have a carryover balance of older FTA funds that will be expended in future years. Due to project delivery, some projects may utilize several years of funding, and other projects may take several years to fully expend funds.

For this reason, 2019 values for funding and operations broken down by sources are included for comparison in Figure 2.3. Capital funding was about $10 million, or 36 percent, lower in 2019 compared to 2021; funding for operations was also lower in 2019 compared to 2021, but by just $4 million, or four percent. When looking at the specific funding sources, it is clear that the difference between 2019 and 2021 is driven primarily by the increase in federal funding from 2019 of $48.8 million across operational and capital expenditures to $65.4 million in 2021. Federal funding is expected to remain high with $48.1 million available for just operating funds in 2023 for the state, somewhat higher than the funding provided in 2021. State funds are not expected to change significantly from 2021 levels and funds from fares is still on a recovery trend since the ridership drop in 2020.

As shown in Figure 2.3, federal assistance was the largest source of funds for both capital and operations in 2021, totaling $65.7 million. These were a combination of formula, discretionary, and emergency relief funds. State funds provide about a quarter of capital funding and eight percent of operating funds for transit agencies. Fare revenues and supplemental, directly-generated revenue such as advertising[7] by agencies make up about a quarter of operating funding but very little on the capital side, with fares accounting for most of these funds. Local funds are another important source for both capital and operations and other funds – including contract revenues from DHHS for MaineCare and Child Development Services rides, private donations, grants, and related sources – are significant for operating budgets. These sources are important indicators of municipal support, in some cases are direct support from businesses to operate specific routes, and collectively help leverage federal funding by contributing to the required local match.

[7] Fare revenue and directly-generated revenue is reported together in NTD data.

In addition to the funds for transit agencies, MaineDOT had additional state spending in support of transit in the state, bringing 2021 state transit spending to a total of approximately $20.6 million. This includes $16.9 million for the Maine State Ferry Service, $3.7 million for transit (including bus, small ferries, and the Amtrak Downeaster), and $65.4 thousand for GO MAINE.[8]

With all sources of state funding included, Maine's per capita state funding for transit was $10.81 in 2020 and $15.03 in 2021. The increase is primarily due to an increase in state funding for the Maine State Ferry Service from 2020 to 2021.

Fare-Free Transit

A timely topic being discussed in Maine and elsewhere across the country is whether transit should be free for riders. Potential benefits of fare-free transit include:

- Increased equity, as transit provides an option for many low-income individuals
- Advancing climate change goals by encouraging the use of transit over personal vehicles
- Improved operations, as the vehicle is not delayed by riders paying fares
- Elimination of fare-related barriers such as carrying cash, obtaining passes, paying online
- Reduced contact between driver and passenger
- Elimination of operating costs such as processing of fares and purchasing, maintaining, and managing fare collection systems

Fares also represent a revenue stream for providers, with about a quarter of 2021 transit agency funding coming from fare revenue. The lost fare revenue would need to be replaced with another source of funding to avoid service cuts at most agencies across the state. This new funding would then not be available to support improvements and expanded services. There is also a concern that the absence of fares may lead to passengers using the transit system for non-transportation purposes, such as staying warm in the winter months. As in many places, fare-free transit is an ongoing discussion in Maine.

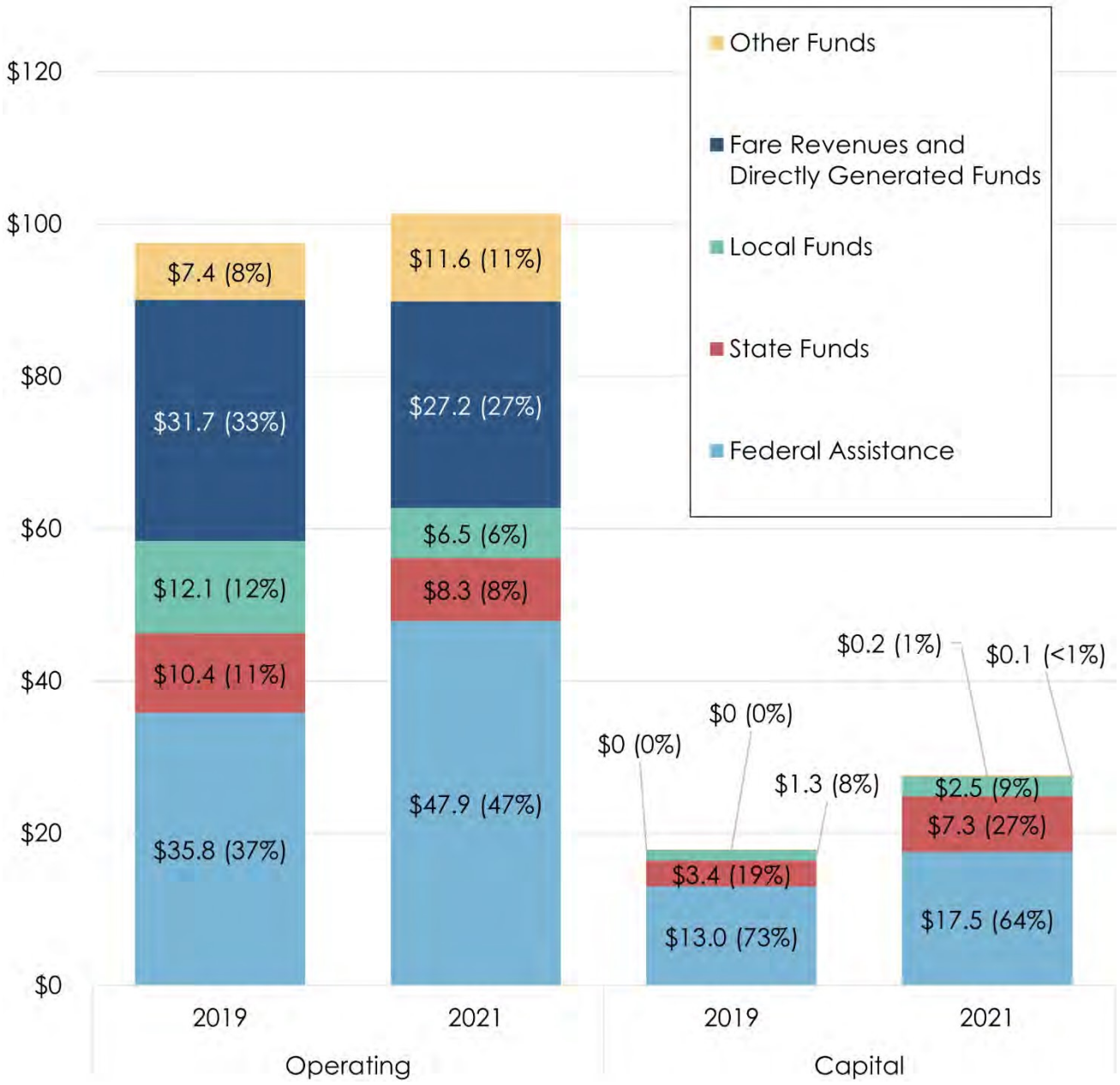
The American Association of State Highway Transportation Officials (AASHTO) compiles information from state departments of transportation each year on state funding for public transportation. State DOTs have considerable discretion in deciding which funding sources to include in their submissions. While comparisons across states are therefore challenging and should only be used cautiously, 2020[9] state transit funding per capita ranged from $333.32 for Massachusetts to $0.17 for Idaho, with three states (Alabama, Hawaii, and Nevada) providing no state funding for public transit. Maine's $10.81 per capita in 2020 ranked 22nd among the 50 states and the District of Columbia. On average, per capita state funding for the 50 states and the

[8] Total GO MAINE funding was $400,000 in 2022 and $287,000 in 2023, with 75% of total funding from MaineDOT and 25% from the Maine Turnpike Authority.

9 2020 is the last year for which data from all states is available. While MaineDOT submitted its funding numbers to AASHTO in November 2022, comparisons based on 2021 numbers are not possible until the full report is made available.

District of Columbia was $63.00, a number which is significantly increased by large amounts of funding from several urbanized states and the District of Columbia.

Figure 2.3 2019 and 2021 Maine Transit Agency Funding by Source



Source: NTD.

2.5 Transit System Performance

Performance measures to gauge the effectiveness of the statewide transit network, grouped into seven major categories, have been identified and are listed in Table 2.9. These metrics include many standard measures of transit performance that align with the goals of the Plan. Some measures were derived from the *Maine Strategic Transit Plan 2025* completed in 2015, while other measures were taken from standard measures found in the National Transit Database or measures in the 2022 *Maine Transit Asset Management Plan*. [10]

The status of the existing system is measured with data from 2021. Data for usage, service level, and efficiency comes directly from the agency, when available. Safety data originated from the National Transit Database, while state of good repair status and targets are taken from the 2022 *Maine Transit Asset Management Plan*. Sustainability and technology data are based on the 2021 status of these features in agency fleets across the state.

To gauge progress toward our desired future, a target or direction for each performance measure is provided, representing either a specific target (such as those set in the 2022 *Maine Transit Asset Management Plan*) or a direction (such as "higher" for ridership). These targets are based on established MaineDOT metrics and/or established industry standards and are meant to be flexible and appropriate for the unique needs of a community or transit provider.

Table 2.9 Transit Performance Measures and Metrics

Category	Performance Measure	Metric	Status	Target/Direction
Usage[a]	Ridership	Total unlinked passenger trips	4.7 million	Higher
Service Level[a]	Service Time	Total vehicle revenue hours (VRH)	635,000	No target
Service Level	Service Distance	Total vehicle revenue miles (VRM)	13.1 million	No target
Service Level	Cost	Total operating expenses	$101.4 million	No target
Efficiency[a]	Service Time Ridership Efficiency	Total unlinked passenger trips per VRH	7.739	Higher

[10] MaineDOT TAM Plan. https://www.maine.gov/mdot/transit/publications/tam/

Category	Performance Measure	Metric	Status	Target/Direction
Efficiency	Service Distance Ridership Efficiency	Total unlinked passenger trips per VRM	0.359	Higher
Efficiency	Service Time Cost Efficiency	Total operating expenses per VRH	$159	Lower
Efficiency	Service Distance Cost Efficiency	Total operating expenses per VRM	$7.75	Lower
Safety[b]	Fatalities	Fatalities per one million vehicle revenue miles	0	Zero
Safety	Injuries	Injuries per one million vehicle revenue miles	0.46	Zero
State of Good Repair[c]	Rolling Stock	Percent of Class 1 Revenue Vehicles that have met or exceeded Useful Life Benchmark (ULB)	47%	50%
State of Good Repair	Rolling Stock	Percent of Class 2 Revenue Vehicles that have met or exceeded ULB	32%	42%
State of Good Repair	Rolling Stock	Percent of Class 3 Revenue Vehicles that have met or exceeded ULB	31%	29%
State of Good Repair	Rolling Stock	Percent of Class 4 Revenue Vehicles that have met or exceeded ULB	97%	100%[11]
State of Good Repair	Rolling Stock	Percent of Class 5 Revenue Vehicles that have met or exceeded ULB	0%	0%
State of Good Repair	Rolling Stock	Percent of Class 6 Revenue Vehicles that have met or exceeded ULB	33%	56%
State of Good Repair	Equipment	Percent of non-revenue automobiles that have met or exceeded ULB	100%	100%
State of Good Repair	Equipment	Percent of non-revenue service trucks that have met or exceeded ULB	30%	3%
State of Good Repair	Facilities	Percent of facilities with a condition rating below 3.0 on the FTA Term Scale	0%	0%

[11] State of good repair targets are from MaineDOT's fiscally constrained asset management plan. Targets incorporate funding constraints and are set at actual expected performance based on aging of vehicles and possible replacments given available funding.

Category	Performance Measure	Metric	Status	Target/Direction
Sustainability[d]	Electrification	Percent of vehicle fleet that is electric or hybrid electric	0%	Higher
Technology[e]	Scheduling	Percent of agencies that use scheduling software	52%	100%
Technology	Fares	Percent of agencies that use modern fare payment system	24%	100%
Technology	General Transit Feed Specification (GTFS)	Percent of agencies that use GTFS/GTFS-Flex	33%	100%
Technology	CAD/AVL	Percent of agencies that use CAD/AVL systems	48%	100%
Technology	GO MAINE	Percent of agencies incorporated into GO MAINE Trip Planner	81%	100%

Notes:

a) The 2021 status is estimated based on the ridership actuals received from agencies. COAST did not report VRM or VRH for its Maine service; Cyr did not report operating expenses, VRM, or VRH; Concord Coach and Greyhound did not report ridership, operating expenses, VRM, or VRH.

b) The 2021 status taken from Safety and Security Time Series from the NTD: https://www.transit.dot.gov/ntd/data-product/safety-security-time-series-data.

c) The 2021 status and targets taken from the *Maine Transit Asset Management Plan Targets Report*, 2022.

d) Maine had zero battery electric or hybrid electric buses in 2021. Starting in 2022, Maine agencies have begun to integrate electric buses into their fleets.

e) The percent is based on the number of agencies in Maine out of the 21 total that utilize the given technology.

3. NEEDS ASSESSMENT

The needs assessment attempts to quantify the need for public transportation throughout Maine and, at a very high level, identify customers who are underserved, including where they live, what their transportation needs are, and where they are traveling. Another key question is how members of the underserved population are currently meeting their transportation needs. The needs assessment also looks to the future of Maine's transit system, identifying shortcomings and associated needs around Maine's geography and environment, structure of transit service, the COVID-19 pandemic, labor shortages and supply chain issues, funding, and technology. The identification of needs included input from several sources:

- **Existing Conditions Assessment:** Insight from the general service structures, performance measures, and land use/economic characteristics of Maine's communities.
- **Surveying Process:** A public survey was open between April 2nd and 30th, 2022, with 627 respondents answering questions about priorities for transit, allocation of funds between program areas, frequency and reason for use of transit, and demographic information. Respondents identified frequency of transit services, regional and local transit services, reliability, improved fixed-route, and hours of service as priorities for Maine's public transportation system.
- **Public and Stakeholder Outreach**: Feedback from public meetings for the MaineDOT Family of Plans during the first half of 2022, input from the project steering committee made up of key transit stakeholders throughout the state, prior work in related studies including the 2019-2023 *Locally Coordinated Plan,*[12] and a series of meetings with transit stakeholders.
- **Implementation of Quantitative and Geographic Methodology:** Travel patterns throughout the state were examined to identify areas of high transit propensity that are not currently served adequately by transit, based on an analysis of StreetLight Location-Based Services (LBS) data and demographics. The process is documented in Appendix B of the needs assessment.

[12] Maine 2019-2023 Locally Coordinated Plan. https://www.maine.gov/mdot/transit/publications/lcp/

3.1 Needs Assessment Results

The results of the needs assessment are organized around the focus areas for Maine's public transportation system identified in the existing conditions assessment.

3.1.1 Rural Transit Demand and Accessibility Needs

Rural transit accessibility is an especially important need for the statewide public transit network and a challenge for Maine, like the rest of the country. Challenges related to rural transit planning and delivery include physical accessibility caused by steep terrains, unpaved roads, or lack of bicycle and pedestrian infrastructure; sparsely populated communities leading to large distances between users and significant vehicle revenue hours and miles; a limited labor pool from which to hire; and technology accessibility, including poor internet connectivity. Further, most transit agencies serving rural areas of Maine are small entities with a limited number of administrative staff. While the challenges and needs identified in this section are particularly acute in rural areas throughout Maine, many of the same needs are present statewide, and strategies to address them should apply to urban areas as well. Aspects of public transit in rural Maine to be addressed include:

- **Identifying and quantifying all transit demand in rural areas**, with an emphasis on existing and/or emerging origin-destination (O-D) travel patterns to determine where users and major trip generators are located.
- **Increased door-to-door service** since geography and trip densities are not conducive to scheduled and fixed-route services outside of village centers and major corridors in most parts of the state. This need acknowledges the difficulties associated with Maine's low-density regions, as well as the demand-response and flex route format of existing transit services provided by the RTPs. While several rural communities are served on a once-a-week basis or by demand-response services, greater frequencies and additional destinations may be needed. Door-to-door services may be improved by further examining the boundaries of each of the eight RTPs. Reassessment of these boundaries could lead to more effective service for these communities.

Rider Profile: Frank

Frank takes the bus to work but has had a hard time with standing for a long time. He wishes the bus stop near his house had a bench to sit on while he waits for it to arrive.

Amenities for safety, accessibility, and comfort have been shown to be factors in improving ridership, making transit more accessible and easier to use, and bringing positive impacts to the surrounding community.

- **Improving multimodal connectivity to transit service.** Transit facilities, such as transit stops and stations, should connect to bicycle and pedestrian facilities, where feasible and beneficial, to encourage multimodal mobility.[13] This should include accommodations for safety, accessibility, and comfort at transit stops, such as shelters, benches, and lighting. Transit service and connecting infrastructure need to be fully ADA-compliant and accessible to all users.
- **Improved technology** targeted to public transit users in rural areas, including in places with limited internet connectivity. This could include mobile apps that provide information on service availability without internet connectivity and automated messaging for trip scheduling and booking through home landlines.
- Improving **marketing and communication** of the availability of all transit services. While most inhabited rural areas in Maine are served, even if at relatively limited frequencies, the lack of awareness among users and potential users of available services, or a belief that services are not available to the general public, has been a frequently heard concern.
- **Increased service for the aging population**. The fastest-growing demographic in Maine is the age 65+ population, many of whom live in rural areas with auto-centric land use and community design. As people age, many will struggle to transport themselves and, if unable to find alternative transportation, will experience a higher risk of social isolation and health problems. Meeting the needs of this population will require not only expanded service availability, but also additional support to help these users understand their travel options and access service.

Rider Profile: Harriet

Harriet usually has her nephew drive her to a monthly medical appointment but this month he'll be out of town. Harriet knows there's a social service organization that may provide transportation services in her area, but does not know much more than that, nor how to access additional information about this service. With additional marketing and communication of the availability of transit service in her area and how to use it, people like Harriet would have an easier time accessing the system and would benefit from getting around their community easier.

3.1.2 Service Structure and Coordination Needs

Physical parameters associated with public transit service include:

[13] TCRP Report 46: Amenities for Transit Handbook. https://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_46-a.pdf

- **Increased service frequencies**, especially for flex routes and small urban and regional systems, where once-per-hour frequencies may be insufficient, and rural demand-responsive services, where frequencies and service availability of once-per-day or once-per-week may be insufficient. Many of the urban fixed routes operate on hourly or greater frequencies as well, and there may be a need for increased service frequencies. As a statewide plan, the *Maine State Transit Plan* planning process does not identify shortcomings of service frequencies for specific routes provided by individual providers. Individual agencies should work with their partners to assess their current frequencies based on current and expected ridership and demand, subject to budget availability and other constraints such as vehicle and operator availability.
- **Increased hours of service** where demand warrants. Many rural transit services, including demand-response and flex route services, and some urban, small urban, and regional systems offer minimal service after 3:00 p.m. to 5:00 p.m., making transit service largely unusable for afternoon or evening trips.
- **Increased coordination between adjacent transit services**. There is limited coordination in route scheduling between adjacent systems in the Greater Portland and Bangor Urbanized Areas. Improved coordination of services and schedules among the operators can improve transit availability, connectivity, and the overall user experience.

  The transit propensity analysis found that efforts towards coordination in Greater Portland are clearly justified, including between Greater Portland Metro, South Portland Bus Service (SPBS), and BSOOB Transit. A significant portion of total passenger miles traveled in the state takes place throughout this region, which is served by multiple agencies. Current efforts include a unified fare payment system, DiriGo Pass, and ongoing planning and coordination efforts. Technology initiatives across the state such as bus electrification and the integration of General Transit Feed Specification (GTFS) provide further opportunity for coordination going forward.
- **Increased geographic coverage of transit services** in multiple portions of the state, including intercity services; service to and within certain rural areas; and service to locations such as medical providers, grocery stores, post offices, and banks. Additional service connecting urban centers such as Greater Portland, Lewiston/Auburn, and Augusta and improved service to Bangor and Augusta from the south may be necessary.

  Further, a more robust intercity service connecting Portland to cities and towns across Maine is needed. Currently, intercity service consists of Amtrak from Brunswick to points

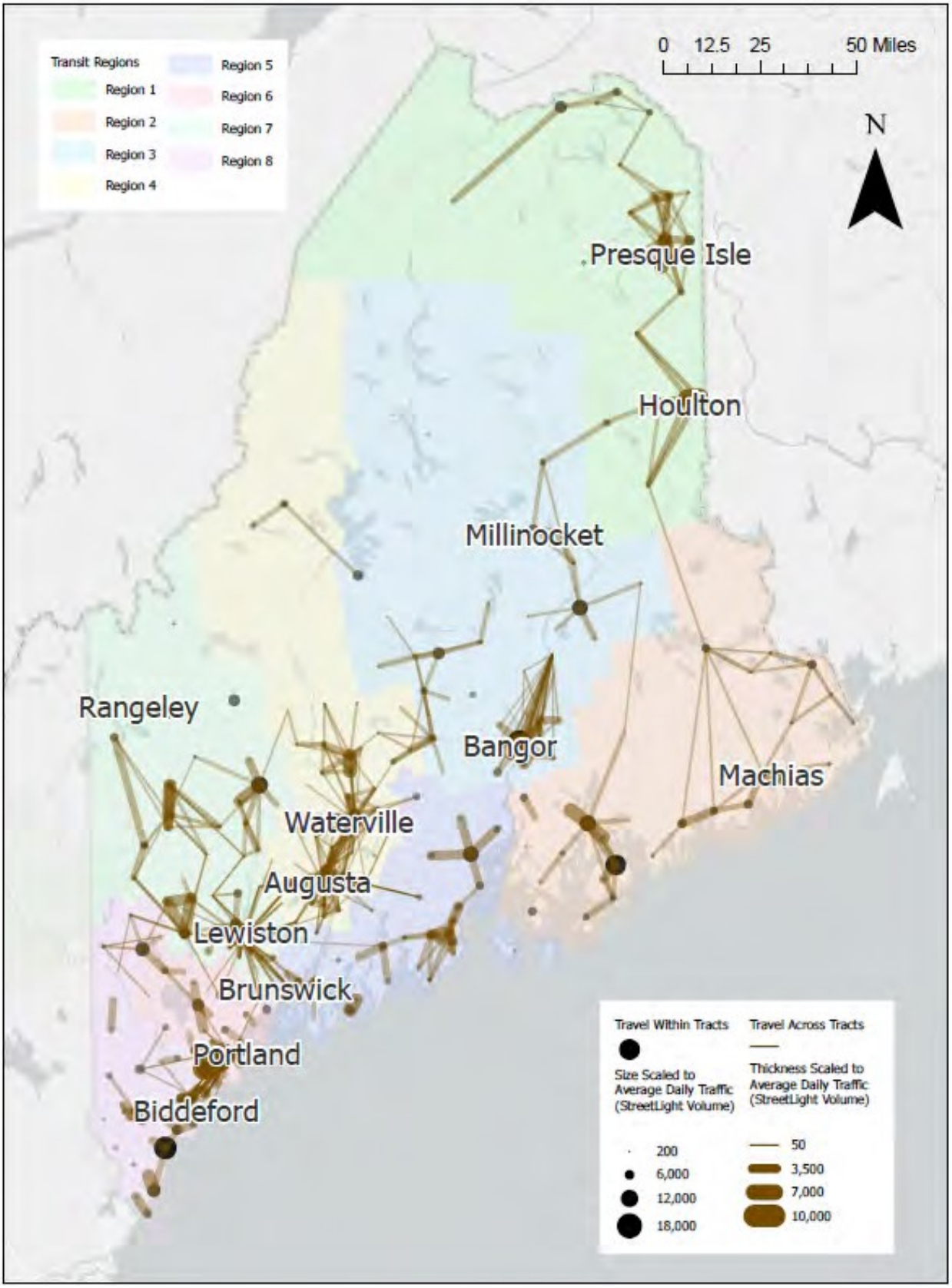
south (five daily runs); Concord Coach between Bangor, Augusta, Portland, and points south (approximately six daily runs); Cyr Bus Line between Bangor, Houlton, and Caribou (one daily run per direction); Greyhound Bus between Bangor, Portland, and points south; and West's Transportation between Bangor and Calais (one daily run per direction). Limitations to these existing services include:

- Outside the Interstate 95, U.S. Route 1, and U.S. Route 201 corridors, intercity service is nearly non-existent.
- There are no one-seat services spanning the entire state. Instead, users must transfer at Bangor if traveling between points south/west and north/east. For northbound and eastbound services from Bangor, frequencies are limited to one daily run. These low frequencies, combined with a required transfer at Bangor, indicate a likely need for improved intercity services.

The transit propensity analysis (Figure 3.1) identified locations where expanded transit services may be needed adjacent to existing fixed route networks, including:

- Howland and Enfield, to the north of the Bangor Community Connector service area.
- Mechanic Falls, Turner, and Sabattus, near the Lewiston/Auburn CityLink service area.
- Communities surrounding Augusta and Waterville, including Winslow, China, Belgrade, Sydney, and Vassalboro.

Figure 3.1 Transit Propensity Analysis Results (Overall Weighting with Distance Filter)



Improved transit service may also be warranted in the Midcoast region, particularly in and between Rockland and Belfast. Currently, Midcoast transit options are limited despite proximity to population centers and tourism destinations. Other than flex route services in and around Belfast and Rockland, transit services consist of demand-response services at $1.50 per mile, provided by Waldo CAP. Although financial assistance is available for certain users, a lack of fixed service and a high fare make service largely inadequate.

The transit propensity analysis also revealed a potential need for fixed or flex route service centered around Norway, Oxford, and South Paris. Located in a rural/exurban area of Oxford County and approximately 20 miles from Lewiston/Auburn, these towns have populations between 2,000 and 5,000, with small but dense communities relatively close to one another. These communities also have populations with demographics and travel patterns well-suited to transit service. Transit service centered around State Highway 26 could serve all three communities.

Improved service to new housing developments may also be warranted, particularly in and around the rapidly growing suburbs of Portland and points south into York County as well as the areas around Lewiston/Auburn, Bangor, and Augusta.

» **Increased coordination with the Maine Department of Health and Human Services (DHHS)**, which oversees the Non-Emergency Medical Transportation (NEMT) program through the Office of MaineCare Services (OMS). OMS uses a brokerage system to arrange NEMT trips for MaineCare (Medicaid) members under a reimbursement system that requires the broker to select the lowest cost appropriate provider. Some elements of the previous fee-for-service system were in violation of federal rules, including a requirement that administrative funds go to the actual provider of transportation services and a requirement for competitive procurements. Given the extensive restructuring that would

Mobility Management

Mobility management is a strategy that focuses on meeting customer transportation needs through the coordinated use of a variety of providers and funding streams. This improves awareness of transportation options among existing and potential customers. Some states, including New Hampshire, have established regional coordinating councils comprised of a variety of stakeholders to address concerns and promote strategies at the regional level. MaineDOT will monitor these efforts and their potential to advance the vision for transit in Maine.

Rider Profile: Charles

Charles uses MaineCare transportation for his doctor appointments every other week, but has to use a different phone number to get rides to the grocery store or his daughter's house. A single place to call for all his rides would make travel easier and less confusing.

have been required, to ensure compliance with federal regulations, and to receive a higher federal financial participation match for transportation, DHHS opted to move to the current brokerage model.

According to the LCP, this incentive structure has shifted some NEMT trips away from public transit providers and has reduced the shared ride provision for NEMT trips. As a result, services are not used as efficiently as possible, and some public transit services that serve high-demand medical facilities are underutilized. Increased coordination on trip booking and trip provision can improve operational efficiencies and provide MaineCare patients access to non-medical locations.

3.1.3 Adjusting Service for Post-COVID-19 Needs

During the COVID-19 pandemic, ridership across Maine public transit systems declined dramatically. Significant decreases in 2020 and 2021 ridership included drops of 50 percent or more for the Bangor Community Connector, Greater Portland Metro, SPBS, Bath City Bus, BSOOB Transit, ARTS, Town of Cranberry Isles Commuter Ferry, Amtrak Downeaster, KVCAP, Waldo CAP, and WMTS. Although some transit systems have returned to pre-pandemic ridership (Downeast Transportation, Isle au Haut Boat Service, and Maine State Ferry Service), multiple systems, including several of the urban systems (which constituted nearly half of statewide ridership in 2019), currently operate with ridership well below pre-pandemic levels.

Given the rise of remote work, telemedicine, and virtual appointments, it is likely that the majority of people who are currently riding transit have limited transportation options and are reliant on public transportation to meet some or all their transportation needs. It remains to be seen if people with other transportation options, particularly those with regular access to personal vehicles, will return to public transportation at the same level as before the pandemic.

3.1.4 Driver, Labor, and Supply Chain Shortages

Driver and labor shortages across Maine must be addressed to ensure the continued provision of reliable service and support potential expansions of service. Driver shortages are an ongoing issue for most urban and rural transit operators, who compete with other employers for the limited pool of workers and potential workers with commercial driver's licenses. There is also a need for other essential personnel such as maintenance workers, dispatchers, and mechanics, who will also need to be trained on battery electric and hybrid

vehicles. Even several operators who have not experienced driver shortages directly expressed concern about their ability to find skilled workers.

With labor challenges throughout the economy, **skills training and wage competitiveness** are important issues for public transportation. In addition, ongoing **supply chain issues**, exacerbated by the influx of available funding for new equipment, continue to impact public transit operations, from fuel prices to procurement of vehicles and parts.

3.1.5 Climate Change

Public transit can address climate change through:

- **Continued transition to electric vehicles and other zero-emission vehicles** across the statewide transit system, consistent with the recommendations of *Maine Won't Wait*[14]. Electric and zero-emission vehicle deployment planning must address charging infrastructure, power supply, electric grid impacts, electricity pricing, vehicle performance in Maine's environment, and route and schedule planning.
- **An efficient and effective public transportation system** provides an alternative to personal vehicles and can reduce overall vehicle-miles traveled in urban areas which have a critical mass of travelers and numerous shared destinations.

3.1.6 Additional Technology Needs

Technology applications can improve transit service, including:

- Scheduling Software
- Automated Fare Payment Systems
- Asset Management Software
- Computer-Aided Dispatch/Automatic Vehicle Location (CAD/AVL)
- GTFS standards

These technologies are used to varying degrees by Maine's transit operators, leading to several areas for improvement:

Rider Profile: Eileen

Eileen wants to take the demand-responsive service in her area more often, but sometimes forgets to call the day before to book the trip, or has transportation needs that arise that same day. She wishes she could call to book same-day trips.

Technology provides an opportunity to improve the experience for passengers like Eileen by lowering barriers to travel, providing better methods for fare payment, improving trip planning options, and providing real-time trip information.

[14] Maine Won't Wait Climate Plan. https://www.maine.gov/climateplan/the-plan

» **Full integration of statewide transit services to GTFS and GTFS-Flex.** Participation from all transit providers on the GTFS and GTFS-Flex (a version of the standard designed for flexible/demand-responsive routes) standards would create a consistent platform for transit data, making it easier for riders to discover travel options across providers and streamlining data collection and analysis. Integration would allow for better coordination of statewide transit planning efforts and better communication and marketing of services. This is especially the case for flex routes, demand-response services, and other transit options operated by the Regional Transportation Programs, where integration of GTFS and GTFS-Flex will enable better coordination of services and trips, the tracking of vehicles and arrival times, improved dissemination of information to users, and the ability for users to plan their own trips more efficiently, without having to call the provider.

» **Full implementation of CAD/AVL systems on all transit vehicles.** Computer-aided dispatching/automatic vehicle location (CAD/AVL) provides real-time locations of all vehicles, enabling better deployment of resources and better provision of service. It also enables integration of GTFS Realtime, which allows trip planning apps to display and predict actual vehicle arrival times to a given stop.[15]

  In addition, automated passenger counter (APC) systems automatically and reliably track transit ridership. When connected to AVL systems, APCs can provide valuable data on trip patterns and crowding, allowing for better reporting and transit planning.

» **Full implementation of scheduling software across all demand response systems** is needed to increase coordination, reduce the amount of time in advance needed to book trips, and increase the capacity of transit services. Currently, many demand-response services require reservations of at least one day in advance, requiring users to plan ahead and creating barriers for users with urgent travel needs.

Rider Profile: Andrew

Andrew uses the local bus to get to the shopping center. If the route had real-time passenger information, he could know when the bus is coming on this hourly route so he'd know right when to leave home without missing the bus or waiting a long time for the bus to arrive.

Studies have shown that providing real-time information to passengers results in decreased wait times, reductions in overall travel time due to changes in path choice, and increased use of transit. Real-time information may also be associated with increased satisfaction with transit service and increases in the perception of personal security when riding transit.

[15] Candace Brakewood & Kari Watkins (2019) A literature review of the passenger benefits of real-time transit information, Transport Reviews, 39:3, 327-356, DOI: 10.1080/01441647.2018.1472147

- An **asset management platform** that allows transit providers to enter vehicle inventory data directly into the web would allow MaineDOT to easily analyze transit fleet data such as lifecycle and maintenance needs. The department would then be able to produce federally-mandated FTA reports for easy submission; make more informed funding decisions; and better manage multi-phase, multi-year transportation project plans. This platform should integrate with existing tools used by transit providers to allow seamless data aggregation for both transit providers and MaineDOT. Such a tool would allow MaineDOT to facilitate collaborative data management and capital planning based on agency goals and criteria. It would also give MaineDOT a forward-looking projection of capital needs for the state's transit agencies.
- Universal implementation of **modern fare payment systems** is needed across Maine's transit systems. Currently, only Greater Portland Metro, SPBS, BSOOB Transit, and WMTS utilize modern fare payment systems. The remaining transit systems rely upon cash payment or physical passes purchased from community locations. Modernized fare payment systems, including contactless readers and payment by smartphone apps, allow for increased efficiency related to payments and accounting for both users and transit providers. This should also include the use of single payment platforms that allow for seamless integration and use across multiple transit systems. Additionally, these fare payment options can attract additional users, including younger populations who are typically more accustomed to using cashless payment options. Lastly, the process of implementing modern fare payment systems can increase coordination and cohesion among transit systems. As an example, the UMO fare payment system used by Greater Portland Metro, SPBS, and BSOOB Transit includes integrated trip planning, improved information access, and multiple fare payment options.

3.1.7 Funding

The **availability of funding** is a key factor for public transit in Maine. While federal initiatives have brought additional formula funds to states, in Maine much of this has been undermined by inflationary pressures. Opportunities for discretionary federal funding have promise, but by their nature are not stable or predictable. The amount of state funding for public transportation is a policy decision and is not set by statute. The Maine State Constitution prohibits Highway Fund revenues from being used for purposes other than the administration, construction, and maintenance of highways and bridges, limiting the potential approaches for providing additional state funding for transit.

3.2 Needs Assessment Summary

A summary of needs is shown in Table 3.1. Organized by the seven categories of themes and needs rather than by priority, these inform the *State Transit Plan* strategies.

Table 3.1 Summary of Statewide Transit Needs

Theme	Specific Need	
1. Rural Transit Demand and Accessibility	➢ Effective quantification of demand ➢ Sufficient door-to-door service ➢ Sufficient multimodal connectivity and accessibility ➢ Effective targeted technology ➢ Appropriate marketing and communication ➢ Responsive service for the aging population	
2. Service Structure and Coordination Needs	➢ Effective service frequencies and hours of service ➢ Effective coordination between transit agencies ➢ Sufficient geographic coverage	
3. Adjusting Service for Post-COVID Needs	➢ Comprehensive assessment of post-COVID travel patterns and service needs, especially for particularly transit-dependent populations	
4. Driver, Labor, and Supply Chain Shortages	➢ Address ongoing driver, labor, and supply chain issues	
5. Climate Change	➢ Continued implementation of hybrid, electric, and other low- and zero-emission vehicles ➢ Robust public transportation system	
6. Additional Technology Needs	➢ Full statewide implementation of GTFS and GTFS-Flex ➢ Implementation of CAD/AVL systems ➢ Scheduling software ➢ Modern fare payment systems ➢ Statewide asset management platform	
7. Funding	➢ Sufficient public transit funding and ability to adapt to changing priorities, circumstances, and opportunities	

4. STRATEGIES FOR IMPROVING TRANSIT IN MAINE

Based upon the existing conditions and needs assessments and national best practices, the following strategies build upon what is already working in the state. They align with the state's transit vision and incorporate system efficiencies and innovations. Each strategy includes:

- An **action-oriented description** of the strategy.
- A description of **why and how** the strategy can be advanced.
- A list of the roles, timeline, and financial implications of implementing the strategy.
  - **Roles** include who is responsible for implementing or coordinating the strategy.
  - **Timeline** is generally categorized as short-term (0-3 years), medium-term (4-9 years), or long-term (10+ years).
  - **Financial implications** are cost estimates, when available, or a description of the expected financial implication for each strategy.
- Finally, each strategy is directly tied to one or more of Maine's **transit needs** identified in the needs assessment.

Strategy 1: Improve Coordination Among MaineDOT Services and Other State Agencies

Strengthen coordination between MaineDOT and other state departments and agencies, including the Maine Departments of Health and Human Services (DHHS), Economic and Community Development (DECD), Education (DOE), Justice (DOJ), Labor (DOL), Governor's Office of Policy Innovation and the Future (GOPIF), and MaineHousing to improve customer service and resource sharing across programs.

MaineDOT engages regularly with other state agencies and departments, including through the Interagency Working Group on Transit, which includes MaineDOT, DECD, DHHS, DOL, and GOPIF, and will continue to coordinate on programming going forward. One area of particular opportunity is improved coordination between MaineDOT and DHHS transportation services. Maine DHHS oversees the Non-Emergency Medical Transportation (NEMT) program through MaineCare, using a brokerage system to arrange NEMT trips for members. These services are not used as efficiently as possible, and some public transit services that serve medical facilities are underutilized. Increased coordination for trip booking and provision can improve operations and accessibility to non-medical locations for MaineCare patients as well as enable more efficient use of public transportation funds.

In 2021, DHHS conducted an independent program evaluation of its transportation services, including an evaluation of the organizational structure. The *Maine DHHS Transportation Program*

Roles: MaineDOT, DHHS, DECD, DOE, DOJ, DOL, GOPIF, Federal CCAM

Timeline: Beginning short-term. Discussions between MaineDOT and DHHS are ongoing. The CCAM Strategic Plan was signed in Oct. 2022.

Financial Implications: Costs for DHHS and DOT include navigating anticipated changes to federal regulations to maximize benefits for Maine and staffing and developing of RTCs. Agency coordination costs should be minimal and would benefit from technology and ITS investment.

Needs Addressed: Robust public transportation system, sufficient multimodal connectivity and accessibility, effective agency coordination, service for post-COVID needs, sufficient public transit funding.

Strategy 8: Continue Transition to Electric, Hybrid, and Other Low- and Zero-Emission Vehicles

Provide support, financial incentives, and policies to continue transitioning vehicle fleets to cleaner technologies across the statewide transit system.

Transit reduces the use of personal vehicles, vehicle-miles traveled, and greenhouse gas emissions from the transportation sector. Moving towards environmentally-friendly transit vehicles further reduces transportation emissions, supporting the recommendations of *Maine Won't Wait* and the state's overall transition to electric vehicles. Electric and hybrid vehicles can also enhance the image of public transit in the minds of riders and potential riders.

MaineDOT, with its consultant Hatch, led an initiative in 2022 to develop fleet transition plans for eight agencies, which include recommendations, procurement schedules, operating plans, and cost estimates. These plans address charging infrastructure, power supply and grid impacts, electricity pricing, vehicle performance in Maine's environment, and route and schedule planning. In addition, the plans identify the key stakeholders (such as utility providers and local governments) whose cooperation will be critical to transitioning agency fleets, as nearly all agencies will require utility upgrades to support electric vehicle charging loads or municipal permission to install wayside infrastructure.

Roles: MaineDOT, transit agencies.

Timeline: Already underway, and ongoing through future vehicle replacement cycles.

Financial Implications: The upfront cost of electric buses is currently up to 50 percent more than equivalent diesel vehicles, and facilities will have varying capital investment needs. Expected savings from fuel and maintenance operating costs will offset these.

Needs Addressed: Continued transition to hybrid, electric, and other low- and zero-emission vehicles.

Strategy 11: Pursue Funding to Support the Strategies and Vision for Maine's Public Transportation System

Work with partners to identify and pursue opportunities to increase overall funding for transit operations and capital from federal, state, local, and private sources.

Implementing these strategies will help us move towards MaineDOT's vision for the statewide public transit network – and will require additional funding. This funding could come from several sources. At both the federal and state levels, the unpredictability of special appropriations or discretionary grants makes it difficult for agencies to confidently undertake service expansions and improvements. Potential sources of additional funds are discussed in Section 5.2.

Municipalities have a role to play in funding the level of transit service needed by the community. MaineDOT, transit agencies, and other partners and stakeholders should work to promote transit as an essential service supporting individuals and communities throughout the state.

Transit agencies can and should work with employers and other private partners to support services, particularly those supporting workforce connections. Finally, non-governmental entities may be willing to provide financial assistance for services that benefit their constituencies. Regardless of the source, funding for public transportation should be viewed as an essential element in achieving the vision for public transportation in Maine, rather than a goal in itself.

Roles: State Legislature, MaineDOT, MPOs, Maine Transit Association, transit agencies, municipalities, private partners, non-governmental organizations.

Timeline: Short-term.

Financial Implications: The allocation of sufficient state-level funding in conjunction with funding from municipalities, private partners, and non-governmental organizations, would support system efficiencies, support an improved level of service for users, and provide better outcomes for Maine's transit agencies and riders.

Needs Addressed: Sufficient public transit funding, robust public transit, door-to-door service, multimodal accessibility, targeted technology, responsive service for the aging population, low- and zero-emission vehicles, effective service, geographic coverage, technology needs.

MaineDOT will work with partners and stakeholders to ensure that funding amounts and allocations support the priorities, strategies, and recommendations in this plan and elsewhere that support this vision.

A summary of these strategies is shown in Table 4.1.

Table 4.1 Summary of Strategies to Improve Transit in Maine

#	Strategy	Description	Needs Addressed
1	**Improve Coordination Among MaineDOT Services and Other State Agencies**	➢ *Strengthen coordination between MaineDOT and other state departments and agencies, including the Maine Department of Health and Human Services (DHHS), Economic and Community Development (DECD), Education (DOE), Justice (DOJ), Labor (DOL), Governor's Office of Policy Innovation and the Future, and MaineHousing to improve customer service and resource sharing across programs*	1, 2, 3, 7
2	**Increase Transit Service as Warranted**	➢ *Increase frequency, spans of service, geographic coverage, intermodal connectivity, and door-to-door service as warranted and as funding allows.*	1, 2, 5
3	**Provide Better Information About Transit to Customers**	➢ *Provide better customer information by improving marketing and communication of transit services, fully implementing GTFS and GTFS-Flex statewide, fully implementing CAD/AVL systems statewide, and expanding GO MAINE.*	1, 2, 3, 5, 6
4	**Remove Barriers to Riding Transit and Make Transit Easier to Use**	➢ *Fully implement modern fare payment systems across Maine's transit systems; improve connections and coordination between transit agencies.*	1, 2, 6
5	**Explore, Pilot, and Implement Programs to Address the Needs of Underserved Populations in Rural Maine**	➢ *Strengthen volunteer driver programs through sharing resources, improving coordination, and expanding as appropriate; pilot and implement creative solutions to improve workforce transportation statewide; enable demand-response agencies to access scheduling software.*	1, 3, 4
6	**Improve Transit Customer Facilities Statewide**	➢ *Improve transit amenities, including bus stops, shelters, signage, stations, transfer points, customer information, and related amenities as appropriate across the statewide transit system.*	1, 2, 5
7	**Address Driver and Labor Shortage Issues**	➢ *Create programs to attract, recruit, train, and license essential transit personnel across Maine and broaden the transportation workforce.*	4
8	**Continue Transition to Electric, Hybrid, and Other Low- and Zero-Emission Vehicles**	➢ *Provide support, financial incentives, and policies to continue transitioning vehicle fleets to cleaner technologies across the statewide transit system.*	5

#	Strategy	Description	Needs Addressed
9	**Procure a Statewide Asset Management Platform**	➢ *Obtain and utilize a statewide asset management platform to support the capital planning, prioritization, and reporting functions of MaineDOT.*	6
10	**Establish Coordinated Programs for Procurement, Explore Opportunities for a Parts Exchange Program**	➢ *Create a statewide cooperative purchasing program for vehicle procurement and explore opportunities for a parts exchange program, potentially through MaineDOT.*	4
11	**Pursue Funding to Support the Strategies and Vision for Maine's Public Transportation System**	➢ *Work with partners to identify and pursue opportunities to increase overall funding for transit operations and capital from federal, state, local, and private sources.*	1, 2, 3, 4, 5, 6, 7

4.1 Framework for Evaluating Transit Options

This section provides a framework for determining the appropriate type and intensity of service to meet local needs and recommends an approach to quantifying demand and transit propensity. It is intended to complement Strategy 2 (Increase Transit Service as Warranted), and to be a tool for MaineDOT, transit agencies, MPOs, and other partners to evaluate service needs.

4.1.1 Selecting Appropriate Service Types

The framework uses a progression that builds from specific customer needs, using performance measures to identify appropriate types, intensity, and spans of service based on local conditions.

Table 4.2 outlines the wide range of transit service types and intensities in Maine. Each has strengths and weaknesses to be weighed in determining appropriate service for each situation.

Demand-response service does not scale up well (and scales down only moderately well) to meet changing demand, as the door-to-door nature and reservation-based system functions best within a relatively narrow range of trips per hour. Fixed-route service scales up well as demand grows by adding more service, but can be difficult to scale down if demand shrinks,

as costs per hour are essentially fixed. Vanpool and volunteer networks are extremely cost-effective but may not provide a consistent level of service.

Table 4.2 Service Types

Transit options	Description	Example
Volunteer Driver Networks	Paid or unpaid drivers from the community coordinated by agency or non-governmental organization.	Aging in Place, Friends in Action
Vanpool	Volunteer drivers use agency-provided vehicles to operate pooled service to common destinations (typically employers).	Commute with Enterprise/GO MAINE
Dial-a-ride	Prebooked service, typically 24 hours in advance and often limited to certain days of the week.	Penquis Community Action Program
Demand response (qualified and general)	Demand-response service (i.e. microtransit) using agency-operated or contracted vehicles with professional or contracted drivers.	Aroostook Regional Transportation System – Caribou
Limited/Intercity Service	Infrequent (no more than one run per day), often long-distance service.	Concord Coach, Cyr Bus Line
Deviated fixed route/Flex Service	Fixed route service that diverts from scheduled service to allow stops at nearby locations on passenger request.	Aroostook Regional Transportation System
Fixed route	Standard bus service, with scheduled stops at predetermined locations.	CityLink, South Portland Bus Service
Frequent fixed route	Bus service with headways of 15 minutes or fewer.	Not present in Maine

The appropriate type of service depends on the needs to be addressed, including:

- The **pattern of trips** to be served (trips to/from a few major destinations or widely dispersed destinations).
- The **intensity and time of the need** (the number and timing of trips that could be served by the service).
- The **transit propensity** in the area served.

Quantifying these characteristics can help planners identify the range of appropriate service options for a specific area and need, appropriate service levels, and appropriate spans of

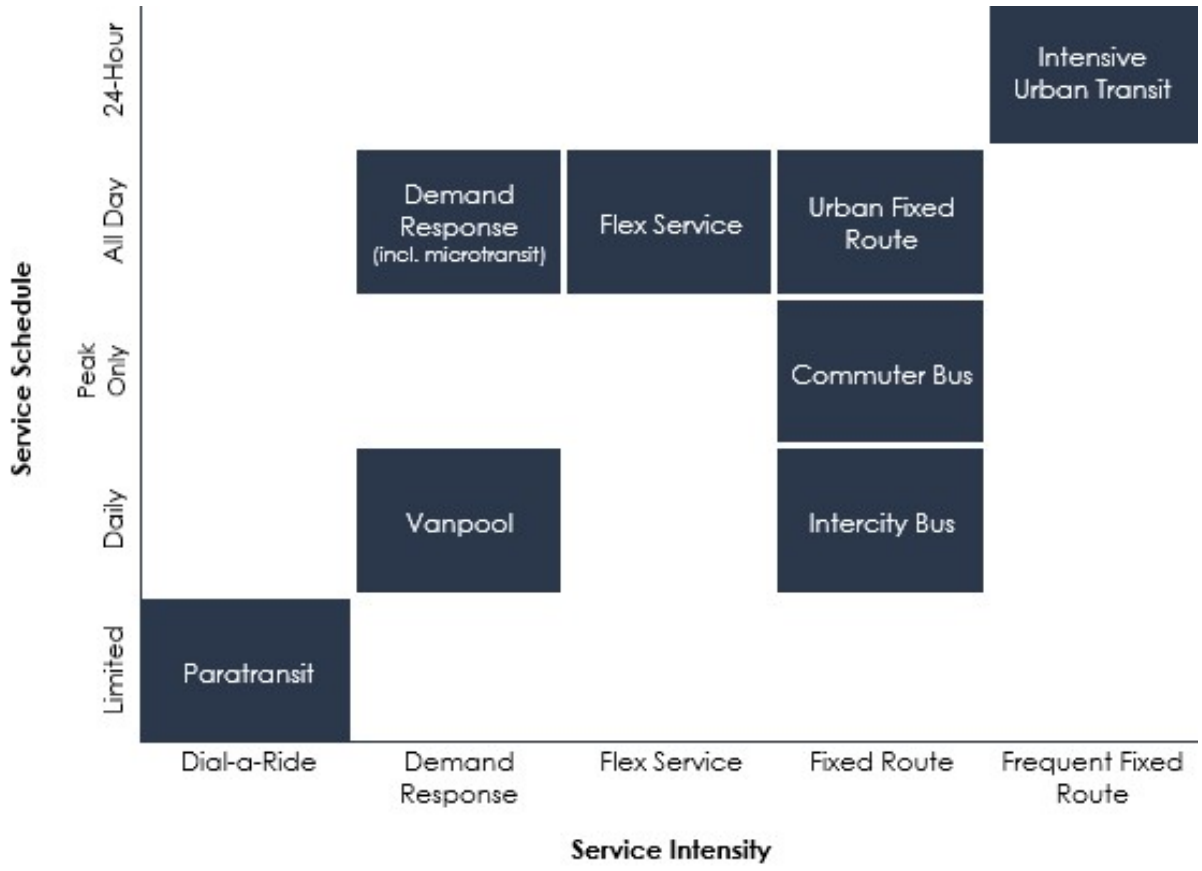
service. For example, long trips are often very expensive in a demand-response system, unless structured as feeder first mile/last mile connections to a single point in the service area.

Table 4.3 Data Sources for Quantifying Needs

Measure	Data Source
Population and Jobs per Square Mile	American Community Survey, Longitudinal Employer-Household Dynamics, National Household Travel Survey.
Trips per Square Mile	Travel Demand Models, Location-Based Services data.
Trips to Key Destinations	Geofenced LBS data, employer records, Longitudinal Employer-Household Dynamics, National Household Travel Survey.
Trips per Hour	Travel Demand Models, LBS data, boarding and alighting data.
Trips by Time of Day	Travel Demand Models, LBS data, boarding and alighting data.
Trips Connecting to Local or Intercity Services	Transit schedules.
Transit Propensity	A combination of trip volumes using sources above and demographic data such as population and job density, zero-vehicle households, low-income households, population with disabilities, female population share, population that is not "white, non-Hispanic," and population aged 65+, from sources such as American Community Survey, U.S. Census.

Service spans and types can be combined into specific service options for a community or need (Figure 4.1). Improving transit service in a community can occur by increasing service span and/or increasing service intensity.

Figure 4.1 Service Intensity and Schedule



For a given intensity of demand and transit propensity, several different service options may be feasible. Choosing the right service for the situation relies on a local understanding of travel markets, as there are many factors to consider beyond demand, including:

- Connecting transit service to housing/land use patterns.
- Community outreach.
- The dispersal pattern of trips to be served.
- Understanding of important destinations for transit users, including medical facilities, grocery stores, employment centers, recreation, and services.

Finally, funding constraints are a key factor in determining the appropriate service type for a given situation. Design and evaluation of potential transit systems must consider the cost and efficiency of the service and alternatives relative to benefits.

5. IMPLEMENTATION ROLES AND INVESTMENT ACTIONS

5.1 The Role of MaineDOT and Its Partners

MaineDOT is responsible for implementing the *State Transit Plan* and can do so in several ways:

- Ground all decisions about public transit in Maine in the principles in the state's **transit vision**.
- Advance the strategies described in this plan through close **cooperation with partners**.
- Continue to identify, incentivize, and support additional initiatives to increase **transit innovations and system efficiencies** throughout the statewide transit system.
- Conduct **inclusive and collaborative planning practices** for community engagement as new projects, programs, and pilots are considered.
- Monitor and identify opportunities to extend **service-related programs and pilots** undertaken by local transit agencies, including new services in areas where they are not currently provided.
- Review and evaluate opportunities to **extend technology pilots** (DiriGo Pass, GTFS-Flex, inclusion of DOT-supported agencies and others into the GO MAINE trip planning program) and other options for advancing technology usage.
- **Track progress** of implementing strategies and improvements using established performance metrics.
- Provide **financial and technical assistance** to local agencies, particularly in technology implementation, cross-agency coordination, and quantifying demand for transit service.
- **Pursue additional funding** to support transit improvements, including from the state level and through leading and supporting applications for federal discretionary grants.
- Establish **financial sustainability and performance** metrics, practices, and recommendations for pilots and new programs. This continues to be important, as many grants and funds that support local projects require non-program matching funds and are usually limited in duration.

» Establish **links to other actions** and activities currently in development in Maine that impact public transportation services to customers in areas such as technology, mobility management, transportation demand management, and climate change. This includes active MaineDOT participation in related activities and plans and seeking partnerships and funding sources that align with the strategies in this plan.

For this plan to be successful, MaineDOT must work closely with several partners to refine, prioritize, implement, and fund these strategies. Key partners include:

» **Transit agencies**, who will be the implementers of many strategies. Local agencies in particular must plan for and identify **service-related programs and pilots**, with a goal of providing the right services in the right places and a focus on customers and communities.

» The **Public Transportation Advisory Council (PTAC)**, a voluntary board established by statute to advise the Maine Departments of Transportation, Labor, and Health and Human Services on public transportation policies and priorities. The PTAC can provide input, help MaineDOT coordinate with transit agencies and other interested stakeholders, act as a sounding board for new and innovative services, provide new ideas, and assist in reviewing and prioritizing programs and services.

» **Metropolitan and Regional Planning Organizations** throughout the state, which play an important role in planning, coordinating, and improving transit at the regional level.

» The **Maine Transit Association**, a professional association of transit providers providing leadership, resources, support, and technical assistance to Maine's transit agencies, can help advance coordination efforts throughout the state.

» **Maine DHHS**, which provides transportation to a similar set of customers as transit agencies with different funding sources and eligibility requirements. Close coordination between MaineDOT and DHHS is needed, in particular to jointly establish a regional brokerage system for transportation and implement appropriate ride-sharing and cost allocation strategies.

» **GO MAINE** has an important role to play in disseminating information about and connecting travelers to transportation options.

» **Casco Bay Lines, Maine State Ferry Service, Isle au Haut Boat Service, Town of Cranberry Isles Commuter Ferry, Northern New England Passenger Rail Authority.** Although not the

focus of this plan, these entities provide importance services to Mainers, and important connections to Maine's over-the-road public transportation providers, which should be considered in implementing these strategies.

5.2 Funding Opportunities

Last year, Congress passed the Infrastructure Investment and Jobs Act surface transportation funding bill which, among many other provisions:

- Revises requirements for Metropolitan Planning Organizations, including to **expand considerations of housing** into the metropolitan transportation planning process.
- Updates reporting requirements for MaineDOT's annual **report on research activities** under the Public Transportation Innovation grant program.
- Modifies rules to assist state and local governments in **financing capital projects for bus and bus facilities** as well as transitioning to clean fuels by increasing the minimum allotment of grant funds for states.

5.2.1 Grants

In addition to significant overall increases in formula funding, the FTA has issued several **competitive grant programs** that could support the implementation of this plan. Relevant focus areas include investments in technology, initiatives to coordinate and enhance services to rural communities, and improving services to transportation-disadvantaged populations including older adults, persons with disabilities, communities with low incomes, and communities that are transportation insecure. Grant programs include:

- Integrated **mobility management or on-demand mobility** service projects ($1.3 billion).
- Innovative Coordinated Access and Mobility (**ICAM**) pilot programs ($5 billion).
- Public Transportation Innovation Program, and its **Mobility, Access, and Transportation Insecurity: Creating Links to Opportunity Demonstration Research Program** ($6 billion).
- **The Rural Surface Transportation Grant** program, which allows applicants to use one application to apply for up to three separate discretionary grant opportunities: Mega Grants, Infrastructure for Rebuilding America (INFRA) Grants, and Rural Surface Transportation Grants. This is a $2-billion program. Eligibility includes transit projects that

are part of an otherwise eligible project, integrated mobility management, or on-demand mobility service projects.

These competitive grants present annual opportunities for MaineDOT project development through federal fiscal year 2026. Most of the competitive grants require strong partnerships with local stakeholder and community entities. Federal grant applications are more likely to be successful if preparations begin well in advance of grant notice of funding opportunity (NOFO) cycles and are able to demonstrate clear benefits to the community. MaineDOT can assist with identification of grant opportunities and applications as necessary and helpful.

5.2.2 State-Level Funding Tools

There are several options at **the state level** to increase funding for transit. Common sources of state funding for public transit across the nation[19] include:

- Motor fuel taxes, which are used for public transportation in about half of the states.
- Dedicated specific fees or taxes, such as registration fees on motor vehicles, rental vehicle taxes, motor vehicle sales taxes, or sales taxes on goods.
- State transportation funds, similar to Maine's Multimodal Transportation Fund.
- General Fund allocations.
- Other alternative sources include cigarette taxes, ID card fees, lottery sales, toll revenues, and parking meter revenues.

Maine's options are limited, as the state constitution prohibits motor vehicle and motor fuel revenues from being used for purposes other than roads and bridges. While this plan does not specify or advocate any individual funding option, **Strategy 11** is to work with partners to identify and pursue funding opportunities to support the strategies and vision for Maine's public transportation system.

[19] "On Track: How States Fund and Support Public Transportation," National Conference of State Legislatures, June 2015, https://www.ncsl.org/research/transportation/on-track-how-states-fund-and-support-public-transportation.aspx#:~:text=Many%20states%20use%20common%20funding,finance%20mechanisms%20for%20public%20transportation

5.2.3 Local Funding

In addition to these options, local partnerships can help provide funding to support transit services. This can take many forms, such as direct contributions from municipalities, private businesses, or partnerships with other public agencies. Success stories in Maine include:

- The creation and improvement of the Island Explorer, which included a partnership between the National Park Service, six municipalities, significant private business contributions, the Friends of Acadia, and MaineDOT. One example is the midday Bar Harbor/Ellsworth service, which is a general public route funded entirely by the Jackson Laboratory.
- Key financial partners, including MaineGeneral Health, the University of Maine at Augusta, downtown Augusta employers, and Inland Hospital, support KVCAP's Kennebec Explorer transportation network.
- Other examples of local support include Southern Maine Community College in South Portland, the Black Bear Express in Orono/Old Town, and Sugarloaf Express in Franklin County.

Building on these success stories to creatively explore and enhance local-level funding sources can support additional services in places of need.

5.3 Investment Actions

This section includes recommendations for investing in transit improvements throughout Maine. Adopting any of the policy recommendations can be time-consuming, taking several months or perhaps years from start to finish.

The action recommendations in Table 5.1 include details related to:

- **What:** a description of the strategy, the strategy number it corresponds to, and the categories of needs from Table 3.1 that it addresses.
- **When**: the timeline for implementation of the recommendation:
  - Short-term: 1-3 years
  - Medium-term: 4-9 years
  - Long-term: >10 years

» **How Much:** the potential fiscal impact of implementation:

- $: <$50,000
- $$: $50,000-100,000
- $$$: $100,000-500,000
- $$$$: >$500,000

» **Where:** areas where the impact would be felt (local/regional/statewide).

» **Who**: which agency(ies) or group(s) would take the lead on implementation (typically MaineDOT, but also transit agencies, MPOs/RPOs, and/or other state agencies)

Actions are listed with short-term items first, and within that are listed by cost.

Table 5.1 Investment Actions

Description	Strat. #	Needs	When	Cost	Where	Who
Improve marketing and communication of transit services	3	1, 2, 5	Short term	$$$$	Local	Transit Agencies, Maine Transit Association, MaineDOT
Coordinate schedules and transfer points between agencies	4	1, 2	Short term	$$$$	Local	Transit Agencies, Ferry Services, Passenger Rail Services
Address driver and labor shortage issues	7	4	Short term	$$$$ - $$$$	Local/ Region	Transit Agencies, DOL, Educational Partners
Strengthen and encourage volunteer driver programs	5	1, 4	Short term	$$$$	State wide	Maine Council on Aging, MaineDOT
Procure a statewide asset management platform	9	6	Short term	$$$$	State wide	MaineDOT
Fully implement GTFS and GTFS-Flex statewide	3	1, 2, 6	Short term	$$$$	State, local	MaineDOT, Transit Agencies
Expand GO MAINE	3	1, 2, 3, 5, 6	Short term	$$$$	State wide	MaineDOT, Maine Turnpike Authority
Improve coordination among MaineDOT services and other state agencies	1	1, 2, 3, 7	Short term	$$$$	State wide	MaineDOT, DHHS, CCAM
Enable access to scheduling software at transit agencies statewide	5	1, 2, 5, 6	Short term	$$$$	State wide	MaineDOT, Transit Agencies
Increase transit service as warranted	2	1, 2, 5	Short term	$$$$ - $$$$	Local	MaineDOT, Transit Agencies

Description	Strat. #	Needs	When	Cost	Where	Who
Pursue funding to support the strategies and vision for Maine's public transportation system	11	1, 2, 3, 4, 5, 6, 7	Short term	**$$$$**	State wide	State Legislature, MaineDOT, Maine Transit Association
Pilot creative solutions for workforce transportation	5	1, 3	Short term	**$$$$**	State wide	MaineDOT, Local Partners
Implement modern fare payment systems	4	1, 2, 6	Short term	**$$$$**	State wide	MaineDOT, Transit Agencies
Continue transition to electric, hybrid, and other low- and zero-emission vehicles	8	5	Short term	**$$$$**	State wide	Transit Agencies, MaineDOT
Enhance transit amenities statewide	6	1, 2, 5	Medium term	**$**$$$ - **$$$$**	Local	MaineDOT, Transit Agencies
Develop a statewide cooperative vehicle purchasing program	10	4	Medium term	**$**$$$ - **$$$$**	State wide	MaineDOT, Transit Agencies
Fully implement CAD/AVL systems statewide	3	1, 2, 5, 6	Medium term	**$$$$**	State wide	MaineDOT, Transit Agencies

TRANSIT TOMORROW

The Long-Range Public Transportation Plan For Greater Portland, Maine

(2020-2050)

March 2021

Transit Tomorrow

EXECUTIVE SUMMARY

WE WANT TO IMPROVE THE PUBLIC TRANSPORTATION SYSTEM.

GREATER INVESTMENT IN PUBLIC TRANSIT WOULD ALLOW US TO MEET THE GROWING DEMANDS PLACED ON OUR TRANSPORTATION NETWORK, REDUCE CONGESTION AND ITS ASSOCIATED ENVIRONMENTAL IMPACTS, AND EMPOWER PEOPLE FROM ALL WALKS OF LIFE WITH RELIABLE ACCESS TO AFFORDABLE TRANSPORTATION.

Photo: Corey Templeton

PUBLIC TRANSPORTATION IN GREATER PORTLAND IS ON THE MOVE. In the last decade, we have added train runs and bus routes, expanded service hours, and upgraded terminals, stations, and stops. Prior to the COVID-19 pandemic, more and more people were riding our buses, trains, and ferries. Residents, community leaders, businesses, and visitors want, and deserve, more. To meet demand, we need to plan for the future. *Transit Tomorrow* is the long-range public transportation plan for Greater Portland, a shared vision for how to improve and expand our network of buses, trains, ferries, and mobility services over the next 30 years.

METRO's Falmouth Flyer crossing the Martin's Point bridge en route to Falmouth. Photo: GPCOG

Why Public Transportation?

Whether you ride or not, our entire region benefits from a robust public transportation network. Here are a few reasons why:

- **Greater Portland is growing.** In both population and jobs, our region is on the rise.
- **We cannot build our way out of congestion.** We lack the resources, and physical space, to build more roads; research has also shown that more roads attract more drivers, so any congestion relief is temporary or limited.
- **The environmental impacts of our transportation system are unsustainable.** In emissions alone, transportation is responsible for 54% of Maine's greenhouse gas emissions, up from 44% in 1990.[1]
- **Our economy depends on public transportation.** Transit connects people to opportunity and jobs, building a stronger regional workforce and economy.
- **Our people depend on public transportation.** As the COVID-19 pandemic and racial justice demonstrations of 2020 have highlighted, transit is vital in providing equitable access to transportation and a critical link to work for many essential workers.

Greater investment in public transit would allow us to meet the growing demands placed on our transportation network, reduce congestion and its associated environmental impacts, and empower people from all walks of life with reliable access to affordable transportation.

What is Our Vision?

We envision a regional public transportation system that stimulates economic development, enhances great places, reduces climate pollution, expands mobility, and elevates the customer experience.

Our vision is that by 2050...

> Using our region's public transportation is faster and more affordable than driving a car. Our system is funded sustainably and provides reliable and seamless transportation for our community, including commuters, mainland and island residents, and people with mobility challenges. Our communities support the long-term viability of public transportation by focusing new homes and jobs where people already live and work.

How Do We Get There?

To achieve our vision, *Transit Tomorrow* proposes a four-part strategy that includes the goals of making transit easier, creating more frequent connections throughout the region, improving rapid transit opportunities to connect our region's major market centers, and implementing transit-friendly land use policies that support more development in our villages and downtowns already served by transit.

[1] Maine Climate Council, 2020.

Make Transit Easier

WE WANT TO IMPROVE THE TRANSIT EXPERIENCE. The Make Transit Easier recommendations focus on creating seamless access to the region's public transportation system for everyone, regardless of age, income, language, race/ethnicity, ability, or geography. This includes services like carpooling/vanpooling and Uber/Lyft, as well as pedestrian and bicycle infrastructure that offer critical connections to the system.

The recommendations call for increased coordination, partnerships, and investments that build the foundation for needed infrastructure and technology. Success will mean the customer experience is universally simple and convenient across all seven of the region's transit providers.

Recommendations

- **Adopt innovative customer service technology:** Provide fare payment, trip planning, and real-time vehicle information in one website and app. This technology would simplify the customer experience and make transit a more convenient choice for riders. Additionally, pursue new technology to enhance communication between paratransit providers and customers.
- **Advance partnerships with businesses and anchor institutions:** Launch a Transportation Management Association that will work with employers to promote transit and transit-supportive initiatives such as rideshares, parking solutions, and walking and biking to reduce congestion and worker costs. Partner with social services to provide reduced fares to low-income households.
- **Enhance first and last mile connections:** Enable more people to use fixed route transit through more welcoming places to wait, better sidewalks, crosswalks, shared use paths, and bike paths, and through partnerships with bike share programs and shared mobility services.
- **Strengthen coordination among providers:** Harness mobility management strategies to engage community partners and provide avenues for better coordination among transportation providers of all modes — including community transportation, volunteer driver programs, and providers of MaineCare-funded transportation.

Our goals are to...

Make it easier for people to choose public transportation over a personal vehicle.

Ensure those who rely on public transportation have easy and dependable access.

Enable more people with mobility challenges to access fixed-route transit.

Photos: GPCOG

- **Improve door-to-door options:** Expand and improve options for riders who need door-to-door service due to mobility challenges or geography. Solutions include expanding volunteer driver programs, advancing user-focused improvements to paratransit, and exploring microtransit — small-scale public services that offer flexible routes and on-demand scheduling.

Implementation

The Make Transit Easier recommendations are all achievable within the next decade and some are already being pursued. Compared to other improvements in *Transit Tomorrow*, the costs of the Make Transit Easier recommendations are within our existing means. Additionally, many are eligible for federal funding, and several can save transit agencies money by increasing efficiency and effectiveness. In this respect, these recommendations are highly cost effective.

The Make Transit Easier section of the plan describes each of these recommendations in greater detail and outlines how we plan to achieve them. Over the next ten years, we intend to work with our transit providers, communities, and stakeholders throughout the region to invest in new technology, improve access to transit, and provide flexible alternatives for areas where traditional bus service does not work well.

Create Frequent Connections

WE ENVISION A FUTURE where you can walk out the door knowing that reliable public transit will come soon and take you where you want to go. To meet that high expectation, *Transit Tomorrow* recommends significant frequency and span of service improvements as well as expansion of service to new places. The frequency improvements ensure you will never have to wait long to catch your ride, while the expansion improvements ensure transit will be available in more places. Focusing on frequency and span of service first will allow the transit system to most effectively serve our region's existing urban areas and lay the groundwork for future expansion as demand warrants.

Recommendations

- **Improve frequency and service hours:** The first priority is to target resources to the existing routes serving our most populated urban areas. These routes should increase frequency over time to every 10 minutes for most of the day and every 20 minutes for when demand is lower; service hours should also extend to 6 a.m. to midnight seven days per week.
- **Add local circulator routes:** As demand for transit increases, add six new local circulator routes. These routes, shown in Figure 1, would make frequent stops and loop around our region's major destinations and centers of activity.
- **Create new connections:** To make transit more accessible throughout the region, three new routes are proposed to connect our region's suburban and rural communities not currently served by transit.

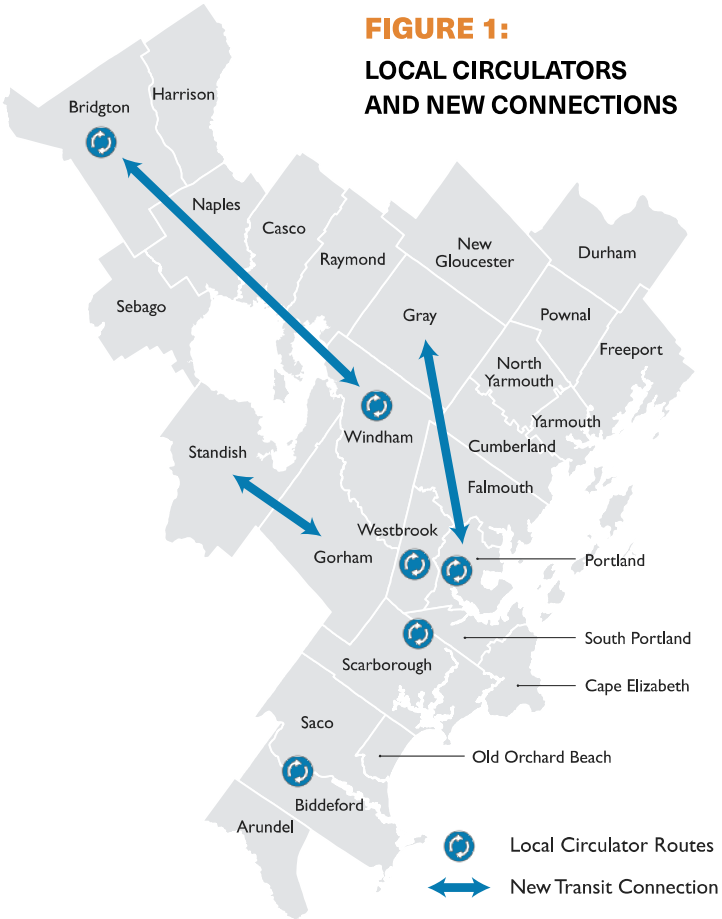
Implementation

A new study underway, called *Transit Together*, will develop an implementation plan for a regionally coordinated and integrated transit network, including strategies to make the system more seamless to ride and more efficient to operate.

Improving the frequency and service hours of routes serving our region's most populated urban areas is the first priority. A new study, *Transit Together*, will make detailed recommendations for how to accomplish these goals. As the desire for using transit increases, Figure 1 shows locations throughout the region where local circulator routes and new connections are proposed.

Above: The Mill Creek Transit Hub in South Portland. Photo: GPCOG

FIGURE 1:
LOCAL CIRCULATORS AND NEW CONNECTIONS



Improve Rapid Transit

AS OUR REGION CONTINUES TO GROW, developing a network of fast, reliable, high-capacity transit corridors will be crucial to achieve *Transit Tomorrow*'s vision. Rapid transit, whether bus rapid transit (BRT), light rail transit (LRT), or commuter rail, often operate separately from vehicle traffic on their own designated right-of-way and/or have traffic signal priority at intersections. This allows them to swiftly bypass congestion and delays and stay on schedule. A regional rapid transit system would provide the type of fast, regional access generally enjoyed by drivers, but denied to those who are unable to drive or choose not to.

Recommendations

- **Rapid transit corridors:** The phased implementation of rapid transit would mark a major transformation in how we move around the region. It would allow us to meet the growing demands placed on our transportation network without building new roads or inducing more vehicle travel. Put simply, if transit is the fastest and most convenient option, people are more likely to take it.

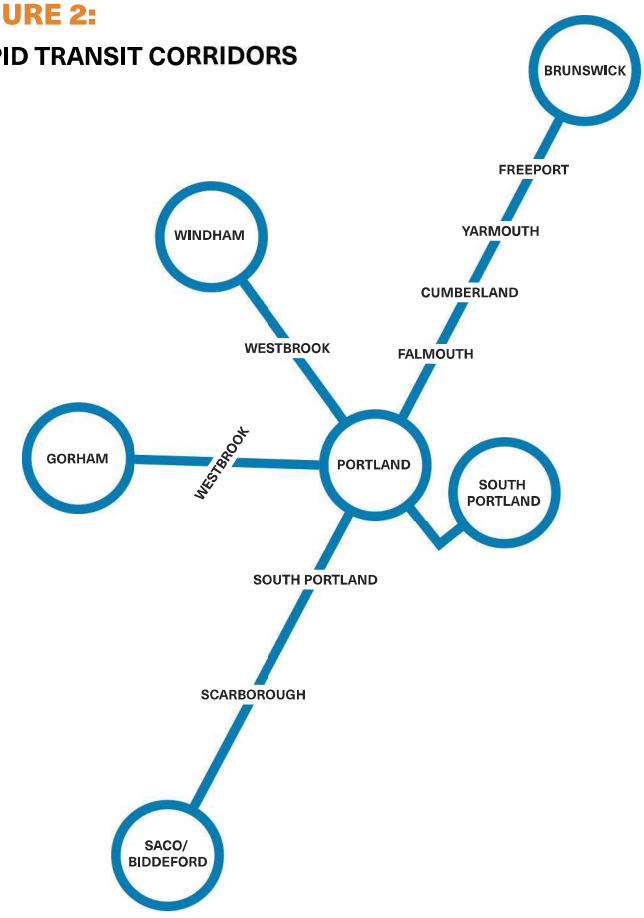
Our preliminary evaluation shows rapid transit is appropriate for several corridors, to varying degrees, connecting major markets in the region. These corridors, shown conceptually in Figure 2, were identified based on current and projected population, socioeconomic characteristics, existing public transit services, and regional employment and commuting patterns.

Implementation

For each corridor, specific route and mode choices would need further evaluation. For example, the corridor between Biddeford/Saco and Portland includes the Maine Turnpike, U.S. Route 1, and the Downeaster rail line, all of which have current transit service and any one of which could be candidates for developing rapid transit. An "alternatives analysis" is the process for evaluating these options and is required to be eligible for federal funding.

FIGURE 2:

RAPID TRANSIT CORRIDORS



Our evaluation shows rapid transit is appropriate for several corridors connecting major markets in the region (Figure 2). For each corridor, specific route and mode choices would need further evaluation. An "alternatives analysis" is the process for evaluating these options and is required for federal funding eligibility.

Above: The Amtrak Downeaster crossing the Saco River. Improving the frequency of the Downeaster is one recommendation for providing more rapid transit service in the region.

Create Transit-Friendly Places

TO FULLY REALIZE THE IMPROVEMENTS this plan envisions, we will need to sensibly manage where, and how, future growth and development occurs in the region. In the last few decades, much of our region's growth has occurred in suburban and rural areas, away from job centers and services. This sprawling development pattern is difficult and expensive to serve by public transit. For this reason, the main goal of the Create Transit-Friendly Places recommendations is to expand housing choices and jobs within walking distance of our major priority centers and corridors that are most critical for supporting public transportation. Figure 3 shows the general locations of these centers.

Land use, zoning, and street design decisions occur at the local level and are the building blocks for successful public transportation (MaineDOT also has an important role in most street design decisions). However, PACTS can influence these decisions through its policies and through incentives to fund projects that demonstrate the integration of public transportation and land use.

Urban to rural development pattern in Biddeford and Saco. Photo: Dave Cleaveland, Maine Imaging

While PACTS has no direct influence over land use, PACTS members do. PACTS member municipalities, as well as cities and towns in the GPCOG region, can adopt transit supportive land use policies. The Create Transit-Friendly Places recommendations identify actions PACTS can take to better align the Transit Tomorrow vision with local land use policies.

Recommendations

- **Zone for public transportation:** Work with municipalities to adopt zoning and policy changes that are compatible for higher density, walkable neighborhoods served by public transportation.
- **Target investments to places that support public transportation:** Prioritize funding to places where people already live, work, visit, and use public transportation, and, where surrounding land use and zoning encourage transit-supportive development.
- **Create TOD plans:** Create transit-oriented development (TOD) plans for all priority transit centers. TOD plans identify ways to maximize the amount of residential, business, and leisure space within walking distance of a major public transportation hub.
- **Ensure complete streets:** Adopt a regional complete streets policy—and support municipalities with local policies—to ensure streets are walkable, bikeable, and provide safe access to transit for all users regardless of age or ability.
- **Protect open spaces:** Coordinate with local conservation groups to help protect natural resources and open spaces through conservation planning.

Implementation

The recommendations above lay the groundwork for "transit-friendly" policy choices and investment decisions. While these recommendations do not bear the same financial burdens as transit service improvements, it takes hard work, time, and buy-in from local communities, and MaineDOT, to enact meaningful land use and street design changes. Additionally, the costs in staff time (or consultant fees) to revise land use codes or draft complete streets policies, for example, can be exorbitant for municipalities currently struggling to balance budgets amidst a pandemic. The Create Transit-Friendly Places section in the plan, and implementation table (Table 1a/1b) at the end of this document, outline in more detail how PACTS intends to achieve these recommendations.

What Next?

***TRANSIT TOMORROW* IS INTENTIONALLY AMBITIOUS** and would dramatically improve public transportation in our region. However, these improvements are expensive and cannot happen all at once. The implementation table below outlines our strategy for how to achieve the *Transit Tomorrow* vision, step by step, over the next 30

TABLE 1a:

IMPLEMENTATION TABLE

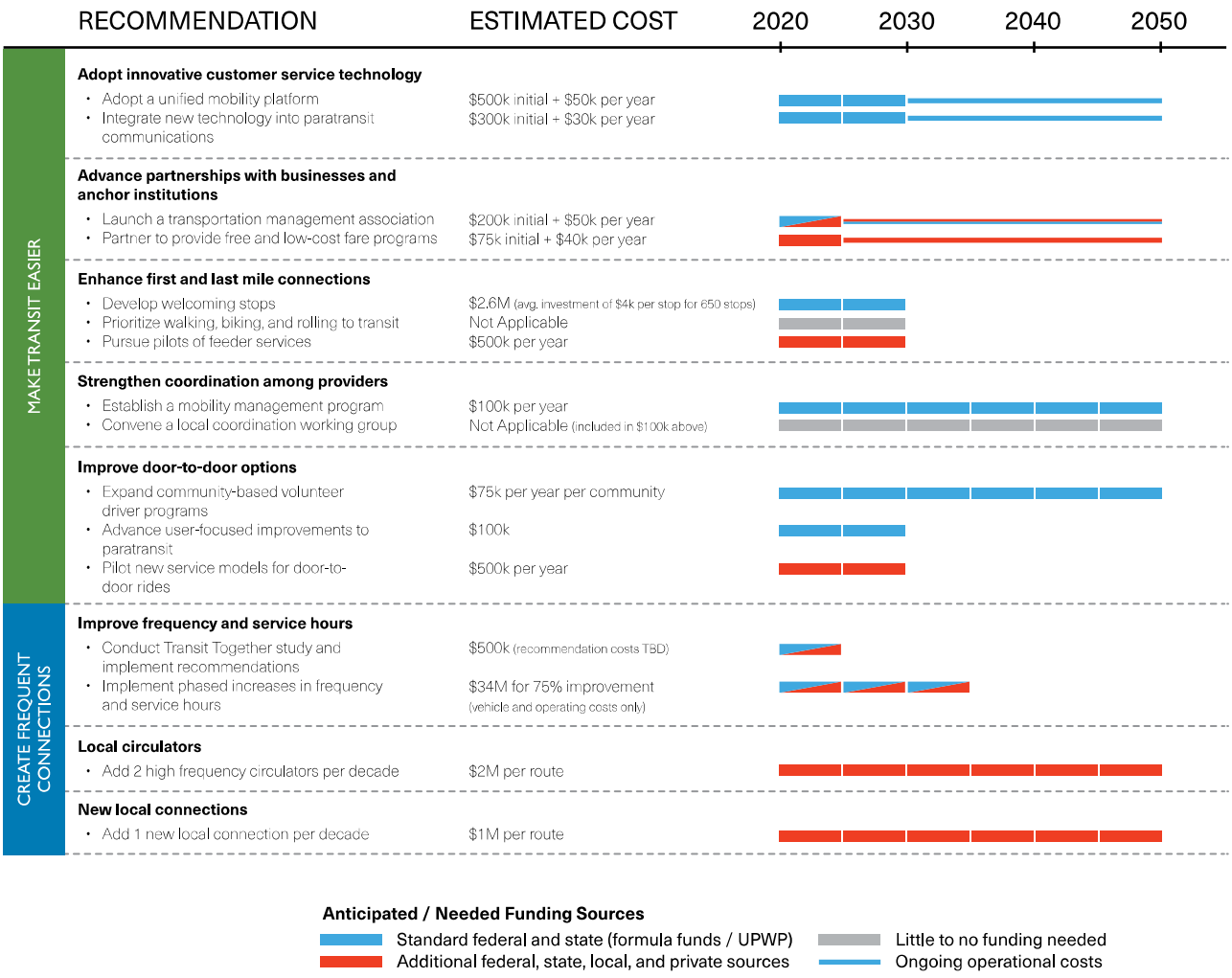
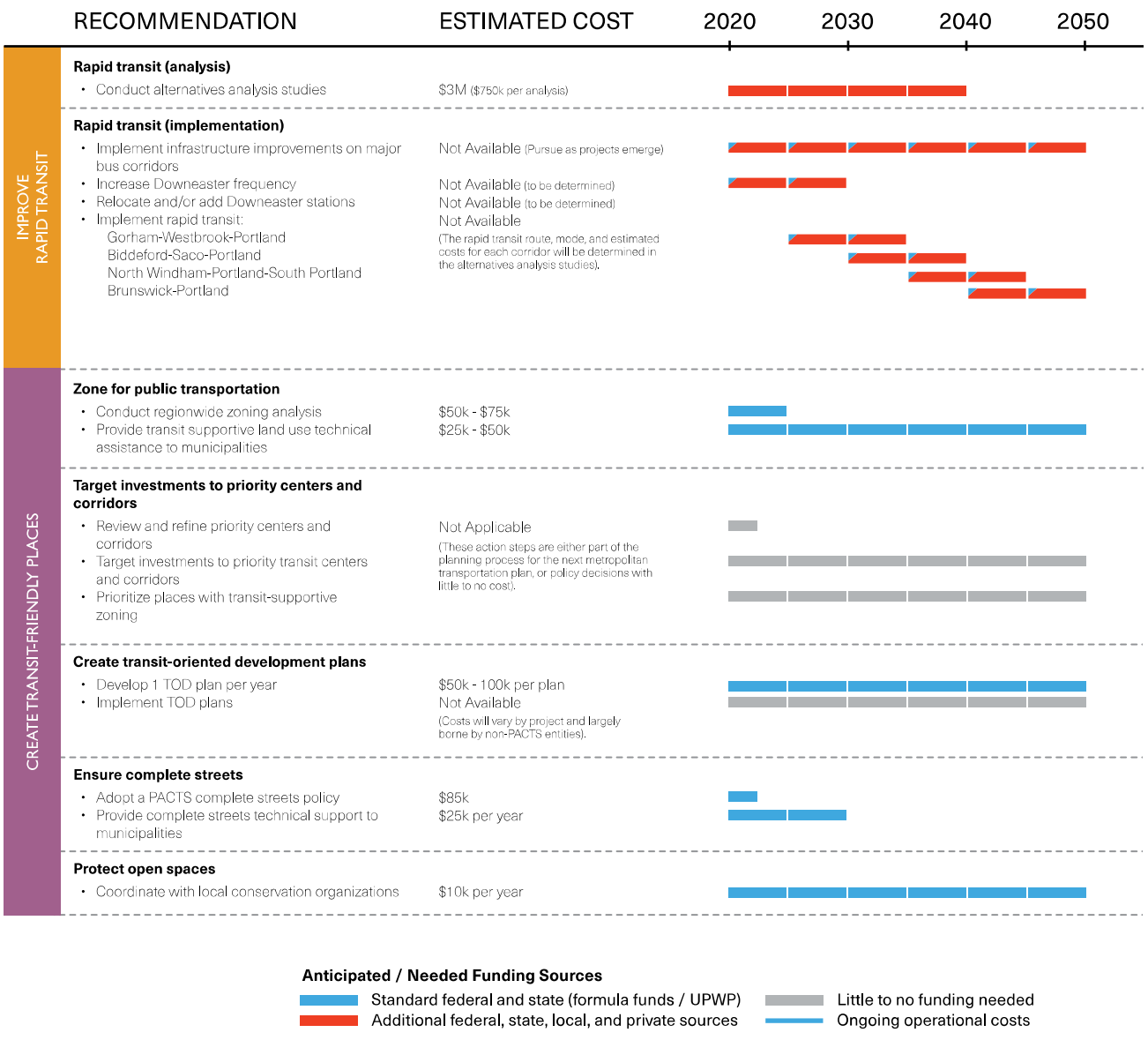


TABLE 1b:

IMPLEMENTATION TABLE



2 Vision

***TRANSIT TOMORROW'S* VISION** results from extensive public outreach, peer agency and best practices research, and input from the region's key stakeholders, including the diverse and engaged members of the Project Advisory Committee (PAC). This engagement resulted in an overarching vision that serves as a set of guiding principles informing the goals and recommendations outlined in this plan.

Our vision is that by 2050...

> **Using our region's public transportation is faster and more affordable than driving a car. Our system is funded sustainably and provides reliable and seamless transportation for our community, including commuters, mainland and island residents, and those with limited mobility options. Our communities support the long-term viability of public transportation by focusing new homes and jobs where people already live and work.**

The successful implementation of this vision will create a regional public transportation system that stimulates economic development, enhances our region's great places, reduces climate pollution, expands mobility, and elevates the customer experience.

Photo: GPCOG

Casco Bay Lines ferries at the dock. Photo: Corey Templeton

5 Existing Conditions

Transit Providers

Greater Portland has a complex public transportation landscape with seven providers, each with different service areas, modes of service, varying target populations, and a diversity of trip types.

- **Biddeford Saco Old Orchard Beach (BSOOB) Transit** is an urban fixed-route bus network in Biddeford, Saco, and Old Orchard Beach with regional service to Scarborough, South Portland, and Portland.
- **Casco Bay Lines (CBL)** is a ferry service connecting Casco Bay islands with Portland.
- **Greater Portland METRO** is an urban fixed-route bus network in Portland and serves surrounding communities as far west as Gorham and north as Brunswick with regional service.
- **Northern New England Passenger Rail Authority (NNEPRA)** manages the operations of the Downeaster, a passenger rail service between Boston, Portland, and Brunswick with intermediate stops.
- **Regional Transportation Program (RTP)** operates both a shared-ride demand response service that requires riders to book trips in advance and the Lakes Region Explorer — a fixed route bus service between Bridgton and Portland. RTP is the ADA paratransit provider for Cumberland County and provides many MaineCare-funded rides. In addition to staff drivers who operate buses and vans, RTP has volunteer drivers who use their own vehicles and are reimbursed by a mileage rate.
- **South Portland Bus Service (SPBS)** is an urban fixed-route bus network in South Portland with service to Portland and Scarborough.
- **York County Community Action Corporation (YCCAC)** offers a range of transportation options, available to the general public and equipped for people with disabilities. These services include both public transportation and contracted/special service transport. In addition to staff drivers who operate buses and vans, YCCAC has volunteer drivers who use their own vehicles and are reimbursed by a mileage rate demand response transportation.
- **Other Providers:** In addition to the primary public transportation agencies, there are a variety of private and nonprofit transportation providers, including taxis, water taxis, intercity bus operators, independent demand response providers, grassroots volunteer driver programs, and ride-hailing services such as Uber and Lyft.

Most of the Greater Portland region receives some level of public transportation service, even the outlying suburban and rural communities. While the fixed-route system is concentrated in the Portland and coastal areas of the region, there are some routes connecting outlying communities to the urban core. Demand response services like RTP and YCCAC fill the gaps for much of the remaining service area.

Amtrak Downeaster in Portland. Photo: NNEPRA

8 Goals & Recommendations

***TRANSIT TOMORROW* PROPOSES** a four-part strategy centered on the overarching goals of: 1. Making transit easier; 2. Creating more frequent connections throughout the region; 3. Embracing rapid transit options (such as bus rapid transit, light rail, and commuter rail) to connect our region's major market centers; and 4. Implementing land use policies that support more development intensity in our urban areas already served by transit.

Transit Tomorrow's recommendations are ambitious but anchored by the concepts of making hard choices, facing difficult trade-offs head-on, and — where appropriate — acknowledging resource constraints by prioritizing some recommendations over others.

The recommendations developed from these goals were shaped by public input, extensive technical analysis, national industry best practices, and the experiences of peer regions. They also consider the results of the scenario modeling exercise, conducted as part of this planning process, that showed the many benefits of compact land use patterns combined with targeted investments in our public transportation system.

Transit Tomorrow's recommendations are ambitious but anchored by the concepts of making hard choices, facing difficult trade-offs head-on, and — where appropriate — acknowledging resource constraints by prioritizing some recommendations over others. Although *Transit Tomorrow* is a visionary plan, it is worth mentioning that preserving our existing assets, and maintaining a state of good repair, will always remain a critical consideration.

While each recommendation moves the region one step closer to achieving the *Transit Tomorrow* vision, the plan recognizes these improvements cannot happen all at once; *Transit Tomorrow* — and our public transportation system — cannot be all things to all people.

METRO buses at the Elm Street Pulse. Photo: Corey Templeton

Goal 1:

Make Transit Easier

WE WANT TO IMPROVE the transit experience. The Make Transit Easier recommendations focus on creating seamless access to the region's public transportation system for everyone, regardless of age, income, language, race/ethnicity, ability, or geography. This includes services like carpooling/vanpooling and Uber/Lyft, as well as pedestrian and bicycle infrastructure that offer critical connections to the system.

The recommendations call for increased coordination, partnerships, and investments that build the foundation for needed infrastructure and technology. Success will mean the customer experience is universally simple and convenient across all seven of the region's transit providers.

Recommendations

- **Adopt innovative customer service technology:** Provide fare payment, trip planning, and real-time vehicle information in one website and app. This technology would simplify the customer experience and make transit a more convenient choice for riders. Additionally, pursue new technology to enhance communication between paratransit providers and customers.
- **Advance partnerships with businesses and anchor institutions:** Launch a Transportation Management Association that will work with employers to promote transit and transit-supportive initiatives such as rideshares, parking solutions, and walking and biking to reduce congestion and worker costs. Partner with social services to provide reduced fares to low-income households.
- **Enhance first and last mile connections:** Enable more people to use fixed route transit through more welcoming places to wait, better sidewalks, crosswalks, shared use paths, and bike paths, and through partnerships with bike share programs and shared mobility services.
- **Strengthen coordination among providers:** Harness mobility management strategies to engage community partners and provide avenues for better coordination among transportation providers of all modes — including community transportation, volunteer driver programs, and providers of MaineCare-funded transportation.
- **Improve door-to-door options:** Expand and improve options for riders who need door-to-door service due to mobility challenges or geography. Solutions include expanding volunteer driver programs, advancing user-focused improvements to paratransit, and exploring microtransit — small-scale public services that offer flexible routes and on-demand scheduling.

Strengthen Coordination Among Providers

Achieving the seamless customer experience envisioned by this plan will require better coordination among the region's transportation providers — including not only fixed route providers but also demand response, community-based volunteer driver programs, and providers of MaineCare-funded transportation. Coordinating across services leads to more efficient use of limited resources and sharing of existing community resources. Coordination also enables shared communications, messaging, and training across services — which can improve the public's understanding about how the system works.

In communities where coordination is a priority, people benefit from more extensive service, lower costs, and easier access to transportation. In order to reap the benefits of coordination, formal coordinating mechanisms are needed. Across the U.S., public transportation and demand response providers are increasingly using mobility management programs to maximize their ability to coordinate. Mobility management programs provide the needed capacity and technical support for outcome-driven regional coordination. Likewise, local coordinating boards offer a valuable venue for cross-sector and interagency cooperation and can serve as a catalyst for achieving regional goals.

Action Steps:

- **Establish a mobility management program:** Led by a full time Mobility Manager (housed at GPCOG) the program will provide formal support for improving coordination across providers and modes. The multi-sector orientation of a Mobility Manager also means coordination will be approached in a way that emphasizes engaging the many stakeholders needed to improve transit — from employers and economic development groups to human service agencies to local elected leaders and transit riders. The Make Transit Easier recommendations, and a regional needs assessment, will inform program development for this initiative. The mobility management program will be informed by membership in the Moving Maine Network. This statewide initiative is convening stakeholders across numerous sectors to improve transportation access and to connect mobility management efforts around the state.
- **Convene a local coordination working group:** With convening and facilitation by GPCOG, the Working Group will be a multi-sector group that provides an ongoing venue for pursuing and monitoring coordination across the continuum of public transportation services in the region. The Working Group will advise on implementation of many of the recommendations contained in the Make Transit Easier section.

What is a mobility management program?

A mobility management program improves coordination, efficiency, and performance through a focus on the following key activities:

- **Cultivating partnerships:** Strong relationships are at the core of a mobility management program — including not just transportation providers and planners, but businesses, nonprofits, government agencies, and other community stakeholders.
- **Conducting program evaluation and assessment:** Mobility management tracks outcomes using quantitative and qualitative methods.
- **Facilitating design and implementation of local and regional solutions:** Mobility management brings partners together to develop solutions to fit the community's needs and secure resources to achieve the vision.
- **Expanding low-cost programs:** Mobility management assists with expanding the number of volunteer drivers and transit ambassadors to facilitate access among people with moderate to low mobility levels.
- **Applying universal design principles:** Mobility management seeks to create a transit system that may be accessed, understood and used by people of any age or size or having any physical, sensory, mental health or intellectual ability or disability.

Rider who uses a wheelchair boarding an RTP van. Photo: GPCOG

Improve Door-To-Door Options

Even with a robust public transportation system, some riders simply need door-to-door service — because of mobility challenges or lack of a personal vehicle to reach stops. While transportation network companies (like Uber and Lyft) are expanding transportation options for many, cost, limited geography, and lack of accessible vehicles means they are not the solution for everyone. Likewise, grassroots volunteer driver programs continue to be a flexible and low-cost solution for providing rides, but not every community in the Greater Portland region has access to one.

Many rely on the region's two demand response providers — the York County Community Action Corporation (YCCAC) and the Regional Transportation Program (RTP) — for accessible, door-to-door service. However, the service can be expensive to operate and cumbersome or inconvenient for customers. Service today requires that reservations are made one to three days ahead and offers a 60-minute pickup window. This can make the service difficult to use if travel needs are spontaneous or time is limited.

To enhance door-to-door options in the Greater Portland region, we need to expand community-based volunteer driver programs, improve the user experience of paratransit, and pilot new demand response service models, such as microtransit, for door-to-door rides.

Action Steps:

- **Expand community-based volunteer driver programs:** Partner with state and regional stakeholders to support communities in developing new and expanded volunteer driver programs on the municipal and regional level. The effort will focus on enabling communities to develop locally tailored programs and advance opportunities to share resources and tools. Key players include municipal governments, age-friendly community groups, and the Maine Department of Transportation.
- **Advance user-focused improvements to paratransit:** Develop a strategic plan for improving paratransit in the region including strategies to address frequent rider concerns regarding travel time, the wait time for rides, and the amount of advance reservation time required when booking a ride. YCCAC and RTP share many of the challenges faced by paratransit providers around the country: strict regulations, restricted budgets, and reliance on volunteer drivers. With guidance from the local coordination working group, this initiative will rely on best practices research to develop steps for upgrading technology and operating systems.
- **Pilot new service models for door-to-door rides:** The region's transit agencies will undertake targeted pilot programs of subsidized, on-demand rides designed to service key populations. These microtransit pilots will be designed to serve areas with inadequate service or to address specific door-to-door needs like grocery shopping.

What is microtransit?

Microtransit consists of smaller vehicles, generally running on demand and with flexible routing. It can provide cost-effective service in transit deserts, reduce costs of service in areas with lower ridership, or function as a feeder to fixed-route service.

The city of Norwalk, Connecticut's **Wheels 2 U** program uses microtransit to supplement the public transportation system within a defined service area. Riders use an app to request rides. The service replaces fixed-route service in the evenings when ridership is low. Sharing vehicles with daytime paratransit service reduces costs.

Jersey City, New Jersey offers city-wide microtransit through the company **Via** to provide rides to areas underserved by transit. Top destinations include many transit centers, which suggests the service is supplementing, rather than replacing, the existing transit.

Menlo Park, California offers a free door-to-door **"Shoppers' Shuttle"** a few days a week. A morning shuttle picks up all passengers who have made reservations, then drops them off at various stores and plazas. The shuttle then returns to pick up all passengers after approximately 2 hours shopping time. Since the schedule is flexible, drivers are available to help passengers carry packages or groceries to their door.

Goal 2:

Create Frequent Connections

WE ENVISION A FUTURE where you can walk out the door knowing that reliable public transit will come soon and take you where you want to go. To meet that high expectation, *Transit Tomorrow* proposes significant frequency and span of service improvements as well as expansion of service to new places. The frequency improvements ensure you will never have to wait long to catch your ride, while the expansion improvements ensure transit will be available in more places. Focusing on frequency and span of service first will allow the transit system to most effectively serve our region's existing urban areas and lay the groundwork for future expansion as demand warrants.

Recommendations

- **Improve frequency and service hours:** The first priority is to target resources to the existing routes already serving our most populated urban areas and areas designated for growth. These routes should increase frequency over time to every 10 minutes for most of the day and every 20 minutes for when demand is lower; service hours should also extend to 6 a.m. to midnight seven days per week.
- **Add local circulator routes:** As demand for transit increases, add six new local circulator routes. These routes, shown in Figure 21, would make frequent stops and loop around our region's major destinations and centers of activity.
- **Create new connections:** To make transit more accessible throughout the region, three new routes are proposed to connect the suburban and rural communities not currently served by transit.

The main factors guiding these recommendations were public input, the peer region transit market comparisons, and an extensive analysis of Greater Portland's transit market. Public input placed an emphasis on improving the frequency of the existing transit service over expanding to new markets. The comparison to peer regions also showed that Greater Portland substantially lags behind other region's transit systems in frequency and span of service. Lastly, the transit market analysis found that while Portland's urban areas are the strongest part of the transit market, pockets of local, unmet demand exist throughout the region.

The first priority is to target resources to the existing routes already serving our most populated urban areas and areas designated for growth.

FIGURE 21:
LOCAL CIRCULATORS AND NEW CONNECTIONS

Figure 21 shows the conceptual locations for where local circulator routes and new connections may be warranted. The first priority of the Create Frequent Connections recommendations, however, is to improve the frequency and service hours of existing service.

The Mill Creek Transit Hub in South Portland. Photo: GPCOG

Implementation

The recommendations described here — primarily oriented to the region's bus network[2] — recognize that level of service exists on a spectrum. Local communities throughout the region should have access to transit that is appropriately scaled to demand, financially sustainable, and sufficient to meet at least the essential needs of the area's residents.

Improving the frequency and span of service of the existing public transportation network as well as expanding service to new places will require significant investment. Within a fixed budget, these represent two competing objectives. Devoting more resources to increasing frequency means less resources available to expand to new places, and vice versa. If we want to do more of one, we need to do less of the other.

In considering this tradeoff there is no right answer. It is a choice based on preferences and values. During the public engagement phase, we learned the overarching sentiment favors increasing frequency of service over expanding to new locations. Key factors behind this response are a strong desire to invest in transit where it is most viable, to support additional growth and development in the region's urban areas, and the fact that much of our existing network is not operating at a frequency convenient enough for many would-be riders.

Prioritizing frequency, however, does not mean every route must have 10-to-20-minute frequency before transit agencies develop new routes. In fact, many transit agencies throughout the country develop a consensus policy on a percentage split of resources between the different goals. There are also opportunities for additional funding described in greater detail in the Sustainable Funding section.

Prioritization

Implementing these recommendations in a carefully coordinated and phased approach will ensure the transit network is efficient and builds to a level of service that allows seamless connections to our region's major destinations. When choices need to be made, however, this plan recommends the following prioritization: 1. Improve the frequency and service hours of the existing transit network; 2. Add local circulator routes within the region's most active centers; and 3. Create new connections to suburban and rural communities.

[2] Opportunities for improving the frequency of the Amtrak Downeaster are outlined in greater detail in the Improve Rapid Transit section. The frequency of ferry service provided by Casco Bay Lines to island communities is a delicate balance between meeting the needs of island residents as well as visitors and tourists. Casco Bay Lines works closely with each community to determine the appropriate schedule for each route. The highest priority for the ferry system is safety and maintaining a state of good repair.

- **Improve frequency and service hours of the existing network**

The areas of the region with current public transportation service that show the strongest potential for increasing frequency and service hour improvements include Portland, South Portland, Westbrook, and Biddeford and Saco. In Portland, the Casco Bay Lines ferry terminal and the Downeaster station (current or future location) stand out as focus areas for more frequent connections.

A new study underway, called *Transit Together*, will develop an implementation plan for a regionally coordinated and integrated transit network, including strategies to make the system more seamless to ride and more efficient to operate.

- **Add local circulator routes in key locations as demand warrants**

The local circulator routes are designed to provide high frequency service within the region's most active centers as well as tie into the proposed rapid transit corridors. For example, someone living in Westbrook could use a local circulator as a convenient way to get around Downtown Westbrook, or they could use it to connect to a rapid transit option to quickly get to Portland.

Table 6, below, shows the areas of the region with the strongest potential for local circulator routes.

TABLE 6:

IDENTIFIED AREAS FOR LOCAL CIRCULATOR ROUTES

Town/City	Area Served	Identified Need
Portland	• Portland Peninsula • Off-Peninsula neighborhoods	Portland is the largest city in the region (and Maine) and a major center of services. In addition to other types of trips, the most common commute pattern in the region is Portland residents commuting to jobs in Portland.
Westbrook, Gorham, Portland	• Main Street Westbrook • Downtown Gorham • Off-Peninsula Portland neighborhoods	Current service is focused on connections between Westbrook, Gorham, and the Portland Peninsula along Routes 25 and 302. There is also demand for service within these outer communities and Portland.
Biddeford – Saco	• Downtown Biddeford • Downtown Saco	Together, the two communities are one of the largest, and fastest growing, urban areas in the region.
Bridgton	• Downtown Bridgton • Bridgton Hospital • Bridgton schools	There is significant internal travel within Bridgton.
Windham	• North Windham • Windham Center • Little Falls	There are a substantial number of jobs in North Windham and a growing residential population.
Scarborough, South Portland	• Route 1 corridor • Oak Hill • The Downs • Maine Mall • Redbank / Brick Hill	Transit service in Scarborough is currently limited. What does exist is mainly focused on regional connections along the Route 1 and I-95 corridors and not internal travel within Scarborough. There is demand for local circulation both within and between Scarborough and South Portland.

9 Implementing the Plan

IMPLEMENTING THE RECOMMENDATIONS — the rapid transit corridors in particular — will be a challenging, long-term endeavor. Consideration must be given to building political and community support, identifying sustainable funding sources, and prioritizing projects for implementation. The strength of the shared regional vision must be the guiding path for the accumulated discrete decisions that will build the future public transportation systems of southern Maine.

Benefits of *Transit Tomorrow*

The suite of recommendations presented in *Transit Tomorrow* are transformational for the region. Improving the region's public transportation system, and access to it, can yield significant social and environmental benefits.

Emissions Reductions

To get a rough estimate of the greenhouse gas (GHG) benefits associated with *Transit Tomorrow*, the project team conducted an emissions comparison between Greater Portland's current public transportation network and the full build out envisioned in *Transit Tomorrow*. For this analysis, the project team used the Transportation Research Board's emissions calculator tool.[3] This Excel-based tool estimates the transit and land use benefits of existing and planned transit projects based on the difference between existing and proposed directional route miles and annual revenue miles of service.

Maine Won't Wait, A Four-Year Plan for Climate Action is Maine's Climate Action Plan. In June 2019, Governor Mills signed LD 1679 into law, to create the Maine Climate Council. The Council — an assembly of scientists, industry leaders, bipartisan local and state officials, and engaged citizens — was charged with developing the four-year Climate Action Plan to put Maine on the path to decrease greenhouse gas emissions by 45% by 2030 and 80% by 2050, and achieve carbon neutrality by 2045.

The increased transit ridership and land use changes envisioned in *Transit Tomorrow* would result in a 25.5 percent reduction in greenhouse gas emissions associated with vehicle travel.

Using the emissions calculator, the project team found the increased transit ridership and land use changes envisioned in *Transit Tomorrow* would result in a 25.5% reduction in greenhouse gas emissions associated with annual vehicle travel — the equivalent greenhouse gas emissions of 92,495 passenger vehicles driven for one year.[4]

In 2019, Governor Mills signed legislation to require the reduction of Maine's greenhouse gas emissions 45% by 2030 and by at least 80% by 2050. The recommendations in *Transit Tomorrow* move the region closer to achieving these goals. Of course, they do not get us all the way there. To meet the ambitious goal of reducing greenhouse gas emissions 45% by 2030, the Greater Portland region will need to embrace the full suite of strategies outlined in *Maine Won't Wait: A Four-Year Plan for Climate Action*, such as transitioning to electric vehicles (including electric transit vehicles), modernizing buildings, reducing carbon emissions in the energy and industrial sectors, and growing Maine's clean energy economy.

[3] The emissions calculator tool accompanies the Transportation Research Board's *"Transit Cooperative Research Program Report 176 "Quantifying Transit's Impact on GHG Emissions and Energy Use – The Land Use Component. (2015)"*

[4] U.S. Environmental Protection Agency (EPA) Greenhouse Gas Equivalencies Calculator. (Greenhouse gas emissions associated with annual vehicle travel will likely decline as electric vehicle adoption becomes more widespread).

Equitable Access

If the 2050 *Transit Tomorrow* network is fully realized, the benefits to residents of Greater Portland — and those who depend on public transportation the most — would be substantial. The table below shows the change in access (defined as the percent of the population living within ¾ mile of a transit route) between the existing transit network and what is envisioned by 2050 in the full build out of *Transit Tomorrow*.

To evaluate accessibility, the project team approximated corridors to reflect rapid transit routes and likely local connections based on development patterns. For the existing transit network, the table shows both the percent of the population living within ¾ mile of transit, as well as the percent of the population living within ¾ mile of frequent transit (average wait times of 20 minutes or less). Since every route in the proposed 2050 *Transit Tomorrow* network is frequent, just one column is shown.

Elm Street Pulse in Portland. Photo: GPCOG

TABLE 17:

***TRANSIT TOMORROW* ACCESS BENEFITS**

	Existing Transit Network		Proposed *Transit Tomorrow*
	Percent of population within ¾ mi. of transit	Percent of population living within ¾ mi. of frequent transit	Percent of population living within ¾ mi. of frequent transit[1]
People age 65 and over	56%	36%	61%
Racial/ethnic minorities	76%	61%	79%
People living in poverty	72%	54%	75%
Zero-vehicle households	87%	68%	88%
Total population	58%	39%	63%

[1] Every route in the 2050 *Transit Tomorrow* network is considered frequent.

As Table 17 illustrates, when just looking at the change between what exists now (regardless of frequency) and what is proposed, the accessibility benefits of the *Transit Tomorrow* network are relatively minor. However, when looking at the accessibility benefits between the frequency of what exists now and that proposed in *Transit Tomorrow*, the improvement is considerable.

Implementation Strategy

Transit Tomorrow is intentionally ambitious and would dramatically improve public transportation in our region. However, these improvements are expensive and cannot happen all at once. The implementation table below outlines our strategy for how to achieve the *Transit Tomorrow* vision, step by step, over the next 30 years.

TABLE 18a:

IMPLEMENTATION TABLE

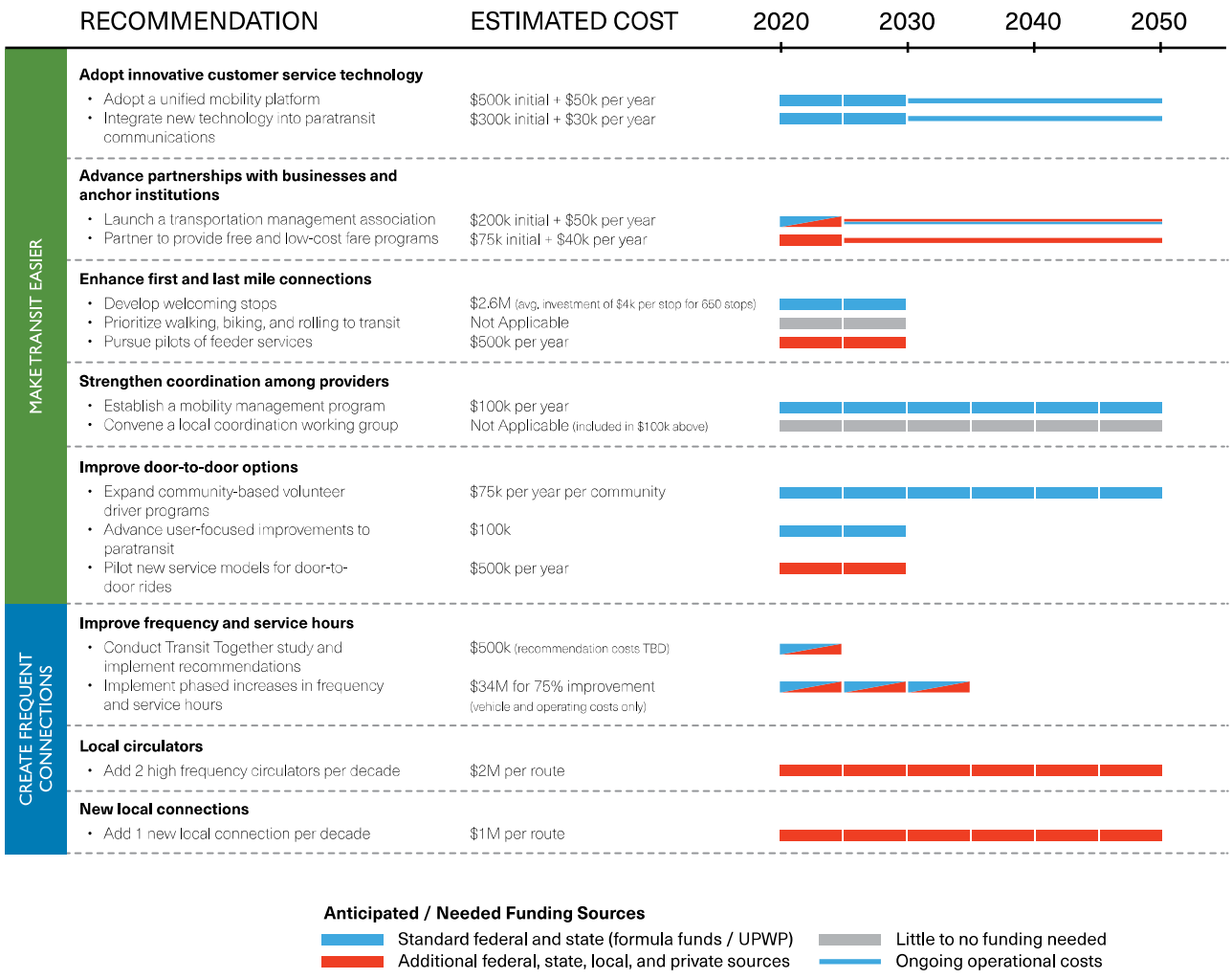
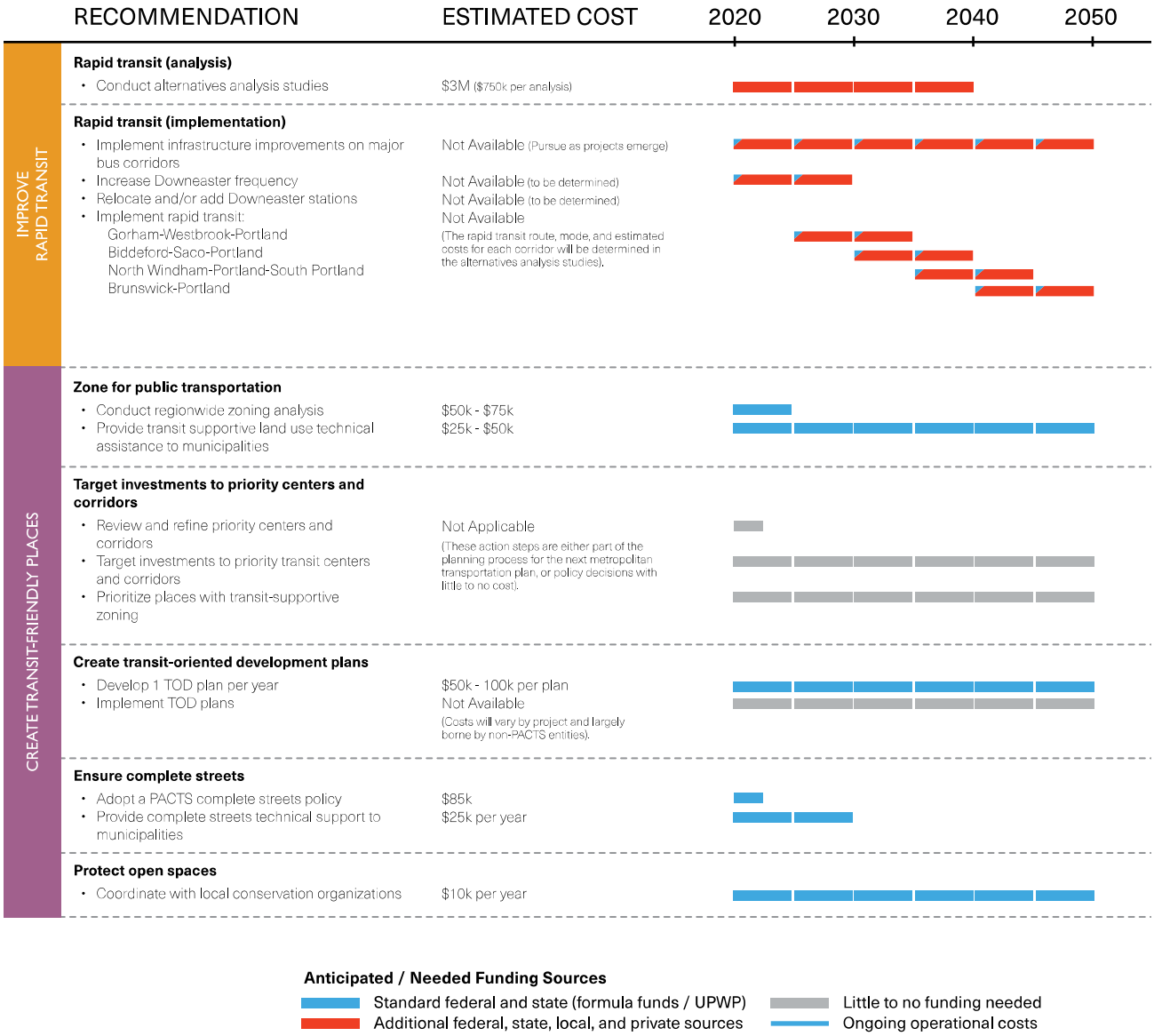


TABLE 18b:

IMPLEMENTATION TABLE



The next step for realizing this vision is to further refine the prioritization of implementation. The region is updating the metropolitan transportation plan, including the definition of priority corridors and centers, and identifying opportunities for agency coordination and integration. Reimagining the public transportation network through *Transit Together* will also require additional feasibility and impact studies in order to assess the need and phasing of implementation.

Transit Tomorrow should be revisited every 10 years to understand the impact of the previous decade. The region is changing rapidly, more detailed studies are being conducted, the short- and long-term impacts of the COVID-19 pandemic are uncertain, and technology is continually advancing, among other trends. Revisiting the plan periodically will ensure the implementation of improvements and solutions are relevant and continue to align with the region's vision and priorities.

Identifying Sustainable Funding

Realizing this bold vision will require steady contributions of new transit funding as well as aggressive pursuit of grants to develop the necessary technology, capital, and infrastructure solutions.

However, pursuing the vision can begin now within existing resources. Some of the Make Transit Easier recommendations are low-cost and can be funded through existing federal formula funds. Likewise, some of the Create Transit-Friendly Places recommendations can be accomplished through the biennial transit and highway planning funds regularly received by PACTS.

In the near term, there are potential partnerships with large employers or other institutional partners to establish Transportation Management Associations, and there may be opportunities to leverage roadway funding through federal Congestion Mitigation and Air Quality (CMAQ)-funded projects to build out transit facilities.

Over the longer term, the Federal Transit Administration (FTA) has competitive grant programs to support the higher-level infrastructure investments needed to implement rapid transit. The FTA's Fixing America's Surface Transportation (FAST) Act, signed into law in December 2015, supports transit funding through fiscal year 2020.[5] With a new federal administration, the reauthorization of this act — and other FTA programs — is of the utmost importance.

Rider boarding BSOOB Transit's Blue Line. Photo: GPCOG

Examples include:

- **BUILD (Better Utilizing Investments to Leverage Development) Grants:** BUILD, formerly known as TIGER, provides competitive discretionary funding for projects with local and regional economic impacts, including transit-oriented development, rapid transit, multimodal projects, etc.
- **Capital Investment Grants (New Starts, Small Starts, Core Capacity):** This discretionary grant program focuses on capital investments in heavy rail, commuter rail, light rail, streetcars, and bus rapid transit. Extensive analysis prior to receipt of a grant agreement and continual evaluation by the FTA are part of these programs' requirements.
- **Grants for Buses and Bus Facilities Program (49 U.S.C. 5339):** These grants are available to states and designated recipients to replace, rehabilitate, and purchase buses and related equipment, and to construct bus-related facilities including technological changes or innovations.
- **Expedited Project Delivery Pilot Program:** Authorized by Section 3005(b) of the FAST Act, this program is aimed at expediting delivery of new fixed guideway capital projects, Small Starts projects, or Core Capacity improvement projects through public-private partnerships and an existing public transportation provider.

It is important to note that as more people ride an enhanced and expanded public transportation network, formula funds will expand for the region, due to the nature of the formula.

While the federal government has typically funded 80% of the cost for transit improvements, covering the mandated 20% local match will require additional revenue. Local and regional partnerships and/or public-private partnerships could contribute to matching federal funds. Other regions with ambitious transit goals have dedicated local streams of funding, such as local option sales taxes, payroll taxes, transit-related tax increment financing (TIF) districts, parking and impact fees, or other sources of local revenue, to match and build upon federal apportionments.

[5] The "Relevant FTA FAST Act Grants" table, provided in the appendix to *Transit Tomorrow* on the project webpage, outlines the current FTA competitive and formula grant programs that may be applicable in implementing *Transit Tomorrow*.

transit together

Greater Portland Council of Governments

Final Report

December 2022

Adopted by the Portland Area Comprehensive Transportation System Policy Board January 26, 2023

GPCOG
GREATER PORTLAND COUNCIL OF GOVERNMENTS

NELSON NYGAARD

ASG PLANNING

PLAN HIGHLIGHTS

The Transit Together study brings together key transit partners in the Greater Portland region to help move towards a more seamless regional transit system. It includes recommendations for bus service improvements and strengthens multimodal connections. The plan also advances regional initiatives to bring local partners together to improve the transit experience for current riders, attract new riders, and make the transit system more effective and efficient.

A better, more seamless regional system includes:

MORE FREQUENT SERVICE

The Greater Portland region's existing transit network includes six routes that operate less often than every 60 minutes, a level of frequency that is unusable for most people.

Under the Transit Together Recommended Service Plan, 10 routes will offer service every 30 minutes or better on weekdays. Frequency is increased on bus routes in places where there is high demand for transit, such as the Congress Street, Washington Avenue, and Brighton Avenue corridors in Portland; eastern South Portland; and the Alfred Street corridor in Biddeford. Route 21 in South Portland will provide 20-minute peak-period weekday service and a new Route 51 in Saco will provide bursts of 15-minute weekday service all day.

The Recommended Service Plan also increases frequency on other routes so that all but one arrives at least every hour.

BETTER CONNECTIONS

For many years, transportation plans have called for improved connections to and among the Greater Portland region's transportation hubs—especially the Portland International Jetport, Portland Transportation Center (PTC), METRO PULSE bus hub, and Casco Bay Ferry Terminal. The Recommended Service Plan calls for many of these improved connections, including:

- A **new bus connection among the Jetport, PTC, and PULSE**, meaning local bus, intercity bus, Downeaster train, and air travelers can transfer services using only one bus route.
- **Three new bus connections to the Casco Bay Ferry Terminal**, for a total of four bus routes that serve the terminal. This greatly increases the number of mainlanders with access to ferry service, and the number of destinations islanders can access without transferring buses.
- **Three bus routes serving the PTC**, providing one-seat ride connections to train and intercity bus service for people traveling to and from Brunswick, Freeport, Yarmouth, Falmouth, East Deering, and downtown Portland.
- **Improved Connections to the Saco Transportation Center (STC)**, including hourly bus service connecting Sanford, Saco, Old Orchard Beach, Scarborough, and UNE to the station, and bus service every 30 minutes connecting the US Route 111/Alfred Street corridor to the station.
- **Buses connecting the Mill Creek Transit Hub in South Portland with the PULSE** every 20 minutes during weekday peak periods.

ENHANCED RIDER EXPERIENCE

Over the course of the Transit Together study, transit operators were brought together to discuss the potential for working together to more efficiently use resources, attract new riders, and implement new technologies and customer-facing enhancements.

The study proposes varying levels of coordination within each initiative area based on a spectrum of cooperation as shown in Figure 1. These initiatives include:

- **Improving Bus Stops and Transit Hubs**
- **Enhancing Regional Information and Brand**
- **Making Fares and Trip Planning Easier**
- **Making Transit Faster, More Reliable, and More Sustainable**

Stop enhancements, technology investments and fleet upgrades will ensure a consistent, high-quality rider experience, and help agencies provide cost-effective and high-performance services.

Figure 1 Graphic of Regional Coordination Levels

Regional Communication
Acting Independently
But sharing information and establishing a regular forum for communication as opportunities or issues arise

Regional Coordination
Guiding Policy
Acting independently but adhering to established regional policies and/or standards

Regional Partnerships
Acting Jointly
Working together on selected functions

Regional Delivery
Integration
Coordinated delivery of service or administration function by interlocal agreement, MOU, contract, etc.

MOVING FORWARD TOGETHER

The Transit Together recommendations in this report were developed through a year-long process of interagency and stakeholder coordination. Most critically, the seven Greater Portland transit providers participated in three group workshops and numerous one-on-one meetings to identify areas of consensus and actions that will move the region towards a more cohesive regional network.

This forward momentum must be continued. Implementing Transit Together recommendations will depend on a continued commitment and dedication to working together. Regional coordination is also needed to identify and pursue additional funding to further increase bus service frequency and span, introduce new microtransit zones, and enhance the rider experience.

1 STUDY OVERVIEW

Transit Together is a comprehensive planning effort to evaluate and redesign the Greater Portland region's transit services. It is also an opportunity to advance regional initiatives to improve the transit experience for current riders, attract new riders, and make the overall system more effective and efficient.

This report identifies opportunities for improved bus service and increased coordination and integration among the Greater Portland region's seven public transit providers.

This study was conducted on behalf of the Greater Portland Council of Governments (GPCOG) which houses the Portland Area Comprehensive Transportation System (PACTS), the region's metropolitan planning organization. The study was funded by the Coronavirus Aid, Relief, and Economic Security (CARES) Act through the Federal Transit Administration.

REGIONAL GOALS

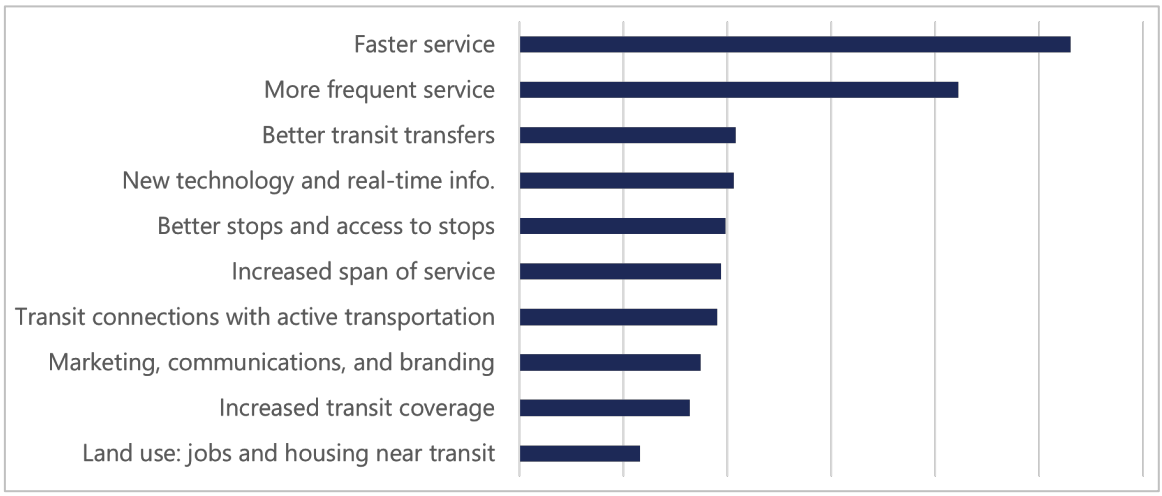
This study was rooted in the context of *Transit Tomorrow*, an ambitious 30-year strategic plan for enhancing public transportation in the Greater Portland region. Adopted in spring of 2021, *Transit Tomorrow* outlines a four-part strategy to achieve its vision:

- **Make transit easier for riders**
- **Create frequent connections**
- **Invest in rapid transit**
- **Create transit-friendly places**

Transit Together builds upon the vision and goals of *Transit Tomorrow* by focusing on the first two goals. It recommends improvements to transit frequency in areas with high demand to create better connections and to work together to make the network more easily understood and used by riders.

Transit Together's recommendations are also based on years of public feedback that GPCOG has received during various transit-related studies. The public's priorities for transit, which are shown in Figure 2, are primarily for faster and more frequent service.

Figure 2 Greater Portland Region Public Priorities for Transit



Sources: Transit Tomorrow, Transit Stop Access Project, Route 1 North Plan, Active Transportation Plan, Moving Southern Maine Forward, Destination 2040, Regional Passenger Survey, North Windham Downtown Plan, Congress Street Bus Priority Plan, Gorham East-West Connector Plan, Destination Tomorrow 2006 and 2010, Portland Peninsula Transit Plan, Regional Transit Coordination Study.

PLAN TIMELINE

The Transit Together study began in the summer of 2021 and consisted of three phases:

- **Phase 1: State of the Region —** The study team conducted a comprehensive discovery and analysis process to determine how efficiently and effectively the Greater Portland region's transit providers serve the region's mobility and access needs. This work also identified opportunities for service improvement, including new service models, policies, and programs. During this phase, the study team held a virtual public meeting to hear directly from riders, and published route profiles on the project website for comment.
- **Phase 2: Recommendations Development —** The study team designed two service scenarios to improve the region's fixed-route bus network and proposed regional initiatives to improve coordination among providers and provide a seamless, consistent rider experience. The study team held two agency workshops to work together on the improvement scenarios. At the conclusion of this phase, the study team conducted rider and stakeholder outreach to collect feedback on draft scenarios and initiatives.

Current Service

The Transit Together study area includes PACTS member municipalities, as well as other municipalities served by fixed-route transit with at least one stop in a PACTS member municipality. This study area includes all of Cumberland and some of York County, and is served by seven main public transit providers operating bus, rail, and ferry service:

- Biddeford-Saco-Old Orchard Beach (BSOOB) Transit
- Casco Bay Lines (CBL)
- Greater Portland METRO
- Northern New England Passenger Rail Authority (NNEPRA), which oversees Amtrak Downeaster service
- Regional Transportation Program (RTP)
- South Portland Bus Service (SPBS)
- York County Community Action Corporation (YCCAC)

Figure 6 Map of Greater Portland Region Existing Public Transit Services

Span and Frequency of Service

Most current weekday service in the Greater Portland region operates throughout the day, from approximately 6:00 a.m. to 9:00 p.m. During this period, only six routes consistently reach headways of every 30 minutes, and very few operate more frequently than that (although there are bursts of 15-minute service on the BSOOB Transit Route 54 circulator pattern). Several routes offer extremely infrequent service, with headways of two hours or more.

Opportunity Areas

The State of the Regional Transit assessment identified the following key opportunities:

- **Provide More Frequent Service:** Some places in the region could support more frequent service. Increasing service frequency generally increases ridership.
- **Better Match Bus Service with Demand:** Some places in the region have bus service that very few people use, while other places have service that isn't frequent enough to meet the community's needs. Better matching service to demand will increase ridership. Implementing targeted solutions like microtransit service is another form of matching service to demand.
- **Make Service Easier to Use and Understand:** Some bus routes in the region change their routes depending on the time of day and/or operate in places people wouldn't expect to see a bus. Making bus routes easier to understand generally causes more people to ride.
- **Plan Together/Work Together:** By working more closely together, the region's transit providers can use regional resources more efficiently to provide the most and best transit service possible.
- **Improve Bus Network Design:** Many parts of the bus network are confusing and operate in large loops that force riders to ride out-of-direction or for long periods of time to get where they're going. Improving the network can help bus riders get where they're going more quickly and reliably.
- **Improve Transit Stops:** The quality of transit stops in the region varies dramatically by route. Some stops have shelters and benches, while others are missing simple items like signs and sidewalks. Improving transit stops generally increases ridership.

3 TRANSIT SERVICE RECOMMENDATIONS

The Transit Together recommendations include a revenue-neutral rethinking of the Greater Portland region's five-agency fixed-route bus transit network, including improved multimodal connections to ferry and rail services. These recommendations can be grouped into two broad objectives:

- To serve the most people possible
- To serve the people that need it most

RECOMMENDED SERVICE PLAN

The study team used findings from the study's existing conditions analysis, public input, agency consultation, and best practices in transit planning to develop a recommended fixed-route bus service plan for the Greater Portland region.

The Recommended Service Plan is focused on achieving the following goals:

- **Improving Service Frequency**
- **Making Routes Simpler and More Direct**
- **Setting a Base Level of Service**
- **Increasing Transit Access to Jobs and Services**
- **Enhancing Multimodal Connections**
- **Better Coordinating Service on the Peninsula**

The recommended fixed-route bus network is shown in the maps below, and details on the recommended frequencies and spans of service are in Figure 11. The plan does not recommend changes to ferry or Amtrak service.

Action Steps:

- Individual fixed-route buses agencies advance Recommended Service Plan
  - ***Conduct Title VI equity analyses***, if needed, for major service changes
  - ***Obtain required approvals from boards and South Portland City Council*** (contingent on revenue and operator availability)
- Fixed-route bus providers to site and install substantial number of bus stops for new services (with potential construction) and prepare new schedules.

Joint Agency Coordination

Informed by shared performance metrics and regional data, the fixed-route bus operators should convene for quarterly service review and coordination meetings to share updates on planned service changes and coordinate on issues of mutual interest, such as the Congress Street bus corridor.

There are also multiple locations in the Greater Portland region where different agencies' bus services connect. Stops at and near the PULSE on the Peninsula serve the highest concentration of routes but the Maine Mall, Saco Transportation Center, Portland Transportation Center, Westbrook Hub, and Casco Bay Ferry Terminal also serve multiple routes and providers. Because the Recommended Service Plan is a coordinated transit network that depends on individual providers working together to best serve the region's riders, it will require agencies to implement service changes along a similar timeline. The timeline in Figure 13 is a rough approximation of the steps needed for a fixed-route bus service change, although the time to complete each step and the exact order of steps can vary by agency. The timeline illustrates the complexity of tasks to be completed before changing service and highlights the importance of interagency coordination, so these steps are conducted at roughly the same time for each agency.

Rider outreach is an important component of service changes. A coordinated regional marketing and service change campaign supported by GPCOG would likely be an effective and efficient way to inform riders of the proposed service changes and the goal of creating a more cohesive network. Other key action steps that are recommended to be included in the Recommended Service Plan service change process are:

Annual service coordination meetings should convene all seven multi-modal providers to continue to facilitate intermodal connections going forward. These annual meetings could be held in advance of joint board meetings (see below) to set the agenda and discuss desired meeting goals.

Action Steps:

- Fixed-route bus providers initiate a ***monthly Service Review and Coordination meeting*** to sequence, schedule, and appropriately phase in implementation of the Recommended Service Plan and any future service changes.
- Conduct ongoing quarterly ***service coordination meetings*** with fixed-route bus service providers. Expand to include all seven regional transit providers on an annual basis.

Regional and Statewide Coordination

While the Recommended Service Plan will primarily be implemented by the region's transit providers, GPCOG can help to facilitate ongoing coordination amongst the transit providers and communicate the need for additional support from MaineDOT to prioritize needed infrastructure. Further, GPCOG can identify and prioritize projects that could leverage additional federal funding.

Action Steps:

- GPCOG provides resources (e.g., through the region's formula funding) for ***a public outreach and education campaign*** that puts service changes and benefits into regional context.
- GPCOG leverages regional resources to encourage municipal, state, regional, and private partners to **pursue roadway geometry and pedestrian access improvements** needed to support bus service changes.
- MaineDOT ***directs resources to support infrastructure improvements*** needed for pedestrian access and safe operations.

Figure 14 Implementing the Regional Network Changes

Action	Timeframe	Implementation Steps
Implement Recommended Service Plan	**Near Term**	▪ Fixed-route bus agencies conduct Title VI analysis and agency-specific public outreach. ▪ Agency boards and South Portland City Council approve changes as required. ▪ Install/remove bus stops as needed for service changes. Prepare new bus schedules. ▪ Coordinate timing of service changes among agencies, so riders see benefits of changes that involve multiple operators. ▪ Work with GPCOG to conduct a regionwide public outreach and education campaign to present service changes in regional context.
	Medium Term	▪ Initiate a quarterly Service Review and Coordination meeting for fixed-route bus providers. ▪ Work with municipal, state, and private partners to implement recommended roadway, pedestrian, and bus turnaround improvements.
Roadway geometry and bus turning improvements	**Near Term**	▪ For the SPBS Route 21 to operate on a bi-directional alignment on Broadway, a transit bus must be able to reliably make a right-hand turn from Broadway onto Benjamin W Pickett Street. This turn is currently not consistently possible, due to roadway geometry and the current layout of parking and travel lanes. Improvements to this intersection would help riders traveling to and from important destinations in South Portland, such as SMCC and Betsy Ross House. Potential improvements include parking relocation, channelization changes, or curb reconstruction.
Pedestrian access improvements	**Near Term**	▪ The Maine Mall Hannaford in South Portland is a popular transit destination with no comfortable or ADA-accessible access from Philbrook Avenue. To be sure riders can safely access Hannaford via transit, three bus routes currently deviate from Philbrook Avenue and drive through the Hannaford parking lot to board and alight passengers at the Hannaford front door. This maneuver reduces the speed and reliability of these routes and introduces dangerous conflicts with moving vehicles in the parking lot. Adding a sidewalk and pedestrian crossings from Philbrook Avenue to the Hannaford would improve bus speed, reliability, and operational safety.
	Medium Term	▪ The Recommended Service Plan proposes eliminating fixed-route transit service on Gannett Drive in South Portland, due to low ridership and limited demand for transit. Service is recommended to remain on Cummings Road. To maintain some access to destinations on Gannett Drive, such as the United States Citizenship and Immigration Services field office, bus stops and a pedestrian crossing could be built on Cummings Road, and sidewalks added to Gannett Drive.
Bus turnaround and layover space	**Near Term**	▪ The Recommended Service Plan proposes the extension of several bus routes (METRO 2, 4, Huskey Line) to the Eastern Waterfront in Portland but does not specify layover and turnaround space for these vehicles. Ocean Gateway pier, Thames Street, or Hancock Street are good layover options. Sufficient space for buses to safely turn around and lay over should be added in this general area, with good proximity to restrooms for operators.
	Medium Term	▪ Real estate development occurring at the former B&M bean factory off Sherwood Street will likely support considerable transit ridership. The site is difficult to access, however, and will likely require a route to turn around at the location, as opposed to deviate from an existing route (a deviation will require a significant amount of running time that would considerably increase travel times for riders not traveling to and from the site). To facilitate transit service at this site, the City of Portland should work with the real-estate development team to ensure bus turnaround and layover space is constructed and/or better bicycle and pedestrian infrastructure to reach nearby bus service without a deviation.

Implementation Timeframe

- **Near Term: 0 to 6 months**
- **Medium Term: 6 to 18 months**
- **Long Term: 18 months+**

Action	Timeframe	Implementation Steps
Pedestrian crossing, shelters, and wayfinding	**Near Term**	▪ The Recommended Service Plan proposes operating Route 1 on Thompsons Point Road and Sewall Street so that it boards and alights passengers at the PTC without needing to turn around in Thompson's Point. This would require new shelters on Thompsons Point Road, north of the PTC, as well as a safe pedestrian crossing near the shelters. Wayfinding to help riders understand where the bus stop is and which bus stop takes them to downtown vs. the Jetport should also be included. ▪ The Recommended Service Plan proposes BSOOB Transit Route 51 serve Saco Valley Shopping Center on Spring Street, which would require people traveling to and from the mall to walk to Spring Street from the front door of stores. To facilitate this pedestrian connection, a shelter and safe pedestrian crossing should be added on the south side of Spring Street at Bradley Street.
	Medium Term	▪ The Recommended Service Plan proposes BSOOB Transit Route 50 serve SMHC Hospital via the hospital access road, without entering the pick-up/drop-off circle at the front door. To facilitate this connection, shelters and a pedestrian crossing should be added on the access road, with safe and ADA-accessible connection between the shelters and the hospital front door.
Congress Street transit stop and priority treatments	**Near Term**	▪ The Recommended Service plan proposes operating many bus routes on Congress Street, creating a high-frequency transit corridor, which will simplify transfers and offer high-frequency service for people traveling up and down the Peninsula. Improving transit stop and transit priority infrastructure on the corridor will make sure transit operations are smooth and bus service is fast and reliable. (Routes include all METRO services (except Route 3), SPBS 21, BSOOBT 60 and 70)
Commercial Street transit priority treatments	**Medium Term**	▪ The Recommended Service Plan proposes operating Route 8A/8B on Commercial Street. The stretch of Commercial Street between Franklin Street and Union Street can serve as a valuable transit-priority pilot segment, where transit priority treatments are tested with Route 8A/8B, in potential preparation for future service along Commercial Street, including but not limited to at the new VA clinic.

Implementation Timeframe

- **Near Term: 0 to 6 months**
- **Medium Term: 6 to 18 months**
- **Long Term: 18 months+**

5 REGIONAL INITIATIVES

In addition to changes in route alignments and schedules in the fixed-route bus network, the study team and transit agency staff identified key opportunities to advance a more integrated regional system and make service more attractive to existing and new riders. The five recommended initiatives below would achieve these goals by offering more direct and frequent service, improving the transit experience, and pursuing coordination measures to realize efficiencies and improved connections:

- **Develop Regional Family of Services and Standards**
- **Improve Bus Stops and Transit Hubs**
- **Make Fares and Trip Planning Easier**
- **Make Buses Faster, More Reliable, and More Sustainable**
- **Establish a Regional Microtransit Program**

6 MOVING FORWARD TOGETHER

Implementing Transit Together recommendations depends on a continued commitment to working together across agencies and stakeholder groups. It will also require additional levels of funding. The Transit Together Recommendations Action Plan (see Figure 21) summarizes recommendations and identified actions steps. It provides a framework to guide future planning decisions and regional transit investments.

CONDUCT ONGOING REGIONAL COORDINATION

As the region's metropolitan planning organization, PACTS is responsible for facilitating a collaborative process to prioritize limited federal transportation funding. The Transit Task Force, which is made up of the seven transit agencies, PACTS chairs, and MaineDOT, is one avenue to inform that decision making process. The Transit Task Force is recommended to lead implementation of several key components of this plan, including coordination of transit service planning and the design and advancing of regional transit enhancements and technology.

Key tasks related to implementing Transit Together recommendations include:

- **Developing Regional Bus-Service Standards**
- **Developing a Microtransit Roadmap**
- **Conducting Periodic Service Review and Coordination Meetings**
- **Advancing Regional Initiatives**

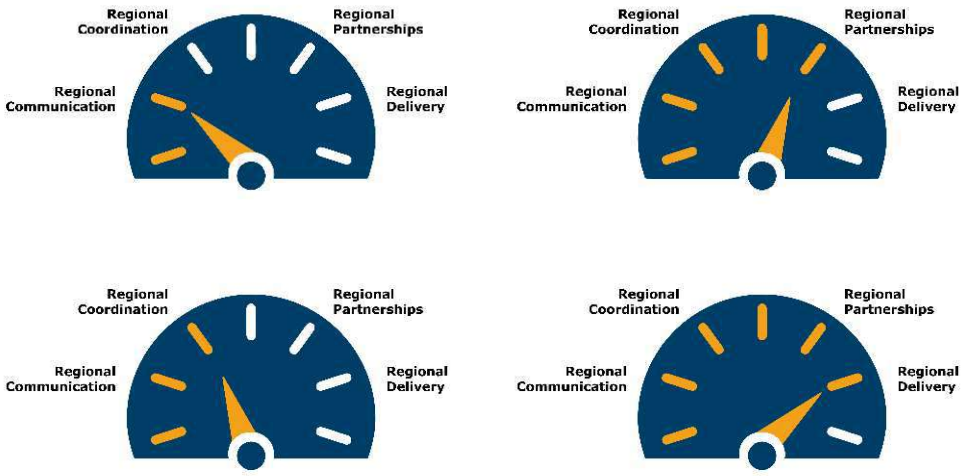
Regional transit staff came together at three workshops to identify areas of consensus and develop Transit Together recommendations.

ADVANCE REGIONAL INITIATIVES

Chapter 5, Regional Initiatives, outlined a series of action items related to enhancing service for the rider, making technology upgrades, and working regionally on more programs to introduce efficiencies and make riding transit an easier and more seamless experience.

Levels of coordination will vary across individual tasks. For some efforts, such as schedule changes at intermodal hubs, only communication would be needed. Other tasks, such as development of bus-stop design guidelines, will require more coordination. Regional technology upgrades, branding efforts, or joint procurements to provide a common real-time information app, fare payment, or bus charging stations might require a more formal effort with interagency memoranda of agreement.

Figure 19 Graphic of Transit Coordination Levels



Transit Together recommends GPCOG staff support the Transit Task Force and other coordination efforts by performing technology research, offering procurement support, writing grant applications, and completing other tasks.

Tasks related to funding prioritization (for example, for transit stop improvements) will fall to the RTAC and PACTS Policy Board. These committees are also ultimately responsible for making sure investment actions and priorities align with other plans such as *Transit Tomorrow*, *Connect 2045,* and *Maine Won't Wait*.

Transit Together Convention

To keep the spirit of interagency cooperation intact and to update regional priorities as time moves on, we recommend an **annual** convening of the seven transit agency boards. Joint board meetings were held in 2007, 2012, and 2019, and proved to be successful venues for obtaining individual agency buy-in and setting strategic direction.

Action Steps:

- Hold ***joint transit board meeting (or Transit Together convention***). Make this an annual event to reaffirm priorities and strategies for the year ahead. Obtain buy-in to advance critical-path items within the structure of PACTS Transit Task Force and other committees:
  - Regional service standards (including Microtransit Roadmap)
  - Reinitiated regionwide branding study (including microtransit brand)
  - Bus-stop design guidelines
- ***Transit Task Force leads***:
  - Family of services and regional service standards
  - Bus-stop classification hierarchy
  - Microtransit pilot guidelines and draft roadmap
- ***GPCOG leads*** in initiating coordination with state/MaineDOT on:
  - Fare payment integration
  - AVL, real-time information, and other technologies
  - Scheduling software technology, pilots, and goals for microtransit and other on-demand transportation

PURSUE ADDITIONAL FUNDING

The region receives a limited level of federal funding for transit each year, with the remaining needed funds largely made up by municipal contributions.

Today, the region's transit providers struggle to adequately meet transit demand across areas of mixed density. Difficult decisions and tradeoffs must be made. The providers are also working to address challenges such as ridership declines due to the COVID-19

pandemic, outstanding preventative maintenance needs, and desired fleet and technology upgrades.

Additional funding is needed to implement service improvements beyond the Recommended Service Plan and to advance Regional Initiatives to enhance the rider experience.

While the region benefitted from an infusion of Coronavirus Aid, Relief, and Economic Security Act (CARES) and American Rescue Plan Act (ARPA) funds during the pandemic, this level of funding is not currently anticipated to continue over the longer term. It is important to set and identify regional priorities to guide investments as federal funding levels vary year to year. Regional transit agencies should work together with local and regional governments to explore options for a new transit funding source to help the region grow sustainably.

Future Bus Service Improvements

The evaluation of regional transit demand and ridership data performed as part of the Transit Together study identified a need for additional service frequency and span of both weekday and weekend service. New needed connections that are not being served today were also identified. Due to the cost-constrained nature of the Recommended Service Plan, many of the changes that would help address these needs were not able to be included. Additional recommendations to implement microtransit, especially in South Portland, where replacement of fixed route service is critical to moving the Recommended Service Plan forward, would require additional resources beyond what is available for the Recommended Service Plan.

New and expanded service would make transit more useful for more types of trips, and demand is likely to persist and grow over the next few years. If additional funding becomes available, it could be used to operate an improved transit network and thereby increase ridership.

Other recommendations made in this report, such as regional route classifications, stop improvements, enhanced rider information, and technology investments will also make service more attractive for current and potential future riders.

Many daily riders use routes operated by two or more agencies and often have long waits between transfers. This results in transit travel times that greatly exceed the time it would take to make the same trip in a car.

Additional Service Needs Include:

- ***Frequency improvements***, including 15-minute service on Route 4; 30-minute service on Routes 1, 3, 7, 8B, 24, 54, 60, and BREEZ; and 60-minute service on the Lakes Region Explorer.
- ***Span improvements,*** including late-night service on key routes serving the hospitality industry or new microtransit service, Saturday service on the Southern Maine Connector, and Sunday service on the BREEZ, Lakes Region Explorer, and Southern Maine Connector.
- ***Three microtransit zones.*** Future implementation would require additional resources to acquire or lease vehicles, procure scheduling software and app technology, hire drivers, and operate service.
- ***A new bus route*** connecting Brick Hill in South Portland directly with the Portland Peninsula.

Figure 20 Estimated Costs for Additional Service Improvements

Additional Service Improvements	Annual Operating Costs	One-Time Capital Costs
Frequency Upgrades	$6,740,000	$13,500,000
Extended Service Span	$860,000	-
Three New Microtransit Zones	$3,290,000	$1,570,000
New Bus Route	$1,110,000	$2,000,000
Total	**$12,000,000**	**$17,070,000**

Note: One-time capital costs are current cost estimates for new cutaway and electric fixed-route buses.

Action Steps:

- GPCOG to work with agencies, PACTS, and MaineDOT to ***identify funding*** for unfunded service recommendations (for example, additional fixed-route bus frequency).
- GPCOG to help ***pursue federal discretionary grants*** (or other funding sources such as MaineDOT RTAP funds) for:
  - Microtransit initial start-up costs (i.e., vehicles, scheduling technology, app)
  - Bus-stop design guidelines (to be adopted by agency boards)
  - Bus-stop improvements
  - Regional branding study (following joint agency board direction)
  - Enhanced integrated regional rider tools (whether expanding DiriGO or SMTT, or funding the recommended Transit App's Royale upgrade for the region).

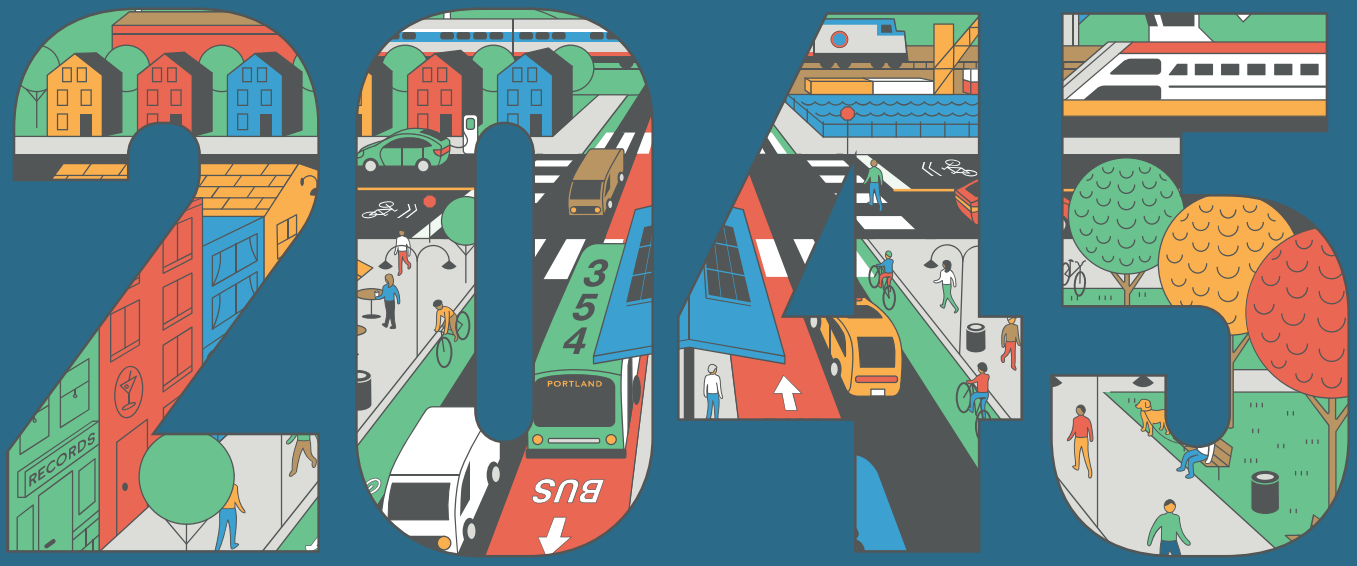
Transit Together Action Plan and Timeline

A **Transit Together Recommendations Action Plan** is in Figure 21. This plan aims to serve as a summary of Transit Together recommendations and reference document to guide near-term planning decisions and investments.

The table organizes each recommendation into one of three timeframes:

- Near Term: 0 to 6 months
- Medium Term: 6 to 18 months
- Long Term: 18 months+

CONNECT 2045



A Long-Range Transportation Plan for Greater Portland, Maine

DECEMBER 2022

Adopted by the PACTS Policy Board on 12/15/22.

Congress Street in Portland.
Photo Corey Templeton

CONTENTS

CONNECT 2045 Planning Greater Portland's Transportation Future

01

Connect 2045

CONTEXT

WHAT IS A LONG-RANGE TRANSPORTATION PLAN & HOW IS IT DEVELOPED?

FOR THOSE not immersed in it, the world of transportation planning can be a complicated and inaccessible field. This chapter puts everything in context, providing a high-level summary to questions like: "What is a long-range transportation plan?" "What function does it serve?" And, "How was it developed?" We document — in a straightforward way — how we created *Connect 2045* over the last 18-months, everything that went into it (from public opinion, to data, to state/federal requirements, to recent planning efforts), and how we intend to use it over the next five years. Ultimately, *Connect 2045* is both a shared vision for what we want our transportation system to look like 20-years from now, as well as an action plan for how to get there.

What is PACTS?

The Portland Area Comprehensive Transportation System (PACTS) is the metropolitan planning organization (MPO) for the Greater Portland region. In this role, PACTS coordinates transportation planning and investment decisions with the state, municipalities, and public transportation partners, and directs the spending of more than $34 million in transportation funding each year.

Primary Responsibilities

All metropolitan planning organizations must produce, and periodically update, the following work products:

- **Long-Range Transportation Plan**
  This plan establishes a regional vision for transportation decisions and investments and has a time horizon of 20 years.
- **Transportation Improvement Program**
  This is a four-year fiscally constrained list of projects to be completed with federal funds in the region.
- **Unified Planning Work Program**
  Updated every two years, the unified planning work program describes transportation studies and other planning tasks the metropolitan planning organization intends to undertake in the region.

The transportation improvement program, the unified planning work program, and many other policies and decisions are informed by the vision and direction of the long-range transportation plan.

Organizational Structure

PACTS is governed by a Policy Board comprised of a diverse mix of local, state, and federal officials, public transportation providers, and other regional representatives.

The Role of an MPO

Metropolitan Planning Organizations (MPOs) are required by the U.S. Department of Transportation in metropolitan regions with populations over 50,000 in order to qualify for federal highway and transit funds.

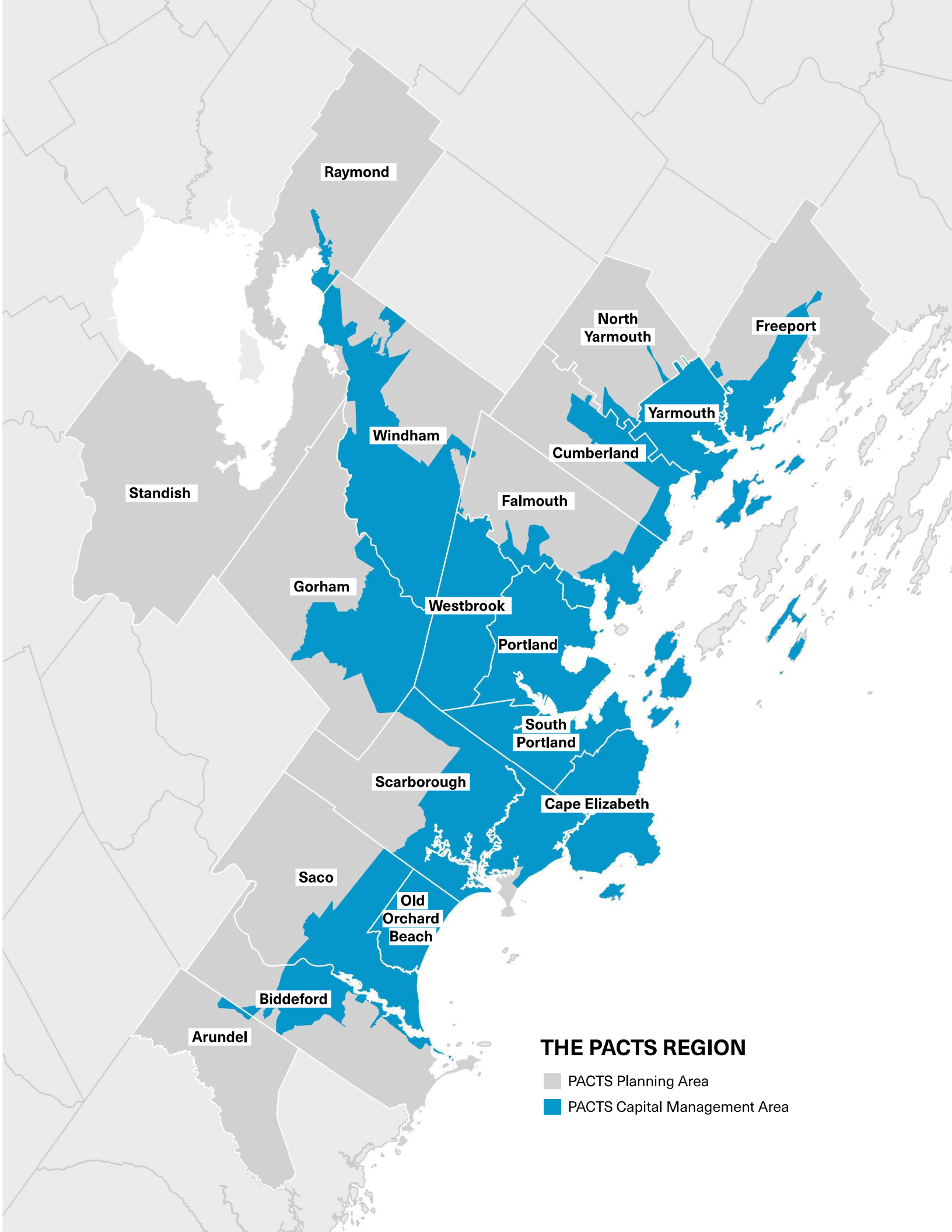
MPOs provide ongoing regional coordination of transportation investment decisions and develop solutions to regional transportation challenges. Among other responsibilities, MPOs maintain a regional transportation vision, conduct transportation studies, allocate federal funds, and engage the public in planning processes.

The Policy Board is the primary decision-making body of PACTS and endorses all policies, projects, and programs, including the long-range transportation plan. The Policy Board is supported by the Executive Board (a subset of the Policy Board) and the Regional Transportation Advisory Committee.

In 2020, PACTS became part of the Greater Portland Council of Governments (GPCOG) as approved by the former PACTS Policy Committee and GPCOG General Assembly. PACTS has retained its responsibilities as the region's metropolitan planning organization while GPCOG provides staff support and implements PACTS policies and projects.

The PACTS Region

The PACTS region includes 18 municipalities in Cumberland and York Counties (see map on next page). The "planning area" determines eligible locations for transportation planning studies, projects, and programs. The "capital management area" is a subset of the planning area. It is the federally designated urbanized area (adjusted based on local and state input) that determines eligible locations for capital investments (e.g., design, engineering, and construction projects).


Raymond
North Yarmouth
Freeport
Yarmouth
Windham
Cumberland
Standish
Falmouth
Gorham
Westbrook
Portland
South Portland
Scarborough
Cape Elizabeth
Saco
Old Orchard Beach
Biddeford
Arundel
THE PACTS REGION
PACTS Planning Area
PACTS Capital Management Area

What is a Long-Range Transportation Plan?

FEDERAL LAW requires that all urbanized areas with populations over 50,000 in the United States develop a long-range transportation plan in order to maintain eligibility for federal programs. The long-range transportation plan serves two major functions. First, it establishes the collective vision and goals of the region. Second, it guides decision-making and prioritizes investments.

Among other requirements, long-range transportation plans must focus on all modes of travel (including transit, freight, bicycles, and pedestrians), consider a time horizon of 20 years, include performance measures to track progress towards the plan's goals, and be updated every five years. The plans are updated to account for shifts in national policy as well as local community issues and concerns, growth and development patterns, travel behavior, technological advances, and fluctuations in available funding.

Connect 2045 is the long-range transportation plan for Greater Portland. It is a shared, regional vision that guides decision-making and outlines how we intend to invest in the transportation system over the next 20 years. The plan establishes goals and objectives for the region and sets a bold, strategic direction for how we can improve our network of roadways, transit services, and walking and biking facilities to meet our present and future needs.

In keeping with requirements, PACTS will continue to update our long-range transportation plan every five years. The next update to *Connect 2045* will occur in 2025 and consider a planning horizon out to 2050.

Connect 2045 sets a bold, strategic direction for how we can improve our network of roadways, transit services, and walking and biking facilities to meet our present and future needs.

State Goals & Policies

IN ADDITION TO considering what we heard from the public, and incorporating key elements of recent planning efforts, *Connect 2045* is strongly guided by a selection of relevant statewide goals and policies. Primarily, the ambitious greenhouse gas reduction goals in *Maine Won't Wait,* as well as the principles of providing safe and accessible streets for all users that are outlined in MaineDOT's Complete Streets Policy.

Maine Won't Wait

In 2020, Maine unveiled the four-year Climate Action Plan, *Maine Won't Wait*, which aims to decrease greenhouse gas emissions in the state by 45% by 2030 and 80% by 2050, and achieve carbon neutrality by 2045.

The plan pays special attention to addressing transportation, which is responsible for 54% of Maine's annual greenhouse gas emissions. To meet the state's emission reduction goals by 2030 and 2050, we must pursue "aggressive transition strategies and innovative solutions within this sector." The three primary strategies identified in *Maine Won't Wait* are:

1. Accelerate Maine's transition to electric vehicles;
2. Increase fuel efficiency and alternative fuels; and
3. Reduce vehicle miles traveled.

Since its release, the state is actively funding the plan's climate and energy priorities and monitoring progress towards its goals.

Complete Streets

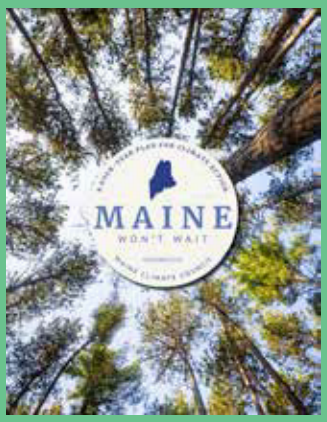
Approved in 2014, the MaineDOT's Complete Streets Policy outlines how the agency and its project partners will consider the needs of all users when planning and developing projects.

The policy recognizes that pedestrian and bicycle infrastructure such as sidewalks, bike lanes, separated facilities, and Americans with Disabilities Act (ADA) accessible transit stops and routes are crucial elements of the transportation system.

Transportation
is responsible for

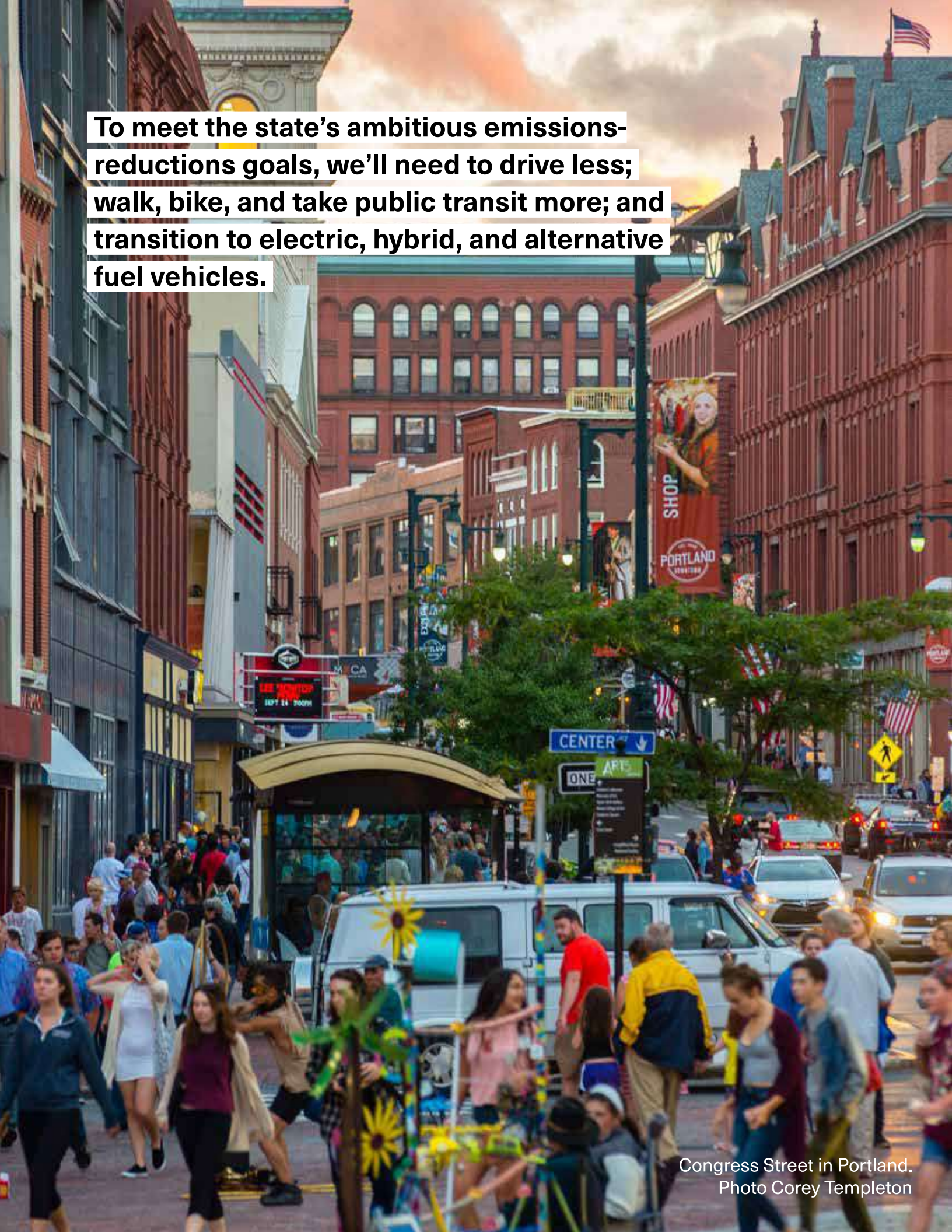
54%

of Maine's annual greenhouse gas emissions.



Maine Won't Wait,
A Four-Year Climate Action Plan

In June 2019, Governor Mills signed LD 1679 into law, to create the Maine Climate Council. The Council (an assembly of scientists, industry leaders, bipartisan local and state officials, and engaged citizens) was charged with developing the four-year Climate Action Plan to put Maine on the path to decrease greenhouse gas emissions by 45% by 2030, 80% by 2050, and achieve carbon neutrality by 2045.



To meet the state's ambitious emissions-reductions goals, we'll need to drive less; walk, bike, and take public transit more; and transition to electric, hybrid, and alternative fuel vehicles.

Congress Street in Portland.
Photo Corey Templeton

PART 1:

OUR TRANSPORTATION SYSTEM

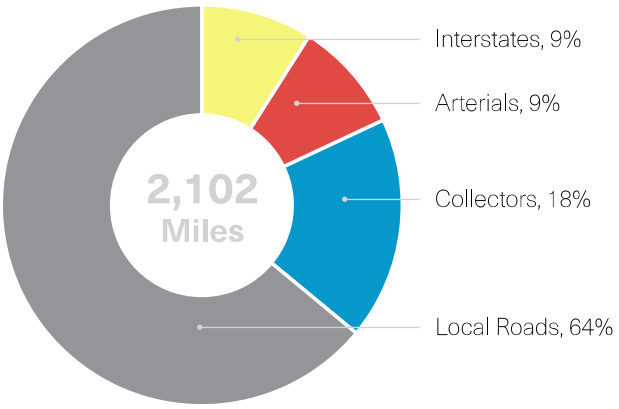
The Road Network

IN THE PACTS REGION there are approximately 2,102 miles of publicly maintained roads. Of these, 739 miles (or 36%) are interstates, arterials, and collector roads that the MaineDOT, Maine Turnpike Authority, and PACTS are tasked with maintaining and improving. The remaining 1,363 miles (or 64%) are local roads maintained by the municipalities.

Road Classification

The federal functional classification system uses established guidelines to determine how roads are planned and engineered. A road's classification helps inform speed limits, design, and accessibility, among other considerations.

- **Interstates** are designed for mobility, high-speeds, and long-distance travel. Interstates in the region include I-95 (the jurisdiction of the Maine Turnpike Authority) and I-295 (the jurisdiction of the MaineDOT). Altogether, there are 183 miles of interstate to maintain in the region.
- **Arterials** are the main routes connecting cities and towns to the highway network. Arterials have limited access from adjacent roads and provide the fastest, most direct method of travel (though speed limits are typically lower in urban areas). There are 183 miles of arterials in the region. Although it varies by location, jurisdiction and responsibility for arterial roads is shared between MaineDOT, local municipalities, and PACTS.



Road Classification in the PACTS Region
Although collector, arterial, and interstate roadways represent roughly 1/3 of total miles, they carry the majority of vehicle traffic.

- **Collectors** link smaller towns, villages, neighborhoods, and major facilities to the arterial network. Traffic is collected from local residential roads and delivered to the nearest arterial. There are 373 miles of collector roads in the region. Similar to arterials, jurisdiction and responsibility for collector roads is shared between MaineDOT, local municipalities, and PACTS depending on the location.
- **Local Roads** are the most common roads. They are specifically designed to have high accessibility and functionality for all modes and all users. Local roads connect to collector and arterial roads and are typically not used for thru-traffic. In the PACTS region, there are 1,363 miles of local roads which are maintained by municipalities.

The Public Transportation Network

GREATER PORTLAND is home to Maine's largest public transportation network. Seven transit agencies (described below) provide bus, ferry, rail, and demand-response service across 13 municipalities. The network also provides access to and from other key destinations outside the region, including Brunswick to the northeast, the Lakes Region to the northwest, and New Hampshire and Boston to the south. The public transportation system typically provides over four million annual trips and serves as a critical lifeline for those who do not have access to personal vehicles. *Transit Tomorrow* (discussed shortly) serves as the region's long-range public transportation plan. As such, this section of *Connect 2045* is brief; it is intended to review the transit network and highlight recent efforts to implement *Transit Tomorrow*'s goals.

BUS SERVICE

The region has three bus service providers.

Biddeford Saco Old Orchard Beach (BSOOB) Transit is an urban fixed-route bus network in Biddeford, Saco, and Old Orchard Beach with regional service to Scarborough, South Portland, and Portland.

Greater Portland METRO is an urban fixed-route bus network in Portland and serves surrounding communities as far west as Gorham and north as Brunswick with regional service.

South Portland Bus Service (SPBS) is an urban fixed-route bus network in South Portland with service to Portland and Scarborough.

BUS & DEMAND RESPONSE SERVICE

Two agencies provide both bus and demand response services.

Regional Transportation Program (RTP) operates both a shared-ride demand response service that requires riders to book trips in advance and the Lakes Region Explorer — a fixed route bus service between Bridgton and Portland. RTP is the ADA paratransit provider for Cumberland County and provides many MaineCare-funded rides.

York County Community Action Corporation (YCCAC) provides a number of transportation services including shared-ride demand response, flex-route services, MaineCare-funded rides, and seasonal trolleys.

FERRY

Casco Bay Lines (CBL) is a ferry service connecting the Casco Bay islands to each other and with Portland.

RAIL

Northern New England Passenger Rail Authority (NNEPRA) manages the operations of the Downeaster, a passenger rail service that runs between Boston, Portland, and Brunswick with intermediate stops.

Transit Tomorrow

Despite the massive disruption caused by the pandemic, the region's public transportation agencies have a clear direction forward. Adopted by the PACTS governing body in 2021, *Transit Tomorrow* is an ambitious 30-year strategic plan for enhancing public transportation in the region. Written during the pandemic, *Transit Tomorrow* doubles down on public transportation as an essential strategy for achieving the region's economic, environmental, equity, and land use goals.

A core tenet of the plan, shown in the vision statement to the right, is that we strive for a public transportation system that is, "faster and more affordable than driving a car." To achieve this bold and transformative vision, the plan is centered around four major goals.

1. **Make Transit Easier** through such measures as developing welcoming stops and adopting innovative customer service technologies (among other strategies);
2. **Create Frequent Connections** by improving the core functions of our existing service (increasing frequency, expanding service to new places, extending hours of operation);
3. **Improve Rapid Transit** on key corridors to make transit faster and more affordable than driving a car; and
4. **Create Transit-Friendly Places** that support more development intensity in urban areas already served by transit.

Among other efforts, two major follow up studies are currently underway to begin to advance the goals of *Transit Tomorrow.* Described in the following pages, these are *Transit Together* and the *Rapid Transit Study.*

Transit Tomorrow's

Vision

Our vision is that by 2050...

"Using our region's public transportation is **faster and more affordable than driving a car.** Our system is funded sustainably and provides reliable and seamless transportation for our community, including commuters, mainland and island residents, and those with limited mobility options. Our communities support the long-term viability of public transportation by focusing new homes and jobs where people already live and work."

Above: The region's transit agencies met to discuss potential changes to the transit network at a workshop in June 2022.

Below: The *Transit Together* team collecting feedback from the public on proposed scenarios for improving the region's bus network.

Photos: GPCOG

Transit Together

Guided by the "Make Transit Easier" and "Create Frequent Connections" goals of *Transit Tomorrow*, the *Transit Together* study is aimed at cultivating a more seamless and integrated regional transit system. The study, which is currently underway, includes two major efforts:

1. **A regionwide network design.** The region's transit network has developed over many years in a piecemeal and uncoordinated fashion. Informed by public priorities and input from other key stakeholders, the region's transit agencies are working collaboratively to examine the network from a regional perspective based on where existing demand for transit is across the region and what resources are available to serve that demand. This work will result in a network that is better coordinated and will help make transit easier and more convenient for riders. Network redesigns around the country have been effective in driving increased ridership and better serving both transit-dependent people and new riders.
2. **Regional initiatives.** Seven different transit agencies in a region our size can create administrative challenges and confusion for riders. In this task, the agencies are evaluating opportunities for increased coordination and collaboration across agencies, including regional service standards such as unified fare payment, integrated branding, and more.

Transit Together intends to improve bus service in the Greater Portland region using existing resources and by introducing microtransit where practical. Microtransit is an on-demand transit service where riders can call, or use an app, to schedule a small transit vehicle (for example, a minivan) to drive them to and from their requested destination, or nearby location. (See page 42 for more information on microtransit).

Microtransit: A map of Kansas City's "RideKC" microtransit service. Courtesy: Kansas City Star

Transit Fleet Electrification: A rendering of Casco Bay Lines new hybrid/electric ferry boat, estimated to be deployed in 2024. Photo: Casco Bay Lines

Microtransit

Across the country, transit agencies are introducing new technologies to better match the level of service they provide with rider demand. In rural and suburban areas where transit demand is low, microtransit can provide service in place of fixed-route transit. In urban areas, it can fill the gaps between fixed routes and help with first mile and last mile connections.

Microtransit is an on-demand service where riders can request a ride in real-time via an app on their phone. A software program then uses this information to dynamically match riders and drivers. The service uses multi-passenger vans, shuttles, or small buses so people traveling in the same direction can share a vehicle. Microtransit is typically offered within a specified geography or neighborhood. People within the zone can then request a ride to anywhere else within the zone.

As an emerging new technology, microtransit helps transit agencies focus fixed-route service on corridors with higher densities and higher ridership, while still providing service to areas with more scattered demand when it is needed.

Vehicle Electrification

Converting transit fleets from diesel to electric is a major priority for the region's transit agencies. In addition to reducing air pollution and environmental impacts, electric buses are safe, reliable, and quiet. METRO and BSOOB Transit recently received a Federal Transit Administration Lo/No (low emissions/no emissions) grant as well as matching dollars from MaineDOT to purchase electric buses and related charging infrastructure. Additional planning and investments are necessary to increase the fleet of electric buses. In 2022, MaineDOT is developing a Transit Bus Electrification Plan to help transit agencies with this transition.

Converting transit fleets to electric vehicles is not limited to buses. A new vessel for Casco Bay Lines, estimated to be deployed in 2024, will feature a diesel-electric hybrid propulsion system. This will be the first ferry of its kind in the region.

Decarbonization of Transportation

MAINE HAS SET THE GOAL to reduce greenhouse gas emissions by 45% by 2030 and 80% by 2050, and to achieve net-zero carbon emissions by 2045. In line with the state's goals, *Connect 2045* calls for a 70% reduction in transportation greenhouse gas emissions by 2045 (see Chapter 4 Evaluating Progress).

Reducing emissions through clean transportation is a crucial step to meeting these aggressive goals. As previously noted, transportation is responsible for 54% of Maine's annual greenhouse gas emissions. Our state's rural character and relatively low emissions from other sectors (i.e., electricity generation) make transportation emissions disproportionately high compared to other states.

Connect 2045 calls for a **70% reduction** in transportation greenhouse gas emissions by 2045.

There are three major ways to decarbonize transportation: 1) electrify light, medium and heavy-duty vehicles, 2) use alternative fuels for vehicles that cannot be electrified, and 3) reduce the number of miles we drive.

1 VEHICLE ELECTRIFICATION

Combined with reducing the total number of miles traveled and improving vehicle efficiency, the most significant reductions of greenhouse gas emissions in the transportation sector will come from the long-term and large-scale electrification of transportation systems. To achieve its emission reduction goals, Maine will need to put 41,000 light-duty electric vehicles (EVs) on the road by 2025 and 219,000 by 2030.

Currently, EVs account for less than 0.5% (7,000 light-duty vehicles) of registered vehicles in Maine, but that number is increasing rapidly as the number and diversity of EV car models increases.[16]

Medium- and heavy-duty vehicles produce 27% of Maine's transportation greenhouse gas emissions, so the electrification of these vehicles is also key to reaching the state's climate goals.

Our region's bus transit agencies are doing their part — Greater Portland METRO, South Portland Bus Service and BSOOB Transit are aiming to be all-electric by 2040. The first few electric buses are already in service, and more are on the way. School buses are also being electrified as national funding is made available through the EPA. In 2022, 13 school districts in Maine were awarded a total of over $13.3 million to purchase 34 zero-emission school buses.

While electric vehicles can play an important role in reducing emissions, their batteries require large amounts of raw materials, including lithium, nickel, and cobalt — mining for which has climate, environmental, and human rights impacts. When the batteries reach the end of their useful lives, they must also be properly recycled to avoid widespread electronic waste. As electric vehicles gain in popularity, these issues must be properly addressed.

[16] *Maine's Climate Future: 2020 Update*. University of Maine.

The region's bus agencies are aiming to be all-electric by 2040. The first electric buses are already in service.

Greater Portland METRO's new electric bus driving past a recently installed creative bus shelter. Photo: Denise Beck

EV Charging Stations

Increasing the number of electric vehicles will require significant investment in charging infrastructure. There are currently over 550 public EV charging ports at almost 300 locations across Maine, with Greater Portland now hosting almost 150 charging ports at 80 locations. However, several communities have no public chargers. To stay on target to meet *Maine Won't Wait*'s emissions reductions goals the number of charging stations in Maine will need to roughly double by 2025.

To meet our emissions reductions goals the transition to electric vehicles will need to go beyond just light duty passenger vehicles.

Top: An electric school bus on display at an electric/alternative fuel vehicle event in Boston. Electric school buses exist and are on the cusp of widespread adoption. Mount Desert Island High School was the first school in Maine to add an electric school bus to its fleet in September 2021. Photo: GPCOG

Middle: A Mack electric work truck at the the electric/alternative fuel vehicle event in Boston. Photo: GPCOG

Bottom: BSOOB Transit's new electric bus. Photo: BSOOB Transit

EV Policies, Programs, and Incentives

Shifting to clean transportation will require policy changes, updated regulations, and increased incentives (not everyone can afford an EV). In addition to encouraging travel that does not rely on private vehicles, municipalities will need to adopt policies that promote the use of EVs and the installation of charging infrastructure. For example, municipal governments have a key role to play in updating codes and regulations to require new developments to incorporate charging stations.

Several programs and initiatives across the state are already helping advance the use of alternative fuels for clean transportation.

- **Efficiency Maine Trust** provides rebates and incentives for electric vehicles and charging stations to encourage consumers to go electric.
- **Maine Clean Communities (MCC)** is a coalition of stakeholders working to reduce emissions from transportation. With support from the Department of Energy, the coalition holds educational webinars, provides vehicle demonstrations, and supports fleets with technical assistance and training.
- **Drive Electric Maine** is a public and private-sector electric vehicle stakeholder group working together to accelerate the adoption of electric vehicles and the expansion of charging infrastructure throughout Maine.
- The **Environmental Protection Agency's SmartWay Program** helps improve efficiency and save money with new technologies within the heavy-duty freight transportation sector.

2 ALTERNATIVE FUELS

Electrification of some medium- and heavy-duty vehicles (and vehicles with long-duty cycles) is technically challenging. Where electrification is not currently practical, alternative fuels like renewable natural gas, hydrogen and other fuels are being evaluated. The state is using renewable biofuels as an immediately available, cleaner option in state and municipal fleets. Biodiesel can be used immediately in vehicles without additional modification to reduce lifecycle emissions as other alternative fuel technologies are evaluated and developed.

Directing more growth and development towards the region's villages, downtowns, and urban areas, where people can easily access their most basic day-to-day needs within walking distance (or take transit for longer trips), can reduce our reliance on driving and significantly cut down on emissions. **Left:** The pedestrian bridge connecting Biddeford's Mill District to Saco Island. Photo: Corey Templeton. **Right:** The pedestrian bridge connecting Downtown Westbrook. Photo: Roger McCord

3 REDUCING VEHICLE DEPENDENCY

While transitioning to electric vehicles is something we can do immediately — with quantifiable results — reducing our overall reliance on driving can also deliver big gains. Changing how we get around and minimizing the number of trips we take by car will require overcoming deeply embedded behaviors and lifestyles. Alternative transportation options, such as walking, biking, and taking public transportation are all more environmentally friendly than driving. But for people to choose them, these options need to be just as convenient as driving a car, if not more so.

The way our streetscapes and public spaces are designed can play an outsized role in deciding what choices we make. If there are no sidewalks, bike lanes, or transit service in sight when you walk out the door, the most obvious option is to drive. With the rise of "micromobility" solutions, such as electric bikes and scooters, there are more options than ever before, but they must be convenient and safe to gain traction.

Especially considering the pandemic, many communities in the region are rethinking the role of the public right-of-way. To support local businesses, communities have transformed parking spaces into dining spots. To encourage walking and bicycling, communities have closed some streets to vehicle traffic. Many communities have also adopted Complete Streets policies to ensure that all users and all modes are considered in future roadway projects.

In the big picture, directing more growth and development towards the region's villages, downtowns, and urban areas — where people can easily access their most basic day-to-day needs within walking distance or on public transit — can reduce our reliance on driving and significantly cut down on emissions.

OUR VISION

All people have access to transportation choices that are safe, reliable, and environmentally responsible. The transportation system optimizes infrastructure, reduces harm to the environment, and supports great places and a thriving economy.

OUR GOALS

Provide Equitable Access

Expand Choices

Support Great Places

Protect the Environment

Improve Safety

Optimize Infrastructure

GOAL

Protect the Environment

Our transportation system minimizes its harmful impacts on the natural environment and has sufficiently reduced emissions. Current and future generations enjoy healthy communities and move throughout the region without further damaging habitat or contributing to climate change.

OBJECTIVES	ACTIONS
Reduce emissions	**1 Reduce car-dependence** Reduce the amount of driving in the region through Transportation Demand Management (TDM) strategies with particular emphasis on high-impact strategies like large employer commuter incentives and remote work infrastructure.
	2 Accelerate transition to electric vehicles Accelerate the transition to electric, hybrid, and alternative-fuel vehicles including cars, public transportation, school buses, ferries, and trucks.
Minimize pollution	**3 Minimize stormwater runoff** Incorporate natural elements and low impact development techniques into PACTS projects to protect water quality.
Build resilience	**4 Evaluate vulnerability** Assess the region's vulnerability to identify infrastructure, populations, and habitat most susceptible to the impacts of climate related events such as extreme weather, higher temperatures, storm surge and sea level rise.
	5 Coordinate key stakeholders Strengthen the role of local conservation and environmental stakeholders in PACTS decision-making.
Protect habitat	**6 Minimize habitat fragmentation and degradation** Minimize habitat fragmentation by incorporating best management practices such as natural buffers, stream smart crossings, and wildlife underpasses/overpasses into PACTS projects.

LEWISTON-AUBURN TRANSIT COMMITTEE

Comprehensive Asset Management Plan

FLEET MAINTENANCE PLAN

Approved
July 25, 2013

Lewiston-Auburn Transit Committee

FLEET MAINTENANCE PLAN

Contents

FLEET MAINTENANCE PLAN

The Lewiston-Auburn Transit Committee (LATC), owners of Lewiston-Auburn's fixed route bus system, contracts for all components of operations and maintenance of its service and fleet. Though LATC does not perform the maintenance on its fleet, it does have expectations that the fleet is being maintained in the safest, cleanest and most efficient working conditions at all times.

LATC Maintenance Goal

LATC's Maintenance Policy is predicated on the following objectives:

1. To guarantee the operational safety of all vehicles and equipment.
2. To provide a comfortable environment for passengers and drivers.
3. To provide minor and major inspections based on elapsed mileage and/or manufacturer's specifications.
4. To provide maintenance in a cost effective and efficient manner while maintaining concern for safety.
5. To lessen the number of road calls and major breakdown incidents.

The maintenance program developed in this plan is derived from those objectives and reinforces the overall goals of the LATC Maintenance Policy, which is: **To continuously improve the performance and ensure the operational life for all LATC owned and/or operated vehicles.**

Statement of Purpose

The key operating goals of the Lewiston-Auburn Transit Committee's (LATC) asset management plan are to provide a guide for safe, reliable, and high quality service to our customers while maximizing the use of our existing resources. As a product of those goals, LATC recognizes the importance of fully and consistently maintaining all vehicles in it's fleet and will meet or exceed vehicle manufacturer's recommendations to ensure safety, efficiency and longevity of vehicles.

The Fleet Maintenance Plan is based on lowest life cycle cost (LLCC) methodologies, defined as, "Lowest life cycle cost methodology is demonstrated by a cost model that reflects policies and standards in a planned preventive maintenance program resulting in the lowest maintenance costs over the life of an asset."

LATC requires the Contractor to conduct incremental preventative maintenance activities to ensure safe operation of the vehicle, and to preserve and extend its life. In addition to preserving and extending the lifespan, this approach results in lower maintenance costs over the life of the vehicle.

Using the LLCC method, LATC and the Contractor assesses the cost of an asset over its projected useful life and is committed to taking the preventative maintenance measures needed to avoid more costly repairs, and extend the life of the asset.

LATC's overall approach to vehicle maintenance is based on five (5) core focus areas:

- A strong focus on maintenance increases safety
- Preventive maintenance reduces operating expenses and maximizes resources
- Preventive maintenance enhances the organization's image and efficiency
- Preventive maintenance ensures compliance with federal and state regulations and current mandates
- Compliance with FTA/MaineDOT Grant Management Guidelines, Maine Commercial Vehicle Safety Inspections, FMCSA/FMCSR and ADA requirements

Maintaining the fleet is the responsibility LATC and its Contractor. The success of the maintenance program depends on teamwork and following through on guidelines and activities outlined in this Fleet Maintenance Plan. Vehicle breakdowns are costly in many ways and stress the overall budget. Complying with basic preventative maintenance strategies can make the difference in LATC's ability to thrive and serve the public safely and efficiently.

Vehicle Inventory

The vehicle inventory for each passenger service vehicle owned by LATC will include the following information:

• **Year/Make/Model**

□ The year the vehicle was manufactured
□ Make – The name of the manufacturer
□ Model – The model name or number assigned by the manufacturer
□ Body manufacturer
□ Any ADA equipment

• **Vehicle Identification Number** (VIN) – The serial number assigned by the manufacturer

• **Agency Vehicle Number** – The number assigned to the vehicle by the transit agency

• **Condition** – Vehicles will be assessed at the end of each fiscal year (September 30) to determine the condition of the vehicle. A rating that best describes the condition of the vehicle asset will be assigned to driveline, interior of the vehicle and exterior of the vehicle. The rating will be as follows:

□ Very Good (100) – Only routine preventative maintenance needed, interior of the vehicle clean, free of damage and/or graffiti, exterior of the vehicle is free of corrosion and/or damage.

□ Good (80-90) – Good working order, requiring only minimal minor repairs, minimal wear/damage to interior, exterior is beginning to show signs of wear and/or deterioration.
□ Fair (50-70) – Requires frequent repairs, wear, damage and/or failure of interior equipment or surfaces. Damage and/or need for body work apparent on exterior surfaces, passenger amenity systems showing signs of wear and/or consistent failure.
□ Poor (20-40) – Requires frequent major repairs, extensive degradation of interior and/or exterior of vehicle, use of vehicle is not recommended on a regular basis.
□ Liability (10) – Continued use presents excessive repair costs and potential service interruption.

• **Seating Capacity and Configuration** – The number of seats available to the public, including the number of ambulatory positions and wheelchair tie-down positions.

• **Fuel Type** - The letter abbreviation of the type of fuel used by the vehicle.

• **Title Holder**

The Contractor shall maintain two (2) files for each vehicle. A ***Vehicle Accounting File*** will contain copies of title, original warranty information, original paperwork that came with the vehicle, and will include a vehicle detail sheet with all the above information. In addition, a ***Vehicle Review*** form will be updated annually, at the time of inspection with the MaineDOT Certified Vehicle Maintenance Inspector, and added to the file. (Appendix F: MaineDOT Annual Review Checklist)

A ***Vehicle Maintenance File*** will contain copies of any information that came with the vehicle (scheduled maintenance guides and warranties), repair and maintenance invoices, PM inspection forms and pre/post trip inspection forms to be rotated out to long-term filing annually and will be maintained in accordance with LATC, MaineDOT/BTSP and FMCSR record retention policy.

The Contractor is responsible for creating, maintaining, and proper filing of all LATC vehicle inventory documentation. Updated vehicle inventory documentation will be maintained in the office of LATC and the Contractor. Any changes in or issues with the keeping of Vehicle Inventory records will be mutually reported to LATC and/or the Contractor when necessary. (Appendix A: Vehicle Inventory Form)

Vehicle Replacement Schedule

All transit vehicles are assigned an expected useful life dependent on vehicle design and durability. The following schedule is based on Federal Transit Administration recommendations. It is important to factor the amount of time to receive replacement vehicles when planning the replacement schedule. The time to acquire new vehicles is estimated at eighteen months from the request for a new vehicle(s) to delivery of the vehicle(s).

12 year bus – 500,000 miles (35+ ft; HDB)
10 year bus – 350,000 miles (30-34 ft; MHDB
7 year bus – 200,000 miles (MDB, ie: E-450)
5 year bus – 150,000 miles (LDB, ie: E-350)

• Remaining Useful Life – The estimated number of years the vehicle will be able to carry out its intended purpose before being replaced. FTA establishes the minimum useful life of buses and minibuses.

• Replacement Cost – The current year estimated purchase price for a new vehicle of this type

LATC will consider operational costs of vehicles in making recommendations for replacement of vehicles.

Vehicle Replacement Schedule:

	2014	2015	2016	2017	2018	2019	2020	2021	2022
FTA - Useful Life:									
2002 (12 year bus) 0201	2014								
2002 (12 year bus) 0202	2014								
2006 (12 year bus)					2018				
2006 (12 year bus)					2018				
2006 (12 year bus)					2018				
2006 (12 year bus)					2018				
2008 (7 year bus)	2014								
2011 (12 year bus)									2022
2011 (12 year bus)									2022
2011 (12 year bus)									2022

The replacement dates above are based on the expected useful life of a vehicle as recommended by FTA.

Vehicle Breakdown Policy

It is the responsibility LATC's Contractor to handle vehicle breakdowns. LATC will require the Contractor to submit a Vehicle Breakdown Policy for approval. The Contractor's Vehicle Breakdown Policy must address the safety and quality of service for passengers if the vehicle breaks down while in-service. The Contractor shall document all road calls and submit monthly reports to LATC.

Preventative Maintenance Program

Preventive maintenance is a critical component of LATC's operational safety, reliability, and quality of service and is one of the most important functions of vehicle maintenance.

The key goals of preventative maintenance that LATC requires of its Contractor are to:

- Maintain the safety of LATC vehicles
- Maximize vehicle performance cost-effectively
- Maximize vehicle lifespan

LATC emphasizes having a vehicle maintenance program that is preventive rather than reactive maintenance. A strong preventive maintenance program effectively reduces overall maintenance costs by decreasing the number of road calls and the high cost of unpredictable repairs caused by reactive maintenance. LATC's Contractor is to maintain its vehicles using a graduated preventative maintenance program (PM) that is based on the manufacturer's recommendations. Solid PM practices maximize useful life, are cost efficient over the life of the vehicle, and ensure that vehicles remain in safe operating condition.

LATC requires an aggressive preventive maintenance program that schedules vehicle inspections based on a variety of categories. The PM schedule is based upon usage and vehicle type and manufacturers recommendations. The schedule is required to be progressive. Each successive PM is to include a higher level of maintenance inspection activity. Vehicles are to be inspected based on mileage and time, and in addition, each vehicle is to receive an annual comprehensive inspection.

LATC require its Contractor to continually review the maintenance practices to identify potential improvements to the program. This assures optimum benefits from the scheduled inspections. Engine oil analysis is to be considered as part of the inspection program. Oil analysis is based on mileage operated. The purpose is for early identification of unusual engine wear thereby acting to prevent catastrophic engine failures.

On-time inspection variance

The allowable variance with all preventive maintenance inspections is a plus or minus 10%. Any inspection completed within this parameter is considered on time. Each vehicle type has its own specific PM schedule based on, but not limited to, manufacturer's recommendations. FTA requires 80% on-time compliance.

Local Conditions

Local road conditions and four-season weather in Maine has a direct impact on the level of PM needed in this state. Many duty cycles and routes include dirt roads, hilly terrain, and stop-and-go conditions on a daily basis that require a higher level of PM than other parts of the country. In addition, weather plays a role in the need for increased PM. Sand, salt and other anti-icing agents are known to cause premature wear and corrosion on certain parts of vehicles. LATC requires that the Contractor inspect parts of the vehicles

that are most vulnerable to weather-induced wear and tear beyond the recommendations of the vehicle manufacturer.

Clean Vehicle Policy

Clean vehicles are important to the overall image of LATC's citylink system and our commitment to quality customer service. Regular cleaning of LATC vehicles increase the life span of the vehicles, provide a higher quality work environment for drivers, a better experience for riders, and a demonstrated pride in transportation services.

LATC requires the Contractor to wash and clean the vehicles on a regular basis as part of the contract for operations and maintenance.

Vehicle Maintenance Management

The Contractor is responsible for developing the PM schedule for each vehicle and ensuring that all PM activities are completed in a timely manner and consistent with the manufacturer's recommendations and the LATC Fleet Maintenance Plan.

The Contractor is required to review and report the tasks performed throughout the PM and repair process. This constant reviewing and recording is designed to ensure that review and decisions are made at the proper level of management. (Appendix B: PM Schedule)

- Each week the Contractor is to print and review the PM tracking report to identify which vehicles are due or coming due for Preventative Maintenance. The identified vehicles are scheduled for work in coordination with Operations staff.

- Work is then assigned to perform the PM and completes the appropriate PM inspection form. If the Contractor uses an outside vendor, the Contractor will provide the maintenance vendor with complete instructions on how to perform the PM. Minor repairs such as light bulbs and the securing of fasteners etc. are to be done during the PM process.

- LATC requires that a separate PM inspection process be maintained for specific component systems such as wheelchair lifts and HVAC systems. These component systems are to have their own PM schedules, forms, and tracking reports.

- The Contractor is responsible for reviewing and tracking reports and generating the work orders to perform the tasks. Other needed repairs may be identified during the PM inspection. These are referred to as "PM write ups". In addition, drivers may report vehicle problems on their daily Pre- and Post Inspection Forms. (Appendix B: Sample Pre-and Post-Trip Form)

- The Contractor is required to review the PM write-ups and driver reports and schedules vehicles for repair. If work is to be performed by an outside vendor, the

Contractor is required to review the invoice and completed repairs before the bus returns to service.

Vehicle Maintenance Identification, Tracking and Reporting

LATC requires the Contractor to use a system of manual and computerized forms, files and reports to schedule, perform, track and insure compliance with preventative maintenance (PM) and repairs to its vehicles. These documents include:

- Pre & Post-Trip Checklists
- Work orders
- Purchase orders
- Parts requests and requisitions
- PM tracking report and schedules
- PM Inspection forms (these vary based on type of vehicle and level of PM to be performed)
- Compliance to FTA/MDOT, FMCSR and Maine Commercial vehicle Inspections
- Warranty recovery plan
- ADA Requirements

LATC will require the Contractor to have a maintenance system that details maintenance work and tracks the progression of work, whether it's scheduled PM, driver reported, safety or security bulletin, warranty work, etc.

Quality Assurance

LATC will conduct periodic reviews of the Contractor to ensure that maintenance is being performed according to the contract. The review will include:

- On-time performance of PMs
- Cleanliness of the vehicles, maintenance facility and grounds
- Timeliness of repairs
- Lack of "rework' situations
- Minimal road calls and/or need for towing services
- Paperwork completed in a timely manner

A summary of the write-up will be sent to the Contractor, to LATC and placed on file.

Process to oversee work done by contracted vendors

LATC's Contractor is responsible for housing the vehicles and all maintenance records. The vehicles are FTA/MaineDOT funded and are therefore subjected to a physical inspection of all LATC agency vehicles by FTA/MaineDOT. (Appendix E: Maintenance Checklist)

WARRANTY

Warranty Recovery Plan

LATC requires the Contractor to have a warranty recovery program to ensure that cost of parts and repairs on warranty-covered items are recovered. The Contractor is to track

warranty claims. The Contractor will be required to submit a Warranty Recovery Plan to LATC.

Failed components
Parts and components that may have failed prematurely are returned to the maintenance vendor. If the part or component is covered by a warranty, it is returned to the vendor.

Return to manufacturer/vendor
Authorization for warranty return and labor claims, when applicable, are obtained from the manufacturer or vendor. Information is supplied to the vendor on the circumstances of the failure, if known. The item is then returned to the vendor warranty department for repair or replacement. LATC's Contractor shall retain a copy of the warranty claim form for tracking purposes.

Receipt from manufacturer/vendor
LATC's Contractor is to be equipped to track units/parts into an inventory system. A copy of the warranty form is kept in the Vehicle Maintenance File. The Contractor shall track labor credit if received.

Appendices

Appendix A: Vehicle Inventory Form
Appendix B: Sample Pre and Post Trip Inspection Sheet
Appendix C: Maintenance Vendor Checklist
Appendix D: Annual Maintenance Review

Appendix A
Vehicle Inventory

BUS #	MAKE	YR	PSGR	COST	REG #	SERIAL #	FUNDING	PURCHS DATE	OWN	MILEAGE		SERVICE
0201	THOMAS SLF	03	31	$239,355	B8370	5DF232DA62JA30587	LATC	1/15/2003	MDOT	33,334	LM-175226	FIXED ROUTE
0202	THOMAS SLF	03	31	$239,355	B8369	5DF232DA42JA30586	LATC	1/15/2003	MDOT	20,119	LM - 201717	FIXED ROUTE
0601	BLUEBIRD L4RE	06	32	$233,475	B8387	1BAGJBPAX6W100340	LATC	12/30/2005	MDOT	198,333		FIXED ROUTE
0602	BLUEBIRD L4RE	06	32	$233,475	B8388	1BAGJBPA16W100341	LATC	12/30/2005	MDOT	190,103		FIXED ROUTE
0603	BLUEBIRD L4RE	06	32	$233,475	B8389	1BAGJBPA26W100347	LATC	12/30/2005	MDOT	149,685		FIXED ROUTE
0604	BLUEBIRD RE3504	06	32	$213,206	B8392	1BAGJBPA16W100369	LATC	2/14/2007	MDOT	192,200		FIXED ROUTE
0802	CHEVROLET ELDORADO	08	24	$157,500	B 9534	1GBJ5V1958F409706	LATC/WMTS	8/19/2009	MDOT	111,590		FIXED ROUTE
1101	GILLIG	11	31	$371,406	9544 BUS	15GGB2710B1178614	LATC	3/30/2011	MDOT	76,886		FIXED ROUTE
1102	GILLIG	11	31	$371,406	9545 BUS	15GGB2712B1178615	LATC	3/30/2011	MDOT	68,857		FIXED ROUTE
1103	GILLIG	11	31	$371,406	9543 BUS	15GGB2714B1178616	LATC	3/30/2011	MDOT	83,193		FIXED ROUTE

* mileage as of 6/30/2013

Appendix B

Vehicle Pre-Post Trip Inspection

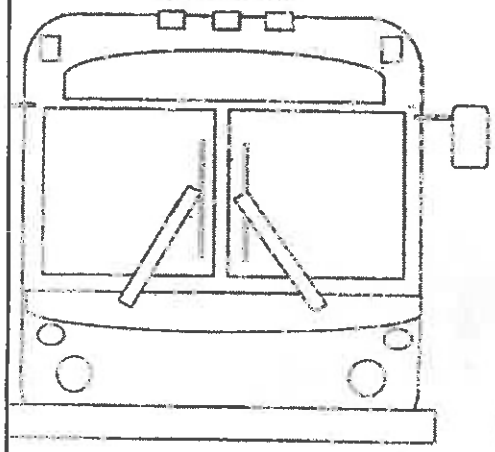
Driver | Agency Name_____

Shift 1 2 | Vehicle #_____ | Time_____ | Begin Mileage_____ | End Mileage_____ | Date_____

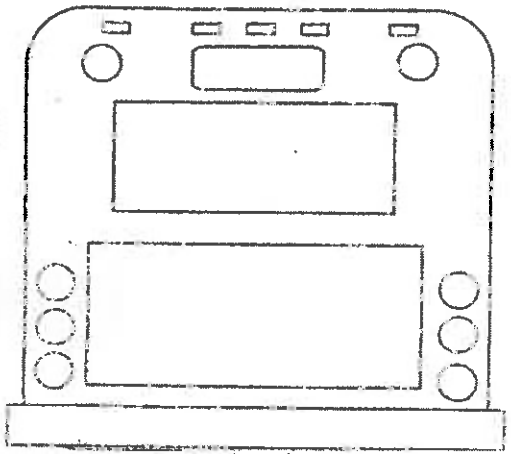
Fluid Levels	Tires	Wheels	Exterior	Mirrors
Motor Oil	Tread	Lug Nuts	Condition Of Body Panels	Glass
Coolant	Inflation	Cracks	Fluids Under Bus	Tightness
Transmission	Sidewall	Over All Condition	**Windows**	**Wipers**
Power Steering	Damage	**Entrance Condition**	Front	Blade Condition
Washer Fluid	**Reflectors**	Doors	Rear	Operation
Lights	Front	Door Glass	Sides	**Lift**
Headlights	Rear	Steps	Windshield	Operation
Stop Lights	Sides	**Driver's Compartment**	**Interior**	**Steering Mechanism**
Directional 4 Ways	**Safety**	Gauges	Condition Of Seats	Steering Wheel Condition
Clearance & Tail Lights	Fire Extinguisher	Warning Lights	Condition Overall	Play In Steering
Warning Lights (lift)	Reflector Triangles	Fuel (LEVEL)	Tie Downs (wheel chair)	Power Steering Operation
Backup Lights, Beeper	Wheel Chalks	Horn	Seat Belts	**Braking System**
	Bodily Fluids	Heater & Defroster		Parking/Hand Brake
	Webb Cutter			Service Brake
	1st Aid Kit			Interlock

Comments:

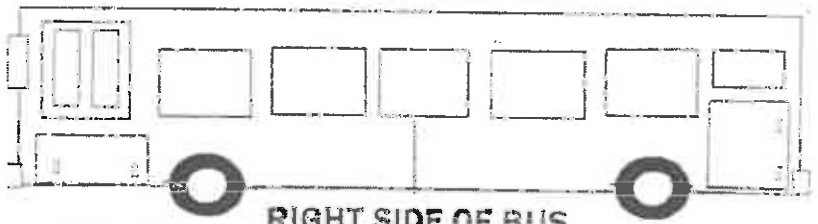
FRONT



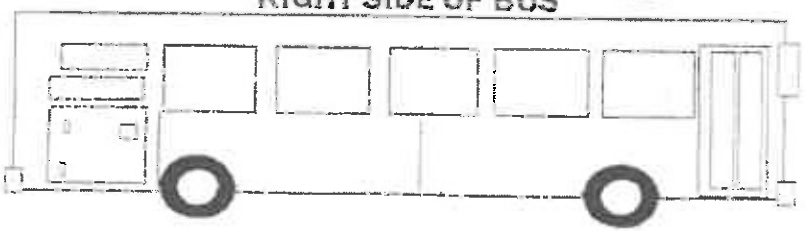
REAR



LEFT SIDE OF BUS



RIGHT SIDE OF BUS



Condition Of Above Vehicle: | **Satisfactory** | **Unsatisfactory**

Driver's Signature(post trip):_____ **Employee#:**_____

Above Defects Corrected:_____

Above Defects Need Not Be Corrected For Safe Operation Of The Vehicle:_____

Mechanics' Signature:_____ **Date:**_____ **Driver Reviewing Repairs Signature:**_____ **Date:**_____

Par 396.11 Federal Motor Carrier Safety Regulations

Vehicle Condition Report By Driver. Except as provided for driveaway/towaway operations in PAR 396.15, every motor carrier operating more than one motor shall require it's drivers to report and every shall prepare such a report in writing at the completion of his day's work or tour of duty, which report shall list any defects or deficiency of the motor vehicle discovered by said driver or reported to him as would be likely to affect the safety of operation of the motor vehicle or result in his mechanical breakdown or shall indicate that no such defects or deficiencies were discovered by or reported by him. Such reports shall be carefully examined, the defects reported thereon shall be checked and the report shall be retained by the motor carrier for a period of at least 3 months.

This is only a sample form and should be corrected and designed for each Agency use.

Appendix C

Maintenance Checklist

PM & Repair Checklist
(Van, Para-Transit, Transit Vehicles)

Vehicle #_____Performed by: _____ Date: _____
Mileage_____Work Order#_____
Includes Service A____B ____C ____ D ____ E____ Semi-Annual_____

= INSPECTED R= REPAIR MADE A= ADJUSTED N/A = NON APPLICABLE

CHECK ALL ITEMS SERVICED

OPERATING CONTROLS

_____ **Ignition Switch**
_____ **Neutral Start**
_____ **Warning Lights and Indicator Lamps**
_____ **Gauges & Lighting**
_____ **Parking Brake**
_____ **Door Controls**
_____ **Brake Interlock**
_____ **Exit Door Interlock**
_____ **Defrost & Heaters**
_____ **Fans**
_____ **Horn**
_____ **Drivers Controls & Switches**
_____ **Drivers Seat & Restraint**
_____ **Stop Request**
_____ **Radio**
_____ **Steering Wheel Adjustment**
_____ **Destination Sign, if applicable**

INTERIOR INSPECTION

_____ **Interior Lights**
_____ **Stanchions, Grab Handles and Rails**
_____ **Emergency Windows & Exits**
_____ **Roof Hatches**
_____ **Door Alignment**
_____ **Mirrors**
_____ **Decals**
_____ **Glass & Windshield**
_____ **Emergency Equipment: Fire Extinguisher, First Aid Kit, Body Fluid Kit, Strap Cutter, Triangles**

EXTERIOR INSPECTION

_____ **Wiper Arms & Blades, Washer Fluid**
_____ **Mirrors**
_____ **Reflectors**
_____ **Body Panels**
_____ **Bumpers**
_____ **Moldings**
_____ **Bike Rack**

TIRES AND WHEELS

_____Pressure
_____**Tread Condition RF_____LF_____**
(minimum 5/32 front)
RRI_____ RRO _____
LRO_____ LRI_____
(minimum 3/32 rear)
_____**Sidewall Condition**
_____**Lug Nuts**
_____**Rims**

WHEELCHAIR LIFT

_____**Lift Operation**
_____**Warning Light and Alarm or Override**
_____**W/C Restraints**
_____**Clean Tie-down Pocket**
_____**Lift Extension Belt (Ricon Lifts Only)**
_____**Brake/Door Interlock**

UNDERCARRIAGE

_____**Steering Box and Joints**
_____**Tie Rod Ends and Drag Links (replace if 1/8" movement)**
_____**Ball Joints**
_____**Shock Absorbers**
_____**Suspension: Air Suspension, Radius & Torque Rods, Air Bags**
_____**Brake Lines**
_____**Brake Lining Thickness**
Ft. _____ _____ **R** _____ _____
_____**Wheel Seals**
_____**Wheel Bearings**
_____**Fluid Leaks**
_____**Air Leaks**
_____**Fuel Tank: Condition, Mounting, Lines & Vents**
_____**Axles, Differential Oil & Vent**
_____**Underbody: Mud Flaps, Spray Guards**
_____**Frame Cracks, Loose Cross members**

EXHAUST SYSTEM

_____**Hangers**
_____**Mufflers**
_____**Pipes**

ENGINE COMPARTMENT

_____ **Power Steering Fluid**
_____**Coolant Level**
_____**Brake Fluid**
_____**Hoses & Clamps**
_____**Check Belt Tension**
_____**Starter Cables**
_____**Radiator & Fan Shroud**
_____**Fan**

BATTERIES

_____**Terminals & Cables**
_____**Fluid Level**
_____**Hold Downs**

ROAD TEST

_____**Acceleration**
_____**Engine Performance**
_____**Transmission Performance**
_____**Steering Performance**
_____**Braking Performance (Use VC3000 @ 20MPH) Record G**_____
Must be 0.5000 or higher to pass brake test.

B Inspection (add the following to the list)

_____Oil
_____Filter

C Inspection (add the following to the list)

_____Rotate Tires

D Inspection (add the following to the list)

_____ Replace Air Filter
_____ Transmission Fluid & Filter
_____ Wheel Bearings
_____ Inspect Differential Oil, change if needed
_____ Fuel Filter

Appendix D

Annual Maintenance Review Checklist

Physical Inspection

1) Under the hood

___A. Belts, frayed
___B. Hoses, cracked
___C. Engine blocks, clean of oil, coolant etc. Hood light operative.
___D. Check all fluid levels oil, coolant, power steering fluid.

2) Exterior Walk-around

___A. Fluid leaks under coach.
___B. Suspension, coach sagging any direction, check front end bounces up and down to check shocks on smaller coaches. Should go down and up only 1 x. Visual on leaf springs-nothing hanging that shouldn't be.
___C. Obvious cleanliness of coach
___D. All exterior lamps working, clearance, license plate light, tail, turn and 4-ways.
___E. Unreported body damage/scratches.

3) Interior Check

___A. All interior lights working, including dimmer switch.
___B. Check all wheelchair tie downs for cleanliness, proper # of and order of tie downs.
___C. Seat condition, clean, no cuts or stains in vinyl or upholstery.
___D. Check seats that raise for wheelchair stations for smoothness of operation.
___E. First Aid Kit - full, strap cutter, Body Fluid Cleanup - full, triangles neatly folded and secured with proper number needed.
___F. Fire Extinguisher secure and tag not expired.
___G. Dash lights all operative, check all switches for operation, wiper blades in good condition, washer fluid full, horn, backup alarm in reverse.

4) Wheelchair lift operation

___A. Lift clean
___B. Check override on lift belt, is light operating?
___C. Smoothness of operation on lift outboard barrier.
___D. Check override that lift will not work without vehicle being in Park with Emergency Brake on and W/C switch activated at driver seat.

Documentation

For each vehicle maintained by the service contractor:
1) What are the required maintenance intervals for the vehicle(s)? _____

_____

2) Do the contractor's records reflect that they are performing preventative maintenance in a timely manner, following FTA, MDOT/BTSP, ADA and FMCSR? _____

Comments