MAINE STATE TRANSIT PLAN

March 2023

MaineDOT

MAINE STATE TRANSIT PLAN

prepared for

MaineDOT

prepared by

CAMBRIDGE SYSTEMATICS

March 2023

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

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.

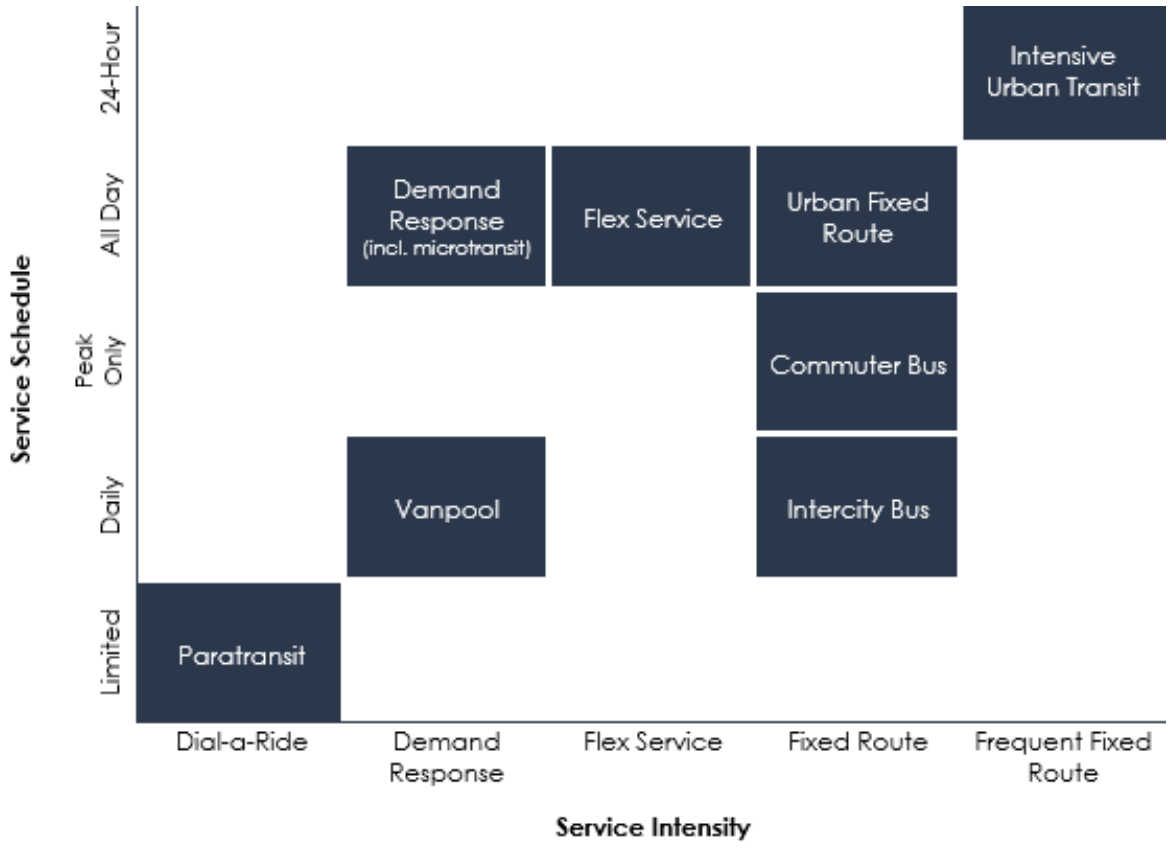
#	Strategy	Description	Needs Addressed
1	**Improve Coordination Among MaineDOT Services and Other State Agencies**	➢ *Strengthen coordination between MaineDOT and other state departments and agencies, including the Maine Department of Health and Human Services (DHHS), Economic and Community Development (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

1. PUBLIC TRANSPORTATION'S ROLE IN MAINE'S TRANSPORTATION NETWORK

Public transit plays a critical role in the lives of individuals and in Maine's economy and communities. Public transportation provides options and access for people, particularly those without access to or the ability to use personal automobiles. It provides options for individuals and families who may prefer or not be able to use personal vehicles for all trips. For some people, public transit means access to job opportunities, which can be a stepping stone for other improvements in their lives. In urban areas especially, public transit can reduce congestion and vehicle miles traveled by providing options to individual vehicles. Public transportation is also an economic investment; a nationwide study showed that investment in transit offers a 5 to 1 economic return and generates jobs.[2] Public transportation is most efficient and effective when it is considered in conjunction with, rather than as a response to, decisions around development patterns, including housing and economic development.

Public transportation means regular, continuing shared-ride surface transportation services that are open to the general public or open to a segment of the general public defined by age, disability, or low income; public transportation, transit, and public transit are used interchangeably throughout this report. With most of Maine served by some type of transit, a key consideration is the type of transportation needs that can and should be met by public transportation, given limited resources. Public transit can connect people to employment, medical services, education, groceries, and other essential services. Other trip purposes, such as recreational and social activities, may be provided by a combination of public transportation, volunteer networks, and family or friends.

1.1 Vision, Goals, and Objectives

MaineDOT's mission is **"To support economic opportunity and quality of life by responsibly providing our customers the safest and most reliable transportation system possible, given available resources."** Following this mission, the *Maine State Transit Plan* sets the stage for improving transit across the state, with a focus on over-the-road passenger transportation and a high-level review of ferry service and passenger rail service, which is addressed in the *Maine*

[2] American Public Transportation Association. Economic Impact of Public Transportation Investment: 2020 Update. https://www.apta.com/wp-content/uploads/APTA-Economic-Impact-Public-Transit-2020.pdf

State Rail Plan. This Plan builds upon and updates the *Maine Strategic Transit Plan 2025*,[3] considering transit ridership increases, the far-reaching and ongoing impacts of the COVID-19 pandemic, completed and ongoing studies related to transit in the state, new funding opportunities at the federal level, the aging and dispersed population, and the role of public transit in reducing greenhouse gas emissions.

This Plan has been developed in coordination with MaineDOT's *Long-Range Transportation Plan* and statewide modal plans covering rail, active transportation, and aviation. This Family of Plans establishes a unified vision for the state's multimodal transportation system based on MaineDOT's 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.

MaineDOT's mission and guiding principles guide the 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 *Maine State Transit Plan* includes:

- **Chapter 2. Existing Conditions Assessment**: Provides an in-depth examination of Maine's existing transit system, including available services and related parameters, as well as an overview of Maine's geographic and socioeconomic characteristics and their influence on transit needs.

[3] MaineDOT Strategic Transit Plan 2025. https://www.maine.gov/mdot/planning/strategictransitplan/

- **Chapter 3. Needs Assessment:** Identifies key transit needs based on an analysis of the conditions and characteristics of Maine's statewide public transit system and outreach efforts.
- **Chapter 4. Transit Improvement Strategies:** Establishes a series of strategies and innovations to address the state's transit needs.
- **Chapter 5. Implementation Roles and Investment Actions:** Provides guidance for implementing strategies and identifies needed investments, costs, and funding sources.

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	

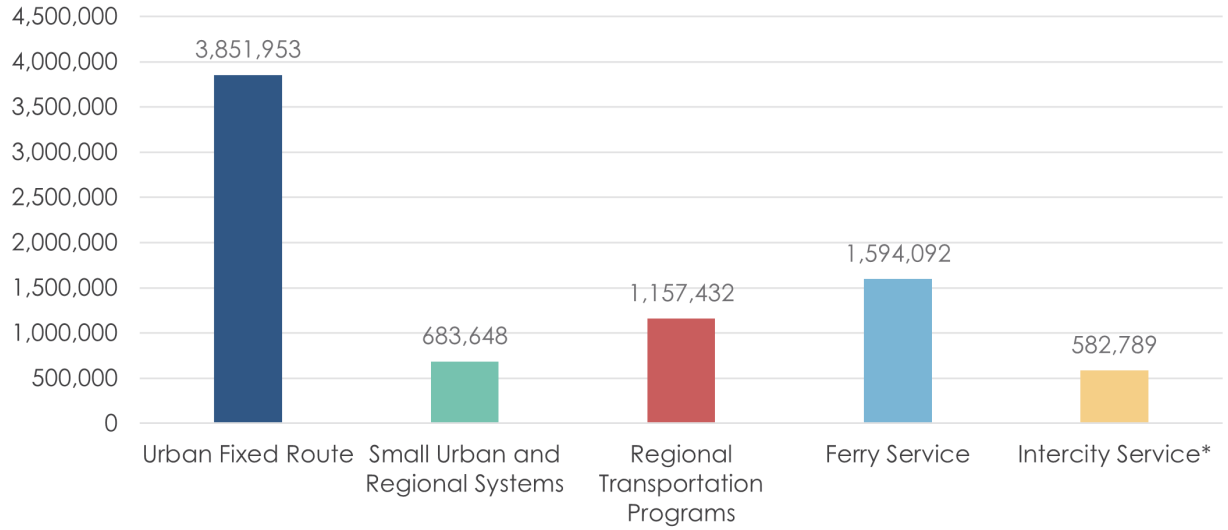
Rail service is provided by Amtrak's Downeaster, managed by the Northern New England Passenger Rail Authority. This service consists of five daily runs between Brunswick, Portland, and points south into Boston. Key service characteristics of the statewide rail service are shown in Table 2.7. In 2019, 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.

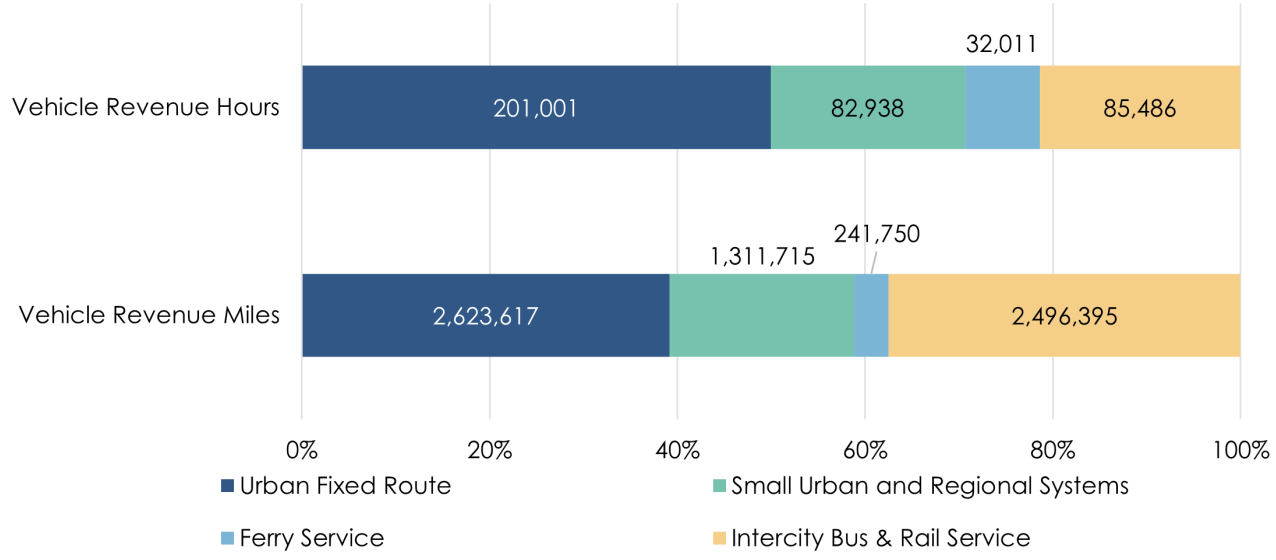
Figure 2.1 2019 Maine Transit Ridership (Unlinked Passenger Trips) by System Category



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.

2.3 Other Transit Partners

There are additional transit and transit-related options and programs across Maine:

2.3.1 MaineCare Non-Emergency Transportation (NET)

NET is administered through the Maine Department of Health and Human Services and works with designated transportation brokers who arrange rides to and from appointments covered by the MaineCare health insurance program for individuals who are eligible based on household composition and income. Transportation options include direct reimbursement to the recipient or family member or friend of the recipient; provision of a transit pass; or arranging a ride with a volunteer driver, local agency, or taxi.

NET reimbursement funding from DHHS provides strong financial support to Maine's transit systems. NET funding for transit in Maine has ranged from $72 million to $74 million in recent yeas. Although there are multiple uncertainties associated with the COVID-19 pandemic, this funding range is expected to remain constant in upcoming years.

2.3.2 RTP Social Service Transportation

Transportation for access to social service appointments and needs are coordinated through Maine's RTPs. Examples of these include trips related to daycare or childcare, older adult transportation, skills training and workforce development, and Maine Veterans Services. Trips covered through these services are typically provided by volunteer driver programs, and use a mileage-based reimbursement for drivers to transport recipients to and from appointments.

2.3.3 GO MAINE Ridesharing/Trip Planning Connections

A statewide ridesharing and trip planning program led by MaineDOT and the Maine Turnpike Authority, GO MAINE matches travelers with alternatives to single occupancy vehicles. Open to all travelers, it includes a point-based reward system as an incentive to participate. The program works with several organizations in Maine to provide transportation such as Commute With Enterprise, a private company that forms vanpools as appropriate for any employer or employee's situation. The program relaunched in April 2022 and, as of March 2023, has approximately 9,800 members, including many from large employers such as MaineHealth, the University of New England, and Jackson Laboratory.

2.3.4 Volunteer Driver Networks

Several volunteer driver networks exist in Maine. These are typically, but not exclusively, run by non-profit organizations and are often associated with senior centers. Specific parameters and requirements for participation in these programs vary widely. As of 2018, there were twenty networks with data available from twelve of them. These twelve networks consisted of approximately 2,000 registered riders and 400 volunteer drivers, with approximately 237,000 miles logged annually. Despite strong demand for their services, many volunteer networks have struggled to attract and retain drivers, due in part to the COVID-19 pandemic.

The Independent Transportation Network of America (ITNAmerica) is a national private non-profit transportation network serving older adults and people with mobility challenges. ITNAmerica's affiliate in Maine, ITNPortland, serves the Portland region and ITNAmerica's rural transportation program, ITNCountry, includes twelve rural regions across the country, including in Hancock County, Kennebunk, and Millinocket.

2.3.5 Workforce Transportation Pilot Project

The Maine Jobs and Recovery Plan provides $5 million in American Rescue Plan Act funds to MaineDOT to support local, regional, and state workforce transportation pilot projects, especially in rural areas. Administered by MaineDOT's Bureau of Planning, this competitive grant program provides funds to support workforce transportation pilot projects around the state. Funds may be used for capital and operating costs, including program start-up costs. Approximately $2 million has been awarded through the program, supporting projects by Bath Iron Works, Gagne Foods, Robbins Lumber, Sunday River, and Timber HP.[6]

2.3.6 Moving Maine Network (MMN)

MMN is a transportation equity-focused advocacy and collaborative group guided by a steering committee which covers multiple sectors, including housing, transportation, youth, disability, health and human services, and regional planning. The Network seeks to facilitate better transportation access by advancing cross-sector collaboration, informing policy changes, and spurring mobility innovation.

[6] Maine Workforce Transportation Pilot. https://www.maine.gov/mdot/grants/mjrp/workforce/

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.

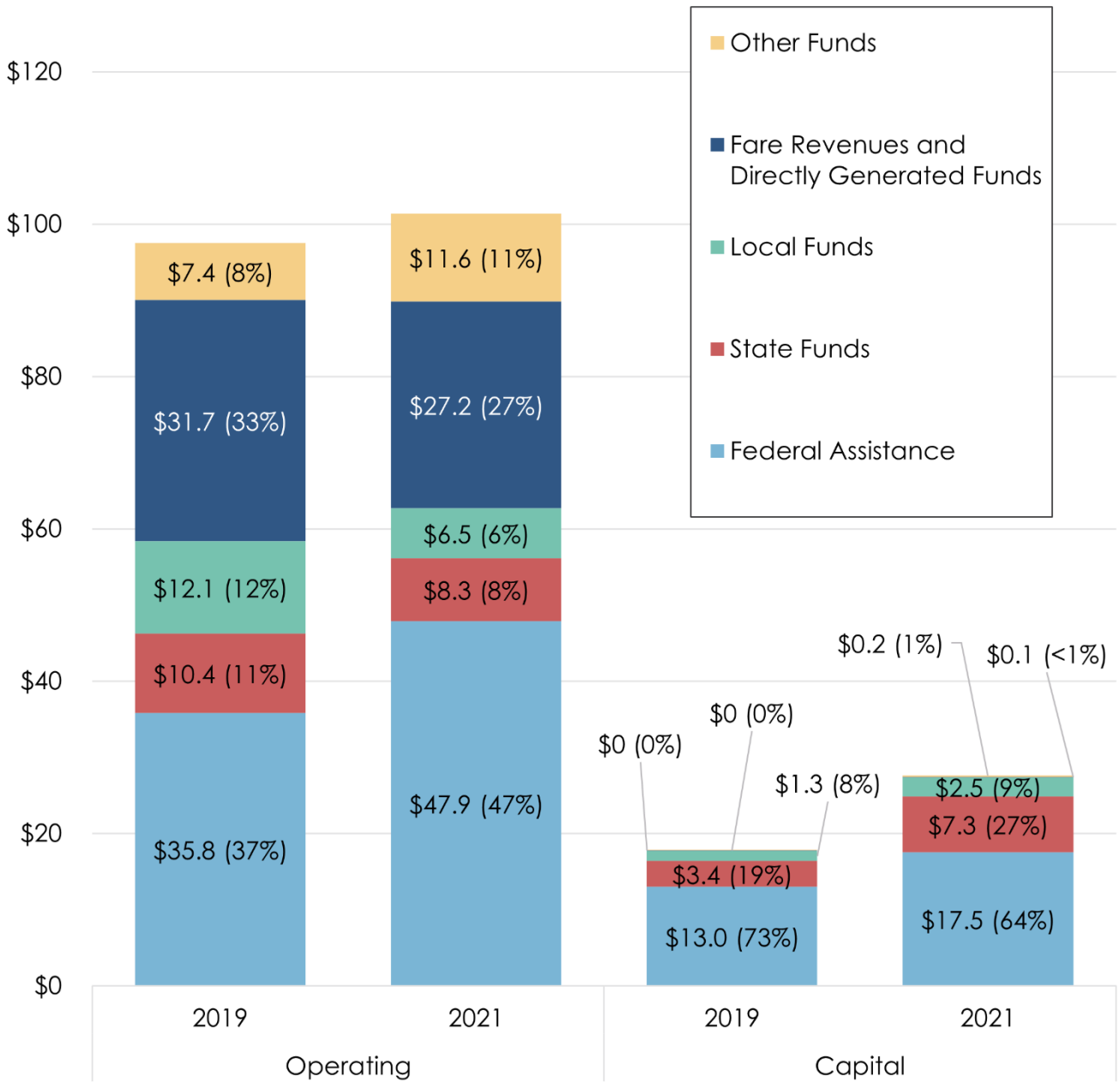
The American Association of State Highway Transportation Officials (AASHTO) compiles information from state departments of transportation each year on state funding for public transportation. State DOTs have considerable discretion in deciding which funding sources to include in their submissions. While 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

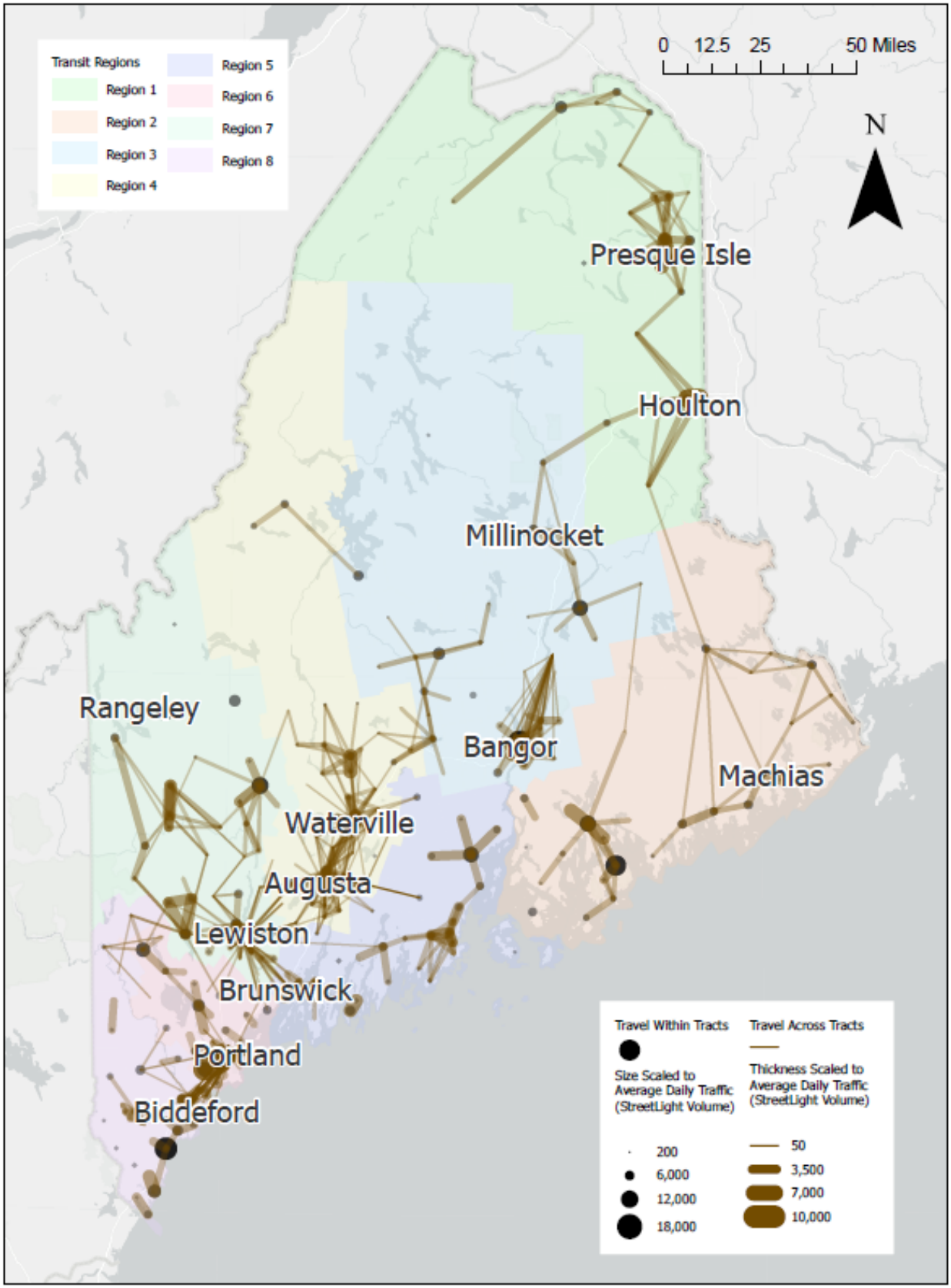
south (five daily runs); Concord Coach between Bangor, Augusta, Portland, and points south (approximately six daily runs); Cyr Bus Line between Bangor, Houlton, and Caribou (one daily run per direction); Greyhound Bus between Bangor, Portland, and points south; and West's Transportation between Bangor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

Evaluation identified options for improving coordination with transit. The *State Transit Plan*'s evaluation of these options supported the Evaluation's recommendation to keep the regional NEMT brokerage system and develop coordination between MaineDOT and DHHS in the provision of service. MaineDOT and DHHS can advance this work by:

- Establishing an interagency agreement for MaineDOT and DHHS to identify opportunities to better coordinate services and use of resources, consistent with the recently-released CCAM Strategic Plan and future guidance.
- Identifying a pilot region or regions, agencies, and stakeholders for a demonstration project to test coordination strategies for NEMT.
- Based on the outcomes of the demonstrations, assessing the viability of the model for scalability.
- Reviewing the CCAM Cost Sharing Model currently in development at FTA. Expected to be finalized in 2023, the **Cost Sharing Model** is the key to enabling agencies to share resources and customers to share rides, including to medical facilities. The intent is for the Cost Sharing Model to maintain consistency with program requirements and reduce complexities around funding for transportation between agencies and programs.

The CCAM Strategic Plan was signed on October 27, 2022 by several federal bureaus, including the National Council on Disability, the Social Security Administration, and the Departments of Transportation, Health and Human Services, Education, Agriculture, Energy, Housing and Urban Development, Interior, Justice, Labor, and Veterans Affairs. The Strategic Plan was designed to enhance interagency coordination between partners and programs, identify opportunities for resource sharing, ensure consistent reporting, and identify barriers to coordination through several goals and objectives:

1. Improve access to community through transportation.
2. Enhance the cost-effectiveness of coordinated transportation.
3. Strengthen interagency partnerships and collaborations with state, local, and industry groups.
4. Demonstrate innovative coordinated transportation.

Strategy 2: Increase Transit Service as Warranted

Increase frequency, span of service, geographic coverage, intermodal connectivity, and door-to-door service as warranted and as funding allows.

A recurring theme of the needs assessment, increasing transit service can take many forms: adding frequency on existing routes, expanding spans of service, adding geographic coverage, improving intermodal connectivity, and providing more door-to-door service.

The examples of service expansions identified in the needs assessment provide a starting point for evaluation; appropriate solutions and prioritization between these areas should follow the evaluation framework in Section 4 and correspond with available funding.

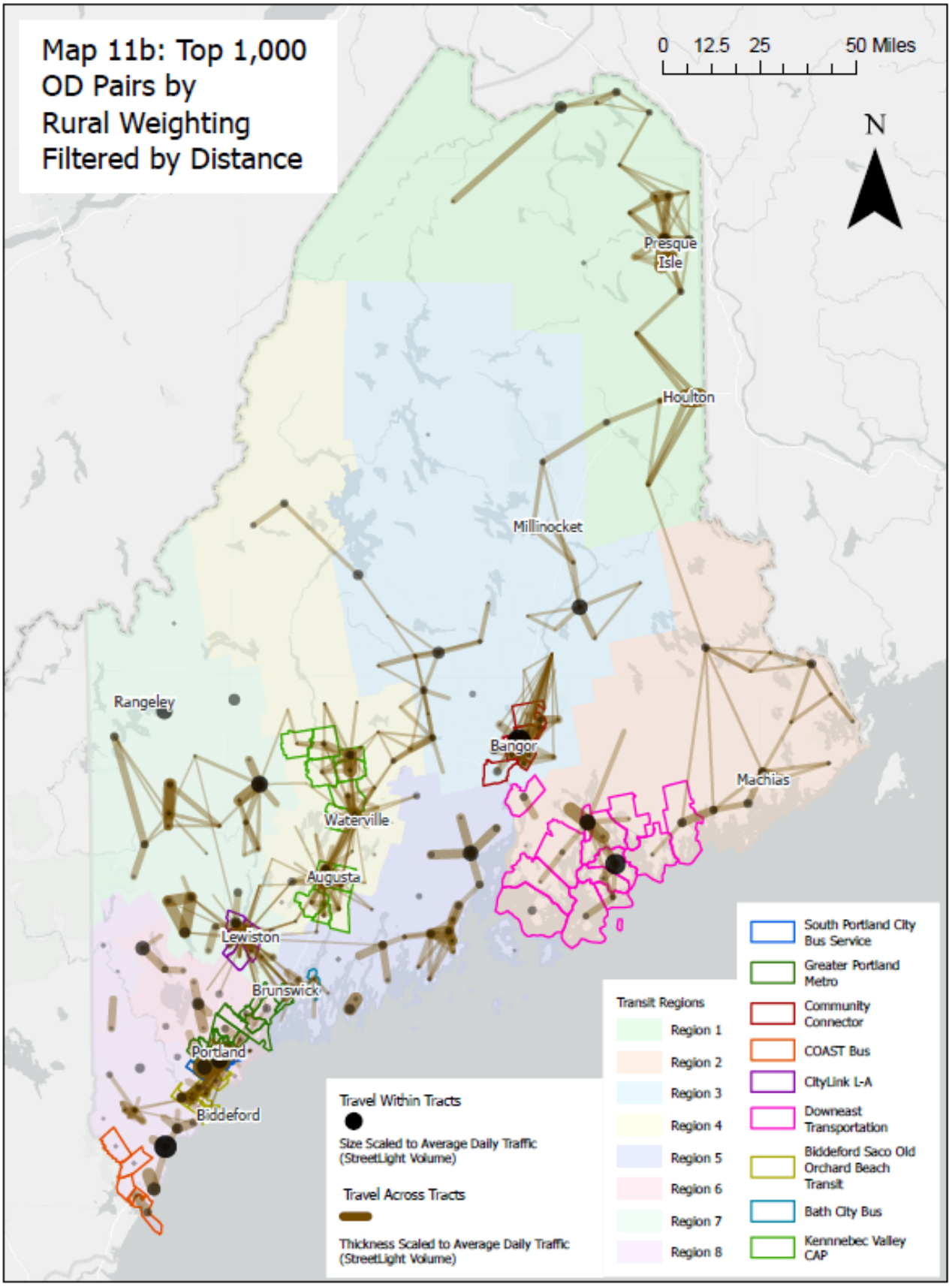
- **Increased service on flex route and small urban and regional systems** where once-per-hour or less frequent service (and sometimes as little as one or two weekly trip options) may be insufficient. This includes many of the services provided by BSOOB Transit and Bath City Bus as well as flex route services by the RTPs, such as those provided by YCCAC in York County and KVCAP in Augusta and Waterville.
- **Extensions of service area boundaries** for fixed-route transit agencies may be warranted in some places to capture additional demand. Three areas may be candidates based on the transit propensity analysis in the needs assessment:

Roles: MaineDOT, Implementing Transit Agencies

Timeline: Short-term and on an ongoing basis.

Financial Implications: Amount of increased service scales with funding availability.

Needs Addressed: Robust public transportation system, sufficient door-to-door service, sufficient multimodal connectivity and accessibility, responsive service for the aging population, effective service frequencies and hours of service, sufficient geographic coverage.


Map 11b: Top 1,000 OD Pairs by Rural Weighting Filtered by Distance
0 12.5 25 50 Miles
N
Presque Isle
Houlton
Millinocket
Rangeley
Bangor
Machias
Waterville
Augusta
Lewiston
Brunswick
Portland
Biddeford
Travel Within Tracts
Size Scaled to Average Daily Traffic (StreetLight Volume)
Travel Across Tracts
Thickness Scaled to Average Daily Traffic (StreetLight Volume)
Transit Regions
Region 1
Region 2
Region 3
Region 4
Region 5
Region 6
Region 7
Region 8
South Portland City Bus Service
Greater Portland Metro
Community Connector
COAST Bus
CityLink L-A
Downeast Transportation
Biddeford Saco Old Orchard Beach Transit
Bath City Bus
Kennebec Valley CAP

- North of Bangor – The analysis suggests additional demand in the Community Connector service area from the areas to the north, including the Howland/Enfield area and Indian Island.
- Near Lewiston/Auburn – The analysis suggests additional demand in the CityLink service area to nearby areas Mechanic Falls, Turner, and Sabattus.
- Augusta/Waterville area – Additional unserved demand may exist between Augusta and Winthrop; to the east of Waterville in Winslow and China; and in the areas between Augusta and Waterville including Belgrade, Sydney, and Vassalboro. In addition, more frequent service may be warranted in parts of the Somerset Explorer service area.
- There is an acknowledged need to further define and explore ways to address workforce transportation needs between the Lewiston/Auburn and Portland regions, including pilot transit service in the near term.

» Analysis suggests **new fixed-route or more frequent flexible service** may be warranted in some areas. Two specific areas stand out based on the transit propensity analysis:

- The Midcoast region of Rockland–Camden–Belfast and surrounding communities.
- The Oxford–Norway–South Paris area.

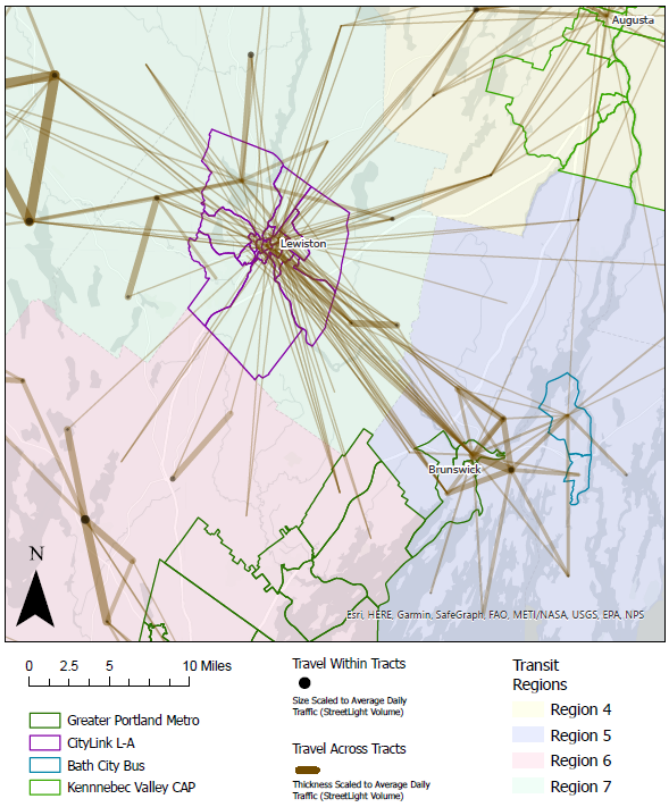
Both show high transit propensities and significant travel volumes in areas where fixed-route transit is not currently available. In these areas and in any other areas where new fixed-route or more frequent flexible service may be warranted, further study should be conducted to develop specific route structure, governance models, and cost estimates for potential new service.

» **Increased frequency and hours of service** on key corridors, where demand warrants, as a strategy to encourage mode shift and meet climate change-related goals.

» **Review the boundaries of RTP Region 5 and Region 7 in the Brunswick area.** Brunswick and the surrounding communities have stronger travel pattern connections to the Lewiston/Auburn area, which is part of Region 7, than to the rest of the Midcoast communities in Region 5. MaineDOT should reassess these boundaries with additional study and community input, as changes could lead to more reliable service.

Maps and additional details about each of these examples of possible service expansions can be found in the needs assessment, available at the MaineDOT website. Across all these potential ways to increase and improve service, specific changes will require more

detailed analysis. It is recommended that each undergo further study to determine the cost, benefit, and feasibility of serving these areas of relatively high transit propensity and volume. **Section 4** provides a framework for evaluating these potential transit improvements.



Microtransit is a type of transit that may have promise for some parts of Maine. Microtransit is a technology-based form of shared mobility in which transportation service is shared amongst users, typically concurrently. The service is characterized by on-demand availability, in which a user can request service in advance. Unlike traditional fixed route service, which operates along a prescribed route according to a fixed, published schedule, microtransit service has a flexible schedule and routing within a designated service area and span of operating hours.

Microtransit service generally functions best in low to moderate density areas with limited access to fixed route transit. In general, these services can increase mobility access, expand transit coverage, and foster community innovation. Two case studies are presented below which illustrate what microtransit can look like; many other service models are included within the microtransit umbrella. In Maine, YCCAC is working through the Joint Land Use Study to develop a microtransit service between Sanford and Kittery to enhance commuting options for Porsmouth Naval Shipyard workers. The project is being developed as a pilot and, if successful, to be expanded in later phases. Transit agencies in the PACTS region are also looking to develop microtransit service in portions of their service areas.

Microtransit Example 1: Green Mountain Transit (GMT) MyRide, Vermont

GMT is the transit provider for northwestern Vermont. At the start of 2021, GMT introduced MyRide, an on-demand microtransit system pilot to replace three existing fixed route services in and around Montpelier. MyRide allows users to book same-day rides within the service area, mirroring a taxi or rideshare service. MyRide is currently rolled out as a two-year pilot which will allow GMT and the Vermont Agency of Transportation to assess if the microtransit model is appropriate for other parts of the state.

One key finding of an initial analysis of trips found that nearly half of all scheduled rides were to and from the areas around the Central Vermont Medical Center and a nearby mall previously served by fixed route service. This has led to bottlenecks and delays for people looking to use the service to access other locations such as Downtown Montpelier. As a result, GMT is considering a number of changes, including reinstating fixed route service to complement MyRide. Further decisions will be made once the pilot concludes in early 2023. In the meantime, VTrans is looking to pilot microtransit in five more communities across Vermont.

Microtransit Example 2: Baldwin Regional Area Transit System, Alabama

Located east of Mobile along the Gulf Coast of Alabama, Baldwin County consists of a mix of coastal resort towns, as well as suburban and rural communities. It is also the fastest growing county in Alabama. Using an FTA Integrated Mobility Innovation grant, BRATS, the county's transit provider, transitioned its demand-response transit service into an on-demand microtransit system in September 2020. This transition included a comprehensive upgrade of BRATS' user and internal interface to include automatic scheduling, routing, and dispatch technology, as well as a smartphone app and passenger notification system. As a result of these system improvements, BRATS now allows users to book same-day on-demand trips, instead of having to book days in advance or having to rely on deviated fixed route services available during limited hours and days of the week. These improvements also helped address the difficulties of scheduling trips across a particularly large service area.

Since the transition to an on-demand microtransit system, BRATS has seen ridership steadily increase. BRATS now completes over 8,000 trips per month, over double the approximately 3,400 trips being completed when the new system was first implemented. The primary challenge BRATS has looked to address is how to best serve the large rural population of Baldwin County. But with this system, nearly every portion of Baldwin County now has access to on-demand transit.

BRATS also faced challenges when introducing the new system to its passengers and drivers. Like many transit agencies serving rural populations, most of BRATS clientele are longtime users, accustomed to calling in to book trips. Baldwin County is also home to a sizable population that does not use smartphones. Drivers, typically accustomed to pre-scheduled routes, were initially taken aback by the need to adhere to schedules that could change in real time as users book on-demand trips. These issues were compounded by the COVID-19 pandemic and a hurricane that hit the Gulf Coast the same week that the new system was rolled out. To overcome these challenges, BRATS, in partnership with Via, the system interface developer, included a large training component, both for internal staff and users. BRATS still maintains a call-in option for users. Currently, there is a relatively even split between trips booked using the new smartphone app and trips booked by phone.

Strategy 3: Provide Better Information About Transit to Customers

Provide better customer information by improving marketing and communication of transit services, fully implementing General Transit Feed Specification (GTFS) and GTFS-Flex statewide, fully implementing CAD/AVL systems statewide, and expanding GO MAINE.

Making transit easier to understand, discover, plan for, and use will reduce barriers to entry, improve ridership, and create efficiencies in the transit system. This includes better marketing and communication of services, implementing foundational technologies that enable planning and real-time information to be shared with customers, and expanding the GO MAINE trip planning and ride-sharing platform.

Improve Marketing and Communication of Transit Services

While most of the state is served by some type of transit, there is a lack of awareness among residents and visitors of existing services or a perception that services are not available for the general public. Improved marketing and communication statewide would benefit both urban and rural transportation providers and current and potential customers.

MaineDOT should lead this effort by encouraging and enabling better communications efforts, which start with basic information such as service area (with both visuals and written descriptions); schedules; eligibility; fares; and trip planning,

Roles: MaineDOT, Maine Transit Association, transit agencies, GO MAINE, Maine Turnpike Authority, employers, other stakeholders.

Timeline: Short-term; communication immediate and ongoing; MaineDOT technology initiative for GTFS support in 2023; GO MAINE relaunched in 2022 and is expanding its offerings in 2023.

Financial Implications: GTFS costs will be determined through MaineDOT's ongoing RFP process. CAD/AVL system costs will vary by agency, and may be $1 million to $5 million for systems and an additional $2,000 to $6,000 per vehicle. Ongoing annual GO MAINE costs are expected to be between $300,000 and $350,000.

Needs Addressed: Marketing and communication, agency coordination, implementation of GTFS and CAD/AVL systems, effective technology, quantification of demand, multimodal connectivity, robust public transit.

booking, and payment options. Agency websites should also include available real-time information, announcements of delays and service changes, and information about coordinating with connecting services, potentially including those provided by DHHS. Agencies can also work to become more visible within their communities through posted stops; improved facilities such as bus shelters; and direct outreach to and engagement with businesses, group living facilities, human service agencies, job training centers, community groups, educational institutions, and other similar groups.

Fully Implement GTFS and GTFS-Flex Statewide

Universal implementation of GTFS and GTFS-Flex standards would create a consistent platform for transit data, making it easier for users to discover travel options and streamlining data collection and analysis for MaineDOT and other entities. This would allow for more detailed and more quantitative transit planning as well as better communication and marketing of services.

This is particularly important for flex routes, demand-response services, and other related transit options, where integration of GTFS will enable better coordination of services and provide the ability for users to plan their own trips. Agencies without GTFS are not able to be included visually in GO MAINE's trip planner or other trip discovery tools such as Google Maps, because information on these services is not provided in a standardized, consumable format.

MaineDOT's ongoing transit technology initiative will define the needs of the state and individual agencies related to GTFS and GTFS-Flex. MaineDOT and transit providers should continue this initiative and move towards universal adoption of these standards. Additional state-level support is required to incorporate this technology into transit systems across the state successfully.

Fully Implement CAD/AVL Systems Statewide

Computer-aided dispatching/automatic vehicle location (CAD/AVL) systems allow transit operators to know in real time the location of all vehicles in a fleet. This is helpful for dispatching, fleet management, and service planning and is a prerequisite for providing real-time information to customers. CAD/AVL systems allow for integration of GTFS Realtime, which allows trip planning apps to display and predict the actual (rather than

scheduled) arrival time of vehicles. This improves customer satisfaction and helps drive ridership.

MaineDOT can assist in procuring, maintaining, and managing CAD/AVL systems, which requires training and capacity that may not be readily available, in particular at smaller agencies. Coordination among individual agencies is necessary to ensure that information can be shard across systems. Further, maximizing the benefits of these systems requires an understanding of how to best utilize the resulting data in day-to-day dispatching and longer-term service planning.

Expand GO MAINE

Administered by MaineDOT and the Maine Turnpike Authority, GO MAINE is intended to be a one-stop statewide platform for travelers to connect to all transportation options. A complete trip planner allows travelers to go from origin to destination safely and efficiently across modes and providers. The program helps reduce single-occupancy vehicle trips, vehicle-miles traveled, and greenhouse gas emissions while educating travelers about available travel options. Going forward, the program will increase participation and engagement of key stakeholders, including employers and volunteer driver networks and be flexible enough to integrate into other statewide transit efforts and equity goals.

GO MAINE addresses several needs for statewide transit identified in this planning process.

Strategy 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.

Making transit as simple and seamless as possible improves the customer experience, improves the viability of transit as a transportation option, and helps to drive ridership.

Modern Fare Payment Systems

Technology has transformed the ways that riders can pay for transit. Automated fare payment systems got a boost during the pandemic as they limited contact between riders and drivers. Going forward, to respond to the needs of customers and adopt new fare policies, modernized fare payment systems are needed. Policies and practices must also accommodate users for whom automated fare payment systems may be challenging, including older adults, individuals with disabilities, unbanked individuals, and people with limited English proficiency.

Only a few Maine agencies utilize a modern fare payment system. The remaining operators rely on cash payment or physical passes, creating barriers for some customers. Implementing modernized fare payment systems, including contactless readers and payment by smartphone apps, will allow for increased efficiency for both users and transit providers.

Roles: MaineDOT, transit agencies, MPOs, RPOs.

Timeline: Beginning short-term and ongoing. The PACTS *Transit Tomorrow* and *Transit Together* efforts seek to improve coordination among the region's transit agencies. The MaineDOT transit technology initiative will result in recommendations in 2023, providing additional opportunities for coordination among agencies.

Financial Implications: Fare system costs will be estimated as part of the MaineDOT technology initiative. Agency coordination costs are minimal and mainly include staff time.

Needs Addressed: Modern fare payment systems, agency coordination, multimodal accessibility, robust public transit, door-to-door service, responsive service for the aging population, service for post-COVID needs, public transit funding.

Implementation should include the use of single-payment platforms that allow for seamless use across multiple transit systems to better facilitate transfers between systems.

These fare payment options make transit more attractive to users, including tourists and younger populations. Further, this could be a useful tool for increasing coordination and cohesion among transit systems. For example, the DiriGo Pass is already in use by three agencies in the Portland area. Key features of this system include integrated trip planning, improved information access, multiple fare payment options, and shared branding.

MaineDOT's transit technology initiative will, in part, assess challenges and opportunities of participating in the existing DiriGo Pass or other automated fare payment systems, including an automated fare payment assessment, implementation and expansion recommendations, and best practices and technology implementation. Further work is needed to advance this across the state in a way that improves the customer experience and meets the needs of individual transit agencies and the goals of MaineDOT.

Coordinate Schedules/Transfer Points Between Agencies

There are significant gaps in service coordination between transit agencies in Maine. The lack of coordination on schedules among the Portland region's seven transit agencies, for example, makes interagency connections difficult. While transit agencies serve a given geographic area, travel needs are not determined by provider operating areas. Coordinated services and schedules among operators can improve transit availability, connectivity, and the overall user experience, reducing delays and allowing travelers to reach their destination as quickly as possible.

Transit agencies should work together to provide seamless connections between service areas, including from rural systems to urban systems. This can include coordinated schedules, timed transfer points, amenities at transfer points, fare payment policy and technology, and better communication to riders of connections. Different approaches will be needed for connections between fixed route systems and those with flex/on-demand services, but each should identify customer travel needs. The GO MAINE trip planner helps communicate information about connections and enable automated fare payment.

Strategy 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 transportation for workers and potential workers statewide; enable demand-response agencies to access scheduling software.

Providing service to Maine's underserved populations is of particular importance in the state's transit vision. These populations include aging inviduals, working populations, low-income households, people with disabiltiies, and rural communities. A variety of programs can improve transit for these populations in Maine, including those in Strategy 2 related to increasing transit service as warranted, in Strategy 3 about providing better information about transit services, in Strategy 4 about making transit easier to use, and in Strategy 6 regarding improving transit faciliites.

Other ways to improve transit for aging and working populations in rural Maine include strengthening and encouraging volunteer driver programs, continuing support of pilots to support workforce transportation needs across the state, and enabling access to scheduling software for demand-response transit systems to improve the management and customer usability of these rural transit systems.

Roles: Maine Council on Aging, local communities, MaineDOT, Department of Labor, local transit agencies.

Timeline: The Maine Council on Aging's Transportation Equity for Healthy Aging (TEHA) project and MaineDOT's Workforce Transportation Pilot (WTP) programs began in 2022. MaineDOT is participating in and will look to complement TEHA as appropriate to assist volunteer driver programs. Implementation is in the short- and medium-term. Scheduling software implementation is short-term.

Financial Implications: MaineDOT costs for encouraging volunteer driver programs involve staff time and should complement the TEHA effort. FTA capital funds can purchase scheduling software with state or local matches. The $5-million WTP grant program is underway.

Strengthen and Encourage Volunteer Driver Programs	**Needs Addressed**: Responsive service for the aging population, sufficient door-to-door service, scheduling software, coordination between transit agencies, effective service frequencies.
The fastest-growing demographic in Maine is the population age 65+. As Maine ages, more people will struggle to transport themselves. Volunteer driver programs can fill gaps in the public transportation network and provide enhanced mobility at the local level.	

The Maine Council on Aging's Transportation Equity for Healthy Aging project is cataloging volunteer driver programs and developing volunteer training, with a goal to bring volunteer driver programs and transit providers together to share information and resources and fill gaps. A third phase seeks to strengthen transit/volunteer systems to improve services. This will include working with regional transit providers and municipalities to develop pilot programs with volunteer drivers and with GO MAINE to include volunteer driver networks in the trip planning software. This and similar efforts to improve and expand volunteer driver programs should continue.

Pilot Creative Solutions for Workforce Transportation and Training

MaineDOT's $5-million Workforce Transportation Pilot (WTP) competitive grant program supports creative transportation solutions for the workforce. This program provides funding for local, regional, and state workforce transportation projects, especially in rural areas. Applicants must demonstrate they are addressing challenges in one of the twelve industries identified as suffering negative economic impacts due to COVID-19. Applicants may include employers, municipalities, non-profits, human service organizations, and transportation providers; they are encouraged to engage with partners in the process. As MaineDOT funds and monitors these pilots, it should look for success stories that can be expanded and scaled statewide to connect workers to job opportunities and potential workers to the resources that enable them to participate in today's economy.

Enable Access to Scheduling Software at Transit Agencies Statewide

Full implementation of scheduling software across all demand-response systems is needed to increase coordination capabilities between agencies and increase the capacity of the transit service. Although inward-facing in nature, this approach has real benefits for customers, reducing the time in advance that trips must be booked and enabling real-time trip planning. Currently, many of Maine's demand-response services require reservations of at least one day in advance, requiring users to plan ahead and creating challenges for users with urgent or unexpected travel needs.

Many off-the-shelf scheduling software products are expensive and designed for larger agencies. As with other technology investments, resource constraints typically limit small urban and rural transit agencies' time and ability to research and conduct procurements and maximize benefits. Several of Maine's transit agencies will need assistance in finding an appropriate system for their needs. MaineDOT can lead this effort by providing technical support, specifications development, procurement support, training, and financial assistance to agencies to adopt scheduling software. This will improve the usability of these rural transit systems for those who rely on them, including Maine's rural workforce and aging populations.

Strategy 6: Improve Transit Customer Facilities Statewide

Improve transit amenities, including seating, accessibility for people with disabilites, bus stops, shelters, signage, stations, transfer points, and customer information as appropriate across the statewide transit system.

Comfort, information, accessibility, and safety make transit more effective. Signs, shelters, benches, lighting, sidewalks, bike racks, route and schedule information, real-time information, announcements, and related amenities improve the experience for riders. ADA compliance for connecting infrastructure makes transit accessible to all users. In demand-response service areas, these items should be in place at popular locations, such as grocery stores, senior centers, and medical facilities. Where they exist, colocation of bikeshare stations with high-use transit stops can expand the network's reach. Mobility hubs, where multimodal connections happen, are visible icons for the mobility system and may be appropriate in Maine's urban centers. Agencies can work with local public works departments to ensure year-round access to transit stops and shelters.

Criteria for prioritizing investments and determining appropriate amenities within this strategy could include funding availability including from private sources, ridership at the stop(s), specific needs of riders using the stop(s), site conditions, presence of connecting routes, and equity considerations.

Roles: Transit agencies, municipalities, MaineDOT, and other partners.

Timeline: Medium-term.

Financial Implications: Costs are variable based on the amenity type, from $5,000 to $10,000 per bus shelter, to significantly more for mobility hubs.

Needs Addressed: Appropriate marketing and communication, robust public transportation system, responsive service for the aging population, sufficient multimodal connectivity and accessibility.

Strategy 7: Address Driver and Labor Shortage Issues

Work with other agencies to focus programs to attract, recruit, license, and train essential transit personnel across Maine and broaden the transportation workforce.

At many of Maine's transit agencies, staff shortages – including operators, maintenance workers, mechanics, and dispatchers – are an ongoing issue. Additionally, new skill sets are needed to aid in the transition to low- and zero-emission vehicles. Most bus operators are also required to hold a commercial driver's license (CDL), a qualification that is in demand throughout the economy. However, smaller cutaway vehicles that are less than 26,000 pounds do not require a CDL to operate. As Maine ages, more people will struggle to transport themselves, expanding the demand for accessible transit services. These services could be served by smaller cutaway vehicles, and other options that are not necessarily bound by operational requirements, and may be appropriate for certain situations.

Actions to address 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. As this is a national issue affecting the transit industry, reviewing national best practices will be helpful as successes are modeled.

Roles: MaineDOT, transit agencies, Department of Labor, higher education and skills training institutions.

Timeline: Short-term and ongoing.

Financial Implications: Low; should rely on partnerships, coordination, and direct training programs.

Needs Addressed: Address ongoing driver and labor shortages, robust public transportation system.

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, and with vocational schools and community colleges to establish and encourage training for CDLs, mechanics, and other skills to ensure a longer-term pipeline of talent is available. An example is the City of Bangor's CDL B training program, which provides paid training on a direct path to full-time employment.

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.

A statewide plan also identifies opportunities for coordination and efficiency between agencies. The final statewide plan and individual agency plans are available on the MaineDOT website.[16]

[16] MaineDOT Electrification webpage. https://www.maine.gov/mdot/climate/electrification/

Strategy 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.

Transit vehicle replacements are needed on an ongoing basis. Each agency has a variety of vehicles on different procurement cycles and with different useful lives. A transition to low- or zero-emission vehicles presents added challenges and opportunities for coordination in the management of assets for both vehicles and facilities.

A more modern and efficient asset management platform at the state level, using data provided and updated by transit agencies, will help with capital planning, budgeting, and reporting and support other strategies identified within this plan. It would also give MaineDOT a forward-looking projection of capital needs for transit agencies.

MaineDOT would also 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 be able to integrate with existing tools used by transit providers to allow seamless data aggregation for transit providers, MaineDOT, and other partners.

Roles: MaineDOT would procure and maintain the asset management software system. Agencies may need to adapt existing reporting procedures to ensure timely and accurate input of asset inventory and condition data.

Timeline: Short-term.

Financial Implications: The cost of implementation is expected to be in the range of $50,000 to $100,000 for initial start up and set up cost of the system, and ongoing hosting/maintenance/support is expected to be in the range of $50,000 per year. This will be partially offset by labor savings in the capital planning process.

Needs Addressed: Statewide asset management platform; transition to hybrid, electric, and other low- and zero-emission vehicles; address ongoing supply chain issues.

Strategy 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 coordinated through MaineDOT.

Transit systems in Maine are, for the most part, small organizations with limited individual buying power and staff capacity. Coordination can simplify procurements, save money for individual agencies, and protect against supply chain disruptions.

Statewide Cooperative Vehicle Purchasing Program

Vehicle procurement processes require significant staff resources, which are typically limited at small urban and rural transit agencies. Individual transit agencies may not have the purchasing power that a cooperative bid program could provide. A state-coordinated, opt-in vehicle procurement agreement can simplify the procurement process for local agencies by providing a defined, preapproved menu of compliant vehicles, while still allowing for customization at the local level. This may be especially important as vehicle technologies change as part of the transition to low- and zero-emission transit vehicles in the state.

Similar programs in other states have included a master price agreement for the purchase of transit buses and vans, the pre-award and post-

Roles: MaineDOT, Maine Transit Association, transit agencies.

Timeline: Short- to medium-term.

Financial Implications: Ongoing management/coordination costs expected to be offset by overall savings on vehicle purchases.

Needs Addressed: Transition to hybrid, electric, and other low- and zero-emission vehicles; address ongoing supply chain issues; effective coordination between transit agencies; robust public transportation system.

delivery vehicle inspections at the plant and at delivery, the completion of Buy America and Federal Motor Vehicle Safety Standards, which specifies safety-related minimum performance standards for vehicle audits, and contract management. This program would include conducting a regular procurement exercise on a biannual basis for a vehicle supplier, using specifications for models which are typical for the small urban and rural systems of Maine. This process can simplify the administrative burden of vehicle procurement at Maine's transit agencies, while providing increased buying power and potentially lower capital costs.

Spare Part Inventory and Exchange Program

Supply chain shortages have affected the ability of transit systems to provide appropriate service to communities. The availability and lead time for obtaining parts makes it difficult to keep vehicles on the road consistently. While supply chain issues are a global challenge, MaineDOT should work with partners to explore potential opportunities to establish a convenient and efficient spare parts exchange program.

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.

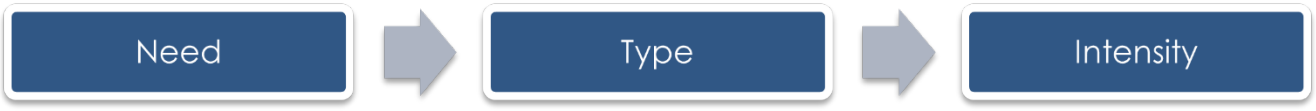


Table 4.2 outlines the wide range of transit service types and intensities in Maine. Each has strengths and weaknesses to be weighed in determining appropriate service for each situation.

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

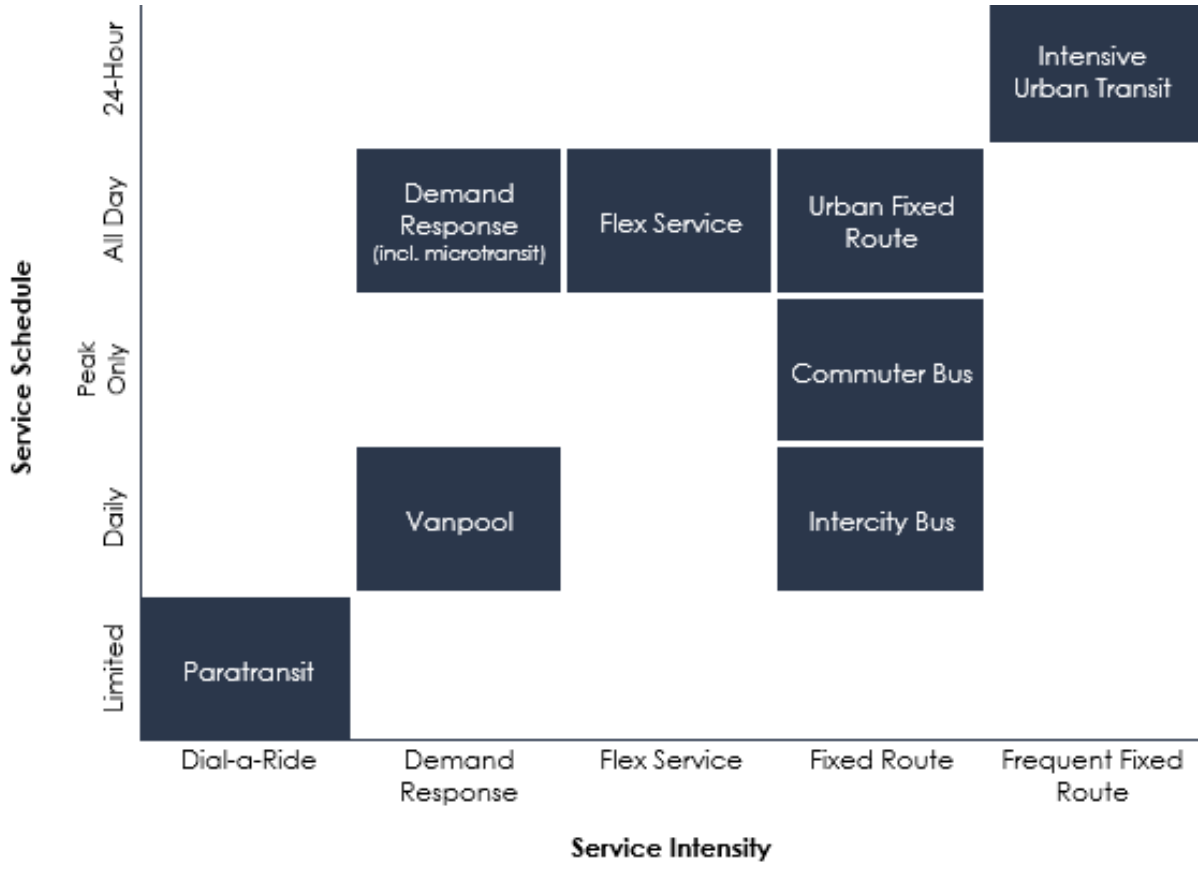
service. For example, long trips are often very expensive in a demand-response system, unless structured as feeder first mile/last mile connections to a single point in the service area.

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.

4.1.2 Quantifying Demand and Propensity

Traditional transit planning is based on data that have been available for decades – population density, employment density, demographics from the U.S. Census and American Community Survey, journey-to-work data, and household travel surveys – supplemented by community outreach and local knowledge and balanced with resource constraints. The availability in recent years of Location-Based Services (LBS) data has made a customer-based approach to quantifying potential demand for transit much more feasible. These data are much more granular, detailed, and timely than previously-available sources, allowing transportation agencies to more effectively quantify demand for services.

MaineDOT can share its LBS data and analytical capacity, along with approaches for measuring transit propensity, to help transit agencies and Metropolitan/Regional Planning Oarganizations with transit planning, including local strategic plans, network redesigns, or smaller-scale service planning processes. It can also use these data and analytical methods to evaluate potential service expansions related to Strategy #2: Increase Transit Service as Warranted, using the evaluation framework described in above.

Based on an analysis of a consensus of approaches, the transit propensity analysis included in the needs assessment incorporated eight key factors affecting transit ridership. While there is no single standard for the relative importance of these factors, weights were selected based on a review of the literature, as detailed in Table 4.4.

Table 4.4 Transit Propensity Factors with Weights

Factor	Weight
Population density	30
Quantity of travel[17]	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
Population aged 65+ (%)	5

[17] Quantity of travel is based on number of trips, sourced from the LBS data.

A "rural" version of that score removes the population density component to better highlight potential service needs in lower-density areas of Maine. More detail on this approach can be found in the needs assessment's Appendix B, available on the MaineDOT website.[18]

The census tract-level analysis provides a high-level view appropriate for this statewide plan, but more detailed analysis is necessary to determine local needs. Updates to the factors and weights may be appropriate if justified, and the analysis can be improved at the local level by using finer-grained geography such as census block groups and time-of-day and day-of-week data.

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

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