MAINE

STATE RAIL PLAN

DECEMBER 2022

MaineDOT

MAINE

STATE RAIL PLAN

prepared for

MaineDOT

prepared by

CAMBRIDGE SYSTEMATICS

date

DECEMBER 2022

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

EXECUTIVE SUMMARY

The Maine State Rail Plan (MSRP) was developed, in collaboration with a wide range of stakeholders to satisfy all federal guidelines and support future planning, policies, and investment in Maine's passenger and freight rail system. The year-long planning effort assessed the existing and future conditions of the rail system and identified and prioritized projects, policies, and strategies to support Maine's rail-related goals.

The MSRP vision imagines a system that is sustainable, safe, and reliable and provides access to economic opportunity and a better quality of life for all Maine people as shown in the following vision statement.

MAINE'S STATE RAIL PLAN VISION STATEMENT

Maine's rail system and its system connections will responsibly provide our businesses and travelers safe, reliable, and efficient movement of freight and people to support economic opportunity, quality of life, and environmental sustainability.

The Maine Department of Transportation (MaineDOT) established six goals to achieve MaineDOT's rail network vision:

1. Provide for and improve the **safety** and **security** of transportation users and the transportation system
2. Improve mobility and accessibility of goods and people through enhanced **multimodal connectivity**
3. **Preserve** and **strengthen** the existing rail system infrastructure to efficiently serve the long-term needs of Maine's businesses and travelers
4. Pursue and invest in initiatives that improve the **efficiency** and **public benefit** of Maine's freight and passenger rail systems
5. Improve Maine's **quality of life** and **economic competitiveness** through transportation investments that promote **energy efficiency**, **environmental sustainability**, and **equity**

6. Seek sources of **adequate**, **stable**, and **predictable funding** to maintain and improve the rail system

The Role of Rail in Statewide Transportation

Rail plays a critical role in the movement of goods and people throughout the State of Maine. Freight rail service is a central element of logistics for key freight-intensive industries, and passenger rail service provided by the Amtrak *Downeaster* has become an important fixture in serving the traveling public.

In 2019, total rail volumes reached approximately 4.5 million tons of goods, valued at $4.4 billion, and 574,692 passengers. The freight rail system supports key industries throughout Maine including forestry, agriculture, manufacturing, aggregates, and energy. The rail system provides Maine businesses with access to domestic and global markets and suppliers.

The Amtrak *Downeaster* makes five daily round-trips between Brunswick, Maine and Boston, with station stops in 12 communities in three states along a 145-mile corridor. The *Downeaster* provides an alternative travel mode along the heavily traveled I-95 corridor between Boston and Maine and gives rise to significant benefits in the region through travel/transportation, reduced energy consumption, safety, and tourism/visitor spending.

Maine's Existing Rail System

Maine's existing rail system provides an overview and inventory of the state's existing rail system as a baseline for planning and decision-making, describes the trends that will impact the need for rail in the state, and identifies the needs and opportunities for passenger and freight rail service in the state.

Maine's rail network is operated by eight freight rail carriers and one passenger rail carrier, Amtrak, operating 1,072 miles of rail network within the state (see Figure ES.1). These rail carriers range from large Class I railroads, which operate extensive national and international rail systems, to small switching and terminal railroads, which provide vital rail support functions. As of 2022, two of the seven North American Class I railroads operate in Maine. This rail network facilitates freight shipments and hosts one intercity passenger rail service operated by Amtrak.

FIGURE ES.1 MAINE'S RAIL SYSTEM

Rail Service Needs and Opportunities

Keeping rail infrastructure in a state of good repair is important to meeting current and future goods and passenger transportation demand. Doing so requires monitoring existing conditions; analyzing forecasts; and talking with rail carriers, shippers, and other stakeholders to identify deficiencies or issues on the horizon.

The proposed improvement types seek to address the rail system needs and leverage its opportunities, and the potential impacts to the State of Maine's residents, visitors, and economy, are presented in Table ES.1. Depending on the proposed improvement, the range of impacts will vary, resulting in benefits to both the broader public as well as private enterprise. For both passenger and freight initiatives, the principal requirement is that they produce compelling public benefits, which can be either direct and/or indirect.

TABLE ES.1 POTENTIAL PROGRAM EFFECTS BY IMPROVEMENT TYPE

Improvement Type	Potential Benefits	Example(s)
Passenger Rail Elements		
Safety	Decrease risks, improve operational efficiency	Installation of Positive Train Control
Passenger Service Improvement	Increase utilization of passenger service, improve financial performance, reduce highway VMT and associated collateral impacts.	Increased frequencies, faster scheduled running times, better access with additional stops, improve customer experience through station modernization and new rolling stock
Passenger Service Expansion	Improve mobility options for travelers, reduce VMT, reduce GHG emissions, reduce highway congestion, and improve safety.	Implement better service connections in regions not presently served by the *Downeaster*
Corridor Preservation	Ensure potential future utility for passenger (and freight) service, manage risks associated with dormant corridors	Preserve out-of-service or underutilized corridors with potential for future rail use.
Multimodal Connectivity	Expand mobility options for travelers, improve travel experience, reduce environmental impact from travel	Relocation of Portland Transportation Center
Freight Rail Elements		
SOGR/Infrastructure Upgrade	Ensure that rail service is competitive and market-relevant, improve safety, enhance resilience, enhance operational performance, and reduce ongoing maintenance costs.	Rail and tie replacement projects, bridge rehabilitation, construction of passing sidings, double-stack clearance, improvements to accommodate 286k freight cars.

Improvement Type	Potential Benefits	Example(s)
Customer Access	Increase competitiveness of Maine industry by expanding market options, reduce transportation costs, reduce truck VMT and associated impacts, advance economic development efforts.	New/improved track linking rail network to current or new customers.
Grade Crossing Safety	Improve road and rail safety	Installation/upgrade of lights, gates, signage, crossing surface replacement, etc.
Rolling Stock	For freight rail cars, ensure supply of market-responsive rolling stock for Maine industry, reduce truck VMT. For locomotives, improve operational efficiency and productivity, reduce greenhouse gas emissions, improve reliability.	Acquisition of rolling stock not available from other sources, such as log cars facing mandated retirement.
Multimodal Connectivity and Terminal improvements	Increase competitiveness of Maine industry by improving modal access, reduce transportation costs, reduce truck VMT, improve rail operational efficiency, support economic development.	New/improved intermodal (rail/highway or rail/water) terminals, bulk transload and carload facility improvements

Rail Service and Investment Program

The Maine Rail Service and Investment Program (RSIP) describes the state's short- and long-term vision for rail service. The RSIP, available as Chapter 4 and Appendix A of this Rail Plan, presents the specific projects, strategies, and policies that are necessary to achieve the State's vision for the rail system in the short- and long-term, and funding necessary to achieve that vision.

In summary, the proposed short-term (2023-2026) policies and strategies of the MSRP include:

- Seek grants and innovative funding approaches for freight and passenger rail.
- Improve transit, bicycle, and pedestrian connections to the *Downeaster*.
- Preserve and fully use industrial land parcels with access to rail sidings as well as existing rail infrastructure and corridors.
- Increase resilience of rail system to make critical infrastructure more resilient now and to prepare for increasing storm severity.
- Implement a strategy for investment in railroad infrastructure to improve the rail network to state of good repair.

» Accommodate heavier rail cars (286k) and double-stack clearances.

The proposed MSRP long-term (2027-2043) strategies include:

» Expand IRAP program.

» Invest in rail infrastructure toward intermodal hubs.

» Grow rail market opportunities.

» Explore state's role to address rail car equipment needs.

» Advocate for competitive rail service and pricing.

» Expand passenger rail service and connections where feasible.

» Establish predictable, reliable rail funding sources.

» Improve rail connectivity to ports.

» Preserve rail corridors for current and/or future transportation needs.

Coordination and Review

MaineDOT recognizes the importance of support from rail carriers, shippers, and rail travelers alike for the success of the MSRP. Opportunities for stakeholder and public engagement were offered to provide a space for public input while attempting to garner support for the plan's rail vision. A variety of opportunities were offered to the public and agencies to engage in the creation of the MSRP. MaineDOT and Northern New England Passenger Rail Authority project team created an approach that included three Rail Advisory Council meetings, two MSRP public meetings, four Family of Plans public meetings, stakeholder interviews, a project website, direct contact with industry stakeholders, and coordination with the Family of Plans and LRTP teams. This approach is further discussed in Chapter 5.

1

THE ROLE OF RAIL IN STATEWIDE TRANSPORTATION

Rail plays a critical role in the movement of goods and people throughout the State of Maine. Freight rail service is a central element of logistics for key freight-intensive industries, and passenger rail service provided by the Amtrak *Downeaster* has become an important fixture in serving the traveling public. In 2019, total rail volumes reached approximately 4.5 million tons of goods, valued at $4.4 billion, and 574,692 passengers. This Maine State Rail Plan (MSRP or Rail Plan) meets all federal requirements set forth in the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) and is in compliance with Title 49 USC Section 22102.

This chapter describes the current and anticipated role of rail in Maine's overall transportation system and the state's ability to provide policy, legal, and financial support for freight and passenger rail service capital improvements and operational support.

1.1 Vision, Goals, and Objectives

1.1.1 Vision

Maine Department of Transportation's (MaineDOT's) agency-wide mission is to support economic opportunity and quality of life by responsibly providing its customers the safest and most reliable transportation system possible, given available resources. MaineDOT's vision for the state's transportation system is a multimodal system that will provide options for residents, business, and visitors as well as convenient and integrated connections throughout Maine and to national and international markets. MaineDOT has established three agency goals that follow from this mission and vision:

- **Manage the Existing System:** Effectively manage Maine's existing transportation system for safety and effectiveness within reliable funding levels.
- **Support Economic Opportunity:** Wisely invest available resources to support economic opportunity for our customers.
- **Build Trust:** Demonstrate our core values of integrity, competence, and service, both individually and organizationally.

The vision for Maine's rail network follows these principles. The *Maine State Rail Plan* (*MSRP*) vision imagines a system that is sustainable, safe, reliable, and provides access to economic opportunity and a better quality of life for all Maine people.

MAINE'S STATE RAIL PLAN VISION STATEMENT

Maine's rail system and its system connections will responsibly provide our businesses and travelers safe, reliable, and efficient movement of freight and people to support economic opportunity, quality of life, and environmental sustainability.

1.1.2 Goals and Objectives

MaineDOT established six goals to achieve MaineDOT's rail network vision (Table 1.1). Within each goal, there are several objectives; objectives are distinct from goals in that they are linked to measurable outcomes. The *Maine State Rail Plan* vision, goals, and objectives are informed by the Rail Advisory Committee (RAC) as well as by MaineDOT's Family of Plans and *Long-Range Transportation Plan* (*LRTP*) (see Figure 1.1).

TABLE 1.1 MAINE STATE RAIL PLAN GOALS AND OBJECTIVES

Goal	Objectives
Goal 1: Provide for and improve the **safety** and **security** of transportation users and the transportation system	» Implement positive train control for train travel, as required by the Federal Railroad Administration (FRA), to improve safety and efficiency. » Reduce illegal trespassing and enhance security on rail rights-of-way consistent with goals, objectives, and action steps identified in the *Rail Grade Crossing State Action Plan*. » Maintain and improve the security of passengers and freight consistent with state and federal requirements. » Invest in rail/highway crossing improvements, consolidations, and closures where appropriate consistent with goals, objectives, and action steps identified in the *Rail Grade Crossing State Action Plan*.
Goal 2: Improve mobility and accessibility of goods and people through enhanced **multimodal connectivity**	» Assure the rail network in Maine is fully integrated with the North American rail system, including compatibility with current standards for rail car size and weight. » Increase intermodal and transload freight traffic through improved highway-rail and water-rail connectivity. » Facilitate technology improvements and operational enhancements to enhance and improve multimodal connectivity to/from passenger rail service. » Improve local and national coordination among freight and passenger rail systems, other modes of transportation, federal government, Canada, and the New England region.
Goal 3: **Preserve** and **strengthen** the existing **rail system** infrastructure to efficiently serve the long-term needs of Maine's businesses and travelers	» Preserve rail rights-of-way for future rail use or as part of the overall transportation network. » Improve system capacity to meet current and future passenger and freight demand, with a particular focus on critical and shared-use (freight/passenger) corridors. » Encourage increased use of rail service by promoting rail service opportunities; providing facilities for businesses to access rail service; and assisting localities and rail users in understanding railroad economics, revenue needs of individual lines, and land use requirements. » Support alternative ownership and/or operation of viable rail facilities in order to preserve service. » Encourage state-of-good-repair investment to maintain rail infrastructure and right-of-way for current and future use.
Goal 4: Pursue and invest in initiatives that improve the **efficiency** and **public benefit** of Maine's freight and passenger rail systems	» Monitor and continuously improve infrastructure conditions that affect freight and passenger rail bottlenecks and reliability issues. » Improve on-time performance and reliability of the rail network. » Encourage growth of freight and passenger market share. » Enhance reliability and interchange efficiency among freight rail carriers. » Provide reliable and predictable travel times along major freight corridors by reducing delays. » Increase freight rail market share of heavy-haul commodities and product diversity to reduce impacts on public infrastructure and budgets. » Provide system redundancy, reliability, and viability to support other modes of transportation. » Communicate clear and consistent criteria for the evaluation of proposed passenger rail expansion, improvements, and potential conversions of out-of-service rail lines to focus resources and investments on efforts that support established development goals/strategies along identified corridors.

Goal	Objectives
Goal 5: Improve Maine's **quality of life** and **economic competitiveness** through transportation investments that promote **energy efficiency, environmental sustainability,** and **equity**	» Encourage modal diversity and greater use of passenger and freight rail to reduce growth of roadway congestion, energy use, and greenhouse gas emissions. » Invest in new rail infrastructure and technology such as newer locomotives and auxiliary power units (APUs) to reduce idling, reduce energy usage, and enhance air quality. » Invest in freight rail and intermodal facilities to serve shippers without direct rail connections. » Coordinate among state agencies, including the Department of Economic and Community Development and Department of Environmental Protection, and private entities to identify and implement rail investments and opportunities that encourage economic growth and development in all regions of Maine. » Link rail transportation and land use planning to regional and statewide development practices. » Further enhance the quality of service and connectivity between the Amtrak *Downeaster* and other regional and national rail networks to provide alternatives to medium- and long-distance highway and air travel.
Goal 6: Seek sources of **adequate**, **stable,** and **predictable funding** to maintain and improve the rail system	» Establish predictable, balanced, and sufficient funding sources for continued operations, maintenance, and potential expansion of the rail system. » Prepare for potential federal freight and passenger rail funding opportunities. » Work with localities to develop stable and predictable funding plans for ongoing maintenance needs. » Continue public-private partnerships that enable continuing and significant investments in rail. » Ensure that investments in Maine's rail system provide public benefit, improve air quality, reduce congestion, and enhance economic development activities.

FIGURE 1.1 MAINE LONG-RANGE TRANSPORTATION PLAN GOALS

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

1.2 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 should be conducted. These three guiding principles require department-wide, conscientious effort to center strategies and actions.

Meet customers where they are. Commit to pursuing equitable solutions that best address the diverse needs of all users of Maine's transportation system.

Be responsible stewards by making reasoned, long-term decisions.

- Serve as responsible stewards of the funds entrusted to MaineDOT by seeking the most cost-effective solutions to demonstrated transportation needs.
- Make reasoned, fact-based decisions including those relating to system and asset management; resource allocation; and the selection, scoping, and development of projects.
- Consider long-term benefits and costs of transportation investment including the need for ongoing funding for operations and maintenance.

Improve continuously and embrace the future.

- Be open to new ideas, best practices, and technologies that will result in continuous and sustainable improvement.
- Anticipate and meet future transportation needs - including the transition to cleaner transportation – through thoughtful study and pragmatic implementation including pilots when feasible.

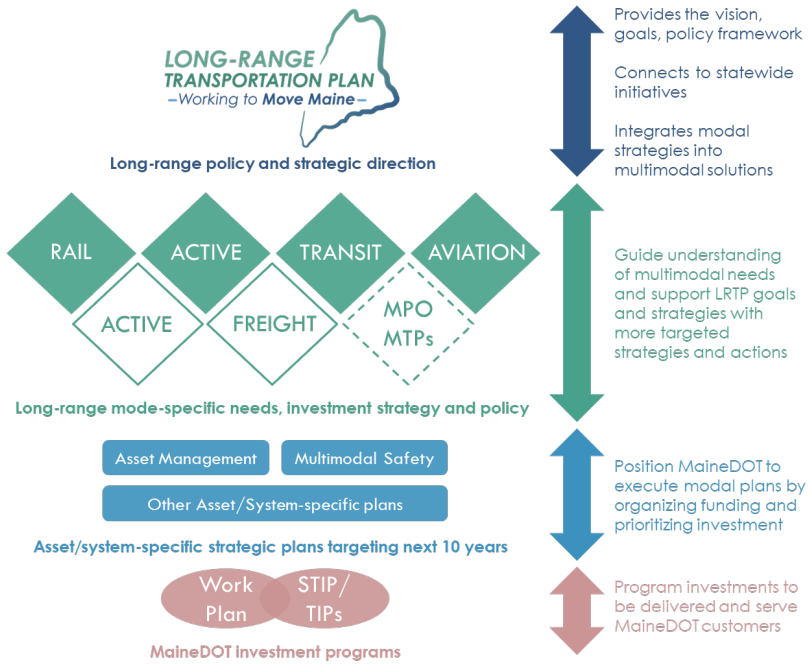
1.3 Program Coordination

The *MSRP* has been developed to build on and coordinate with both prior and ongoing planning efforts in the state. This section describes these parallel planning efforts to contextualize the role of the *MSRP* in statewide planning.

1.3.1 The "Family of Plans"

During 2022, MaineDOT has developed several system-level, strategic plans that together chart the direction of transportation in Maine for the next several years. Known as the "Family of Plans," they include Maine's *LRTP*, *Active Transportation Plan,* and *Transit Plan* and are being developed alongside the *MSRP*. Maine's *Aviation System Plan – Phase II*, building on the *Aviation System Plan – Phase I*, is also under development. Together. The "Family of Plans" structure recognizes that there are many different types of plans, each addressing a unique purpose within the planning cycle, and seeks to promote consistency and coordination across Maine's transportation system.

FIGURE 1.2 THE "FAMILY OF PLANS" CONNECTIONS



The *LRTP* functions as the starting point in the performance-based planning and programming process. Figure 1.2 visualizes how the *LRTP* sets long-range policy and strategic direction for development of asset- and system-specific actions, including the *MSRP*. The *MSRP* role, like that of other modal plans, is to guide understanding of modal needs and to establish concrete strategies and actions that align with overarching *LRTP* goals.

Table 1.2 summarizes plans MaineDOT is developing as part of the "Family of Plans" with connections to rail and highlights their relevance to the *MSRP*.

TABLE 1.2 SUMMARY OF MAINE'S "FAMILY OF PLANS"

Plan Name	Description	Year
Long-Range Transportation Plan (LRTP)	» The *LRTP* recommends holistic and cross-cutting strategies that MaineDOT and its partners will implement in both the near and long term to achieve the vision for the transportation system. » The plan also creates the structure to facilitate implementation of the strategies and actions within the "Family of Plans" as well as related strategic plans. » Some of the plan's implementation strategies particularly relevant to rail include: ■ Expand and customize improved transit and intercity passenger services to address passenger travel demand for all trip types, including commuting, long-distance travel, and tourism. ■ Address freight bottlenecks on highway, rail, or other modal corridors and improve system capacity, safety, and operations enabling efficient and reliable goods movement, including on-demand goods and services to and from Maine markets and consumers. ■ Expand passenger and freight connections, communications, and infrastructure through Maine ports, airports, rail, pipelines, and highways to neighboring states and provinces and the rest of the world.	2022
Maine State Transit Plan	» This plan offers a holistic approach to evaluating shared mobility surface passenger transportation, including interagency coordination of public and social service transportation and capital improvements for transit providers. » The plan has a particular focus on Maine's aging population and assesses and makes recommendations to meet elderly transportation needs statewide. » The plan makes recommendations on practices for transit planning and funding.	2022
Maine State Rail Plan	» The *MSRP* supports future rail planning, policies, and investment in Maine. » Gathers freight and passenger rail data, assesses the existing and future conditions on the rail system, and identifies needs and opportunities. » Conducts a robust stakeholder engagement effort on freight and passenger rail-related issues. » Identifies and prioritizes projects, policies, and strategies to support Maine's rail-related goals. » Develops a framework to evaluate proposed expansions of Maine's passenger rail service.	2022
Maine State Active Transportation Plan	» The *Active Transportation Plan* is an effort to assess the current state of active transportation in Maine, identify and evaluate the state's goals with regards to active transportation, and establish a set of actions designed to improve active transportation accessibility and safety for Maine people and visitors of all ages and abilities. » As part of this plan, MaineDOT is assessing four inactive, state-owned rail corridors for rail needs, rail with trail, and for potential conversion to interim trail use. ■ Mountain Division Corridor from the Standish/Gorham line to Fryeburg (a 31-mile corridor, bracketed by two existing "rail with trail" facilities). ■ Berlin Subdivision—also known as the St. Lawrence & Atlantic—from Portland to Auburn (26.5 miles). ■ Lower Road corridor from Augusta to Brunswick (25.9 miles). ■ Calais Branch from Calais to the Down East Sunrise Trail in Ayers Junction (13.0 miles).	2022

Plan Name	Description	Year
Integrated Freight Strategy	» The plan is designed to help businesses, policymakers, taxpayers, and users of the transportation system gain a better understanding of the freight transportation issues facing the state. » The plan summarizes key rail issues, trends, and needs and identifies a set of suggested improvements – one set of strategies aligned with improvements aimed at expanding rail service to shippers, improving rail security, and promoting rail as a viable transportation mode for shippers. Specific strategies included: ■ Continue a strategy for investment in railroad infrastructure to improve the rail network to a state of good repair (SOGR). ■ Continue coordination with the railroads to accommodate heavier rail cars (286,000 pounds) and double-stack clearances. ■ Continue and expand programs to improve, separate, and consolidate highway-rail grade crossings. ■ Direct state investments in rail infrastructure toward intermodal hubs. ■ Explore and develop potential freight rail role in new energy markets, including biofuels, wind power, domestic crude oil and propane, and others. ■ Continue cooperative efforts with railroads, shippers, and regional planning agencies to identify underused rail served facilities and sites.	2017

1.3.2 MaineDOT's Work Plan

MaineDOT's state-initiated Work Plan lists projects to be advanced over the next three calendar years, beginning with the present year. The majority of the capital projects listed in the Work Plan are eligible for Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) funding.

1.3.3 Maine's STIP

Maine's Statewide Transportation Improvement Program (STIP) is a subset of the Work Plan and sets forth statewide prioritized listing/program of federally funded transportation projects covering a period of four years. The STIP is consistent with Maine's *LRTP* and includes the Transportation Improvement Programs of Maine's four Metropolitan Planning Organizations (MPOs). Projects in the STIP represent work funded by FHWA and FTA, projects requiring a federal action by FHWA and/or FTA, and regionally significant transportation efforts in Maine. The STIP is a fiscally constrained document that is submitted to the FHWA and FTA for review and approval.

1.3.4 Rail Planning Studies

In addition to this *Rail Plan*, there are several location-specific studies or initiatives ongoing in the state, as shown in Table 1.3 below.

TABLE 1.3 RAIL PLANNING STUDIES

Plan Name	Description	Year
Lewiston-Auburn Passenger Rail Service Plan—Phase 1 ***H.P. 217 - L.D. 323***	» Maine's State Legislature directed MaineDOT (H.P. 217 - L.D. 323), in consultation with the cities of Lewiston and Auburn and the Northern New England Passenger Rail Authority (NNEPRA), to conduct a study and complete a plan for the implementation of passenger rail service between the cities of Lewiston and Auburn and the Amtrak *Downeaster* service. » Phase 1 consisted of a feasibility assessment for implementing passenger rail service between Portland and Lewiston-Auburn. Phase 1 of the two-phase effort consisted of a transit propensity assessment. » The first task involved an evaluation of potential ridership. A range of ridership estimates were developed through examination of similar rail corridors, the demographics and travel demand/patterns of the study area, and the potential development opportunity. These results were intended to provide a basis for service analysis to meet travel demand.	2018
Lewiston-Auburn Passenger Rail Service Plan—Phase 2	» Phase 2 built on Phase 1 findings to develop operating plans and corridor assessments. » This report examined what kind of service should be provided to meet the travel demand/patterns observed in the *Transit Propensity Analysis* (i.e., route alignment, service frequency) as well as the costs to build and operate service. » The evaluation offered a series of preferred alignments for passenger rail service to Lewiston-Auburn to be advanced for further consideration and study.	2019
Lewiston-Auburn Passenger Rail Service Economic Impact Study ***S.P. 317 - L.D. 991***	» In June 2021, MaineDOT was directed by the legislature (S.P. 317 - L.D. 991) to conduct an economic evaluation study of commuter and passenger rail service between Portland and Lewiston-Auburn that specifically focuses on Alternatives 1A and 2A from the Phase 2 study. Both are proposals for high-frequency direct service between Lewiston and Portland, with 1A utilizing CSX tracks and 2A using SLR tracks.	Ongoing
Lewiston-Auburn Intermodal Market and Transportation Assessment	» MaineDOT partnered with the Lewiston Auburn Railroad and St. Lawrence and Atlantic Railroad to inventory existing area transportation infrastructure and market demands for freight rail in and around the Auburn Intermodal Terminal. The goal was to look for opportunities to increase freight volumes through the use of the facilities in both the short term and long term.	2019

Plan Name	Description	Year
Portland-Westbrook Rail Shuttle Feasibility Study	» NNEPRA completed this high-level feasibility study of a rail shuttle between Westbrook and Portland, connecting high-density developments with the downtown and local transit options. » Recommended configuration of the potential service included high-frequency service between downtown Westbrook, Thompson's Point, Portland and potentially into the Old Port area in Portland. This service would be run from downtown Westbrook on the Pan Am Railways (CSX) Mountain Branch to CPF 196 in Portland. » Identified key challenges included further coordination with Pan Am Railways (now CSX), the interaction of the proposed service with the existing Amtrak *Downeaster* and freight trains, and acquisition of easements/property if the service were to continue to West Commercial Street/Commercial Street.	2019
Passenger Rail Service from Brunswick-Augusta-Waterville-Bangor Propensity Study ***S.P. 95 - L.D. 227***	» In June 2021, the Maine Legislature passed a resolution (S.P. 95 - L.D. 227) to conduct a transit propensity studies from Portland and Brunswick. » The study must include estimates of the propensity of transit service demand, an estimated range of incremental growth in transit service, and cost estimates of capital required for operating new or enhanced transit service.	Ongoing
Western Maine Intermodal Facility	» MaineDOT partnered with local shippers and Pan Am Railways for a site evaluation and concept track layout for a small intermodal facility in western Maine.	2019

Some rail planning processes in Maine have been guided by a Rail Use Advisory Council (RUAC). Public Law 21, Chapter 239 gives MaineDOT the authority to establish RUACs upon the petition of one or more governmental entities. The purpose of these councils is to facilitate discussion, gather information, and provide advice to the commissioner regarding the future use of a rail corridor identified in the petition. There are two ongoing and one completed RUAC in Maine:

» **The Mountain Division RUAC - completed** (formed August 2021): Formed in response to letters of support from several communities along the rail corridor requesting that the future of the 31 miles of state-owned, inactive rail-line be discussed. This 12-member council was composed of representatives from each town along the section of rail corridor under consideration. Members also included representatives from state agencies, Regional Planning Organizations (RPOs), the Portland Water District, and trail and rail advocates.

  After a seven-month review of potential rail and non-rail uses for the Mountain Division rail corridor from Standish to Fryeburg, the council recommended the interim conversion of

31 miles of the existing railroad track to an interim ten-foot-wide paved bicycle and pedestrian trail.

- **The Portland to Auburn RUAC - ongoing** (formed April 2022): This council will review the approximately 26-mile-long section of the St. Lawrence and Atlantic rail corridor known as the Berlin Subdivision from railroad mile post 0.0 in Portland to railroad mile post 25. Members include representatives from MaineDOT, towns abutting the rail corridor, state agencies, an RPO, and advocacy groups.
- **Lower Road from Brunswick to Augusta RUAC - ongoing** (beginning end of 2022): This council will review the approximately 34-mile-long section of the state-owned rail corridor known as the Lower Road from Rockland Junction in Brunswick to the east side of the railroad bridge over the Kennebec River in Augusta.

1.4 Governance

The **Maine Department of Transportation** is a cabinet-level state agency that is organized to provide a unified and comprehensive approach to development, maintenance, and operation of the state's transportation system. MaineDOT is responsible for developing comprehensive, balanced transportation policy and planning to meet the present and future needs for adequate, safe, and efficient transportation facilities and services.[1]

The agency has responsibility across all modes of transportation, including highways and bridges; airports and aeronautics; ports and marine activity, including the Maine State Ferry Service; railroads; public transportation; and] bicycle and pedestrian facilities. The department is charged with the overall responsibility for execution of the state's transportation policy and performs a wide range of multimodal transportation planning that includes railroads as an integral element of the state's transportation network. MaineDOT's Office of Freight and Passenger Services in the Bureau of Planning is most directly involved with rail planning in the state.

Municipalities support transportation planning, including rail, at the local level. RPOs are actively involved in land use and cooperate with MaineDOT on transportation planning activities, while Metropolitan Planning Organizations (MPOs) participate along with MaineDOT making transportation investment decisions in urbanized areas. MaineDOT cooperates with four MPOs

[1] MRS Title 23 §4206 https://legislature.maine.gov/statutes/23/title23.pdf

as it develops the plans and programs to carry out the state's strategies for maintaining and improving Maine's transportation system: Androscoggin Transportation Resource Center (ATRC), Bangor Area Comprehensive Transportation System (BACTS), Kittery Area Comprehensive Transportation System (KACTS), and Portland Area Comprehensive Transportation System (PACTS).

The **Northern New England Passenger Rail Authority** (NNEPRA) is a public transportation authority responsible for developing and providing passenger rail service between points within Maine and Boston. Established by the Maine Legislature in 1995 (Public Law 1995 Chapter 374 LD 1255), NNEPRA manages the budget, contracts, promotion, and customer services associated with the *Downeaster* passenger rail service operated by Amtrak (the National Passenger Railroad Corporation). NNEPRA has a long-term agreement with Amtrak to operate the service between Brunswick and Boston and is party to agreements with host railroads. NNEPRA's board is nominated by Maine's Governor and approved by the State Legislature's Transportation Committee and sets policies and guidelines relating to capital projects, operating strategies, marketing programs, community relations, food service, and service planning activities for the *Downeaster*. NNEPRA works in concert with MaineDOT. MaineDOT approves NNEPRA's annual operating budget and provides and coordinates most capital funding needed for capital passenger rail improvements.

1.5 State Funding Authority

Funding for railroad projects and programs originates from a variety of sources, including federal, state, municipal, and private sources. Federal funding grant programs for rail projects are generally discretionary and awarded on a competitive basis. In Maine, state funding has been made available for railroad improvements but is subject to appropriations and voter-approved bond funds. Private railroad investment has been the primary source of funding for freight projects, while public funding is the primary source for passenger projects.

1.5.1 Maine Funding Programs

This section provides an overview of the sources of funding for rail work in Maine.

General Fund

The General Fund is the primary operating fund of Maine State Government. It receives revenue from general state revenue sources not otherwise accounted for in another fund.

The largest sources of revenue are from the individual income tax, sales and use tax, tobacco tax, and corporate income tax. These four major taxes account for more than 90 percent of General Fund revenue.

The general obligation bond is a common type of bond that is secured by the state government to purchase or pay for resources or infrastructure investment. In 2021, Maine people voted in support of Question 2, which created $100 million in general obligation bonds for transportation infrastructure projects, with $85 million for highways and bridges and $15 million for rail, aviation, ports, and active transportation. MaineDOT receives federal funds through several sources, including FHWA, FRA, FTA and MARAD. These federal programs generally require a local match, which isis typically provided by the State of Maine. The bonds approved in Question 2 were designed to leverage an estimated $253 million in federal and non-state funding through matching grants and programs.

Multimodal Transportation Fund

Non-highway projects are funded through the Multimodal Transportation Fund in MaineDOT's budget. These accounts rely on funding from a variety of sources, including revenues from car rental taxes, aviation fuel taxes, island ferry service subsidies, rail taxes, rail leases, and Penobscot Narrows Observatory fees. The Multimodal Transportation Fund must be used for the purposes of purchasing, operating, maintaining, improving, repairing, constructing, and managing the assets of multimodal forms of transportation, including but not limited to transit, aeronautics, marine, and rail.

Other Programs

The State of Maine has been proactive in providing funds for acquisition of railroad corridors as well as for infrastructure investments targeted to specific service needs. There are several state programs used to fund rail projects:

- **Industrial Rail Access Program (IRAP):** IRAP is a competitive public/private freight partnership program that provides financial assistance to businesses and shippers for investment in rail or freight rail infrastructure located on, within, or adjacent to the general railroad system. State investment is required to be matched at a minimum 50/50 level with local and/or private industry funds, and applicants are encouraged to provide a match that is greater than 50 percent. MaineDOT had approximately $2.2 million programmed for IRAP available in FY 2023. Applications are accepted on an annual basis.

» **Rail Line Improvements:** MaineDOT allocates $1.5 million annually for rail capital improvements on state-owned lines and $1.407 million for administrative rail planning and maintenance on state-owned lines.

Additionally, NNEPRA provides funding, through state and federal programs, and oversight for the operation of the Amtrak *Downeaster* passenger rail service. In Fiscal Year 2021, NNEPRA received $2 million from the State of Maine and approximately $16 million in formula funds and COVID-19 relief funding from federal sources.

1.5.2 Rail Initiatives

Federally Funded Initiatives

Federal grants fund a significant portion of capital rail investments in Maine. Among projects included in MaineDOT's Work Plan, for example, federal funding is estimated to represent about 44 percent of the total value of items from 2021 to 2023. Major awarded grants supporting both the Work Plan and other programs include:

» **Consolidated Rail Infrastructure and Safety Improvements (CRISI) Upgrades to CSX Mainline**:

- $17.5-million grant awarded in 2018 to MaineDOT to fund upgrades to the CSX (former Pan Am Railways) mainline from Waterville to Royal Junction. The project was matched by over $500,000 in state and $17.5 million in private investment.
- $16.9-million grant awarded to MaineDOT and Pan Am (now CSX) in 2019 to fund Pine Tree Corridor 286,000 pound capacity and safety improvements. The grant enables the replacement of about 75 miles of rail, the installation of approximately 55,000 ties, the upgrade of some 72 grade crossings, and the strengthening of about five bridges in central Maine between Waterville and Mattawamkeag. CSX will provide match of $25.3 million for the federal grant for a budget total of more than over $42 million.
- $16.9-million grant awarded to NNEPRA in 2020 to add doubletrack to the CSX mainline (former Pan Am) between Berwick and Wells and add a second passenger platform in Wells. The project is matched by more than $1.5 million in private investment and more than $4.6 million from MaineDOT. See NNEPRA Initiatives for more details.

- **CRISI Upgrades to Northern Maine Railroads**:
  - $16.2-million grant awarded in 2022 to fund upgrades on four lines owned by the State of Maine and operated by Maine Northern Railway (MNR). The project was matched by more than $3 million in state and private investment.
- **Fostering Advancements in Shipping Transportation for the Long-Term Achievement of National Efficiency (FASTLANE) Maine Railroad Bridge Capacity Project:**
  - $7.6-million grant awarded in 2017, matched by $8.2 million in state and private investment, to fund rehabilitation of 19 total bridges on the MNR mainline to 286k capacity.
- **Transportation Investment Generating Economic Recovery (TIGER) VII Maine Regional Railways Project:**
  - $20 million grant awarded in 2015 for improvements to more than 384 miles of track, rail yards, bridge timbers, and grade crossings throughout central and northern Maine. The project was matched by $2.6 million in state funds and 14.4 million in private investment.
- **Amtrak *Downeaster* Positive Train Control (PTC) Implementation:** Amtrak has received federal funding to implement PTC along the *Downeaster's* route along the CSX main line between Brunswick; Portland; and Haverhill, MA. Amtrak and CSX have entered into an agreement for the design of the system. The installation of PTC enhances safety along the corridor and removes the frequency limitations (currently six daily roundtrips) applied to passenger services which operate across routes lacking the technology. Additionally, the implementation of PTC may permit speeds beyond today's maximum of 79 mph at locations along the route where conditions permit.
- **Amtrak *Downeaster* New Rolling Stock:** In July 2021, Amtrak announced a $7.3-billion contract with Siemens Mobility, Inc. to manufacture a new fleet of up to 83 multipowered modern trains that will be leveraged for state and northeast services, including the *Downeaster*. Further options provide potential for up to 130 additional trains to support Amtrak's future growth plans. The new trainsets will provide a substantial environmental benefit through reduced criteria pollutants compared to the existing fleet. Additionally, these trainsets will be designed with Amtrak's new standard of enhanced accessible features, including inductive hearing loops, accessible restrooms and vestibules, an accessible food service car, and lifts for customers with reduced mobility. The new

trainsets are scheduled to begin operating *Downeaster* service in 2030 with the entire new fleet in service in 2031.

» **FHWA** allocates $1.2 million in **Section 130 funds** to MaineDOT each year for safety improvements at Maine's rail/highway crossings through the **Railway-Highway Crossings (Section 130) Program**. Traditionally, these funds have been used for improvements to signals and roadway surfaces. MaineDOT Section 130-apportioned funds provided funding in part or full for nine projects in Fiscal Year 2022.

NNEPRA Initiatives

NNEPRA initiatives under consideration to support and enhance Amtrak *Downeaster* service include:

» **Wells Area Improvement Project:** In 2020, NNEPRA was awarded a $16.9-million grant through the FRA FY2019 CRISI Program. Construction on the project started in 2021. It consists of a six-mile extension of an existing two-mile passing siding on CSX's freight main line between Wells and Berwick, along with a new passenger platform and pedestrian bridge at the Wells Transportation Center (Wells Station). The improvements will provide needed capacity improvements and allow for simultaneous meets of *Downeaster* trains, while reducing interference delays between freight and passenger trains. This project will allow the addition of a sixth round-trip each day between Brunswick and Wells, providing more options for intrastate travelers. The project is scheduled to be completed in 2023.

» **Portland Station Relocation**: NNEPRA is exploring mainline station alternatives that will improve *Downeaster* connectivity to and within the greater Portland region by reducing overall travel time and eliminating bottlenecks and conflicts. The findings of a MaineDOT study in 2019 resulted in a recommendation for further evaluation of an alternative that envisions retaining the existing Portland Transportation Center (PTC) location on Thompson's Point for intercity bus operations and developing mainline locations for a new *Downeaster* passenger station. A MaineDOT station study concluded that the ideal location for a new station would be along St. John Street in Portland between Congress Street and the entrance to the Veterans Memorial Bridge. The next step is a full feasibility study of a new rail station in this vicinity.

» **New West Falmouth/Exit 53 Station:** NNEPRA, in collaboration with the Town of Falmouth, MaineDOT, and Maine Turnpike Authority (MTA), is exploring adding a *Downeaster*

passenger platform in West Falmouth at Exit 53. This location would improve connectivity to/from the I--95 corridor.

» **Coastal Connection Service Extension Pilot (Rockland Branch)**: Efforts currently are underway for a pilot program, funded by MaineDOT, introducing service between Brunswick and Bath, Wiscasset, Newcastle, Waldoboro, and Rockland.

1.6 Organization of This Plan

In keeping with the FRA guidance, this plan includes an inventory and assessment of existing and future conditions for Maine's passenger and freight rail system, establishes a vision for freight and passenger rail in Maine, and provides a short- and long-range investment program for existing and proposed freight and passenger rail infrastructure and services in the state. The state's railroads, rail users, industry, and public and private stakeholders were involved in the development of this plan. The 2022 *MSRP* update is organized as follows:

» **Chapter 1—Role of Rail in Statewide Transportation**: Describes the current and anticipated role of rail in Maine's multimodal transportation system and the state's ability to provide political, legal, and financial support to freight and passenger rail service development.

» **Chapter 2—Maine's Existing Rail System:** Provides an overview of Maine's existing freight and passenger rail systems, including ownership, operations, and facilities of the railroad system, and existing and projected rail demand.

» **Chapter 3—Rail Service Needs and Opportunities**: Describes the known and proposed needs and investments prioritized to address challenges in Maine's freight and passenger rail systems. Identifies known and potential rail projects based on stakeholder input and describes proposed improvements for freight and passenger rail.

» **Chapter 4—Maine's Rail Service and Investment Program:** Describes the state's long-term vision for rail service and the role rail plays in Maine's larger multimodal transportation network. Presents the investments necessary to achieving the state's passenger and freight rail vision described in Chapter 1.

» **Chapter 5—Coordination and Review**: Summarizes Maine's approach towards public- and private-sector stakeholder engagement and synthesizes findings from these outreach efforts.

» **Appendix A—Passenger and Freight Rail Program of Projects:** Details the passenger and freight rail program projects.

The *MSRP* refers readers to appropriate sections of the substantial supporting technical memos which will be available online in early 2023 and include:

» **Tech Memo 1: *Rail System Existing Physical Conditions Profile.***

» **Tech Memo 2: *Rail System Use and Economic Profile.***

» **Tech Memo 3: *Future Freight Rail System Demand.***

» **Tech Memo 4: *Future Passenger Rail System Demand.***

» **Tech Memo 5: *Rail System Performance, Needs, and Opportunities.***

The *MSRP* is fully compliant with the Passenger Rail Investment and Improvement Act of 2008 (PRIIA), as shown in Table 1.4, with information provided both in the plan itself as well as the tech memos posted online. The state is in compliance with Title 49 USC Section 22102.

TABLE 1.4 FRA STATE RAIL PLAN REQUIREMENTS

FRA State Rail Plan Requirement	MSRP Location
An executive summary that highlights key facts and findings of the state rail plan.	Executive Summary (separate document)
An inventory of the existing overall rail transportation system and rail services and facilities within the state and an analysis of the role of rail transportation within the state's surface transportation system.	*MSRP* Chapters 1 and 2; Tech Memo 1 and 2
A review of all rail lines within the state, including all freight rail lines, intercity passenger rail lines, commuter rail lines, and proposed high-speed rail corridors and significant rail line segments not currently in service.	*MSRP* Chapter 2; Tech Memo 1 and 2
A statement of the state's passenger rail service objectives, including minimum service levels, for rail transportation routes.	*MSRP* Chapters 1, 2, and 3; Tech Memo 5
A general analysis of rail's transportation, economic, and environmental impacts in the state.	*MSRP* Chapters 2 and 4; Tech Memo 5
A long-range rail investment program for current and future freight and passenger infrastructure in the state that includes a list of rail capital projects, a funding plan, public and private benefits for projects, and a statement of correlation between public funding and public benefits.	*MSRP* Chapters 3 and 4; Tech Memo 5
A statement of public financing issues for rail projects and service in the state, including a list of current and prospective public capital and operating funding resources, public subsidies, state taxation, and other financial policies relating to rail infrastructure development.	*MSRP* Chapters 1 and 4
An identification of rail infrastructure issues within the state that reflects consultation with all relevant stakeholders.	*MSRP* Chapters 3, 4, and 5; Tech Memo 5

FRA State Rail Plan Requirement	MSRP Location
A review of the major passenger and freight intermodal connections and facilities within the state.	*MSRP* Chapter 2; Tech Memo 1
A review of publicly funded projects within the state to improve rail transportation safety and security, including all major projects funded under Section 130 of Title 23.	*MSRP* Chapters 3 and 4; Tech Memo 5
A performance evaluation of passenger rail services operating in the state, including possible improvements in those services and a description of strategies to achieve those improvements.	*MSRP* Chapters 2, 3, and 4; Tech Memo 2 and 5
A compilation of studies and reports on high-speed rail corridor development within the state not included in a previous plan under this subchapter and a plan for funding any recommended development of such corridors in the state.	*MSRP* Chapters 1 and 4
A statement that the state is in compliance with Title 49 USC Section 22102.	*MSRP* Chapter 1

2

MAINE'S EXISTING RAIL SYSTEM

This chapter provides an overview of Maine's rail system, including freight and passenger operations. Ownership, operations, and facilities of the railroad system are discussed within the context of the state's multimodal transportation system. Existing and projected freight and passenger rail demand are included along with the trends that will impact the need for rail transportation throughout the state. The development and current status of passenger rail service is detailed, including updated performance and potential future enhancements to passenger rail service that could benefit travelers in Maine. This chapter also provides information and data related to goods movement within, to, and from Maine. Rail carries a modest yet still important share of goods in Maine; issues and challenges to that constrained market share are identified. The regional and national context of both the rail system and goods movement needs of the state are described.

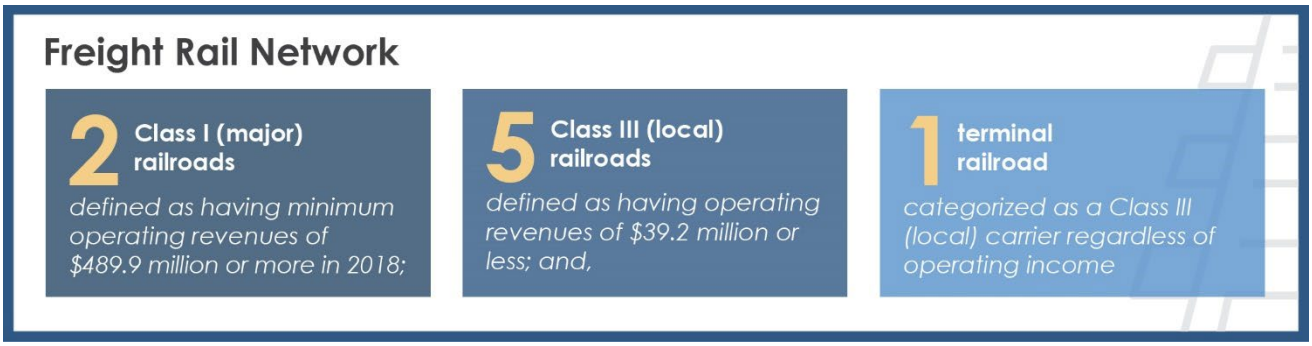
2.1 Maine Rail System Inventory and Use

This section details the current state and conditions of Maine's rail system (Figure 2.1), both for freight and passenger service, focusing on major recent developments for each type. More detail on these topics can be found in the **Rail System Existing Physical Conditions Profile Technical Memorandum** as well as the **Rail System Use and Economic Profile Technical Memorandum**, both produced as part of the 2022 *MSRP*.

FIGURE 2.1 MAINE'S RAIL SYSTEM

2.1.1 Existing Freight Rail Network

The 1,072-mile Maine rail system is operated by eight carriers, which are as follows:[2]



Notes: Railroad classifications are defined by the Surface Transportation Board (STB). See https://www.federalregister.gov/documents/2019/06/14/2019-12562/indexing-the-annual-operating-revenues-of-railroads.

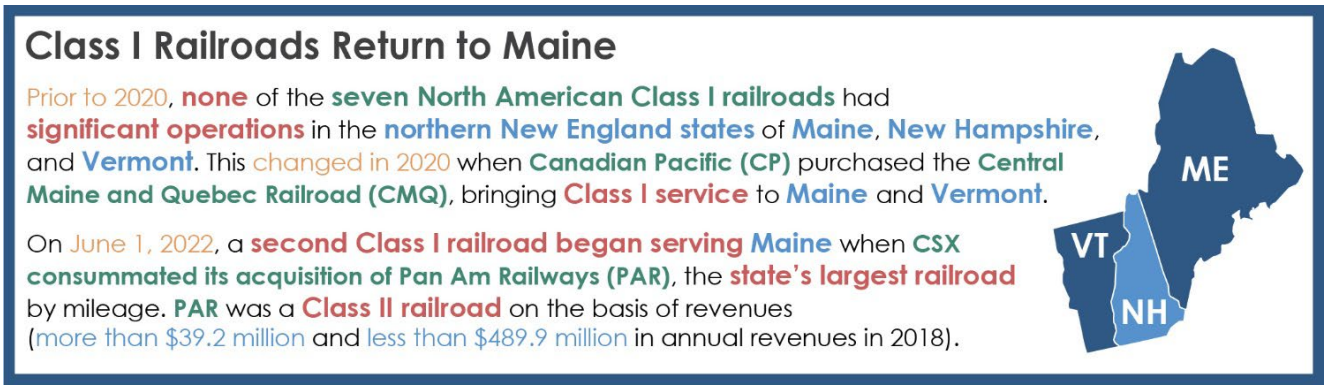


Table 2.1 below shows the breakdown of freight railroads currently operating in Maine by both mileage and operator. CSX is the largest operator within the state, followed by Canadian Pacific Railroad (CP) and the Maine Northern Railway (MNR).

[2] Association of American Railroads. Freight Railroads in Maine. State Fact Sheet, 2019. https://www.aar.org/wp-content/uploads/2021/02/AAR-Maine-State-Fact-Sheet.pdf.

TABLE 2.1 MAINE FREIGHT RAILROADS BY OPERATOR AND MILEAGE

Railroad	Reporting Mark	Parent Company/ Ownership	Operated Miles	Owned Miles
Class I Railroads			**762**	**732**
Canadian Pacific	CP		205	201
CSX	CSX		557	531
Class III (Local) Railroads			**556**	**231**
Maine Northern Railway	MNR	Irving/NBM Railways	223	0
Eastern Maine Railway	EMRY	Irving/NBM Railways	176	173
St. Lawrence and Atlantic Railroad	SLR	Genesee & Wyoming	93	63
Midcoast Railservice, Inc	Midcoast	Finger Lakes Railway	59	0
New Hampshire North Coast Railroad	NHN	Boston Sand and Gravel	0.3	0.3
Terminal & Switching			**1.57**	**1.57**
Turner's Island LLC	TI	Turner's Island, LLC	1.57	1.57

2.1.2 Existing Passenger Rail Network

This section summarizes the state of Maine's passenger rail network, focusing on the *Downeaster* service.

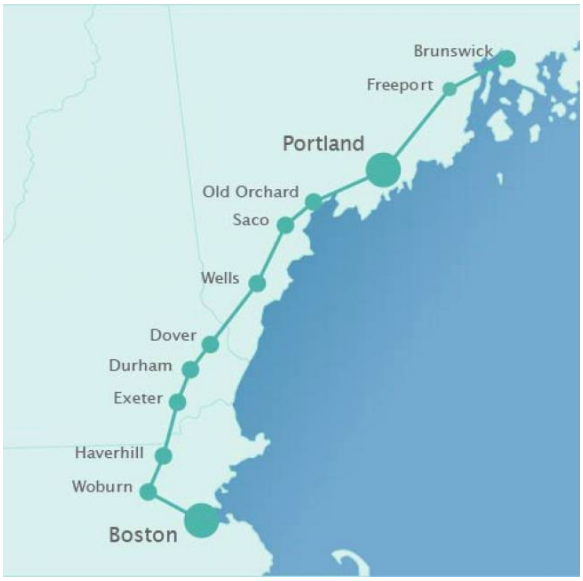
Amtrak Downeaster

The Amtrak *Downeaster* began operations in December 2001, marking the return of passenger rail to Maine for the first time since 1965. *Downeaster* trains travel along a 145-mile corridor (Figure 2.2) over tracks owned by MaineDOT (one mile), CSX (108 miles) and the Massachusetts Bay Transportation Authority (MBTA) (36 miles). The service is managed by NNEPRA.

The *Downeaster* makes five round-trips daily between Brunswick and Boston's North Station, serving 10 stations in between. Prior to 2012, service ran only between Portland and Boston. Two daily round-trips were extended to Freeport and Brunswick in 2012. Beginning in 2019, all five daily trips started running from Brunswick to Boston. Amtrak operates the *Downeaster* and provides the rolling stock, crews, and ticketing services as part of a multi-year service agreement with NNEPRA. *Downeaster* travel time between Brunswick and Boston's North Station is three hours and 20 minutes.

Downeaster Stations

FIGURE 2.2 AMTRAK DOWNEASTER ROUTE



The *Downeaster* serves 12 stations in three states; six of these stations are in Maine. NNEPRA coordinates with *Downeaster* station communities to ensure that passengers have access to platforms and parking as well as amenities and services provided by communities in various station facilities. All *Downeaster* stations have mini-high platforms, providing level boarding in compliance with the Americans with Disabilities Act (ADA). However, there is some variation between stations and station amenities. For example, Old Orchard Beach, Exeter (NH), and Haverhill (MA) stations do not have enclosed waiting areas. More detail on *Downeaster* station amenities can be found in the **Rail System Existing Physical Conditions Profile Technical Memorandum**.

2.1.3 Recent Rail Developments

Canadian Pacific

In June 2020, Class I carrier Canadian Pacific Railroad (CP) completed the acquisition of the Central Maine and Quebec Railway (CMQ), returning CP to Maine following an absence of 25 years. A Class II railroad owned by Fortress Investment Group, CMQ operated 222 miles of trackage within Maine, consisting of a former CP line between Brownville Junction in the east and Jackman in the west and a former Bangor and Aroostook line between Bangor in the south and Millinocket in the north. The two routes intersect at Brownville Junction, where a connection to St. John, New Brunswick is available through the EMR and the New Brunswick Southern. At Jackman, the main line continues west across the U.S./Canadian border through Lac Megantic, Sherbrooke, and St. Jean, Quebec, where it links with the rest of the CP system.

CSX

CSX became the second Class I railroad serving Maine on June 1, 2022, when it completed its acquisition of Pan Am Railways (PAR). Announced in late 2020, the merger was submitted to the STB as a minor transaction that would allow for an expedited approval process. A May 2021 STB ruling declared the acquisition to be a significant transaction, and CSX submitted an updated application in July 2021. Notably, the expanded approval process included a public hearing in January 2022, providing opportunities for various stakeholders to express their interests and concerns. Board approval for the transaction was granted on April 14, and the acquisition closed on June 1, 2022.

With the acquisition of PAR, CSX now also serves as a host railroad for the Amtrak *Downeaster* passenger rail service in Maine from Brunswick, ME to Plaistow, NH. The Massachusetts Bay Transportation Authority (MBTA) owns the portion of the *Downeaster* route between Plaistow, NH and North Station in Boston.

The arrival of CSX improves market access and service for Maine shippers across the CSX network, which extends throughout the eastern half of the U.S. The resources and investments that North America's third-largest railroad by revenues and network size plans to make along the route from Ayer, MA to Mattawamkeag, ME will strengthen freight and passenger rail service in Maine. For these reasons, MaineDOT and NNEPRA supported the transaction.

CSX plans to make significant investments in infrastructure across the PAR network, including track upgrades. There are about 216 miles of line segments across the entire five-state network that are subject to train speed restrictions due to deferred maintenance or capital investment needs, with 191 of the miles under long-term speed restrictions.

Finger Lakes Railway

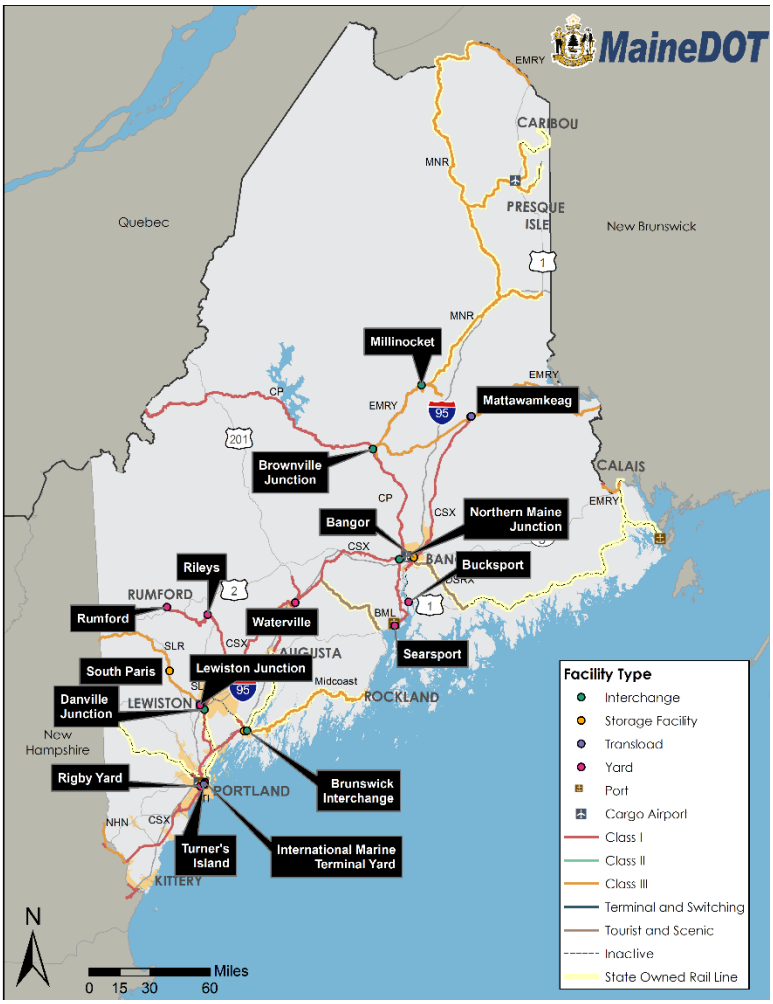
In August 2021, the STB approved the transfer of freight operating rights on the state-owned Rockland Branch from the current operator, CP, to Finger Lakes Railway. In January 2022, Finger Lakes briefed NNEPRA on a proposal to operate passenger service on the Rockland Branch through a subsidiary, Midcoast Rail. Midcoast Rail would also carry freight on the line. Midcoast Rail assumed freight operating rights on the Rockland Branch on August 1, 2022 with plans to continue to explore opportunities for passenger service on that line.

2.1.4 Current Rail Infrastructure Conditions and Issues

Carload Yards

Yard infrastructure in Maine has been rationalized over the past 40 years to adapt to the ever-declining traffic volumes. During this time, formerly critical inter-railroad interchanges have been de-emphasized, while other locations have been improved and developed. Generally, these adjustments were made incrementally as traffic levels or business conditions dictated. Critical yards include Danville Junction, where CSX and the SLR interchange, Northern Maine Junction, where CP and CSX interchange; Brownville Junction, where CP, Maine Northern, and Eastern Maine interchange; the CP portside yard at Searsport; and CSX's Rigby Yard in Portland, which serves as a regional classification and switching yard. The locations of major freight rail facilities in Maine are shown in Figure 2.3.

FIGURE 2.3 MAJOR FREIGHT RAIL FACILITIES IN MAINE



Intermodal Facilities

Intermodal rail to truck transfer facilities in Massachusetts on CSX (Worcester) and NS (Ayer, formerly operated by Pan Am Southern) handle many products entering and leaving Maine via truck. Rail shipments from southeastern U.S. locations may also be handled through intermodal facilities in the region south of New York City, thus contributing to congestion on highway infrastructure in the region, especially south of Maine.

SHIPPING INTERMODAL

Maine has one intermodal facility in Waterville that is only active for one customer. Other intermodal terminals available in the region include the CSX Intermodal Terminal in Worcester, MA and the CP Intermodal Terminal in St. John, NB.

Direct access to intermodal services offered by the Class I railroads featuring more favorable rate structures, transit schedules, and access to more geographic markets throughout North America are some of the reasons that Maine businesses use intermodal facilities outside the state. Maine currently has only one active intermodal facility, in Waterville. However, this facility is solely dedicated to Poland Springs traffic, which began using the facility to move bottled water by train in 2016.[3]

Positive Train Control

PTC systems are designed to prevent train-to-train collisions, over-speed derailments, incursions into established work zones, and movements of trains through switches left in the wrong position. In 2008, Congress mandated that all Class I railroads, Amtrak-owned routes, and commuter railroads had until the end of 2020 to fully implement PTC in accordance with Federal Railroad Administration (FRA) guidance. While the *Downeaster* route between Brunswick, ME and Haverhill, MA was exempt from the PTC mandate due to limited train frequency, the lack of PTC limits the daily number of passenger trains that can be operated to the current level of service on the now CSX-owned corridor. Amtrak was provided with federal funds eligible to implement PTC on the *Downeaster* corridor between Brunswick, ME and the NH/MA state line, where the MBTA has implemented PTC. CSX has committed to work with Amtrak to implement PTC on the route between Haverhill, MA and Brunswick, ME, pursuant to an agreement made with NNEPRA in 2021.

Weight Capacity

Maine's main line rail network can partially handle 286,000-pound railcars, the current industry-wide standard. EMRY and CP provide such capacity across the state from New Brunswick to Québec, as does CP's route between Searsport and Brownville Junction. CSX and several other carriers in Maine accept 286,000-pound cars on an exception basis. However, improving the tracks and bridges to regularly accommodate the heavier cars

[3] Press Herald. "Poland Spring Water Starts Shipping by Train in Waterville," April 8, 2016. https://www.pressherald.com/2016/04/08/poland-spring-water-starts-shipping-by-train-in-waterville/.

necessitates a significant capital investment that remains to be made. The acquisition of PAR by CSX is likely to lead to the Class I railway making the necessary investments to bring its tracks in Maine to 286,000-pound capacity and potentially even to 315,000.

Vertical Clearance

Vertical clearance affects the efficiency of freight movement across the country, particularly in the handling of intermodal containers. By carrying two containers stacked one on top of the other on a single rail car (i.e., "double-stacking"), railroads can make more efficient use of train capacity and thus achieve lower line-haul costs. In Maine, the EMRY, CP's route between Searsport/Northern Maine Junction and Montréal, and the SLR on its route from Auburn to St. Rosalie, Quebec both have sufficient clearance for stacking domestic containers (which are taller than international containers). Other main lines in Maine do not presently have sufficient clearance to handle domestic double-stack service.

FRA Track Class

FIGURE 2.4 FRA TRACK CLASSES

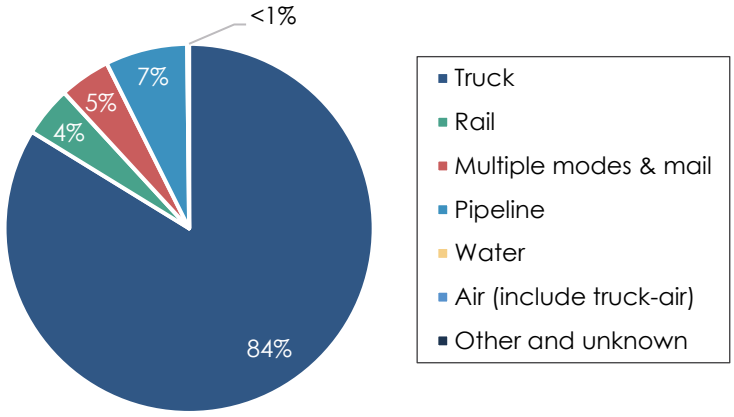
The FRA has defined a system of classification for railroad track quality ranging in value from 1 to 9. The classification of a track dictates specific construction details, including tolerance requirements for the geometrical measurements of the track, as well as maximum permissible speeds for freight and passenger trains. Figure 2.4 shows the FRA track classifications of Maine's rail network. The state's sole Class 4 section, allowing passenger speeds of up to 79 mph and freight speeds up to 60 mph, is the CSX line between the New Hampshire border and Brunswick that hosts Amtrak *Downeaster* service. Class 3 track conditions, which allow freight speeds up to 40 mph and passenger train speeds up to 60 mph, are present on the CP main lines, the SLR, and MaineDOT's Rockland Branch. Class 2 track conditions, which allow freight speeds up to 25 mph, are

present on the CSX freight main between Portland and Waterville as well as the EMRY and portions of the MNR.[4] The remainder of the state's network is classified as Class 1, with a maximum freight speed of 10 mph.

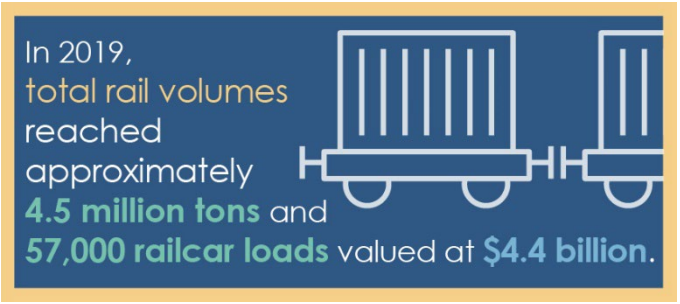
1.7.5 Use of Freight Rail in Maine

Figure 2.5 shows that the vast majority (84 percent) of goods movement in Maine is moved on the highways. In 2017, modal share for rail stood at four percent on a tonnage basis, which is significantly lower than the national average of 10 percent.[5] Measured by value of goods transported, trucking accounts for 72 percent of shipments in Maine, while rail only accounts for two percent.

FIGURE 2.5 FREIGHT TONNAGE DISTRIBUTION BY MODE (2017)



Source: FHWA's Freight Analysis Framework 5.2, 2017.



In 2019, total rail volumes reached approximately 4.5 million tons and 57,000 railcar loads valued at $4.4 billion. Reflecting the COVID-19 pandemic, 2020 volumes declined from 2019. Even without considering 2020, rail traffic volumes have been in decline since 2005, although a small increase in tonnage and units had occurred between 2015 and 2019. In comparison to 2005, when rail shipments reached nearly 7.5 million tons and more than 100,000 cars, tonnage dropped by approximately 38 percent, and units by 45 percent, respectively. The greater

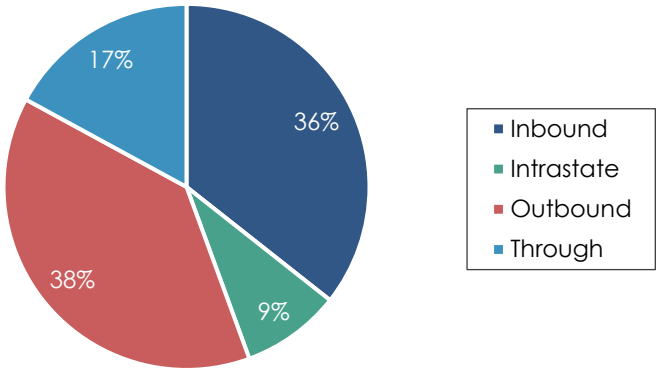
[4] A portion of the MNR mainline track is FRA Class 1 (10 mph), specifically on approximately 45 percent the Madawaska Subdivision from Millinocket MP 109 to 190 Ashland. The remainder of the mainline is FRA Class 2 (25 mph). MaineDOT has been awarded a 2022 CRISI grant to upgrade the remainder of the MNR to Class 2 standards.

[5] BTS, Freight Shipment by Mode 2017: bts.gov/topics/freight-transportation/freight-shipments-mode.

decline in units versus tonnage reflects continued increases in railcar capacity as well as a shifting product mix.

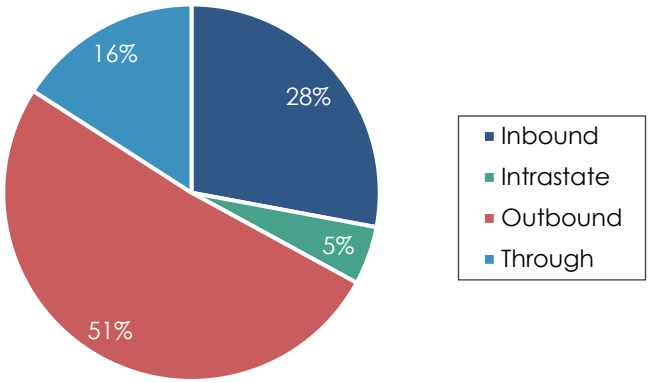
Approximately 74 percent of rail freight tonnage is associated with shipments either originating or terminating in Maine, with through traffic accounting for 17 percent (Figure 2.6). Given the location of Maine as the northeasternmost state within the United States, with only one bordering state (New Hampshire), this through freight consists of moves within Canada and between the United States and Canada. When measured by value (Figure 2.7), outbound traffic accounted for more than half of the rail shipments moving in Maine, a reflection of the relatively higher value of goods—such as pulp and paper products—moving out of the state versus into the state.

FIGURE 2.6 RAIL FREIGHT TONNAGE DIRECTIONAL SPLIT (2019)



Source: STB Confidential Carload Waybill Sample, 2019.

FIGURE 2.7 RAIL FREIGHT VALUE DIRECTIONAL SPLIT (2019)



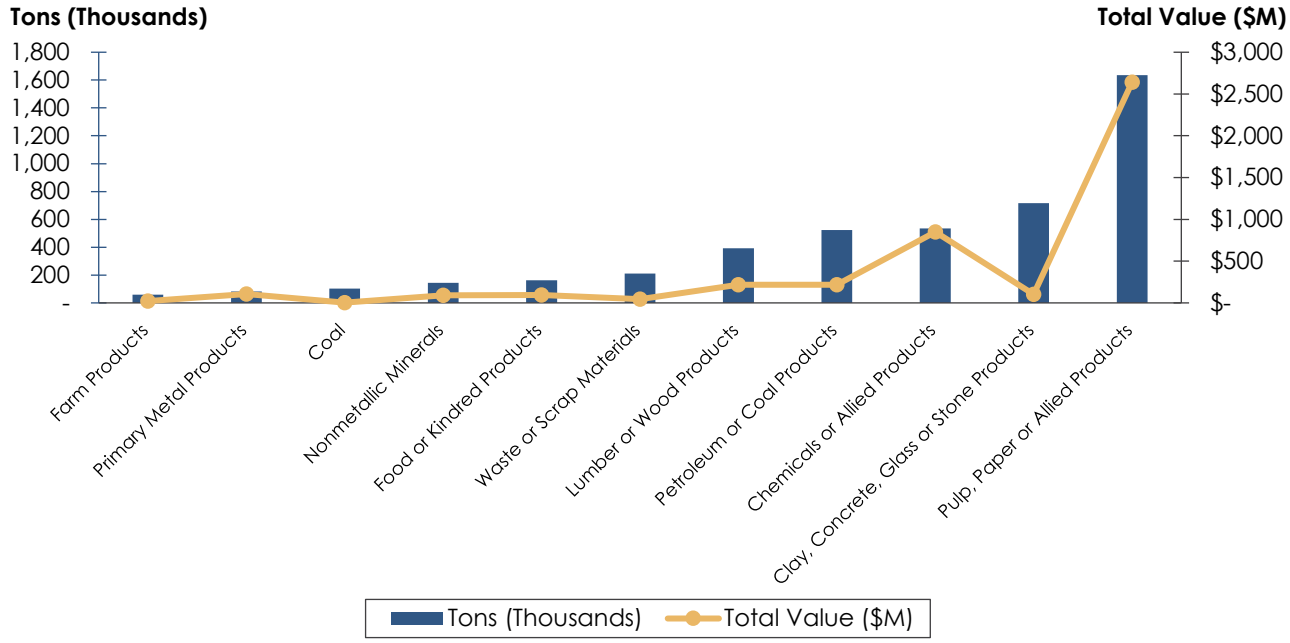
Source: STB Confidential Carload Waybill Sample, 2019, $ value per ton from S&P Global.

Top Commodities

The top 10 commodities by both tonnage and value transported by rail in Maine are shown in Figure 2.8. Together, these commodities comprise 99 percent of all rail tonnage and value across the state. More than a third of rail tonnage and 60 percent of the rail freight value is comprised of pulp, paper, and allied products. When also factoring in lumber and wood products, total forest products-related tonnage comprises approximately 45 percent of the tonnage and 65 percent of the value. This is expected, given the significance of forest products as a freight-intensive industry in Maine and the economic advantages that carload rail can bring to handling the associated commodities. Additional

commodities with more than 500,000 annual tons include aggregates, chemicals, and petroleum and coal products.

FIGURE 2.8 TOP RAIL FREIGHT COMMODITIES BY TONNAGE (2019)



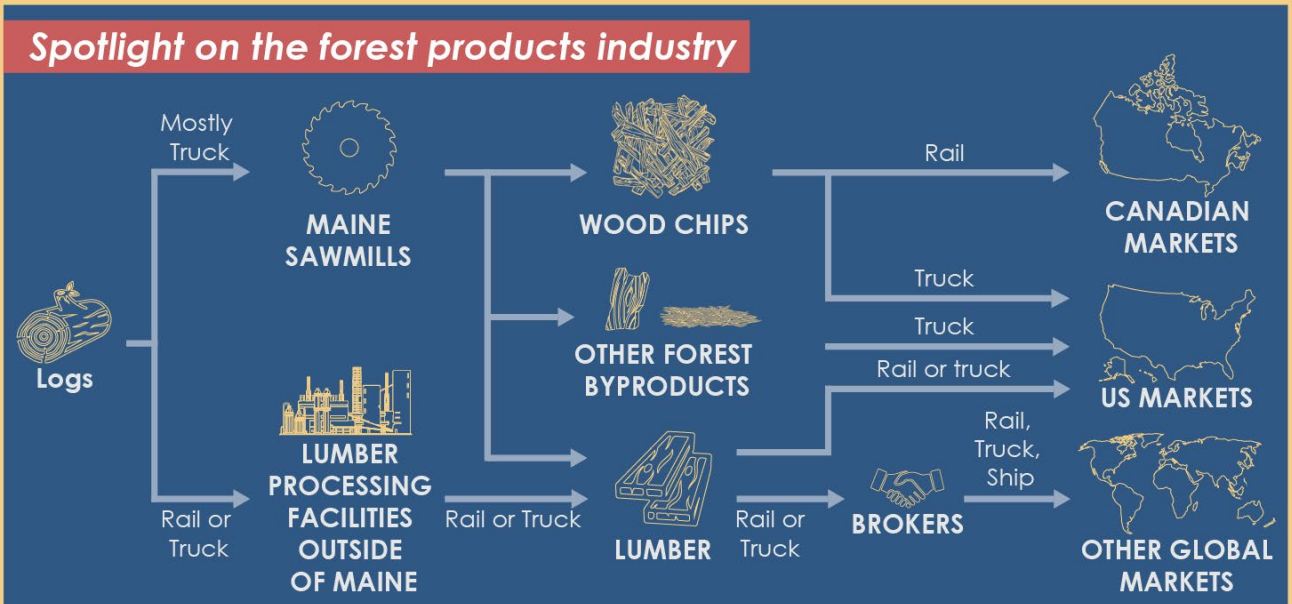
Source: STB Confidential Carload Waybill 2019 and commodity $ value per ton from S&P Global.

Trading Partners

In terms of inbound trade, Canadian provinces Quebec, Ontario, and Alberta accounted for almost half (approximately 46 percent) of the top tonnage in 2019. Within the United States, the top trading partners were Vermont, Illinois, and New York. Overall, top inbound trading partners are relatively dispersed across the eastern United States and select Canadian provinces.

Massachusetts is by far the largest trading partner in terms of outbound tonnage at more than 500 thousand tons, followed by New Jersey and the Canadian province of New Brunswick. Other significant trading partners include Illinois, Wisconsin, and Texas, along with the rest of the states along the eastern seaboard.

Spotlight on Forest Products Industry

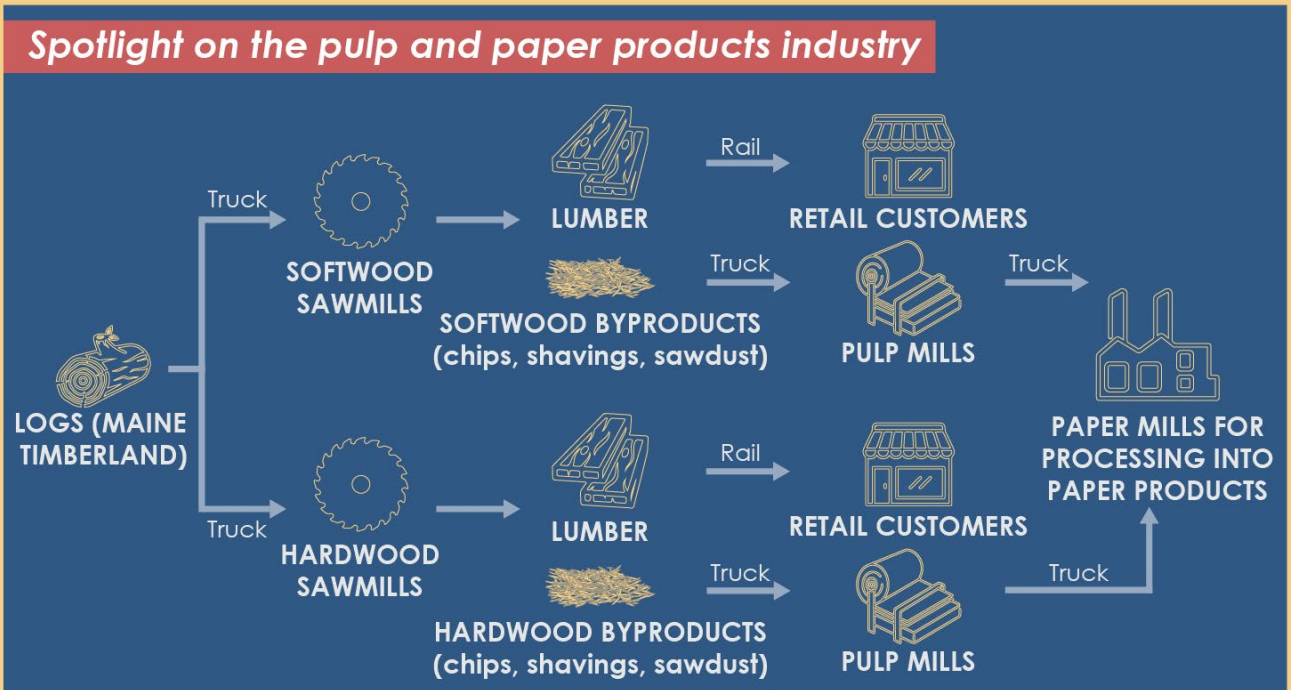


Maine has abundant forest resources. Nearly 90 percent of the state, or 17 million acres, is forested, and these forests include a diverse mix of 56 percent hardwood (e.g. aspen, oak, and maple) and 44 percent softwood (e.g. pine and spruce). Particularly in the state's more rural counties, forest products comprise the backbone of the economy. In 2016, the economic impact of the forest products industry was estimated at $8.5 billion, equal to one out of every 20 dollars of the state gross domestic product (GDP). The industry sustains more than 33,500 jobs, which amounts to one out of every 24 jobs in Maine.

Demand for solid wood markets, including lumber and plywood for housing, is currently strong, and innovations in building materials and forest products offer Maine opportunities to diversify its markets for long-term economic stability.

Source: Forest Opportunity Roadmap/Maine (FOR/Maine), 2018: https://formaine.org/wp-content/uploads/2020/09/FORMaine_Report_DL_041119.pdf.

Spotlight on the Pulp and Paper Products Industry



Pulp and paper manufacturing continue to dominate Maine's forest economy. Maine's paper mills are shifting production away from print media and into tissue, labeling, and packaging grades of paper. Sawn timber continues to be the highest value to landowners of industry, while pulp and paper provide the greatest return to Maine's economy.

Worldwide, demand for newsprint, printing, and writing papers has declined during the 21st century. These rapid marketplace changes led to the closure of six Maine pulp and paper mills and substantial job losses. On a percentage basis, job losses in the industry have been more significant in Maine than nationally. From 2015 to 2019, Maine lost 19 percent of its jobs in this industry, compared to five percent nationally. From 2019 through 2020, this trend continued, and state projections anticipate continued losses in the sector. Even as some markets shrink, other paper products have begun filling market gaps. Global demand for packaging, labeling, and tissue paper is growing and is expected to continue to grow, providing new opportunities for Maine's paper industry.

Source: Pulp and Paper Market Profile, 2022: https://www.maine.gov/decd/sites/maine.gov.decd/files/inline-files/Market%20Profile%20%20-%20Pulp%20and%20Paper%20Products%20-%20State%20of%20Maine%20DECD.pdf.

Environmental Impact

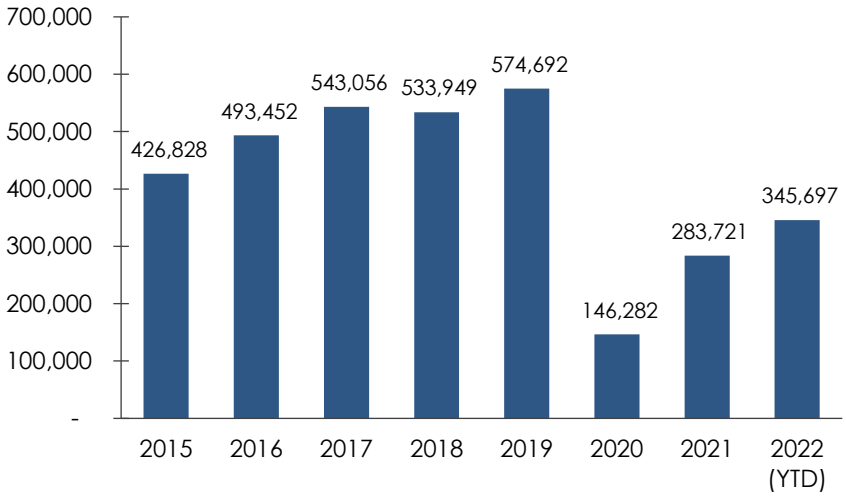
Greenhouse gas (GHG) emissions are directly related to fuel consumption. Freight railroads account for just 0.5 percent of total U.S. greenhouse gas emissions, according to Environmental Protection Agency data, and just 1.9 percent of transportation-related greenhouse gas emissions.[6] Furthermore, freight rail is more fuel-efficient than other land-based freight modes. According to the Association of American Railroads (AAR), railroads are three to four times more fuel efficient than trucks. That means moving freight by rail instead of truck could lower greenhouse gas emissions by up to 75%, on average. If 25 percent of the truck traffic moving at least 750 miles went by rail instead, annual greenhouse gas emissions would fall by approximately 13.1 million tons; If 50 percent of the truck traffic moving at least 750 miles went by rail instead, greenhouse gas emissions would fall by approximately 26.2 million tons. Railroads account for around 40 percent of long-distance freight but only 1.9 percent of transport-related GHG emissions.

2.1.6 Passenger Rail Ridership and Performance

Ridership

Between 2015 and 2019, the *Downeaster*'s annual passenger ridership continued to steadily increase, excepting a slight drop in 2018 associated with construction-related service outages (Figure 2.9).

FIGURE 2.9 DOWNEASTER ANNUAL RIDERSHIP, CALENDAR YEAR 2015–2022



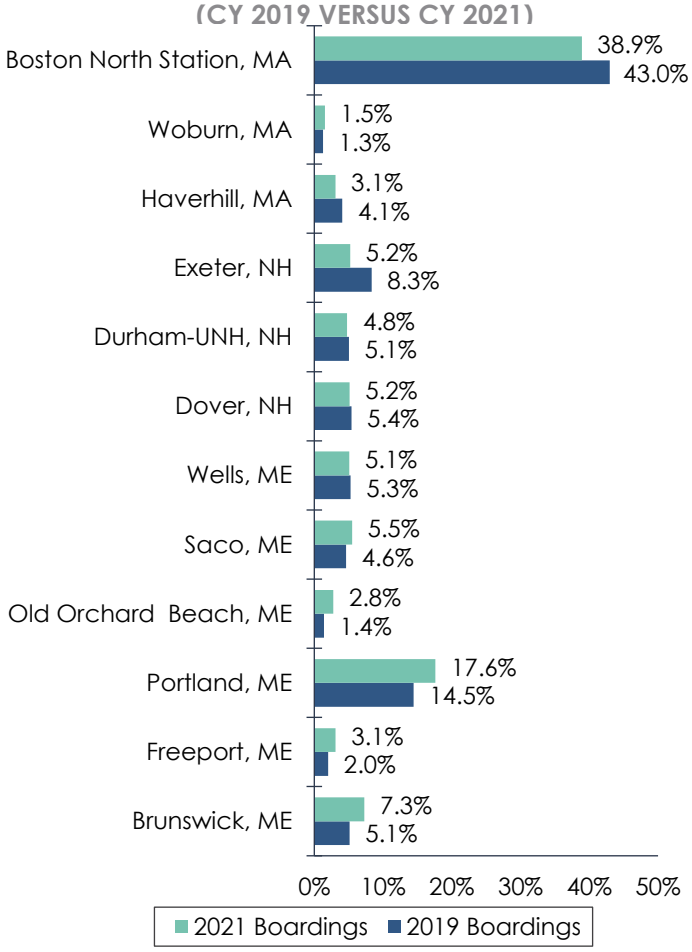
Overall, during this period, ridership increased by nearly 35 percent, reaching a high of almost 575,000 annual passengers in 2019. Due to the impacts of COVID-19, including temporary suspensions and

[6] AAR Sustainability Fact Sheet https://www.aar.org/data/freight-rail-preserving-the-environment-fact-sheet/aar-sustainability-fact-sheet/

frequency reductions, ridership dipped sharply in 2020 and 2021. By spring of 2021, ridership began to recover, with some setbacks during periods of high COVID-19 transmission rates. In mid-2022, ridership levels began to approach pre-pandemic levels, with August exceeding 50,000 passengers for the first time since 2019.

Most riders use Boston North Station as their origin or destination station, comprising nearly 80 percent of ridership (Figure 2.10). The next highest-used station is the Portland Transportation Center. Since the resumption of service in June 2020, the proportion of riders originating or alighting at stations in Maine increased modestly; this is largely due to the decrease in commuters traveling to/from stations in Massachusetts and New Hampshire (Exeter, Durham and Dover) associated with the post-pandemic shift to hybrid work options.

FIGURE 2.10 PERCENTAGE OF TOTAL DOWNEASTER RIDERSHIP BY STATION (CY 2019 VERSUS CY 2021)

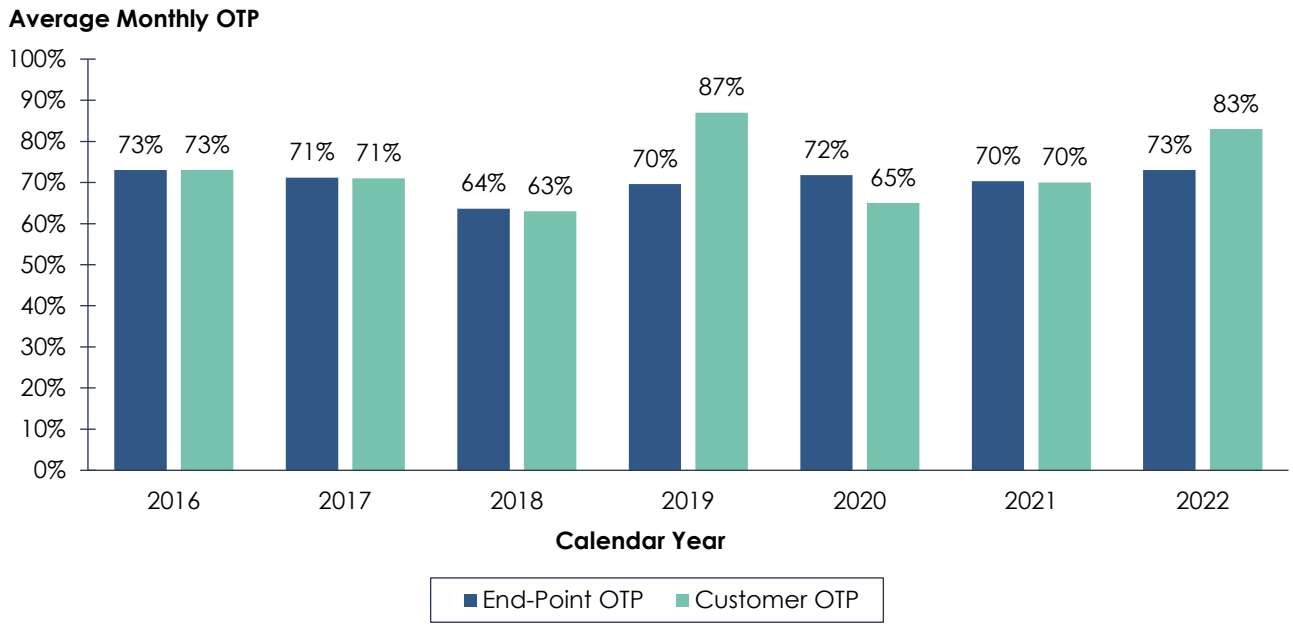


On-Time Performance and Delays

On-time performance (OTP) is a critical measure of the efficacy of passenger service, with direct impacts on operating costs, passenger satisfaction, and likelihood of future use. NNEPRA uses "end-point OTP" (OTP) and "customer OTP" (COTP) to measure performance. OTP is calculated by taking the total number of trains arriving "on-time" at the endpoint of the run divided by the total number of trains operated on the run, COTP reflects the percentage of passengers who arrived at their destination within 10 minutes of scheduled travel time. OTP on the *Downeaster* has stayed relatively stable over the past five years, mostly hovering around 70 percent on an average annual basis between 2016 and 2022, as shown in Figure 2.11. After dipping to 64 percent in 2018, OTP recovered to 70 percent in 2019 and has stayed close to

that level throughout the COVID-19 pandemic, aside from some fluctuations when service was disrupted at the beginning of the pandemic. Customer OTP reached a high of 87 percent in 2019, before declining during the COVID-19 pandemic. In 2022 (YTD), COTP has rebounded to 83 percent. Speed restrictions, communication and signal issues, and train interference are the primary catalysts of *Downeaster* delays. Due to significant single-track sections of the route's right-of-way in Maine and New Hampshire, even minor disruptions result in passenger train interference and cascading delays throughout theday.

FIGURE 2.11 DOWNEASTER AVERAGE ON-TIME PERFORMANCE (2016–2022)



2.2 Trends and Forecasts

This section summarizes the major trends that will impact both the future condition of the rail system as well as the future demand for freight and passenger rail service. Trends that may impact Maine's rail system in the coming years include changes in the organization of the freight-rail sector, big-picture changes for freight and goods movement, developments in labor markets, updates to the rail regulatory environment, new technological developments, and the impact of hybrid work on the demand for intercity passenger rail travel. A more detailed discussion on the trends impacting rail transportation and the projected forecasts for passenger and freight rail demand can be found in the **Rail System Use and Economic Profile**, **Future Freight Rail System Demand**, and **Future Passenger Rail System Demand Technical Memorandums**.

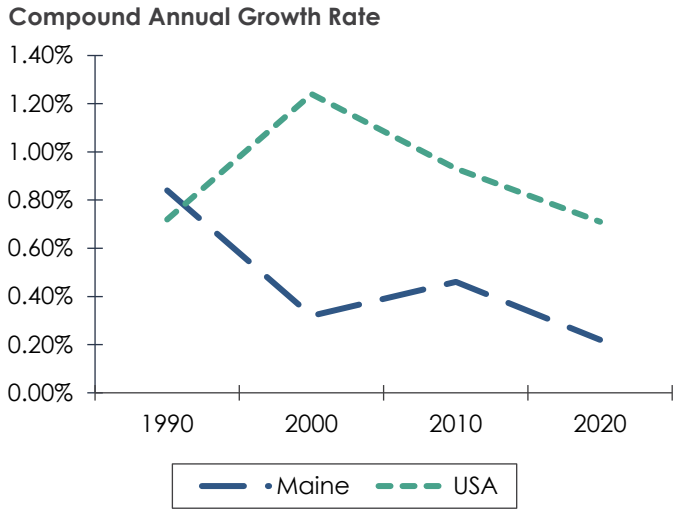
2.2.1 The Maine Economy

Rail traffic, both in the form of passenger and freight movement, is driven in large part by economic conditions. Factors such as total population, age composition, employment, and spending power drive demand for travel and goods to varying degrees. At the production level, key freight-intensive industries ranging from forestry to chemicals generate rail traffic, driven by internal, state, national, and even international economic conditions. The ability to quantify, measure, and analyze these metrics is a necessary step in understanding rail traffic and the transport of people and goods.

Population

From 1990 through 2021, Maine added approximately 140,000 residents, and currently has a population of approximately 1.37 million, making Maine the 43rd most populous state in the United States. Although Maine's population has risen since 1990, it has grown at a slower rate in comparison to that of the United States as a whole (Figure 2.12). Maine's population is projected to hover just below 1.4 million by 2030 and begin declining slightly beyond 2030. By 2050, the population is expected to drop back to current population levels (1.36 million) (Figure 2.13).

FIGURE 2.12 MAINE VERSUS U.S. POPULATION COMPOUND ANNUAL GROWTH, 1990–2020 (10-YEAR PERIODS)

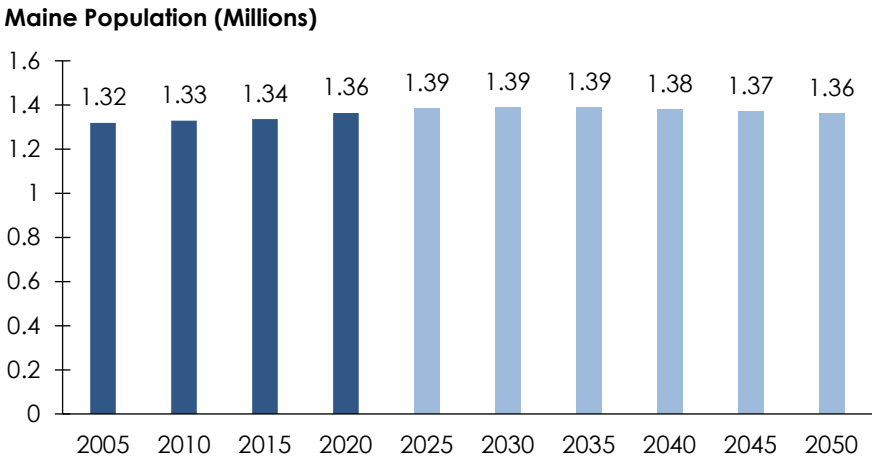


Source: S&P Global (2022).

Large portions of Maine are expected to experience population declines, with growth concentrated in the more urbanized southern portion of the state. York and Cumberland Counties, which include Portland and suburban coastal communities along the I--95 corridor,

are expected to grow by six percent and nine percent respectively by 2050. This growth can be attributed to multiple factors. These include the growth of Portland itself as a statewide economic center and its relative proximity to major urban centers such as Portsmouth, NH and Boston as well as additional markets to the south and west. However, it is important to note that these projections were made prior to the onset of the COVID-19 pandemic and thus do not account for any of the pandemic's impacts on future population trends.

FIGURE 2.13 MAINE PROJECTED POPULATION, 2025–2050



Source: S&P Global (2022).

The COVID-19 pandemic appears to have impacted Maine's population favorably, as some families that could work remotely relocated from major East Coast metropolises to smaller cities and rural regions, often proximate to natural attractions. Whether these new residents remain permanently in these locations will depend on a variety of factors, including the degree to which remote as opposed to in-person work is broadly accepted.[7] Should these trends continue, areas such as southern and coastal Maine could continue to see population and economic growth. Data from the 2020 Census show that Maine's population increased overall between 2020 to 2021 due to domestic migration, despite the natural decrease in each county.[8]

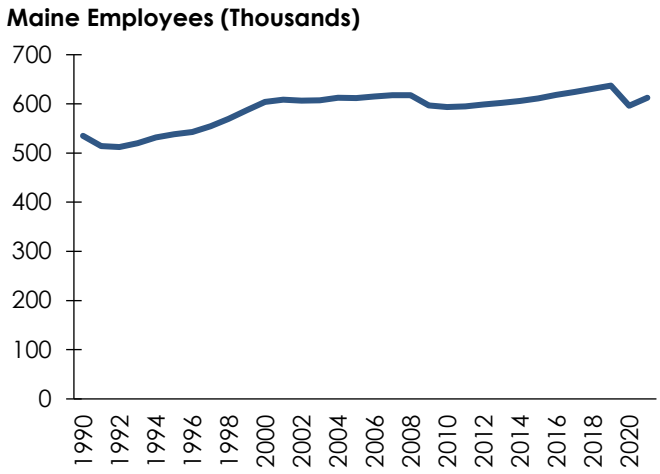
Employment

As a driver of both population growth and income, employment is a strong indicator of demand for goods movement across all modes, including rail. As shown in Figure 2.14, between 1990 and 2021, total nonfarm employment in Maine has risen steadily. In 2019, total

[7] https://www.nhbr.com/2022-real-estate-market-outlook-for-northern-new-england/.

[8] https://www.wabi.tv/2022/03/24/new-data-shows-how-pandemic-has-affected-maines-population/.

FIGURE 2.14 TOTAL NUMBER OF NONFARM EMPLOYEES IN MAINE, 1990–2021



Source: S&P Global (2022).

employment reached a high of approximately 637,000 before falling slightly in 2020 as a result of the COVID-19 pandemic.

Migrations from urbanized regions to the south, such as Boston, have influenced statewide economic trends. Between April 2020 and May 2021, for example, Maine saw a net increase of more than 1,200 workers from Massachusetts. This is in addition to an increase in remote workers as well as a continued influx through the summer of 2021 and into 2022.[9]

Most jobs are associated with service sectors. Furthermore, manufacturing employment dropped between 1990 and 2019, even while total employment rose. Through 2050, total employment is expected to decline slightly to approximately 630,000. This includes slight declines in both manufacturing and nonmanufacturing sectors.

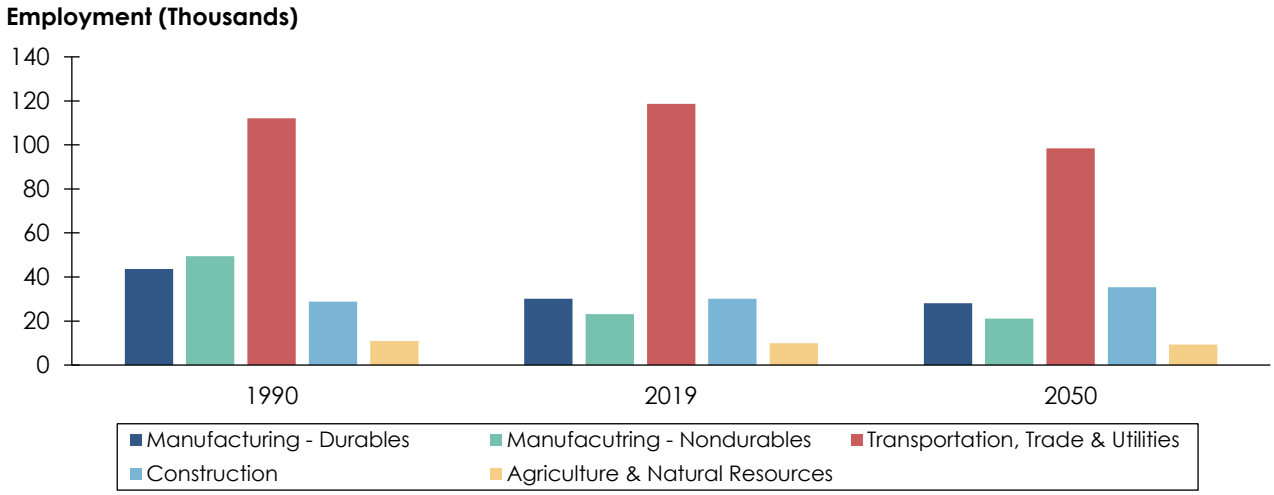
Changes in employment composition since 1990 have been significant. Most notable was a decline in manufacturing, which went from more than 90,000 workers in 1990 to 49,000 in 2020, a level that is expected to remain somewhat stable through 2050. At the same time, education and health services employment nearly doubled, a trend that is expected to continue through the 2030s. Sizable increases in employment also have occurred in leisure and hospitality and professional and business services. Increased growth in jobs related to professional and business services in the Portland area could produce increased demand for intercity travel (including passenger rail) from other areas such as Boston.

Figure 2.15 examines employment across freight-intensive industries. Employment in freight-intensive industries is expected to decline through 2050, following stagnation between 1990 and 2019. The implications of this ongoing decline in employment on freight rail traffic are mixed. On the one hand, reductions in employment in freight-intensive industries are likely to be more than offset by increased automation and process efficiency, with the net effect of

[9] https://fox23maine.com/news/local/workers-from-massachusetts-helped-drive-pandemic-migration-to-maine#:~:text=From%20April%202020%20through%20March,1%2C500%20the%20year%20before%20that.

at least some freight volume growth. On the other hand, the projected decline in overall employment and population implies a reduction in population and general business-driven demand for goods. As a result, the growth in freight demand associated with Maine's economy will depend on whether growth in freight-intensive industries more than offsets population-associated declines in freight demand.

FIGURE 2.15 EMPLOYMENT FOR KEY FREIGHT- GENERATING INDUSTRIES, 1990–2050



Source: S&P Global (2022).

2.2.2 Future Passenger Rail Demand

Downeaster passenger rail ridership was forecast for both a baseline scenario and an expected investment scenario. The forecasting method was a nonlinear regression model with parameters estimated from longitudinal data. Forecasts for the baseline scenario used a combination of monthly Amtrak city-pair ridership and station boardings data (January 2007–May 2022), schedule data for the same time periods, and economic data (historical gasoline prices and historical and projected regional employment). Forecasts for the investment scenario also used pre- and post-pandemic location-based service (LBS) data from the vendor Streetlight to develop estimates of total travel (by any mode) between station areas in Maine. This was used to gauge potential demand for the two new station locations, based on existing market capture. Details on the forecasting methodology may be found in the **Future Passenger Rail System Demand Technical Memorandum**.

Baseline Scenario

This scenario assumes continuation of ridership trends from the past 15 years, accounting for the pandemic-induced dip in ridership in 2020–21 and early signs of recovery, as well as steady, continued growth in leisure travel.[10] The baseline scenario includes the addition of a sixth daily train between Wells and Brunswick beginning in spring 2025, which will be made possible by the double track work now underway.

Historically, *Downeaster* ridership has been driven by a steady stream of commuters and people traveling to and from Boston for social and recreational activities, including a significant amount of evening and weekend travel for sporting and other entertainment events. The forecasting models include station-specific parameters that capture these historic demand patterns between city pairs, parameters that capture monthly variation, and parameters that capture the growth trends for specific stations. Separate models were developed for weekend and weekday travel, which show distinct patterns. In terms of economic influences, the models include statistically significant parameters representing how demand varies with historic fluctuations in gasoline prices and growth in recreational activities in coastal Maine, as proxied by employment in the leisure and hospitality sector. Importantly, these models also include parameters that represent variation in ridership that can be statistically correlated with changes in journey travel time and the numbers of daily trains, which may be used to predict ridership changes in response to service changes.

Scenario forecasts are shown below in Figure 2.16. *Downeaster* ridership shows an overall upward trend coming out of the pandemic period, which resulted in a sudden drop in ridership beginning in April 2020 as service was significantly reduced and temporarily suspended. The baseline forecasting model projects total system boardings of **475,000 by the end of CY 2022**.

CY 2019 actual boardings were 547,233. The model predicts that the *Downeaster* may reach and surpass that level of ridership in CY 2024. The recovery and growth are largely being driven by a strong uptick in travel for non-work purposes, which is expected to **peak in 2030 at around 656,000 annual riders**. The plot shows a slight dip after 2030, which reflects the downturn in York County leisure and hospitality employment. Weekday commuter riders are

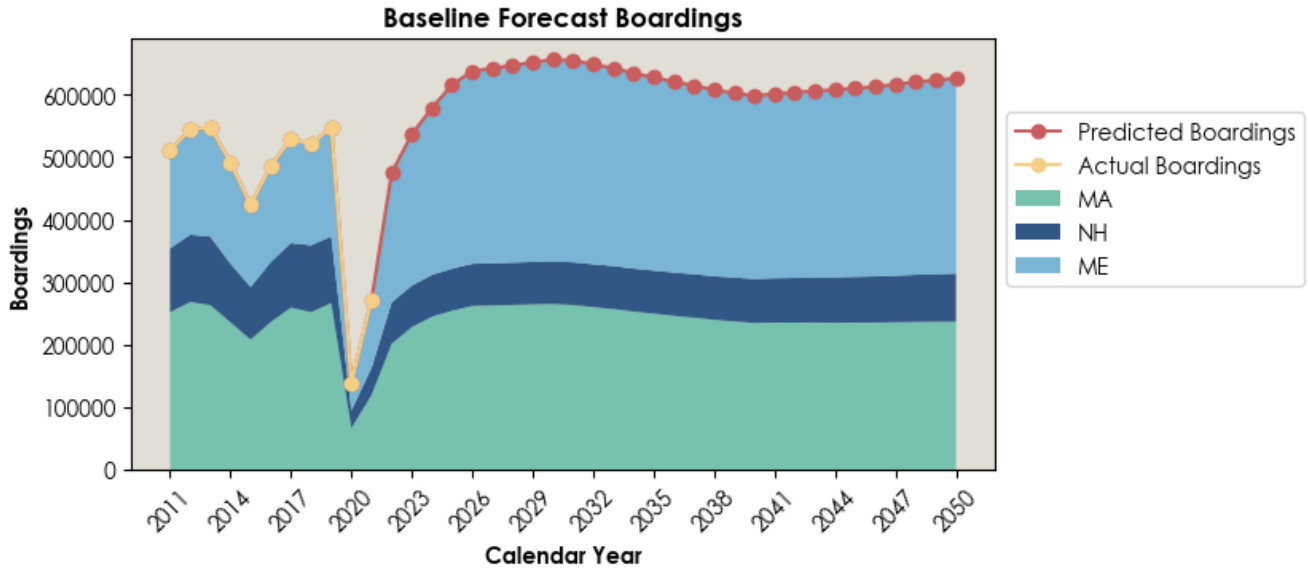
[10] Forecast model parameters were estimated using historic ridership trends from 2007 through Spring 2022. The forecasts shown in the charts below are with reference to observed boardings and alightings by station, which were available from 2011 through Spring 2022.

not expected to return as strongly based on remote working, but a stronger leisure travel market is evident by steady growth on weekends.

Boston's North Station will continue to be the single largest station in terms of boardings. Growth is expected to be slow due to a combination of declining commuters offset by increased leisure travel and is forecast for roughly 245,000 in 2030, a small increase more than its 2019 boardings of 235,000. In contrast, **Portland is expected to grow more rapidly and is forecast to approach 140,000 boardings by 2030**, up from a previous high of 105,000 in 2011.

It also is worth noting that the forecasting model suggests that the **additional sixth daily train between Wells and Brunswick, slated to begin in 2027, would contribute an additional 15,000 annual riders**. The baseline forecasts discussed above include the effects of this sixth train.

FIGURE 2.16 BASELINE FORECAST SYSTEM BOARDINGS



Investment Scenario

This scenario assumes two new stations. The **Portland station** may relocate to a more accessible location near the West End neighborhood. Service from this new station would begin in **2027.** The current location at the Portland Transportation Center, near Thompson's Point, is located on a spur which adds approximately 10 minutes of delay to travel between Portland and Brunswick and 15 minutes of delay between Brunswick and stations to the south of Portland. The new location, now undergoing review, will be located on the mainline,

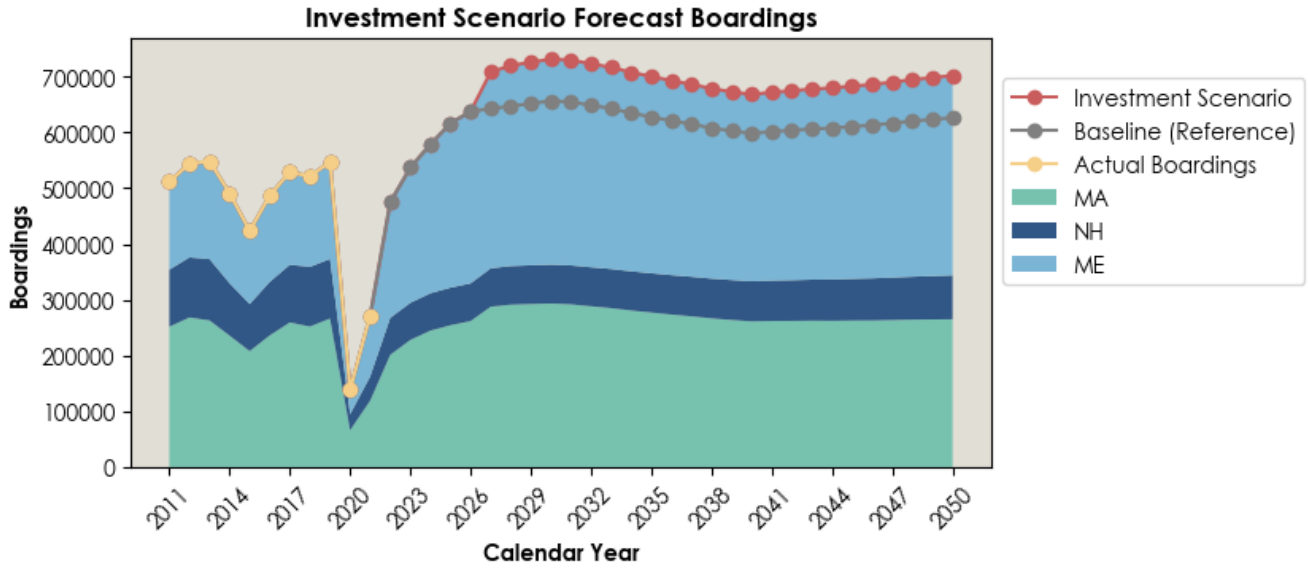
thereby eliminating this access/egress delay. The new location also is within walking distance of the Portland central business district, which should make it more accessible to more riders.

The investment scenario also includes a **new station stop in West Falmouth**, which is expected to be constructed and operational in the same timeframe (2027). Falmouth is a growing community, considered to be part of the Portland metropolitan area, with a 2020 population of 12,444 (U.S. Census). The new West Falmouth station is expected to be located roughly eight miles northeast of the new Portland station and about 14 miles southwest of the Freeport station. While it may draw some of the riders that would have otherwise used the Portland station, Falmouth is expected to add a significant number of new riders to the system, with the strong potential for use as a commuter service to and from Portland.

The investment scenario assumed that if both new stations are built, that 10 minutes of travel time would be saved for trip legs that start at or north of Portland heading southbound and for trips beginning south of Portland to destinations at or north of Portland. It is further assumed that five minutes would be required for passenger boarding/alighting and train acceleration/deceleration for the new West Falmouth station, which would offset the five minutes that could have been saved for movements between Portland and stations to the north.

Investment scenario forecasts are shown below in Figure 2.17. The combined effects of the Portland Station relocation (improved access to Downtown Portland destinations) plus 10 minutes of travel time savings) and the new West Falmouth station (new riders) **would result in a peak *Downeaster* ridership of about 730,000 in 2030**. This represents **an increase of 75,000 trips more than the baseline** estimate. The increases would be most pronounced in Maine, but increases in ridership would occur throughout the system, as multiple city-pairs would benefit from the travel time improvements.

FIGURE 2.17 INVESTMENT SCENARIO FORECAST SYSTEM BOARDINGS



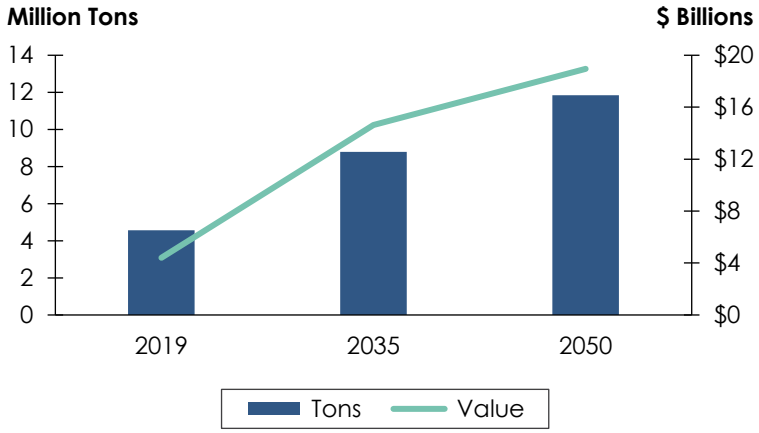
The forecast suggests that **Falmouth would attract about 13,500 annual boardings in 2030**, **which includes just under 2,000 annual trips to and from Portland**. Of the non-Portland remainder, because of the West Falmouth location's proximity to the future Portland Station (eight miles), it was assumed that about half the riders boarding or alighting at Falmouth would have used the Portland station had Falmouth not existed. Thus, the net impact of the Falmouth station on total system boardings is forecasted to be a net gain of 8,750 boardings.

Further, this analysis implies that the impact of the new Portland station, which combines significant travel time improvements with better walking access to downtown, would on its own result in about 66,000 new systemwide boardings in 2030.

2.2.3 Future Freight Rail Demand

Freight rail traffic was forecast using a base year of 2019, the last full year prior to the onset of the COVID-19 pandemic. To project rail traffic through 2050, tonnage growth factors provided by S&P Global were applied to the 2019 STB Waybill Sample by geographic origin/destination and commodity. Units (railcars) and commodity value also were projected. Additionally, projected intermodal rail volumes on the CP line through Maine associated with the expected growth at the Port of St. John also were estimated. The forecast methodology can be found in the **Future Freight Rail System Demand Technical Memorandum**. In 2019, more than 4.5 million tons of freight valued at approximately $4.4 billion moved throughout Maine's rail network. Through 2050, total tonnage and value are expected to more than double to 11.8 million tons valued at $18.6 billion (Figure 2.18).

FIGURE 2.18 TOTAL FREIGHT RAIL TONS AND VALUE IN MAINE, 2019–2050

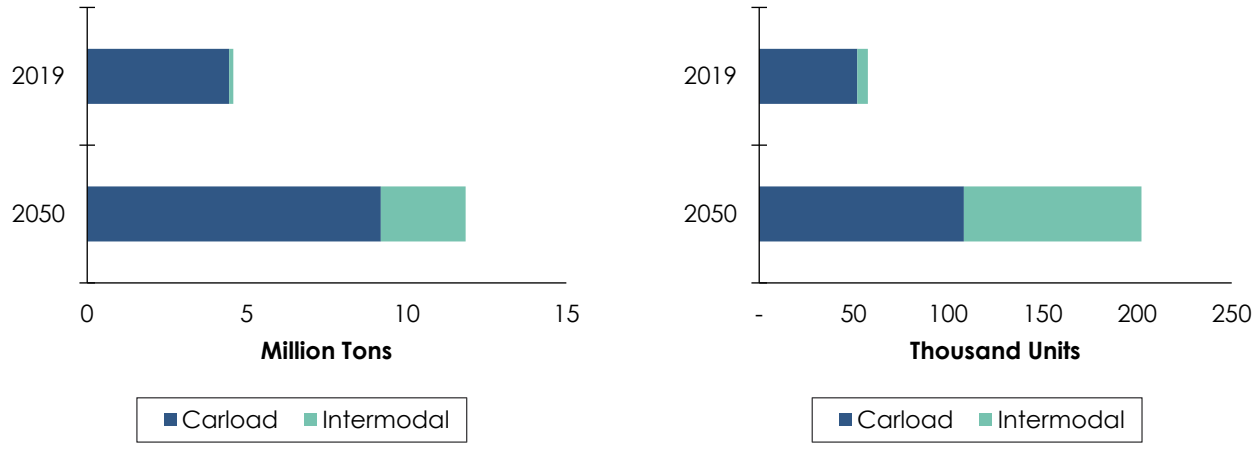


Source: STB Confidential Carload Waybill Sample, FAF5.2, S&P Global.

In 2019, most rail traffic in Maine was transported in carload service as opposed to intermodal service (Figure 2.19). Through 2050, significant growth in intermodal traffic (from 130,000 tons in 2019 to more than 2.5 million tons in 2050) is expected (Figure 2.20). This is due to projected container traffic growth at the Port of St. John, a portion of which is expected to move by rail across Maine, connecting the port to major population and economic centers across Canada and the U.S. Midwest.

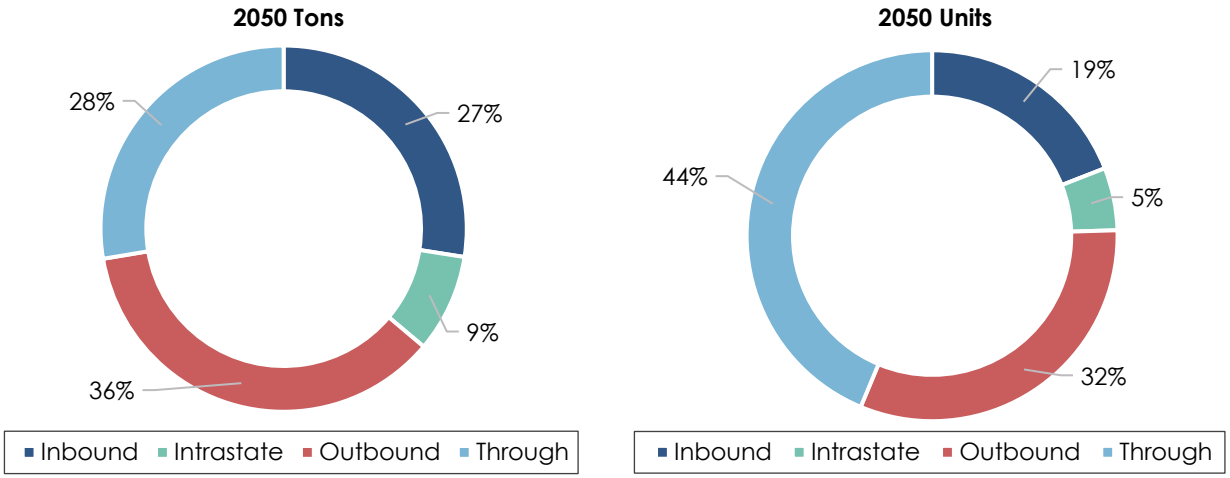
As a result of growth in traffic associated with the Port of St. John, through traffic is expected to comprise nearly 30 percent of all rail freight traffic by 2050, an increase from 17 percent in 2019. When measured in units, through traffic is expected to rise from 16 percent to 44 percent.

FIGURE 2.19 CARLOAD AND INTERMODAL SPLIT BY TONNAGE (LEFT) AND UNITS (RIGHT), 2019–2050



Source: STB Confidential Carload Waybill Sample, FAF5.2, S&P Global.

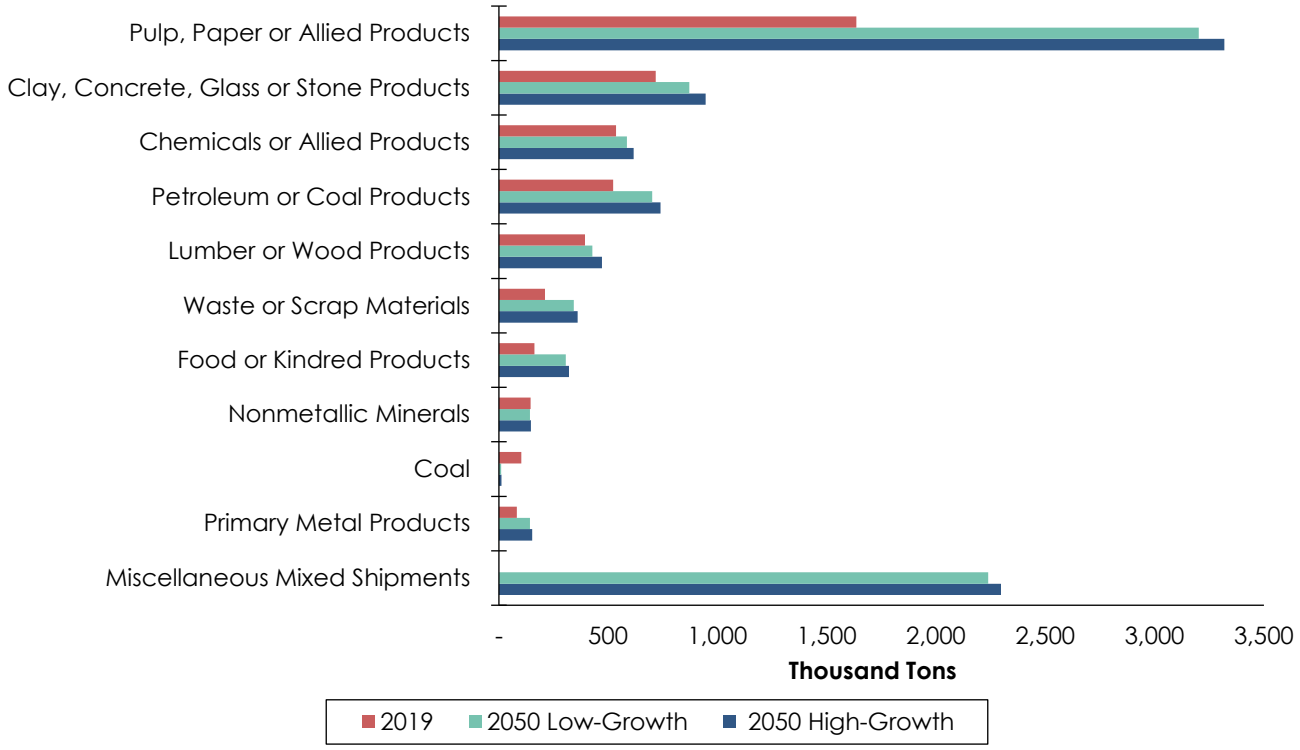
FIGURE 2.20 DIRECTIONAL SPLIT OF RAIL TRAFFIC BY TONNAGE (LEFT) AND UNITS (RIGHT), 2050



Source: STB Confidential Carload Waybill Sample, FAF5.2, S&P Global.

Across both low-growth and high-growth scenarios, top rail commodities on a tonnage basis are shown in Figure 2.21 for 2019 and projected through 2050. Pulp/paper products are expected to continue to be the top commodity group in 2050, with a projected doubling in tonnage from 1.5 million tons in 2019 to more than 3.2 million tons in 2050 across both the low-growth and high-growth scenarios. Coal is the only top commodity expected to decrease under both scenarios, mirroring national trends which show a continued reduction in its use for electricity production. The substantial growth of miscellaneous mixed shipments consists of intermodal through traffic from projected growth at the Port of St. John.

FIGURE 2.21 TOP RAIL COMMODITIES BY TONNAGE, 2019–2050



Source: STB Confidential Carload Waybill Sample, FAF5.2, S&P Global.

3

RAIL SERVICE NEEDS AND OPPORTUNITIES

Ongoing rail service ensures that future generations may benefit from the social, economic, and environmental benefits of rail travel. This chapter describes the known and proposed improvements and investments which were prioritized to address challenges or deficiencies in Maine's rail system. The list of known and potential rail projects was developed based on input from the stakeholder engagement. This chapter summarizes the needs and opportunities identified through the plan development, and supplemental detail regarding the identified rail service needs and opportunities can be found in the **Rail System Performance, Needs, and Opportunities Technical Memorandum**.

3.1 Rail Performance Measures

The performance measures specific to the *Downeaster* route are listed in Table 3.1. The performance measures are categorized as financial, on-time performance (OTP), train delays, or customer service indicators. Each performance measure includes a specific metric, target, and current status. These performance measures, metrics, and targets were reviewed by NNEPRA.

The *Downeaster* is exceeding most of the targets with room for improvement in end-point OTP and reliability. Due to significant single-track sections of the route's right-of-way in Maine and New Hampshire, even minor disruptions can result in passenger train interference and cascading delays throughout the day.

TABLE 3.1 *DOWNEASTER* PRIIA SECTION 207 PERFORMANCE

Category	Performance Measure	Metric	Four-Quarter Status (FY21 Q3–FY22 Q2)	Target
Financial	Farebox recovery	Percentage of operating costs recovered by passenger-related revenue	40%	Continuous Improvement
On-Time Performance (OTP)	End-Point OTP	Percentage of trains with on-time end-point arrival	70%	≥85%
	Customer OTP	Percentage of customers with on-time arrival for all passengers served	82%	≥90%
Train Delays	Host Responsible Delays	Delay minutes per 10,000 train miles (by each host railroad)	836	Continuous Improvement
	Amtrak Responsible Delays	Delay minutes per 10,000 train miles	140.5	Continuous Improvement
Customer Service Indicators (adjusted for train performance)	Overall Service	Percent of survey respondents who provided a score of 70 percent or greater	93%	≥90%
	On-Board Crews	Average score from survey respondents	96%	≥90%
	Reliability	Average score from survey respondents	89%	≥90%
	Onboard Cleanliness	Average score from survey respondents	95%	≥90%
	Onboard Comfort	Average score from survey respondents	95%	≥90%
	Onboard Food Services	Average score from survey respondents	84%	≥85%

Note: Federal targets for Metrics and Minimum Standards for Intercity Passenger Rail Service are defined in 49 CFR 273: https://railroads.dot.gov/legislation-regulations/regulations-rulemaking/metrics-and-minimum-standards-intercity-passenger.

Source: https://railroads.dot.gov/passenger-rail/amtrak/intercity-passenger-rail-service-quality-and-performance-reports.

The performance measures for the overall rail system in Maine are listed in Table 3.2. The performance measures are categorized as system effectiveness, system condition, system safety, or system initiatives. System effectiveness performance measures sets targets for the system's use; system condition performance measures establish targets that meet current standards; system safety performance tracks incidents; and system initiative performance measures establish targets to raise the current standard. Each performance measure includes a specific metric, target, and current status.

TABLE 3.2 PERFORMANCE MEASURE STATUS

Category	Performance Measure	Metric	Status	4-Year Target
System Effectiveness	Freight rail volumes	Tons of freight rail originating and terminating in Maine	4.5 million tons (2019)	5.71 million tons
	Recruit rail-using businesses	Number of rail-using businesses	125	130
	Improve freight rail shipper concentration	Reciprocal Index (equivalent number of equal volume rail users)	36	41
	Passenger trips in Maine	Quarterly total ridership	86,119 -(four-quarter avg.)	100,000
	FRA PRIIA performance and service quality indicators	Percentage of reporting categories above national average	100%	≥50%
System Condition	Rail lines meeting 286,000-pound standards	Corridors that need to meet 286,000-pound standards: SLR, Rockland Branch, BML, DSRX, CSX Northern Maine Junction to Mattawamkeag, Houlton Branch, Presque Isle Sub, Fort Fairfield Sub, Limestone Sub	No	Yes (5 out of the 9 corridors)
	Rehabilitate, upgrade, or eliminate rail crossings	Number of crossings improved or closed	16 (FY21)	40 (or 10 per year)
System Safety	FRA reportable rail incidents	5-year average of total FRA reportable incidents	20 incidents/ year	5% decline (19 average incidents/ year)
System Initiatives	Facility Condition	Percentage of passenger, maintenance, and administration facilities rated below condition 3.5 on the TERM scale	0%	0%
	Continuously welded rail along all passenger routes	Percentage of passenger route track-miles continuously welded	100%	100%
	Remove obstructions along mainline routes to allow double-stack operations	Corridors that need to meet 23 feet vertical clearance:		
		CSX (Mattawamkeag-Ayer, MA)	No	Yes
		CP/EMRY (McAdam, NB-Jackman)	Yes	Yes
		CP/EMRY/MNR (Bangor -Presque Isle)	No	Yes
	Minimum FRA Track Class 2 for all non-passenger routes	Miles of freight only trackage that are less than Class 2	548 miles	1,002 miles
	Minimum FRA Track Class 4 for all passenger routes	Miles of passenger track that are less than Class 4 along current route	70 miles in Maine	70 miles

Source: MaineDOT and NNEPRA.

3.2 Key Needs and Opportunities

Freight rail improvements were categorized as state of good repair (SOGR)/infrastructure upgrades, grade crossing safety projects, customer access projects, terminal improvements, and rolling stock projects. SOGR/infrastructure upgrades include improvements to infrastructure to meet current and future market demands. Grade crossing safety projects improve safety at highway-rail grade crossings. Customer access projects invest to serve new customers and markets. Terminal Improvements expand multimodal connectivity. Rolling stock projects acquire new or rehabilitated locomotives and freight railcars.

Passenger rail improvements were categorized as safety projects, passenger service improvements, passenger service expansion projects, corridor preservation, and multimodal connectivity. The safety of passenger rail is focused on positive train control (PTC) implementation as PTC offers the potential to increase the frequency and safety of *Downeaster* service and may permit increased speeds where conditions permit. Passenger service improvements include adding stations, improving rolling stock, adding platforms, adding track capacity, and relocating stations to improve operations. Passenger service expansion includes studying viability of passenger rail service expansion and extending existing passenger rail lines to service additional areas. Corridor preservation projects address the need to protect the integrity of rail corridors for future transportation uses. Multimodal connectivity improvements provide connections to rail service that are safe and convenient.

3.3 Freight Rail Improvement Opportunities

The freight rail needs were organized into five categories as described below, and the projects identified to address these needs are shown in Table 3.3 and Table 3.4. Many of these rail projects would also benefit passenger rail by improving the reliability, safety, and efficient operation of both passenger and freight trains.

State of Good Repair/Infrastructure Upgrade

SOGR/infrastructure upgrades entail improvements to infrastructure to meet market demands now and in the future and maintain competitive rail service and market relevance. Freight infrastructure needs include removing vertical, horizontal, and weight restrictions; improving train capacity; and reopening out-of-service rail lines. Upgrading track and structures to handle 286,000-pound (286k) freight cars, double-stacked containers, and

oversize loads, is necessary for railroads to remain profitable and competitive. Capacity projects such as double tracking, adding sidings, rehabilitating existing track, reconstructing segments, raising line speeds, and expanding capacity at interchanges improve the reliability and resiliency of rail service. Reopening out-of-service rail lines based on market demand increases opportunities for more customers to access freight rail service, which improves the economic success of businesses by providing them with multimodal connections and options for moving their goods to market. Rail infrastructure repair and upgrades ensure the continued function of the state's rail network for both freight and passenger rail service.

Customer Access

Customer access to rail service is a critical part of ensuring the future viability of rail transportation and business. Customer access can be improved by providing rail access to existing or new customers with new or improved connections to commercial and industrial developments, ports, intermodal, and transload facilities. Specific freight that currently is not being shipped by rail could be diverted to rail by constructing or rehabilitating a rail spur or enhancing or rehabilitating rail access to the state's transload and intermodal facilities.

SUCCESS STORY: IMPROVING RAIL SERVICE IN NORTHERN MAINE

Public/Private partnerships (federal orograms, state programs, and NBM Railways) have resulted in investments totaling **$80 million** on the MNR and EMR rail lines (NBM Railways) in the last 10 years. In turn, between 2011 and 2022 there has been a **substantial increase in carloads** on the NBM Railways system in Maine:

- 250% increase (100 to 350 carloads/week) on MNR
- 446% increase (211 to 1,153 carloads/week) on EMRY

Customer access projects are commonly administered under MaineDOT's IRAP, which is projected to invest $4 million ($2 million from state funds and $2 million from matching private funds) annually over the near term. IRAP provides financial assistance to businesses and shippers for investment in rail or freight rail-related infrastructure located on, within, or adjacent to the general railroad system.

Grade Crossing Safety

Highway-rail grade crossings are a potential conflict point between highway traffic, pedestrians, bicyclists, and trains. A grade crossing crash has the potential to injure

pedestrians, cyclists, highway-vehicle occupants, train crews, passengers aboard the train, and anybody in the vicinity. Fast moving trains need thousands of feet to come to a complete stop, and crashes with vehicles or trains carrying HAZMAT can have catastrophic results.

The best approach to addressing grade crossing safety needs is closing crossings— since this has negative effects on network connectivity, this is not always an option. Grade separations also are helpful for removing the highway-rail conflict but are very expensive. Installing active warning devices and improving signage and markings at passive crossings also are helpful but depend on the cooperation of the public to be effective—and many crashes occur when drivers drive around the crossing gates despite being warned of an oncoming train. Other actions to reduce public safety risks include crossing profile improvements which can improve visibility for drivers and pedestrians and reduce the number of vehicles that get stuck or pinned on a crossing. Lighting also is helpful to increase visibility at the crossing and prevent drivers from driving off the crossing itself and onto the tracks which can cause low-clearance vehicles such as passenger cars to get stuck between the rails.

A primary focus of Maine's railroad safety efforts entails reducing the frequency and severity of incidents at highway-rail grade crossings through the installation or improvement of warning systems. Managed through MaineDOT's FHWA Section 130 program, typical investments include installation of warning devices such as lights and gates, LED flasher upgrades, circuitry upgrades, and crossing profile improvements.

Rolling Stock

While railroads generally acquire rolling stock through private funding, there is a role for public support in some areas, particularly in the realm of locomotives. With the lifespan of locomotives measured in decades and costs for new ones in the millions, smaller railroads typically utilize power that does not meet current emissions standards. Thus, significant and cost-effective reductions in emissions can be gained by providing support to acquire new low-emission switching locomotives or retrofitting existing locomotives with auxiliary power units, which allows idle units to be shut down and readily restarted in cold weather. Locomotive modernizations also allow railroads to use locomotives with higher tractive effort, thereby reducing overall fleet requirements, reducing fuel consumption, and increasing reliability.

Rolling stock improvements also include the acquisition of new or rehabilitated freight railcars such as cars specific to commodities that need to be moved. Maine has a robust market for timber shipments. Chip and log fiber cars, box cars, center beam cars, and other such railcars are useful for moving commodities to and from mills. The acquisition of new railcars specific to common commodities in Maine will accommodate growth in rail shipments and give business owners more modal options, which will help to relieve shipping restrictions related to truck driver shortages, demand of specific products (such as refrigerated products), and changing traffic patterns related to droughts in the Pacific Northwest.

Multimodal Connectivity and Terminal Improvements

Terminals allow for goods to transfer between transportation modes such as rail freight, air cargo, water shipments, and trucks. Addressing the needs at terminals helps to support the shifting of goods between modes and enhances the overall capacity and reliability of the transportation system. By enabling the free flow of goods between different transportation modes, the resiliency of the system is enhanced and enabled to mitigate potential disruptions due to flooding and natural disasters. Terminals can be improved by enhancing capacity to handle more overall traffic. Capacity can be expanded by adding or improving transload sites, building or upgrading terminal trackage, and improving the amenities at the facilities. Terminal improvements support existing customers and attract new customers.

3.4 Proposed Freight Rail Improvements

The Maine Rail Service and Investment Program (RSIP) consists of 31 freight projects that were organized as either short-term (2023–2026) (Table 3.3) or long-term (2027–2042) (Table 3.4) projects.

TABLE 3.3 SHORT-TERM 2023–2026 FREIGHT PROGRAM INVESTMENTS

Project Name	Railroad	Project Description	Project Type
Improve tie conditions	CP	Improve tie conditions along former CMQ route to support higher speeds and ensure reliable operation.	SOGR / Infrastructure Upgrade
Upgrade trackage from Bangor through Moosehead	CP	Rehabilitate recently acquired trackage between Bangor and Moosehead to achieve SOGR.	SOGR / Infrastructure Upgrade

Project Name	Railroad	Project Description	Project Type
Maintain and expand freight car fleet in Maine and beyond to meet customer needs	CP, CSX, EMRY, MNR	Acquisition of chip and log fiber cars, box cars, center beam cars,etc. to move commodities to and from customers. Needed to accommodate market growth and replace cars subject to mandatory retirement.	Rolling Stock
Increase Rigby Yard capacity.	CSX	Increase rail capacity and trackage at Rigby Yard in South Portland to reduce congestion.	Multimodal Connectivity & Terminal Improvements
Waterville-Mattawamkeag 286k capacity and safety improvements	CSX	Replace approximately 75 miles of rail, replace approximately 55,000 ties, upgrade 72 grade crossings, and reinforce five bridges in central Maine between Waterville and Mattawamkeag. Improvements needed to accommodate 286k freight cars and increase speeds from 10 to 25 mph.	SOGR / Infrastructure Upgrade
Waterville-North Yarmouth upgrades and rail crossing safety improvements	CSX	Rehabilitate and modernize 75 miles of mainline track, eight bridges, and 89 rail crossings on CSX main line between Waterville and North Yarmouth.	SOGR / Infrastructure Upgrade
Rockland Branch bridge improvements – feasibility and engineering	Midcoast Rail	Feasibility and engineering for bridge improvements on the Rockland Branch to achieve state of good repair.	SOGR / Infrastructure Upgrade
Maine Northern Rail Improvements Project (2022 CRISI)	MNR	Provide rehabilitation and betterment to more than 138 miles of track in northern Maine. The improvements will increase reliability and allow for Class 2 (25mph track speeds) on four lines that are all owned by the State of Maine and operated by MNR: the Madawaska Subdivision, the Houlton Subdivision, the Presque Isle Subdivision, and the Fort Fairfield Subdivision.	SOGR / Infrastructure Upgrade
Maine Woods to Water Rail Connection Project (2023 CRISI Application)	MNR, CP	MaineDOT; MNR; CP; Our Katahdin; and Highland Pellets, LLC intend to make numerous railroad infrastructure improvements to support freight railroading in Maine and a $300-million sustainable wood pellet plant. The rail grant would fund mainline, railyard, port, and spur track improvements leading to Our Katahdin's One North industrial site. Located on the site of the former Great Northern Paper Mill in Millinocket, the pellet plant will be one of the largest rail shippers to locate in Maine, attracting family-wage jobs and generating environmental benefits. The plant will utilize scrap timber, sawmill residuals, thinnings, and other sustainable wood fiber sourced throughout the North Maine Woods to create renewable carbon sources for electrical and industrial applications. Finished pellets will ship on rail through Brownville Junction to Searsport for transload to ships destined to foreign markets.	Multimodal Connectivity & Terminal Improvements

Project Name	Railroad	Project Description	Project Type
Upgrades of trackage from Houlton to Brownville	MNR, EMRY	Improve track safety standards, SOGR, and capacity on in the corridor to prepare for significant increases in traffic related to movements of wood fiber and finished goods in the corridor related to significant plant expansions in the region.	SOGR / Infrastructure Upgrade
Bridge upgrades	Multiple	Subject to development of both freight and passenger service needs, continue to extend rail restoration.	SOGR / Infrastructure Upgrade
Various, 286k rail car capacity	Multiple	Initiate ongoing program to accommodate 286k rail cars, subject to needs analysis.	SOGR / Infrastructure Upgrade
286k capacity	SLR	Rail replacement, tie renewal, ballast, and surfacing to achieve 286k capacity on the SLR.	SOGR / Infrastructure Upgrade
SLR Locomotive Modernization	SLR	Upgrade to modern locomotives for more tractive effort to reduce fleet requirements, reduce fuel consumption and emissions, and increase reliability.	Rolling Stock
Industrial Rail Access Program	Varies	IRAP provides financial assistance to businesses and shippers for investment in rail or freight rail-related infrastructure located on, within, or adjacent to the general railroad system.	Customer Access
Rail bridge improvements, state-owned	Varies	Ongoing improvements and upgrades to state-owned railroad bridges to accommodate railcars loaded up to the industry standard of 286,000-pound gross vehicle weight.	SOGR / Infrastructure Upgrade
Rail Highway Crossing Safety Program	Varies	The Railway-Highway Crossings (Section 130) Program provides funding for the elimination of hazards at railway-highway crossings.	Grade Crossing Safety

TABLE 3.4 LONG-TERM 2027–2042 FREIGHT PROGRAM INVESTMENTS

Project Name	Railroad	Project Description	Project Type
Propane storage tracks at Hampden	CP	Add storage track for propane cars to accommodate growth of the commercial market for propane and heating oil in Maine.	Customer Access
Upgrade trackage from Bangor through Moosehead	CP	Rehabilitate recently acquired trackage between Bangor and Moosehead to achieve SOGR.	SOGR / Infrastructure Upgrade
Maintain and expand freight car fleet in Maine and beyond to meet customer needs	CP, CSX, EMRY, MNR	Acquisition of chip and log fiber cars, box cars, center beam cars, etc. to move commodities to and from customers. Needed to accommodate market growth and replace cars subject to mandatory retirement.	Rolling Stock

Project Name	Railroad	Project Description	Project Type
Add/expand sidings between Waterville and Portland	CSX	Add/expand sidings between Waterville and Portland to accommodate additional traffic.	SOGR / Infrastructure Upgrade
Improvements at Waterville	CSX	Improvements at Waterville as needed.	Multimodal Connectivity & Terminal Improvements
Increase usage of International Marine Terminal in Portland	CSX	Coordinate with MPA, EIMSKIP, and CSX to increase usage and establish regular intermodal service at IMT.	Multimodal Connectivity & Terminal Improvements
Woodland pulp mill bridge improvements	EMRY	Strengthen bridges to Woodland pulp mill to accommodate 286k railcars.	SOGR / Infrastructure Upgrade
Rockland Branch bridge improvements – continue construction	Midcoast Rail	Continue construction for bridge improvements on the Rockland Branch to achieve state of good repair.	SOGR / Infrastructure Upgrade
Add loading site at Skyway Industrial Park, Presque Isle	MNR	Provide loading site for grain and starch products.	Customer Access
Propane storage tracks at Millinocket	MNR	Add storage track for propane cars to accommodate growth of the commercial market for propane and heating oil in Maine.	Customer Access
Propane storage tracks at Presque Isle	MNR	Add storage track for propane cars to accommodate growth of the commercial market for propane and heating oil in Maine.	Customer Access
Upgrade 1,800-foot rail spur at Skyway Industrial Park, Presque Isle	MNR	Upgrade 1,800-foot spur for railcar storage and transload site.	Customer Access
Double-stack clearances on main lines	Multiple	Subject to needs analysis, initiate ongoing program to upgrade principal rail lines to accommodate double-stack trains.	SOGR / Infrastructure Upgrade
Improvements at Auburn Intermodal Facility	SLR	Improvements at Auburn intermodal facility as needed	Multimodal Connectivity & Terminal Improvements
Propane storage tracks at Auburn	SLR	Add storage track for propane cars to accommodate growth of the commercial market for propane and heating oil in Maine.	Customer Access
Rail Highway Crossing Safety Program	Varies	The Railway-Highway Crossings (Section 130) Program provides funding for the elimination of hazards at railway-highway crossings.	Grade Crossing Safety

3.5 Passenger Rail Improvement Opportunities

The passenger rail improvement opportunities categories are described below, and the projects identified are shown in Table 3.5.

Safety

Positive train control (PTC) is a federally mandated railroad safety improvement that is capable of reliably and functionally preventing train-to-train collisions, over-speed derailments, incursions into established work zone limits, and the movement of a train through a main line switch in the improper position. As of 2022, none of Maine's rail network is equipped with PTC, nor is it required under current federal regulation on the basis of freight traffic density, hazardous materials (HAZMAT) risk, and passenger train traffic. The implementation of PTC on the *Downeaster* route is a critical step to increasing the frequency and speed of the *Downeaster* service. The installation of PTC removes the frequency limitations (six daily roundtrips) applied to passenger services which operate across routes lacking the technology. Additionally, the installation of PTC may permit speeds beyond today's maximum of 79 mph at locations along the route where conditions permit. Amtrak and CSX have entered into an agreement for the design of the system.

Safety at grade crossings also is a concern for passenger trains. Grade crossing safety needs are discussed in Section 3.3, Freight Rail Needs.

Passenger Service Improvement

Passenger rail service is examined to determine how the operations and effectiveness of existing routes can be improved. Adding, improving, or relocating stations can improve ridership through increased connectivity to population and employment hubs and can improve train operations by avoiding time-consuming movements. Adding or improving platforms can increase capacity for operations and passengers by increasing the number of simultaneous train boardings and alightings. Additional track capacity such as siding extensions and double-track extensions can improve the service reliability and schedule flexibility of both passenger and freight trains by allowing for increased passenger train frequency and reducing conflict with freight traffic. NNEPRA has an agreement with the host railroad, CSX, to fund capital maintenance and SOGR projects on the *Downeaster* corridor. Workplans are established each year based on need. NNEPRA and CSX continue to

collaborate to determine other infrastructure project work needs, including possible double-track extensions for strategic improvements to service reliability.

Improvements to rolling stock and equipment can both improve the reliability of the equipment and improve comfort for riders, which can help improve ridership. The replacement of the *Downeaster* rolling stock fleet to support existing and potential additional service is not part of this Rail Service and Investment Program (RSIP). The new fleet is scheduled to be delivered in 2030 and is part of a larger Amtrak procurement that is being fully paid for by Amtrak using federal funds.

Passenger Service Expansion

Passenger service expansion extends existing passenger rail lines to service new areas. Access to multimodal transportation options helps ensure equity for those who cannot or do not own a personal vehicle to access education, jobs, housing, healthcare, and other destinations. There is one passenger service expansion project already identified and listed in Table 3.5. Passenger rail studies already underway to identify possible future service expansion projects are listed in Table 1.3.

Corridor Preservation

Dormant rail corridors offer significant potential for other transportation uses; historically, once a rail corridor is converted into a different use, it does not return to rail use. Preserving abandoned rail corridors for possible future rail usage is vital to ensuring that vast regions of the state do not lose access to the efficiencies, economies, and environmental benefits of rail service. For passenger rail, these corridors also ensure that future generations will have the option to expand or implement passenger rail in their area. MaineDOT must continue to preserve its rail corridors under the Maine Rail Preservation Act so that rail service can return when viable to state-owned rail corridors.

Multimodal Connectivity

Multimodal connectivity to/from passenger rail service can be facilitated with technological improvements and operational enhancements. Some examples of such multimodal connectivity needs include seamless connections to rail service with safe and convenient bicycle facilities, walkable transit-oriented development compatible with passenger rail activity, and pedestrian amenities. Other multimodal connectivity needs include improving

local and national coordination among freight and passenger rail systems; other modes of transportation (e.g. thruway bus service and transit); as well as with the Federal government, Canada, and the New England region. There is one project identified in the RSIP for the short-term. Additionally, MaineDOT is continuing to work alongside other agencies and stakeholders to identify strategies (see Table 4.1) and projects for improving future multimodal connectivity of passenger rail in Maine.

3.6 Proposed Passenger Rail Improvements

The RSIP consists of seven passenger rail projects that were organized as either short-term (2023–2026) (Table 3.5) or long-term (2027–2042) (Table 3.6) projects.

TABLE 3.5 SHORT-TERM 2023–2026 PASSENGER RAIL PROGRAM

Project Name	Carrier(s)/ Sponsor(s)	Project Description	Project Type
Downeaster Wells Station Double Track and Platform	NNEPRA, CSX, Amtrak	Extend double track and add passenger platform at Wells Station.	Passenger Service Improvement
Positive Train Control (PTC)	CSX, Amtrak	The implementation of PTC on the *Downeaster* service is a critical step to continued growth in *Downeaster* service. Amtrak and CSX have entered into an agreement for system design. The installation of PTC removes the frequency limitations (maximum of six daily roundtrips) applied to passenger services that operate across routes lacking the technology. Additionally, the implementation of PTC may permit speeds beyond today's maximum of 79 mph at locations along the route where conditions permit.	Safety
Portland Station Relocation	NNEPRA	Relocate the *Downeaster* Station in Portland to the main line to avoid time-consuming back-up moves. This move will improve travel times through Portland, increase connectivity to population and employment hubs, and fully realize ridership potential within Maine as well as along the entire corridor between Maine and Boston.	Passenger Service Improvement
New West Falmouth Station	NNEPRA	NNEPRA, in collaboration with the Town of Falmouth, MaineDOT, and MTA, is exploring adding a *Downeaster* passenger platform in West Falmouth at Exit 53. This location would improve connectivity to/from the I--95 corridor.	Passenger Service Improvement
Rockland Branch Coastal Connection Service Extension Pilot	MaineDOT, NNEPRA, Midcoast Rail, Amtrak	Pilot connecting passenger rail service between Brunswick and Bath, Wiscasset, Newcastle, Waldoboro, and Rockland.	Passenger Service Expansion

Project Name	Carrier(s)/ Sponsor(s)	Project Description	Project Type
Thruway and Commuter Bus Connection to Lewiston-Auburn and Portland	MaineDOT, NNEPRA, Amtrak	Establish thruway bus connection between *Downeaster* service and Lewiston-Auburn.	Multimodal Connectivity
Passenger Rail Service Evaluation and Financial Analysis	Varies	Continue passenger rail planning expansion/connectivity efforts based on results of ongoing and future feasibility/propensity studies (e.g., Portland-Lewiston-Auburn, Brunswick-Augusta-Waterville-Bangor).	Passenger Service Expansion

TABLE 3.6 LONG-TERM 2027–2042 PASSENGER RAIL PROGRAM

Project Name	Carrier(s)/ Sponsor(s)	Project Description	Project Type
CSX Mainline Double-Tracking to Accommodate *Downeaster* Operations	CSX, NNEPRA, Amtrak	Current sidings cannot accommodate longer trains. Specific segments for double-track extensions to be identified in the service development plan (SDP).	Passenger Service Improvement
Preservation of Rail Corridors	Varies	Continue to protect integrity of rail corridors for future freight and passenger transportation needs using Maine's Rail Perservation Act	Corridor Preservation
Continue Passenger Rail Service Evaluation and Financial Analysis	Varies	Continue passenger rail planning expansion/connectivity efforts based on results of ongoing and future feasibility studies (e.g., Portland-Lewiston-Auburn, Brunswick-Augusta-Waterville-Bangor).	Passenger Service Expansion

4

MAINE'S RAIL SERVICE AND INVESTMENT PROGRAM

This section achieves the requirements for a statewide RSIP in accordance with FRA State Rail Plan guidance and complies with the PRIIA of 2008. The purpose is to describe the state's long-term vision for rail service and the role rail plays in Maine's larger multimodal transportation network. This RSIP presents the investments necessary to achieve the state's passenger and freight rail vision presented in Chapter 1.

4.1 Policies and Strategies

Maine's rail program is administered by the MaineDOT Office of Freight and Passenger Services. This rail plan does not recommend any changes to the office's duties, nor does it recommend the creation or abolition of any other agency or authorities. The proposed policies and strategies provided in Table 4.1 are intended to address deficiencies and encourage preservation of the statewide rail network.

TABLE 4.1 POLICIES AND STRATEGIES

Proposed Policy/Strategy	Description	Need Addressed
Short-Term 2023–2026 Strategies		
Seek grants and innovative funding approaches for freight and passenger rail	Continue to position the state to pursue federal grant opportunities and collaborate with NNEPRA, the Department of Economic and Community Development, and other economic development agencies on opportunities. Explore innovative funding sources, including public-private partnerships, multistate initiatives, and tax increment financing. Continue partnerships for EPA-funded opportunities to acquire low-emission diesel locomotives and APUs and similar environmental-enhancement programs.	All
Improve transit, bicycle, and pedestrian connections to *Downeaster*	Work with transit and tourist services to match scheduling, increase comfort, and increase reliability of transfers. Work with municipalities to develop station area plans, improve wayfinding, and enhance bicycle and pedestrian accommodations (crosswalks, grade crossings, paths/trails, bicycle lanes, bicycle parking).	Multimodal Connectivity
Preserve and fully use industrial land parcels with access to rail sidings as well as existing rail infrastructure and corridors	Work with MPOs, RPOs, railroads, agencies, economic development groups, municipalities, etc. to update inventory of these properties and help publicize in a strategic manner. Maintain viability of industrial-zoned land near existing or potential sidings, spurs, etc. Implement cooperative efforts with railroads, shippers, and regional planning agencies to identify underused rail-served facilities and sites that may be developed to grow rail market opportunities.	Customer Access, Corridor Preservation
Increase resilience of rail system to make critical infrastructure more resilient now and to prepare for increasing storm severity	Work with railroads to identify priorities and funding to increase resilience. Maintain culverts, monitor erosion areas, consider physical improvements and agreements to be as ready as reasonable.	Infrastructure
Implement a strategy for investment in railroad infrastructure to improve the rail network to SOGR	This will enable rail to be a viable and sustainable transportation mode for more Maine-based shippers/ consignees. The priority for public funds should be for state-owned infrastructure and in private infrastructure that provides essential services within the targeted trade corridors within and to and from the state through public-private partnerships.	Infrastructure
Accommodate heavier rail cars (286k) and double-stack clearances	Develop an implementation plan in coordination with the railroads to accommodate heavier rail cars (286k) and double-stack clearances in corridors as may be appropriate to market conditions. This plan should address the timing and funding of improvement projects to provide for connections to southern New England and the continental United States	Infrastructure
Long-Term 2027–2042 Strategies		
Expand IRAP program	IRAP, which provides financial assistance to businesses and shippers for investment in rail infrastructure, has remained at stagnant funding levels in recent years and is expected to remain the same. Expansion of this program would result in more funding available for rail-related improvements across the state.	Infrastructure, Customer Access

Proposed Policy/Strategy	Description	Need Addressed
Invest in rail infrastructure toward intermodal hubs	Direct state investments in rail infrastructure toward intermodal hubs such as the intermodal facilities at Auburn, Mack Point at the Port of Searsport, the Presque Isle Commerce Center, the Auburn area distribution center, and the Port of Portland. These transportation nodes have the potential to generate freight traffic into the freight rail system.	Multimodal Connectivity, Terminal Improvements
Grow rail market opportunities	Develop and utilize state and federal data resources to identify and evaluate rail market opportunities and to identify potential for modal diversion from highway to rail. Explore and develop potential freight rail role in new energy markets, including biofuels, wind power, and propane, and other emerging technologies.	Customer Access
Explore state's role to address rail car equipment needs	Explore appropriate role of the state in addressing rail car equipment needs of Maine shippers.	Rolling Stock
Advocate for competitive rail service and pricing	Continue proactive state role to advocate for better service and pricing for Maine shippers/consignees.	Customer Access
Expand passenger rail service and connections where feasible	Expansion of passenger rail where feasible in the form of completely new services, extensions to existing service, thruway bus service, or increased frequencies and connections to other modes. Based on evaluation, level of demand, and financial analysis.	Passenger Service Expansion/ Connectivity
Establish predictable, reliable rail funding sources	Work with the administration and legislature to establish predictable, reliable funding sources to address the need for ongoing program and project operating costs and future acquisitions of railroad rights-of-way and other facilities.	All
Improve rail connectivity to ports	Collaborate with the Maine Port Authority to identify and evaluate potential state investments in multimodal freight projects related to enhancing connectivity between ports and rail services.	Multimodal Connectivity, Terminal Improvements
Preserve rail corridors for current and/or future transportation needs	State acquisition of a rail corridor is justified when state ownership is the most efficient and cost-effective means of preserving the rail corridor.	Corridor Preservations, Infrastructure

4.2 Program Effects

The investment program will result in a range of impacts to the State of Maine's residents, visitors, and economy. Depending on the proposed improvement, the range of impacts will vary, resulting in benefits to both the broader public as well as private enterprise. For both passenger and freight initiatives, the principal requirement is that they produce compelling public benefits, which can be either direct and/or indirect. The initiatives identified in this rail plan are expected to produce a range of such benefits with broad public impacts, including increased safety, better air quality through improved competitiveness of rail versus highway

transport, economic development potential, and improved financial viability of the state's rail service.

The potential impacts and examples by improvement type are presented in Table 4.2**.** The benefits and examples are not exhaustive but rather illustrative in nature. Additional detail on these impacts can be found in **Rail System Performance, Needs and Opportunities Technical Memorandum.**

TABLE 4.2 POTENTIAL PROGRAM EFFECTS BY IMPROVEMENT TYPE

Improvement Type	Potential Benefits	Example(s)
Passenger Rail Elements		
Safety	Decrease risks, improve operational efficiency	Installation of Positive Train Control
Passenger Service Improvement	Increase utilization of passenger service, improve financial performance, reduce highway VMT and associated collateral impacts	Increased frequencies, faster scheduled running times, better access with additional stops, improve customer experience through station modernization and new rolling stock
Passenger Service Expansion And Connectivity	Improve mobility options for travelers, reduce VMT, reduce GHG emissions, reduce highway congestion, improve safety	Implement a pilot service or improved connections to regions not presently served by the *Downeaster*
Corridor Preservation	Ensure potential future utility for passenger (and freight) service, manage risks associated with dormant corridors	Preserve out-of-service or underutilized corridors with potential for future rail use
Multimodal Connectivity	Expand mobility options for travelers, improve travel experience, reduce environmental impact from travel	Relocation of Portland Transportation Center
Freight Rail Elements		
SOGR/Infrastructure Upgrade	Ensure that rail service is competitive and market relevant, improve safety, enhance resilience, enhance operational performance, and reduce ongoing maintenance costs	Rail and tie replacement projects, bridge rehabilitation, construction of passing sidings, double-stack clearance, improvements to accommodate 286k freight cars
Customer Access	Increase competitiveness of Maine industry by expanding market options, reduce transportation costs, reduce truck VMT and associated impacts, advance economic development efforts	New/improved track linking rail network to current or new customers
Grade Crossing Safety	Improve road and rail safety	Installation/upgrade of lights, gates, signage, crossing surface replacement, etc.

Improvement Type	Potential Benefits	Example(s)
Rolling Stock	For freight rail cars, ensure supply of market-responsive rolling stock for Maine industry, reduce truck VMT. For locomotives, improve operational efficiency and productivity, reduce greenhouse gas emissions, improve reliability.	Assist in acquisition of rolling stock not available from other sources, such as log cars facing mandated retirement
Multimodal Connectivity and Terminal improvements	Increase competitiveness of Maine industry by improving modal access, reduce transportation costs, reduce truck VMT, improve rail operational efficiency, support economic development	New/improved intermodal (rail/highway or rail/water) terminals, bulk transload and carload facility improvements

4.3 Funding and Financing Plan

Funding for railroad projects and programs originates from a variety of sources, including federal, state, local, and private sources. In Maine, state funding has been made available for railroad improvements, but is subject to appropriations and voter-approved bond funds. Private railroad investment has been the primary source of funding for freight projects, while public funding is the primary source for passenger projects.

Highway-rail grade crossing improvements are funded principally through the federal Section 130 program that is managed by MaineDOT. The State of Maine has been proactive in providing funds for acquisition of railroad corridors as well as with infrastructure investments targeted to specific service needs. Federally funded initiatives encompass a range of federal grant and loan programs. In recent years, Maine applicants have been successful in securing federal grants through a range of programs such as BUILD, INFRA, and CRISI. These competitive grant programs, which allow the investment of public funds in private facilities, have proven to be popular and are expected to continue in some form in the future. Funding opportunities available to assist in funding freight and passenger rail projects are presented in Table 4.3.

TABLE 4.3 PASSENGER AND FREIGHT RAIL CAPITAL PROJECT FUNDING OPPORTUNITIES

Funding Opportunities/ Sources	Agency	Freight/ Passenger Rail	Description
Industrial Rail Access Program (IRAP)	MaineDOT	Freight	Competitive public/private freight partnership program that provides financial assistance to businesses and shippers of up to 50% for investment in rail infrastructure.
Freight Rail Line Improvements	MaineDOT	Freight	Funds freight rail capital improvements and operational improvements on state-owned lines.
General Fund	State of Maine	Freight/Passenger	Question 2 (2021) created $100 million in general obligation bonds for transportation infrastructure projects, with $85 million for highways and bridges and $15 million for rail, aviation, ports, and active transportation.
Port Infrastructure Development Program	U.S. DOT, Maritime Administration	Freight	Funds improvements at intermodal port facilities.
Federal-State Partnership for Intercity Passenger Rail Service	U.S. DOT, FRA	Passenger	Funds capital projects that reduce the SOGR backlog, improve performance, or expand or establish new intercity passenger rail service.
Corridor Identification and Development Program	U.S. DOT, FRA	Passenger	Funds SDP for selected passenger rail corridor and funds projects in the Corridor ID pipeline that are prioritized for funding under FRA's financial assistance programs.
Congestion Mitigation and Air Quality Improvement Program	U.S. DOT	Freight/ Passenger	Funds transportation projects intended to reduce traffic congestion and improve air quality.
CRISI	U.S. DOT, FRA	Freight/ Passenger	Funds projects that improve the safety, efficiency, and/or reliability of passenger and freight rail systems.
Federal-State Partnership for SOGR Grant Program	U.S. DOT, FRA	Freight/ Passenger	Funding for capital projects that repair, replace, or rehabilitate qualified railroad infrastructure.
Infrastructure for Rebuilding American Program (INFRA)	U.S. DOT, FRA	Freight	Discretionary grant program to fund highway and rail projects with regional and national significance.
Railway-Highway Crossing (Section 130) Program	U.S. DOT, FHWA	Freight/ Passenger	Fund projects designed to eliminate hazards at railroad-highway crossings.
Rebuilding American Infrastructure with Sustainability and Equity Program (RAISE)	U.S. DOT	Freight/ Passenger	Competitive discretionary grant program for surface transportation infrastructure.

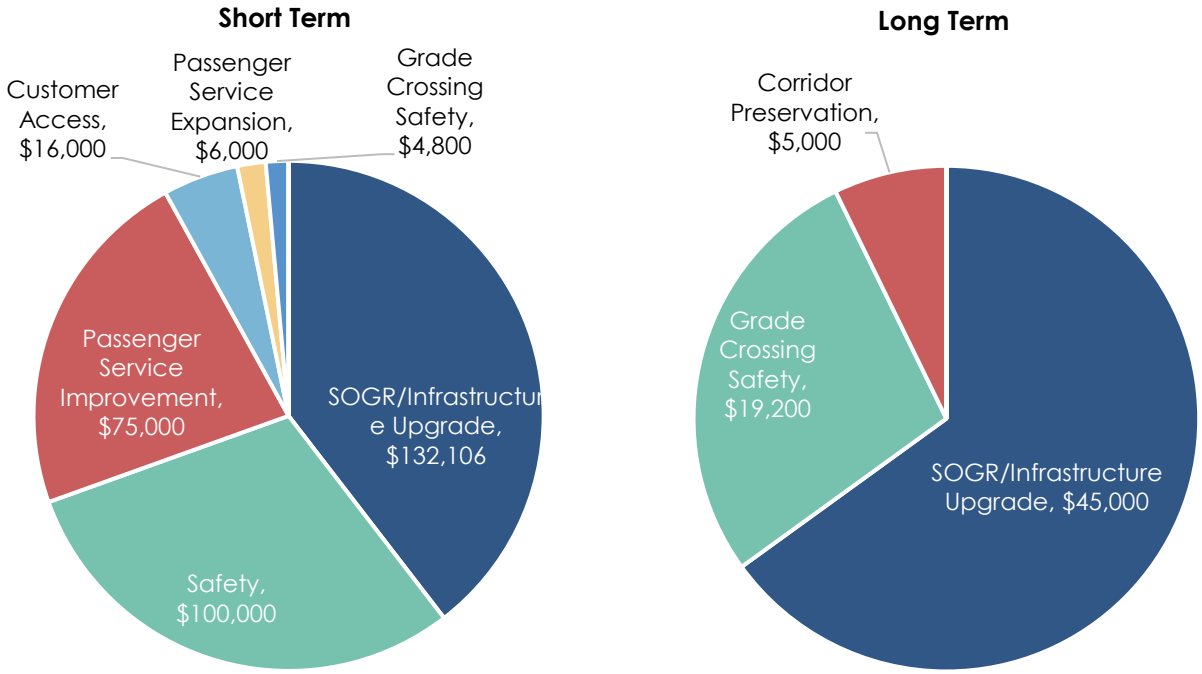
4.4 Passenger and Freight Rail Capital Program

Short-term (2023–2026) and long-term (2027–2042) capital expenditures are summarized in Table 4.4, below. The total short-term capital program for freight and passenger rail projects envisions expenditures of $333.9 million in known costs. Approximately $181 million and roughly 54 percent of the total planned investments are for the passenger rail network (see Figure 4.1) with significant investments in safety and passenger service improvements. The projects themselves are listed in Appendix A with a project description, project type, rail carrier(s) on which the improvement will occur, and the estimated costs, where available.

TABLE 4.4 SUMMARY OF PASSENGER AND FREIGHT RAIL CAPITAL PROGRAM

Category	Short-Range 2023–2026		Long-Range 2027–2042	
	Projects	Cost ($Million)	Projects	Cost ($Million)
Passenger Rail Element:				
Safety	1	$100.00	0	-
Passenger Service Improvement	3	$75.00	1	TBD
Passenger Service Expansion	2	$6.00	1	TBD
Corridor Preservation	0	-	1	$5.00
Multimodal Connectivity	1	TBD	0	-
Passenger Rail Total	**7**	**$181.00**	**3**	**$5.00**
Freight Rail Element:				
SOGR/Infrastructure Upgrade	11	$132.11	5	$45.00
Customer Access	1	$16.00	6	TBD
Grade Crossing Safety	1	$4.80	1	$19.20
Rolling Stock	2	TBD	1	TBD
Multimodal Connectivity and Terminal improvements	2	TBD	3	TBD
Freight Rail Total	**17**	**$152.91**	**16**	**$64.20**
Total Rail Program	**24**	**$333.91**	**19**	**$69.20**

FIGURE 4.1 SHORT-TERM AND LONG-TERM CAPITAL PROGRAM BY CATEGORY ($ THOUSANDS)



Note: Only projects with estimated costs are included in the figure.

4.5 Rail Studies and Reports

There are a number of next steps and studies that will enhance the development of existing and future initiatives and continue to improve system performance. These are presented in Table 4.5.

TABLE 4.5 PROPOSED RAIL PLANNING EFFORTS AND NEXT STEPS

Plan Title	Description	Estimated Completion Date
***Downeaster* Service Development Plan**	Update *Downeaster* SDP following guidance from FRA Corridor Identification Program.	2023
Rail Use Advisory Councils	RUACs are established by MaineDOT to facilitate discussion, gather information, and provide advice to the commissioner regarding the future use of a rail corridor. These recommendations will include the benefits and costs of potential uses of the rail corridor, including rail and trail use, with the understanding that any non-rail use of the corridor is considered interim in nature. This process creates an opportunity for all interested parties to thoughtfully and thoroughly have their concerns and opinions concerning the future of a rail corridor heard and documented. There are two ongoing and one completed RUAC for the following rail corridors: » Mountain Division from Standish to Fryeburg (completed) » Berlin Subdivision from Portland to Auburn » Lower Road from Brunswick to Augusta	Ongoing
Framework for Evaluating Proposed Passenger Rail Service Expansions	Develop a baseline planning criteria that functions as a high-level screening tool for passenger rail service expansion proposals. This tool can be used to determine the feasibility of the project for consideration of a future service planning study. Criteria include: » Description of project purpose and rationale for passenger rail on the corridor. » Travel markets to be served. » Existing transportation services on the corridor (e.g., intercity bus, air, highway). » Existing city-pair travel patterns along the corridor. » Policy and financial support from communities/municipalities served by new or expanded service(s). » Private investment support. » Status of host railroad interest/support for project development. » Population and population density on the corridor. » Employment density on the corridor. » Proposed service characteristics and propensity (e.g., daily frequencies for peak and off-peak, project infrastructure and operational requirements). » Information on passenger demand on similar corridors (e.g., corridor length, costs, daily trips, population, number of stations).	2023 for ongoing use in the future

Source: MaineDOT and NNEPRA.

5

COORDINATION AND REVIEW

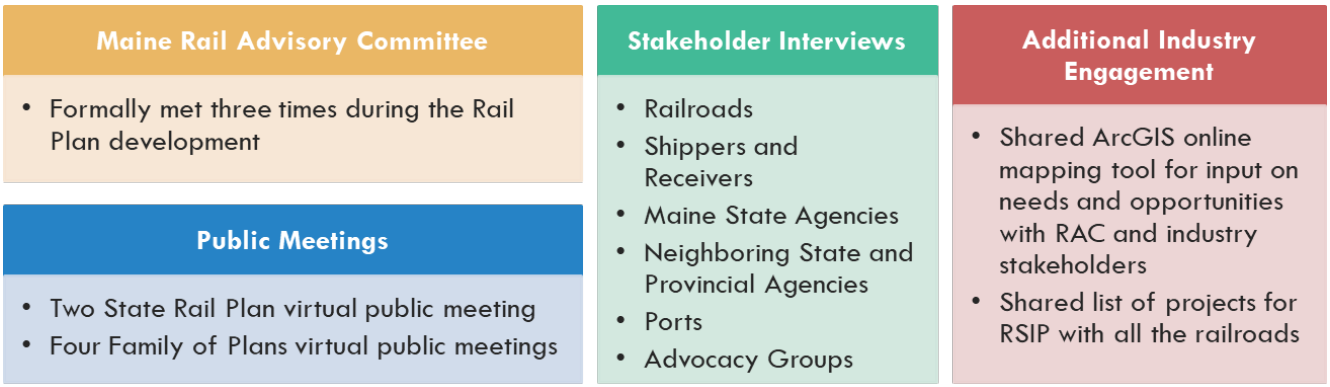
MaineDOT developed this State Rail Plan with input from a wide range of interests. Public- and private-sector input are crucial for understanding local, regional, and statewide needs and reflected a great deal of interest in expanding the role of the rail system in addressing Maine's freight and passenger transportation needs. In addition to public feedback related to passenger rail, the strong interest from shippers, rail carriers, and industry representatives demonstrated the ongoing and prospective vitality of freight rail in Maine.

5.1 Approach to Public- and Private-Sector Stakeholder Participation

Outreach to key stakeholders in the public sector, industry, and to the general public was a critical component in developing the MSRP. To better understand the needs and issues faced by Maine's rail system stakeholders and users throughout Maine, thoughtful stakeholder outreach and engagement was structured to receive targeted feedback.

There are four critical elements of this outreach, as shown in Figure 5.1: the state RAC, key stakeholder interviews, public meetings, and additional direct industry engagement on rail needs and projects. The following sections will detail the outreach process and outcomes in engaging each of these stakeholder groups.

FIGURE 5.1 STAKEHOLDER ENGAGEMENT TO INFORM THE PLAN



5.1.1 Public, Industry, and Advocacy Group Engagement

MaineDOT engaged members of the public in the development of this plan through several key methods:

» **Public Meetings (Family of Plans)**: MaineDOT conducted four virtual public meetings that encompassed the Family of Plans. These meetings were held throughout 2022:

- Public Meeting 1: March 15, 2022; 155 attendees.
- Public Meeting 2: April 6, 2022; 133 attendees.
- Public Meeting 3: May 4, 2022; 143 attendees.
- Public Meeting 4: June 7, 2022, 45 attendees.

During each meeting, MaineDOT provided a brief overview of the ongoing Family of Plans effort followed by breakout sessions for each modal plan, including one for the State Rail Plan. The breakout sessions offered additional detail on ongoing work and provided a forum for questions from members of the public. The final public meeting was formatted as a panel, with project managers from each modal plan available to answer questions.

» **Public Meetings (State Rail Plan)**: In addition to Family of Plans public meetings, the MSRP team held two rail-specific virtual public meetings on March 23, 2022 and January 2023. During the first meeting, the project team presented the draft vision and goals, the plan purpose, approach, and schedule. The team also presented initial findings around the freight and passenger rail profile and obtained input on the role of rail and trends impacting rail. The second meeting was the final meeting conducted while the final draft

MSRP was available for review and public comment; the key findings, recommendations, and investment program were presented for public input.

» **One-on-One Stakeholder Interviews**: The project team conducted 22 interviews with advocacy groups, agencies, shippers, and railroads (Table 5.1). Nearly all of these conversations were conducted virtually; one, with Pan Am (now CSX) Railways was conducted in person. The purpose of these interviews was to collect detailed input on rail needs and opportunities in Maine from a variety of perspectives. The interview questions used to guide these conversations were tailored to the type of stakeholder being interviewed and included topics such as description of the business, organization, or agency; use of rail service in Maine; nature of rail traffic; supply chain structure; impacts of COVID-19; rail operating conditions; rail infrastructure and equipment condition; rail service needs; regulatory or policy challenges; recommendations for improving the freight system mobility with an emphasis on rail; impacts of Class I acquisitions in Maine; investment plans for expansions/growth/infrastructure improvements; and trends/issues impacting the industry or relevant to the organization.

TABLE 5.1 INTERVIEWS WITH PUBLIC, INDUSTRY, AND ADVOCACY GROUPS

Organization Type	Organization Name
Advocacy Group	TrainRiders Northeast
	Independent Rail Advocate
	Maine Rail Group
	Maine Rail Transit Coalition
	Maine Trails Coalition
	Rail Users Network
Neighboring State and Provincial Agency	Massachusetts DOT
	New Hampshire DOT
	New Brunswick Department of Transportation and Infrastructure
Port	Port of St. John, New Brunswick
Railroad	Canadian Pacific
	Pan Am Railways (now CSX)
	Finger Lakes Railway (Midcoast Rail)
	NBM Railways (New Brunswick Southern, Eastern Maine Railway, Maine Northern Railway)
	St. Lawrence and Atlantic Railroad
Shipper and Receiver	McCain Foods
	Irving Woodlands
	Pleasant River Lumber
	Louisiana Pacific
	Hancock Lumber
	Dead River (propane)
	Poland Springs/BlueTriton Brands

» **Needs and Opportunities Online Mapping Tool**: In order to collect information on location-specific needs and opportunities, MaineDOT also distributed an interactive ArcGIS online map that allowed for commenting. A link to this tool was distributed to the RAC members and industry stakeholders who participated in one-one-one interviews. In addition to these groups, the survey was distributed to the following industry groups to gather further input on Maine's rail needs.

- AIM Recycling Group
- Gold Star Feed
- Perma Treat Corporation
- All States Materials Group
- Greenwood Masonry
- Presque Isle Industrial Council
- American Steel & Aluminum
- Hubbard Construction Company
- ReEnergy Holdings
- Bob Drake Consulting
- Huhtamaki
- Resource Systems Engineering, Inc.
- Casco Bay Transportation
- Legacy Properties Sotheby's International Realty
- Sargent Corporation
- Cellblock FCS
- Madden Sustainable Forestry
- Seed Pro Inc.
- Clarks Scrap Metals
- Maine Energy
- TNT Road Company, Inc.
- Eurovia Atlantic Coast LLC
- Maine Potato Growers, Inc.
- Town of Windham
- Fabian Oil
- Maine Woods Biomass Exports
- Turners Island LLC
- GAC Chemical Corporation
- ND Paper
- Twin Rivers Paper Company
- Columbia Forest Products
- NEPW Logistics
- Woodland Pulp, LLC

» **Public Comment**: MaineDOT collected public comments on the draft MSRP for two months after the draft plan's release in December 2022.

5.1.2 Rail Advisory Committee

MaineDOT engaged a RAC regularly throughout the course of the development of the plan. The RAC was intended to convene passenger rail and freight rail stakeholders that would be able to provide general guidance as well as technical feedback and review the findings and recommendations of the rail plan. This group convened at three points over the course of the MSRP development. The content of those meetings was as follows:

- **Meeting 1 (December 2021):** Project team presented the project background and timeline and solicited feedback on the draft vision and goals, passenger rail future scenarios, and rail trends research. Participants also were prompted to contribute thoughts on questions to provide additional guidance on actions MaineDOT might take to support passenger and freight rail.
- **Meeting 2 (June 2022):** Team provided updates on technical activities, including public outreach and findings on the rail system existing conditions and use. The team also solicited input on needs and opportunities.
- **Meeting 3 (November 2022):** Final meeting to review the final draft MSRP, recommendations, and investment program.

Table 5.2 summarizes stakeholders invited to participate in the RAC.

TABLE 5.2 RAIL ADVISORY COUNCIL MEMBERSHIP

Organization Type	Organization Name
State Rail Plan Project Management and Technical Team	Maine Department of Transportation, Office of Freight and Passenger Services
	Northern New England Passenger Rail Authority (NNEPRA)
Economic Development Organization	Maine International Trade Center
	Northern Maine Development Commission
	Eastern Maine Development Corporation
	Lewiston-Auburn Economic Growth Council (now Chamber of Commerce)
Federal Agency	U.S. Federal Highway Administration (FHWA)
	U.S. Federal Transit Administration (FTA)

Organization Type	Organization Name
Railroad	Amtrak
	Canadian Pacific
	CSX
	NBM Railways (New Brunswick Southern, Eastern Maine Railway, Maine Northern Railway)
	Lewiston-Auburn RR Holding Company
	Massachusetts Bay Transportation Authority (MBTA)
	St. Lawrence & Atlantic
	Pan Am Railways (now CSX)
	Turner Island Railroad
Regional Planning Organization	Bangor Area Comprehensive Transportation System (BACTS)
	Portland Area Comprehensive Transportation System (PACTS)
	Kittery Area Comprehensive Transportation System (KACTS)
	Androscoggin Transportation Resource Center (ATRC)
Safety	Operation Lifesaver
State Agency	Maine Department of Agriculture
	Maine Department of Agriculture, Trails
	Maine Department of Environmental Protection
	Maine Department of Economic and Community Development
	Maine Port Authority
Trade and Industry Association	Maine Better Transportation Association
	Maine Forest Products Council
	Maine Motor Transport Association
	Maine Professional Loggers
	New England Association of Rail Shippers
	Maine Tourism Association

5.2 Summary of Feedback

Outreach to stakeholders via RAC meetings, one-on-one interviews, online survey, and public meetings brought up a number of topics. The following sections organize these findings into trends, issues, needs, and opportunities for Maine's rail network.

5.2.1 Trends

Outreach revealed several broader trends that affect the current operations and future prospects of rail in the State of Maine. Table 5.3 summarizes these trends.

TABLE 5.3 STAKEHOLDER INPUT: TRENDS SUMMARY

Stakeholder	Trend
Freight Rail Carrier Perspectives	» Following the initial COVID-19 pandemic-related drop, traffic increased in 2020 due to high demand for goods and decreased in the second half of 2021 due to a variety of factors. Rockland Branch freight volumes have decreased overall as a result of the shifting logistics at a major customer. » The railroads face an ongoing workforce shortage which has had severe impacts on their ability to meet demand. Hiring challenges include candidates for employment failing drug screening. » Balance of inbound versus outbound traffic is a continuing issue and reduces potential traffic volumes. » The recent return of Class I railroads to Maine offers the opportunity for the state to benefit from single-line service to a vastly expanded geographic area.
Shipper Perspectives—Forest Products	» The last few years have seen a major spike in demand for forest products with prices for lumber reaching record highs in early 2022. » The forest products industry relies heavily on rail for longer distances. » A critical constraint to expanding rail use is car supply. » Shippers also are experiencing a workforce shortage. Forest products shippers are investing to increase capacity and production with reduced labor.
Shipper Perspectives—Paper and Pulp Products	» Reflecting long-standing trends, rail traffic associated with paper mills continues to decline. This has been due to reduced demand for traditional paper products, leading to mill closures across New England. Many of those that remain have shifted towards brown papers used for packaging. » Changes in logistics have driven an ongoing shift to trucks for outbound traffic from mills. However, broader geographic sourcing of pulp has led to an increase in inbound pulp traffic to mills by rail. » There has been an industry-wide shift in the wood chips market from pulp and paper mills to biomass power plants and other users. » The use of chlorine in the paper-making process, once a high-volume commodity for railroads, has gone away.
Shipper Perspectives—Other Industries	» The food industry is experiencing growth across North America and producers are at maximum output given current capacity. » There is significant propane business in the state. Inbound heating oil via Searsport ended a year ago due to unreliability of service. » Supply chain constraints have led to spikes in lead times and prices. Shippers are focusing on building "just in case" safety stock. » A big growth driver in New England is municipal solid waste.

Stakeholder	Trend
General Public Perspectives	» Sociodemographic trends impacting passenger rail to consider include generational preferences of Millennials/Gen Z increasingly choosing transit/non-auto modes and Maine's aging population needing alternatives to driving. » Fuel costs impacts on passenger rail and freight rail mode share. » Maine needs to leverage rail for its environmental sustainability and beneficial impact on climate change. » Plan should take into account the impacts of changing commuting travel patterns resulting from the COVID-19 pandemic. » Electrification of passenger rail services should be considered as a means to improving travel times and addressing climate change. » Rising housing costs are driving population shifts in New England as well as within Maine that will affect travel demand in the state.
Advocacy Groups Perspectives	» There is strong opposition to rail-to-trail conversions from rail and environmental advocates, who argue that trail conversion of rail corridors inevitably erodes the possibility of future rail use. Trail advocates point to strong public support for trails and argue that the most important inter-urban corridors do not require a choice between trains and trails as there are alternate routes that allow both. » Use of rail in Maine has changed dramatically over time. Many goods used to leave facilities by rail; now, rail is used most frequently for incoming materials. » There is potential for the agriculture industry (e.g., broccoli) to be looped into distribution by rail from Aroostook County to the Albany area. » The International Marine Terminal Eimskip Warehouse in Portland has potential, and could be used with containerized rail.

5.2.2 Issues and Needs

Outreach also pointed to several challenges experienced by stakeholders and the general public. Table 5.4 summarizes these issues and needs.

TABLE 5.4 STAKEHOLDER INPUT: ISSUES AND NEEDS SUMMARY

Topic	Issue or Need
Mergers and Acquisitions	» Some shippers have been negatively impacted by CP's acquisition of CMQ, including through service reductions and increased costs. This has led some shippers to turn to trucking. » In theory, the acquisition of PAR by CSX should improve the economics of rail shipment to and from points in Maine. However, there is concern about the impact of CSX's acquisition of Pan Am and potential for neglect of short-line style service. » Maine has a light-density freight-rail network, and Maine's originating and terminating freight-traffic base is not consistent with the high-volume, long-distance operating characteristic of the nation's seven Class I carriers.

Topic	Issue or Need
Operations/ Maintenance/ Capacity Improvements	» Private and state-owned railways in Maine remain balkanized both physically and commercially. They would benefit from the ability to route shipments to one another via trackage or operating rights and or interline haulage agreements. » Canadian Pacific: There is a need to bring tie conditions up to standard to get trains to competitive speeds. » St. Lawrence & Atlantic: Rail in VT has been fully replaced with 115-lb. continuously welded rail (CWR). This leaves seven miles of jointed rail in NH and 10 miles in Maine remaining to be replaced with CWR. There also is a need for a tie replacement program. » CSX (former Pan Am): Single track between Waterville and Portland poses potential capacity limits to traffic growth. In Massachusetts, congestion associated with MBTA commuter rail and freight traffic impedes performance. » Infrastructure investments should focus on: ■ Maintaining a minimum of FRA Class 2 condition and 286,000-pound gross weight capability for internal track structure. ■ Upgrading and maintaining bridges at the 315,000-pound level. ■ Improving vertical clearances to a minimum of 18'8" to accommodate multi-level railcars and to 20'4" for double-stacks between New Hampshire and Mattawamkeag. » Maintenance and capital investment programs should elevate critical trackage to FRA Class 3, since higher specifications result in greater capacity. » Service reliability is enhanced by better track condition. Strategically located passing sidings with powered switches are essential. » Vertical clearances along the CSX main line between Haverhill, MA and Portland need to be increased to allow for the operation of domestic double-stack trains. » Rockland Branch: Some bridges in advanced states of deterioration require rehabilitation or replacement.
Rural Infrastructure	» Remote MNR needs infrastructure upgrades to increase speeds and reduce turn times. These upgrades include improvements on the MNR between Easton and Fort Fairfield and 15 to 20 miles of MNR track presently limited to 5 mph. » Challenges with capacity at MNR and industry yards due to rail service unreliability. » Weight limitations on bridges leading into the Woodland Pulp mill in Baileyville need to be rectified. » Need for additional and longer sidings to accommodate growing traffic. » There is a need for an at-grade-crossing closure program emphasizing the most dangerous locations. » Current Class I PTC is expensive and based upon outmoded technology; an updated variety should be investigated and implemented.
State-Owned OOS Rail Lines	» Trail advocates see a need for a completed East Coast Greenway, which is an off-road biking and walking trail from the New Hampshire border to Waterville and from Bangor to Calais. The rail-trail conversions proposed by advocates would fill in gaps in the existing network. » Rail advocates caution that fewer than two percent of rail-trails are ultimately converted back to rail, and that losing these corridors means fewer opportunities to promote sustainable travel and remove cars from roads.

Topic	Issue or Need
Rolling Stock	» Capacity to store propane cars is insufficient. Shippers would like to bring loaded cars in the summer to store for the winter. » MaineDOT could consider funding an equipment program to build or convert railcars to handle Maine products, such as wood chips for the paper industry.
Resiliency	» Rail system's resiliency to climate change and flooding such as CSX's coastal rail line (*Downeaster* route) in Scarborough.
Multimodal Connections	» Need to invest in rail system's multimodal connections to ports, freight generators, and truck-rail transload and intermodal facilities.
Funding	» Increase funding for shared capital funding opportunities such as IRAP. » Need for increased federal funds (including for grade crossings) for rail. » Need for willingness from local government to help fund passenger rail. » Passenger rail is underfunded; advocates pointed to highway subsidies as comparison.
Passenger Rail	» Across passenger rail advocates, there is strongest interest in expanding *Downeaster* and other passenger service to Lewiston-Auburn, Augusta, Waterville, and Bangor. Several others mentioned service to Rockland and to Montreal. » Passenger rail penetration into an undefined, less-populated market territory is inconsistent with standard Amtrak equipment and operating practice. » Several advocates perceive a focus on highways at MaineDOT to the detriment of rail. Highways are subsidized by the public, and passenger rail lacks a similar dedicated funding stream. » Station upgrades should emphasize secure parking. Present funding allocated for station upgrades is insufficient and easily depleted by ADA requirements. » Single track between Brunswick and Plaistow, NH limits schedule flexibility, reliability, and frequency. » Current land use/zoning patterns can work against density that supports passenger rail service. » The *Downeaster* could be enhanced by developing and marketing a reservation link (rideshare, taxi voucher, etc.) between South and North Stations in Boston. » Need for alternatives to driving around heavy traffic locations like Portland. » Need to expand passenger rail to reduce environmental impact of passenger vehicles. » The location of Portland Station increases travel time and negatively impacts regional ridership.

5.2.3 Opportunities

Engagement with stakeholders highlighted several opportunities for rail in Maine. The topics listed below represent areas for potential growth or improvement in rail service in the state:

» **Intermodal Opportunities:** There is a substantial opportunity to grow domestic and international intermodal freight traffic in Maine. This includes service on lines linking the Port of St. John with Canada and the U.S. as well as providing intermodal rail access within the state. Volumes out of St. John are projected to escalate rapidly over the next decade, with much of this traffic being handled across Maine using a combination of the Maine Eastern and CP routes. Another opportunity for accessing St. John is CSX. There is an opportunity for full double-stack container clearance between Ayer, MA, and the Port of St. John. Presently, there is an intermodal shuttle dedicated to handling bottled waters out of Waterville, and several dormant intermodal facilities – such as at Auburn (SLR) and Presque Isle (MNR) - could be reactivated. The feasibility of (re)instituting service will be contingent on addressing equipment balance issues (always an issue with intermodal terminals in rural areas) and ensuring consistent demand and volumes.

» **Environmental Sustainability/Clean Energy Alternatives:**

- The fuel industry is looking to move more fuel stocks that have low or neutral carbon footprints. There are opportunities for rail to assist in this transport; shipments of biofuels could be brought into Bucksport by water, or they could be railed into New England from the Midwest.
- Several advocates noted opportunities to use clean energy in passenger rail, whether by transitioning from diesel to full or hybrid electric, battery, or hydrogen power.

» **Industry-Specific Opportunities:**

- In Maine's food processing industry, the once robust use of carload service to transport finished product, such as frozen potatoes, has dwindled to almost nothing. However, with two Class I railroads in the state offering single-line service to many major markets, the potential feasibility should be reconsidered.
- In the paper products industry, there is the potential to provide access to mills currently not served by rail (e.g., in Bethel and Pittsfield) if affordable and reliable.

» **Passenger Rail:**

- Advocates emphasized that passenger rail is crucial to Maine's economic future. Thousands of students could utilize an extended system and millions of tourists visit Acadia National Park every year, most by car. Economic development in central/southern Maine can fuel the business travel market to Boston.

- Finger Lakes Railway is developing a proposal for passenger rail service on the Rockland Branch.
- The near-term prospect of a contracted public-private initiative to test public response to a more economical connecting model on the coastal Rockland Branch would be instructive for possible application to other low-density intrastate corridors.
- There may be opportunities for scenic tourist passenger rail connections and to collaborate with neighboring states on these services.

5.3 Consideration of Feedback

In addition to providing a mechanism for plan feedback, MSRP stakeholder engagement activities sought to use public and other stakeholder input to generate content and set the direction of the Rail Plan. This included identification of potential infrastructure projects and considerations for passenger service improvements.

A

PASSENGER AND FREIGHT RAIL PROGRAM OF PROJECTS

The tables on the following pages contain detailed listings of the freight and passenger rail projects. Separate tables are provided for short- and long-term initiatives, with projects for which timing has not yet been determined included in the long-term listing. Within each table, projects are sorted by railroad and project name, and include a brief description, the project type, time horizon, and projected implementation cost. For safety investments, projected FHWA Section 130 program expenditures are summarized by short- and long-term, with non-program initiatives listed individually for each project. Costs were identified using various sources.

TABLE A.1 SHORT-TERM 2023–2026 FREIGHT PROGRAM INVESTMENTS

Project Name	Railroad	Project Description	Project Type	2022 Cost ($ Millions)
Improve tie conditions	CP	Improve tie conditions along former CMQ route to support higher speeds and ensure reliable operation.	SOGR / Infrastructure Upgrade	TBD
Upgrade trackage from Bangor through Moosehead	CP	Rehabilitate recently acquired trackage between Bangor and Moosehead to achieve SOGR.	SOGR / Infrastructure Upgrade	TBD
Maintain and expand freight car fleet in Maine and beyond to meet customer needs	CP, CSX, EMRY, MNR	Acquisition of chip and log fiber cars, box cars, center beam cars, etc. to move commodities to and from customers. Needed to accommodate market growth and replace cars subject to mandatory retirement.	Rolling Stock	TBD
CSX Waterville-Mattawamkeag 286k capacity and safety improvements	CSX	Replace approximately 75 miles of rail, replacing apprxoimately 55,000 ties, upgrade 72 grade crossings, and reinforce five bridges in central Maine between Waterville and Mattawamkeag. Improvements needed to accommodate 286k freight cars and increase speeds from 10 to 25 mph.	SOGR / Infrastructure Upgrade	$42.00
CSX Waterville-North Yarmouth upgrades and rail crossing safety improvements	CSX	Rehabilitate and modernize 75 miles mainline track, eight bridges, and 89 rail crossings on CSX main line between Waterville and North Yarmouth.	SOGR / Infrastructure Upgrade	$35.51
Increase Rigby Yard capacity	CSX	Increase rail capacity and trackage at Rigby Yard in South Portland to reduce congestion.	Multimodal Connectivity & Terminal Improvements	TBD
Rockland Branch bridge improvements – feasibility and engineering	Midcoast Rail	Feasibility and engineering for bridge improvements on the Rockland Branch to achieve state of good repair.	SOGR / Infrastructure Upgrade	$45.00

Project Name	Railroad	Project Description	Project Type	2022 Cost ($ Millions)
Maine Northern Rail Improvements Project (2022 CRISI)	MNR	Rehabilitate and improve more than approximately 138 miles of track in northern Maine. The improvements will increase reliability and allow for Class 2 (25-mph track speeds) on four lines that are all owned by the State of Maine and operated by MNR: the Madawaska Subdivision, the Houlton Subdivision, the Presque Isle Subdivision, and the Fort Fairfield Subdivision.	SOGR / Infrastructure Upgrade	TBD
Maine Woods to Water Rail Connection Project (2023 CRISI Application)	MNR, CP	MaineDOT; MNR; CP; Our Katahdin; and Highland Pellets, LLC intend to make numerous railroad infrastructure improvements to support freight railroading in Maine and a $300-million sustainable wood pellet plant. The rail grant would fund mainline, railyard, port, and spur track improvements leading to Our Katahdin's One North industrial site. Located on the site of the former Great Northern Paper Mill in Millinocket, the pellet plant will be one of the largest rail shippers to locate in Maine, attracting family-wage jobs and generating environmental benefits. The plant will utilize scrap timber, sawmill residuals, thinnings, and other sustainable wood fiber sourced throughout the North Maine Woods to create renewable carbon sources for electrical and industrial applications. Finished pellets will ship on rail through Brownville Junction to Searsport for transload to ships destined to foreign markets.	Multimodal Connectivity & Terminal Improvements	$57.00
Upgrades of trackage from Houlton to Brownville	MNR, EMRY	Improve track safety standards, SOGR, and capacity on the corridor to prepare for significant increases in traffic related to movements of wood fiber and finished goods related to plant expansions in the region.	SOGR / Infrastructure Upgrade	TBD
Bridge upgrades	Multiple	Subject to development of both freight and passenger service needs, continue to support bridge upgrades.	SOGR / Infrastructure Upgrade	$2.00
Various, 286k rail car capacity	Multiple	Initiate ongoing program to accommodate 286k rail cars, subject to needs analysis.	SOGR / Infrastructure Upgrade	Varied
SLR 286k capacity	SLR	Rail replacement, tie renewal, ballast, and surfacing to achieve 286k capacity on the SLR.	SOGR / Infrastructure Upgrade	$7.60
SLR Locomotive Modernization	SLR	Upgrade to modern locomotives for more tractive effort to reduce fleet requirements, reduce fuel consumption and emissions, and increase reliability.	Rolling Stock	TBD
Industrial Rail Access Program	Varies	IRAP provides financial assistance to businesses and shippers for investment in rail or freight rail-related infrastructure located on, within, or adjacent to the general railroad system.	Customer Access	$16.00

Project Name	Railroad	Project Description	Project Type	2022 Cost ($ Millions)
Rail bridge improvements, state-owned	Varies	Ongoing improvements and upgrades to state-owned railroad bridges to accommodate railcars loaded up to the industry standard of 286,000-pound gross vehicle weight.	SOGR / Infrastructure Upgrade	TBD
Rail Highway Crossing Safety Program	Varies	The Railway-Highway Crossings (Section 130) Program provides funding for the elimination of hazards at railway-highway crossings.	Grade Crossing Safety	$4.8

TABLE A.2 LONG-TERM 2027–2042 FREIGHT PROGRAM INVESTMENTS

Project Name	Railroad	Project Description	Project Type	2022 Cost ($ Millions)
Propane storage tracks at Hampden	CP	Add storage track for propane cars to accommodate growth of the commercial market for propane and heating oil in Maine.	Customer Access	TBD
Upgrade trackage from Bangor through Moosehead.	CP	Rehabilitate recently acquired trackage between Bangor and Moosehead to achieve SOGR.	SOGR/ Infrastructure Upgrade	Varied
Maintain and expand freight car fleet in Maine and beyond to meet customer needs	CP, CSX, EMRY, MNR	Acquisition of chip and log fiber cars, box cars, center beam cars, etc. to move commodities to and from customers. Needed to accommodate market growth and replace cars subject to mandatory retirement.	Rolling Stock	TBD
Add/expand sidings between Waterville and Portland	CSX	Add/expand sidings between Waterville and Portland to accommodate additional traffic.	SOGR/ Infrastructure Upgrade	TBD
Improvements at Waterville	CSX	Improvements at Waterville as needed.	Multimodal Connectivity & Terminal Improvements	TBD
Increase usage of International Marine Terminal in Portland	CSX	Coordinate with MPA, EIMSKIP, and CSX to increase usage and establish regular intermodal service at IMT.	Multimodal Connectivity & Terminal Improvements	TBD
Woodland pulp mill bridge improvements	EMRY	Strengthen bridges to Woodland pulp mill to accommodate 286k railcars.	SOGR/ Infrastructure Upgrade	TBD
Rockland Branch bridge improvements – continue construction	Midcoast Rail	Continue construction for bridge improvements on the Rockland Branch to achieve state of good repair.	SOGR / Infrastructure Upgrade	$45.00
Add loading site at Skyway Industrial Park, Presque Isle	MNR	Provide loading site for grain and starch products.	Customer Access	TBD
Propane storage tracks at Millinocket	MNR	Add storage track for propane cars to accommodate growth of the commercial market for propane and heating oil in Maine.	Customer Access	TBD
Propane storage tracks at Presque Isle	MNR	Add storage track for propane cars to accommodate growth of the commercial market for propane and heating oil in Maine.	Customer Access	Varied
Upgrade 1,800-foot rail spur at Skyway	MNR	Upgrade 1,800-foot spur for railcar storage and transload site.	Customer Access	TBD

Industrial Park, Presque Isle				
Double-stack clearances on main lines	Multiple	Subject to needs analysis, initiate ongoing program to upgrade principal rail lines to accommodate double-stack trains.	SOGR/ Infrastructure Upgrade	TBD
Improvements at Auburn	SLR	Improvements at Auburn intermodal as needed by business demand.	Multimodal Connectivity & Terminal Improvements	TBD
Propane storage tracks at Auburn	SLR	Add storage track for propane cars to accommodate growth of the commercial market for propane and heating oil in Maine.	Customer Access	TBD
Rail Highway Crossing Safety Program	Varies	The Railway-Highway Crossings (Section 130) Program provides funding for the elimination of hazards at railway-highway crossings.	Grade Crossing Safety	$19.2

TABLE A.3 SHORT-TERM 2023–2026 PASSENGER RAIL PROGRAM

Project Name	Carrier(s) / Sponsor(s)	Project Description	Project Type	2022 Cost ($ Millions)
Downeaster Wells Station Double Track and Platform	NNEPRA, CSX, Amtrak	Extend double track and add passenger platform at Wells Station.	Passenger Service Improvement	$31.00
Positive Train Control	CSX, Amtrak	The implementation of PTC on the *Downeaster* service is a critical step to continued growth in *Downeaster* service. Amtrak and CSX have entered into an agreement for system design. The installation of PTC removes the frequency limitations (maximum of six daily roundtrips) applied to passenger services which operate across routes lacking the technology. Additionally, the implementation of PTC may permit speeds beyond today's maximum of 79 mph at locations along the route where conditions permit.	Safety	$100.00
Portland Station Relocation	NNEPRA	Relocate the *Downeaster* station in Portland to the main line to avoid time-consuming back-up moves. This move will improve travel times through Portland, increase connectivity to population and employment hubs, and fully realize ridership potential within Maine as well as along the entire corridor between Maine and Boston.	Passenger Service Improvement	$35.00
New West Falmouth Station	NNEPRA	NNEPRA, in collaboration with the Town of Falmouth, MaineDOT, and MTA, is exploring adding a *Downeaster* passenger platform in West Falmouth at Exit 53. This location would improve connectivity to/from the I--95 corridor.	Passenger Service Improvement	$15.00
Rockland Branch Coastal Connection Service Extension Pilot	MaineDOT, NNEPRA, Midcoast Rail, Amtrak	Pilot connecting passenger rail service between Brunswick and Bath, Wiscasset, Newcastle, Waldoboro, and Rockland.	Passenger Service Expansion	$6.00
Thruway Bus Connection to Lewiston-Auburn	MaineDOT, NNEPRA, Amtrak	Pilot a thruway bus connection between *Downeaster* service and Lewiston-Auburn.	Multimodal Connectivity	TBD
Passenger Rail Service Evaluation and Financial Analysis	Varies	Continue passenger rail planning expansion efforts based on results of ongoing and future feasibility/propensity studies (e.g., Portland-Lewiston-Auburn, Brunswick-Augusta-Waterville-Bangor).	Passenger Service Expansion	TBD

TABLE A.4 LONG-TERM 2027–2042 PASSENGER RAIL PROGRAM

Project Name	Carrier(s) / Sponsor(s)	Project Description	Project Type	2022 Cost ($ Millions)
Preservation of Rail Corridors	Varies	Protect integrity of rail corridors for future freight and passenger transportation needs.	Corridor Preservation	$5.00
CSX mainline double-tracking to accommodate *Downeaster* operations	CSX, NNEPRA, Amtrak	Current sidings cannot accommodate longer freight trains. Specific segments for double tracking to be identified in the *Downeaster* SDP.	Passenger Service Improvement	TBD
Continue Passenger Rail Service Evaluation and Financial Analysis	Varies	Continue passenger rail planning expansion efforts based on results of ongoing and future feasibility studies (e.g., Portland-Lewiston-Auburn, Brunswick-Augusta-Waterville-Bangor).	Passenger Service Expansion	TBD