

I. Cover Page

Element	Response
Was a Federal Grant Application Previously Submitted for this Project? If yes, please specify the program, funding year, and project title of the previous application, and identify any differences between the applications.)	Yes; elements of this Project were previously submitted by MaineDOT to CRISI (FY 2022, “Maine Woods to Water Rail Connection Project”) and INFRA (FY 2023, “Eastern Maine Railway Freight Resiliency and Efficiency Project”). This Project is a blend of those projects
City(ies), County(ies), State(s) Where the Project is Located	Town of Millinocket; Penobscot, Aroostook, Washington, and Piscataquis counties, Maine
Is the Project Located in a Rural Area?	Yes
Congressional District(s) Where the Project is Located	Second Congressional District, Maine
Application Track(s) proposed to be funded	Track 3 – FD/Construction
Lifecycle Stage(s) proposed to be funded	Track 3 – FD/Construction
Current Lifecycle Stage and Anticipated completion of current Lifecycle Stage?	Track 2 – Project Development; May 2024
Is the Project located on real property owned by someone other than the applicant? (If yes, list real property owners and the nature of the property interest.)	Yes. MaineDOT is the applicant; trackage is owned by Eastern Maine Railway (EMR) a division of NBM Railways; and One North (the 501(c)(3) owner of the bio-industrial park)
Host Railroad/Infrastructure Owner(s) of Project Assets	Eastern Maine Railway
Other impacted Railroad(s)	N/A
Tenant Railroad(s), if applicable	N/A
If applicable, is a 49 U.S.C. 22905-compliant Railroad Agreement executed or pending?	Yes
Is the project currently programmed in ANY medium or long-range planning document: For example, State rail plan, MPO Long Range Transportation Plan, State Long systems planning study, State Freight Plan, TIP, STIP, or interregional intercity passenger rail Range Transportation Plan, etc.?	Yes: (1) <i>Maine State Rail Plan</i> (2023, pp. 54 and 91); (2) <i>Three-Year State Work Plan</i> (2024, p. 26); and (3) <i>Eastern Maine Development Corporation Comprehensive Economic Development Strategy 2021 - 2025</i> (2023, p. 25)
Is the project located on a potential corridor selected for the Corridor Identification and Development Program? (if yes, specify corridors)	No
Is this a project eligible under 49 U.S.C. 22907(c)(2) that supports the development of new intercity passenger rail service routes including alignments for existing routes?	No

Element	Response
Is this a project eligible under 49 U.S.C. 22907(c) (11) that supports the development and implementation of measures to prevent trespassing and reduce associated injuries and fatalities?	No
If YES to the previous question, is this project located in a county identified in FRA's National Strategy to Prevent Trespassing on Railroad Property?	N/A
Is the application seeking consideration for funding under the Maglev Grants Program? Yes/No	No

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II. Project Summary

The *Driving Maine's Rural Economy through Freight Rail Efficiency Project* (the "Project") calls for railroad track improvements to two Eastern Maine Railway mainlines in Penobscot, Aroostook, Washington, and Piscataquis counties in Maine, as well as improvements to a branch line serving a bio-industrial park. The mainlines are the state's only east-west lines linking Maine with New England and New Brunswick, Canada. The lines connect the forest and farming regions of the state with domestic and international markets. Improvements will be significant: replacing or upgrading 97.3 miles of rail, installing 86,375 crossties, replacing jointed rail with continuously welded rail, and placing approximately 108,357 tons of ballast, all resulting in improved safety and efficiency. An important portion of the Project consists of rehabilitating currently dormant track approaching and inside the One North Bio-Industrial Park, as well as rehabilitating crossing devices and surface at seven at-grade crossings. Improvements inside the bio-industrial park include rehabilitating yard tracks, reinstalling a passing siding, and making other rail infrastructure improvements to support new, sustainable industries and the family-wage jobs they support. ***The Project will improve safety and resiliency to climate change-related events; provide jobs to support families in a rural area decimated by macroeconomic shifts in the paper industry; and create new rail capacity and efficiencies for sustainable material manufacturing and distribution.***



Figure 1. Poplar Street Crossing, Millinocket (credit: Google, August 2023)

III. Grant Funds, Sources, and Uses of Project Funds

The total estimated cost of the Project is \$66,641,364 for which the FRA grant will contribute an amount not to exceed \$53,313,091 (80%). The non-Federal match contribution is provided in cash by private sector partners Eastern Maine Railways (EMR) for \$11,713,340 and One North Maine, LLC (ON, "One North") for \$1,614,933 for a total match amount of \$13,328,273 (20%). MaineDOT will professionally oversee the project and grant management. Match commitment letters are attached, with no additional federal funding proposed as a match. The Grantee agrees to manage and report on the progress of grant tasks and expenditures in accordance with FRA requirements and applicable best practices. EMR or the Grantee will provide additional contingency funding, if necessary.

Table 1 identifies the specifics of the funding as required by the CRISI NOFO.

Task #	Task Name / Project Component	Cost	Percentage Total Cost	Source of Funds
1	Project Administration and Management			
2	Rehabilitate Millinocket Branch Line	\$4,068,395	6.1%	
3	Rehabilitate One North Customer Sidings on Millinocket Branch Line	\$4,006,270	6.0%	
4	Upgrades to Eastern Maine Railway's Millinocket Subdivision	\$9,448,330	14.2%	
5	Upgrades to Eastern Maine Railway's Mattawamkeag Subdivision	\$45,944,971	68.9%	
6	Contingency	\$3,173,398	4.8%	
Total Project Cost:		\$66,641,364	100%	
Federal Funding Requested in this Application (CRISI Program Request):		\$53,313,091	80%	CRISI
Non-Federal Funding (State)		Cash: In-Kind:		
Non-Federal Funding (Private Sector)		Cash: \$13,328,273 In-Kind:	20%	EMR & One North
Non-Federal Funding (Local)		Cash: In-Kind:		
Amount (if any) of funding request eligible for set-aside funds as described in section B(1)		Rural Set-Aside \$53,313,091		
Portion of Total Project Costs Spent in a Rural Area, if applicable		100%		

Table 1. Funding Source Table

IV. Applicant Eligibility Criteria

MaineDOT, the primary applicant on behalf of the State of Maine, is the agency responsible for executing the Project and for managing all aspects of the state's transportation network, including railroads. MaineDOT also manages the state's relationship with transportation-related private entities, including EMR. Employing approximately 1,800 people, MaineDOT expends and disburses more than \$675 million annually in federal, state, and local funds.

MaineDOT is an experienced, thorough, and responsible recipient of federal grants through USDOT, including previous successful endeavors with CRISI, FASTLANE, INFRA, CHBP, TIGER, BUILD, and RAISE programs. Section IX (Project Implementation and Management) outlines the specific, relevant qualifications of key project personnel. MaineDOT has been a reliable partner with FRA and USDOT for decades, and FRA can continue to rely on MaineDOT to fully fund its match and initiate the Project immediately upon execution of the grant agreement.

V. Project Eligibility Criteria

The Project spans more than one CRISI eligibility category. It is eligible because it is a capital project to improve short-line or regional railroad infrastructure, one component of which is seven roadway-rail at-grade crossing improvements, including the installation of upgraded crossing signals, signage, and gates. ***It is a rail line improvement project at the “Track 3— FD/Construction Project” lifecycle stage.*** Work occurs on both existing railroad right-of-way in the national railroad system as well as existing track and a former mill brownfield site being redeveloped as a bio-industrial park. There will be no impacts to wetlands that have previously been delineated to determine their extent, which does not include the presence of vernal pools. These preliminary steps were taken in partnership with One North and Our Katahdin, a non-profit organization promoting community and economic development in the region to expedite the permitting process. Existing rail right-of-way alignments are being used to minimize environmental impacts. [Figure 2](#) shows the Project’s location and relationship to other railroad lines.

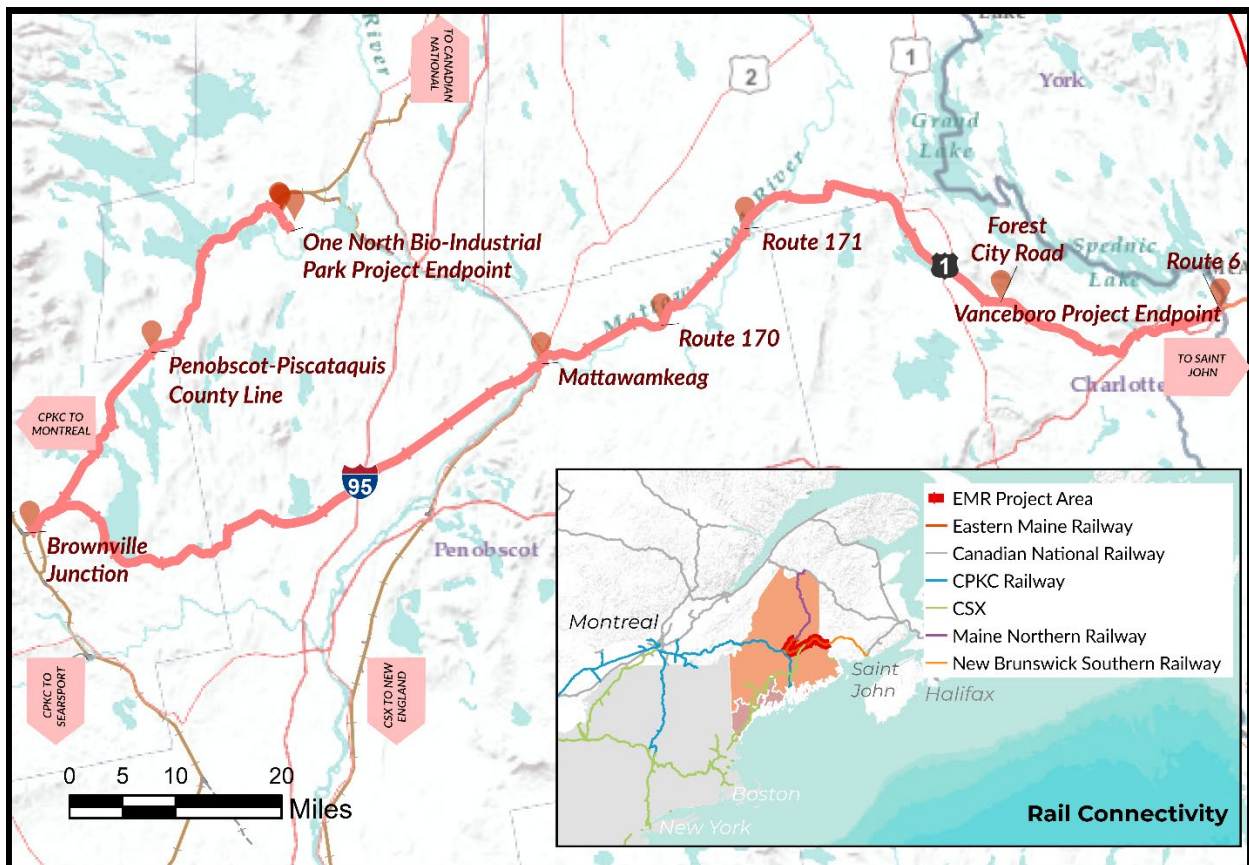


Figure 2. Project Location Map

VI. Detailed Project Description

This application outlines MaineDOT’s important plans to administer needed improvements to the Eastern Maine Railway (EMR) line through Maine. ***Rail improvements consist of replacing worn-out and obsolete rail, crossties, and turnouts with modern and reliable rail infrastructure along 130 miles of rail line. Additional track rehabilitation inside the One North Bio-Industrial Park will facilitate***

industries in development, those already under contract, and the attraction of future businesses. As a result, the Project will:

1. Replace key rail infrastructure to make it safer and more reliable
2. Make better, faster connections for the state's forest products industry to export markets and Class I interchanges
3. Support the creation of family-wage jobs in rural communities
4. Reduce transportation costs and greenhouse gas emissions
5. Decrease truck traffic and crashes on rural roadways
6. Improve Maine and U.S. competitiveness in the global marketplace

This Project will restore and expand Eastern Maine Railway's (EMR) access to a strategically located industrial site in Northern Maine combined with improving safety, capacity, efficiency, and reliability along the EMR mainline between Millinocket and Brownville Junction (Millinocket subdivision) as well as Brownville Junction to Vanceboro (Mattawamkeag subdivision). The Project is inclusive of the following tasks.

- Rehabilitation of 1.88 miles of mainline track infrastructure between EMR's Millinocket yard and the entrance point of the One North Bio-Industrial Park. This work will consist of new crossties, a new 115lb rail, ballast and surfacing throughout, and a new mainline turnout.
- Rehabilitation of 1.51 miles of customer sidings inside the One North facility utilizing new ties, existing relay rail as applicable, ten new turnouts, and ballast and surfacing throughout.
- Restoration of crossing signals and safety upgrades to grade crossing protection devices at seven highway/rail grade crossing locations to include flashers and crossing gates.
- Track structure upgrades and safety improvements on 32 miles of Eastern Maine Railway's Millinocket subdivision. Work includes replacing 15,000 ties, upgrading 12 lineal miles from worn 100lb rail to new 115lb rail, upgrading two mainline turnouts, and new ballast and surfacing.
- Upgrades to rail infrastructure and safety improvements on the 100 miles of Eastern Maine Railway's Mattawamkeag subdivision. Work includes replacing 62,400 ties, upgrading 80 lineal miles from worn 100lb rail to new, continuously welded 115lb rail, transposing mainline worthy relay rail, upgrading four mainline turnouts, and installing new ballast and surfacing.
- Installing three new Equipment Defect Detectors (EDDs, sometimes known as "Hot Box" detectors) with dragging equipment detection and Automatic Equipment Identification Detectors (AEIs) at strategic locations on the Mattawamkeag subdivision, as well as upgrades to four at-grade road crossings within this subdivision.

Context and Summary

The Project is a comprehensive initiative that has a pivotal role in revitalizing and expanding the rural Maine economy by rehabilitating dormant tracks, improving key rail infrastructure, and connecting the state's forest products industry to domestic and international export markets. The Project will create family-wage jobs in rural areas, reduce transportation costs and harmful emissions, increase efficiencies in goods movement, and improve the State's and nation's ability to compete globally. Over 20 entities have signed Letters of Support for this Project ([link](#)), from the Governor of the State of Maine to Class I railroads to private industries that will benefit from faster, safer, more-reliable train services.

MaineDOT is seeking \$53,313,091 from the Federal Railroad Administration (FRA) to support the total cost of the \$66,641,364 project. The Maine Department of Transportation (MaineDOT) is the Grantee and administrator. Private and non-profit business partners will contribute all of the cash components to match the CRISI award, with a combined amount of \$13,328,273. This arrangement represents a strong public-private approach to infrastructure development. The Project's economic impact from this investment is substantial, with a 10:1 benefit-cost ratio, primarily by improving rail operations, increasing speeds of Project rail lines, and thereby improving efficiency while decreasing emissions and the likelihood of train derailments or crashes.

The Project creates numerous public benefits through its commitments to safety, economic strength, equity, and sustainability while aligning with the strategic goals of the U.S. Department of Transportation. Furthermore, the Project demonstrates planning, environmental, and design readiness along with a clear project management strategy led by an experienced grant administrator (MaineDOT), ensuring compliance with federal regulations and emphasizing the importance of private sector participation, including contributions from Eastern Maine Railway (EMR, owned by NBM Railways) and One North (part of Our Katahdin, a 501(c)(3) non-profit organization). The Project's detailed scope and its potential environmental impacts have been thoroughly assessed, with emphasis on minimizing the ecological footprint and complying with all environmental regulations.

First, the Project will improve safety, speed, and efficiencies on Eastern Maine Railway's mainline. Infrastructure improvements include replacing old, bolted rail with modern 115lb continuously welded rail, installing new crossing signals for safer road crossings, and strengthening the track with new crossties and ballast. As a result, the Project will improve safety, increase freight throughput, and allow the lines to handle increased traffic, including a doubling of wood and pulp products to 3.2 million tons by 2050.¹ Additionally, the project is entirely located in rural Maine (the second-most rural state in the country²), with 100% of the total project cost allocated to a rural area.

Second, the proposed improvements will also support jobs at the One North Bio-Industrial Park in Millinocket as well as indirect job creation for supporting industries; bolster the state's transportation infrastructure; enhance its resilience to challenging weather events exacerbated by climate change; and help Maine meet its aggressive but achievable CO₂ emissions goals. The Project presents a well-structured, comprehensive initiative designed to revitalize the rural Maine economy, promote sustainable industrial development, and strengthen the region's connection to global markets. With a strong focus on economic revitalization, environmental sustainability, and strategic alignment with federal transportation goals, the Project brings significant benefits to the region while adhering to stringent environmental and regulatory standards.

Project Elements

The following provides details on key aspects of the Project, challenges, readiness, and benefits.

Grade Crossing Improvements and Information. Table 2 shows the locations of at-grade crossings where the Project will provide highway gates and signals to improve safety conditions. The first three

¹ Maine Department of Transportation, "Maine State Rail Plan," May 1, 2023, pp. 44-46.

² U.S. Census Bureau, "Urban and Rural." www.census.gov/programs-surveys/geography/guidance/geo-areas/urban-rural.html.

intersections are in the Town of Millinocket, west of the One North Bio-Industrial Park; the remaining four are along the Mattawamkeag mainline.

US DOT Grade Crossing Inventory	Proposed Improvement	Rail Operator(s)	Railroad Owner	Latitude	Longitude
051327M (Spruce St)	Gates, Signals	NBM Railways	EMR Railway	45.65493	-68.71210
051325Y (Poplar St)	Gates, Signals	NBM Railways	EMR Railway	45.65367	-68.71075
051326F (Elm St)	Gates, Signals	NBM Railways	EMR Railway	45.65200	-68.70947
862981X (Route 6)	Full Upgrade (Crossing Surface and Track, Flashers, Masts, Bungalow, Wiring)	NBM Railways	EMR Railway	45.56325	-67.42954
863156G (Forest City Rd)		NBM Railways	EMR Railway	45.57110	-67.72833
863162K (Route 170)		NBM Railways	EMR Railway	45.54904	-68.19072
863161D (Route 171)	Signals Only (Signal Flashers and Masts, Bungalow, Wiring)	NBM Railways	EMR Railway	45.64105	-68.07692

Table 2. Grade Crossing Improvement Locations

State of Good Repair. This route extends from Brownville Junction, Maine, in the central part of the state, to Vanceboro, Maine, and the Canadian border, continuing into Atlantic Canada and the Port of Saint John. It is the state’s only east-west rail line linking Maine and the New England Region directly to New Brunswick, Canada, and the export trade with that region. Improvements will also be made to the mainline operating north from Brownville Junction northeast to Millinocket, Maine, connecting the forest and farming regions of the state.

All right-of-way is owned by EMR. The two routes combined currently host 28 trains each week and more than 110,000 annual carloads and containers carrying a variety of freight traffic, including shipping containers, grains, chemicals, minerals, metals, vehicles, and forest products, which serve as the backbone of Maine’s economy. Traffic on the lines flows to and from the U.S. Midwest, Southeast, and New England, making the Project significant to the Northeast Region, the United States, and international commerce.

Making improvements like these are common, although they often take place less efficiently in smaller segments, addressing only immediate repair needs. The Project takes a more fulsome approach and consists of removing old and worn 100lb jointed rail and replacing it with new, modern, and heavier 115lb continuous welded rail (CWR)³ and welding newer 115lb jointed rail together for 40 miles of CWR. It also includes replacing worn out crossties and ballast. ***This Project will improve the safety and reliability throughout the route and is needed to support today’s heavier freight cars and longer trains.*** Seven road crossings are made safer by installing safe, new crossing panels in the roadway, and improving the signals. The Project also consists of upgrading the worn industrial lead track inside the bio-industrial park to serve new customers, as well as refurbishing the track inside the park that has been dormant for two decades.

³ Federal Register detail related to CWR: www.govinfo.gov/content/pkg/FR-2009-08-25/pdf/E9-20253.pdf.

Safety. The Project will increase freight throughput, allowing the lines to safely handle a doubling of forecasted rail freight demand by 2050. The track will be able to support 286,000-pound freight cars—the minimum standard for rail lines today that handle the amount and types of traffic this line does, sometimes including hazardous materials.

The American Association of Railroads reports that “since 2000, Class I railroads have reduced the mainline accident rate by 42%, the track-caused accident rate by 50%, and the equipment-caused accident rate by 31%.” Most (74%) of the railroad crashes in Maine for the past 10 years have involved derailments. To reduce crashes caused by human error, the Project proposes adding gates and upgrading warning devices at three road/railroad crossings in Millinocket immediately west of the One North Bio-Industrial Park; four more at-grade crossings are also receiving safety upgrades on the Mattawamkeag mainline. Equipment Defect Detectors (EDDs) are also being installed to provide early detection problems before they cause a crash (see also *Climate Change/Sustainability* section).

The second key safety measure is replacing jointed rail with continuously welded rail. CWR reduces noise to adjacent communities, but it also reduces impact wear when compared to jointed rail. The joint bars that hold the sections of jointed rail together require periodic tightening and more frequent surfacing, creating a maintenance cost center and another point of vulnerability eliminated by CWR improvements (Figure 3).



Figure 3. EMR track showing a deteriorated rail joint

A project element that will improve safety is the least technologically innovative but perhaps the most impactful: upgrading and repairing basic rail infrastructure. The Project’s rehabilitation elements include the following actions:

- Replacing or upgrading 97.3 miles of rail;
- Installation of approximately 86,375 railroad ties;
- Placement of approximately 108,357 tons of ballast in areas of need; following best practice, new ballast material will be placed over existing ballast with no removal and disposal of the existing ballast and the entire track surfaced; and
- Replacement of 17 turnouts, including replacement of the existing frogs, switch points, stock rails, guard rails, switch stands, and other track material.

The Project relies on established railroad track construction methods and proven component technology, such as modern rail, double shoulder tie plates, grade three and five wood ties, new ballast, and a stable right-of-way base to withstand future decades of challenging weather-related conditions. These conditions are expected to grow more severe and include precipitation accumulations, temperature changes with many freeze-thaw cycles, and other weather-related events in a region that often experiences average annual snowfall exceeding 100 inches, and where winter conditions can occur eight months of the year.

Project Environmental Readiness. An important aspect of readiness is proactively ensuring that the sustainability of habitats, ecosystems, and transportation infrastructure occur together for their mutual

benefit. MaineDOT exercises stewardship over natural resources and transportation infrastructure through its commitment to addressing aquatic organisms and wildlife habitats in cooperation with natural resource agencies.

Some risks are associated with the Project, but each has a comprehensive mitigation strategy. Coordination between the design and the environmental teams will ensure that the Project goals and community needs can be met while avoiding, minimizing, and mitigating potential environmental impacts. The following actions proactively reduce the potential for delays associated with environmental investigations, documentation, and permitting.

Environmental Justice. MaineDOT utilizes the EPA EJ Screen for all federally funded projects. According to U.S. EPA EJ Screen, 49% of the population is below the poverty level within a one-mile corridor of the Brownville to Vanceboro segment and 34% along the corridor between Brownville and Millinocket. Additionally, the Town of Millinocket is in the 88th percentile of Maine persons aged over 64 and in the 86th percentile for unemployment rate. The Project area includes the railroad corridor adjacent to and within 20 miles of Passamaquoddy Trust Land and Penobscot Off-Reservation Trust Land. Both the Passamaquoddy and the Penobscot are federally recognized and require special consideration under Executive Order 12898.

The Project will not require residential or commercial displacements and will improve existing railroad infrastructure, reducing safety risks for all users of the transportation system, including vehicles, pedestrians, and bicyclists where they intersect with the railroad. The Project team will engage the public and work to ensure the impacts from the Project will not disproportionately impact people of color, low-income, or disadvantaged populations. MaineDOT recently updated its Public Involvement Plans (link: www.maine.gov/mdot/env/NEPA/public/index.shtml), which outline the Department's efforts to ensure disadvantaged populations are afforded meaningful opportunities for public involvement.

Climate Change/Sustainability. Train derailments are often due to track defects induced by wear, but also by extreme weather conditions that produce flooding, freezing, or overheating, resulting in the rail excessively expanding and contracting. Rail infrastructure, like that of roads and ports, is engineered to withstand challenging weather events. However, extremes caused by climate change are testing even the most durable components of a railroad network. Large sections of tracks in neighboring Vermont were washed away by Tropical Storm Irene in 2011⁴ and again by heavy rains in the summer of 2023. The Pine Tree State recognizes the need to reassess and redesign potentially vulnerable infrastructure going forward, as stated in its Climate Action Plan. "*Statewide vulnerability assessments should be conducted for: transportation infrastructure (including roads, bridges, culverts, airports, railroads, ferries, ports and wharfs, maintenance facilities, and public transit systems)....*"⁵

Therefore, in the context of rail operations, safety and climate change are highly interrelated topics. In addition to the new railroad crossing signals above that will help prevent crashes induced by human error, the Project proposes several means of improving overall track safety conditions exacerbated by

⁴ National Weather Service, National Oceanic and Atmospheric Administration. Accessed May 17, 2024: www.weather.gov/safety/flood-states-vt.

⁵ Maine Climate Council, "Maine Won't Wait: A Four-Year Plan for Climate Action." Page 93.

climate change and extreme weather. Equipment Defect Detectors scan railcars while they are in motion to efficiently and automatically identify potential problems that could cause a derailment. Detectors play a critical role in maintaining safe train operations. EDDs attach directly to the tracks and send a signal to an operator if railcar bearings exceed a critical temperature. A railcar's bearings can overheat in as little as three minutes, so having these detectors in place will prevent the potential for derailments in the Project area. The installation of these detectors is an important safety attribute of the Project.

Workforce Development. The railroad is the critical conveyor belt linking abundant wood fiber resources in Northern Maine to mills in other parts of the state and key export markets in Atlantic Canada. It also provides connections to the eastern U.S. through direct interchange with the Class I railroad CSX at Mattawamkeag, Maine. The growth was a key driver in the recent Class I railroad acquisitions of the connecting rail lines by CPKC and the CSX acquisition of Pan Am Railways.

The Project is linked to numerous infrastructure investments that EMR has already made, making multiple improvements to a railyard that connects directly to the Project area. EMR has invested millions of dollars since acquiring the corridor in late 2022:

- *Renovated the double-bay mechanical shop in the Millinocket yard.* As of the beginning of 2024, it is now the primary shop for locomotive and rail car repairs in Maine, with seven Mechanical employees now reporting to this shop. Before EMR acquired the shop, there were no Mechanical employees reporting here.
- *Millinocket Maintenance-of-Way Facility.* EMR-created a base in Millinocket consisting of four Maintenance-Of-Way (MOW) employees. Previously, there were no MOW employees in the area, despite the need to perform numerous repairs on trackage.
- *Yard Rehabilitation.* EMR removed two condemned buildings to improve the yard's safety and aesthetics.
- *Construction of New Tracks.* EMR built two new tracks in the railyard to allow rail access to the mechanical shop.
- *Investing in Efficiency and Safety.* MaineDOT was the recipient of a 2017 FASTLANE grant for bridge improvements and a 2022 CRISI grant focusing on increasing track speeds and safety on the Maine Northern Railway from Ashland to Grindstone, Maine. This grant is funding track infrastructure improvements to increase track speeds from Millinocket to Brownville and from Brownville to Vanceboro. The current request for funding will create a cohesive railroad operation that will allow train crews to build trains more efficiently and serve customers better with an increase in track speed and reliability. Industries that benefited include those moving fiber (logs and chips) to Saint John, New Brunswick/Baileyville, Maine, and finished goods from manufacturers and shippers in northern Maine to interchanges with Class I railroads. The track speed increases created by the Project will allow one crew to operate from Ashland to Millinocket round trip as well as from Millinocket to Vanceboro.

EMR's current and future investments in Millinocket Yard create a location for more Mechanical, MOW, and Operations forces to serve the region, leading to EMR employing additional workers. This Project will also result in additional indirect and induced jobs and a boost to the local economy (restaurants, grocery stores, hotels, and related sectors). This strategic positioning of the Project is attracting business interests that require access to the same markets as those it serves. Recalling that Millinocket is in the 86th percentile of Maine's unemployment rate, new job generation is desperately needed in this rural

area. The northern endpoint of the Millinocket line coincides with the One North Bio-Industrial Park. The Park has attracted customers who require reliable rail shipping options to reach Searsport, Saint John, and other ports, as well as domestic transloading terminals. Agreements or options—One North is conservative in its approach to securing leasing agreements and will use optioning until all commitments have been reached with any prospective lessee—have been executed with the following companies that will make use of the enhanced or reactivated rail infrastructure afforded by the Project.

- *Highland Carbon Solutions LLC (opening in 2027; full scale by mid-2029)* produces clean-burning wood pellets to sell domestically and internationally. The company has chosen to locate in Millinocket because of available inputs - it is a premier location for renewable forest wood chips and sawdust re-purposed from mills and lumbering operation cast-offs. Projected *annual volumes of 26,804 railcars: 550,000 tons chips/sawdust inbound; 360,000 tons outbound.*
- *Castlerock Green Energy (opening in 2027; full scale by mid-2029)* is partnering with Ensys to produce bio-crude, a greenhouse gas-neutral fuel made from a variety of waste products that would otherwise end up in landfills and distribute fuels from the Millinocket One North Bio-Industrial Park. Projected *annual volumes of 6,248 railcars: 300,000 tons chips; 20 million gallons fuel outbound (note: 50% of this volume may be hauled by truck if the Project is not completed).*
- *Katahdin Salmon (opening in mid-2027)* produces land-based, antibiotic-free, and non-GMO fish in the clear waters of Maine. Rail freight will provide an economical source of feed and ship their finished product. Projected *annual volumes of 208 railcars: feed.*



Figure 4. Great Northern Paper Mill Administration Building, Millinocket (credit: Our Katahdin/One North)

Benefit Categories

The Project results in numerous benefits across several categories. These categories are also used for the Benefit-Cost Analysis, located in *Section VIII: Evaluation and Selection Criteria*.

Speed and Efficiency (reductions in operating costs). Currently, the travel times on the Millinocket mainline (from Brownville, approximately 40.5 miles) must operate at 10mph or less; the Project will raise that maximum speed to 25mph. Similarly, on the Mattawamkeag line (from Brownville junction to Vanceboro and the Canadian border), maximum speeds will go from 25mph to 40mph with the Project's

completion. The Project will reduce locomotive idling times from five hours per train today to two hours post-project due to the Build scenario creating trackage that can host higher speed trains. This will result in a more efficient railroad, one that will specifically eliminate a train-passing-train conflict that currently forces a three-hour passing delay once per day in the No-Build scenario. Accelerating the speed of trains post-project was discounted in the calculations, a simplification that was applied equally in the No-Build and Build scenarios.

Emissions Benefits (*reduction in greenhouse gas and non-CO₂ mobile emissions*). The BCA Guidance⁶ provides values for freight rail emissions per train-hour of travel. These values were used to calculate the emissions reductions resulting from trains spending less running *and* idling time as a result of the track improvements made by the Project. As with travel times, assumptions were made as to the typical length of trains (30 cars per train) and the operating speed parameters described previously for the speed and efficiency gains.

Safety (reductions in crashes). Calculating benefits from crash reductions for a mode of travel that produces very few crashes per mile of travel is challenging. Therefore, assumptions about crash frequencies and severity were conservative: the same rate of crashes on the statewide system (3.4/year) was apportioned to the part of that system that coincides with the Project’s track length (12.7%). Furthermore, it was assumed that there would be no injuries or fatalities from these crashes for the complete life of the Project analysis period, and the damage value was ascertained from the most recent 10 years of data obtained from the Railroad Equipment Accident Form 54 FRA database (Figure 5).⁷

Travel Time (reductions in travel time incurred by locomotive personnel). Trains are required by FRA to have two operators, one locomotive engineer and one conductor. The travel-plus-idle time differential between the No-Build and Build scenarios described previously was applied to the wage rate (\$53.50/hour) from the BCA Guidance for two Locomotive Engineers (note that the actual wages and benefits are over \$68/hour, making this part of the BCA conservative). The same assumptions to produce the operating efficiency gains apply here as well. The resulting savings in travel time wages were significant but comprised a small portion (4.5%) of the overall benefits. No attempt was made to estimate the time savings of automobiles waiting to cross at-grade street/rail intersections because of the track speed improvements; this would have contributed very slightly to the travel time benefits; their omission also contributes to a conservative estimate of travel time benefits.

Operations and Maintenance. While not strictly a benefit calculation, the lower costs in the Build scenario translate into \$64.7 million in cost savings over 25 years. Lower maintenance costs happen

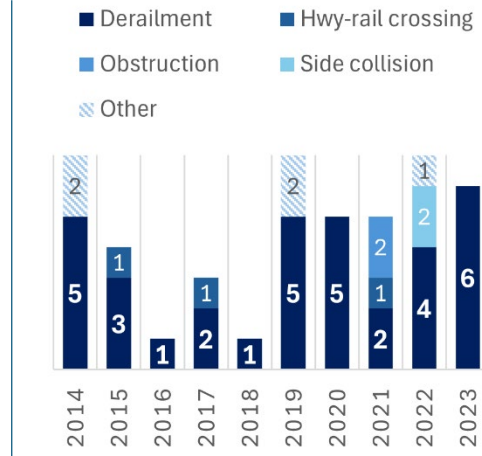


Figure 5. Maine Rail Crashes, 2014-2023 (Source: FRA)

⁶ USDOT, “Benefit-Cost Analysis Guidance for Discretionary Grant Programs,” Table A-5, Office of the Secretary, December 2023.

⁷ Federal Railroad Administration, Rail Equipment Accident/Incident Data, accessed May 13, 2024.

because the Project replaces much of the ballast, crossties, and rail that would otherwise be replaced incrementally over a long period of time in the No-Build scenario.

Process. Calculations were made within the recommended BCA template provided by USDOT, and in accordance with both the 2024 *USDOT BCA Guidance* and the 2016 *BCA Guidance for Rail Projects*.⁸ The benefit-cost discussion in this application provides an illustration of the contributions of each benefit category to the overall benefit of the Project and a Summary of those benefits. The payback period, which is the number of years required for the Project to return the (fully discounted) initial capital investment, is anticipated to occur within three (3) years after its completion.

Benefits Summary. The Project will make the railroad safer; create and support family-wage jobs in rural Maine and New England; decrease the number of trucks on rural roads; reduce the potential for roadway crashes and railroad derailments; and help Maine meet its aggressive sustainability/climate goals. The benefit-cost analysis returns a benefit-cost ratio of 10.1:1, even with a number of conservative assumptions like the omission of noise reductions and a 25-year lifespan for revenues. The Project also supports multiple USDOT goals (*refer to Section VIII*) and helps Maine’s rural communities compete in a global marketplace, creating sustainable local jobs and wages.

Measuring Project Performance

Per 2 CFR 200.301, MaineDOT is required to provide performance measures that encapsulate the preceding discussion of benefits and assign performance measures to mark progress, contribute to Maine’s statewide performance monitoring program, and learn from the Project’s development and implementation to inform future improvements. Maine’s *State Rail Plan* (May 2023) describes performance measures in Chapter 3, as does the NOFO. Both documents were consulted to develop the following slate of performance metrics ([Table 3](#)).

Rail Measure	Unit Measure	Measurement Period	Measurement Frequency	Primary Administration Priorities	Secondary Administration Priorities	Description and Goal
Freight Rail Volumes	Carload	Post-Construction	Quarterly	Workforce Development, Job Quality & Wealth Creation	Climate Change & Sustainability	Increases of 25% indicate more employment
Slow Order Miles	Mile	Post-Construction	Annual	Workforce Development, Job Quality & Wealth Creation	Climate Change & Sustainability	Miles with temporary speed reductions decrease by 90%

Table 3. Proposed Performance Measures

⁸ Federal Railroad Administration, “Benefit-Cost Analysis Guidance for Rail Projects,” U.S. Department of Transportation, June 2016.

VII. Project Location

The Project runs along the tracks of EMR’s Mattawamkeag Subdivision from Milepost 5.6 at Vanceboro to Milepost 72.43 at Brownville Junction. It also includes the mainline from MP 72.52 near Brownville Junction to Milepost 109 at Millinocket. All work is being done within the Second Congressional District of Maine (Figure 6) on Class III (Eastern Maine Railway, or EMR) rail corridors, as well as within the One North Bio-Industrial Rail Park in Millinocket.

Coordinates (1984 Mercator projection) and mileposts at key waypoints are provided in Table 4. EDDs and other safety detection equipment will be located where they are deemed to be most effective, with the objective of achieving 15-mile spacing with already existing EDDs on the line.

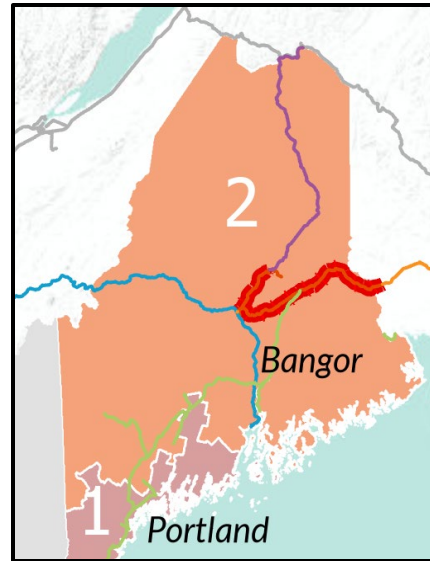


Figure 6. Maine Congressional Districts

Site or Point Description (see map on page XXXX)	Latitude (N) / Longitude (W)	Milepost
One North Bio-Industrial Park, Project Endpoint	45.639091 / -68.696194	109
At-Grade Intersection #1: Elm Street	45.652003 / -68.709474	104.77
At-Grade Intersection #2: Poplar Street	45.653669 / -68.710758	104.77
At-Grade Intersection #3: Spruce Street	45.654930 / -68.712095	104.77
Penobscot-Piscataquis County Line	45.523044 / -68.885755	90.18
Brownville Junction	45.350505 / -69.052079	72.43
I-95 Crossing (separated)	45.394764 / -68.601692	77.00
Mattawamkeag (Town)	45.511941 / -68.355001	62.00
U.S. Highway 1 Crossing	45.605590 / -67.804840	26.99
Vanceboro, Project Endpoint	45.563988 / -67.427424	5.90

Table 4. Project Coordinates and Key Waypoints

VIII. Evaluation and Selection Criteria

The merit evaluation and selection criteria are matched with the benefits to be realized from the Project below describing first the Merit Criteria benefits followed by those benefits associated with the USDOT/FRA Selection Criteria.

Project Readiness

The preceding narrative offers environmental stewardship and other risk mitigation strategies. All funding commitments between MaineDOT, EMR, and One North are in place; leasing agreements or options for entities that will begin increasing rail demand at the One North Bio-Industrial Park have been executed with two developers. The narrative also describes extensive prior and ongoing planning for this Project and others that connect to it, providing the context for how this Project will impact regional rail connectivity and efficiency. The completion of prior planning and project development identifies this Project as being “shovel-ready” at Lifecycle Track 3 – Final Design/Construction.

Environmental Readiness

An important aspect of readiness is proactively ensuring that the sustainability of habitats, ecosystems, and transportation infrastructure occur together for their mutual benefit. MaineDOT exercises stewardship over natural resources and transportation infrastructure through its commitment to addressing aquatic organisms and wildlife habitat in cooperation with natural resource agencies. Based on our completed preliminary work, the time for completion of NEPA documentation is less than four (4) months from the Notice of Award. Some risks are associated with the Project, but each has a comprehensive mitigation strategy (*Table 5*).

Project Environmental Risks	Mitigation Strategies
<ul style="list-style-type: none"> • Environmental permitting/restriction • Federally Endangered Atlantic Salmon DPS and Critical Habitat • Federally Endangered Northern Long-Eared Bat 	<ul style="list-style-type: none"> • Collaborative agreements with MaineDOT, USFWS, USACE, FHWA, and MTA under the Endangered Species Act through a process that expedites endangered species consultations and aims to meet both wildlife and Project goals • Choosing a final design that minimizes environmental concerns • Constructability reviews will be completed during design to ensure the selected alternative is buildable given the various environmental restrictions
The Project is adjacent to Tribal Lands	Early notification and invitation to share information about the Project and its elements.

Table 5. Environmental Risks and Mitigation Strategies

Coordination between the design and the environmental teams will ensure that the Project goals and community needs can be met while avoiding, minimizing, and mitigating potential environmental impacts. The following actions proactively reduce the potential for delays associated with environmental investigations, documentation, and permitting.

- *Sound Baseline of Data.* Preliminary baseline data will be collected to identify natural and cultural resources potentially affected by the Project. This information will be refined during design and used to avoid and minimize impact while meeting the Project's objectives.
- *National Environmental Policy Act (NEPA).* The NEPA process will inform design efforts. Based on the Project scope, the Project will be classified as a Categorical Exclusion. MaineDOT and its environmental team will provide supporting information to complete the FRA Categorical Exclusion checklist (*refer to Attachment 4*). Should any issues arise, MaineDOT will work with FRA and the respective agencies to quickly resolve them. The anticipated date for NEPA completion is within four months of the Notice of Award being received. Public involvement will be completed in accordance with MaineDOT Public Involvement Plan and the MaineDOT NEPA Public Involvement Plan. These plans can be found at this link: www.maine.gov/mdot/env/NEPA/public/index.shtml.
- *Historic and Archeological.* The MaineDOT historic coordinator will evaluate the Project for eligibility for the Advisory Council on Historic Preservation (ACHP) Section 106 Program Comment to Exempt Consideration of Effects to Rail Properties Within Rail Rights-of-Way (Program Comment), dated August 17, 2018. Elements of the Project that do not meet the Program Comment will be processed under Section 106 in accordance with the Programmatic

Agreement among the Federal Highway Administration, the Federal Railroad Administration, the Maine State Historic Preservation Officer, the Advisory Council on Historic Preservation, and the Maine Department of for the Transportation Program in Maine, dated July 6, 2022. The design team will work to avoid and minimize impacts. Should adverse effects arise, MaineDOT and FRA will resolve adverse effects to historic properties in consultation with the Cultural Coordinator and the Maine Historic Preservation Commission as outlined in 36 CFR 800 and the MaineDOT Section 106 Programmatic Agreement. MaineDOT and FHWA Maine Division will engage federally recognized Tribes. Significant effort has been made at One North in coordination with the Maine Historic Preservation Commission, including a recent Section 106 review in collaboration with an EPA Brownfields Cleanup project that focuses on the rail corridor. There are no historic property or district impacts related to this project.

- *Section 4(f) of the Department of Transportation Act.* The MaineDOT Cultural Coordinator will review the project corridor to identify Section 4(f) resources. Project details and right-of-way information will be evaluated to avoid and minimize potential Section 4(f) uses. At this time, no right-of-way acquisition is expected, and Section 4(f) use is not anticipated.
- *Endangered Species Act (ESA) and Essential Fisheries Habitat (EFH).* The Project area includes designated Essential Fish Habitat and is located within the range of federally-listed Gulf of Maine Distinct Population segment of Atlantic salmon and its designated Critical Habitat. The Project is also located within the range of the federally threatened Northern Long-Eared Bat. MaineDOT and FRA will coordinate with federal agencies during Project design to avoid and/or minimize effects on EFH and ESA species and to complete the required consultations in accordance with the Project schedule.
- *Section 404 Clean Water Act Permit (U.S. Army Corps of Engineers).* Freshwater wetland and stream impacts are not expected but could be required. MaineDOT will avoid and minimize temporary and permanent wetland and waterbody impacts to the extent practicable. MaineDOT anticipates that wetland impacts, and any in-water work will be eligible for Category 2 Permits under the Maine Programmatic General Permit. Use of in-lieu fee mitigation payments to the Maine Natural Resources Compensation Program will streamline compensatory mitigation for unavoidable wetland impacts.
- *Natural Resources Protection Act (Maine Department of Environmental Protection).* The Maine Natural Resources Protection Act regulates wetland and stream impacts. MaineDOT anticipates that any wetland and stream impacts associated with the Project will be eligible for Permit-By-Rule Chapter 305, Section 11, a streamlined permit process for State Transportation Facilities.
- *Stormwater (Maine Department of Environmental Protection).* The Project will incorporate Best Management Practices for temporary and permanent management of soil erosion and sedimentation. Permanent measures for treating stormwater quantity and quality will be incorporated in accordance with Chapter 500 regulations and the Memorandum of Agreement for Stormwater Management Between the MaineDOT, MTA, and Maine Department of Environmental Protection.
- *Floodway/Floodplains.* The Project may require construction of replacement crossings at waterbodies with designated Zone A and Zone B floodplains, though it is not anticipated. Any water/wetland crossings will be designed to avoid and minimize encroachments into designated

flood zones and in accordance with Executive Order 11988. Crossings will generally be designed to improve hydraulic capacity and aquatic connectivity.

- *Programmatic Agreements.* MaineDOT and various other state and federal departments have executed agreements to expeditiously but thoroughly review the environmental impacts of projects. MaineDOT will take advantage of the following agreements, where applicable, to streamline the environmental review and approval process:
 - Programmatic Agreement among the Federal Highway Administration, the Federal Railroad Administration, the Maine State Historic Preservation Officer, the Advisory Council on Historic Preservation, and the Maine Department of Transportation Program in Maine, dated July 6, 2022;
 - Cooperative Agreement between U.S. Department of the Interior Fish and Wildlife Service (USFWS), FHWA, and MaineDOT for State Transportation Reviews by the USFWS in Maine;
 - Maine Atlantic Salmon Programmatic Consultation finalized January 23, 2017;
 - Programmatic Agreement for the State of Maine concerning identification of listed and proposed species and designation of non-federal representative under the Federal Endangered Species Act between FHWA, Maine Division USACE, & MaineDOT;
 - Programmatic Agreement for the State of Maine concerning identification of listed and proposed species and designation of non-federal representative under the Federal Endangered Species Act between FHWA, Maine Division USACE, & MaineDOT; and
 - Memorandum of Agreement for Stormwater Management Between the MaineDOT, MTA, and Maine Department of Environmental Protection; and Advisory Council on Historic Preservation (ACHP) Section 106 Program Comment to Exempt Consideration of Effects to Rail Properties Within Rail Rights-of-Way (Program Comment), dated August 17, 2018.

Technical Merit

The MaineDOT and EMR regularly execute similar rail infrastructure upgrade and restoration projects, providing a solid base of understanding for estimating costs and scheduling of all Project elements. The staff overseeing this Project have collaborated for years, and the Grantee has presented a senior manager with experience in managing CRISI and other federal grant projects (*see Section IX*) to ensure that the project remains on schedule and meets all reporting requirements. MaineDOT and its partners have prepared a Statement of Work and project schedule that meet legal and regulatory requirements for reporting and project delivery. The cash match (20% of total project funding) to the requested CRISI award originates from EMR (private rail) and One North (a non-profit), demonstrating a business plan built on leveraging public sector tax dollars with innovative partnerships. MaineDOT, the Grantee, is providing management and administration services for the Project.

Project Benefits

Benefit-Cost Analysis

The following text describes several benefit streams associated with the Project and presents a summary that includes the benefit-cost ratio (BCR) and payback period (the number of years after completion that the Project requires to “pay back” its total cost). Benefit categories and key assumptions used in the BCA development include the following.

Speed and Efficiency (*reductions in operating costs*). Currently, the travel times on the Millinocket subdivision (Millinocket to Brownville, approximately 40.5 miles) must operate at 10mph or less; the Project will raise train speeds to 25mph. Similarly, on the Mattawamkeag subdivision (from Brownville junction to Vanceboro and the Canadian border), speeds will go from 25mph to 40mph with the Project’s completion. Idling times will be reduced from a typical five hours per train (averaged over highly varying seasonal differences) to two hours due to the Build scenario speed differentials translating into the removal of a conflict that currently forces a three-hour passing delay once per day in the No-Build scenario. Accelerating trains to their maximum speed was discounted in the calculations, a simplification that was applied equally in the No-Build and Build scenarios.

Emissions Benefits (*reduction in greenhouse gas and non-CO₂ mobile emissions*). The BCA Guidance⁹ provides values for freight rail emissions per train-hour of travel. These values were used to calculate the emissions reductions resulting from trains spending less running *and* idling time as a result of the track improvements made by the Project. As with travel, assumptions were made as to the typical length of trains (30 cars per train) and the operating speed parameters described previously for the speed and efficiency gains.

Safety (*reductions in crashes*). Calculating the benefits from crash reductions for a mode of travel that inherently produces very few crashes per mile of travel is challenging. Therefore, assumptions about crash frequencies and severity were conservative: the same rate of crashes on the statewide system (3.4/year) was apportioned to the part of that system that coincides with the Project’s track length. Furthermore, it was assumed that there would be no injuries or fatalities from these crashes for the complete life of the Project analysis period, and the damage value was ascertained from the most recent 10 years of data obtained from the Railroad Equipment Accident Form 54 FRA database (Figure 7).¹⁰

Travel Time (*reductions in travel time incurred by locomotive personnel*). Trains are required to have two employees, one locomotive engineer and one conductor. The travel-plus-idle time differential between the No-Build and Build scenarios described previously was applied to the wage rate (\$53.50/hour) from the BCA Guidance for two Locomotive Engineers, lower than the observed wages. The same assumptions to produce the operating efficiency gains apply here as well. The resulting savings in travel time wages are significant but comprise a small portion (4.4%) of the overall benefits. No attempt was made to estimate the time savings of automobiles waiting to cross at-grade street/rail intersections because of the track speed improvements. This would have contributed very slightly to the travel time benefits; their omission and the use of the USDOT-recommended Engineer wage rates make the travel time benefit calculation slightly conservative.

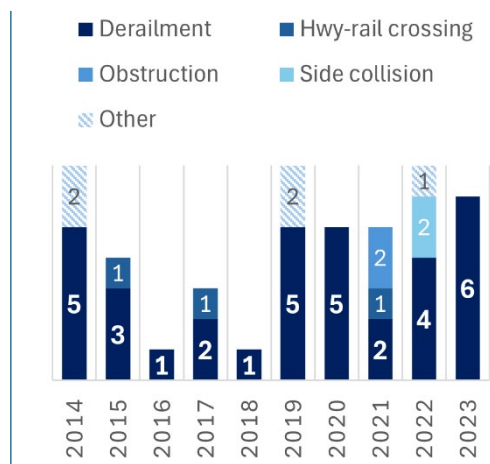


Figure 7. Maine Rail Crashes, 2014-2023 (Source: FRA)

⁹ USDOT, “Benefit-Cost Analysis Guidance for Discretionary Grant Programs,” Table A-5, Office of the Secretary, December 2023.

¹⁰ Federal Railroad Administration, Rail Equipment Accident/Incident Data, accessed May 13, 2024.

Operations and Maintenance. While not strictly a benefit calculation, the lower costs in the Build scenario translate into \$64.7 million in cost savings over 25 years. Lower maintenance costs happen because the Project replaces much of the ballast, crossties, and rail that would otherwise happen incrementally over a long period of time in the No-Build scenario.

BCA Development and Results. Calculations were made within the recommended BCA template provided by USDOT, and in accordance with both the 2023 *BCA Guidance* and the 2016 *BCA Guidance for Rail Projects*.¹¹ The following graphic (Figure 8) illustrates the contributions of each benefit category to the overall benefit of the Project and a Summary of those benefits. The “payback period” is the number of years required for the Project to return the (fully discounted) initial capital investment.

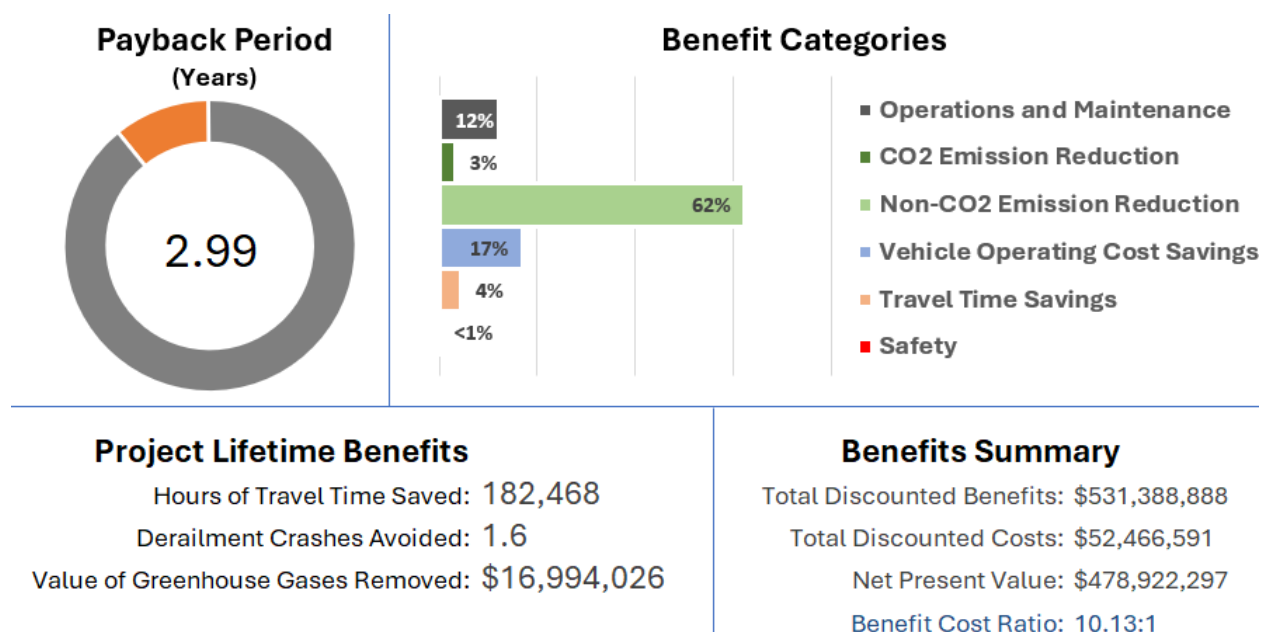


Figure 8. Benefit-Cost Summary Information

Benefits Summary. The Project will make the railroad safer, create and support family-wage jobs in rural Maine and New England, decrease the number of trucks on rural roads, reduce potential for roadway crashes and railroad derailments, and help Maine meet its aggressive sustainability and climate goals. The benefit-cost analysis returns a benefit-cost ratio of 10.1:1, even with a number of conservative assumptions like the omission of noise reductions and a 25-year lifespan for revenues. The Project also supports multiple USDOT goals and helps Maine’s rural communities compete in a global marketplace.

Program Preference

The Project meets Program Preference criteria:

- The Project is not addressed by other FRA grant programs as it improves short-line/regional railroad infrastructure and equipment.
- The significant public and modest private benefits of the Project result in a BCR of 10.1:1.

¹¹ Federal Railroad Administration, “Benefit-Cost Analysis Guidance for Rail Projects,” U.S. Department of Transportation, June 2016.

Administration Priorities

Safety

By replacing rails, crossties, and ballast; adding safety equipment like EDDs and AEIs, making extensive CWR improvements; and installing safety measures at seven at-grade road crossings, the Project is expected to reduce property damage by 15%. This estimate is likely conservative, since research has indicated between 14% (Canada) and 35% (U.S.) of rail accidents are due to track geometry defects¹² which this Project is designed to mitigate, leading to 1.6 fewer derailments over its anticipated lifecycle. Existing anti-trespassing measures, including fencing, lighting, and a dedicated security person, are in place now at the One North Bio-Industrial Park. The project will result in fewer rail joints, which will decrease the likelihood of track-caused derailments. New ballast will provide better cushioning for the track structure which will protect the track better. Equipment Defect Detectors will inspect railcars in-motion to prevent the likelihood of a derailment. Seven at-grade crossings will be made safer with upgraded crossing safety treatments.

Climate Change / Sustainability

Rail is a climate-friendly form of transportation, with 500 tons of freight being moved using a single gallon of fuel (AAR). The most impactful contributor to the Project's 10:1 BCR is the emissions reduction, including \$17 million (discounted) from carbon dioxide reductions. These benefits result from an increase in rail hauling speed and reduction in idle times, illustrating how transportation performance successfully intersects with global climate change strategies. The benefits are intuitive: speeds nearly double, idling time is reduced by three hours, and the resulting saved operating and idling times are multiplied by the BCA Guidance values of carbon for Freight Trains hauling (\$280/hour) or idling (\$28/hour). Additional emissions reduction benefits (75%, on average, according to the Association of American Railroads, February 2024) are likely to accrue from converting truck freight to rail, although these emission reductions were deemed more difficult to predict with confidence but contribute to a conservative approach to the BCA. Strengthening the track with Project improvements will allow the line to withstand more frequent climate challenges in the future.

Equity and Justice⁴⁰

The Project is in a rural area of Maine with high rates of over-64 and unemployed residents. According to the US EPA EJ Screening tool, 49% of persons living along the corridor fall below the federal poverty line and are considered low-income. The creation of family-wage jobs will be emphasized in hiring practices, leveraging programs like the Maine-at-Work using job fairs and aggressive veteran hiring initiatives. New opportunities will be created by the Project directly (construction hiring), indirectly (additional rail operations hires), and through induced demand (spurring One North company creation/expansion and supporting industries in the retail and service sectors). Fewer trucks on rural roads improves safety and roadway conditions.

Workforce Development, Job Quality, and Wealth Creation

As noted elsewhere in the narrative, the Project is located in a rural area experiencing 75th to 90th-percentile occurrences of poverty and unemployment: addressing this crisis is a high priority for the Grantee as well. The One North Bio-Industrial Park has been a bright spot for the community of Millinocket and is expected to support approximately 230 family-wage jobs in fuel, fiber, and salmon farming companies when they become fully operational by 2029. long-term indirect employment for the additional hires is required to manage the expanded rail operations in Millinocket.

¹² Alireza Roghani, "A quantitative evaluation of the impact of soft subgrades on railway track structure," Department of Civil and Environmental Engineering University of Alberta, 2017. Page 28.

IX. Project Implementation and Management

Project Management. The Grantee (MaineDOT) is responsible for facilitating the coordination of all activities necessary for the implementation of the Project. Upon award of the Project, the Grantee will monitor and evaluate the Project's progress through regular meetings scheduled throughout the Project Performance Period. The Applicant/Grantee will:

- Participate in a project kickoff meeting with FRA
- Complete necessary steps to hire a qualified consultant/contractor to perform required Project work
- Hold regularly scheduled Project meetings with FRA
- Inspect and approve work as it is completed
- Review and approve invoices as appropriate for completed work
- Submit to FRA all required Project deliverables and documentation on time and according to schedule, including periodic receipts and invoices
- Comply with all FRA Project reporting requirements, including, but not limited to:
 - Status of the project by task breakdown and percent complete;
 - Changes and reason for change in project's scope, schedule and/or budget;
 - Description of unanticipated problems and any resolution since the immediately preceding progress report;
 - Summary of work scheduled for the next progress period;
 - Updated Project schedule; and
 - Provide quarterly reports/performance measures as required by the FRA grant agreement.
- Provide weekly project highlights/updates to FRA
- Perform Project close-out audit to ensure contractual compliance and issue close-out report
- Notify FRA of changes to this Agreement that require written approval or modification to the Agreement

For all existing right-of-way track components, MaineDOT has determined that the appropriate level of NEPA investigation is a Categorical Exclusion (CE) and has completed a draft Federal Railroad Administration CE to comply with all NEPA regulations (*refer to Draft CE Worksheet in [Attachment 4](#)*). MaineDOT and Project partners have completed all of the necessary Planning and Preliminary Engineering (PE) work. All of these areas are locations where track currently exists, or previously existed and is now out of active service.

After years of detailed planning, environmental investigations, and preliminary engineering, MaineDOT asserts that there are no known uncertainties or significant risks associated with design or procurement. MaineDOT and its project partners do not anticipate any cost estimate or Project schedule changes from those shown in the budget proposal, in part because of the level of control over the procurement of materials and labor, but also because of the depth of experience that MaineDOT possesses with similar types of projects on smaller scales. Contingency funding (5% of Project cost) has been included in our estimate to address uncertainties associated with inflation or supply chain disruptions, or other future unforeseen events. Additional contingency funding is available from EMR to further insulate the Project from completion risk. [Table 6](#) on the next page presents responses to anticipated risk centers.

Project Risks	Mitigation Strategy(-ies)
Environmental Permitting	Proper Designing of Work
Permitting and potential mitigation impact the construction schedule <i>(refer also to Section VI Detailed Project Description/Project Environmental Readiness)</i>	<ul style="list-style-type: none"> • Initiate environmental data collection early in the project (underway). • Complete preliminary assessment (done) of environmental permitting requirements in human and natural environments • Verify that existing rail alignment improvements NEPA categorical exclusion eligible (done). • Delineate wetlands / vernal (done).
Inflation Risk	Utilize Historic Data for Estimate and Quantify for Bids
Inflation can seriously alter the budget capacity for the overall project or for certain materials or labor.	<ul style="list-style-type: none"> • A contingency rate of 5% has been applied to the materials and construction costs for the Project. • EMR will provide additional contingency funding, as necessary, to complete the project objectives.
Cost Control(s)	Anticipate Sources of Cost Increases and Contingencies
Detailed design has not been performed for all elements of the project, and there will be additions to the scope of work as the design progresses; additionally, costs of contracted labor or materials could escalate due to inflation	<ul style="list-style-type: none"> • Estimate has incorporated quantity allowances for drainage improvements, erosion control, inflation, and other likely sources of costs. • Preliminary Opinion of Probable Costs based on current vetted unit pricing from EMR. • As noted above, a 5% contingency amount has been allocated to the Project.
Long-Lead Time Materials	Plan Ahead and Use the Best Information
Issues may arise in obtaining supplies to proceed due to logistical or supply chain disruptions	<ul style="list-style-type: none"> • Order turnouts, rail, and long lead materials early • Utilize current market pricing from MaineDOT and Eastern Maine Railway

Table 6. Project Risks and Mitigation Strategies

Project Schedule. The following project schedule (Table 7) outlines key tasks and their anticipated durations.

<i>Budget Task No.</i>	<i>Milestone (some elements are concurrent)</i>	<i>Schedule Dates</i>
1	Project Administration & Management <ul style="list-style-type: none"> • Complete Environmental NEPA and Permitting • Finalize FRA-required adjustments to Schedule and performance measures 	4 months from notice of award (project coordination and reporting are ongoing for the life of Project)
2	Rehabilitate Millinocket Branch Line	26 months from notice of award
3	Rehabilitate One North Customer Sidings on Millinocket Branch Line	26 months from notice of award
4	Upgrades to Eastern Maine Railway’s Millinocket Subdivision	26 months from notice of award
5	Upgrades to Eastern Maine Railway’s Mattawamkeag Subdivision	26 months from notice of award
1	Project Administration & Management <ul style="list-style-type: none"> • Project Close-Out • Performance Reporting 	90 days after construction is completed

Table 7. Project Schedule and Milestone Delivery

Project Staffing and Experience. MaineDOT is a highly experienced grant manager with staff who have proven success in constructing grant-funded projects expeditiously, managing financial reporting requirements, and administering back-office functions. Examples of past projects include the following.

- CRISI grant of \$17.5 million—matched by more than \$500,000 in state funding and \$17.5 million in private funding— awarded in 2018 to MaineDOT to fund upgrades to the former Pan Am Railways mainline from Waterville to Royal Junction
- CRISI grant of \$16.9 million—matched by \$25.3 million in private funding—awarded in 2019 to MaineDOT to fund track and bridge upgrades in central Maine between Waterville and Mattawamkeag
- CRISI grant of \$16.2 million—matched by \$3 million from MaineDOT and MNR—awarded in 2022 to fund upgrades on MaineDOT-owned lines operated by Maine Northern Railway
- Fostering Advancements in Shipping Transportation for the Long-Term Achievement of National Efficiency (FASTLANE) grant funding in the amount of \$7.6 million—matched by \$8.2 million from MaineDOT and private funding—awarded in 2018 to fund upgrades of 22 railroad bridges in Maine
- Transportation Investment Generating Economic Recovery (TIGER) VII grant award of \$20 million—matched by \$2.6 million from MaineDOT and \$14.4 million in private funding— to fund improvements to more than 384 miles of track, rail yards, bridge timbers, and grade crossings throughout central and northern Maine

MaineDOT has also administered additional Federal grant funding to aid passenger rail investment supporting Amtrak’s state-funded Downeaster service.

EMR (part of NBM Railways) and One North (part of Our Katahdin) are important private sector team members providing all of the monetary match to the proposed CRISI award. Numerous letters of

support, located with the attachment documentation, represent the broad support the project has from numerous stakeholders. Key personnel from MaineDOT (Grantee), EMR, and One North are shown below.

Nathan Moulton

Director, Office of Freight and Passenger Services, MaineDOT

Role(s): Project Administrator



Mr. Moulton has successfully managed railroad-related projects statewide for more than 25 years. He previously served as Deputy Director of the Northern New England Passenger Rail Authority, overseeing a \$63 million FTA-funded project to restore Amtrak’s Downeaster Passenger Service. He has served as Project Administrator on the following Federal grant projects:

- TIGER II (2011): Rehabilitate state-owned Aroostook Lines (\$11.6m)
- TIGER VII (2015): Maine Regional Railways (\$37.4m)
- FASTLANE II (2018): Maine Railroad Bridge Project (\$15.7m)
- CRISI (2023): Pan Am Railways & Crossing Safety (\$35.5m)
- CRISI (2023): Pine Tree Corridor Capacity & Safety (\$42.2m)

Josh Snyder, P.Eng

Director of Engineering, NBM Railways/EMR

Role(s): EMR & NBM Rail Services Project Manager



Mr. Snyder has been with NBM Railways for eight years, including working with EMR, MNR, and NB Southern Railway companies. He has been Director of Engineering since 2020 (Chief Engineer for NBM Railways), and Manager of NBM Rail Services since 2021. He has overseen track upgrades for Pan Am Railways, CPKC, CN, and Fingerlakes Railway, as well as managed the execution of over 12 MaineDOT IRAP projects. His work experience managing grant-funded projects includes:

- TIGER VII (2018): MNR’s project manager
- FASTLANE II (2022): MNR’s project manager
- Canadian NTCF (2024): NB Southern Railway’s project manager

Peter Malikowski

Board Member, Our Katahdin

Role(s): Coordinate with One North Bio-Industrial Park



Mr. Malikowski grew up in Millinocket, Maine and is currently the Assistant General Manager for Cianbro Corporation’s Industrial & Manufacturing market in Pittsfield. While a Millinocket resident, he witnessed the paper mill closure and saw first-hand how the local economy shattered. This has provided ample motivation in his work with One North project development, and grant coordination with federal and state agencies. His relevant experience also includes:

- Sarah Mildred Long Bridge Replacement Project (\$165 million) between Kittery, Maine, and Portsmouth, New Hampshire, with a focus on the replacement of the rail alignment.
- New Mexico’s successful Rail Runner commuter rail service construction, which included site work on a scale much larger than the brownfield and greenfield sites associated with this Project.