

MERIT CRITERIA

The *East Deering: Pathways to Bridge the Gap Project* (“Project”) consists of numerous transportation-related connectivity improvements in the East Deering neighborhood of Portland, Maine (Cumberland County). The primary Project purposes align with RAISE program merit criteria and objectives.

Safety—Improving *Safety* is a primary Project purpose.

The Project will address known, documented safety problems by:

- Protecting non-motorized travelers from safety risks
- Reducing fatalities and serious injuries in underserved communities to bring them below the state-wide average
- Incorporating actions identified in USDOT’s *National Roadway Safety Strategy Plan*

Current Safety Issues

In 2022, Maine suffered its highest traffic fatality rate in 15 years.¹⁰ Cumberland County ranked above average for concentration of roadway fatalities from 2017–2021. The county’s 105 total fatalities amount to 1.7 times greater than the average U.S. county.¹¹ Maine Department of Transportation (MaineDOT) has increased messaging to bring public awareness to this trend and combat unsafe driving while simultaneously redesigning and modernizing roads throughout the state to meet Federal and state safety guidelines.

Residents and those passing through the Project area have expressed concerns about safety and the dangers posed by current street design (see *Partnership and Collaboration*). The Project area includes two heavily traveled intersections that serve as entry and exit points between Interstate 295 and East Deering. Table 1 shows the Annual Average Daily Traffic (AADT) for key roads in the Project area. These intersections pose high risks for users of all transportation types. There have been numerous traffic crashes at these intersections since 2020, including three involving bicyclists. The intersections of Baxter Boulevard–Bates Street–Exit 9 and Washington Avenue–Bates Street–Veranda Street–Exit 8 saw 4 and 14 crashes with injuries, respectively, since

Table 1. Annual Average Daily Traffic⁹

Location	AADT
Baxter Blvd./Bates St./Exit 9 (on- and off-ramp)	6,400
Exit 8 (off-ramp)	13,050
Washington Ave.	24,280
Bates St.	6,450
Veranda St.	4,800
Sherwood St.	190

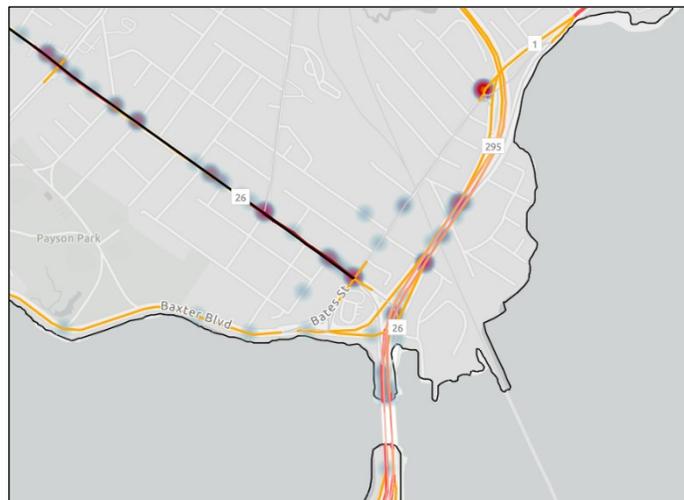


Figure 1. Project area heatmap displays Critical Safety Locations, Crash Sites, High Injury and Risk Networks. Source: Vision Zero Greater Portland.

⁹ <https://mainedottrafficdata.drakewell.com/publicmultinodemap.asp>

¹⁰ <https://www.mainepublic.org/maine/2022-12-28/maine-highway-fatalities-reach-15-year-high>

¹¹ USDOT’s Concentration of Roadway Fatalities Map from the National Roadway Safety Strategy <https://storymaps.arcgis.com/stories/9e0e6b7397734c1387172bbc0001f29b>

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2020. The Washington Avenue portion of the Project area experienced 18 crashes with injuries during the same period.¹² The Portland Area Comprehensive Transportation System (PACTS)—the metropolitan planning organization (MPO) for the Greater Portland region—identified this section of Washington Avenue as a Critical Safety Location. It is also part of the High Injury and High Risk Networks—designations that signify the need for more focused safety improvements (Figure 1).¹³ The Project addresses numerous hazards and aims to reduce risk in this area.

Anticipated Transportation Growth

In 2021, the nonprofit Institute for Digital Engineering and Life Sciences (IDEALS) purchased the historic Burnham and Morrill (B&M) Cannery property in East Deering. B&M relocated its baked beans operation out of state after 108 years at the site. IDEALS procured the site to innovatively repurpose the building and grounds for a new Roux Institute campus, a graduate school of Northeastern University.

The future Roux campus will bring additional vehicle and active transportation traffic to the Project area daily. The school anticipates approximately 3,000 students at full enrollment and more than 450 staff members.¹⁴ Existing and future road and pathway users need thoughtful, specific improvements to access safer travel options. IDEALS and Roux have produced detailed forecasts of the anticipated changes to local traffic and are working with MaineDOT and the City to mitigate traffic concerns with safety as a priority. The Project implements many of these mitigation efforts to address the safety concerns due to the anticipated transportation growth.

Project Improvements

The Project consists of important multimodal safety improvements, including:

- Intersection design that provides clearly marked and highly visible facilities for pedestrians and bicyclists
- Reconfigured intersection design to slow approaching vehicle traffic at high-risk sites
- To the greatest extent possible, traffic signal technology to improve safe intersection passage for active transportation users, such as lead pedestrian/bicycle interval signals that allow pedestrians/bicyclists to begin crossing before vehicles enter the intersection
- Separated bicycle lanes/shared-used paths reconfigured within the existing right-of-way
- Crosswalks, medians, and bike lanes compliant with USDOT's *National Roadway Safety Strategy* plan¹⁵ and the Americans with Disabilities Act
- Energy-efficient LED lights on pathways currently without lighting

The numerous safety improvements support the USDOT's Strategic Goals of making the transportation system safer for all and advancing a future without transportation-related serious injuries and fatalities.¹⁶ The Project improvements also support the region's *Vision Zero* initiative and meeting the State's goal to reduce roadway fatalities.

Project Safety Benefits

The Project includes numerous improvements that will create cohesive transportation safety

¹² <https://mdotapps.maine.gov/mainecrashpublic/PublicQueryMap>, Query Terms: Injury Crashes from 2020-2024

¹³ <https://www.visionzerogreaterportland.org/apps/6342a391a05747a79041d396fa9c81ef/explore>

¹⁴ Enrollment figures include on-campus students (approximately 43%), of which 40% attend in AM and 60% in PM

¹⁵ <https://www.transportation.gov/NRSS/SaferRoads>

¹⁶ USDOT Strategic Plan: https://www.transportation.gov/sites/dot.gov/files/2022-04/US_DOT_FY2022-26_Strategic_Plan.pdf, page 13

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benefits. It will result in significant Annual Safety Benefit Values (Table 2).

Table 2. Annual Safety Benefit Value by Component Type

Location	Annual Safety Benefit Value
Roadway Improvements	\$1,043,610
Active Transportation Improvement	\$128,384
TOTAL	\$1,171,994

Roadway Safety Benefits

PACTS has adopted the Safe System Approach and Vision Zero principles that align with USDOT and state plans. PACTS, part of the Greater Portland Council of Governments (GPCOG), issued their action plan *Vision Zero Greater Portland: A Safe System Approach* in May 2023, which “aims to eliminate all fatalities and serious injuries resulting from crashes on our roadways by 2045.”¹⁷ Project objectives are aligned with this plan and similar Federal and state standards.

Maine has already made significant progress in reducing motor vehicle traffic fatalities. According to the National Highway Traffic Safety Administration’s Traffic Safety Facts, Maine led the nation with a 25-percent traffic fatality reduction between 2022 and 2023.¹⁸ Maine’s commitment to safety improvements and strategies have proven results and demonstrate the state’s efficacy in expending Federal, state, and local infrastructure investments. Project improvements will continue advancing this important goal and positively impact safety in Maine.

Project improvements result in several roadway safety benefits, including:

- Reducing vehicle speed at the heavily used intersections and crosswalks at the Baxter Boulevard–Bates Street–Exit 9 junction by replacing separated right turn accommodations with a single point T-intersection
- Mitigating campus-related traffic at the congested intersection of Washington Avenue–Bates Street–Veranda Street–Exit 8 through the Exit 8 ramp modifications
- Increasing separation between vehicles and bicycles on Washington Avenue and Bates Street with buffered bicycle lanes using Complete Streets design (Figure 2)

Active Transportation Safety Benefits

Advancing street design and access to the standards set forth by city and regional Complete Streets policies will expand safety for East Deering residents and visitors. Similarly, active transportation infrastructure improvements will make walking and rolling a safer and more viable option to and through the neighborhood, including the campus.

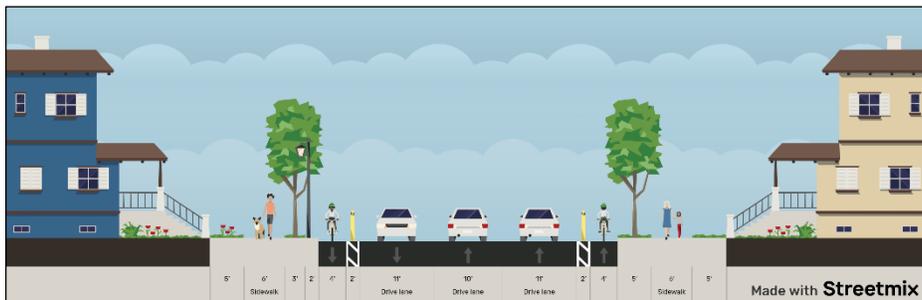


Figure 2. Complete Streets Retrofitting on Washington Avenue.

¹⁷ <https://www.gpcog.org/DocumentCenter/View/2826/Vision-Zero-Greater-Portland>

¹⁸ Dec 2023. Comparing the first 9 months of each year. Source: <https://www.nhtsa.gov/press-releases/traffic-crash-death-estimates-2022>

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Project improvements result in several active transportation safety benefits, including:

- Addition of 1.45 miles—an increase of more than 165 percent—of dedicated active transportation pathways and protected crossings in a disadvantaged neighborhood
- Reduced pathway incidents with widened pathways (12’/14’) at critical access points
- Separation between vehicles and bicycles on Washington Avenue and Bates Street with buffered bicycle lanes and along Sherwood Street with a shared-use pathway
- Improved crossing visibility and configuration at the Baxter Boulevard–Bates Street–Exit 9 intersection, which includes slower vehicle approaches
- Increased visibility on existing pathway access points with lighting installation

Environmental Sustainability—Improving Environmental Sustainability is a primary Project purpose.

The Project will improve environmental sustainability in a disadvantaged and distressed area while supporting the carbon reduction, land use, and climate resilience strategies at the regional and state level by:

- Reducing transportation-related air pollution and greenhouse gas emissions in a disadvantaged community
- Reducing vehicle miles traveled through modal shift to active transportation
- Improving resiliency of at-risk infrastructure

Current Environmental Sustainability Issues

Mid-twentieth century transportation decisions—such as the path I-295 carved through the neighborhood, as well as other land-use choices—created harmful, unintended consequences for residents in the historic East Deering neighborhood. Additionally, Portland, like many cities in Maine, faces challenging seasonal threats including flooding from excessive rainfall during Atlantic hurricanes and rapid seasonal snow and ice melt. The Project reduces harmful greenhouse gas emissions by encouraging and improving active transportation and public transit use, reducing vehicle miles traveled, and mitigating congestion delays. It also increases resiliency by stabilizing the shoreline along Project areas that may experience flooding.

Distressed Community

East Deering is in Census Tract 23,¹⁹ an Area of Persistent Poverty (APP) and Historically Disadvantaged Community (HDC). The bridge improvements span two Census tracts across Back Cove into the East End and East Bayside neighborhoods—Tracts 1 and 5.²⁰ Tract 5 is also an APP and HDC—both designations call for improvements to achieve equity and environmental justice (Table 3). Figure 3 demonstrates the relation between the Project component locations and disadvantaged Census tracts.

According to the Climate and Economic Justice Screening Tool (CEJST), the area’s HDC designations are predicated on residents’ low income

Table 3. Disadvantaged Status by Census Tract

	Tract 23	Tract 5	Tract 1
<i>Area of Persistent Poverty</i>	Yes	Yes	No
<i>Historically Disadvantaged Community</i>	Yes	Yes	No
<i>Transportation Disadvantaged Community</i>	No	Yes	No

¹⁹ Tract 23005002300. Source: RAISE Grant Project Location Verification tool

²⁰ Tract 23005000500 and Tract 23005000100. Source: RAISE Grant Project Location Verification tool

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paired with additional burdens in Health (Tracts 23 and 5), Legacy Pollution, and Workforce Development (Tract 5).

The Equitable Transportation Community (ETC) Explorer highlights additional challenges such as Environmental Burdens (Tracts 1, 5, and 23) and Climate and Disaster Risk Burdens (Tract 1).

Environmental Sustainability Benefits

The Project provides numerous environmental sustainability benefits in Environmental Justice and Resiliency that will be a positive step away from these historic burdens.

Environmental Justice Benefits

MaineDOT is methodically focusing on statewide environmental improvements of significant importance. Maine's climate action plan, *Maine Won't Wait*, illustrates the Pine Tree State's statutory goal to achieve carbon neutrality by 2045, reduce emissions 45 percent by 2030 and 80 percent by 2050, and transition to 80 percent renewable energy by 2030 with a goal of 100 percent by 2050.²¹ These overarching state goals are aligned with USDOT's focus on climate and sustainability. In accord with this USDOT strategic goal, the Project will "help tackle the climate crisis by ensuring that transportation plays a central role in the solution."²²

As previously detailed, the Project area has been negatively affected and overburdened by current and historic climate- and environmental-related challenges. The Project will help mitigate additional adverse environmental impacts to air quality by increasing active transportation use in lieu of vehicles and reducing travel time and delays for drivers to and through the Project area. Project engineers estimate the improvements will:

- Generate CO₂ emissions savings of about \$244,896, discounted at two percent, in a disadvantaged community
- Divert 50 percent of campus- and non-campus-bound traffic to the new off-ramp from congested intersections that experience an average delay of 23 seconds per vehicle (AM trips) and 73 seconds per vehicle (PM trips)

Resiliency Benefits

The effects of climate change are destabilizing transportation infrastructure globally. Surface transportation faces a persistent threat, and cities, especially coastal ones, must continue to develop and implement improvements to infrastructure that can reliably withstand weather extremes. Project engineers have considered these climate challenges by designing the infrastructure to withstand extreme weather events and increase climate change resiliency. The Project includes shoreline stabilization around the new shared-use pathway bridge and coastal pathway. Due to its previous use as a manufacturing site, the land at the future campus,



Figure 3. Census Tracts in Project area and Disadvantaged Statuses

²¹ https://climatecouncil.maine.gov/future/sites/maine.gov.future/files/inline-files/MaineWontWait_December2020.pdf

²² USDOT Strategic Plan: FY 2022-2026, pg. IV, 24

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where the coastal pathway will be located, is more than 75 percent impervious. Development of the campus and the pathway will return the site to a more natural state. The pathway will be lined with native trees, plants, and grasses consistent with a modern university campus and connect users to a three-acre public green space along the coast. The improved natural drainage and shoreline stabilization at the site will mitigate flood risk during adverse conditions and move water away more quickly when flooding does occur.

Most Project work will take place in locations where similar infrastructure already exists. The shared-use pathway bridge and shoreline stabilization components will require additional environmental review, as detailed in the *Project Readiness* section of this application. MaineDOT has previously received Federal funding for numerous projects that required various levels of environmental consideration and is very experienced performing environmental due diligence and adhering to all National Environmental Policy Act requirements.

Quality of Life—Improving *Quality of Life* is a primary Project purpose.

The Project will mitigate effects of local historic burdens and adversities and increase access to workforce development and education, employment, and recreation through safer, more cost-effective transportation solutions by:

- Increasing affordable transportation choices by improving and expanding active transportation usage, particularly in underserved communities
- Improving access to daily destinations like jobs, healthcare, schools, grocery stores, and recreation
- Improving public health by adding new facilities that promote walking, biking, and other forms of active transportation

Community Burdens and Challenges

The Project spans three Census tracts that experience several burdens due to low income, housing and transportation costs, language and health challenges, as well as Area of Persistent Poverty and a Historically Disadvantaged Community designations (Tracts 23 and 5). CEJST highlights the area's low income²³ and health burden with asthma prevalence.²⁴ Both Tracts 23 and 5 experience high percentages of residents whose education is less than a high school diploma at 14 percent and 27 percent, respectively. Additionally, Tract 5 is further burdened with Workforce Development challenges.²⁵ According to the ETC Explorer, Tract 5 is identified as Transportation Disadvantaged due to high Health and Social Vulnerability.

Maine is experiencing a significant number of individuals moving to the state to enjoy the moderate summer climate and vast recreational activities. Changes to Portland's housing and rental markets in the wake of low supply and significantly high demand have added to the burdens on low-income residents who are frequently priced out of homes and leases. The Project area faces a Housing Cost Burden (Tracts 5 and 1) made worse by the community's income inequality challenges. Residents in the Project area experience high rates of House Tenure, Housing Cost Burden, Endemic Inequality, and frequently lack insurance.

²³ 67th and 88th percentiles in Tracts 23 and 5, respectively

²⁴ 91st and 96th percentiles in Tracts 23 and 5, respectively

²⁵ Linguistic Isolation, 93rd percentile; Poverty, 93rd percentile; and aforementioned High School Education rates

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Many neighborhood residents do not own a personal vehicle, increasing the likelihood they will use new active and public transportation options.²⁶ Further, because local property costs and income disparities continue to rise, challenges related to transportation cost and access will likely increase significantly, creating additional burdens in the area.

Due to these burdens and vulnerabilities, residents in and near the Project area need a safe, accessible, and affordable transportation network that improves access to critical services including education, healthcare, and employment. The Project will address these needs by creating a more livable community with expanded travel choices.

Quality of Life Benefits

The Project generates Quality of Life benefits for community transportation as well as recreation and tourism while considering inequities and mitigation strategies.

Transportation Benefit

The Project will address safety concerns, public transit challenges, and active transportation limitations allowing renewed opportunities to access more and better employment, workforce development, and critical points of interest. The Project:

- Adds approximately 1.45 miles of pathways to the neighborhood (a 165 percent increase)
- Fosters better connections to the existing 70-mile network of city pathways and trails
- Reduces reliance on a personal vehicle and the associated transportation cost burdens
- Supports increased active transportation use, resulting in a 45 percent increase from current pathway usage estimates.²⁷

Recreation and Tourism Benefits

The coastal pathway around the future campus introduces a recreation and tourism option absent from East Deering for more than 100 years. The historic B&M Cannery property was inaccessible to the public, prohibiting access to a scenic part of Maine's coastline. Campus development will include creating access to three acres of public shoreline as well as a Project-funded shared-use pathway along the coast, making the area pedestrian and bicycle friendly for residents and tourists.

Additionally, construction of a new, separated shared-use pathway bridge over Back Cove and improvements to the active pathway on the west side of the I-295 bridge add critical links to the existing trail network. The bridge itself will serve as an ideal point to view the scenic coast.

Equity Assessment and Mitigation

In alignment with the Justice40 Initiative, more than 40 percent of the Project outcomes will benefit disadvantaged, underserved, and overburdened communities. Active transportation improvements, increased traffic control and mitigation, and safety utilizing Complete Streets design principles account for more than 40 percent of Project benefits.

There will be no displacement of residential or commercial locations during construction or following completion of the Project. There will be periodic travel lane and sidewalk closures, but

²⁶ Source: ETC: Number of Households with no Personal Vehicle for Tract 23, 8.7%; Tract 5, 17.8%; Tract 1, 7.9%

²⁷ Using Tukey's Bridge counts from GPCOG and a 15 percent active transportation mode split for campus traffic added to current figures

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those will be minimal, and planners will avoid closing a street unless absolutely required and in conformance with maintaining accessible pedestrian routes as required. There will be no disruptions to bus service. Noise during construction will be minimal. Access to I-295 will be mitigated, and detour routes will be mindful of neighborhood traffic patterns. The Project will not impede snow removal in winter months.

Mobility and Community Connectivity—Improving *Mobility and Community Connectivity* is a primary Project purpose.

The Project will:

- Include transportation features that increase the accessibility for non-motorized travelers in underserved communities

Barriers

Not only is improving mobility and community connectivity a primary Project purpose, but also the mission of numerous local initiatives. The neighborhood faces physical barriers to direct, affordable transportation options because outdated intersection design discourages residents from using them. The location of the interstate highway is also a significant deterrent because it is obtrusive and restrictive. The City of Portland advocates for and invests in infrastructure for safer pedestrian and bicycle use by identifying ways for residents to reduce their reliance on vehicles. The City is also actively creating connections and removing barriers between and within neighborhoods and education, employment, healthcare, public transit, recreation, and tourism, consistent with the PACTS long-range transportation plan, *Connect 2045*.²⁸

PACTS identified East Deering as a Priority Center, and neighborhood roads are on a Priority Corridor linking the neighborhood to the Greater Portland area. The Priority designation provides neighborhoods and thoroughfares additional potential development and funding support to address transportation-related needs.

Mobility and Connectivity Benefits

The PACTS vision for regional transportation focuses on accessibility and system optimization, and the Project improvements align with these goals. The pathway improvements and additions will foster cost effective and multimodal modes of transportation. Reconfigured neighborhood streets increase safety and efficiency for drivers and nonmotorized travelers, alike, while optimizing what exists. The historic nature of East Deering will be maintained through Complete Streets design combined with improvements to existing rights-of-way. On the campus, access to natural space will be made publicly accessible for the first time since the early 1900s.

Transportation Features Supporting Non-Motorized Travelers

An extensive network of trails leads to and through East Deering, including the Back Cove Trail—a 3.6-mile loop around the Cove and across Tukey’s Bridge. Back Cove Trail and the nearby Eastern Promenade and Bayside Trails connect at the southern end of Tukey’s Bridge which expands trail access to the perimeter of the Downtown peninsula (Figure 4). While I-295 engineers included a pathway adjacent to the interstate decades ago, building a new shared-use

²⁸ PACTS Long-range transportation plan: <https://www.connect2045.org/>

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Figure 4. Map of Portland Trails network. East Deering and Downtown Peninsula within context of larger trail system.



Figure 5. Existing pathway across Tukey's Bridge is too narrow and inadequate for usage.

pathway bridge immediately east of I-295 will fill a mobility and connectivity gap that restricts bicyclists and walkers to inconveniently traverse the I-295 bridge on only the west side.

During the summer months, average daily trips (ADT) for pedestrians over Tukey's Bridge exceed 1,300, with a maximum daily trip count of 6,590. Weekend ADT during the same range total 415 bicycle trips and 1,041 pedestrian trips.²⁹ Bicycle counts are well below that of pedestrians on Tukey's Bridge largely due to the narrow existing path leading to and over Tukey's Bridge. The path is too narrow for bicyclists to safely and comfortably navigate, especially when other users are present (Figure 5). Unsurprisingly, the community has frequently requested accessibility improvements to this area, as detailed in the *Partnerships and Collaboration* section.

The Project includes the necessary improvements to widen and repave the north and south Back Cove Trail entry points at Tukey's Bridge. LED lighting will also be installed. These improvements will allow safer trips for bicyclists and pedestrians. It is expected that pedestrian and bicyclist trips will increase 45 percent from current pathway usage estimates because of the improvements.³⁰

The University of Southern Maine is another school in the area. That campus is well connected to active transportation and transit networks and experiences a mode share split of 70 percent driving alone to 30 percent public transit/active transportation/carpooling. The Roux Institute anticipates reaching a similar mode share count at the time of full enrollment.

Transit

In addition to the active transportation improvements, the Roux Institute and Greater Portland METRO (METRO), the city's bus service, are committed to developing reliable and accessible transit service directly to the campus. The exit ramp modification provides METRO a direct connection from I-295 to the campus. Roux site plans include an on-site, covered METRO stop as well as nearby bicycle parking.

²⁹ 2014-2020 Figures from Portland Trails. Construction in the surrounding trail area impacted usage through 2021, but trail usage rates are returning to the 2014-2020 average figures.

³⁰ Using Tukey's Bridge counts from GPCOG and a 15 percent active transportation mode split for campus traffic added to current figures

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To promote bus usage, Roux is providing subsidized passes for all students, faculty, and staff and is exploring METRO-served park and ride facilities. METRO is expected to extend an existing Downtown Portland peninsula route to the campus, which will create a single-seat ride between the campus and Downtown, and to reduce headways for more frequent neighborhood stops (30-minute headways from 60-minute headways).

Safe and efficient access to these alternative transportation modes will enable Roux to achieve their mode share targets. Roux aims to achieve 30-percent alternative transportation mode share for Phase 1 of campus development—a similar distribution of transportation mode which nearby University of Southern Maine experiences.

The Project will significantly improve access to and the time it takes to access everyday destinations like employment centers, schools, grocery stores, medical facilities, pharmacies, restaurants, museums, entertainment, and recreation. The Project creates better and more convenient affordable transportation connections to essential needs and economic opportunities. It will enhance and encourage transportation options that do not require an automobile.

Economic Competitiveness and Opportunity—Improving *Economic Competitiveness and Opportunity* is a primary Project purpose.

The Project will foster safer access to places that advance economic competitiveness and opportunity—a graduate campus and nearby employment—by:

- Promoting long-term economic growth and other broader economic and fiscal benefits
- Promoting greater public and private investments in land-use productivity

Barriers

Given the state’s increase in cost of living, Portland recognizes the urgency of supporting wealth building and promoting regional economic growth. Providing safe and efficient access to workforce development opportunities is a way that the city assists residents, especially for those who are burdened by the high cost of housing and transportation (Table 4).

As job needs change throughout Maine, residents will seek opportunities to learn and develop professional skills. Providing safe and efficient access to these workforce development opportunities is a way that the City assists residents, especially for those who are burdened by the high cost of housing and transportation.

Workforce and Education Benefits

The Project will improve access to employment, workforce development, and higher education throughout the city.

Employment Benefit

The Project includes improvements to a critical connection between East Deering and the Downtown Peninsula. Many Portland residents are employed in healthcare-related fields, and accessing

Table 4. Socioeconomic Burdens by Census Tract

	Tract 23	Tract 5	Tract 1
<i>Population at 200% or less of federal poverty level</i>	32.6%	55%	19%
<i>Median Household Income</i>	\$64,395	\$46,242	\$58,682
<i>Average percentage of income spent on transportation</i>	14%	19%	15%
<i>Average percentage of income spent on housing</i>	25%	35%	29%

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many of these facilities from East Deering requires traversing Tukey’s Bridge. Maine Medical Center, Portland’s largest employer, and Northern Light Mercy Hospital are located 2.5 miles southwest of the Project area. Additionally, Roux anticipates employing more than 450 staff members who will use neighborhood roads and pathways.

The intersection crossings and pathway improvements on the existing infrastructure and the addition of the new shared-use bridge will provide more efficient and safer active transportation options between East Deering and the Downtown peninsula.

Workforce Development Benefits

Higher education is one way Portland residents receive employment and training services. Portland is home to several institutions of higher learning, including the University of Southern Maine, University of Maine School of Law, University of New England: Portland Campus, and Maine College of Art and Design. These campuses are accessible for some neighborhoods by bicycle and pedestrian pathways, but the Project will improve access for East Deering residents. A key force driving the Project is the future Roux Institute campus in East Deering which resourcefully repurposes a former manufacturing site.

State leaders are working diligently to expand diverse employment options. They realize the state will need to attract high-tech jobs beyond the region’s traditional agriculture, lumber, and tourism, as well as a high-tech workforce for meeting the new demand. The Roux will be a hub for entrepreneurship and research for Portland and throughout New England. Research areas include Engineering, Computation Medicine, Human Data Interaction, Experiential AI, and Network Sciences—programs that have brought \$25 million of funding to Portland. Since Roux launched in 2020, 83 percent of the school’s 200 alumni have remained in the region for careers and 50 percent of graduates have experienced career progression after completing their Roux degree. Roux estimates enrolling approximately 3,000 students annually by 2032.

The Roux education model provides all—including underrepresented populations—the ability to launch start-up companies directly on campus while gaining access to educational and workforce resources they may not have otherwise. Roux, alongside other institutions of higher learning located in Portland, will collectively improve education and workforce development opportunities for all individuals—transforming Maine into an advanced technology hub.

The Project will provide residents throughout Portland safer access to this important educational initiative. Students enjoy the convenience of active transportation and direct access to public transit. The Project allows those depending on active transportation or the METRO public transit service to access this innovative graduate education and entrepreneurship opportunity in East Deering. Project engineers estimate the Project will result in 45-percent increase of active transportation trips in the Project area, considering the campus travelers, alone.³¹

State of Good Repair—Addressing *State of Good Repair* is a primary Project purpose.

The Project will update and restore city and state infrastructure to a state of good repair by:

³¹ Using Tukey’s Bridge counts from GPCOG and a 15 percent active transportation mode split for campus traffic added to current figures

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- Restoring and modernizing (such as through Complete Street approaches) existing core infrastructure that is meeting its useful life
- Reducing construction and maintenance burdens through efficient and well-integrated design

East Deering's streets, built in the late 1800s and early 1900s, have been largely unmodified in the century since. Because of the historic nature of the neighborhood, streets and thoroughfares must be retrofitted to meet Complete Streets principles. The Project will improve some of the most heavily traveled roads of East Deering to these standards by improving safety for drivers and active transportation users, as described in the *Safety* section.

The Project will bring several roads and pathways in the area to a state of good repair which will increase capacity and use without sacrificing safety. The Project's Complete Street retrofitting, intersection reconfiguration, and general infrastructure improvements will address many safety issues for drivers, pedestrians, and bicyclists.

Roadway and Intersection Improvements and Benefits

The series of interstate on- and off-ramps that connect East Deering create safety hazards and system vulnerabilities in an underserved community. The exit ramp intersections of Baxter Boulevard–Bates Street–Exit 9 and Washington Avenue–Bates Street–Veranda Street–Exit 8 saw 4 and 14 crashes with injuries, respectively, since 2020.

The Project will mitigate these hazards through intersection reconfiguration and road diets. Addressing these mitigation efforts now will relieve the neighborhood of future construction and maintenance due to the increased flux of traffic transiting to the future Roux Institute campus. The Exit 8 ramp modification also provides community benefits. The direct route to the campus for northbound traffic will reduce university traffic at heavily traveled intersections and on the local roads. Project engineers estimate more than 3,000 vehicles, campus- and non-campus-bound, will utilize the new ramp daily by 2041.

Active Transportation Improvements and Benefits

The existing shared-use pathways are nearing the end of their useful life and capacity. The pathways lack sufficient widths and lighting and do not meet the standards for modern active transportation users.

Drainage improvements to the Back Cove Trail across Tukey's Bridge will address pooling of water impacting longevity, usability, and safety. Expanding the width of the pathway and installing lighting will increase use of the important active transportation thoroughfare between the west side of East Deering and the Downtown peninsula. New pathways and the shared-use bridge will add active transportation capacity in the neighborhood to accommodate the expected user growth. The improvements also address many of the safety concerns residents have expressed, as detailed in the *Partnership and Collaboration* section.

Partnership and Collaboration—Creating strong *Partnerships and Collaboration* is a primary Project purpose.

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MaineDOT and the City of Portland recognize the value of collaboration between the Department, City, residents, and local organizations to create transportation connections that were not considered decades ago and will continue to leverage the existing outreach efforts by:

- Engaging residents and community organizations to ensure equity considerations for underserved communities are meaningfully integrated throughout the Project lifecycle
- Coordinating with other types of projects, such as economic development and commercial projects

Previous Partnership and Coordination Efforts

In 2015, Portland began the process of updating the long-term City Plan. Residents participated in an extensive process of public engagement and surveys. As a result, the City introduced *Portland's Plan 2030* in 2017. The plan details the vision for Portland's future and designates priority nodes to better focus planning and investment. The plan identified East Deering as a node requiring evaluation. The goal is for the nodes to become Complete Neighborhoods in which "all residents regardless of age, ability, or income have access to the basic necessities of daily life—high quality and affordable housing, schools and other civic functions, food, open space, other amenities and services—within a walkable, bikeable distance."³²

Resident and Community Engagement

When Roux purchased the B&M Cannery property for the new graduate campus, partners began a zoning amendment process to establish the Roux Institute Intentional Overlay Zone. After receiving zoning approvals, Roux and partners began site planning in preparation for the City of Portland's Site Plan Approval process. This planning includes ongoing community engagement events which provide updates and a chance for community input. Conversations have included consideration of the need for enhanced public transit offered by Greater Portland METRO and subsidized bus passes for students, faculty, and staff. The potential for a I-295 off ramp leading directly to Sherwood Street near the campus and the multimodal improvements to the pedestrian and bicycle infrastructure, as envisioned in this grant application, were seen as additional improvements to access and traffic in this East Deering neighborhood.

MaineDOT and the City have an ongoing partnership with GPCOG which has led to these community engagement efforts. As part of their Vision Zero initiative work, GPCOG has collected transportation-related comments from active transportation users in the Project area. The ten formal comments about the Project area are helping guide Project design (Figure 6).

Ongoing Resident and Community Engagement

MaineDOT's previous and future community outreach is consistent with USDOT's *Promising Practices for Meaningful Public Involvement in Transportation Decision-Making*.³³ Community members have been provided numerous opportunities to voice input, both in person and online.

Throughout the Project's lifecycle, MaineDOT and Project partners have a commitment to continue dialogue. The Project team will engage the public and City to ensure Project impacts will not disproportionately impact people of color, low-income, or disadvantaged populations.

³² Portland's Plan 2030, pg. 85

³³ https://www.transportation.gov/sites/dot.gov/files/2023-11/Promising%20Practices%20for%20Meaningful%20Public%20Involvement_2023Update_FINAL.pdf

EAST DEERING: PATHWAYS TO BRIDGE THE GAP PROJECT

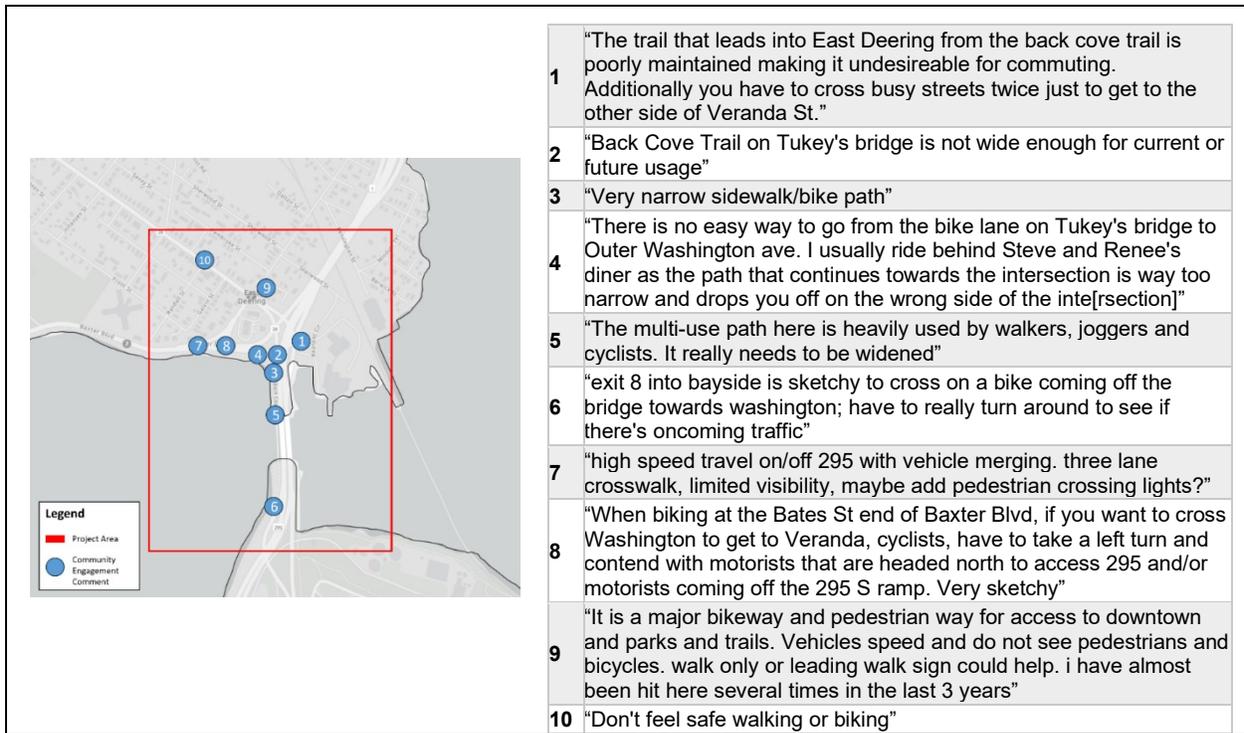


Figure 6. Community Engagement Comments as they appear directly from GPCOG's Urban and Suburban Critical Safety Location Dashboard³⁴

MaineDOT recently updated its Public Involvement Plans, which outline the Department's efforts to ensure disadvantaged populations are afforded meaningful opportunities for public involvement. It is available at <https://www.maine.gov/mdot/env/NEPA/public/index.shtml>.

Performance Measures

MaineDOT welcomes working with USDOT to identify and measure metrics that assess Project benefits. MaineDOT is very experienced, with systems in place, to gather baseline data and establish ongoing measurements that ensure Project intentions are realized. Given MaineDOT's experience administering numerous Federal grant applications with a variety of partners, the Department will collaborate with the City to measure Project success under numerous categories, including injuries (vehicle and pedestrian), traffic volume at specific intersections, and public transit and active transportation use. Roux will also have an active Transportation Demand Management plan that will implement strategies to increase modes of travel other than driving alone and establish aspirational mode share targets.

Coordination with IDEALS and Roux

MaineDOT, the City, IDEALS, and Roux continue to coordinate on other types of transportation projects to enhance mobility options for students and community members as the new campus is fully built out on the repurposed former manufacturing site. Since its inception in 2020, Roux has established itself as a trusted economic development partner of the state of Maine, and its education, research, and entrepreneurship programs have helped hundreds of learners grow Maine's technology-driven workforce of the future. The Project will eliminate burdens for individuals and support safe accessibility to education, workforce development, tourism, and an

³⁴ <https://www.visionzerogreaterportland.org/apps/6342a391a05747a79041d396fa9c81ef/explore>

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extensive network of active transportation pathways while setting the foundation for potential additional regional projects such as a rail-with-trail path connecting neighboring towns and potential water taxi service.

In addition to the MaineDOT, City of Portland, and IDEALS/Roux/Northeastern University partnership that is the foundation of this application, numerous other parties have provided critical Project insight. The application includes numerous letters of support from a wide range of city services, lawmakers, civic organizations, and more, that recognize the transformational value the Project will bring to the city.

Innovation—Fostering *Innovation* is a primary Project purpose.

The Project is driven by, and leverages the contributions of, *Innovative Financing* sources and incorporates *Innovative Technologies* by:

- Leveraging non-federal match contributions from IDEALS
- Using innovative technology not typically used by MaineDOT.

The existing infrastructure restricts the safe transit for pedestrians and bicyclists in the Project area. Through community engagement efforts, local residents have expressed concerns and described dangers they face navigating intersections and pathways in East Deering. Through the use of innovative technologies and the generosity of innovative financing, the Project will provide safe, efficient, and modern transit solutions in East Deering for residents and future campus users.

Innovative Technologies

Innovative traffic control signaling and signage is a critical aspect of the Project for all roadway users to reach their destinations safely. Project components will adhere to the recently updated *Manual on Uniform Traffic Control Devices for Streets and Highways, 11th Edition* to ensure all improvements and additions reflect the most recent safety measures for active transportation and vehicle users.³⁵ Safety features such as bike boxes, speed humps, and separated bike lanes, which currently do not exist in the Project area, are included in Project intersection improvement designs. Additionally, lighting improvements will utilize LED lighting. LED lighting offers numerous benefits such as longevity, cost-effectiveness, energy efficiency, and resiliency in extreme temperatures.

MaineDOT is also applying an innovative means with respect to NEPA and permitting for this project through Programmatic Agreements to ensure timely and consistent reviews and accelerate project delivery, as described in the *Project Readiness* section of this application.

Innovative Financing

The Project employs innovative financing through a public-private partnership between IDEALS and MaineDOT. IDEALS, a nonprofit organization funding construction and development of the Roux Institute, is providing match funding. The private financing is driven by the desire to mitigate the increased traffic that will transit East Deering when the campus is fully operational. Combined, MaineDOT and IDEALS are funding 20 percent of total Project costs.

³⁵ <https://mutcd.fhwa.dot.gov/>