

# 1 PROJECT DESCRIPTION

**The Maine Department of Transportation (MaineDOT) requests \$23,529,000 in FY 2024 Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Program funds to electrify and expand transit service to key destinations in the Downeast and Acadia Region of Maine.**

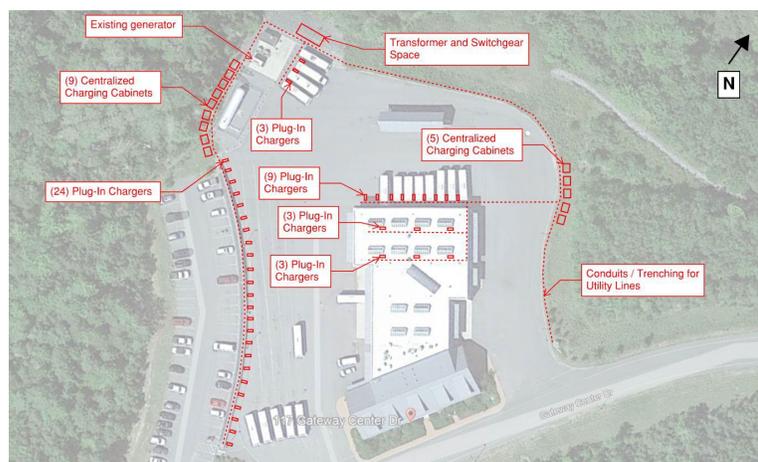
The proposed project– the product of a close partnership between MaineDOT, the local transit agency – Downeast Transportation Inc. (DTI) – Hancock County, municipal governments, private partners, and the National Park Service – involves the purchase of 23 state-of-the-art electric buses and associated chargers and infrastructure, which will replace 21 propane buses in the active fleet that will have exhausted their useful life and add two additional buses to the fleet.

The project will replace approximately half of the active bus fleet for DTI, the largest rural bus system (by boardings) in Maine and the third largest bus system statewide after Portland and Bangor. Conversion of the majority of DTI’s fleet to battery-electric buses will mitigate carbon emissions, enhance economic and recreational opportunities in Maine’s Downeast and Acadia Region, and reduce the annual operations and maintenance costs. With this award, approximately 56 percent of DTI’s service miles would convert to the new battery-electric buses, 35 percent would utilize propane buses, and only 9 percent would utilize diesel buses.

The project will provide more reliable and environmentally beneficial commuting options for 500,000 passengers annually and the roughly 20,000 workers and 45,000 jobs that are within a mile of the system’s 140 stops. This includes service to eight census tracts that are historically disadvantaged and four that are areas of persistent poverty, including six communities: Bangor, Brewer, Franklin, Milbridge, Bucksport, and Stonington.

Downeast Maine is a world-renowned destination that offers a range of employment opportunities and recreational activities. Over the past ten years, the region has become a popular destination for

international tourism. The area is topographically constrained with limited parking and roadway access in small New England towns intermixed with federal land. Congestion is particularly severe in the summer, but spring and fall are increasingly popular times to visit. To address these challenges, state, local, federal, and private partners initiated transit service in 1999. The



*Figure 1 Diagram of charging infrastructure proposed for the electric bus fleet*



system utilizes a fleet of 53 buses across 26 year-round and seasonal routes.

Continued use and growth of the system has stretched the region's transit fleet and infrastructure. Visitors overwhelm roadways and residents struggle to travel between the 17 municipalities. Acadia National Park experienced an increase in visitation of nearly 70 percent over the past ten years, while the transit system alone experienced five percent annual ridership growth going into and coming out of the pandemic. Acadia rose from the 10th most-visited national park in 2012 to the 5th most-visited national park in 2022.<sup>1</sup>

DTI and private manufacturers tested the feasibility of battery-electric buses in 2024 on all major routes in partnership with the National Renewable Energy Laboratory. In 2022, MaineDOT and DTI completed a Bus Electrification and Transition Plan which includes a predesign for the infrastructure upgrades and initial engagement with the utility. The partners used experience from these tests and other information gathered from leading electrification experts to scope out the cost for the proposed project, including vehicle types, charging station capacity, and configuration.

The requested amount represents 80 percent of the \$29,411,250 total cost for this project. This investment maximizes the economic and recreation benefit of existing partnerships and infrastructure, while significantly mitigating financial risk to the government. The project will ensure the region's transit system can sustainably and reliably meet demand.

### Our project will:

- **Promote safety** by purchasing vehicles that include robust information technology systems and side guards to mitigate the crash risk to vulnerable road users.
- **Support environmental sustainability** by reducing energy consumption, vehicle emissions, and noise.
- **Ensure quality of life** by making connections for almost 18,000 workers, 40,000 residents, and 45,000 jobs in rural Maine more sustainable, including seven disadvantaged communities.
- **Expand mobility and community connectivity** by reinforcing and expanding multimodal nonmotorized, vehicle, and ferry connections.
- **Enhance economic competitiveness and opportunity** by ensuring reliable access across the service area.
- **Achieve a state of good repair**, reducing operations and maintenance on the transit fleet, and helping avoid significant upcoming maintenance costs for the fleet.
- **Exemplify partnership and collaboration** through a novel rural operating arrangement between federal, state, local, and private stakeholders.
- **Promote innovation** by utilizing innovative vehicle technology, a best value project procurement, and long-term operating models.

This effort advances the U.S. Department of Transportation's emphasis on reliable, safe, sustainable, and affordable transportation for rural communities, improving asset condition,

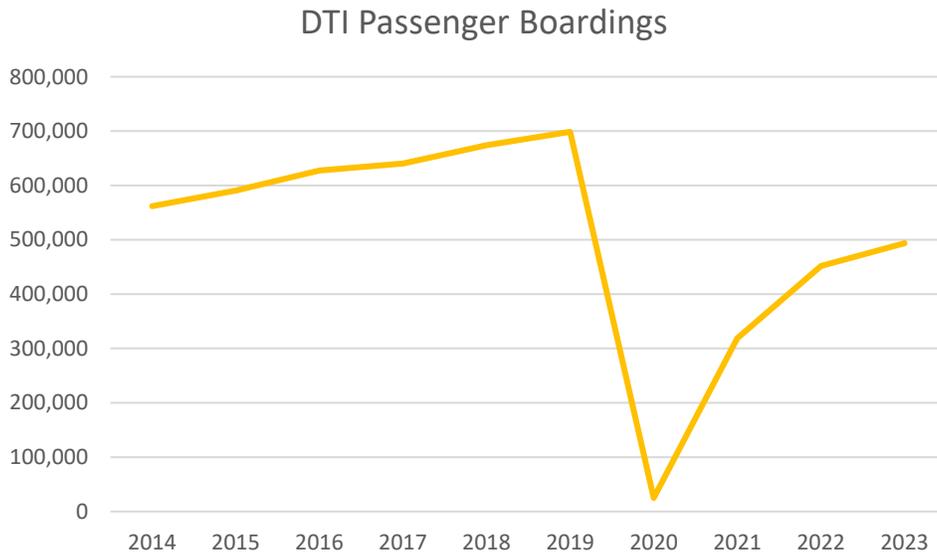
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<sup>1</sup> 2022 is the most recent report available. Source: <https://irma.nps.gov/Stats>, accessed 1/24/2024



addressing public health and safety, promoting regional connectivity, and facilitating economic growth in a rural area. **The project would result in \$89.7 million net benefits and a Benefit/Cost ratio of approximately 4.1.**

Figure 2. Downeast Transit Inc. Passenger Boardings between 2014 and 2023

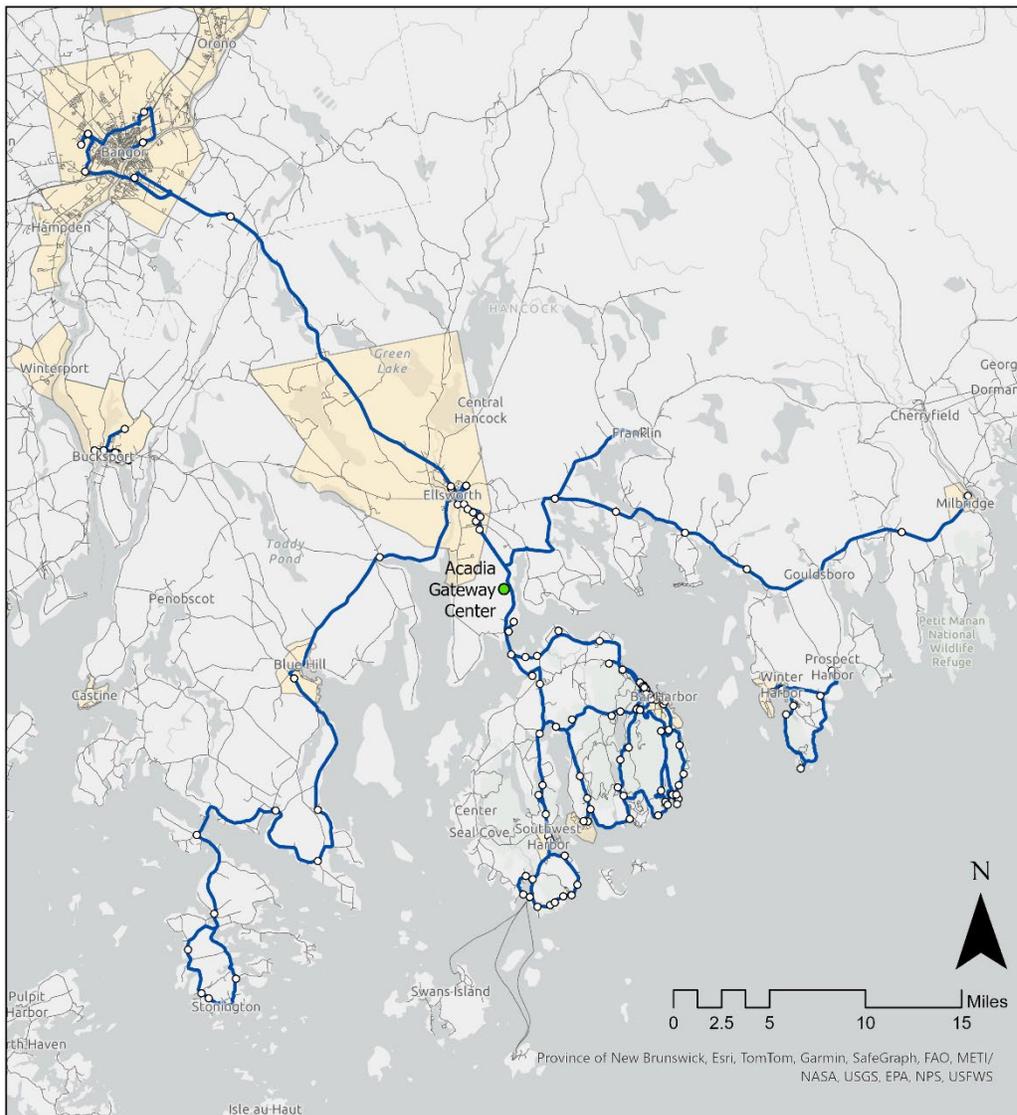


## 2 PROJECT LOCATION

The project is located in Hancock County in rural Downeast Maine. Infrastructure improvements will take place at DTI’s maintenance facility behind the Acadia Gateway Center in Trenton. Downeast Transportation Inc. will utilize the buses across their service area, including on 26 year-round and seasonal fixed-route service to 17 municipalities, including Ellsworth, Trenton, Bar Harbor, Mount Desert, Tremont, Southwest Harbor, Brooklin, Sedgwick, Deer Isle, Stonington, Sullivan, Franklin, Gouldsboro, Winter Harbor, and Bucksport (see Figure 3).



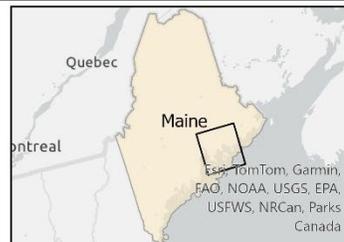
Figure 3. Project location map.



**Legend**

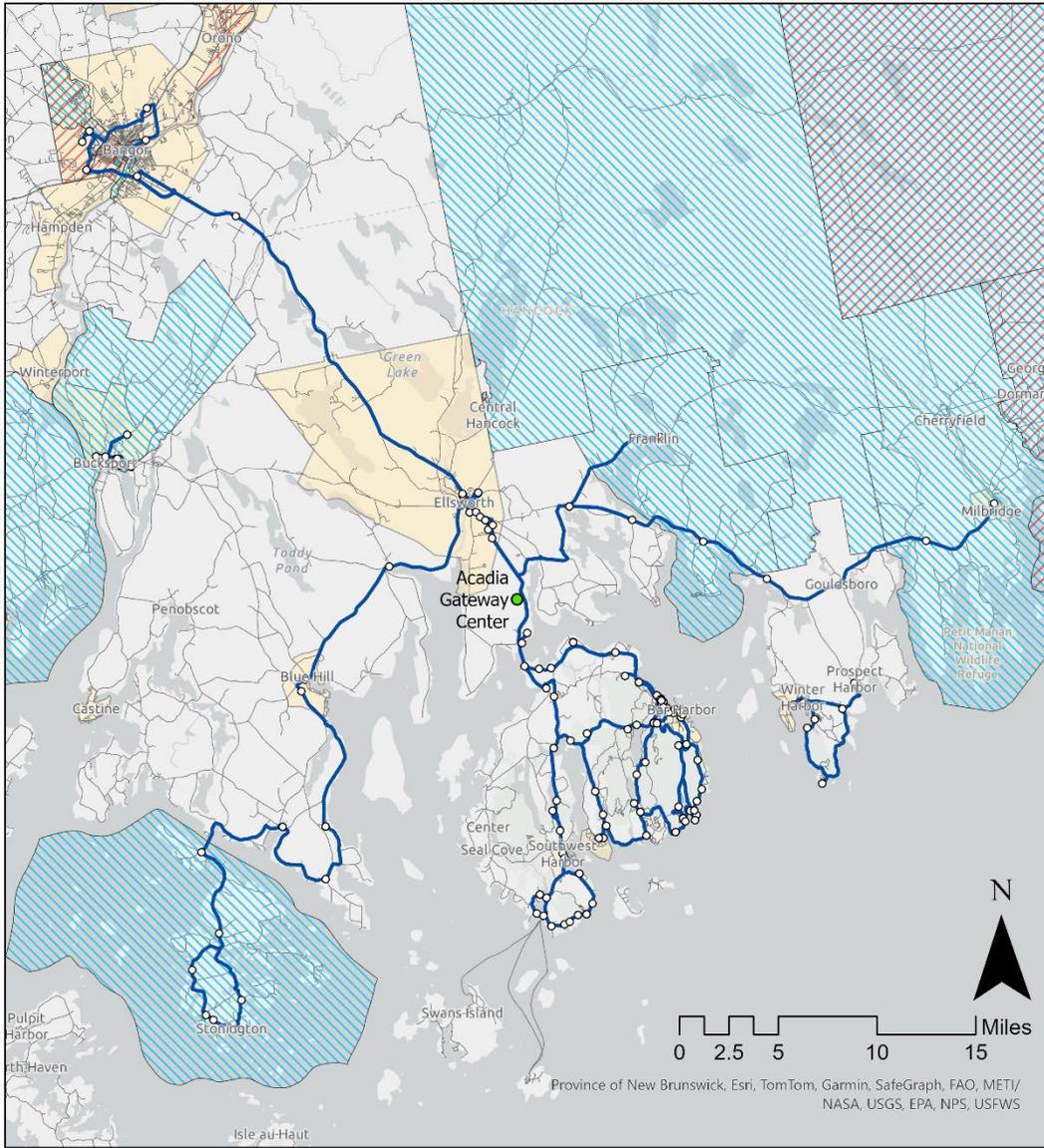
- DTI Bus Routes
- DTI Bus Stops
- Public Roads
- Census Designated Places

Data sources: Maine Office of GIS, NPS, Downeast Transportation, Availtec, US Census Bureau



The project serves eight census tracts that are historically disadvantaged, and four census tracts that are areas of persistent poverty (see Figure 4). This includes lifeline transit service to/from Bangor, Brewer, Franklin, Milbridge, Bucksport, and Stonington.

**Figure 4. Areas of Persistent Poverty and Historically Disadvantaged Communities.**



**Legend**

- DTI Bus Routes
- DTI Bus Stops
- Historically Disadvantaged Census Tracts
- Census Designated Places
- Areas of Persistent Poverty
- Public Roads

Data Sources: Maine Office of GIS, NPS, Downeast Transportation, Availtec, USDOT, US Census Bureau

