

Lewiston-Auburn Passenger Rail Service Plan

SCOPE OF SERVICES

In its 16 years, the Downeaster passenger rail service has just about doubled its ridership base demonstrating a growing trend for travel beyond automobile reliance. The shift to passenger rail use has also provided a balanced demand on redundant transportation infrastructure, which helps distribute the previously singularly focused investment into transportation infrastructure beyond the regional highway systems. Transit connections provide additional flexibility and options for the traveling public. As a local example of successful implementation of passenger rail service, Amtrak's Downeaster service has grown from approximately 290,000 riders per year in 2002 to roughly 536,000 in 2014. This service has improved connectivity and provided an additional reliable public transportation option in northern New England.

To support this and other transportation initiatives, NNEPRA has successfully advanced several rail initiatives, including construction of passing sidings in Dover, the Portland to Brunswick extension, and securing a High Speed Intercity Passenger Rail Program (HSIPR) grant from the Federal Railroad Administration (FRA) for the Downeaster Corridor Service Development Plan and NEPA documentation. Plans to evaluate a possible Lewiston-Auburn extension are now underway in this Lewiston-Auburn Passenger Rail Service Plan project (the L-A Study).

The project will be organized in two distinct phases: (1) transit propensity assessment; and (2) corridor-focused service definitions, evaluations and next steps. The following project development phases and tasks will support the L-A Study.

Overseeing the L-A Study, a Project Committee has been established to represent the diverse views and perspectives of the communities that would be served by passenger service expansion. The Project Committee is made up of NNEPRA and MaineDOT, as well as representatives from the Cities of Lewiston and Auburn. As part of the scope of work defined in this summary, the project team will keep Project Committee members abreast of the ongoing analysis and conclusions drawn from the data to build understanding and consensus throughout the project. Project Committee engagement will be a major focus of this project.

PHASE I **Transit Propensity Assessment**

The goal of the transit propensity assessment is to establish an understanding of the demand and desire for transit service using available data and public input. The first phase will, therefore, establish "the who" of the study – who travels between Lewiston-Auburn and Portland today; who would potentially use a passenger rail service tomorrow; and who, with the right regional master plan, may consider changing their travel choices? Based on the result of Phase I, Phase II will establish "the what" of the study – what kind of service could be provided; what rail corridors could be used; and what would it cost?

Portland and Lewiston-Auburn are about 30 miles apart and connected primarily by the Maine Turnpike (I-95). The potential for transit demand in this corridor could be drawn from two markets; first, the diversion of existing trips in the corridor from the highways to the rail service, and second, new trips that would be induced by the service, either that are currently not being made or from increased economic development in the corridor.

Major data sources for this transit propensity analysis will be:

- existing, historic and seasonal variation for traffic volumes;
- data from the Maine Turnpike that would provide insight into trip lengths and ODs, if available;
- demographics of the population and employment in the corridor;
- current, historic and seasonal variations in travel on the Downeaster;
- current, historic and seasonal variations in Downeaster ridership between Portland, Brunswick and stations to the south, including Boston;
- historic traffic in the Portland-Brunswick corridor prior to implementation of the passenger rail service; and
- historic growth in economic development, which will help identify the levels of economic activity that may have been induced by the new Downeaster service.

To capture the potential transit propensity from the region, the team will work with the Project Committee to establish a study area, which captures the region beyond the immediate Lewiston and Auburn boundaries. The study area will consider the density and travel patterns in order to best represent the full potential draw for a transit service extension to Lewiston-Auburn.

Task 1: Passenger Rail Demand

A literature review will be conducted for studies of passenger rail demand, with a focus on corridors similar to the Portland and Lewiston-Auburn corridor. Potential U.S. corridors that share some characteristics with the Portland-Lewiston-Auburn corridor (such as relatively small urban areas, relatively good parallel highway access, and endpoint connections to the Amtrak network) include the Knowledge Corridor in central Massachusetts and Vermont, the western portion of the Empire Corridor in Upstate New York, and the Carolinian/Piedmont corridor in North Carolina. Some commuter rail examples that could offer insights with respect to travel market penetration include the Waterbury Branch of Metro-North, Westside Express Service near Portland, OR, the RailRunner Express service in New Mexico and the FrontRunner service in Utah. International examples are probably less useful, since many other countries with robust rail networks have greater impediments to automobile ownership and use, more concentrated land use patterns, and a higher natural propensity to use transit.

Deliverable: Passenger Rail Demand Summary Memorandum

Task 2: Existing Travel Markets

Subtask 2.1: Current and Historical Traffic Count Data

Using the existing database of traffic counts from the MaineDOT, compile the current and historical traffic counts for the major highways connecting Portland with Lewiston-Auburn including seasonal variations. Seasonal variation could be a significant factor in estimating the propensity for rail passenger demand, particularly since rail has the potential to offer shorter and more reliable trip times during seasonal periods when the highway network is congested. Paralleling the Maine Turnpike is State Route 100/US 202. Traffic volumes on this route will also be compiled and analyzed.

Subtask 2.2: Population and Employment Data

Using existing data sources (US Census, MPO, etc.), compile historical, current and forecasts of population and employment between Portland and Lewiston-Auburn. The level of geography for the data will likely be census tracts or block groups unless the State or MPO's have a different geographical unit (traffic analysis zones in an urban area model for example). Historical data will extend back to a time prior to the implementation of original service to Portland and the extension of the Downeaster to Brunswick.

Subtask 2.3 Trip Generators

With the Project Committee's guidance, the team will identify the primary trip generators in the region. Trip generators could include major employers, hospitals, airports, colleges, and recreational destination that could potentially use a new rail service. The trip generators will be assessed for how they draw travel to their facilities. The team will make a request for zip code data or other comparable data they are able to readily provide. The team will use this data to identify travel patterns to and from the region's primary generators in order to help assess how the Lewiston-Service service could potentially provide an additional travel alternative.

Subtask 2.4: Downeaster Ridership

Collect and compile from NNEPRA, data on existing and historical ridership in both the Portland-Brunswick corridor as well as from Portland to Boston. Request, if available, and compile any survey data or ticketing data of existing Downeaster ridership that would provide insight into the length of trips made on the service. In particular, request and compile any survey data of Downeaster riders that board in Portland and originated in the Portland and Lewiston-Auburn corridor.

Subtask 2.5: Analysis and Summary of Existing Travel Markets

Using the data collected and compiled in subtask 2.1 – 2.4, prepare summaries of the existing and historical travel. From the summary of traffic volumes, including the on and off ramps from the Maine Turnpike and any tolling data provided, estimates will be made as to the number of trips being made between Portland and Lewiston-Auburn and trips that are within the corridor.

A summary report will be prepared that documents existing travel in the corridor and larger study area that will be a market for trips that could be diverted to a new passenger rail service between Portland and Lewiston-Auburn.

Deliverable: Existing Travel Markets Summary Memorandum

Task 3: Economic Development Changes

Using historical data of employment, summarize the growth and changes in employment before and after the implementation of the Downeaster service to Portland and Brunswick. Identify any new major employment centers or population/housing activity that have occurred after the implementation of the passenger rail service. Based on the projected population and employment growth, identify the extent to which the potential might exist for planned growth or greater-than-planned to occur in locations in the corridor proximate to potential rail stations, reflecting the improved accessibility offered by rail service. Develop a demand scenario that assumes reasonable growth concentration, for purposes of ridership sensitivity analysis.

Develop two projections of future demographic growth and baseline trip-making – one based on a planned demographic and employment growth and one based on higher and more concentrated growth.

Deliverable: Economic Development Summary Memorandum

Task 4: Transit Demand Potential

Several factors could contribute to incremental future rail ridership associated with the introduction of rail service in the Portland-Lewiston-Auburn corridor:

1. Modal shift or diversion of existing (or future baseline) trips to rail from other modes, principally automobile and intercity bus;
2. Incremental ridership associated with the alternative growth scenario, resulting from more concentrated demographic growth and new development attracted by the presence of rail service;
3. For trips beyond Portland, adjustments for convenience of the transit trip relative to a one-seat ride versus the need to transfer at Portland
4. Local trips for multiple purposes (such as journey-to-work, business travel, personal business and leisure/recreational travel) that currently occur locally and mostly by automobile within the Auburn-Lewiston urban area or within the Portland urban area, but which are now possible via rail as a result of the increased convenience and personal productivity offered by rail and the resulting reduction in the perceived distance and travel impedance between the two urban areas – and by extension between the Lewiston-Auburn area and Greater Boston.

Subtask 4.1: Diversion of Existing Corridor Trips

Using data and summaries prepared in Tasks 1-3, estimates of the propensity of rail passenger demand for new service between Portland and Lewiston-Auburn will be prepared. In this subtask, the shares of passenger rail trips will be derived from the existing Downeaster rail service along with typical shares identified in the research task for corridors considered comparable to Portland-Lewiston-Auburn. These shares will be applied to the total trips in the corridor to derive a range of average daily transit draw. The potential ridership will be presented as a range rather than a single ridership estimate, covering a range of assumptions with respect to service frequency and perceived trip time, but also reflecting the uncertainty inherent in high-level planning estimates.

Subtask 4.2: Incremental Trips Associated with Alternative Growth Scenario

The historical data for the Downeaster will be examined for any increases in rail ridership that could be attributed to new economic activity in the corridor. This increase will be presented as a factor of ridership that is based on the new economic activity. This factor can then be applied to the Subtask 4.1 ridership to get the overall ridership potential in the Portland and Lewiston-Auburn corridor associated with the more robust growth scenario.

Subtask 4.3: One-Seat Ride vs. Transfer Scenarios

For trips between Lewiston-Auburn and points south of Portland, we will develop factors that adjust the base rail modal share upward or downward based on the relative convenience, perceived trip time and impedance associated with travel by rail. An appropriate factor will be developed for each rail service option considered. Through-service at relatively high frequencies would have the highest factors. Coordinated timed-transfers at Portland, or options with a combination of through service and transfers would have a lower factor. Relatively infrequent service without coordinated transfers would substantially penalize through trips by rail. We will use experience gained in prior commuter and rail market analyses to generate an appropriate range of factors for these calculations.

Subtask 4.4: Increased Local Trip-Making within Expanded Regional Economic Geography

This subtask is a relatively abstract term for what is potentially a significant driver of increased trip-making in a new rail corridor that better ties together distinct urban areas. To the extent that new rail service can better tie these urban areas together and better link their economies, or even to create the perception that the urban areas are closer together and more easily accessible than previously, then increased trip-making between the urban areas can be expected to occur, and a significant share of these incremental

trips can be expected to use the rail service. Essentially, what currently is a mostly intercity travel market begins to take on the characteristics of an urban metropolitan area, in terms of the type and frequency of trips that are made. The potential for this market depends upon the extent to which residents, businesses and institutions in Portland consider Lewiston-Auburn to be within the orbit of greater Portland, and the extent to which the inverse is true.

The potential for this kind of shift in trip-making needs to be tempered by the distances involved and by the trip time difference using rail rather than traveling by car, given the relatively good existing highway access and the fact that neither potential rail corridor offers high speeds for rail. However, time spent on the train can be more productive, less stressful and less prone to delay than time spent driving.

[Examples where this has occurred: The Northern Powerhouse initiative in the U.K. is making the case for this kind of travel demand shift. By better connecting the mid-size cities of northern England to each other with high-quality rail service, these cities are expecting to function together more as a single megaregion rather than as separate and largely competitive individual cities.]

Subtask 4.5: Range of Incremental Ridership Associated with New Rail Service

We propose to estimate a range of incremental rail ridership growth and overall travel demand associated with the four effects described in the previous subtasks – for each of the rail service levels and configurations that will be studied. We recognize that we will have a relatively high level of confidence in the size of the first incremental market – associated with modal shift – and that the other incremental markets are not able to be accurately modeled and therefore are more speculative. In developing the business case for rail service in the Portland-Lewiston-Auburn corridor, it will be necessary to appropriately weight these potential incremental ridership markets on the basis of their likelihood of occurrence and risk. We will identify the conditions under which incremental ridership growth can be reasonably expected and present a range of estimated ridership levels to support the transit propensity analysis.

Deliverable: L-A Transit Demand Propensity Summary Memorandum

Task 5-I: Public Outreach (Phase I)

The first public outreach efforts will be a series of open houses. The open houses will occur in advance of the Phase I analysis. The team will host two open houses: one in the Lewiston-Auburn area and one in Portland. The team work with the Project Committee to establish the best timing and approach for each open house. Suggestions from the Project Committee will be crucial in helping identify the best location for the event.

The purpose of each open house will be to introduce the project and the project team and to solicit feedback on how and whether the general public would use a passenger rail service that connects Lewiston and Auburn with Portland. In order to engage the largest cross section of the public, the event will be at a location convenient to both the Lewiston-Auburn communities and Portland. Both will be hosted at a location easily accessible by the widest cross-section of neighborhoods. The project open house will be a “take the project to the people” approach aimed at garnering engagement from a diverse set of community groups and helping engage both folks in support of a transit connection and those skeptical of it. It is important to engage a full cross section of opinions at this event to hear all perspectives on transit choice. The specific questions and the format of the event will be determined collectively with the Project Committee, which will likely aim to solicit feedback from the attendants focusing on travel choice questions such as:

- *How often do you travel between Lewiston-Auburn and Portland? Where are you going when you make this trip (work, school, medical appointments, recreation, cultural events, other)?*
- *Do you use the Downeaster to travel to Boston or other destinations? How often? What is the purpose of those trips typically?*
- *If given the option to travel by train, would you? For what purpose? What would make you more likely to travel by train (frequent service, more cost-effective compared to driving, convenience of not having to worry about a car/driving)?*

Information gathered from these efforts will be used to support the “transit propensity” analysis and provide a “human” perspective to the data. It is assumed that the team would organize and host one such project open house.

Deliverable: Open House Materials, Feedback Summary Results Memorandum

Task 6-I: Stakeholder Coordination (Phase I)

Key to the success of this study will be to meet regularly with the project stakeholders. It is assumed that the interests of the key stakeholder will be represented by the Project Committee. The Project Committee has been established to oversee the L-A Study and to represent the diverse views and perspectives of the communities that would be served by passenger service expansion. The Project Committee is made up of NNEPRA and MaineDOT, as well as representatives from the Cities of Lewiston and Auburn. As part of the scope of work defined in this summary, the project team will keep Project Committee members abreast of the ongoing analysis and conclusions drawn from the data to build understanding and consensus throughout the project. Coordination will be conducted monthly. The team will encourage in-person meetings throughout the project.

Deliverable: Meeting Minutes

PHASE II Service Plans, Infrastructure Needs and Costs

Developing service plan options and corridor considerations will build from the results of the analysis in Phase I that established “the who” of the study -- who travels between Lewiston-Auburn and Portland; who would use a rail service tomorrow; and who may consider changing their travel choices. Phase II will focus on “the what” of the study – what kind of service could be provided for the people that would potentially use it; what rail corridors and existing alignments could be used; what would need to be built or reconstructed; and what are the range of potential costs to build and operate it?

Phase II work will commence only once funding is made available to NNEPRA.

Task 5-II: Public Outreach (Phase II)

At the completion of Phase I analysis, the team will again “take the project to the people” with findings and results. This public engagement will be formatted to provide an update on the transit propensity assessment and an understanding of the demand for an expansion of rail service. The presentation will outline, based on the data analyzed, who travels to/from Lewiston-Auburn today; who would potentially use a passenger rail service tomorrow; and who, with the right regional master plan, may consider changing their travel choices. The presentation will also discuss next steps focusing on the development

of the Phase II analyses. It will outline the Phase II tasks including the evaluation of what kind of service could be provided; what rail corridors could be used; and development of the potential costs.

Deliverable: Public Meeting PowerPoint Presentation and Meeting Materials

Task 6-II: Stakeholder Coordination (Phase II)

Continuing from the stakeholder coordination efforts in Phase I, the success of this study will be based on regular coordination meetings. It is assumed that the interests of the key stakeholder will be represented by the Project Committee. The Project Committee has been established to oversee the L-A Study and to represent the diverse views and perspectives of the communities that would be served by passenger service expansion. The Project Committee is made up of NNEPRA and MaineDOT, as well as representatives from the Cities of Lewiston and Auburn. As part of the scope of work defined in this summary, the project team will keep Project Committee members abreast of the ongoing analysis and conclusions drawn from the data to build understanding and consensus throughout the project. Coordination will be conducted monthly. The team will encourage in-person meetings throughout the project.

In addition to regular Project Committee coordination, the team will engage railroad stakeholders at the onset of the project and throughout. Initially, the team will engage the railroad to introduce the project and the process of evaluating the Lewiston-Auburn service. The team will conduct follow-up coordination as needed to keep the railroads engaged and informed throughout the process.

Deliverable: Meeting Minutes

Task 7: Service Scenarios

Based on the findings from the Phase I analysis, the Team will develop an initial set of service scenarios to be considered by the Project Committee. This initial group of alternatives will be preliminarily screened by the Team and the Project Committee, keeping in focus the results of the Phase I analysis, to develop a minimum of three and a maximum of five passenger rail service alternatives to be carried to the next level of development and evaluation. This initial level of screening will examine a broad range of potential constraints and opportunities at a macro-scale to help identify potential fatal flaws or other issues that could preclude an option from being implemented. For each of the three to five alternatives carried forward, a sketch of the proposed route including mileage, ROW ownership, and probable station locations will be developed.

The alternatives will be developed with a detailed description of the passenger service characteristics including:

- peak-period and off-peak frequency as well as number of daily trips
- proposed station locations including a physical description of the anticipated facility features including access, parking, platforms, supporting station buildings
- connectivity to other passenger rail services and intermodal connections

The service scenarios will consider alternative technologies such as diesel-multiple units if appropriate.

Deliverable: Service Alternatives Summary Memorandum and Graphics

Task 8: Infrastructure Assessment

The Team will develop a summary of the existing rail corridors in the region including existing freight and passenger service operators along the active lines. The corridors will be assessed for their adequacy to support a new passenger service expansion. The corridors will also be assessed for their current activity in order to determine how those activities would overlap with a new service. The service scenarios would assess how those existing operations would need to be maintained during construction and operation of passenger service. This summary will provide information regarding the route, current level of activity, ROW/track ownership, operator of service, overall track conditions, and the general condition of other infrastructure along the corridor.

Based on the service scenarios developed in Task 6, the Team will assess and determine the railroad infrastructure needs of each service plan for each corridor considered. The summary will provide a physical description for the routes including track, structures, grade crossing, signal and communications systems and other relevant railroad infrastructure including physical station and layover needs. If alternative technologies are proposed, the needs assessment will also summarize the accommodations that would need to be provided to introduce that service to an existing corridor (e.g. diesel multiple units).

Deliverable: Existing Conditions and Infrastructure Needs Assessment Memorandum

Task 9: Order of Magnitude Capital and O&M Costs

During the final screening of the alternatives, the team will develop order-of-magnitude (OOM) capital cost estimates for up to five alternatives. Using industry data, including historical costs for NNEPRA and MaineDOT rail improvement projects, this OOM cost will be developed to aid in the selection of a preferred alternative. The costs will consider construction constraints including maintaining railroad freight operations during construction (for potential work along active corridors).

The Team will also assess order-of-magnitude operating and maintenance costs and estimate revenue generated from the ridership range potential that would offset the costs of running the service.

Deliverable: Capital and Operating Cost Estimate Summary Memorandum

Task 10: Service Implementation Plan

The key to developing an implementable transit plan is understanding that funding is rarely available for a full and complete build-out program. Public funds are limited and the competition for funding is extensive, which makes a creative plan (occasionally a phased implementation plan) crucial to a funding strategy.

Breaking out a program into digestible pieces is one key to an implementable transit plan. The other is identifying a diverse set of funding and financing opportunities to leverage public, private, local, state, and federal opportunities to complete the fully envisioned program.

In addition, essential to the delivery of an expanded passenger service is the development of a funding and financing strategy, which identifies sources and uses of funds for varying elements of the project. Funding for this project will likely have to come from multiple sources, as well. Reliance on multiple funding sources is an increasingly common pattern for major projects and is encouraged by US DOT. A menu of potential funding sources to be explored includes the following:

- **Federal Sources** – Described more properly as financing than funding, the project could be structured to qualify for loans through Transportation Infrastructure Finance and Innovation Act

(TIFIA), Railroad Rehabilitation and Improvement Financing (RRIF) and or any national infrastructure bank that might be developed with re-authorization. Since these are loans (not grants), a revenue stream would be required.

- **State and Local Sources** – Maine has traditionally used state bonds to fund infrastructure investments. While the debt burden attributed to transportation is significant and the state’s bond capacity is finite, a bonding authorization for this project is a viable means of providing state level support for the project.
- **Public/Private Partnerships** – The expanded passenger service could provide increased TOD opportunity around station sites. Working with private landowners and developers to build and run portions of the stations can help reduce the initial project cost and ongoing operation costs. Construction and operation of a parking lot is one example of a public private partnership applicable to this project.
- **Other Formalized Passenger Rail Programs** – while the direction of federal programs for passenger rail investment is very much in flux, the Team will develop an understanding of additional federal programs (as they develop), which could be used for the implementation of the proposal coming out of the L-A Study.

The Team will assess all available opportunities and summarize into a Service Implementation Plan for the L-A Study.

Deliverable: Service Implementation Plan Memorandum

Task 11: Lewiston-Auburn Passenger Rail Service Plan Report

The Team will develop a report that summarizes the findings of the multi-step analysis. The report will compile all the narratives and graphics that were developed through the ten tasks into one holistic Service Plan.

The focus of this study will be to build understanding and consensus through every task and deliverable. It is assumed, therefore, that the Lewiston-Auburn Passenger Rail Service Plan Report will be developed using the deliverables and other associated products developed throughout the study to assemble into one comprehensive and all-inclusive report. That report will be shared in draft format for Project Committee review and comments and finalized, with anticipated minor revisions, into a final deliverable for the project.

Deliverable: Draft and Final Lewiston-Auburn Passenger Rail Service Plan Report

PROJECT MANAGEMENT

Placing equal importance on the administrative aspects of this project, the following task will ensure that the project scope is maintained and is delivered on schedule and on budget.

Task 12: Project Management

This task includes managing and administering the project, including coordination with NNEPRA, MaineDOT and the Project Committee and processes and procedures that help keep the project focused. The project management processes and procedures will include:

- Project Procedures Manual – the team will prepare a project procedures manual that defines project goals, assigns project responsibilities, details the scope of services, and defines the project schedule. The PPM will include a Quality Assurance/Quality Control (QA/QC) Manual.
- Kick-Off Meeting – the team will prepare for and conduct a project kick-off meeting with internal team members and the Project Committee and prepare meeting minutes.
- Progress Reports/Invoices – the management team will develop monthly invoices and progress reports with schedule updates and anticipated deliverables.

Deliverables: Project Procedures Manual, Monthly Progress Reports and Invoices