



# LEWISTON-AUBURN PASSENGER RAIL SERVICE PLAN

## Operating Plans and Corridor Assessments

May 2019

PREPARED BY \_\_\_\_\_

IN ASSOCIATION WITH \_\_\_\_\_



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## EXECUTIVE SUMMARY

### Project Overview

This report covers the second phase of the Lewiston-Auburn Passenger Rail Service Plan Project, which builds on the efforts of the *Transit Propensity Analysis Report* which was released in August 2018. This report examined what kind of service should be provided to meet the travel demand/patterns observed in Transit Propensity Analysis (i.e., route alignment, service frequency), as well as the costs to build and operate service. The intended outcome of this evaluation is a series of Preferred Alignments for passenger rail service to Lewiston-Auburn that can be advanced for further consideration and study.

### Modal Screening

A modal screening was conducted to identify appropriate transit modes for use with the two rail corridors being considered. Given the primary requirement to operate with freight trains, commuter rail and multiple unit modes were selected. While both commuter rail and multiple unit modes are available in both diesel and electric propulsion, it was determined that diesel would be the most appropriate for this corridor as electric propulsion would require electrifying the entire proposed alignment, which would result in a higher capital cost and a higher annual operations and maintenance cost than a diesel-powered system.

### The Preferred Alignments

The project began with a list of eight alignments (Alignments 1A, 1B, 2A, 2B, 3A, 3B, 4, and 5) to provide passenger rail service between Lewiston-Auburn and Portland. These

eight alignments were presented to the Project Committee for consideration. Based on the discussion surrounding the feasibility of implementation and how well the service meets the anticipated travel patterns of potential riders, Alignments 2A, 3A, and 3B were removed from further consideration.

The remaining alignments (Alignments 1A, 1B, 2B, 4, and 5) were advanced for further evaluation. Alignments 1A, 1B, and 2B more completely met the goals of the Lewiston-Auburn Passenger Service Plan and were considered for full implementation. Alignments 4 and 5 were considered potential first phases to that full-build program.

All Preferred Alignments were evaluated based on a variety of metrics, including mobility, potential environmental impacts, estimated cost, and implementation timeframe.

## Next Steps

There are numerous steps that need to be taken to implement a Lewiston-Auburn passenger rail service. These include:

- ▶ Preparing an economic evaluation
- ▶ Developing a first-mile/last-mile strategy
- ▶ Coordinating with the Portland Transportation Center Relocation
- ▶ Developing a Purpose and Need Statement
- ▶ Developing a financial plan
- ▶ Preparing NEPA documentation
- ▶ Engaging in initial discussions with operating railroads
- ▶ Coordinating with municipalities
- ▶ Refining the capacity analysis
- ▶ Demonstrating proof of demand
- ▶ Defining vehicle needs and procurement strategy
- ▶ Starting discussions on governance
- ▶ Performing a risk analysis

Based on the comprehensive evaluation and the Committee's involvement in the development of this project, the Project Committee makes the following recommendation for this project:

- ▶ Move the project into an economic evaluation;
- ▶ Develop a plan to relocate the Portland Transportation Center (PTC);
- ▶ Develop a robust first-mile, last-mile connections and mobility as a service in both the Lewiston-Auburn and Portland areas;
- ▶ Eliminate options that require an Ocean Gateway Station;
- ▶ Identify potential commitments for both capital and O&M funding; and
- ▶ Engage the FTA as the federal funding agency and discuss next steps relative to NEPA documentation for the project.

# 1

## INTRODUCTION

### 1.1 Overview of Study

In its 16 years, the Downeaster passenger rail service has just about doubled its ridership base (approximately 292,000 riders in 2002 to roughly 533,000 in 2018) demonstrating a growing trend for travel beyond automobile reliance. This service has improved connectivity and provided an additional reliable public transportation option in northern New England.

The shift to passenger rail use has provided a balanced demand on redundant transportation infrastructure, which helps distribute the previously singularly focused investment into transportation infrastructure beyond the regional highway systems. Furthermore, transit connections provide additional flexibility and options for the traveling public.

To support this and other transportation initiatives, the Northern New England Passenger Rail Authority (NNEPRA) has successfully advanced several rail initiatives, including construction of new passing sidings improve travel time and reliability, 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.

The success of the Downeaster to date has led to the evaluation of a possible service to Lewiston-Auburn. In 2015, the 127th Maine Legislature, in PL 2015, c. 267, Pt. YY, approved a \$500,000 fund allocation and directed the Department of Transportation

(MaineDOT), in consultation with the cities of Lewiston and Auburn and NNEPRA, to conduct a study and complete a plan for the implementation of passenger rail service between the cities of Lewiston and Auburn and the Amtrak Downeaster service. The municipalities of Lewiston and Auburn each contributed \$50,000 toward the project cost.

NNEPRA served as the Project Manager for the Lewiston-Auburn Passenger Rail Service Plan Project. Through a competitive procurement process, VHB in partnership with WSP was selected as the Project Consultant Team. In December 2017, NNEPRA engaged the services of VHB and WSP to perform the analysis. The project was organized in two distinct phases: (1) transit propensity assessment; and (2) corridor-focused service definitions, evaluations and next steps.

The Transit Propensity Analysis, which was completed in August 2018, focused on the development of a range of ridership estimates by examining comparable rail corridors and the demographics and travel demand/patterns of the Study Area. This phase also focuses on the economic development potential of this rail corridor. The results of this analysis are included in the *Lewiston-Auburn Passenger Rail Service Plan: Transit Propensity Report*, dated August 2018.

The second phase of this project, which is what this report covers, builds on the efforts of Transit Propensity Analysis and examined what kind of service should be provided to meet the travel demand/patterns observed in Transit Propensity Analysis (i.e., route alignment, service frequency), as well as the costs to build and operate service. The intended outcome of this evaluation is a series of Preferred Alignments for passenger rail service to Lewiston-Auburn that can be advanced for further consideration and study.

## 1.2 Summary of Transit Propensity Analysis

The Transit Propensity Analysis involved an assessment of potential ridership. A range of ridership estimates were developed by evaluating the demographics and travel patterns in the area, by considering the potential development opportunities of a rail connection, and by examining similar rail corridors across the country.

### 1.2.1 Traveling Markets

The potential for transit demand in this Lewiston-Auburn to Portland corridor could be drawn from two traveling markets:

- ▶ Diverting existing trips from driving to using passenger rail service; and
- ▶ Inducing demand through the introduction of a new passenger rail service between Lewiston-Auburn and Portland.

The evaluation focused on answering four questions:

- ▶ Where do people live, where do they work, how do they travel between Lewiston-Auburn and Portland, and how may they choose to travel if this service were available?
- ▶ How is the region's population, employment, and economic development growing?
- ▶ How do similar services across the country capture ridership?

- ▶ When asked specifically at the Public Open House events, how did the communities respond to whether they would ride a potential Lewiston-Auburn to Portland service?

### 1.2.2 Potential Service Options

The analysis was also based on the understanding that there are many factors that affect the size of a passenger rail travel market and the likelihood of travelers to use a passenger rail option. To that effect, diverting drivers to use transit would require a rail option that is time-competitive to driving and very easy to use. A convenient and well-performing service would be frequent; reasonably priced; easily accessible for both the origin and destination points; and comfortable.

On the contrary, a rail service that is infrequent, is significantly slower and notably more expensive than driving, or a service that does not provide convenient station access would result in lower ridership levels.

An “infrequent” service, typically a long-distance connection that operates a few trips per day, could still provide a valuable service within the region. The project, therefore, evaluated the market for a Lewiston-Auburn connection that aligns with the existing Downeaster, as well. A high-performing infrequent service could still capture ridership if the service provides a direct (one-seat ride) connection or a well-coordinated connecting service in Portland with short dwell times. Poorly coordinated transfers in Portland, however, will limit the potential of rail to serve longer-distance intercity trips towards Boston.

### 1.2.3 Regional Growth Scenarios

Lastly, the ridership range included two growth scenarios. The first assumed a population and employment growth rate similar to historic trends in the region. A higher growth scenario was evaluated, as well, making assumptions about potential future growth, development, and travel behavior that are more optimistic and ambitious. Those growth rates assumed some transit-oriented development around stations as a result of a new rail connection.

### 1.2.4 Public Survey Results

Findings from the public outreach process gathered valuable information, as well, namely that the majority of people (ranging from 71 to 98 percent based on various data sets) would use a passenger rail service if it were available between Lewiston-Auburn and Portland. Of those that would ride it, the most common trip purposes were for recreation/cultural events, shopping, and travel connections. When asked what would make them more likely to ride the train, the top responses included proximity to destination, a high frequency of service (many trains per day), a lower cost than driving and parking, and a direct train to Boston.

### 1.2.5 Propensity Results

The analysis (summarized in Table 1) indicated that there is latent demand (i.e., demand for transit service that is currently unmet and either accommodated on another mode or a trip not taken) for a transit connection between Lewiston-Auburn and Portland. The lower and upper limits of the ridership demand would depend largely on the level-of-

service and connections that would be made. In order for that latent demand to be captured fully, a rail service would need to have the frequency similar to a commuter-based service.

Other elements that could improve the potential to capture the higher range of ridership potential include locating a station within proximity to major origins/destinations. Where proximity is not an option, “first and last mile” connections would be improved by ride-sharing services and better connections to Lewiston-Auburn’s and Portland’s existing network of bus routes.

In addition to convenience, the increased propensity to travel in the corridor could also result from closer economic ties between Lewiston-Auburn and Portland. The presence of a good rail connection increases the perception among residents and workers that the two areas are a single region rather than as two distinct and separate urban areas. This concept creates an affinity between the two places and a higher level of trip-making between them, a portion of which would be carried by rail.

Table 1 Rail Ridership Propensity

|                                       | Near-Term Ridership Potential<br>[projected to 2040] |      | Long-Term Ridership Potential<br>[projected to 2040] |      |
|---------------------------------------|--|------|--|------|
|                                       | Daily Rail Trips                                     |      | Daily Rail Trips                                     |      |
|                                       | Low  | High | Low  | High |
| 12-20 Transit-Style Service Trips     | 600  | 800  | 700  | 1900 |
| Up to 4 Intercity-Style Service Trips | 210  | 240  | 250  | 330  |

### 1.3 The Project Committee

Overseeing the project was a Project Committee, which was established to represent the diverse views and perspectives of the communities that would be served by a passenger service expansion. The nine-member Project Committee was made up of representatives from NNEPRA and MaineDOT, as well as representatives from the Cities of Lewiston and Auburn.

The committee met monthly throughout the project and was involved in all aspects of the project. The committee’s responsibilities included guiding and reviewing the work performed by the project team, providing regional knowledge of the Lewiston-Auburn area, and helping to plan and advertise the public meeting (see Chapter 8 for more information on that).

### 1.4 Purpose of this Report

The purpose of this report is to document the results of service evaluation and corridor considerations for the Lewiston-Auburn Passenger Rail Service Plan, which includes an identification and evaluation of a series of alignments for a passenger rail service between Lewiston-Auburn and Portland. The various steps in this process, as well as their corresponding areas in this report, are discussed below.

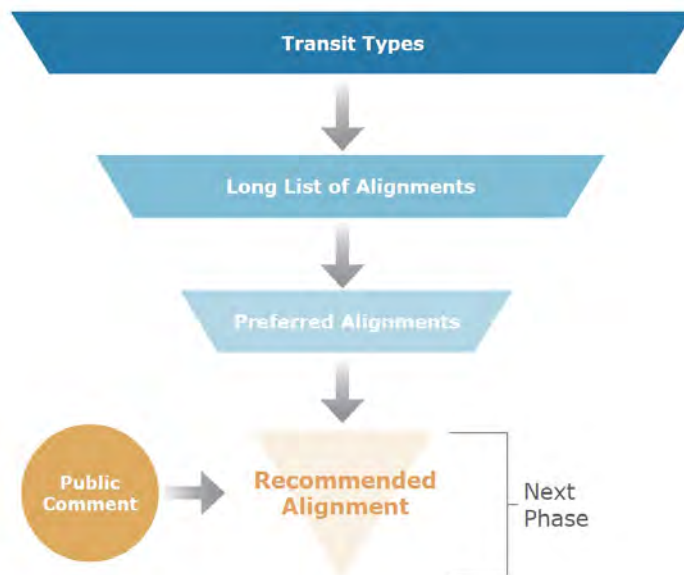
As indicated in the process graphic on the next page, this project performed two major steps to get to the Preferred Alignments. The first step involved performing a modal screening to identify appropriate transit modes for use in the rail corridors being considered. This step is documented in greater detail in Chapter 2.

Following the identification of the appropriate transit modes, eight alignments were developed, which comprised the Long List of Alignments. This Long List was then discussed with the Project Committee, after which some alignments were removed from further consideration. Chapter 3 describes the Long List of Alignments as well as the reasons why certain alignments were removed from further consideration.

The remaining alignments of the Long List became known as the Preferred Alignments. These Preferred Alignments were then refined to include potential station locations and an operating plan. This information is described in greater detail in Chapter 4.

These Preferred Alignments were then evaluated based on a variety of criteria. However, before this evaluation could be done, an assessment of the two rail corridors, as well as an estimation of capital and operations & maintenance (O&M) cost needed to be performed. This assessment of the two rail corridors is summarized in Chapter 5 while the assessment of cost is presented in Chapter 6.

Chapter 7 contains the results of the evaluation of each of the Preferred Alignments, which cover criteria that include mobility, environmental impact, cost, and implementation timeframe. Since this project is not tasked with identifying a single Recommended Alignment, this evaluation can serve as a building block for future evaluations that work towards identifying what alignment should be advanced for passenger rail service.



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## MODAL SCREENING

### 2.1 Introduction

Prior to developing potential alignments for a potential passenger rail service to Lewiston-Auburn, a modal screening was conducted to identify appropriate transit modes for use with the two rail corridors being considered: the Pan Am Railroad (PAR) corridor and St. Lawrence & Atlantic Railroad (SLR) corridor.

This modal screening examined seven rail and transit modes, including:

- ▶ Commuter Rail
- ▶ Multiple Units – Referred to as either diesel multiple units (DMUs) or electric multiple units (EMUs) depending on the type of propulsion system
- ▶ Monorail
- ▶ Light Rail
- ▶ Heavy Rail
- ▶ Maglev
- ▶ Bus Rapid Transit (BRT)

It is anticipated that the potential passenger rail service to Lewiston-Auburn would use existing rail corridors. Furthermore, since the PAR corridor would continue to serve freight movement needs, and any passenger rail alignment would need to use at least a portion of the PAR corridor, the rail and transit modes proposed must be compatible with and be able to maintain existing freight operations on these corridors. Given these requirements, this limits the appropriate modes to:

- ▶ Commuter Rail
- ▶ Multiple Units

The following section provides an overview of these modes and their compatibility to operate a potential Lewiston-Auburn to Portland passenger rail service.

## 2.2 Overview of the Modes

### 2.2.1 Commuter Rail



Commuter rail is considered an appropriate mode for the corridors being considered.

Commuter rail refers to a fixed-guideway system with steel wheels operating on steel rails. Commuter rail can operate using either diesel or electric locomotives pushing/pulling a number of passenger coaches. Electrified commuter rail locomotives are powered by either an overhead electrical contact system or a third rail.

Commuter rail coaches have a larger capacity than other types of transit vehicles and feature better furnishings, such as cushioned seats. Coaches may be single level or bi-level. Commuter rail vehicles operate in an exclusive right-of-way with grade crossings and/or grade separation, as conditions warrant. These rail corridors may be shared with freight trains, and if so, freight service is typically coordinated to avoid impacting commuter rail service. For Americans with Disabilities (ADA) access to the passenger cars, commuter rail systems may have low platforms with mini-high platforms or full-length high-level platforms at door height. Commuter rail systems operate under manual control with signal guidance or signal guidance with automatic train override.

For commuter rail, the maximum speed is dictated by the propulsion type of the locomotive. Diesel powered locomotives can typically propel trains at up to 79 mph while electric locomotives can typically propel trains at up to 110 mph. This maximum speed of 110 mph may not be achievable everywhere, however, and often, the top speed is not achieved due to track conditions, track curvature, or signaling requirements. Electrified locomotives are typically considered for corridors with existing railroad track that may have emissions restrictions (e.g., underground tunnels, enclosed stations). They are also typically used on rail lines that already connect to an electrified rail corridor (e.g., Amtrak's Northeast Corridor), where greater economies of scale with capital costs can be realized.

Commuter rail is typically considered for corridors with existing railroad track with stop spacing that is at least 2 to 10 miles apart (or more).

The benefits of commuter rail over other modes are as follows:

- ▶ **Can operate on existing railroad track** - This may result in a lower capital cost compared to other rail and transit modes that require constructing an exclusive fixed-guideway system.
- ▶ **Can operate with freight trains**
- ▶ **Would operate in an exclusive right-of-way** – This results in travel times that are more reliable than transit technology which runs on city streets that are shared with motor vehicles.

The challenges of commuter rail over other modes are as follows:

- ▶ **Electric-locomotive technology would require electrifying the entire corridor** – This would result in higher capital costs and a longer implementation timeframe than diesel-powered technology.
- ▶ **Would require coordination with freight railroads to minimize operating conflicts/delays**

In terms of propulsion technologies, diesel would be the most appropriate for this corridor. Electric propulsion would not be appropriate as this technology would require electrifying the entire proposed alignment, which would result in a higher capital cost and a higher annual operations and maintenance cost than a diesel-powered system. Furthermore, it is not certain that the benefits of these higher speeds of an electrified system could be achieved on these corridors.

Diesel-operated commuter rail mode is compatible with the existing rail corridors and was advanced for inclusion in the development of the Long List of Alignments.

### 2.2.2 Multiple Units



Multiple units are considered an appropriate technology for the corridors being considered.

Multiple units are self-propelled rail cars that can be coupled together to form a train consisting of up to three self-propelled cars, though sometimes more. Multiple units operate on a fixed-guideway system with steel wheels operating on steel rails. Multiple units can be propelled by either diesel power (referred to as Diesel Multiple Units – DMUs)

or electric power (referred to as Electric Multiple Units – EMUs). EMUs are powered by either an overhead electrical contact system or a third rail.

Multiple units have a capacity larger than a standard bus, but smaller than a commuter rail car. Multiple units are furnished in a manner similar to city buses or heavy rail vehicles and do not feature the amenities of a commuter rail coach.

Multiple units operate in an exclusive right-of-way with grade crossings and/or grade separation, as conditions warrant. These rail corridors may be shared with freight trains, and if so, freight service is typically coordinated to avoid impacting multiple unit service. Some systems, like the River Line in New Jersey, include in-street operation, a feature that is similar to light rail. Current U.S. DMU and EMU systems feature platforms level with the door height to provide level ADA access. Both DMUs and EMUs operate under manual control with signal guidance or signal guidance with automatic train override.

DMUs and EMUs have different operating requirements. DMUs fall into two classifications, depending on whether the cars meet Federal Railroad Administration (FRA) crashworthiness standards. Vehicles compliant with these standards (e.g., Sonoma–Marin Area Rail Transit (SMART) north of San Francisco, CA) may operate with freight trains. If they are not compliant (e.g., the Trenton-Camden River Line in New Jersey), they would need to be operated with temporal separation from freight trains (temporal separation means DMUs have exclusive rights to operate during specified hours of the day, while only freight trains can operate outside of this window). In the U.S., all EMUs meet FRA crashworthiness standards, so they may operate with freight trains. DMU and EMU cars are generally single-level.

For multiple units, the maximum speed is dictated by the propulsion type. The maximum achievable speed for DMUs is 79 mph, per Stadler, a manufacturer. The maximum achievable speed for EMUs is 100 mph, per Hyundai Rotem, a manufacturer. EMUs are typically considered for corridors with existing railroad track that may have emissions restrictions (e.g., underground tunnels, enclosed stations). They are also typically used on rail lines that already connect to an electrified rail corridor (e.g., Amtrak Northeast Corridor), where greater economies of scale with capital costs can be realized.

DMUs and EMUs are typically considered for corridors with existing railroad track with stop spacing that is at least 2 to 10 miles apart (or more).

The benefits of multiple units over other modes are similar to that of commuter rail:

- ▶ **Can operate on existing railroad track** – This may result in a lower capital cost compared to other rail and transit modes that require constructing an exclusive fixed-guideway system.
- ▶ **Can operate with freight trains** (if FRA-compliant vehicles are used)
- ▶ **Would operate in an exclusive right-of-way** – This results in travel times that are more reliable than transit technology which runs on city streets that are shared with motor vehicles.

Major challenges include:

- ▶ **Potential for getting non-competitive bids (DMUs only)** – There is currently only one U.S. manufacturer that produces DMUs that are FRA-compliant (Stadler)<sup>1</sup>

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<sup>1</sup> Amtrak is expected to begin the procurement process for renewing its fleet soon. In the event Amtrak elects to procure DMUs as part of its new fleet, this may change the manufacturing marketplace for DMUs in this country.

- ▶ **May require additional testing and design modifications to grade crossing warning systems (DMUs only)** – This is based on reports that these vehicles do not always trigger the grade crossing system when operating. The additional testing and possible design modifications would need to be discussed with the rail corridor owner.
- ▶ **Would require electrifying the entire corridor (EMUs Only)** – This would result in higher capital costs and a longer implementation timeframe than diesel-powered technology.
- ▶ **Would require coordination with freight railroads to minimize operating conflicts/delays**

In terms of propulsion technologies, diesel would be the most appropriate for these corridors. Electric propulsion would not be appropriate as this technology would require electrifying the entire proposed alignment, which would result in a higher capital cost and a higher annual operations and maintenance cost than a diesel-powered system. Furthermore, it is not certain that the benefits of these higher speeds of an electrified system could be achieved on these corridors.

This mode is compatible with the existing rail corridors and was advanced for inclusion in the development of the Long List of Alignments.

### 2.2.3 Monorail



Monorail is not considered an appropriate technology for the corridors being considered.

Monorail is a fixed-guideway system, usually with rubber-tired vehicles operating on a single concrete beam or rail. The vehicle straddles the beam, with tires making contact with both the top and sides of the beam for stability. Monorail has a capacity larger than a standard bus, but smaller than a commuter rail car.

Monorail vehicles can be furnished like heavy rail vehicles or like commuter rail coaches. Monorail requires a separate right-of-way and full grade separation. Monorail vehicles are powered by an overhead electrical contact system or a third rail system, usually the latter. Monorail systems have high platforms with level boarding. Monorail systems operate under manual control with automatic train override or full automatic train control. For monorail, the maximum speed is typically 50 mph, based on existing systems and previous studies.

Monorails are typically considered for urban city circulation with stop spacing that is between ½ to 2 miles.

**A monorail is not considered appropriate for the corridors being considered because it cannot operate on existing railroad track** (this mode would require constructing a separate concrete guideway). As such, this mode was not advanced for inclusion in the development of the Long List of Alignments.

## 2.2.4 Light Rail



Light rail is not considered an appropriate technology for the corridors being considered.

Light rail is a fixed-guideway system with steel wheels operating on steel rails. Light rail cars have a capacity larger than a standard bus, but smaller than a heavy rail car or commuter rail car. Light rail vehicles are furnished in a manner similar to city buses or heavy rail vehicles and do not feature the amenities of a commuter rail coach.

Light rail may operate in mixed traffic, exclusive lanes with at grade intersections, exclusive rights-of-way with full grade separation, or any combination thereof. Light rail vehicles in the U.S. do not meet FRA crash worthiness and traditionally do not share tracks with freight. Light rail vehicles are powered by an overhead contact system. Light rail systems usually have low platforms, with ADA access provided by movable ramps or low-floored vehicles. Light rail systems may operate under full manual control, manual control with signal guidance, or signal guidance with automatic train override. For light rail, the maximum speed can be as high as 50 mph.

Light rail is typically considered for urban city circulation with stop spacing that is between ½ to 1 mile.

**Light rail is not considered appropriate for the corridors being considered because it cannot operate on existing railroad track.** As such, this mode was not advanced for inclusion in the development of the Long List of Alignments.

## 2.2.5 Heavy Rail



Heavy rail is not considered an appropriate technology for the corridors being considered.

Heavy rail is a fixed-guideway system with steel wheels operating on steel rails. Heavy rail cars have a capacity larger than a bus or light-rail vehicle, but generally smaller than a commuter rail coach. Heavy rail vehicles are furnished in a manner similar to city buses or light rail vehicles and do not feature the amenities of a commuter

rail coach. Heavy rail facilities operate in an exclusive right-of-way with full grade separation. Heavy rail vehicles are powered by an overhead contact system or third rail system. Heavy rail systems have high platforms with level boarding. Heavy rail systems may operate under manual control with signal guidance, manual control with automatic train override, or full automatic train control. For heavy rail, the maximum speed can be as high as 60 mph.

Heavy rail is typically considered for urban city circulation with stop spacing that is typically every 1 to 2 miles.

**Heavy rail is not considered appropriate for the corridors being considered because it cannot operate on existing railroad track.** As such, this mode was not advanced for inclusion in the development of the Long List of Alignments.

### 2.2.6 Maglev



Maglev is not considered an appropriate technology for the corridors being considered.

Maglev is a fixed-guideway system in which the vehicle is suspended, guided, and propelled by electromagnetic force. Maglev vehicles have a capacity similar to a commuter rail car. Maglev vehicles typically feature better furnishings, such

as cushioned seats. Maglev requires a separate right-of-way and full grade separation. Maglev cannot share tracks with freight. Maglev systems have high platforms with level boarding. There are several Maglev systems in operation internationally, but none currently in operation in North America. There are a limited number of manufacturers that provide this proprietary technology. For Maglev, the maximum speed is 268 mph, although test runs for newer railcar designs have documented speeds as high as 375 mph.

Maglev is typically considered for intercity high-speed rail projects that are considered competitive with flying. This mode cannot operate in the existing rail corridor and would require constructing a separate guideway.

**Maglev is not considered appropriate for the corridors being considered because it cannot operate on existing railroad track.** As such, this mode was not advanced for inclusion in the development of the Long List of Alignments.

### 2.2.7 Bus Rapid Transit



Bus rapid transit (BRT) is not considered an appropriate technology for the corridors being considered.

Bus rapid transit (BRT) refers to a type of free-wheeled system, with rubber tires operating on a concrete or bituminous surface. BRT vehicles may have a capacity similar to a standard 40-foot bus or a larger capacity through the use of articulated

vehicles. Passenger capacity may be similar to a light rail vehicle but is less than heavy rail vehicle or commuter rail coach. BRT vehicles are furnished in a manner similar to city buses, light rail vehicles, or heavy rail vehicles, and do not feature the amenities of a

commuter rail coach. BRT vehicles may be articulated to increase capacity or allow for maneuvering in geometrically constrained areas. BRT may operate in mixed traffic, exclusive lanes with at-grade intersections, exclusive rights-of-way with grade separation, or any combination thereof. BRT vehicles can be powered by diesel engines or overhead contact systems. BRT systems usually have low platforms, with ADA access provided by movable ramps or low-floored vehicles. BRT systems may operate in mixed traffic or in an exclusive lane under full manual control. The intent of BRT systems is to provide transit service with the quality and reliability of rail and the flexibility of a bus. For BRT, the maximum speed is typically 60 mph.

BRT is typically considered for urban city circulation with stop spacing that is greater than a regular bus (typically every ½ to 2 miles).

**BRT is not considered appropriate for the corridors being considered because it cannot operate on existing railroad track.** As such, this mode was not advanced for inclusion in the development of the Long List of Alignments. However, it can be considered as a standalone alignment that operates on the interstate or regional highway system.

## 2.3 Evaluation of Modes

Out of the seven modes, only two were deemed suitable on the rail corridors considered for a potential passenger rail service between Lewiston-Auburn and Portland: commuter rail and multiple units. In terms of propulsion, it was determined that diesel technology would be the most appropriate. As such, ***a diesel-powered commuter rail system and DMUs were advanced as part of the development of the Long List of Alignments.***

The remaining modes were not recommended for the following reasons:

- ▶ **Monorail** – A monorail system cannot operate on the existing railroad track and would have to be considered, if at all, in the context of a standalone alignment, which would require a separate concrete guideway.
- ▶ **Light Rail** – A light rail system cannot operate on the existing railroad track alongside active freight operations. If considered, light rail would need to be in its own dedicated guideway separate from the existing corridors.
- ▶ **Heavy Rail** – A heavy rail system cannot operate on the existing railroad track alongside active freight operations. If considered, heavy rail would need to be in its own dedicated guideway separate from the existing corridors.
- ▶ **Maglev** – A maglev system is typically proposed on high-speed rail projects with the goal of connecting long-distance city centers with travel times comparable to that achieved by flying. There are currently no Maglev systems in North America and it would not be an appropriate or compatible solution for the Lewiston-Auburn project.



- ▶ **BRT** – BRT cannot operate in a rail corridor and would have to be considered, if at all, in the context of a standalone alignment as part of a rubber tire solution that operates on the interstate or regional highway system<sup>2</sup>.

As noted previously, should DMUs be selected as the preferred transit mode, there is only one company in the U.S. that manufactures DMUs<sup>3</sup>. In addition to a lack of competitive bidding, these DMUs may have difficulty triggering the grade crossing warning systems, which may necessitate modifications to the grade crossing system, which would need to be discussed with the rail corridor owner.

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<sup>2</sup> It should be noted that a Lewiston-Auburn to Portland bus connection already exists (operated by Concord Coach Lines). In the event a passenger rail option is not implemented, additional study could be done to examine operations of this bus connection and recommend improvements to better capture the transit propensity that was identified in the first phase of this project.

<sup>3</sup> Amtrak is expected to begin the procurement process for renewing its fleet soon. In the event Amtrak elects to procure DMUs as part of its new fleet, this may change the manufacturing marketplace for DMUs in this country.

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# 3

## THE LONG LIST OF ALIGNMENTS

### 3.1 Introduction

This chapter documents the eight routes that consist of the Long List of Alignments, along with the evaluation process that was used to identify which ones should be advanced for further study.

### 3.2 Long List of Alignments

The Long List consists of eight alignments that connect Lewiston-Auburn to Portland using one or a combination of two rail corridors: the PAR and the SLR. These two corridors are discussed in greater detail in Chapter 5. These eight alignments are summarized below in Table 2, and presented graphically in Figure 1 through Figure 8.

It is important to note that these alignments are all rail-based and do not include any rubber tire alternatives. This is because a bus connection between Lewiston-Auburn and Portland already exists (operated by Concord Coach Lines)<sup>4</sup>.

Table 2 Summary of the Long List of Alignments

| <b>Alignment Number</b> | <b>Description</b>  | <b>Portland Connection</b> |
|-------------------------|---|----------------------------|
| 1A                      | High-Frequency Service between Lewiston-Auburn and Portland using PAR Corridor  | West End                   |
| 1B                      | High-Frequency Service between Lewiston-Auburn and Portland using SLR to Yarmouth Junction                                    | West End                   |
| 2A                      | High-Frequency Service between Lewiston-Auburn and Portland via Back Cove Bridge using Pan Am Corridor through Royal Junction | East End                   |
| 2B                      | High-Frequency Service between Lewiston-Auburn and Portland via Back Cove Bridge using SLR Corridor                           | East End                   |
| 3A                      | Split Brunswick-bound Downeaster Service between Lewiston-Auburn and Brunswick using Pan Am Corridor                          | West End                   |
| 3B                      | Split Brunswick-bound Downeaster Service between Lewiston-Auburn and Brunswick using SLR Corridor                             | West End                   |
| 4                       | Rail Shuttle Connecting Lewiston-Auburn to Downeaster at Yarmouth Junction using SLR Corridor                                 | West End                   |
| 5                       | Rail Shuttle Connecting Lewiston-Auburn to Downeaster at Royal Junction using Pan Am Corridor                                 | West End                   |

Note:

West End location would be at the existing (or potentially relocated) Portland Transportation Center

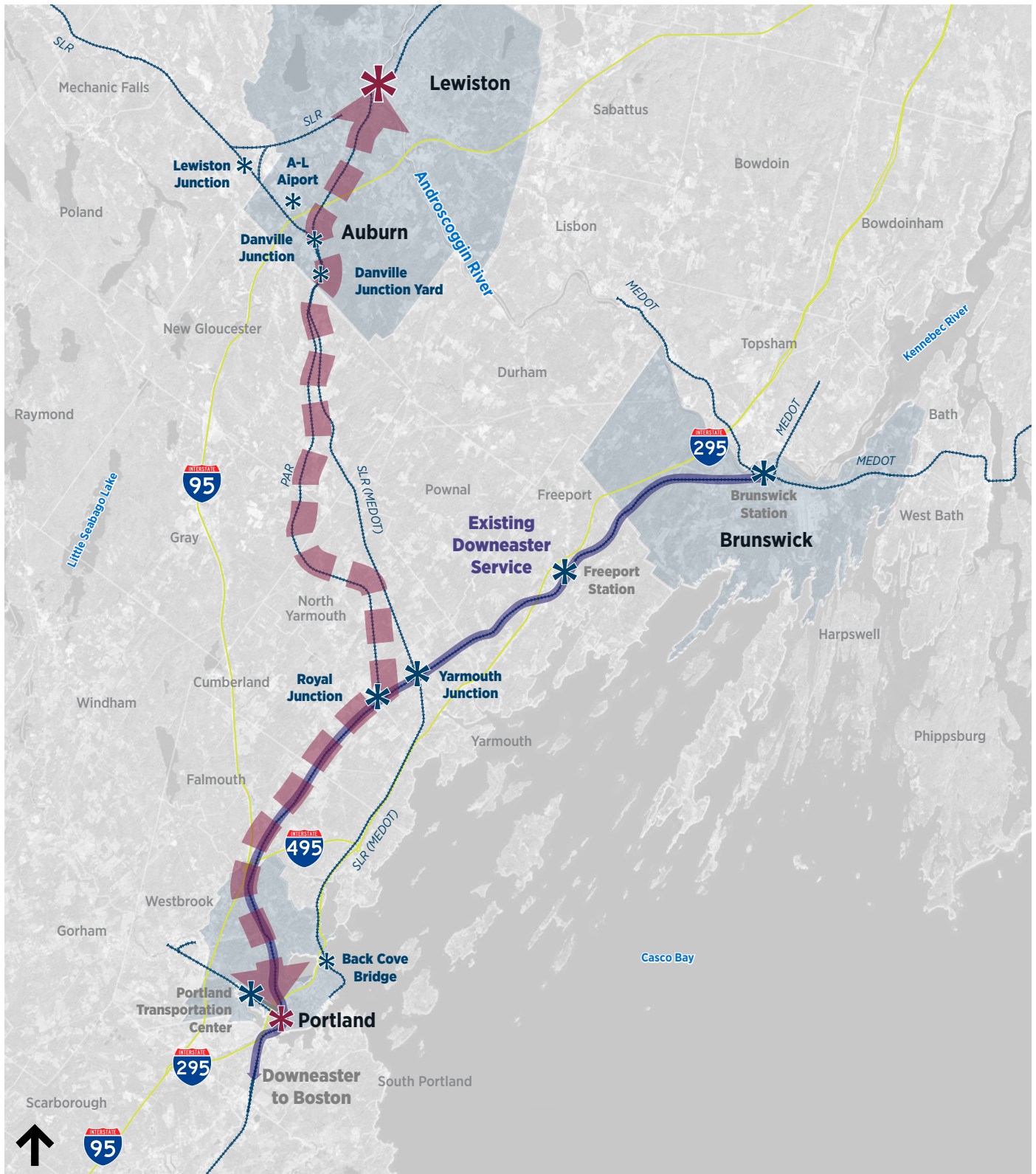
East End location would be a new station at Ocean Gateway

The operating plan assumed for each of the eight alignments are summarized below:

- ▶ Alignments 1A, 1B, 2A, and 2B: Would operate as an independent service with 30-minute high-frequency service during peak hours (7 to 9 AM and 4 to 6 PM). Outside of the peak hours, there would be reduced service with a single train set operating back and forth.
- ▶ Alignments 3A and 3B: Would split the five daily Downeaster round trips between Portland to Brunswick. Roughly half of the trips would go to Lewiston-Auburn, with the remainder going to Brunswick.
- ▶ Alignments 4 and 5: Would be rail shuttle services with timed transfers that meet every northbound and southbound Downeaster train.

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<sup>4</sup> It should be noted that a Lewiston-Auburn to Portland bus connection already exists (operated by Concord Coach Lines). In the event a passenger rail option is not implemented, additional study could be done to examine operations of this bus connection and recommend improvements to better capture the transit propensity that was identified in the first phase of this project.



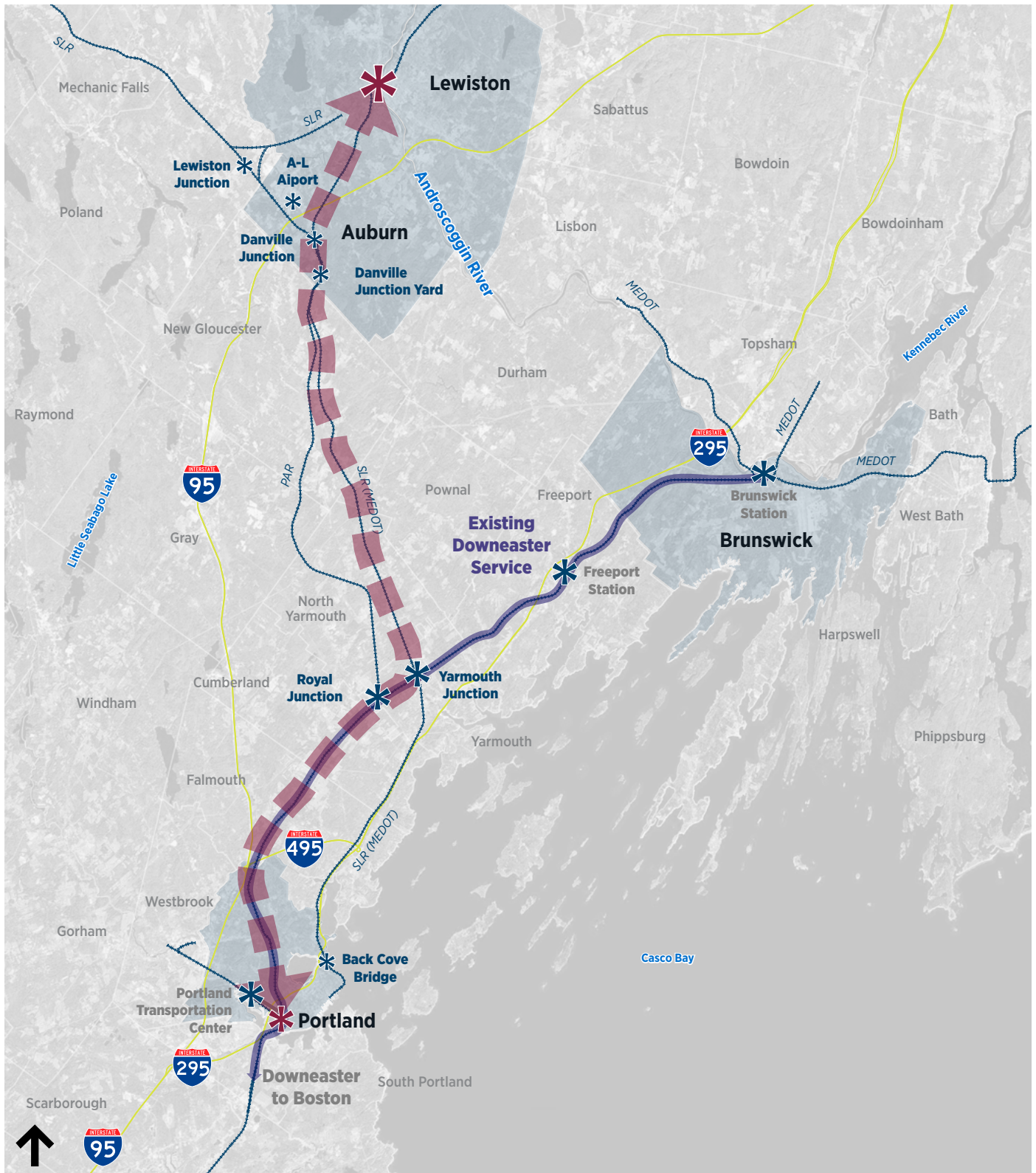
- Existing Downeaster Service
- Proposed Alignment

**LEWISTON-AUBURN  
PASSENGER RAIL SERVICE PLAN**

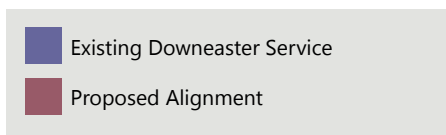
**Alignment 1A Route Map:  
High-Frequency Service between  
Lewiston-Auburn and Portland  
using Pan Am Corridor**

Source: VHB

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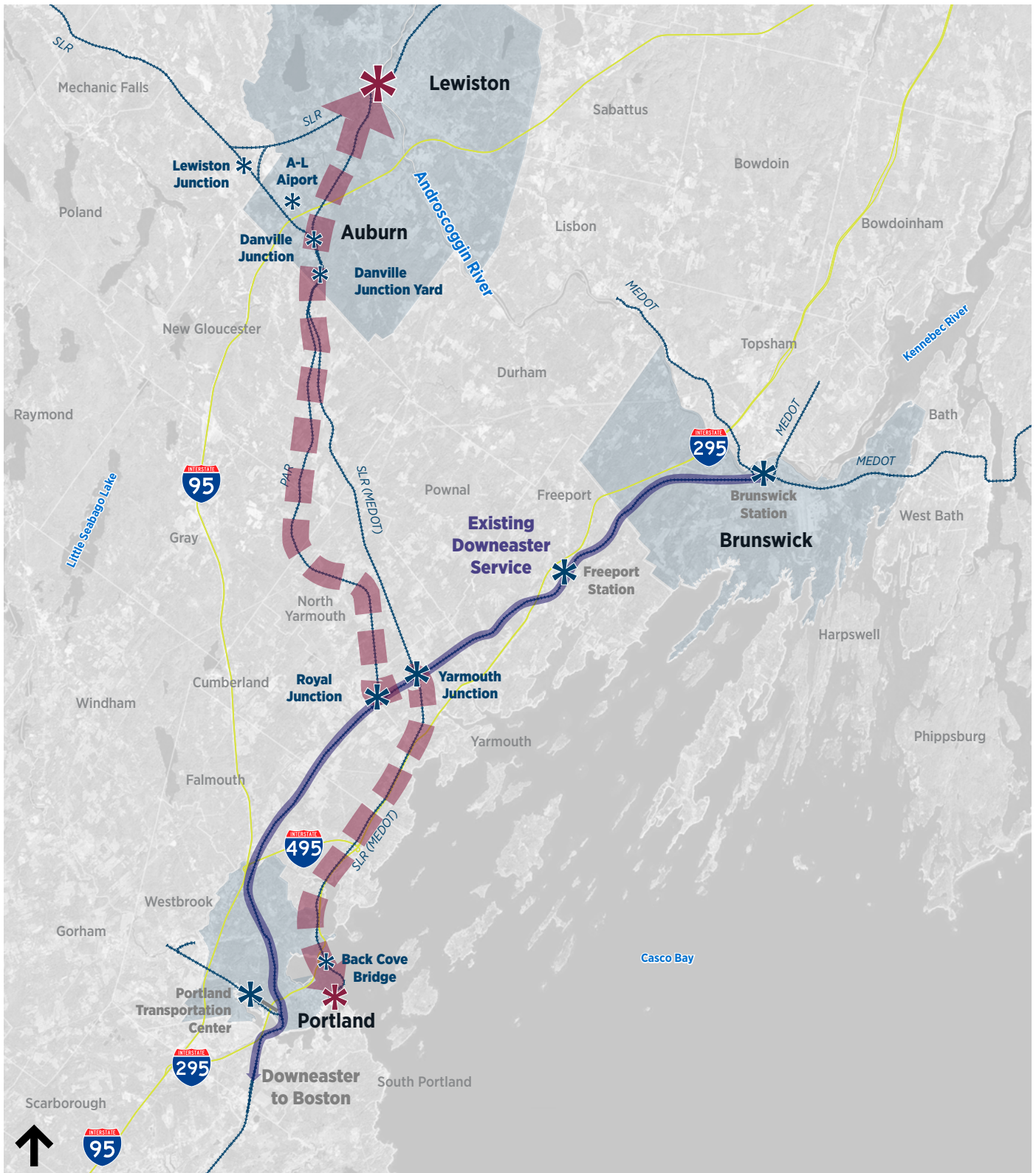
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**LEWISTON-AUBURN PASSENGER RAIL SERVICE PLAN**

**Alignment 1B Route Map: High-Frequency Service between Lewiston-Auburn and Portland using SLR to Yarmouth Junction**

Source: VHB

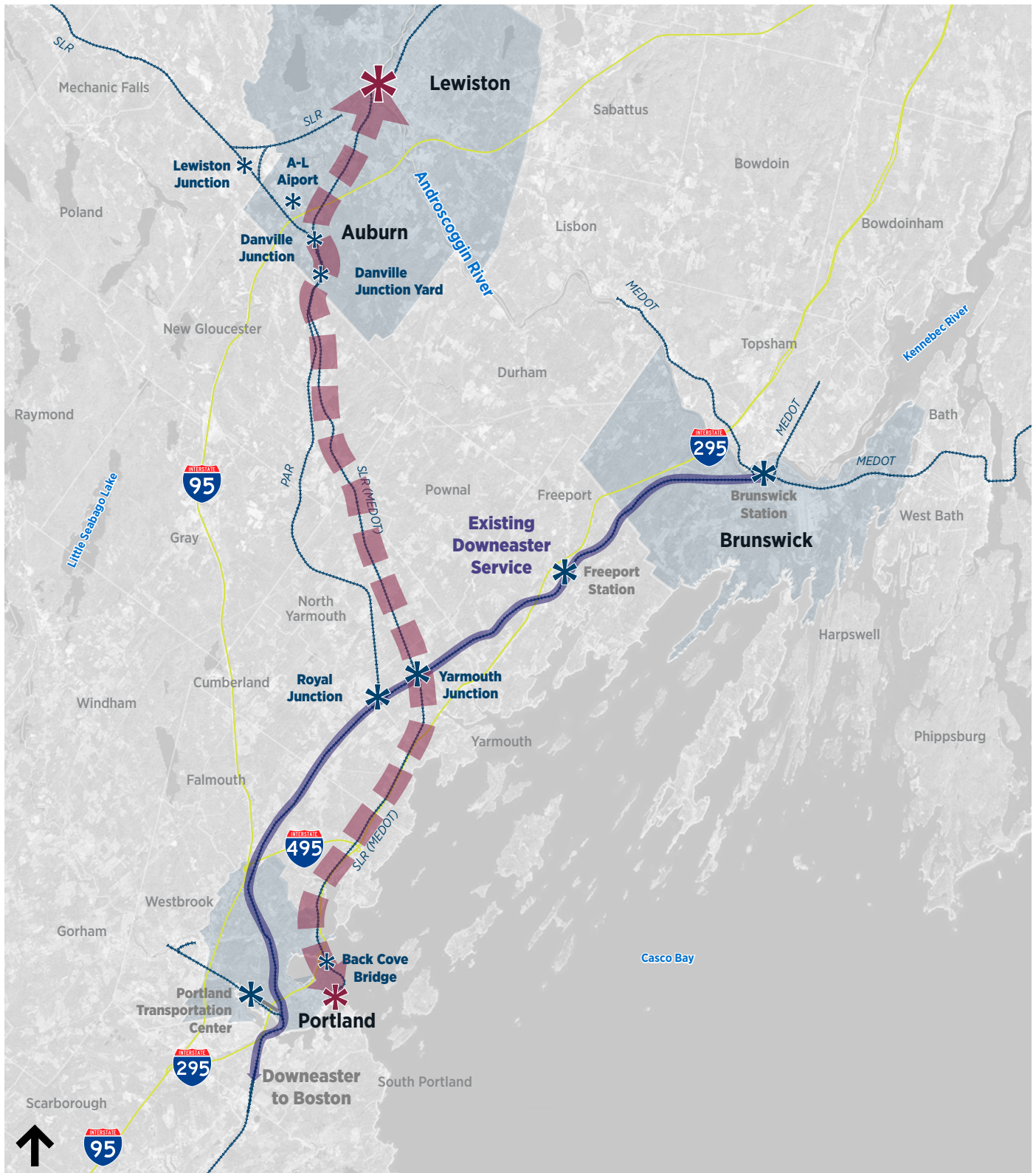


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### LEWISTON-AUBURN PASSENGER RAIL SERVICE PLAN

**Alignment 2A Route Map: High-Frequency Service between Lewiston-Auburn and Portland via Back Cove Bridge using Pan Am Corridor through Royal Junction**

Source: VHB



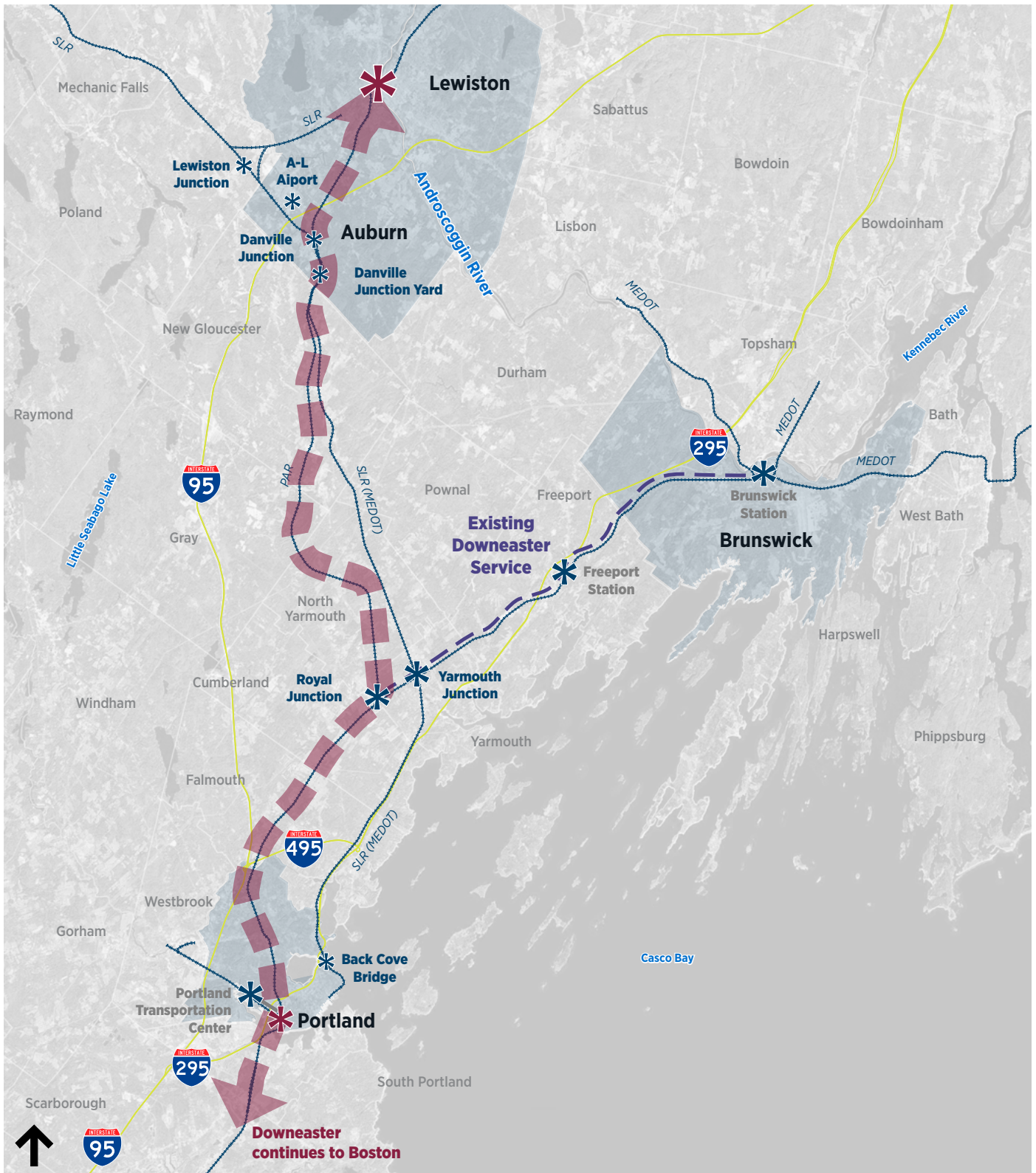
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- Existing Downeaster Service
- Proposed Alignment

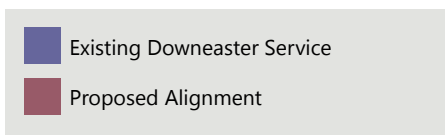
**LEWISTON-AUBURN PASSENGER RAIL SERVICE PLAN**  
**Alignment 2B Route Map: High-Frequency Service between L-A and Portland via Back Cove Bridge using SLR Corridor**

Source: VHB





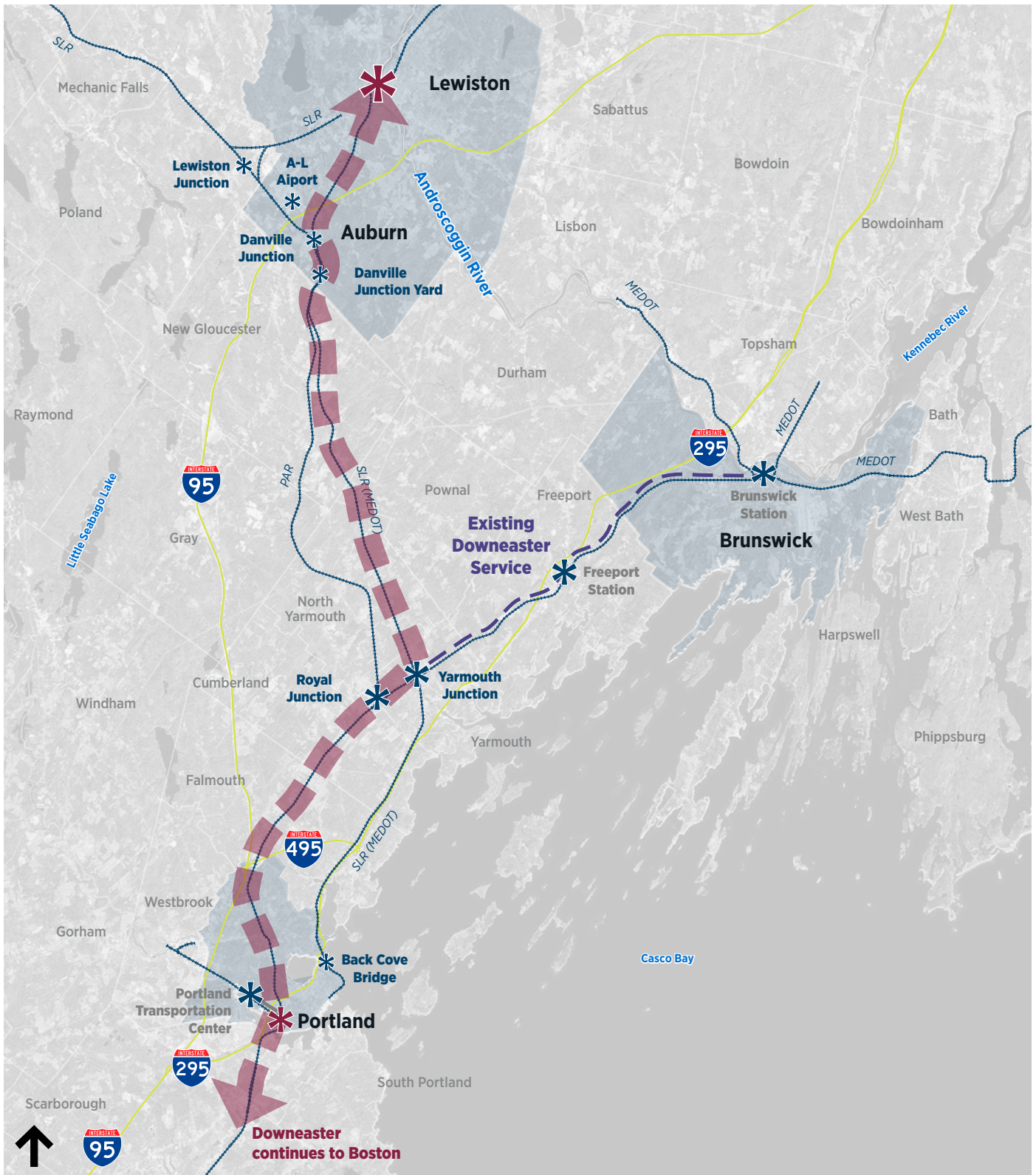
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**LEWISTON-AUBURN PASSENGER RAIL SERVICE PLAN**

**Alignment 3A Route Map: Split Brunswick-bound Downeaster Service between Lewiston-Auburn and Brunswick using Pan Am Corridor**

Source: VHB



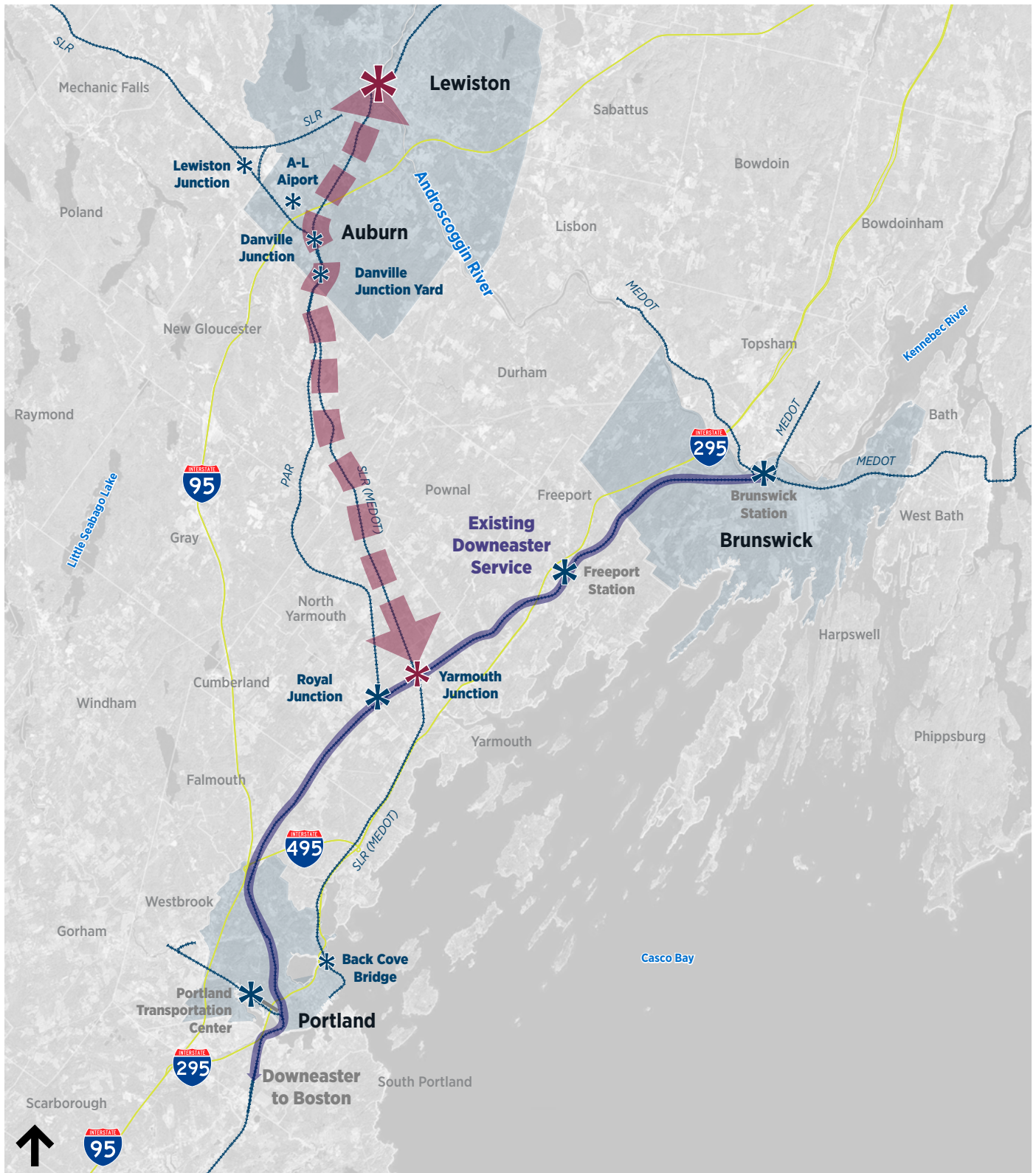
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- Existing Downeaster Service
- Proposed Alignment

LEWISTON-AUBURN PASSENGER RAIL SERVICE PLAN

Alignment 3B Route Map: Split Brunswick-bound Downeaster Service between Lewiston-Auburn and Brunswick using SLR Corridor

Source: VHB

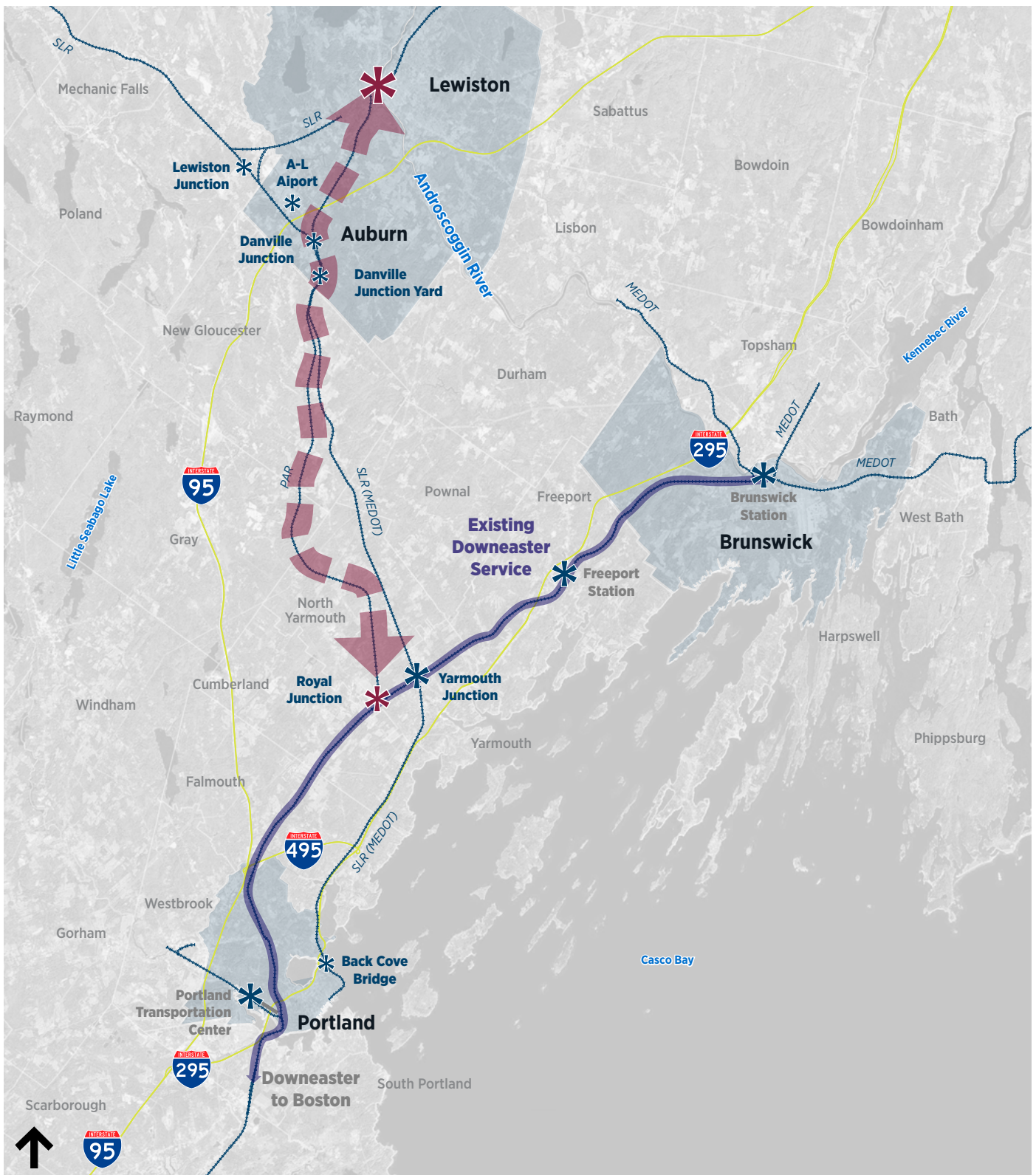


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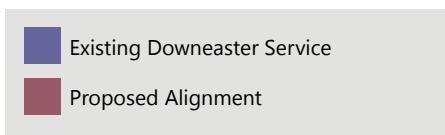
**LEWISTON-AUBURN PASSENGER RAIL SERVICE PLAN**

**Alignment 4 Route Map: Rail Shuttle Connecting Lewiston-Auburn to Downeaster at Yarmouth Junction using SLR Corridor**

Source: VHB



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LEWISTON-AUBURN PASSENGER RAIL SERVICE PLAN

Alignment 5 Route Map: Rail Shuttle Connecting Lewiston-Auburn to Downeaster at Royal Junction using Pan Am Corridor

Source: VHB

## 3.3 Long List Evaluation

### 3.3.1 Differentiator between the Alignments

The eight alignments are all very similar, if you overlook the service plan (frequency and number of transfers). All of the alignments start in Lewiston-Auburn and end in Portland. All of them also use one or a combination of two rail corridors to make the connection: the PAR and the SLR.

The main differentiator between the various alignments is where service in Portland would be terminated. As referenced in Table 2, the two possible terminal locations for a Lewiston-Auburn to Portland passenger rail service would be either 1) At the west end of Portland, at the Portland Transportation Center (or potentially at a relocated site) or 2) at the east end of Portland, at a new station that would need to be constructed at Ocean Gateway. All alignments except for Alignments 2A and 2B would serve the west end of Portland.

For the independent Lewiston-Auburn to Portland passenger rail services (Alignments 1A, 1B, 2A, and 2B), the benefit to serving the west end of Portland is that it would result in a more seamless connection to existing (Amtrak Downeaster) and potential future (Westbrook to Portland service) rail services. The downside with this location is that it is not within walking distance of downtown Portland and would require some kind of first/last mile connection, such as a bus shuttle.

On the flip side, the potential east end terminus station is located steps away from downtown Portland. However, the downside is it lacks good connections to the existing and future rail services (although a connection could still be made with the Amtrak Downeaster if a new intermediate station is constructed).

### 3.3.2 Committee Review

The eight alignments on the Long List were presented to the Project Committee for consideration. Based on the discussion surrounding the feasibility of implementation and how well the service meets the anticipated travel patterns of potential riders, three alignments were removed from further consideration: Alignments 2A, 3A, and 3B. The reason each of these alignments were eliminated are as follows:

- ▶ For Alignment 2A, the need to construct two wye tracks to connect the PAR line to the SLR line is not ideal, resulting in unnecessary land acquisition and construction costs when there are three other alignments that run between Lewiston-Auburn and Portland that do not require this added cost or property acquisition (Alignments 1A, 1B, and 2B).
- ▶ Alignments 3A and 3B eliminated based on the Downeaster's ridership grown and success. Service from Portland to Brunswick increased from three daily round trips to five daily round trips in November 2018, which has resulted in increased ridership on this section of the Downeaster route. As such, splitting the five daily round trips between Lewiston-Auburn and Brunswick would not only hurt the ridership gains made on the Portland to Brunswick segment, it would also not provide Lewiston-Auburn with a frequency of service that would make such a

passenger rail service attractive to potential riders. In addition, since grants were secured to pay for the increased service to Brunswick, it is likely that those funds would need to be repaid if service to Brunswick was reduced.

The remaining alignments (Alignments 1A, 1B, 2B, 4, and 5) were advanced for further evaluation. Alignments 1A, 1B, and 2B more completely met the goals of the Lewiston-Auburn Passenger Service Plan and were considered for full implementation. Alignments 4 and 5 were considered potential first phases to that full-build program.

# 4

## THE PREFERRED ALIGNMENTS

### 4.1 Introduction

This chapter documents the five Preferred Alignments, along with the stations and operating plan that was developed for each. It also covers the methodology that was used for the station identification and the development of the operating plan.

### 4.2 Station Identification

At this stage of the project, general locations for stations were identified for purposes of developing an operating plan (see next section for more details), identifying necessary track improvements, and estimating capital and operations & maintenance costs for each alignment. The general station locations for each alignment are presented in Section 4.4.

Specific sites for stations have not been identified. Should this project advance, a detailed parcel evaluation would need to be performed to identify the ideal location for a station in terms of environmental impact, land use compatibility, appropriateness of size for desired station amenities (e.g., parking), and potential for transit-oriented development. Stations in other locations could also be considered and examined at a later date.

As mentioned in the previous chapter, all the alignments can either 1) Follow the PAR into Portland and terminate on the west side (at the existing or potentially relocated Portland Transportation Center) or 2) Follow the SLR into Portland and terminate on the east side (at a new station that would need to be constructed at Ocean Gateway). Where each alignment terminates is the main differentiator between the alignments, with the west

side and east side each having their own benefits and downsides (refer to Section 3.3.1 for a discussion of this).

## 4.3 Operating Plan

A rough operating plan was developed to estimate end-to-end travel times, which was used to inform the number of vehicles needed to operate service for each alignment, as well as the locations where passing siding would be needed to allow passenger trains to pass each other.

The operating plan was developed in Rail Traffic Controller (RTC), a rail simulation program. The following assumptions were used in developing the operating plan:

- ▶ Dwell times at all stations would be 60 seconds
- ▶ The maximum authorized speed for all trains on this corridor would be 79 MPH
- ▶ Lewiston-Auburn and Downeaster trains would use a relocated Portland Station on the Pan Am Freight Main Line (Alignments 1A and 1B)
- ▶ There would be a 12-minute turn at the end of each trip
- ▶ Less schedule recovery time was provided in Portland and more schedule recovery time was provided in Lewiston (see discussion at the end of this section for the assumed schedule recovery times by alignment)

The 12-minute turn time, which excludes schedule recovery, includes the following elements:

- ▶ Doors opening and closing;
- ▶ Passenger alighting and boarding;
- ▶ Engineer close-up and set-up;
- ▶ Engineer and conductor swap and/or restroom break, and walk time from one end of the train to the other;
- ▶ Brake testing;
- ▶ Positive Train Control initialization; and
- ▶ Crew briefing.

For purposes of developing a conceptual operating schedule, schedule recovery times were developed that accommodated a desire to 1) Have shorter turn times in Portland and longer turn times in Lewiston, and 2) Have train departures at the nearest five-minute interval. The following schedule recovery times were used:

- ▶ Alignment 1A
  - Portland end: 3 minutes
  - Lewiston end: 8 minutes
- ▶ Alignment 1B
  - Portland end: 5 minutes
  - Lewiston end: 10 minutes
- ▶ Alignment 2B
  - Portland end: 5 minutes
  - Lewiston end: 10 minutes
- ▶ Alignment 4
  - Yarmouth Junction end: No schedule recovery time
- ▶ Alignment 5
  - Royal Junction end: No schedule recovery time



The conceptual operating schedules that were developed for each of the alignments are included in Appendix A.

## 4.4 Overview of the Alignments

### 4.4.1 Alignment 1A

This alignment would introduce a new high-frequency passenger rail service between Lewiston-Auburn and Portland using the PAR corridor. It would start in Lewiston-Auburn, and pass through the towns of New Gloucester, Gray, North Yarmouth, Yarmouth, Cumberland, and Falmouth, before terminating in Portland. It is approximately 35.9 miles in length. This alignment would allow riders to travel between Lewiston-Auburn and Portland without transferring to another service. It uses only the PAR Line to travel between Lewiston-Auburn and Portland, ultimately terminating at the Portland Downeaster Station.

Regarding stations, as mentioned previously, general locations for stations were identified (no specific sites were identified). Stations in other locations could also be considered at a later date. The proposed stations for this alignment are as follows:

- ▶ Lewiston-Auburn (New Station)
- ▶ Maine Turnpike at Exit 75 (New Station)
- ▶ Royal Junction (New Station)
- ▶ Relocated Portland Downeaster Station<sup>5</sup>

Rail service would be provided daily between 5 AM and approximately 10:30 PM. On weekdays, 30-minute peak service would be provided between approximately 7 to 9 AM and 4 to 6 PM. Outside of these times, it was assumed that one train would run back and forth, resulting in frequencies of approximately every two hours. On weekends and holidays, no peak service would be provided, with one train running back and forth, resulting in frequencies of approximately every two hours.

This alignment with proposed stations is shown in Figure 9.

### 4.4.2 Alignment 1B

This alignment would introduce a new high-frequency passenger rail service between Lewiston-Auburn and Portland using the PAR and SLR corridors. It would start in Lewiston-Auburn, and pass through the towns of New Gloucester, Pownal, North Yarmouth, Yarmouth, Cumberland, and Falmouth, before terminating in Portland. It is approximately 36.3 miles in length. This alignment would allow riders to travel between

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<sup>5</sup> For purposes of this project, it was assumed that Lewiston-Auburn to Portland trains that use Alignments 1A and 1B would stop at a relocated Portland Station on the Pan Am Freight Main Line. There are currently discussions to relocate the station from its existing location at the Portland Transportation Center. In the event the relocation of this station does not happen before Lewiston-Auburn to Portland service commences, the Lewiston-Auburn service may need to bear the costs of the station relocation.

Lewiston-Auburn and Portland without transferring to another service. It uses the PAR Line from Lewiston-Auburn to Danville Junction, where it then switches to the SLR Line until Yarmouth Junction, where it then switches back to the PAR Line to travel the remainder of the route to Portland, ultimately terminating at the Portland Downeaster Station.

Regarding stations, as mentioned previously, general locations for stations were identified (no specific sites were identified). Stations in other locations could also be considered at a later date. The proposed stations for this alignment are as follows:

- ▶ Lewiston-Auburn (New Station)
- ▶ Maine Turnpike at Exit 75 (New Station)
- ▶ Yarmouth Junction (New Station)
- ▶ Relocated Portland Downeaster Station<sup>3</sup>

Rail service would be provided daily between 5 AM and approximately 10:30 PM. On weekdays, 30-minute peak service would be provided between approximately 7 to 9 AM and 4 to 6 PM. Outside of these times, it was assumed that one train would run back and forth, resulting in frequencies of approximately every two hours. On weekends and holidays, no peak service would be provided, with one train running back and forth, resulting in frequencies of approximately every two hours.

This alignment with proposed stations is shown in Figure 10.

#### 4.4.3 Alignment 2B

This alignment would introduce a new high-frequency passenger rail service between Lewiston-Auburn and Portland using the PAR and SLR corridors. It would start in Lewiston-Auburn, and pass through the towns of New Gloucester, Pownal, North Yarmouth, Yarmouth, Cumberland, and Falmouth, before terminating in Portland. It is approximately 33.7 miles in length. This alignment would allow riders to travel between Lewiston-Auburn and Portland without transferring to another service. It uses the PAR Line from Lewiston-Auburn to Danville Junction, where it then switches to the SLR Line to travel the remainder of the route to Portland, ultimately terminating at Ocean Gateway in downtown Portland.

Regarding stations, as mentioned previously, general locations for stations were identified (no specific sites were identified). Stations in other locations could also be considered at a later date. The proposed stations for this alignment are as follows:

- ▶ Lewiston-Auburn (New Station)
- ▶ Maine Turnpike at Exit 75 (New Station)
- ▶ Yarmouth Junction (New Station)
- ▶ Portland Ocean Gateway (New Station)

Rail service would be provided daily between 5 AM and approximately 11:30 PM. On weekdays, 30-minute peak service would be provided between approximately 7 to 9 AM and 4 to 6 PM. Outside of these times, it was assumed that one train would run back and forth, resulting in frequencies of approximately every two hours. On weekends and

holidays, no peak service would be provided, with one train running back and forth, resulting in frequencies of approximately every two hours.

This alignment with proposed stations is shown in Figure 11.

#### 4.4.4 Alignment 4 (Potential Phased Alignment)

This alignment would be a potential first phase of implementing passenger rail service between Lewiston-Auburn and Portland. This alignment would introduce a rail shuttle service providing a timed-transfer to meet Downeaster trains using the SLR corridor. It would start in Lewiston-Auburn, and pass through the towns of New Gloucester, Pownal, and North Yarmouth, before terminating in Yarmouth where a transfer would be available to the Downeaster. It is approximately 23.3 miles in length. This alignment would require a transfer to the Downeaster at a new station at Yarmouth Junction in order to travel between Lewiston-Auburn and Portland. It uses the PAR Line from Lewiston-Auburn to Danville Junction, where it then switches to the SLR Line to travel to Yarmouth Junction. Transfers to the Downeaster to continue on to Portland would occur at a station near Yarmouth Junction.

Regarding stations, as mentioned previously, general locations for stations were identified (no specific sites were identified). Stations in other locations could also be considered at a later date. The proposed stations for this alignment are as follows:

- ▶ Lewiston-Auburn (New Station)
- ▶ Maine Turnpike at Exit 75 (New Station)
- ▶ Yarmouth Junction (New Station)

Rail service would be provided between approximately 4:30 AM and 2:00 AM on weekdays, and between approximately 6:00 AM and 2:00 AM on weekends and holidays. On weekdays, there would be nine shuttle round trips to connect with the ten northbound and southbound Downeaster trains. On weekends and holidays, there would be seven shuttle round trips to connect with the eight northbound and southbound Downeaster trains.

This alignment with proposed stations is shown in Figure 12.

#### 4.4.5 Alignment 5 (Potential Phased Alignment)

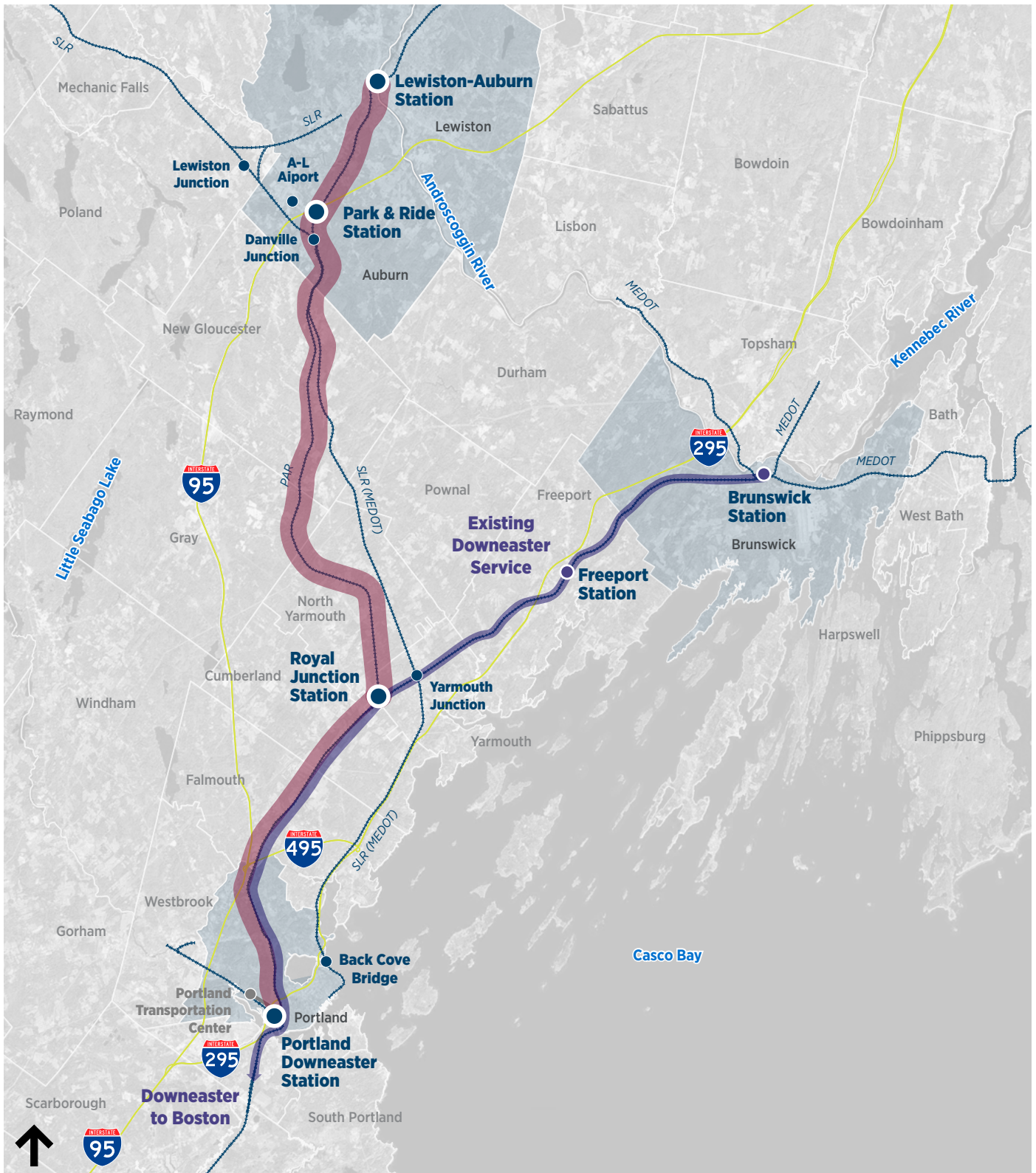
This alignment would be a potential first phase of implementing passenger rail service between Lewiston-Auburn and Portland. This alignment would introduce a rail shuttle service providing a timed-transfer to meet Downeaster trains using the PAR corridor. It would start in Lewiston-Auburn, and pass through the towns of New Gloucester, Gray, and North Yarmouth, before terminating in Yarmouth where a transfer would be available to the Downeaster. It is approximately 21.7 miles in length. This alignment would require a transfer to the Downeaster at a new station at Royal Junction in order to travel between Lewiston-Auburn and Portland. It uses the PAR Line from Lewiston-Auburn to Royal Junction. Transfers to the Downeaster to continue on to Portland would occur at a station near Royal Junction.

Regarding stations, as mentioned previously, general locations for stations were identified (no specific sites were identified). Stations in other locations could also be considered at a later date. The proposed stations for this alignment are as follows:

- ▶ Lewiston-Auburn (New Station)
- ▶ Maine Turnpike at Exit 75 (New Station)
- ▶ Royal Junction (New Station)

Rail service would be provided between approximately 4:30 AM and 2:00 AM on weekdays, and between approximately 6:00 AM and 2:00 AM on weekends and holidays. On weekdays, there would be nine shuttle round trips to connect with the ten northbound and southbound Downeaster trains. On weekends and holidays, there would be seven shuttle round trips to connect with the eight northbound and southbound Downeaster trains.

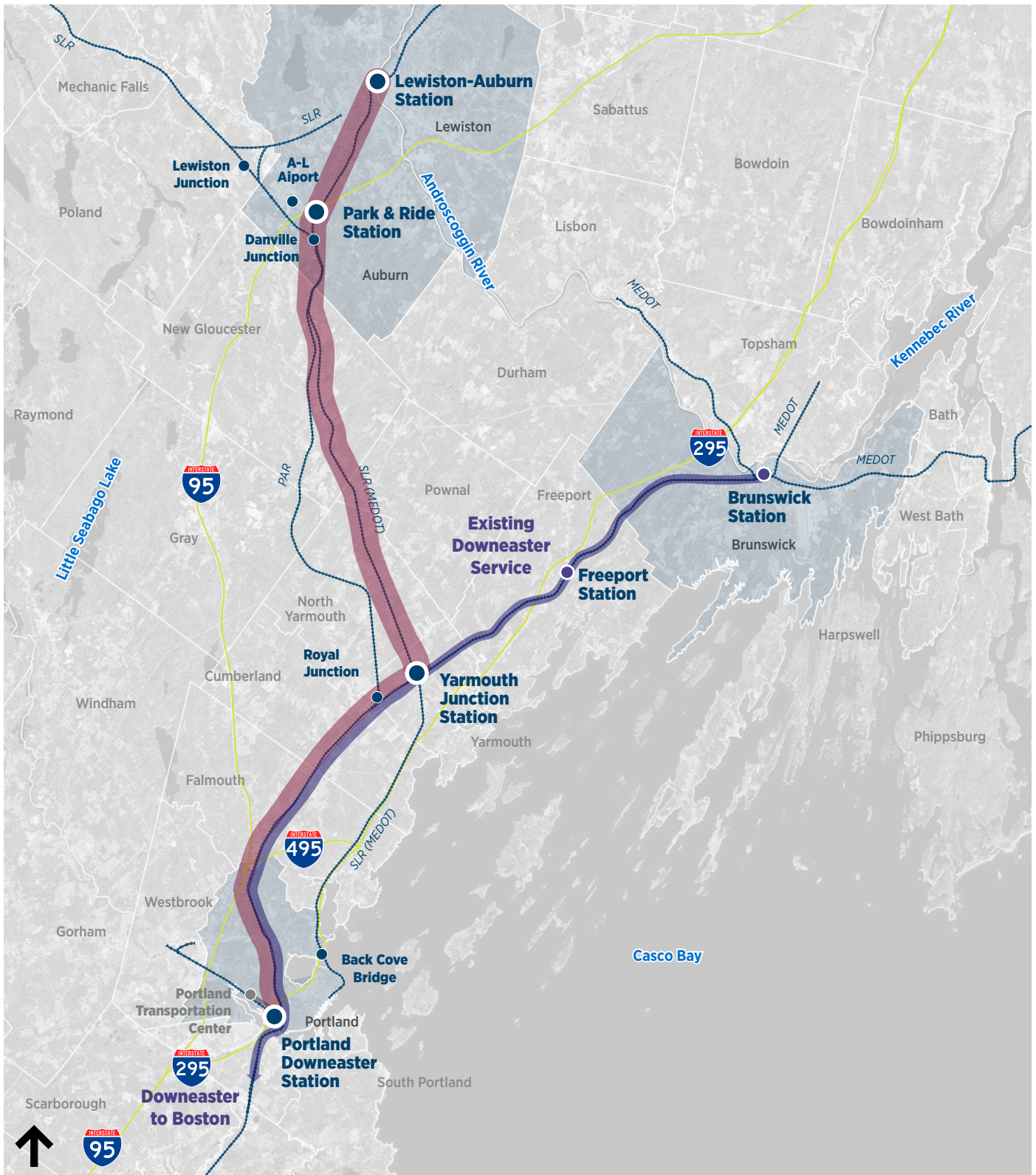
This alignment with proposed stations is shown in Figure 13.



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**LEWISTON-AUBURN  
PASSENGER RAIL SERVICE PLAN  
Alignment 1A  
Route Map with Potential Stations**

Source: VHB



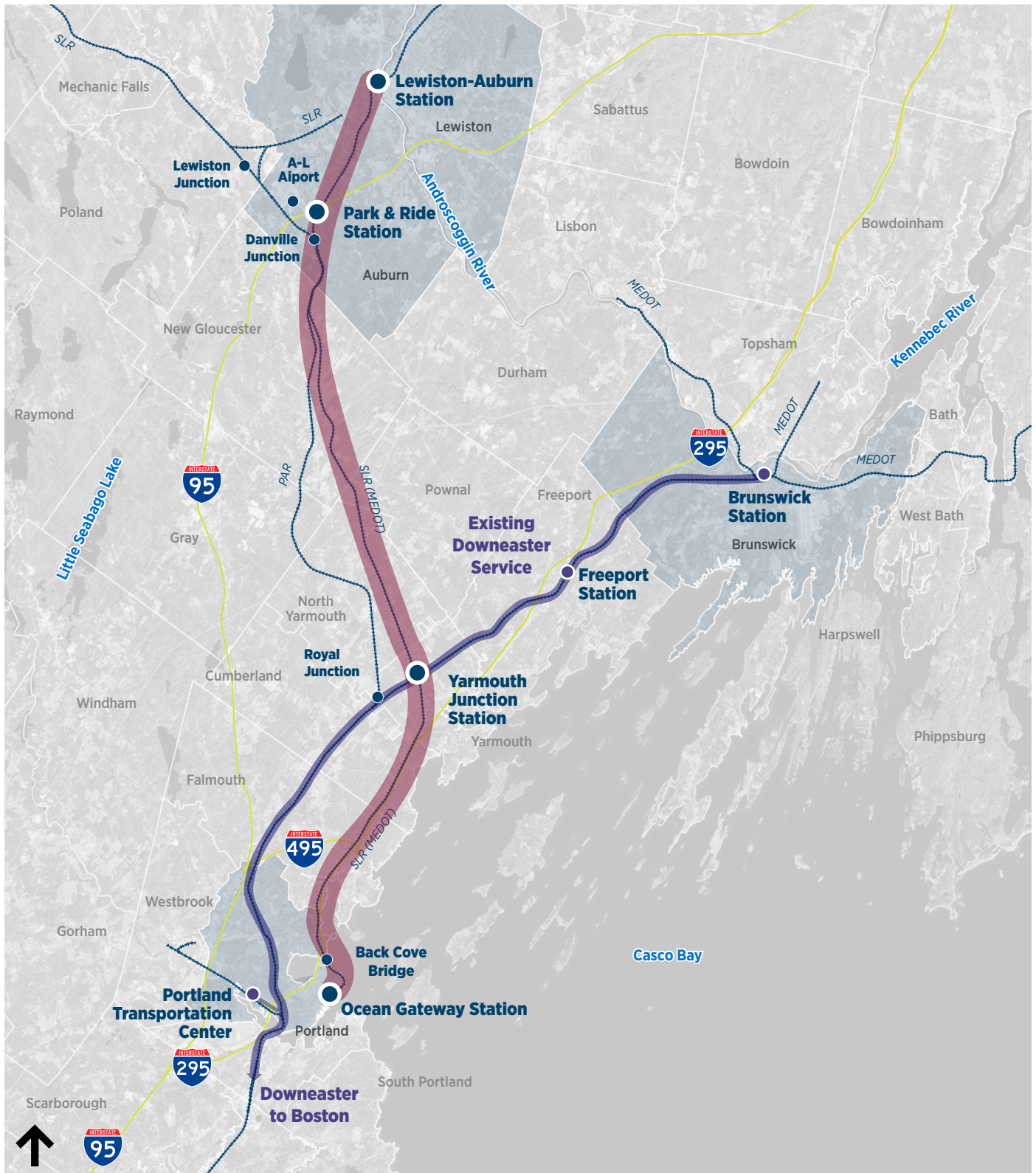
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- Existing Downeaster Service
- Proposed Alignment
- Existing Downeaster Station
- Potential Stations

**LEWISTON-AUBURN  
PASSENGER RAIL SERVICE PLAN**  
**Alignment 1B**  
**Route Map with Potential Stations**

Source: VHB

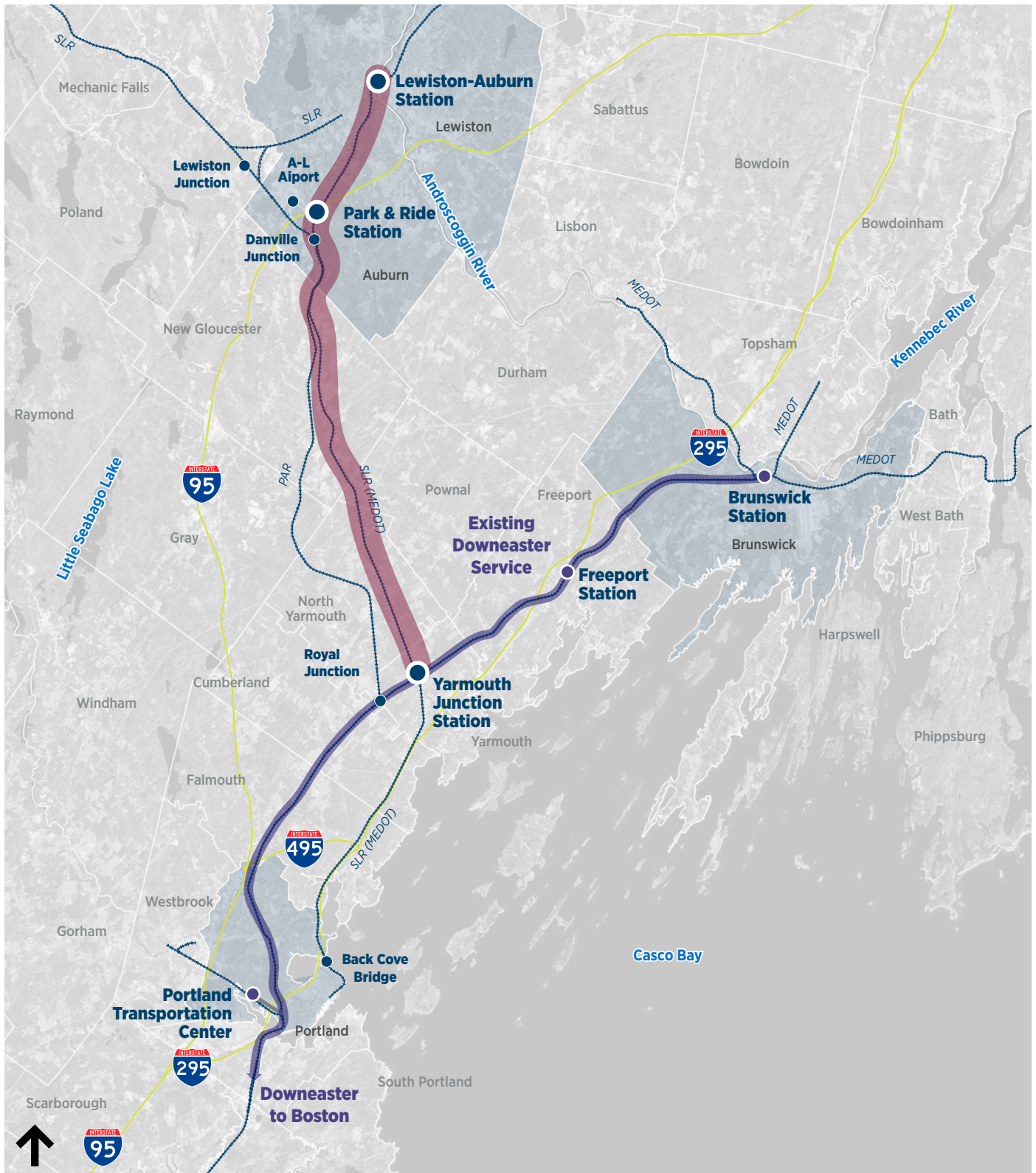


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- Existing Downeaster Service
- Proposed Alignment
- Existing Downeaster Station
- Potential Stations

**LEWISTON-AUBURN  
PASSENGER RAIL SERVICE PLAN**  
**Alignment 2B**  
**Route Map with Potential Stations**

Source: VHB



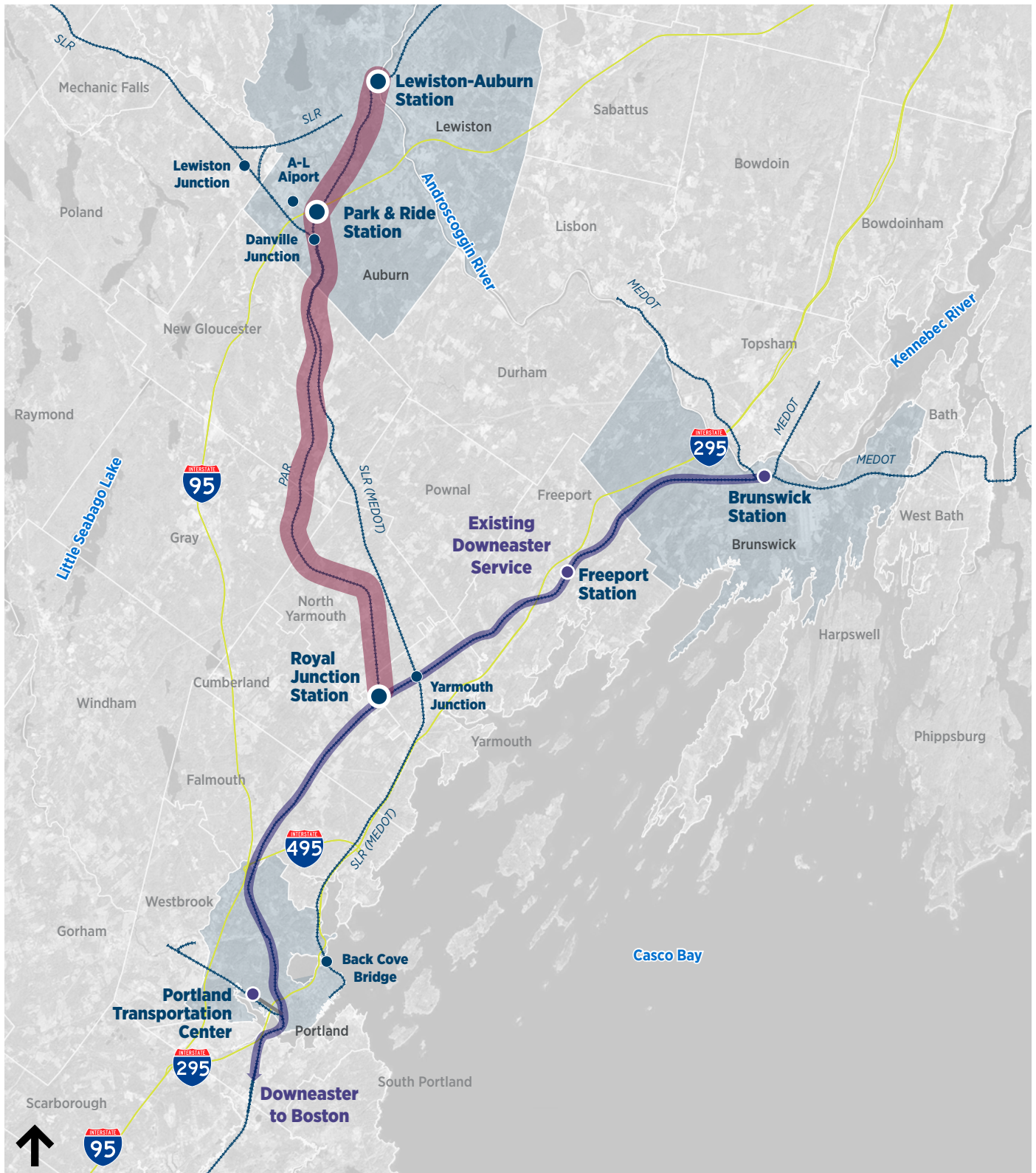
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- Existing Downeaster Service
- Proposed Alignment
- Existing Downeaster Station
- Potential Stations

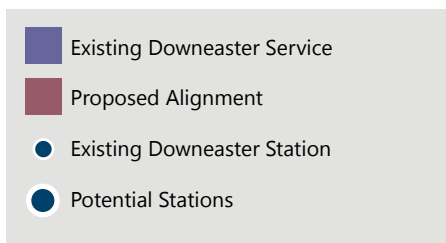
**LEWISTON-AUBURN PASSENGER RAIL SERVICE PLAN**  
**Alignment 4**  
**Route Map with Potential Stations**

Source: VHB





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LEWISTON-AUBURN PASSENGER RAIL SERVICE PLAN

Alignment 5 Route Map with Potential Stations

Source: VHB

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# 5

## INFRASTRUCTURE ASSESSMENT

### 5.1 Overview of Track Network

Each of the rail service alignments developed for this project involve using portions of existing railroad infrastructure between Lewiston and Portland. The segments are located on two distinctively separate corridors, operated by different railroads.

Pan Am Railways, Inc. owns and operates Class II regional railroads throughout northern New England and eastern New York. Pan Am is a privately held Class II rail carrier with operational headquarters located in North Billerica, Massachusetts. Pan Am owns or operates approximately 395 miles of railroad throughout the State of Maine and their primary route is known as the PAR Freight Main Line (FML), which runs from Mattawamkeag through South Berwick. Pan Am also owns and

operates several branch lines that serve major paper mills throughout south-central Maine. Primary commodities handled include grain, coal, sand and gravel, food products, lumber, paper and pulp, chemicals and plastics, petroleum, processed minerals, metals, scrap metal, finished automobiles and intermodal trailers and containers.



The St. Lawrence and Atlantic Railroad (SLR) operates over 260 miles of contiguous main line track between Portland, Maine and Ste. Rosalie, Quebec. The SLR is headquartered in Auburn, Maine and Richmond, Quebec. The portion located within the State of Maine is slightly more than 85 miles long, of which approximately 25.7 miles between Danville Junction and Portland is situated on right-of-way owned by the State of Maine. SLR provides freight service to warehouse distribution, intermodal and bulk transloading facilities in Maine and provides a key transportation link through Lewiston-Auburn, Mechanic Falls, and South Paris, Maine. SLR’s primary commodities include the three key forest products of lumber, pulp, and paper, as well as chemicals and agricultural products.

## 5.2 Ownership and Current Level of Activity on Track

The portion of the Pan Am FML between Lewiston and Royal Junction in Cumberland (approximately 26 miles) is used exclusively for freight service, supporting an estimated six to eight freight trains per day operating through the segment. The section of the FML between Royal Junction and Portland (approximately 13 miles) is used to support freight trains as well as Amtrak Downeaster passenger trains, which currently operates five round trips between Brunswick and North Station in Boston, Massachusetts.

The portion of the SLR considered in this project starts at Danville Junction in Auburn and passes through New Gloucester, North Yarmouth, Yarmouth, and Falmouth before entering Portland’s East Deering neighborhood. From there, the proposed route would pass over Back Cove and through Eastern Promenade before terminating near the Portland Ocean Gateway facility on Thames Street.

In 1984, the rail swing bridge and trestle at Back Cove in Portland was significantly damaged by fire. The bridge was subsequently abandoned along with approximately 1.5 miles of track located in the Eastern Promenade. The tracks south of Back Cove are currently used by the Maine Narrow Gauge



Railroad and Museum for scenic excursion trips through the Eastern Promenade park and recreation area. There is also a multi-use path between the tracks and the Atlantic Ocean. In recent years, the Narrow Gauge has indicated that they may relocate to Gray, Maine once their lease with MaineDOT expires in 2023.



In late 2015, SLR stopped providing service to B&M Baked Beans factory in Portland, the line’s sole customer south of Danville Junction at that time, due to prohibitively expensive operational costs. The SLR route between Auburn and Portland has been out of service since that time. MaineDOT currently inspects track conditions at least once per month.

Some of the alignments considered in this project include a portion of the Brunswick Branch Line to connect between the Pan Am FML at Royal Junction and the SLR at Yarmouth Junction. Pan Am also owns and operates the Brunswick Branch Line, which is also used to support daily Amtrak Downeaster Service from Brunswick to Boston, along with local freight service that operates on an as-needed basis (typically two to three trips per week). The segment that connects Royal Junction and Yarmouth Junction is approximately 1.65 miles long.

### 5.2.1 Danville Junction

It should also be noted that both the PAR and SLR lines pass through Danville Junction, which is located south of I-95's Exit 75. Danville Junction (also often referred to as Danville Yard) is a freight interchange yard between PAR and SLR. It also serves as a storage yard for freight cars.

It should be noted that current SLR operating limits extend through Danville Junction to SLR Mile Post 26, where the track has been rendered inaccessible through the installation of a barricade and removal of a short section of rail. The SLR and Pan Am FML share use of the single-track bridge over the Royal River (a.k.a. Royal River 1<sup>st</sup>) at Danville Junction before the Pan Am Freight Main Line splits off just beyond the bridge and heads southwest. Most of the tracks in this area is considered Yard Limits where movement of trains are governed by NORAC Rule 93. Pan Am trains may operate on the SLR track within yard limits; however, they cannot foul the SLR track until it is determined that there are no conflicting movements. All movements must operate at Restricted Speed (no greater than 20 mph and capable of stopping within one-half the range of vision short of obstructions and/or other equipment fouling the track, misaligned switches and derails, or any signal requiring a stop). Railroad operating limits and/or methodology would need to be refined accordingly to better accommodate future passenger service based on the routing alignment that is ultimately selected as well as the nature and use of other existing freight-only yard tracks by SLR and Pan Am.



It is anticipated that in order to avoid disrupting freight operations in the yard, a potential Lewiston-Auburn to Portland passenger rail service would require installation of a runaround track through the yard.

## 5.3 Operations of Service

### 5.3.1 Dispatching Responsibilities

All of the alignments evaluated utilize a portion of the Pan Am FML between Lewiston Station (Mile Post 160.7) and Danville Junction (Mile Post 167.3). As such, the proposed passenger service operator would need to coordinate movements through the Pan Am

Transportation Department (i.e., Operations Dispatcher) regardless of which route is selected. Additionally, any alignments that involve transfer from the SLR territory to the Brunswick Branch (or vice-versa) would also need to be coordinated through the Pan Am Transportation Department.

Given that the segment of the SLR considered for use during this project is owned by the State of Maine, it is envisioned that dispatching responsibilities for the proposed service will be transferred over to Pan Am regardless of which alignment is selected so that a level of operational versatility and consistency can be maintained. Otherwise, the service may encounter significant delays due to entering/exiting territory maintained by a different host railroad and/or a potential lack of coordination with other train movements.

### 5.3.2 Potential Operator of Passenger Rail Service

At the present time, it is unknown who would operate the potential passenger rail service to Lewiston-Auburn. It could be contracted out and bid on by a number of operators, including Amtrak (who currently operates the Downeaster and other national intercity rail routes) or Keolis (who currently operates the MBTA Commuter Rail System and other transit systems nationally and internationally). It could be operated in-house by NNEPRA, similar to how other transit/rail agencies operate throughout the country. It could also be operated by Pan Am if they express interest in operating the service, in addition to handling the dispatching responsibilities.

Further research and identification of benefits/costs would need to be done in order to identify a preferred operating scheme for this potential passenger rail service.

## 5.4 Condition of Track and Infrastructure

Field visits were performed on both rail corridors to assess the existing condition of the track and related infrastructure. VHB personnel accompanied local maintainers during routine hi-rail inspections, including MaineDOT inspection of the SLR on November 28, 2019 as well as Pan Am inspections of the Freight Main Line on December 5, 12, and 13, 2019. Photos from the field visits are included in Appendix B.

The SLR hi-rail trip covered the single track the private crossing at Mile Post 2.66 (behind 299 Presumpscot Street in Portland) to the barricade installed at Mile Post 26.0 in Auburn (south of Danville Junction). The inspection did not include any track south of Mile Post 2.66 (including the tracks that led to the former B&M Baked Beans factory, the Back Cove bridge, or the Narrow Gauge Railroad).

The areas covered under the Pan Am hi-rail trips included Greeley Road (FML Mile Post 185 near Royal Junction) to Danville Junction Road (Mile Post 167.36) on December 5. A second hi-rail trip was performed on December 12, starting at Stetson Avenue in Lewiston (Mile Post 158.42) and ending near Mile Post 163.2. On December 13, the track and infrastructure assessment was completed for the segment between Mile Post 163.2 to Danville Junction Road. Hi-rail assessments were not performed along the portions of the FML between Royal Junction and Portland, as this section is currently used by the Amtrak Downeaster service and the existing track conditions are assumed to be adequate to support the proposed Lewiston/Auburn service as well.

In general, Pan Am maintains the FML track conditions to meet or exceed FRA Class 2 standards. In areas where the Amtrak Downeaster operates, and local conditions allow, Pan Am maintains a higher Class 4 standard for track.

The SLR has been out of service from Mile Post 1.7 to Mile Post 26.0 since late 2015. Previously, track conditions on the corridor was maintained to Class 1 standards. There are numerous challenges with upgrading this stretch of track to accommodate passenger rail service, particularly between the Back Cove Bridge and Ocean Gateway. To start, the Back Cove Bridge has been out of service since the mid-1980s and would need to be reconstructed at a significant cost, and likely extend the horizon for implementation based on the need for a thorough environmental review and permitting process.

Once past the Back Cove Bridge and approaching downtown Portland, there are additional challenges. Today, the Eastern Promenade features both a multi-use path and track that is used by the Maine Narrow Gauge Railroad Museum for excursion trains. The narrow gauge (i.e., the distance between the rails) is not consistent with the equipment used by modern railroads. Given the frequency of the proposed service, the Narrow Gauge Railroad equipment would not be able to operate on the same track infrastructure. Constructing an additional track in parallel to the proposed passenger service would require land acquisition and possibly result in Section 4F permitting implications due to being located within designated parkland.

The proposed service would also require erection of a fence on both sides of the new railroad track within the Eastern Promenade park to prevent trespassing. Implementation of a new passenger rail line may require closures or consolidation of grade crossings (vehicular, pedestrian/bike, or both) and possible encroachment onto the trail in areas where right of way may be constrained. Finally, once at Ocean Gateway, the construction of a station with double track would likely require some elimination or modification of parking (both on-street and off-street) and changes to the trail alignment running through the area.

## 5.5 Infrastructure Needs to Start Passenger Rail Service

At a minimum, the following standards were assumed to be required to support the proposed Lewiston-Auburn to Portland service:

- ▶ Track infrastructure maintained to FRA Class 4 condition (capable of supporting up to 80 mph passenger service);
- ▶ Continuous welded rail (CWR) on all tracks where the proposed service would be operating;
- ▶ Modernized automatic highway crossing warning (AHCW) devices at all public at-grade roadway crossings;
- ▶ Wayside equipment to support Automatic Train Control Protection System including Cab Signaling (federally required for any rail lines with more than six round trips per day);
- ▶ Culvert and drainage improvements as necessary for satisfactory stormwater management;
- ▶ Railroad bridges supporting one or more tracks maintained to a condition that meets or exceeds FRA Safety Requirements; and

- ▶ Excepting passenger station platforms, no obstructions and/or supports for overhead bridges located within 9 feet of the track centerline. Vertical clearance at existing bridges would need to be maintained to existing conditions while any new construction would be required to provide 22'-6" above top of rail.

The introduction of a potential Lewiston-Auburn passenger rail service will increase train traffic on a relatively lightly used rail line (six to eight one-way freight train trips a day) to one that could potentially see as many as 38 trains per day (30 one-way passenger train trips plus the eight freight trips). In order to increase capacity on the track, and reduce the potential impact to existing rail operations (between freight and passenger trains, as well as between passenger trains), it was assumed that the project would need to provide double track on the Pan Am territory in any areas where conditions lend themselves as being reasonably feasible. As part of an initial evaluation of the conceptual operating plans under consideration for the various alignments, a verification was done to ensure that the most likely places where meets would generally occur (i.e., locations where two trains heading in opposite directions would need to pass one another) would take place in double track territory.

Key constraints that would make creation of a two-track corridor difficult include:

- ▶ Lack of sufficient railroad embankment and/or property ownership to support necessary track spacing and infrastructure construction;
- ▶ Potential conflicts with existing and/or future passenger & freight rail service operations; and
- ▶ Impacts to wetlands and other sensitive receptors.

Locations where installing double track on the Pan Am FML were deemed prohibitive included the following:

- ▶ FML Mile Post 161.15 to Mile Post 164.65
  - Bridge #36.78 over Androscoggin River (Single track; 850-foot span length). This multi-span deck truss bridge has fracture-critical pin connections in the bottom chords of the trusses. Widening this bridge to support a second track would require a very significant capital investment because it would require widening both the superstructure and substructure. It should be noted that all alignments being considered traverse this bridge in order to access Lewiston.





- Auburn Center (Includes seven roadway at-grade crossings within less than a mile, some of which have limited visibility due to building obstructions or substandard horizontal/vertical geometry to accommodate a second track).



- Constrained ROW (Limited embankment and/or ledge outcrops between Mile Posts 162.5 and 164.5)





- Single Track Bridges: #35.27 Grand Trunk RR; #34.91 Taylor Brook; #34.28 Little Androscoggin



- ▶ FML Mile Post 166.6 to Mile Post 167.5
  - Constrained ROW (Single track on embankment/curve east of Black Cat Road)
  - Black Cat Road at-grade XING (Limited visibility due to substandard horizontal/vertical geometry. Currently single track with no active signal protection. Double tracking could require possible closure.)



- Danville East (FML and bypass track DJ2 are in a significant ledge cut. May be possible to reclassify DJ2 east of Danville Junction Road using Operating Rules)



- ▶ FML Mile Post 194.4 to Mile Post 196.29:
  - Includes eight roadway at-grade crossings within 1/3 of a mile, some of which have limited visibility due to nearby buildings, adjacent parallel roadway intersections, or substandard horizontal/vertical geometry to accommodate a second track

Similar double-tracking of the entire SLR corridor is not warranted given the lack of existing freight service on the segments under consideration. It should also be noted that the SLR has always been a single track main line and that there are several areas where limited embankment and ROW constraints would make construction of a second track difficult. Some of the locations where installing double track was deemed prohibitive included:

- ▶ SLR MP 27.0 to MP 24.7
  - Limited embankment throughout as track generally follows the course of the Royal River
  - Bridge #26.90 – Royal 1<sup>st</sup> (Single track bridge over Royal River shared with Pan Am FML)



- Bridge #24.90 - Royal 2<sup>nd</sup> (Single track bridge over Royal River)

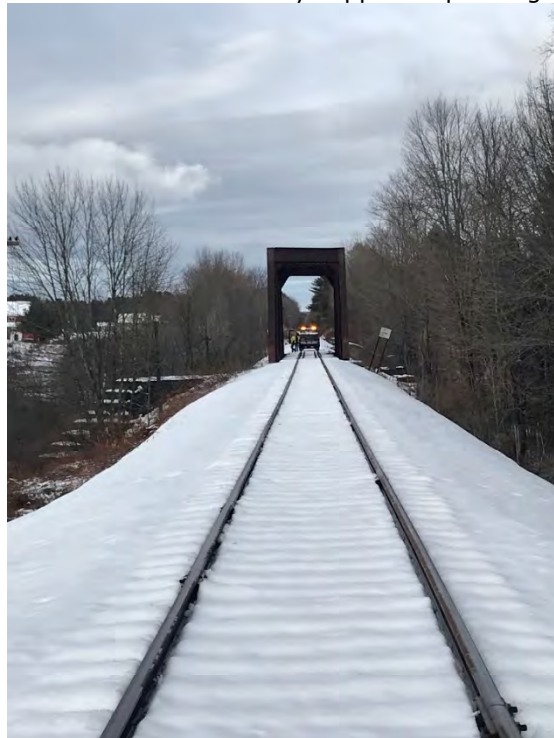


▶ SLR MP 20.1 to 19.7

- Bridge #19.90 – Route 231 OH (Existing bridge abutments do not provide sufficient clearance to install second track)

▶ SLR MP 16.0 to MP 13.0

- Several at-grade public, private, and farm crossings located within this section
- Bridge #15.70 – Royal 5<sup>th</sup> (Single track bridge over the Royal River. Conditions do not readily support expanding bridge abutments.)



- MP #15.60 – Atkinson’s Crossing (Roadway crosses track at an extreme skew and topography does not support fill for required embankment)



- MP #14.89 – Sawyer’s Crossing (Roadway crosses track at an extreme skew)

▶ SLR MP 12.25 to MP 11.25

- MP 12.18 – Diamond crossing over Pan Am Brunswick Branch Line







- Several at-grade crossings located in downtown Yarmouth area

▶ SLR MP 6.0 to MP 3.0

- Bridge #5.99 – I-95 Falmouth Spur OH (Existing bridge abutments do not provide sufficient clearance to install second track. Substantial cost associated with reconstruction of a highway bridge.)



- Track is situated on significant embankment (fill), especially between MP 5 to MP 3
- Bridge over Presumpscot #4.60 – Presumpscot River (Single track. Conditions do not readily support expanding bridge abutments.)






▶ SLR MP 1.7

- Constructing a double track bridge over Back Cove could possibly provide significant permitting issues and construction challenges. Assumed single track would be required for the purposes of this assessment.

A graphical depiction of the areas where double track is proposed for each of the alignments is shown in Figure 14 through Figure 16.



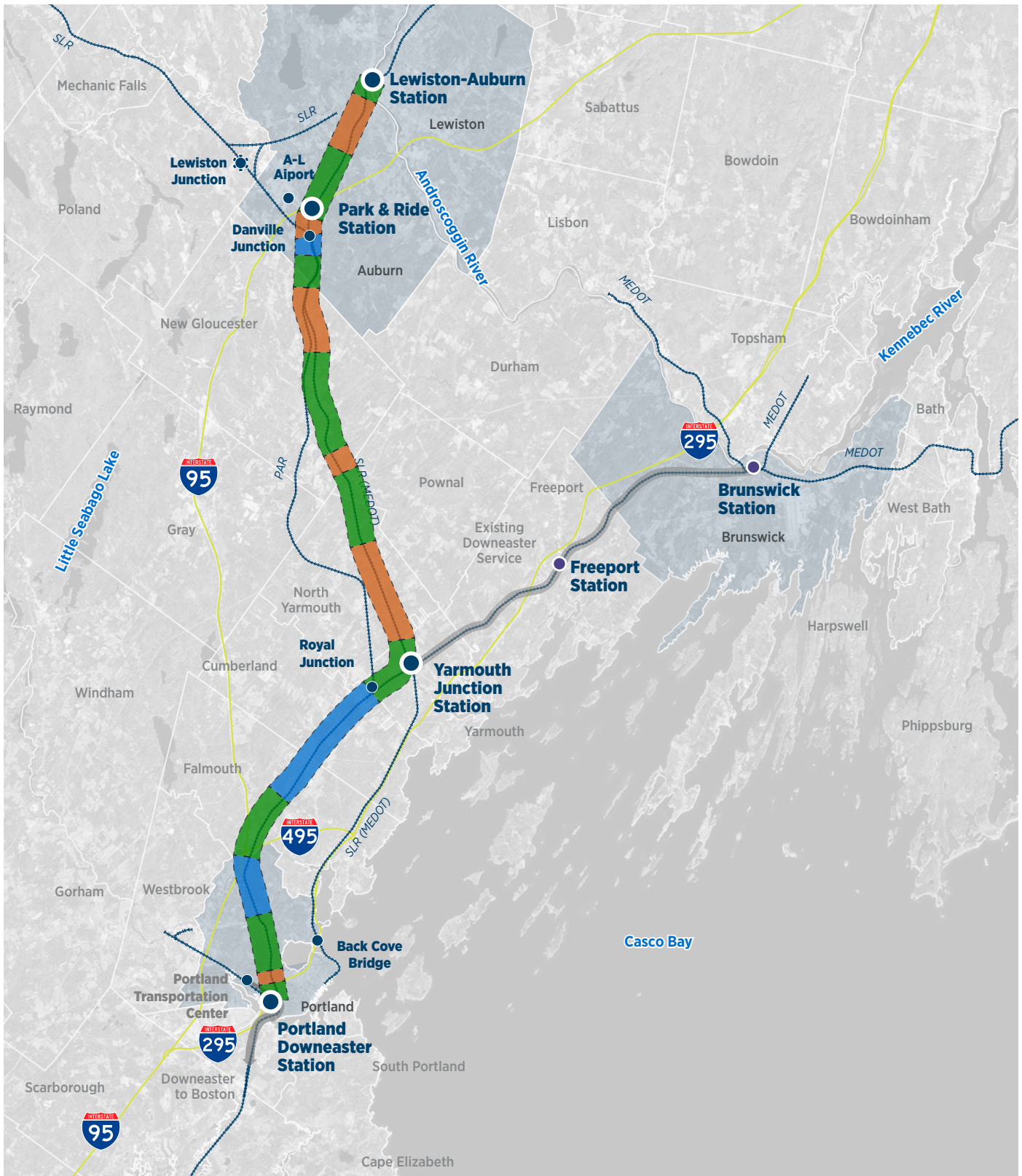
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-  Single Track Area
-  Double Track Area (Existing)
-  Double Track Area (Proposed)

**LEWISTON-AUBURN  
PASSENGER RAIL SERVICE PLAN**

**Alignment 1A  
Track Improvements**

Source: VHB



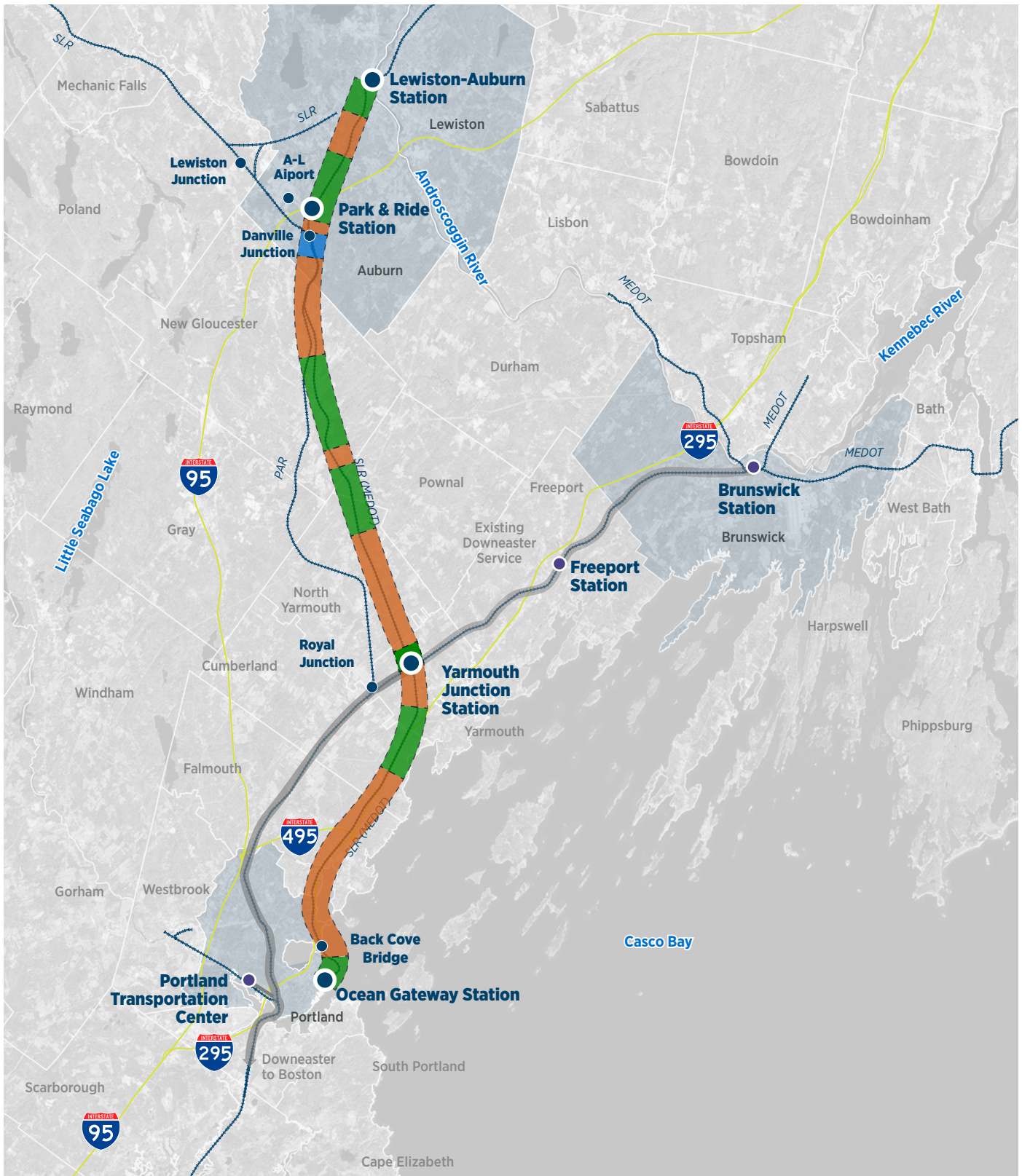
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- Single Track Area
- Double Track Area (Existing)
- Double Track Area (Proposed)

LEWISTON-AUBURN PASSENGER RAIL SERVICE PLAN

Alignment 1B Track Improvements

Source: VHB



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- Single Track Area
- Double Track Area (Existing)
- Double Track Area (Proposed)

LEWISTON-AUBURN PASSENGER RAIL SERVICE PLAN

Alignment 2B Track Improvements

Source: VHB

## 5.6 Additional Infrastructure Challenges

The following additional infrastructure challenges were identified relative to the development of the potential Lewiston-Auburn to Portland service. These items should be given special consideration as this project moves forward:

- ▶ **Bridge over the Androscoggin River** - All of the Preferred Alignments considered as part of this project include a ten (10) mile segment of the Pan Am Railways Freight Main Line between Lewiston and Danville Junction. A challenge with this segment includes Bridge #36.78 over the Androscoggin River.

Bridge #36.78 is an 850-foot long multi-span deck truss bridge was built in 1923 and it appears to be in fair condition. The trusses have fracture-critical pin and eyebar connections in the bottom chords. A detailed hands-on inspection of the bridge, including ultrasonic nondestructive inspection of the pin and eyebar connections, and a structural load rating will be required before any regular passenger service uses the bridge. Based on recent project experience with other similar-vintage large railroad truss bridges in Maine and elsewhere in New England, a comprehensive rehabilitation of the bridge will likely be required before the bridge can carry regular passenger service. Another challenge with this bridge is that it only carries a single track. Widening this bridge to support a second track would require a very significant capital investment to widen both the superstructure and substructure.

- ▶ **Portland Transportation Center** - The Amtrak Downeaster currently serves the Portland Transportation Center, which is located on the Pan Am Railways Mountain Branch. To access this location, the Downeaster is required to switch off of the Pan Am Railways Freight Main Line at Control Point Freight Main Line (CPF) 196 and travel northwest up the Mountain Branch to the station. After stopping at the station, the Downeaster must then make a reverse move back down the Mountain Branch to return to the Freight Main Line to travel towards either Boston, MA or Brunswick, ME. Travelling up and back on the Mountain Branch to access the station in Portland adds as much as 15 minutes to the overall trip time.

During construction of the I-295 Connector, MaineDOT made accommodations to allow for construction of a second wye track (thus reducing the need for some of these reverse moves) to connect the existing station at the Portland Transportation Center by providing a second highway bridge over the railroad ROW. Pan Am, MaineDOT, and the City of Portland ultimately did not come to terms to allow for this second wye track to be constructed and the land has since been committed to another development initiative.

NNEPRA is currently pursuing opportunities to develop a passenger station on the Pan Am Freight Main Line in Portland to improve service reliability and trip times. Costs associated with construction of a station platform to support the proposed Lewiston-Auburn service were not included as part of the conceptual infrastructure cost estimates for this project. Since a station on the Main Line is required in order to make a high frequency service operationally possible, if a

station on the Main Line is not constructed in advance of the high frequency service, the feasibility of such service would need to be reexamined.

- ▶ **Positive Train Control** - Pan Am Railways currently maintains a waiver relieving them of the federally mandated requirement to implement Positive Train Control systems on their lines, (including the portions of the Freight Main Line, Mountain Branch, and Brunswick Branch Lines where the Amtrak Downeaster currently operates) due to the limited amount of freight trains that operate on the lines. As referenced previously, the infrastructure assessment assumes that installation of ATC and Cab Signaling will be required for the proposed transit service regardless of which alignment is selected given the level of passenger rail service that is anticipated (seven or more passenger round trips would trigger Positive Train Control requirements). The requirement for ATC/PTC systems and the associated infrastructure will need to be further evaluated with the Project Stakeholders, Operating Railroads and the Federal Railroad Administration in future project design phases.

Since the proposed transit service would run on a portion of the Pan Am Freight Main Line corridor currently subject to waiver, it has been assumed that it may trigger the federal requirements for installation of a Positive Train Control (PTC) system, resulting in the need for wayside equipment from Portland to the Massachusetts/New Hampshire border as well as retrofitting all Pan Am and Amtrak locomotives with the necessary on-board components. Further investigation would be necessary to determine whether PTC systems would be required along with the associated system requirements and scope. NNEPRA and Pan Am are considering undertaking this investigation as a separate study. This PTC infrastructure has a high cost and depending on the nature of the agreements reached with the host railroad, the project may be burdened with a portion of these costs.

Should less frequent service be considered in lieu of the more robust Lewiston-Auburn to Portland service being proposed, segments that are not currently supporting the existing Amtrak Downeaster service would still require installation of a Wayside Signal System (including the Pan Am FML from Lewiston to Royal Junction as well as the entire SLR corridor).

- ▶ **Private and Farm Crossings** - It should be noted that there are several private and farm crossings on the SLR alignment that are either deeded easements or decrees, particularly in the Towns of Yarmouth, North Yarmouth, Pownal, and New Gloucester. In general, the railroad industry opposes establishment of new at-grade crossings; however, several property owners may have deeded rights to these crossing locations.

Significant development has occurred near some of these crossing locations over the years, and as a result, it is possible that these crossings would be considered under-protected should train service be restored to the line. A Diagnostic Team Review (DTR) process would be warranted to review safety risks posed at these locations and would likely result in similar automatic highway crossing warning (AHCW) devices proposed as part of the infrastructure assessment.

- ▶ **Termination of Agreements** - MaineDOT has authorized use of portions of the SLR that are currently out-of-service to outside parties, including a boat marina in Portland and a snowmobile trail network in the New Gloucester area. These agreements would need to be terminated to ensure safe railroad operations on the line if service were to be restored.

Additionally, the Maine Narrow Gauge Railroad Museum has a lease for the track at its current location south of Back Cove Bridge until such time MaineDOT sees a need for usage of the rail corridor. At such time, the State can terminate the agreement and the museum would be required to vacate. The termination of the lease is necessary for Lewiston-Auburn passenger rail service to commence as the museum's narrow gauge trains cannot operate on the same track as the proposed Lewiston-Auburn service.

- ▶ **Property Acquisition and Easements** - Property acquisition and/or easement acquisition would be required to support the alignments providing service to Ocean Gateway, as portions of the corridor (including grade crossings) are not completely State-owned.
- ▶ **Impacts to the Eastern Promenade** - The Eastern Promenade, which the potential passenger rail service from Lewiston-Auburn would need to run through, is a popular city park that is listed as a historic landscape district on the National Register of Historic Places. Passing through this area would impact the park through: possible acquisition of right of way, likely construction of fencing to improve safety and reduce occurrence of trespassing on the railroad tracks, and likely closure/consolidation of vehicular and/or non-motorized grade crossings. All of these items would negatively impact the public space of a popular city park.

## 5.7 Other Considerations

The following items were identified as items that would need to be considered as this project continues to advance:

- ▶ **Development of Detailed Service Plan** - The development of a detailed service plan and evaluation of the potential impacts to existing rail traffic (including the 10 to 12 scheduled Amtrak train trips and the estimated eight to twelve freight trains that use the Pan Am FML daily) would need to be performed in order to assess the viability of the potential operating plan and to check the adequacy of the proposed track improvements.
- ▶ **Coordination with Freight Operators** - Any passenger rail service that is introduced would require coordination with the freight operators to ensure that there is no impact to any freight train operations. Freight operators have a vested interest in continuing to serve their customers and protect their ability to grow their business and customer base. Although recent development trends have resulted in less customers receiving freight via rail in the proposed service area, there are several commercial and industrial properties remaining along the rail network that may still be interested in taking advantage of freight rail service.



- ▶ **Layover Facility** - A layover facility will be needed to store, inspect, and maintain passenger rail equipment when it is not in service. Development of a layover facility design and a detailed equipment service program were beyond the scope of this conceptual study. It is envisioned that a facility would be located somewhere in the Lewiston area and it would be advisable to locate the facility east of the proposed station at Middle Street (i.e., beyond the limits of passenger service). This arrangement would allow for equipment inspection and maintenance to be performed after its last outbound trip and the non-revenue moves from the station to the layover facility would not otherwise conflict with trains that may still be in service.

For the purposes of this project, it was assumed that the infrastructure upgrades to support double-track operations on the Pan Am FML corridor would extend further east beyond the proposed station site to DEN (Mile Post 159.22), a little less than 2-miles beyond the proposed station site. This was intended to provide the additional infrastructure improvements to the track and ROW beyond the easterly limit of passenger service.

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# 6

## CAPITAL AND OPERATIONS & MAINTENANCE COSTS

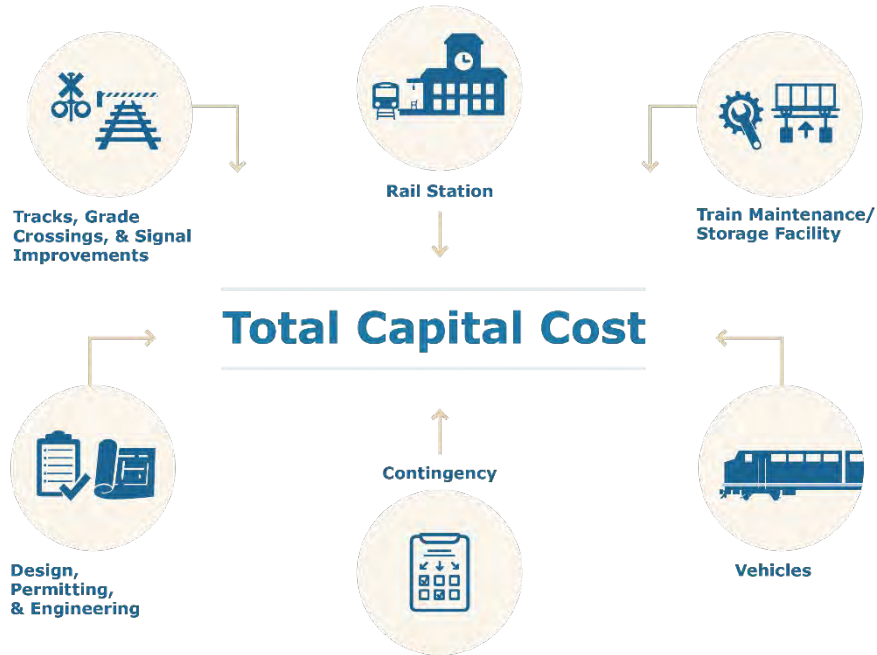
### 6.1 Introduction

This chapter details the capital and operations & maintenance (O&M) costs that have been developed for each of the Preferred Alignments. Capital costs are presented first, followed by O&M costs.

### 6.2 Estimated Capital Costs

Capital costs cover everything that is needed to get the service up and running. In addition to the physical items, such as track improvements, new stations, vehicles, and maintenance/storage facilities, it also includes design, permitting, and engineering costs. Also, given the early planning stages of this project, a contingency is also added in to account for any unknowns.

Capital costs for this project were broken into infrastructure costs and vehicle acquisition costs, each of which is described in their own subsection.



### 6.2.1 Infrastructure Costs

Infrastructure costs have been estimated at a conceptual level for each of the Preferred Alignments and are summarized in the tables below and depicted graphically across all the alignments in Figure 17. These costs generally include the anticipated track and signal upgrades, grade crossing improvements, bridge construction, culvert replacements, and station construction costs required to support the proposed service under each alignment. Additional details pertaining to infrastructure cost estimates, including a breakdown of the work elements on a segment by segment basis, are available in Appendix C.

Table 3 Conceptual Cost Estimate for Alignment 1A

| <b>High-Frequency Service between Lewiston-Auburn and CPF 197 in Portland using Pan Am FML Corridor</b> |   |
|---|---|
| <b>Work Element</b>   | <b>Conceptual Cost Estimate</b>           |
| Pan Am FML Segment 1 – Lewiston to Danville Jct.  | \$63M to \$77M                            |
| Pan Am FML Segment 2 – Danville Jct. to Royal Jct.  | \$80M to \$97M                            |
| Pan Am FML Segment 3 – Royal Jct. to CPF 197  | \$46M to \$56M                            |
| <b>Total Conceptual Cost Estimate</b>   | <b>\$189M to \$230M</b><br>(2019 Dollars) |

Table 4 Conceptual Cost Estimate for Alignment 1B

**(High-Frequency Service between Lewiston-Auburn and CPF 197 in Portland using SLR to Yarmouth Junction)**

| Work Element  | Conceptual Cost Estimate                  |
|---|---|
| Pan Am FML Segment 1 – Lewiston to Danville Jct.      | \$63M to \$77M                            |
| SLR Segment 1 –Danville Jct. to Yarmouth Jct.         | \$87M to \$107M                           |
| Pan Am Brunswick Branch – Yarmouth Jct. to Royal Jct. | \$11M to \$14M                            |
| Pan Am FML Segment 3 – Royal Jct. to CPF 197          | \$46M to \$56M                            |
| <b>Total Conceptual Cost Estimate</b>                 | <b>\$207M to \$254M</b><br>(2019 Dollars) |

Table 5 Conceptual Cost Estimate for Alignment 2B

**(High-Frequency Service between Lewiston-Auburn and Ocean Gate in Portland using SLR Corridor)**

| Work Element  | Conceptual Cost Estimate                  |
|---|---|
| Pan Am FML Segment 1 – Lewiston to Danville Jct.    | \$63M to \$77M                            |
| SLR Segment 1 –Danville Jct. to Yarmouth Jct.       | \$87M to \$107M                           |
| SLR Segment 2 – Yarmouth Jct. to MP 1.7 (Back Cove) | \$49M to \$59M                            |
| SLR Segment 3 – MP 1.7 (Back Cove) to Ocean Gate    | \$42M to \$52M                            |
| <b>Total Conceptual Cost Estimate</b>               | <b>\$241M to \$295M</b><br>(2019 Dollars) |

Table 6 Conceptual Cost Estimate for Alignment 4

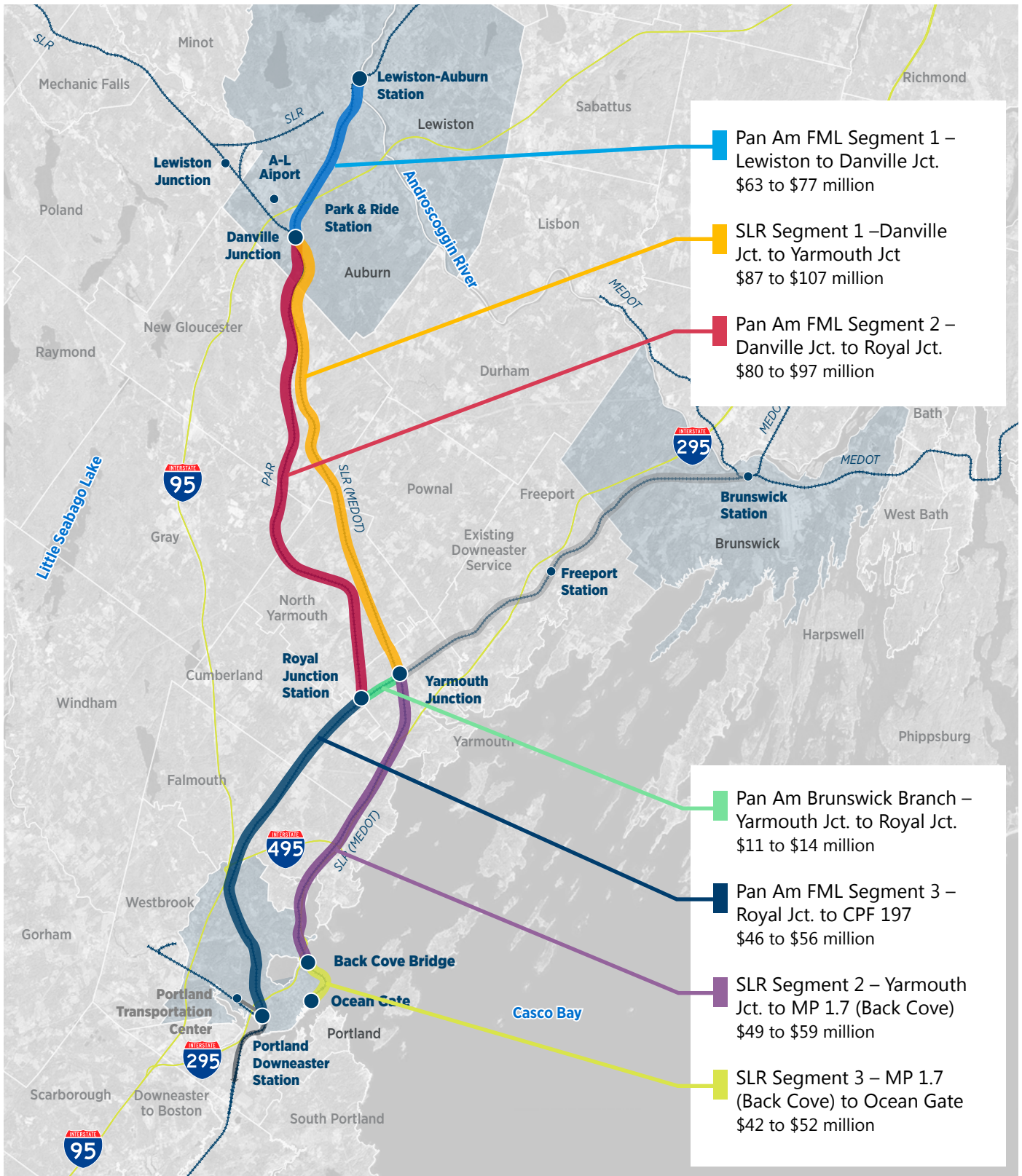
**(High-Frequency Rail Shuttle between Lewiston/Auburn and Downeaster at Yarmouth Junction using SLR Corridor)**

| Work Element                                     | Conceptual Cost Estimate                  |
|--|---|
| Pan Am FML Segment 1 – Lewiston to Danville Jct. | \$63M to \$77M                            |
| SLR Segment 1 –Danville Jct. to Yarmouth Jct.    | \$87M to \$107M                           |
| <b>Total Conceptual Cost Estimate</b>            | <b>\$150M to \$184M</b><br>(2019 Dollars) |

Table 7 Conceptual Cost Estimate for Alignment 5

**(High-Frequency Rail Shuttle between Lewiston-Auburn and Downeaster at Royal Junction using Pan Am Corridor)**

| <b>Work Element</b>                                | <b>Conceptual Cost Estimate</b>           |
|--|---|
| Pan Am FML Segment 1 – Lewiston to Danville Jct.   | \$63M to \$77M                            |
| Pan Am FML Segment 2 – Danville Jct. to Royal Jct. | \$80M to \$97M                            |
| <b>Total Conceptual Cost Estimate</b>              | <b>\$143M to \$174M</b><br>(2019 Dollars) |



\\whb\gbl\proj\Boston\14093\00\tech\Task 11 - LA Passenger Rail Report\Figures\Captial Costs by Segment

**LEWISTON-AUBURN PASSENGER RAIL SERVICE PLAN**

**Capital Cost by Rail Segment**

Source: VHB

As shown in the tables, the estimated infrastructure costs between the three Full Build Preferred Alignments (Alignments 1A, 1B, and 2B) that run from Lewiston to Portland are generally within the same order of magnitude. Generally, there are less infrastructure improvements required on the portions of the Pan Am system where the Amtrak Downeaster already runs, which would be expected and reflects the previous investments made to support passenger service.

### 6.2.2 Vehicle Acquisition Costs

At this point in time, it is unknown who would operate the service. If this Lewiston-Auburn to Portland service is contracted out to an operator, it is possible that the contractor may provide the vehicles needed to operate the service. Since it is unknown who would operate the service at this time, new vehicle acquisition costs were assumed as a necessary capital cost.

Vehicle costs vary widely based on the quantity of vehicles ordered, current market conditions, and any add-ons that the ordering agency may request. While recent vehicle purchases by U.S. passenger rail agencies may not be the most reliable estimate for vehicle costs, they are the best available estimate until bids can be solicited from vehicle manufacturers. Based on the best available recent vehicle purchase data, the following costs were applied in estimating vehicle acquisition costs:

- ▶ \$14.2 million for one diesel locomotive trainset with two coach cars
  - \$3.5 million per coach car
  - \$14.2 million per locomotive
- ▶ \$12 million for one diesel multiple unit (DMU) married pair (two cars permanently fixed together, each car costing \$6 million)

The number of train sets needed for each alignment was dependent on the service plan that was developed (see Appendix A). In all cases, it was assumed that one spare train set would be needed. The following is the number of train sets was assumed for each alignment:

- ▶ Alignment 1A: 5 train sets (4 in peak service, 1 as a spare)
- ▶ Alignment 1B: 5 train sets (4 in peak service, 1 as a spare)
- ▶ Alignment 2B: 5 train sets (4 in peak service, 1 as a spare)
- ▶ Alignment 4: 2 train sets (1 for rail shuttle service, 1 as a spare)
- ▶ Alignment 5: 2 train sets (1 for rail shuttle service, 1 as a spare)

Using the number of train sets listed above, multiplying by the appropriate cost, and applying a 10 percent contingency (to account for unknowns with the vehicle procurement process), the vehicle procurement cost by alignment was determined. The results of this computation is shown in Table 8.



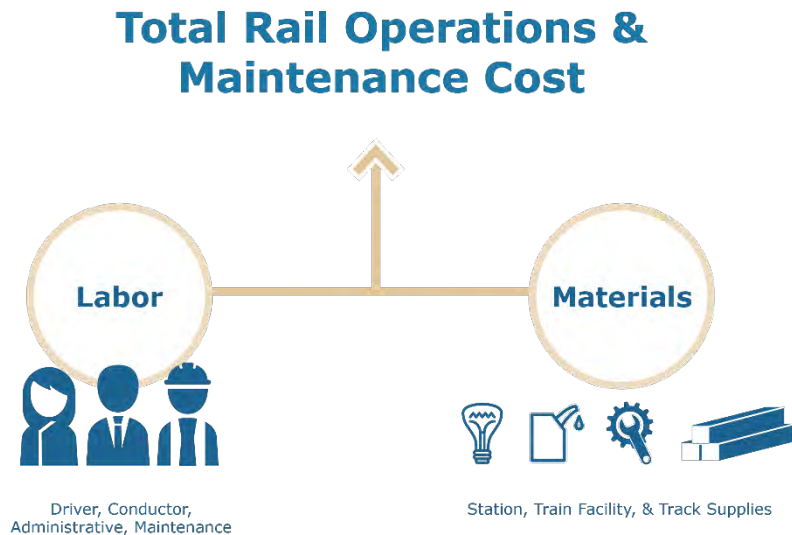
Table 8 Summary of Vehicle Acquisition Cost by Alignment

|                             | Full Build Alignments |                    |                    | Potential Phased Alignments |                    |
|-----------------------------|-----------------------|--------------------|--------------------|-----------------------------|--------------------|
|                             | Alignment 1A          | Alignment 1B       | Alignment 2B       | Alignment 4                 | Alignment 5        |
| Vehicle Cost (2019 dollars) | \$75 to 95 million    | \$75 to 95 million | \$75 to 95 million | \$25 to 35 million          | \$25 to 35 million |

Note: If this service is contracted out to an operator, the operator may provide the vehicles, negating the need to procure vehicles.

### 6.3 Estimated Operations & Maintenance Costs

Operations & Maintenance (O&M) costs cover all the expenses necessary to operate a passenger rail service. This is a recurring annual cost that includes labor and materials that are necessary to operate and maintain the vehicles and facilities.



To identify the potential costs for operating the proposed passenger rail service at this planning stage, O&M cost data from the Amtrak Downeaster was used and supplemented with O&M cost data through data from research reports where necessary. Contingencies of 10 to 25 percent were allocated for different line items where appropriate in order to account for unknowns at this early planning stage.

The O&M costs were computed using the proposed schedules shown in Appendix A. Since it is currently unknown who would operate the service if it should be implemented, two potential operating scenarios were costed out (with these two scenarios serving as the bookends for a range in the potential O&M cost):

- ▶ A contractor operating the service (similar to the arrangement of the Amtrak Downeaster)
- ▶ NNEPRA directly operating the service

Table 9 summarizes the O&M cost for each of the Preferred Alignments. The spreadsheets used to generate these computations are included in Appendix D.

Table 9 Summary of O&M Cost by Alignment

|                                 | Full Build Alignments |                    |                      | Potential Phased Alignments |                   |
|---------------------------------|-----------------------|--------------------|----------------------|-----------------------------|-------------------|
|                                 | Alignment 1A          | Alignment 1B       | Alignment 2B         | Alignment 4                 | Alignment 5       |
| Annual O&M Costs (2019 dollars) | \$15 to 19 million    | \$16 to 20 million | \$17 to \$21 million | \$9 to 11 million           | \$8 to 10 million |

## 6.4 Comparison of Costs Across Alignments

This section compares the capital and O&M costs across the different alignments. As shown in Table 10, the Full Build Alignments have a higher overall capital cost relative to the Potential Phased Alignments. However, in terms of O&M costs, the incremental difference between operating one of the Full Build Alignments is not that much more than operating one of the Potential Phased Alignments.

Table 10 Summary of Capital and O&M Costs by Alignment (2019 dollars)

|                      | Full Build Alignments         |                             |                             | Potential Phased Alignments |                             |
|----------------------|-------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
|                      | Alignment 1A                  | Alignment 1B                | Alignment 2B                | Alignment 4                 | Alignment 5                 |
| Infrastructure Costs | \$189 to \$230 million        | \$207 to \$254 million      | \$241 to 295 million        | \$150 to 184 million        | \$143 to 174 million        |
| Vehicle Costs        | \$75 to 95 million*           | \$75 to 95 million*         | \$75 to 95 million*         | \$25 to 35 million*         | \$25 to 35 million*         |
| Capital Cost TOTAL   | <b>\$264 to \$325 million</b> | <b>\$282 to 349 million</b> | <b>\$316 to 390 million</b> | <b>\$175 to 219 million</b> | <b>\$168 to 209 million</b> |
| Annual O&M Cost      | \$15 to 19 million            | \$16 to 20 million          | \$17 to \$21 million        | \$9 to 11 million           | \$8 to 10 million           |

\*Note: If this service is contracted out to an operator, the operator may provide the vehicles, negating the need to procure vehicles. Since it is unknown who would operate the service at this time, vehicle acquisition costs were assumed.

# 7

## EVALUATION OF THE PREFERRED ALIGNMENTS

### 7.1 Introduction

This chapter summarizes the evaluation that was performed on each of the Preferred Alignments using metrics that evaluate mobility, potential environmental impacts, estimated cost, and implementation timeframe. Since this project is not tasked with making a recommendation on a Recommended Alignment, these evaluation metrics are informational in nature and serve as the building blocks for future considerations.

### 7.2 Evaluation Criteria

The Preferred Alignments were evaluated based on a variety of criteria covering mobility, environmental impact, cost, and implementation timeframe.

As part of the effort to evaluate the expansion of passenger rail service to Lewiston-Auburn, a series of metrics were developed to compare each of the potential transit alignments with each other. These metrics would be used to assess each of the potential alignments, allowing for easy comparison amongst the service scenarios. This data can ultimately be used to guide future decision making in reaching an understanding of the pros and cons of each alignment and help guide the decision towards a Recommended Alignment.

This evaluation process used a low-medium-high rating system. The screening criteria would therefore include the following metrics:

- ▶ Mobility
  - Metric 1.1: Estimated end-to-end travel time from Lewiston to Portland
  - Metric 1.2: Number of transfers required for end-to-end trips
  - Metric 1.3: Peak frequency (time between successive transit vehicles)
  - Metric 1.4: Off-peak headway
  - Metric 1.5: Estimated reliability
  - Metric 1.6: Ridership potential
  - Metric 1.7: Transfer location to connect to the Downeaster to continue on to Boston
- ▶ Environmental Impacts
  - Metric 2.1: Potential for increased air emissions
  - Metric 2.2: Potential impact to impaired water bodies
  - Metric 2.3: Potential impact to non-impaired water bodies
  - Metric 2.4: Potential environmental justice impact
  - Metric 2.5: Anticipated consultation and permitting effort
- ▶ Cost
  - Metric 3.1: Construction cost
  - Metric 3.2: Vehicle cost
  - Metric 3.3: Operations and maintenance (O&M) cost
- ▶ Implementation Timeframe
  - Metric 4.1: Ability to implement relative to other alignments

### 7.2.1 Mobility Metrics

The seven mobility metrics are designed to measure the operating characteristics of each of the alignments. While most of these metrics measure technical characteristics of the service, they serve to inform how attractive such a service would be to future riders, and ultimately, the potential for ridership.

**7.2.1.1 Metric 1.1: End-to-end travel time from Lewiston to Portland**

Having a travel time that is competitive with the driving is a key factor in making a transit service attractive to potential riders who would otherwise drive. Using current year conditions, the end-to-end travel time would be measured for each of the potential alignments, which would then be compared to driving. This calculation would assume any required transfer time for those alignments. If an alignment is faster than driving, it would score higher than an alignment that would take longer than driving. The thresholds used for evaluating end-to-end travel time are as follows:

|        |  |
|--------|--|
| High   | End-to-end travel time is in the lower end of the comparable drive time range  |
| Medium | End-to-end travel time is in the middle end of the comparable drive time range |
| Low    | End-to-end travel time is in the upper end of the comparable drive time range  |

**7.2.1.2 Metric 1.2: Number of transfers required for end-to-end trips (Portland to Lewiston-Auburn)**

Transfers add to travel times and can make a service less attractive to potential riders. This metric looks at whether transfers are required to complete a trip from Lewiston-Auburn to Portland. The thresholds used for evaluating the number of transfers are as follows:

|      |                           |
|------|---------------------------|
| High | No transfers are required |
| Low  | Transfers are required    |

**7.2.1.3 Metric 1.3: Peak frequency**

Frequency refers to how often transit vehicles show up. High frequencies give riders greater flexibility, making it easier to capture riders who would otherwise drive. As frequencies decrease, attractiveness of a service becomes less appealing for potential riders. During the AM and PM peak travel periods, high frequencies have the potential to attract many riders heading to/from work.

The thresholds used for evaluating frequency are as follows:

|        |  |
|--------|--|
| High   | Service is provided at intervals of 30 minutes or less       |
| Medium | Service is provided at intervals of between 30 to 60 minutes |
| Low    | One trip or less is provided in the peak period              |

**7.2.1.4 Metric 1.4: Off-peak frequency**

Similar to the previous metric, off-peak frequency refers to how frequently the service operating in the off-peak periods. Off-peak frequency is important for potential riders who work shifts outside of the traditional 9-to-5 window or use the service for recreational or leisure activities which often start or end outside of regular commuting times.

The thresholds used for evaluating off-peak frequency are as follows:

|        |   |
|--------|---|
| High   | Service is provided at intervals of 90 minutes or less      |
| Medium | Service is provided at intervals between 90 and 180 minutes |
| Low    | Service is provided at intervals of 180 minutes or more     |

**7.2.1.5 Metric 1.5: Estimated reliability**

Transit modes that operates in their own right-of-way, free from other modes or conflicting services, have greater reliability than transit modes that do not operating in exclusive corridors. A reliable transit trip is one in which travel times are consistent and scheduled arrival/departure times that are consistently met. Reliability is a key factor in attracting and retaining riders who are often able to drive.

The thresholds used for evaluating reliability are as follows:

|        |   |
|--------|---|
| High   | Service is anticipated to operate at high reliability because there is an exclusive right-of-way not shared with other modes or competing services  |
| Medium | Service is anticipated to operate at moderate reliability because it does not operate exclusively within the right-of-way (i.e., competing freight) |
| Low    | Service is anticipated to operate at low reliability because it shares right-of-way (i.e., the interstate highway) and/or requires a transfer       |

**7.2.1.6 Metric 1.6: Ridership potential**

Ridership is influenced by a countless number of factors, including where the service goes, when it operates, how competitive the service is with driving, the cost to use the service (i.e. the fare). The Transit Propensity Analysis developed ridership estimates that

identified a potential ridership range for the frequency of service considered (see Table 11).

Table 11 Ridership Estimates

|                         | Rail Service<br>Daily Round Trips | 2025 Ridership<br>Range |      | 2040 Ridership<br>Range |      |
|-------------------------|-----------------------------------|-------------------------|------|-------------------------|------|
|                         |                                   | Daily Rail Trips        |      | Daily Rail Trips        |      |
|                         |                                   | Low                     | High | Low                     | High |
| Transit-Style Service   | 12-20                             | 600                     | 800  | 700                     | 1900 |
| Intercity-Style Service | 4                                 | 210                     | 240  | 250                     | 330  |

While this project has not developed ridership estimates specific to each of the service alignments, the screening criteria intends to estimate how well each service scenario would capture the ridership range potential.

The thresholds used for evaluating ridership potential are as follows:

|        |   |
|--------|---|
| High   | Service being proposed would likely generate ridership in the upper third of the anticipated range  |
| Medium | Service being proposed would likely generate ridership in the middle third of the anticipated range |
| Low    | Service being proposed would likely generate ridership in the lower third of the anticipated range  |

**7.2.1.1 Metric 1.7: Transfer location to connect to the Downeaster to continue on to Boston**

As proposed now, none of the alignments would provide direct service to Boston and points south of Portland. As such, passengers would need to transfer in order to make these trips. This metric measures where the transfer would take place, assigning a higher rating to alignments that would be able to use an existing Downeaster station and a lower rating to alignments that would need to have a new Downeaster station constructed (i.e. at Yarmouth or Royal Junction) in order to allow a connection to the Downeaster Service.

This metric evaluates the alignments for their ability to meet the mobility goal of connecting to other regional services. In the case of Alignment 2B for example, this alignment does not service the Portland Downeaster Station and would require a new station at Yarmouth Junction in order to make that connection possible.

The thresholds used for evaluating this metric are as follows:

|      |   |
|------|---|
| High | Transfer can be completed at an existing Downeaster station     |
| Low  | Transfer would require construction of a new Downeaster station |

## 7.2.2 Environmental Metrics

The metrics presented in this section are designed to measure the potential environmental impacts of each alignment. It is important to note that while a more thorough environmental evaluation was done (see Appendix E for the complete results of this analysis), the metrics presented in this section only represent environmental features that are differentiators across the different alignments that were considered.

### 7.2.2.1 Metric 2.1: Potential for increased air emissions

States and communities are focused on minimizing their air emissions impacts in the interest of public health and environmental preservation. These include things such as sulfur dioxide (SO<sub>2</sub>), particulate matter of 2.5 micrometers (µm) or less (PM<sub>2.5</sub>), and PM<sub>10</sub>. Alignments that would produce less air emissions would score higher than an alignment that would produce higher air emissions. The thresholds used for evaluating potential air emissions are as follows:

|        |  |
|--------|--|
| High   | Negligible potential impact due to no increased operations |
| Medium | Moderate impact due to increased operations                |
| Low    | Potential impact due to increased operations               |

### 7.2.2.2 Metric 2.2: Potential impact to impaired water bodies

Impaired water bodies are those that fail to meet one or more water quality standards. In the case of this project, any passenger rail service has the potential to impact these already impaired water bodies. In evaluating each of the alignments, the following thresholds were used:

|        |  |
|--------|--|
| High   | No anticipated impact  |
| Medium | Potential to impact Dole Brook <b>or</b> Chandler River/East Branch  |
| Low    | Potential to impact Dole Brook <b>and</b> Chandler River/East Branch |



**7.2.2.3 Metric 2.3: Potential impact to non-impaired water bodies**

Non-impaired water bodies are those that meet water quality standards but are still at risk of being impacted by development. The following thresholds were used for evaluating impacts to non-impaired water bodies:

|        |   |
|--------|---|
| High   | Potential to impact less than 5 water bodies                                    |
| Medium | Potential to impact 5 to 10 water bodies  |
| Low    | Potential to impact more than 10 water bodies or significantly impact Casco Bay |

**7.2.2.4 Metric 2.4: Potential environmental justice impact**

Environmental justice ensures that all populations, regardless of race, color, national origin, or income are not affected by environmental impacts. For purposes of this analysis, minority and low income communities were examined for potential impacts related to each of the alignments being considered.

The following thresholds were used for evaluating environmental justice impacts:

|        |   |
|--------|---|
| High   | No anticipated impact                                   |
| Medium | Potential to impact minority population                 |
| Low    | Potential to impact minority and low-income populations |

**7.2.2.5 Metric 2.5: Anticipated consultation and permitting effort**

Any alignments considered would require a NEPA review. Some alignments may require additional consultations including Section 7 for endangered species and Section 106 for historic preservation. Permitting efforts may include Section 401 water quality certification and Section 404 permits to dredge and fill through the Army Corps of Engineers.

The following thresholds were used for evaluating the anticipated consultation and permitting efforts:

|        |  |
|--------|--|
| High   | Efforts would include NEPA review and one consultation (Section 7 or 106)  |
| Medium | Efforts would include NEPA review, one consultation (Section 7 or 106), and Army Corps of Engineers permitting (Section 401 and 404) |

|     |  |
|-----|--|
| Low | Efforts include NEPA review, two consultations (Section 7 and 106), and Army Corps of Engineers permitting (Section 401 and 404) |
|-----|--|

### 7.2.3 Cost Metrics

The cost to build and operate/maintain a passenger rail service is an important consideration for any project. As such, three cost metrics were developed to assess the appeal of each alignment.

#### 7.2.3.1 Metric 3.1: Construction cost

Construction cost includes items such as improving the track to allow higher speeds, signal infrastructure, new passing sidings to allow trains to pass each other, and infrastructure for stations, to name a few.

The following thresholds for evaluating capital cost were used:

|        |   |
|--------|---|
| High   | Alignment would require a construction cost that is in the lower third of all alignments  |
| Medium | Alignment would require a construction cost that is in the middle third of all alignments |
| Low    | Alignment would require a construction cost that is in the upper third of all alignments  |

#### 7.2.3.2 Metric 3.2: Vehicle cost

Vehicle cost includes the cost to procure the vehicles to operate the service, including spares.

The following thresholds were used for evaluating vehicle cost:

|        |  |
|--------|--|
| High   | Alignment would require a vehicle cost that is in the lower third of all alignments  |
| Medium | Alignment would require a vehicle cost that is in the middle third of all alignments |
| Low    | Alignment would require a vehicle cost that is in the upper third of all alignments  |

**7.2.3.3 Metric 3.2: O&M cost**

O&M cost includes all expenses necessary to operate the service and to maintain the vehicles and facilities. This cost includes staffing costs and fuel purchases. It does not include fare revenue that is collected from passengers, which would offset some of the O&M cost.

The proposed thresholds for evaluating O&M cost are as follows:

|        |  |
|--------|--|
| High   | Alignment would require an O&M cost that is in the lower third of all alignments   |
| Medium | Alignment would require an O&M cost that is in the middle third of all alignments. |
| Low    | Alignment would require an O&M cost that is in the upper third of all alignments   |

**7.2.4 Implementation Timeframe Metric**

**7.2.4.1 Metric 4.1: Implementation timeframe**

Implementation timeframe measures how long it would take to design, permit, build, and open an alignment for revenue service. This metric considered the hurdles that must be overcome, including any coordination with the railroads and applications for permits.

The thresholds used for evaluating the implementation timeframe are as follows:

|        |   |
|--------|---|
| High   | Alignment could open for revenue service fastest relative to other alignments   |
| Medium | Alignment could open for revenue service in relatively similar timeframe as other alignments                                      |
| Low    | Alignment would require lengthy design and permitting, which would delay opening for revenue service relative to other alignments |

**7.3 Evaluation Results**

This section presents the results of the evaluation. First, the evaluation is presented group by group, before being summarized altogether at the end.

### 7.3.1 Mobility Metrics

The results of the evaluation of the mobility metrics are shown in Table 12. The key takeaways are as follows:

- ▶ **Travel Time:** Among the Full Build Alignments, Alignment 2B would be the quickest from Lewiston-Auburn to Portland, five minutes quicker than the next fastest alignment (Alignment 1B). In terms of comparing the Full Build Alignments to the Potential Phased Alignments, it can be seen that the Full Build Alignments are slightly more competitive with drive times as they do not introduce a transfer like the phased alignments would.
- ▶ **Frequencies (Time between successive transit vehicles):** The peak and off-peak frequencies is not a differentiator among the Full Build Alignments. However, it is a differentiator between the Full Build and the Potential Phased Alignments as the phased alignments are dependent on the five daily Downeaster round trips to make the final connection to Portland.
- ▶ **Ridership:** Among the Full Build Alignments, the potential ridership capture is highest for Alignments 1A and 1B, due to the terminus in Portland being on the west side at the Portland Transportation Center. This transportation center provides connectivity to a potential Lewiston-Auburn passenger rail service to the Downeaster (which continues on to Boston) as well as a potential Westbrook to Portland rail service that is currently being considered, both of which would boost ridership on a Lewiston-Auburn service. While Alignment 2B also has good ridership potential because it terminates closer to downtown Portland (at Ocean Gateway), it does not rank as favorably as Alignments 1A and 1B as it lacks connectivity to a Westbrook to Portland service (which can be a source of some ridership). The Potential Phased Alignments ranked the lowest given the low number of daily trips and the forced transfer to continue on to Portland.
- ▶ **Transfer Location for the Downeaster:** Among the Full Build Alignments, Alignments 1A and 1B rank higher than 2B because they can use the Portland Downeaster to facilitate the transfer, while Alignment 2B would need to have a new station constructed at Yarmouth Junction to make that happen. For the Potential Phased Alignments, by their very design, would require a new Downeaster station at either Royal Junction or Yarmouth Junction in order to facilitate a connection to Portland.

Overall, the Full Build Alignments and Potential Phased Alignments generally ranked very similar, with the Full Build Alignments rating higher overall. When comparing between the two groups, the biggest differentiators are:

- ▶ **Travel time** – With the phased alignments having longer travel times due to the required transfer to the Downeaster to get to Portland
- ▶ **Frequencies** – With the phased alignments having less frequent peak and off-peak service than the Full Build Alignments due to the reliance on the five Downeaster round trips to make the final connection to Portland
- ▶ **Ridership** – With the phased alignments having a lower ridership potential than the Full Build Alignments due to the required transfer to the Downeaster in order to continue on to Portland

Table 12 Mobility Metrics Evaluation

|  | Full Build Alignments  |  |  | Potential Phased Alignments                                      |  |
|--|--|--|--|--|--|
|  | Alignment 1A   | Alignment 1B   | Alignment 2B   | Alignment 4  | Alignment 5  |
| <b>Evaluation Criteria</b>   | L-A to Portland Downeaster Station via PAR                     | L-A to Portland Downeaster Station via SLR/PAR                 | L-A to Portland Ocean Gateway via SLR                          | Rail Shuttle to Yarmouth Junction                                | Rail Shuttle to Royal Junction                                   |
| <b>Mobility</b>  |  |  |  |  |  |
| Metric 1.1: Estimated end-to-end travel time from Lewiston to Portland (includes transfer time for alternatives with two segments) | 50 mins<br>Middle third of driving time range of 40 to 60 mins | 48 mins<br>Middle third of driving time range of 40 to 60 mins | 43 mins<br>Lower third of driving time range of 45 to 65 mins  | 54 mins<br>Upper third of driving time range of 40 to 60 mins    | 55 mins<br>Upper third of driving time range of 40 to 60 mins    |
| Metric 1.2: Number of transfers required for end-to-end trips (Portland to L-A)  | None   | None   | None   | One  | One  |
| Metric 1.3: Peak frequency (time between successive transit vehicles)  | 30 minutes   | 30 minutes   | 30 minutes   | One or fewer trips provided in the peak (depending on direction) | One or fewer trips provided in the peak (depending on direction) |
| Metric 1.4: Off-peak frequency   | 135 minutes  | 135 minutes  | 125 minutes  | More than every 180 minutes                                      | More than every 180 minutes                                      |
| Metric 1.5: Estimated reliability  | Moderate reliability<br>Shares tracks with freight             | Moderate reliability<br>Shares tracks with freight             | Moderate reliability<br>Shares tracks with freight             | Low reliability<br>Requires a transfer                           | Low reliability<br>Requires a transfer                           |
| Metric 1.6: Ridership potential  | High ridership potential                                       | High ridership potential                                       | Moderate ridership potential                                   | Low ridership potential  | Low ridership potential  |
| Metric 1.7: Transfer location to connect to the Downeaster to continue on to Boston  | Transfer can be completed at the Portland Downeaster Station   | Transfer can be completed at the Portland Downeaster Station   | Transfer would need a new Yarmouth Junction Downeaster Station | Transfer would need a new Yarmouth Junction Downeaster Station   | Transfer would need a new Royal Junction Downeaster Station      |

**LEGEND:**

|                |
|----------------|
| High Ranking   |
| Medium Ranking |
| Low Ranking    |

### 7.3.2 Environmental Metrics

The results of the evaluation of the environmental metrics are shown in Table 13. The key takeaways are as follows:

- ▶ **Air Emissions:** Within the two groups of alignments, this metric is not a differentiator; however, between the two groups it is, with the Full Build Alignments rating lower than the Potential Phased Alignments. The reason for this is that the Full Build Alignments are proposing a longer route and more daily trips than the Potential Phased Alignments, thus generating more air emissions.
- ▶ **Impaired Water Bodies:** There were two impaired water bodies in the Study Area: Dole Brook and Chandler River/East Branch. Based solely on the alignments themselves, the rating of potential impact was determined. Based on the analysis, all of the Full Build Alignments would have some potential impact, with Alignment 1B having the worst.
- ▶ **Non-Impaired Water Bodies:** Similar to the impaired water bodies analysis, this analysis was performed solely on the alignments themselves. Based on the analysis, all alignments are generally comparable, with the exception of Alignment 2B, which has the potential to impact Casco Bay.
- ▶ **Environmental Justice:** This analysis was performed using the alignments as well. The results from this evaluation varied widely, with the phased alignments scoring the highest with no anticipated impacts, to Alignments 1A and 1B potentially impacting the minority population, to Alignment 2B impacting both minority and low income populations.
- ▶ **Anticipated Permitting Effort:** Based on a collective assessment of the potential environmental impacts for each of the alignments, all of the alignments are comparable, with the exception of Alignment 2B, which would require slightly more consultation and permitting.

Table 13 Environmental Metrics Evaluation

|  | Full Build Alignments   |   |   | Potential Phased Alignments   |   |
|--|---|---|---|---|---|
|  | Alignment 1A  | Alignment 1B  | Alignment 2B  | Alignment 4   | Alignment 5   |
| <b>Evaluation Criteria</b>                                 | L-A to Portland Downeaster Station via PAR                            | L-A to Portland Downeaster Station via SLR/PAR                        | L-A to Portland Ocean Gateway via SLR   | Rail Shuttle to Yarmouth Junction                                     | Rail Shuttle to Royal Junction  |
| <b>Potential Environmental Impacts</b>                     |   |   |   |   |   |
| Metric 2.1: Potential for increased air emissions          | Potential impact due to increased operations                          | Potential impact due to increased operations                          | Potential impact due to increased operations  | Moderate impact due to increased operations                           | Moderate impact due to increased operations                           |
| Metric 2.2: Potential impact to impaired water bodies      | Potential to impact Dole Brook  | Potential to impact Dole Brook and Chandler River/East Branch         | Potential to impact Chandler River/East Branch  | Potential to impact Chandler River/East Branch                        | No anticipated impact   |
| Metric 2.3: Potential impact to non-impaired water bodies  | Potential to impact 10 water bodies                                   | Potential to impact 6 water bodies                                    | Potential to impact 6 water bodies and significantly impact Casco Bay                 | Potential to impact 6 water bodies                                    | Potential to impact 5 water bodies                                    |
| Metric 2.4: Potential environmental justice impact         | Potential to impact minority population                               | Potential to impact minority population                               | Potential to impact minority and low income populations                               | No anticipated impact   | No anticipated impact   |
| Metric 2.5: Anticipated consultation and permitting effort | -NEPA review<br>-Section 7<br>-Corps of Engineers (401 & 404 permits) | -NEPA review<br>-Section 7<br>-Corps of Engineers (401 & 404 permits) | -NEPA review<br>-Section 106<br>-Section 7<br>-Corps of Engineers (401 & 404 permits) | -NEPA review<br>-Section 7<br>-Corps of Engineers (401 & 404 permits) | -NEPA review<br>-Section 7<br>-Corps of Engineers (401 & 404 permits) |

**LEGEND:**

|                                |
|--------------------------------|
| High Ranking – Low Impact      |
| Medium Ranking – Medium Impact |
| Low Ranking – High Impact      |

### 7.3.3 Cost Metrics

The results of the evaluation of the cost metrics are shown in Table 14. Overall, it can be seen that the Full Build Alignments are generally more expensive than the Potential Phased Alignments, with Alignment 2B ranking the most expensive among the Full Build Alignments being considered. O&M costs also follow a similar trend, with the Full Build Alignments generally costing more to operate.

Table 14 Cost Metrics Evaluation

| Evaluation Criteria                               | Full Build Alignments                      |  |                                       | Potential Phased Alignments       |                                |
|---|--|--|---------------------------------------|-----------------------------------|--------------------------------|
|   | Alignment 1A                               | Alignment 1B                                   | Alignment 2B                          | Alignment 4                       | Alignment 5                    |
|   | L-A to Portland Downeaster Station via PAR | L-A to Portland Downeaster Station via SLR/PAR | L-A to Portland Ocean Gateway via SLR | Rail Shuttle to Yarmouth Junction | Rail Shuttle to Royal Junction |
| <b>Estimated Cost</b>                             |  |  |                                       |                                   |                                |
| Metric 3.1: Construction cost                     | \$189 to \$230 million                     | \$207 to \$254 million                         | \$241 to \$295 million                | \$143 to \$174 million            | \$150 to \$184 million         |
| Metric 3.2: Vehicle cost                          | \$75 to \$95 million                       | \$75 to \$95 million                           | \$75 to \$95 million                  | \$25 to \$35 million              | \$25 to \$35 million           |
| Metric 3.2: Operations and maintenance (O&M) cost | \$15 to 19 million/year                    | \$16 to 20 million/year                        | \$17 to 21 million/year               | \$9 to 11 million/year            | \$8 to 10 million/year         |

**LEGEND:**

|                              |
|------------------------------|
| High Ranking – Low Cost      |
| Medium Ranking – Medium Cost |
| Low Ranking – High Cost      |



### 7.3.4 Implementation Timeframe Metric

The results of the evaluation of the implementation timeframe metric is shown in Table 15. As shown in the table, all alignments have a comparable implementation timeframe, with the exception of 2B, which would likely require lengthier design and permitting period, predominantly due to the challenges with crossing Back Cove.

Table 15 Implementation Timeframe Metric Evaluation

|   | Full Build Alignments  |  |   | Potential Phased Alignments  |  |
|---|--|--|---|--|--|
|   | Alignment 1A   | Alignment 1B   | Alignment 2B  | Alignment 4  | Alignment 5  |
| <b>Evaluation Criteria</b>                                      | L-A to Portland Downeaster Station via PAR                             | L-A to Portland Downeaster Station via SLR/PAR                         | L-A to Portland Ocean Gateway via SLR   | Rail Shuttle to Yarmouth Junction                                      | Rail Shuttle to Royal Junction   |
| <b>Implementation Timeframe</b>                                 |  |  |   |  |  |
| Metric 4.1: Ability to implement relative to other alternatives | Could open in a relatively similar timeframe as the other alternatives | Could open in a relatively similar timeframe as the other alternatives | Would require lengthy design and permitting, which would delay opening relative to the other alternatives | Could open in a relatively similar timeframe as the other alternatives | Could open in a relatively similar timeframe as the other alternatives |

**LEGEND:**

|   |
|---|
| High Ranking – Quick Implementation Timeframe |
| Medium – Moderate Implementation Timeframe    |
| Low – Long Implementation Timeframe           |

### 7.3.5 Overall Evaluation

The entire evaluation showing all four categories of metrics is shown in Table 16. As can be seen, while the evaluation shows generally little differentiation between alignments within a given group, there are more noticeable differences between the two groups. The key takeaways from each category are as follows:

- ▶ **Mobility:** The Full Build Alignments have shorter travel times and better reliability than the Potential Phased Alignments. Consequently, the Full Build Alignments also have better ridership potential than the phased alignments.
- ▶ **Environmental Impacts:** The Potential Phased Alignments generally have less environmental impacts than the Full Build Alignments, predominantly due to their shorter alignments. Among the Full Build Alignments, Alignment 2B has the greatest potential for environmental impact due to the need to cross Back Cove.
- ▶ **Cost:** The Potential Phased Alignments generally cost less to construct and operate/maintain than the Full Build Alignments, predominantly due to their shorter alignments.
- ▶ **Implementation Timeframe:** All alignments can generally open in the same timeframe, with the exception of Alignment 2B has the greatest potential for environmental impact due to the need to cross Back Cove.

Table 16 Evaluation Criteria Matrix

| Evaluation Criteria  | Full Build Alignments  |  |   | Potential Phase 1 Alignments   |  |
|--|--|--|---|--|--|
|  | Alignment 1A   | Alignment 1B   | Alignment 2B  | Alignment 4  | Alignment 5  |
|  | High-frequency service to Portland Transportation Center via PAR Line  | High-frequency service to Portland Transportation Center via SLR Line  | High-frequency service to Ocean Gateway via SLR Line  | Shuttle service connecting to Downeaster at Yarmouth Junction          | Shuttle service connecting to Downeaster at Royal Junction             |
| <b>Mobility</b>  |  |  |   |  |  |
| Metric 1.1: Estimated end-to-end travel time from Lewiston to Portland (includes transfer time for alternatives with two segments) | 50 mins<br>Middle third of driving time range of 40 to 60 mins         | 48 mins<br>Middle third of driving time range of 40 to 60 mins         | 43 mins<br>Lower third of driving time range of 45 to 65 mins   | 54 mins<br>Upper third of driving time range of 40 to 60 mins          | 55 mins<br>Upper third of driving time range of 40 to 60 mins          |
| Metric 1.2: Number of transfers required for end-to-end trips (Portland to L-A)  | None   | None   | None  | One  | One  |
| Metric 1.3: Peak frequency (time between successive transit vehicles)  | 30 minutes   | 30 minutes   | 30 minutes  | One or fewer trips provided in the peak (depending on direction)       | One or fewer trips provided in the peak (depending on direction)       |
| Metric 1.4: Off-peak frequency   | 120 minutes  | 120 minutes  | 120 minutes   | More than every 120 minutes  | More than every 120 minutes  |
| Metric 1.5: Estimated reliability  | Moderate reliability<br>Shares tracks with freight                     | Moderate reliability<br>Shares tracks with freight                     | Moderate reliability<br>Shares tracks with freight  | Low reliability<br>Requires a transfer                                 | Low reliability<br>Requires a transfer                                 |
| Metric 1.6: Ridership potential  | High ridership potential   | High ridership potential   | Moderate ridership potential  | Low ridership potential  | Low ridership potential  |
| Metric 1.7: Transfer location to connect to the Downeaster to continue on to Boston  | Transfer can be completed at the Portland Downeaster Station           | Transfer can be completed at the Portland Downeaster Station           | Transfer would need a new Yarmouth Junction Downeaster Station  | Transfer would need a new Yarmouth Junction Downeaster Station         | Transfer would need a new Royal Junction Downeaster Station            |
| <b>Potential Environmental Impacts</b>   |  |  |   |  |  |
| Metric 2.1: Potential for increased air emissions  | Potential impact due to increased operations                           | Potential impact due to increased operations                           | Potential impact due to increased operations  | Moderate impact due to increased operations                            | Moderate impact due to increased operations                            |
| Metric 2.2: Potential impact to impaired water bodies  | Potential to impact Dole Brook   | Potential to impact Dole Brook and Chandler River/East Branch          | Potential to impact Chandler River/East Branch  | Potential to impact Chandler River/East Branch                         | No anticipated impact  |
| Metric 2.3: Potential impact to non-impaired water bodies  | Potential to impact 10 water bodies                                    | Potential to impact 6 water bodies                                     | Potential to impact 6 water bodies and significantly impact Casco Bay                                     | Potential to impact 6 water bodies                                     | Potential to impact 5 water bodies                                     |
| Metric 2.4: Potential environmental justice impact   | Potential to impact minority population                                | Potential to impact minority population                                | Potential to impact minority and low income populations   | No anticipated impact  | No anticipated impact  |
| Metric 2.5: Anticipated consultation and permitting effort   | -NEPA review<br>-Section 7<br>-Corps of Engineers (401 & 404 permits)  | -NEPA review<br>-Section 7<br>-Corps of Engineers (401 & 404 permits)  | -NEPA review<br>-Section 106<br>-Section 7<br>-Corps of Engineers (401 & 404 permits)                     | -NEPA review<br>-Section 7<br>-Corps of Engineers (401 & 404 permits)  | -NEPA review<br>-Section 7<br>-Corps of Engineers (401 & 404 permits)  |
| <b>Estimated Cost</b>  |  |  |   |  |  |
| Metric 3.1: Construction cost  | \$189 to \$230 million   | \$207 to \$254 million   | \$241 to \$295 million  | \$143 to \$174 million   | \$150 to \$184 million   |
| Metric 3.2: Vehicle cost   | \$75 to \$95 million   | \$75 to \$95 million   | \$75 to \$95 million  | \$25 to \$35 million   | \$25 to \$35 million   |
| Metric 3.2: Operations and maintenance (O&M) cost  | \$15 to 19 million/year  | \$16 to 20 million/year  | \$17 to 21 million/year   | \$9 to 11 million/year   | \$8 to 10 million/year   |
| <b>Implementation Timeframe</b>  |  |  |   |  |  |
| Metric 4.1: Ability to implement relative to other alternatives  | Could open in a relatively similar timeframe as the other alternatives | Could open in a relatively similar timeframe as the other alternatives | Would require lengthy design and permitting, which would delay opening relative to the other alternatives | Could open in a relatively similar timeframe as the other alternatives | Could open in a relatively similar timeframe as the other alternatives |

**LEGEND:**

|                |
|----------------|
| High Ranking   |
| Medium Ranking |
| Low Ranking    |

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# 8

## PUBLIC OUTREACH

### 8.1 Introduction

The results of the evaluation documented in Chapters 2 through 7 were presented to the public during a public meeting that was scheduled on March 27, 2019 in Lewiston. The purpose of this meeting was to answer questions from the public on the project and the alignments being considered, as well as to solicit comments. A brief summary of this meeting is provided in the next section of this chapter.

A more detailed summary of this meeting is included in Appendix F. It includes:

- ▶ The flyer used to advertise the meeting
- ▶ The press release that was circulated to advertise the meeting
- ▶ The completed sign-in sheets
- ▶ The informational booklet that was handed out to attendees
- ▶ The PowerPoint presentation that was given, along with the results from the interactive polling exercise
- ▶ Meeting minutes from the presentation that includes all oral comments and questions
- ▶ Written comments received at the meeting
- ▶ Email comments received before and after the meeting
- ▶ Relevant news articles written about the public meeting

## 8.2 Summary of the Public Meeting

The public meeting on March 27, 2019 was held at Callahan Hall in the Lewiston Public Library. Sixty-eight members of the public signed in and all nine members of the Project Committee were present.

The meeting was held from 6:00 PM to 8:00 PM. The doors opened at 6:00 PM and a PowerPoint presentation began at 6:30 PM. All attendees received a booklet providing more information about the project when they arrived. A copy of the PowerPoint and the booklet are included in Appendix F).



After the presentation, a question and answer (Q&A) + comment session was provided. Thirty oral questions and comments were provided by the public during this session.

Questions generally included:

- ▶ Whether a bus option was examined with the rail alignments
- ▶ General clarification questions on the differences between the alignments
- ▶ General clarification questions on stations and where they were being proposed
- ▶ The potential ridership capture of a park and ride at Exit 53 on the Maine Turnpike
- ▶ Whether a station was considered for Pineland and whether it could be added in the future
- ▶ What the track work on the Pan Am Line in Cumberland was for
- ▶ Questions about Positive Train Control and why it would be needed
- ▶ The difference between a diesel multiple unit and a regular train
- ▶ Fares and how they would affect ridership
- ▶ Funding sources for the train
- ▶ Available capacity at the Portland Transportation Center
- ▶ Coordination on feeder bus service to rail stations
- ▶ The availability of Wi-Fi on board trains
- ▶ Whether electric trains were considered in lieu of diesel ones



Comments provided generally included recommendations on alignments, station locations, and an individual's support for or against this potential passenger rail service. A detailed summary of the Q&A + comment session is included in the meeting minutes, which is part of Appendix F.

Following the Q&A + comment session, an interactive polling exercise was done. The results from this exercise are shown below:

- ▶ Would you want more or fewer stops on this service?

- Fewer stops (to accommodate a faster service): 27%
- More stops (to provide access to other communities) : 38%
- As proposed: 35%
- ▶ Financial considerations aside, which alignment would you prefer?
  - L-A to Portland coming into Portland Transportation Center: 45%
  - L-A to Portland coming into Ocean Gateway: 22%
  - Undecided/Need More Information: 33%
- ▶ Financial considerations aside, would you support funding a passenger rail service? (At the meeting, it was pointed out that the wording to this question did not make sense. As such, this question was clarified verbally to say: Would you support funding a passenger rail service?)
  - Yes: 76%
  - No: 20%
  - Undecided/Need More Information: 4%

Written comments and questions were also collected via comment cards provided at the meeting and the project email address ([LAStudy@NNEPRA.com](mailto:LAStudy@NNEPRA.com)).

A total of 16 written comment cards were collected from the public meeting. A flyer that was distributed to attendees by the Maine Rail Transit Coalition was also collected. The content in these comment cards varied a lot. Some stated an individual was in favor of the project. Some contained an individual's preference for an alignment. Still others included a range of questions, covering issues such as how the service would be paid for, who will ride it, and safety at grade crossings. To read all the comment cards that were submitted, please refer to the public meeting summary included in Appendix F.

A total of 25 unique emails were sent to the project email address. The content in these emails also varied substantially. Some simply stated an individual's support for (or opposition to) the project, along with their preferred alignment. Some provided insight into an individual's personal life and how they or their neighbors would benefit from such a service. Other emails contained comments regarding the public meeting, in terms of attendance and the information presented. Some emails also made general comments or suggestions on the alignments, including preferred station locations. A few emails were also just general requests for additional information. To read all the emails that were submitted (along with any attachments that were included), please refer to the public meeting summary included in Appendix F.

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# 9

## SERVICE IMPLEMENTATION PLAN

### 9.1 Introduction

This study focused on answering three primary questions. If a passenger rail connection were provided between Lewiston-Auburn and Portland:

- ▶ How many people would ride it;
- ▶ What would it look like; and
- ▶ How much would it cost?

The chapters before this answer all these questions. How and whether this project proceeds beyond those three questions is the focus of this chapter. This chapter outlines the potential next steps to considering, packaging, and executing a Lewiston-Auburn to Portland Passenger Rail Service.

### 9.2 Potential Steps to Follow this Study

#### 9.2.1 Prepare an Economic Evaluation

Transit and rail investments are occasionally measured by two primary factors -- how much will it cost and how many people will ride it. The question of whether that investment is "worth it" is much broader, however. An economic evaluation helps answer that. One potential economic benefit could be the spurred investment that comes with Transit-Oriented Development (TOD) specifically around stations. However, TOD is not

the only benefit. Other benefits include the monetized value of getting people out of their cars, which includes vehicle operating cost savings and improving fuel efficiency while also reducing the damage to roadways and reliance on oil imports. Emissions reductions also have a monetary benefit by reducing the remediation needed for air quality impacts.

Transit also increases the value of properties already in and around the potential new service. Increased property values give directly back into the communities a renewed tax base that continues to support growth. Transit also creates jobs not only through the construction of new facilities, but also the permanent jobs created in transit-oriented developments and the rail facilities themselves, while also improving access to job opportunities beyond the TOD footprint.

The benefits of transit also extend to potentially increasing economic development. In this particular case, a Lewiston-Auburn to Portland service could encourage people to move to Lewiston-Auburn and be able to commute to Portland without driving. This also opens the opportunity to attract new businesses to Lewiston-Auburn with a new transit link to Portland. In Portland, this new transit link has the potential to reduce parking amount of parking that employers would need to provide, enabling more efficient use of high-value land.

With respect to freight, if a Lewiston-Auburn to Portland passenger rail service were to use rail corridors that currently serve freight trains today, upgrading the tracks to allow for passenger rail service would also benefit Maine industry which uses the freight rail system.

All of these and more would be part of an evaluation that looks at how a rail investment could benefit the communities economically and to what extent before the question of “Is this worth it?” can be answered. The economic evaluation could also help shape what next steps the Cities of Lewiston and Auburn would need to take in order to position themselves for such an investment, including considerations for zoning along the rail lines and ways to maximize the economic benefits of the investment.

### 9.2.2 [Develop First-Mile/Last-Mile Strategy](#)

During the course of this study, the Project Committee identified significant concerns relative to the first- and last-mile connections both in Lewiston-Auburn and Portland. While the study identified the general locations for stations (for the purposes of developing an operating plan, track improvements, and estimating capital and operations & maintenance costs for each alignment), a detailed evaluation would need to be performed to identify the ideal location for endpoint stations in terms of environmental impact, land use compatibility, potential for transit-oriented development as well as its ability to accommodate the first- and last-mile connections that maximize the effectiveness of this proposal. Strategies to improve these first and last-mile connections will need to be studied in order to make recommendations that support a comprehensive mobility plan for the Lewiston-Auburn Passenger Rail Service. Considerations could include:

- ▶ Improving the pedestrian and bicycle networks;
- ▶ Creating wayfinding schemes that better connect the facilities to the communities;

- ▶ Improving local transit connections such as shuttles to key employers and institutions or rerouting fixed-route services to the stations;
- ▶ Accommodating facilities for taxis, car sharing, and ride sharing to provide the highest level of connection and flexibility; all the while
- ▶ Considering changing technologies (i.e., electric vehicles) in the context of the whether they may affect mode preferences and travel shifts.

Although outside typical first-mile/last-mile strategies, zoning and density also contribute significantly to how well (or how poorly) rail services perform. Zoning and density should also be a consideration for all planned stations. Planning for park and rides at stations which are easily accessible by automobile could encourage travelers to make a portion of their trip via transit.

### 9.2.3 [Coordinate with Portland Transportation Center Relocation Effort](#)

One of the compelling challenges of this proposal was trying to answer the question of how the service would come into Portland. On the east side of Portland, the Eastern Promenade features both a multi-use path, recreation area, boat launch and beach, plus a track used by the Maine Narrow Gauge Railroad Museum. The Project Committee considered access into Portland by way of the Back Cove Bridge and a new Ocean Gateway station an impractical proposition.

The western side of Portland includes its own operational challenges, including access to the existing Portland Transportation Center. To access this location, the Downeaster is required to switch off of the mainline followed by a reverse move back. This operational move at the current Portland Transportation Center adds as much as 15 minutes to the overall trip time and also occupies the main line track for long periods of time, disrupting passage for other trains. This reverse move would create significant bottlenecks if the Lewiston-Auburn passenger rail service would have to perform this maneuver up to 30 times per day.

This study assumed a relocated Portland Transportation Center. NNEPRA is currently pursuing opportunities to relocate the station and eliminate this 15-minute delay. The relocation would also support the proposed Lewiston-Auburn service. Continuing to coordinate with this parallel initiative will be key to the success of a Lewiston-Auburn Passenger Rail service.

### 9.2.4 [Develop Purpose and Need Statement](#)

In order to position this project for potential funding programs, a key next step would be to develop a compelling statement of the problem this project would solve. That effort is typically developed as part of a "Purpose and Need." The "Purpose" generally defines the problem statement including a clear definition (often just a few sentences) outlining the reason for the project. The "Need" is a data summary that supports that problem statement (or Purpose). The Need provides the factual foundation for the problem being solved. A strong Purpose and Need Statement will become the foundation for the project moving forward and support any efforts to pursue funding options.

The requirement for the Purpose and Need Statement began when the National Environmental Policy Act (NEPA) was signed into law in 1970. NEPA requires all federal agencies to consider the impacts of their actions on the environment. The Purpose and Need Statement is, therefore, one of the most important sections of the environmental document and establishes the reason why an agency is proposing the project. In addition, the purpose and need statement justifies the expected outcome of public expenditure and allows decisions to be defensible.<sup>6</sup>

A strong statement should be developed in close coordination and input from the key project stakeholders.

### 9.2.5 Develop a Financial Plan

Once it is determined why the Lewiston-Auburn to Portland service is worth developing and what it will do, a plan for construction and ongoing operating funding needs to be developed in cooperation with stakeholders. This financial plan would need to identify appropriate capital funding sources for completing the design and construction of the project, as well as appropriate operations and maintenance (O&M) cost funding that can be used to operate the system and maintain the tracks, stations, trains, and other facilities.

While capital funding is often thought of as the biggest hurdle, a solid O&M funding plan is equally critical to executing the service as it is something that would be paid out in perpetuity (unless the passenger rail service gets shut down). Typically, fares will cover a portion of the O&M costs, but not all. Without a solid O&M funding plan, this service will not be given strong consideration for capital funding grants and loans.

Section 9.5 provides more information on some of the funding sources that may be available for this project.

### 9.2.6 Prepare NEPA Documentation

As federal funding is anticipated, the National Environmental Policy Act (NEPA) process will be a key step in the implementation schedule. It will be important to identify the key issues to be considered in the NEPA process and provide enough time in the implementation schedule to perform the comprehensive alternatives analysis (including consideration for a rubber-tire solution), impact assessment, mitigation development, and the associated public and agency review processes.

Some issues to consider are:

- ▶ How long has the SLR been out of operation, and would its restart trigger a full NEPA review (e.g., a 7-mile segment of the Atlantic City Line was out of service

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[http://www.sp.dotd.la.gov/Inside\\_LaDOTD/Divisions/Administration/LPA/Training\\_Project\\_Planning/Purpose%20and%20Need%20Guidance%20Dec%202014.pdf](http://www.sp.dotd.la.gov/Inside_LaDOTD/Divisions/Administration/LPA/Training_Project_Planning/Purpose%20and%20Need%20Guidance%20Dec%202014.pdf)

for enough years that it triggered a full NEPA review on the road to restoration of that service)

- ▶ What issues might be triggered in the NEPA review regarding the new stations and other service support facilities (e.g., layover facilities)?
- ▶ Are there pre-existing issues or concerns with the railroad that may arise during the public process for NEPA?
- ▶ What federal, state, and local permits will be needed?

### 9.2.7 Initiate Discussions with Operating Railroads

Initial discussions should be had with the principal operating railroads, including Pan Am Railways (PAR) and the Saint Lawrence and Atlantic (SLR), to verify the feasibility of adding this new service, as well as understanding the impact to their operations, particularly at Danville Junction, which serves as a freight interchange yard between PAR and SLR and a storage yard for freight cars.

The discussions with PAR will be most important because they own and dispatch the rail line for at least some portion of all the alignments. If PAR is amenable to the concept of adding passenger rail, the next step is to understand their current and possible future operations, as well as their concerns regarding maintaining capacity on their line. This information would be included in the Capacity Analysis (explained in greater detail later in this chapter).

### 9.2.8 Coordinate Endorsement from Municipalities

Getting community buy-in will be a critical next step. Key questions to consider as part of this endorsement process include the following considerations.

#### 9.2.8.1 Viability of the SLR Route

A major question is whether the SLR route between Yarmouth Junction and Portland remains a viable option in terms of consistency with Portland's development plans (along the Eastern Promenade) and support from the communities that are along the line. An early discussion with the City of Portland should be first. If this alignment is not consistent with City's goals and land use objectives, Alignment 2B should be eliminated.

#### 9.2.8.2 Station Locations

Discussions with the Cities of Portland, Auburn, and Lewiston (and communities being considered for intermediate stations) regarding candidate station locations should also be held early in the process. Specific locations (be it a single location or a small number of alternative locations) are needed for a detailed Capacity Analysis as well as for starting the NEPA process.

#### 9.2.8.3 Grade Crossings and the Potential for Closings

While all grade crossings are anticipated to be upgraded before the initiation of passenger service, consideration of the potential to close grade crossings should be brought up with the municipalities.

### 9.2.9 Refine the Corridor Capacity Analysis

This step is essential to understand whether the proposed service is compatible with the current operations of the freight railroads and the current Downeaster schedule. This

would be a full operational simulation of all the typical daily rail operations based on input from the freight railroads and the current Downeaster schedule, and then adding in the proposed Lewiston-Auburn to Portland service. The locations of meets and overtakes identified in this project would be refined based on this analysis. Consideration would then need to be given to examine the feasibility of adding passing sidings at these locations. In addition, it is anticipated that a passing track would be needed at Danville Yard to bypass both the yard tracks and the yard leads.

Overall, this process is iterative. It is likely that some modifications of the proposed service would be evaluated in order to eliminate conflicts. The output of this analysis would be a more refined list of capital improvements from what was identified in this project. These capital improvements would include items such as passing sidings, sections of double-track, signal improvements, and other trackwork improvements.

After a number of iterations, the results would be discussed with the host railroads and the other operating railroads to get their buy-in before finalizing the service plan.

#### 9.2.10 Proof of Demand and Benefit

Once the alignment is selected and an initial capacity analysis is performed as proof of the feasibility of a service plan, the demand modeling should be revisited based on the proposed service plan. The service plan would be analyzed in terms of how it fits the defined markets of travel demand, applying the capture rates established in the original transit propensity analysis.

There should also be an economic impact analysis (as defined in greater detail above) to see what the benefits would be beyond just the ridership. The economic benefits analysis should be structured in a way that follows the general guidelines and requirements of federal funding programs that require a benefit-cost analysis as a condition for receipt of funding.

#### 9.2.11 Define Vehicle Needs and Procurement Strategy

Depending on how the service is defined, vehicle procurement may be necessary. If it is decided that the service should be contracted out and that the operator must provide their own equipment and operate/maintain it, that should be specified in the contract. This arrangement is currently in place with the Downeaster, where NNEPRA has contracted with Amtrak to provide the equipment and operate the service.

If it is decided that the service be either: 1) Operated in house, or 2) Contracted out but the equipment will be owned, then a decision should be made on the vehicle type that would be used to operate this service. The choices appropriate for use with this service is either “conventional” diesel push-pull locomotives, or diesel multiple units (DMUs). Each vehicle type has its advantages and disadvantages. In either case, new equipment, though costlier, has the dual advantages of getting the latest low-emissions vehicles and equipment that attracts riders who expect new vehicles. This decision is also key to scheduling the implementation period, as vehicle procurement can often be the critical path to new service implementation.

### 9.2.12 Determine Service Governance

Initial decisions of operating governance should also be made:

- ▶ Deciding which entity will be responsible for managing the new service: NNEPRA, Maine DOT, the municipalities, or another entity? If a new entity is to be created (e.g., new Authority), enabling legislation would need to be enacted.
- ▶ Developing the contractual framework of the entities operating and maintaining the vehicles, stations, and right-of-way:
  - Contracting with an operator
  - Developing maintenance agreements with Maine DOT or the municipalities for the stations and parking
  - Contracting for vehicle maintenance (or including it in the vehicle procurement contract)
  - Contracting for maintenance-of-way (MOW) and facilities

## 9.3 Risk Analysis

Prior to initiating the next phase of this project, a comprehensive risk assessment session should be held to define the risks and opportunities of all aspects of the process to better prepare the project to monitor and mitigate each implementation step. A list of possible risks includes the ones summarized below, though a proper risk assessment should also include workshops that help identify a comprehensive list of elements that have the potential to delay or add costs to this project. The risk assessment would also analyze and evaluate the risks to determine appropriate actions to eliminate risks or ways in which to control (or mitigate) them when they cannot be eliminated. A starting point of risks to be evaluated include:

- ▶ Obtaining funding
- ▶ Stakeholder issues
- ▶ Political and local opposition or support
- ▶ NEPA process
- ▶ Permitting
- ▶ Vehicle selection and/or procurement
- ▶ Capital improvements
- ▶ Testing and commissioning

The risks may lead to additional funding requirements, delays to implementation or possibly a roadblock to implementation. Identifying, monitoring and planning to mitigate them early will be one of the keys to a successful implementation plan.

## 9.4 Preliminary Implementation Schedule

Timeline for all activities, including:

- ▶ Selection of a service operator
- ▶ Agreements with railroad and stakeholders (assume 18 mos. to 2 years)
- ▶ Vehicle procurement, if required (assume 3+ years)
- ▶ NEPA Documentation (assume 12 to 24 months)
- ▶ Final Design and Permitting (assume 12 to 24 months, following NEPA)

- ▶ Track, signals and stations construction (assume 1 to 2 years)
- ▶ Finalizing business plan – Finalize schedule, marketing efforts, reservation and ticketing, etc. (assume 1 to 2 years, can be performed concurrently with construction)

Many of the above items can be overlapping, but certain activities must wait for the completion of others (e.g., completing the NEPA process before embarking on final design).

An initial schedule is necessary to understand which activities are on the critical path to implementation.

## 9.5 Potential Funding Sources

### 9.5.1 Potential Capital Funding Sources

Essential to the delivery of a Lewiston-Auburn to Portland passenger rail service is the development of a funding and financing strategy, which identifies sources of capital funding for the various elements of the project. Funding for this project will likely have to come from multiple sources as no one single funding source can cover an entire project's expenses. In fact, reliance on multiple funding sources is an increasingly common occurrence for major projects and is encouraged by the US DOT. Potential funding sources that could be tapped for this project includes the following:

- ▶ **Discretionary and Competitive Federal Grant Programs** – Discretionary and Competitive Federal Grant programs account for roughly \$2.3 billion in appropriated funding across the nation. They fund light rail, heavy rail, and commuter rail projects based on 5-point evaluation criteria that rate projects from low to high. Programs in the Discretionary and Competitive Federal Grant categories include New Starts, Small Starts and Core Capacity. New Starts typically fund projects that cost more than \$300 million and are seeking less than \$100 million in support of that plan. Small Starts funds projects that are typically less than \$300 million and seeking less than \$100 million. New Starts and Small Starts grants fund new fixed guideway systems as well as extensions to existing systems. Core Capacity Grants fund projects that demonstrate substantial corridor-based investment along existing fixed guideways. Core Capacity funding is typically allocated towards projects that fix significant capacity constraints and ones that increase overall capacity by 10 percent.
- ▶ **Better Utilizing Investments to Leverage Development (BUILD) Program Funds** – The Better Utilizing Investments to Leverage Development, or BUILD Transportation Discretionary Grant program, provides an additional opportunity to invest in rail and transit projects that can achieve national objectives. Previously known as Transportation Investment Generating Economic Recovery, or TIGER Discretionary Grants, Congress has dedicated nearly \$7.1 billion for ten rounds of National Infrastructure Investments to fund projects that have a significant local or regional impact. The eligibility requirements of BUILD allow project sponsors at the State and local levels to obtain funding for multi-modal, multi-jurisdictional projects that are more difficult to support through traditional DOT programs. BUILD can provide capital funding directly to any public entity, including



municipalities, counties, port authorities, tribal governments, MPOs, or others in contrast to traditional Federal programs which provide funding to very specific groups of applicants (mostly State DOTs and transit agencies). This flexibility allows BUILD and traditional partners at the State and local levels to work directly with a host of entities that own, operate, and maintain much of our transportation infrastructure, but otherwise cannot turn to the Federal government for support. The maximum request per project that BUILD can fund is \$25 million.<sup>7</sup>

- ▶ **Other Federal Sources** – While more properly described as financing than funding, the project could be structured to qualify for loans through TIFIA, RIF and/or any national infrastructure bank that might be developed with reauthorization. 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. The State of Maine also has a multi-modal account available that can be used to support non-highway transportation efforts.
- ▶ **Public/Private Partnerships** – The potential 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 and maintenance costs. Construction and operation of a parking lot is one example of a public private partnership applicable to this project.

It should be noted that funding opportunities are always changing. The project should be structured to avoid relying on any one source to a great degree.

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<sup>7</sup> <https://www.transportation.gov/BUILDgrants/about>

### 9.5.2 Potential O&M Funding Sources

Just as critical as identifying capital funding sources is identifying the O&M funding sources to operate and maintain the service. As mentioned previously in Section 9.2.5, O&M costs are recurring and paid out in perpetuity (unless the passenger rail service gets shut down). And, typically, fares will cover a portion of the O&M costs, but not all.

This difference needs to be covered somehow. If the project is structured as a Public/Private Partnership, the private sector may cover the difference for the duration of the agreement. If the project is structured to be operated in-house or contracted to an operator, the shortfall would need to be covered through some dedicated funding source(s). Some typical sources of O&M funding include:

- Dedicated portion of a sales tax
- Dedicated portion of a property tax
- An income tax
- Tax Increment Financing (TIF)
- Allowing for the use of advertising on vehicles and at stations

## 9.6 Project Committee Recommendation

As covered in Chapter 1, overseeing the project was a Project Committee, which was established to represent the diverse views and perspectives of the communities that would be served by a passenger service expansion. The nine-member Project Committee was made up of representatives from NNEPRA and MaineDOT, as well as representatives from the Cities of Lewiston and Auburn.

The Committee met monthly throughout the project and was involved in all aspects of the project. The Committee's responsibilities included guiding and reviewing the work performed by the project team, providing regional knowledge of the Lewiston-Auburn area. Based on the comprehensive evaluation and the Committee's involvement in the development of this project, the Project Committee makes the following recommendation for this project:

- ▶ Move the project into an economic evaluation;
- ▶ Develop a plan to relocate the Portland Transportation Center (PTC);
- ▶ Develop a robust first-mile, last-mile connections and mobility as a service in both the Lewiston-Auburn and Portland areas;
- ▶ Eliminate options that require an Ocean Gateway Station;
- ▶ Identify potential commitments for both capital and O&M funding; and
- ▶ Engage the FTA as the federal funding agency and discuss next steps relative to NEPA documentation for the project.

# Appendix A: Conceptual Schedules

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# Lewiston-Auburn Study: Alignment 1B Conceptual Schedule

April 2019

## Weekday Southbound Service

|                      |         |         |         |         |         |          |          |         |         |         |         |         |         |         |
|----------------------|---------|---------|---------|---------|---------|----------|----------|---------|---------|---------|---------|---------|---------|---------|
| <i>Lewiston</i>      | 5:00 AM | 6:15 AM | 6:45 AM | 7:15 AM | 7:45 AM | 9:30 AM  | 11:45 AM | 2:00 PM | 3:45 PM | 4:15 PM | 4:45 PM | 5:15 PM | 6:30 PM | 8:45 PM |
| <i>Park and Ride</i> | 5:07 AM | 6:22 AM | 6:52 AM | 7:22 AM | 7:52 AM | 9:37 AM  | 11:52 AM | 2:07 PM | 3:52 PM | 4:22 PM | 4:52 PM | 5:22 PM | 6:37 PM | 8:52 PM |
| <i>Royal Jct</i>     | 5:30 AM | 6:45 AM | 7:15 AM | 7:45 AM | 8:15 AM | 10:00 AM | 12:15 PM | 2:30 PM | 4:15 PM | 4:45 PM | 5:15 PM | 5:45 PM | 7:00 PM | 9:15 PM |
| <i>Portland</i>      | 5:50 AM | 7:05 AM | 7:35 AM | 8:05 AM | 8:35 AM | 10:20 AM | 12:35 PM | 2:50 PM | 4:35 PM | 5:05 PM | 5:35 PM | 6:05 PM | 7:20 PM | 9:35 PM |

## Weekday Northbound Service

|                      |         |         |         |         |         |          |          |         |         |         |         |         |         |          |
|----------------------|---------|---------|---------|---------|---------|----------|----------|---------|---------|---------|---------|---------|---------|----------|
| <i>Portland</i>      | 6:05 AM | 7:20 AM | 7:50 AM | 8:20 AM | 8:50 AM | 10:35 AM | 12:50 PM | 3:05 PM | 4:50 PM | 5:20 PM | 5:50 PM | 6:20 PM | 7:35 PM | 9:50 PM  |
| <i>Royal Jct</i>     | 6:25 AM | 7:40 AM | 8:10 AM | 8:40 AM | 9:10 AM | 10:55 AM | 1:10 PM  | 3:25 PM | 5:10 PM | 5:40 PM | 6:10 PM | 6:40 PM | 7:55 PM | 10:10 PM |
| <i>Park and Ride</i> | 6:48 AM | 8:03 AM | 8:33 AM | 9:03 AM | 9:33 AM | 11:18 AM | 1:33 PM  | 3:48 PM | 5:33 PM | 6:03 PM | 6:33 PM | 7:03 PM | 8:18 PM | 10:33 PM |
| <i>Lewiston</i>      | 6:55 AM | 8:10 AM | 8:40 AM | 9:10 AM | 9:40 AM | 11:25 AM | 1:40 PM  | 3:55 PM | 5:40 PM | 6:10 PM | 6:40 PM | 7:10 PM | 8:25 PM | 10:40 PM |

## Weekend and Holiday Southbound Service

|                      |         |         |          |          |         |         |         |         |
|----------------------|---------|---------|----------|----------|---------|---------|---------|---------|
| <i>Lewiston</i>      | 5:00 AM | 7:15 AM | 9:30 AM  | 11:45 AM | 2:00 PM | 4:15 PM | 6:30 PM | 8:45 PM |
| <i>Park and Ride</i> | 5:07 AM | 7:22 AM | 9:37 AM  | 11:52 AM | 2:07 PM | 4:22 PM | 6:37 PM | 8:52 PM |
| <i>Royal Jct</i>     | 5:30 AM | 7:45 AM | 10:00 AM | 12:15 PM | 2:30 PM | 4:45 PM | 7:00 PM | 9:15 PM |
| <i>Portland</i>      | 5:50 AM | 8:05 AM | 10:20 AM | 12:35 PM | 2:50 PM | 5:05 PM | 7:20 PM | 9:35 PM |

## Weekend and Holiday Northbound Service

|                      |         |         |          |          |         |         |         |          |
|----------------------|---------|---------|----------|----------|---------|---------|---------|----------|
| <i>Portland</i>      | 6:05 AM | 8:20 AM | 10:35 AM | 12:50 PM | 3:05 PM | 5:20 PM | 7:35 PM | 9:50 PM  |
| <i>Royal Jct</i>     | 6:25 AM | 8:40 AM | 10:55 AM | 1:10 PM  | 3:25 PM | 5:40 PM | 7:55 PM | 10:10 PM |
| <i>Park and Ride</i> | 6:48 AM | 9:03 AM | 11:18 AM | 1:33 PM  | 3:48 PM | 6:03 PM | 8:18 PM | 10:33 PM |
| <i>Lewiston</i>      | 6:55 AM | 9:10 AM | 11:25 AM | 1:40 PM  | 3:55 PM | 6:10 PM | 8:25 PM | 10:40 PM |

# Lewiston-Auburn Study: Alignment 1B Conceptual Schedule

April 2019

## Weekday Southbound Service

|                      |         |         |         |         |         |          |          |         |         |         |         |         |         |         |
|----------------------|---------|---------|---------|---------|---------|----------|----------|---------|---------|---------|---------|---------|---------|---------|
| <i>Lewiston</i>      | 5:00 AM | 6:15 AM | 6:45 AM | 7:15 AM | 7:45 AM | 9:30 AM  | 11:45 AM | 2:00 PM | 3:15 PM | 3:45 PM | 4:15 PM | 4:45 PM | 6:30 PM | 8:45 PM |
| <i>Park and Ride</i> | 5:07 AM | 6:22 AM | 6:52 AM | 7:22 AM | 7:52 AM | 9:37 AM  | 11:52 AM | 2:07 PM | 3:22 PM | 3:52 PM | 4:22 PM | 4:52 PM | 6:37 PM | 8:52 PM |
| <i>Yarmouth Jct</i>  | 5:27 AM | 6:42 AM | 7:12 AM | 7:42 AM | 8:12 AM | 9:57 AM  | 12:12 PM | 2:27 PM | 3:42 PM | 4:12 PM | 4:42 PM | 5:12 PM | 6:57 PM | 9:12 PM |
| <i>Portland</i>      | 5:48 AM | 7:03 AM | 7:33 AM | 8:03 AM | 8:33 AM | 10:18 AM | 12:33 PM | 2:48 PM | 4:03 PM | 4:33 PM | 5:03 PM | 5:33 PM | 7:18 PM | 9:33 PM |

## Weekday Northbound Service

|                      |         |         |         |         |         |          |          |         |         |         |         |         |         |          |
|----------------------|---------|---------|---------|---------|---------|----------|----------|---------|---------|---------|---------|---------|---------|----------|
| <i>Portland</i>      | 6:05 AM | 7:20 AM | 7:50 AM | 8:20 AM | 8:50 AM | 10:35 AM | 12:50 PM | 3:05 PM | 4:20 PM | 4:50 PM | 5:20 PM | 5:50 PM | 7:35 PM | 9:50 PM  |
| <i>Yarmouth Jct</i>  | 6:26 AM | 7:41 AM | 8:11 AM | 8:41 AM | 9:11 AM | 10:56 AM | 1:11 PM  | 3:26 PM | 4:41 PM | 5:11 PM | 5:41 PM | 6:11 PM | 7:56 PM | 10:11 PM |
| <i>Park and Ride</i> | 6:46 AM | 8:01 AM | 8:31 AM | 9:01 AM | 9:31 AM | 11:16 AM | 1:31 PM  | 3:46 PM | 5:01 PM | 5:31 PM | 6:01 PM | 6:31 PM | 8:16 PM | 10:31 PM |
| <i>Lewiston</i>      | 6:53 AM | 8:08 AM | 8:38 AM | 9:08 AM | 9:38 AM | 11:23 AM | 1:38 PM  | 3:53 PM | 5:08 PM | 5:38 PM | 6:08 PM | 6:38 PM | 8:23 PM | 10:38 PM |

## Weekend and Holiday Southbound Service

|                      |         |         |          |          |         |         |         |         |
|----------------------|---------|---------|----------|----------|---------|---------|---------|---------|
| <i>Lewiston</i>      | 5:00 AM | 7:15 AM | 9:30 AM  | 11:45 AM | 2:00 PM | 4:15 PM | 6:30 PM | 8:45 PM |
| <i>Park and Ride</i> | 5:07 AM | 7:22 AM | 9:37 AM  | 11:52 AM | 2:07 PM | 4:22 PM | 6:37 PM | 8:52 PM |
| <i>Yarmouth Jct</i>  | 5:27 AM | 7:42 AM | 9:57 AM  | 12:12 PM | 2:27 PM | 4:42 PM | 6:57 PM | 9:12 PM |
| <i>Portland</i>      | 5:48 AM | 8:03 AM | 10:18 AM | 12:33 PM | 2:48 PM | 5:03 PM | 7:18 PM | 9:33 PM |

## Weekend and Holiday Northbound Service

|                      |         |         |          |          |         |         |         |          |
|----------------------|---------|---------|----------|----------|---------|---------|---------|----------|
| <i>Portland</i>      | 6:05 AM | 8:20 AM | 10:35 AM | 12:50 PM | 3:05 PM | 5:20 PM | 7:35 PM | 9:50 PM  |
| <i>Yarmouth Jct</i>  | 6:26 AM | 8:41 AM | 10:56 AM | 1:11 PM  | 3:26 PM | 5:41 PM | 7:56 PM | 10:11 PM |
| <i>Park and Ride</i> | 6:46 AM | 9:01 AM | 11:16 AM | 1:31 PM  | 3:46 PM | 6:01 PM | 8:16 PM | 10:31 PM |
| <i>Lewiston</i>      | 6:53 AM | 9:08 AM | 11:23 AM | 1:38 PM  | 3:53 PM | 6:08 PM | 8:23 PM | 10:38 PM |

# Lewiston-Auburn Study: Alignment 2B Conceptual Schedule

April 2019

## **Weekday Southbound Service**

|                      |         |         |         |         |         |         |          |         |         |         |         |         |         |         |          |
|----------------------|---------|---------|---------|---------|---------|---------|----------|---------|---------|---------|---------|---------|---------|---------|----------|
| <i>Lewiston</i>      | 5:00 AM | 6:35 AM | 7:05 AM | 7:35 AM | 8:05 AM | 9:10 AM | 11:15 AM | 1:20 PM | 3:25 PM | 3:55 PM | 4:25 PM | 4:55 PM | 5:30 PM | 7:35 PM | 9:40 PM  |
| <i>Park and Ride</i> | 5:07 AM | 6:42 AM | 7:12 AM | 7:42 AM | 8:12 AM | 9:17 AM | 11:22 AM | 1:27 PM | 3:32 PM | 4:02 PM | 4:32 PM | 5:02 PM | 5:37 PM | 7:42 PM | 9:47 PM  |
| <i>Yarmouth Jct</i>  | 5:27 AM | 7:02 AM | 7:32 AM | 8:02 AM | 8:32 AM | 9:37 AM | 11:42 AM | 1:47 PM | 3:52 PM | 4:22 PM | 4:52 PM | 5:22 PM | 5:57 PM | 8:02 PM | 10:07 PM |
| <i>Ocean Gate</i>    | 5:43 AM | 7:18 AM | 7:48 AM | 8:18 AM | 8:48 AM | 9:53 AM | 11:58 AM | 2:03 PM | 4:08 PM | 4:38 PM | 5:08 PM | 5:38 PM | 6:13 PM | 8:18 PM | 10:23 PM |

## **Weekday Northbound Service**

|                      |         |         |         |         |         |          |          |         |         |         |         |         |         |         |          |
|----------------------|---------|---------|---------|---------|---------|----------|----------|---------|---------|---------|---------|---------|---------|---------|----------|
| <i>Ocean Gate</i>    | 6:00 AM | 7:35 AM | 8:05 AM | 8:35 AM | 9:05 AM | 10:10 AM | 12:15 PM | 2:20 PM | 4:25 PM | 4:55 PM | 5:25 PM | 5:55 PM | 6:30 PM | 8:35 PM | 10:40 PM |
| <i>Yarmouth Jct</i>  | 6:16 AM | 7:51 AM | 8:21 AM | 8:51 AM | 9:21 AM | 10:26 AM | 12:31 PM | 2:36 PM | 4:41 PM | 5:11 PM | 5:41 PM | 6:11 PM | 6:46 PM | 8:51 PM | 10:56 PM |
| <i>Park and Ride</i> | 6:36 AM | 8:11 AM | 8:41 AM | 9:11 AM | 9:41 AM | 10:46 AM | 12:51 PM | 2:56 PM | 5:01 PM | 5:31 PM | 6:01 PM | 6:31 PM | 7:06 PM | 9:11 PM | 11:16 PM |
| <i>Lewiston</i>      | 6:43 AM | 8:18 AM | 8:48 AM | 9:18 AM | 9:48 AM | 10:53 AM | 12:58 PM | 3:03 PM | 5:08 PM | 5:38 PM | 6:08 PM | 6:38 PM | 7:13 PM | 9:18 PM | 11:23 PM |

## **Weekend and Holiday Southbound Service**

|                      |         |         |         |          |         |         |         |         |          |
|----------------------|---------|---------|---------|----------|---------|---------|---------|---------|----------|
| <i>Lewiston</i>      | 5:00 AM | 7:05 AM | 9:10 AM | 11:15 AM | 1:20 PM | 3:25 PM | 5:30 PM | 7:35 PM | 9:40 PM  |
| <i>Park and Ride</i> | 5:07 AM | 7:12 AM | 9:17 AM | 11:22 AM | 1:27 PM | 3:32 PM | 5:37 PM | 7:42 PM | 9:47 PM  |
| <i>Yarmouth Jct</i>  | 5:27 AM | 7:32 AM | 9:37 AM | 11:42 AM | 1:47 PM | 3:52 PM | 5:57 PM | 8:02 PM | 10:07 PM |
| <i>Ocean Gate</i>    | 5:43 AM | 7:48 AM | 9:53 AM | 11:58 AM | 2:03 PM | 4:08 PM | 6:13 PM | 8:18 PM | 10:23 PM |

## **Weekend and Holiday Northbound Service**

|                      |         |         |          |          |         |         |         |         |          |
|----------------------|---------|---------|----------|----------|---------|---------|---------|---------|----------|
| <i>Ocean Gate</i>    | 6:00 AM | 8:05 AM | 10:10 AM | 12:15 PM | 2:20 PM | 4:25 PM | 6:30 PM | 8:35 PM | 10:40 PM |
| <i>Yarmouth Jct</i>  | 6:16 AM | 8:21 AM | 10:26 AM | 12:31 PM | 2:36 PM | 4:41 PM | 6:46 PM | 8:51 PM | 10:56 PM |
| <i>Park and Ride</i> | 6:36 AM | 8:41 AM | 10:46 AM | 12:51 PM | 2:56 PM | 5:01 PM | 7:06 PM | 9:11 PM | 11:16 PM |
| <i>Lewiston</i>      | 6:43 AM | 8:48 AM | 10:53 AM | 12:58 PM | 3:03 PM | 5:08 PM | 7:13 PM | 9:18 PM | 11:23 PM |

## Lewiston-Auburn Study: Alignment 4 Conceptual Schedule

April 2019

### Weekday Shuttle Service

|                       | Shuttle Trip 1            |                             | Shuttle Trip 2            |                             | Shuttle Trip 3            |                           |                             |                             | Shuttle Trip 4            |                             |
|-----------------------|---------------------------|-----------------------------|---------------------------|-----------------------------|---------------------------|---------------------------|-----------------------------|-----------------------------|---------------------------|-----------------------------|
|                       | Direction SB              | Direction NB                | Direction SB              | Direction NB                | Direction SB              |                           | Direction NB                |                             | Direction SB              | Direction NB                |
| Lewiston              | 4:21 AM                   | 5:27 AM ↑                   | 7:21 AM                   | 8:27 AM ↑                   | 11:01 AM                  |                           | 12:34 PM ↑                  |                             | 1:21 PM                   | 2:27 PM ↑                   |
| Park and Ride         | 4:28 AM                   | 5:20 AM                     | 7:28 AM                   | 8:20 AM                     | 11:08 AM                  |                           | 12:27 PM                    |                             | 1:28 PM                   | 2:20 PM                     |
| Yarmouth Jct          | ▼ 4:48 AM                 | ▶ 5:00 AM                   | ▼ 7:48 AM                 | ▶ 8:00 AM                   | ▼ 11:28 AM                |                           | ▶ 12:07 PM                  |                             | ▼ 1:48 PM                 | ▶ 2:00 PM                   |
| Downeaster Connection | Connect to Train 680 (SB) | Connect from Train 680 (SB) | Connect to Train 682 (SB) | Connect from Train 682 (SB) | Connect to Train 684 (SB) | Connect to Train 681 (NB) | Connect from Train 684 (SB) | Connect from Train 681 (NB) | Connect to Train 686 (SB) | Connect from Train 686 (SB) |
| Yarmouth Jct          | 4:54 AM ←                 | 4:54 AM ↑                   | 7:54 AM ←                 | 7:54 AM ↑                   | 11:34 AM                  | 12:01 PM                  | ↑ 11:34 AM                  | 12:01 PM ↑                  | 1:54 PM ←                 | 1:54 PM ↑                   |
| Portland              | ▼ 5:15 AM                 |                             | ▼ 8:15 AM                 |                             | ▼ 11:55 AM                |                           |                             | 11:40 AM ↑                  | ▼ 2:15 PM                 |                             |
| Brunswick             |                           | 4:30 AM                     |                           | 7:30 AM                     |                           | 12:25 PM ▼                |                             | 11:10 AM                    |                           | 1:30 PM                     |

|                       | Shuttle Trip 5            |                             | Shuttle Trip 6            |                             | Shuttle Trip 7            |                             | Shuttle Trip 8            |                             | Shuttle Trip 9            |                             |
|-----------------------|---------------------------|-----------------------------|---------------------------|-----------------------------|---------------------------|-----------------------------|---------------------------|-----------------------------|---------------------------|-----------------------------|
|                       | Direction SB              | Direction NB                | Direction SB              | Direction NB                | Direction SB              | Direction NB                | Direction SB              | Direction NB                | Direction SB              | Direction NB                |
| Lewiston              | 3:28 PM                   | 4:34 PM ↑                   | 5:16 PM                   | 6:22 PM ↑                   | 7:18 PM                   | 8:24 PM ↑                   | 8:43 PM                   | 9:49 PM ↑                   | 12:48 AM                  | 1:54 AM ↑                   |
| Park and Ride         | 3:35 PM                   | 4:27 PM                     | 5:23 PM                   | 6:15 PM                     | 7:25 PM                   | 8:17 PM                     | 8:50 PM                   | 9:42 PM                     | 12:55 AM                  | 1:47 AM                     |
| Yarmouth Jct          | ▼ 3:55 PM                 | ▶ 4:07 PM                   | ▼ 5:43 PM                 | ▶ 5:55 PM                   | ▼ 7:45 PM                 | ▶ 7:57 PM                   | ▼ 9:10 PM                 | ▶ 9:22 PM                   | ▼ 1:15 AM                 | ▶ 1:27 AM                   |
| Downeaster Connection | Connect to Train 683 (NB) | Connect from Train 683 (NB) | Connect to Train 688 (SB) | Connect from Train 688 (SB) | Connect to Train 685 (NB) | Connect from Train 685 (NB) | Connect to Train 687 (NB) | Connect from Train 687 (NB) | Connect to Train 689 (NB) | Connect from Train 689 (NB) |
| Yarmouth Jct          | 4:01 PM ←                 | 4:01 PM ↑                   | 5:49 PM ←                 | 5:49 PM ↑                   | 7:51 PM ←                 | 7:51 PM ↑                   | 9:16 PM ←                 | 9:16 PM ↑                   | 1:21 AM ←                 | 1:21 AM ↑                   |
| Portland              |                           | 3:40 PM                     | ▼ 6:10 PM                 |                             |                           | 7:30 PM                     |                           | 8:55 PM                     |                           | 1:00 AM                     |
| Brunswick             | ▼ 4:25 PM                 |                             |                           | 5:25 PM                     | ▼ 8:15 PM                 |                             | ▼ 9:40 PM                 |                             | ▼ 1:45 AM                 |                             |

### Weekend and Holiday Shuttle Service

|                       | Shuttle Trip 1            |                             | Shuttle Trip 2            |                             | Shuttle Trip 3            |                           |                             |                             |
|-----------------------|---------------------------|-----------------------------|---------------------------|-----------------------------|---------------------------|---------------------------|-----------------------------|-----------------------------|
|                       | Direction SB              | Direction NB                | Direction SB              | Direction NB                | Direction SB              |                           | Direction NB                |                             |
| Lewiston              | 5:51 AM                   | 6:57 AM ↑                   | 7:21 AM                   | 8:27 AM ↑                   | 11:11 AM                  |                           | 1:54 PM ↑                   |                             |
| Park and Ride         | 5:58 AM                   | 6:50 AM                     | 7:28 AM                   | 8:20 AM                     | 11:18 AM                  |                           | 1:47 PM                     |                             |
| Yarmouth Jct          | ▼ 6:18 AM                 | ▶ 6:30 AM                   | ▼ 7:48 AM                 | ▶ 8:00 AM                   | ▼ 11:38 AM                |                           | ▶ 1:27 PM                   |                             |
| Downeaster Connection | Connect to Train 690 (SB) | Connect from Train 690 (SB) | Connect to Train 692 (SB) | Connect from Train 692 (SB) | Connect to Train 694 (SB) | Connect to Train 691 (NB) | Connect from Train 694 (SB) | Connect from Train 691 (NB) |
| Yarmouth Jct          | 6:24 AM ←                 | 6:24 AM ↑                   | 7:54 AM ←                 | 7:54 AM ↑                   | 11:44 AM                  | 1:21 PM                   | ↑ 11:44 AM                  | 1:21 PM ↑                   |
| Portland              | ▼ 6:45 AM                 |                             | ▼ 8:15 AM                 |                             | ▼ 12:05 PM                |                           |                             | 1:00 PM                     |
| Brunswick             |                           | 6:00 AM                     |                           | 7:30 AM                     |                           | 1:45 PM ▼                 |                             | 11:20 AM                    |

|                       | Shuttle Trip 4            |                             | Shuttle Trip 5            |                             | Shuttle Trip 6            |                             | Shuttle Trip 7            |                             |
|-----------------------|---------------------------|-----------------------------|---------------------------|-----------------------------|---------------------------|-----------------------------|---------------------------|-----------------------------|
|                       | Direction SB              | Direction NB                | Direction SB              | Direction NB                | Direction SB              | Direction NB                | Direction SB              | Direction NB                |
| Lewiston              | 5:56 PM                   | 7:02 PM ↑                   | 7:08 PM                   | 8:14 PM ↑                   | 9:58 PM                   | 11:04 PM ↑                  | 12:48 AM                  | 1:54 AM ↑                   |
| Park and Ride         | 6:03 PM                   | 6:55 PM                     | 7:15 PM                   | 8:07 PM                     | 10:05 PM                  | 10:57 PM                    | 12:55 AM                  | 1:47 AM                     |
| Yarmouth Jct          | ▼ 6:23 PM                 | ▶ 6:35 PM                   | ▼ 7:35 PM                 | ▶ 7:47 PM                   | ▼ 10:25 PM                | ▶ 10:37 PM                  | ▼ 1:15 AM                 | ▶ 1:27 AM                   |
| Downeaster Connection | Connect to Train 698 (SB) | Connect from Train 698 (SB) | Connect to Train 695 (NB) | Connect from Train 695 (NB) | Connect to Train 697 (NB) | Connect from Train 697 (NB) | Connect to Train 699 (NB) | Connect from Train 699 (NB) |
| Yarmouth Jct          | 6:29 PM ←                 | 6:29 PM ↑                   | 7:41 PM ←                 | 7:41 PM ↑                   | 10:31 PM ←                | 10:31 PM ↑                  | 1:21 AM ←                 | 1:21 AM ↑                   |
| Portland              | ▼ 6:50 PM                 |                             |                           | 7:20 PM                     |                           | 10:10 PM                    |                           | 1:00 AM                     |
| Brunswick             |                           | 6:05 PM                     | ▼ 8:05 PM                 |                             | ▼ 10:55 PM                |                             | ▼ 1:45 AM                 |                             |



## Lewiston-Auburn Study: Alignment 5 Conceptual Schedule

April 2019

### Weekday Shuttle Service

|                       | Shuttle Trip 1            |                             | Shuttle Trip 2            |                             | Shuttle Trip 3            |                           |                             |                             | Shuttle Trip 4            |                             |
|-----------------------|---------------------------|-----------------------------|---------------------------|-----------------------------|---------------------------|---------------------------|-----------------------------|-----------------------------|---------------------------|-----------------------------|
|                       | Direction SB              | Direction NB                | Direction SB              | Direction NB                | Direction SB              |                           | Direction NB                |                             | Direction SB              | Direction NB                |
| Lewiston              | 4:20 AM                   | 5:32 AM ↑                   | 7:20 AM                   | 8:32 AM ↑                   | 11:00 AM                  |                           | 12:35 PM ↑                  |                             | 1:20 PM                   | 2:32 PM ↑                   |
| Park and Ride         | 4:27 AM                   | 5:25 AM                     | 7:27 AM                   | 8:25 AM                     | 11:07 AM                  |                           | 12:28 PM                    |                             | 1:27 PM                   | 2:25 PM                     |
| Royal Jct             | ▼ 4:50 AM                 | ▶ 5:02 AM                   | ▼ 7:50 AM                 | ▶ 8:02 AM                   | ▼ 11:30 AM                |                           | ▶ 12:05 PM                  |                             | ▼ 1:50 PM                 | ▶ 2:02 PM                   |
| Downeaster Connection | Connect to Train 680 (SB) | Connect from Train 680 (SB) | Connect to Train 682 (SB) | Connect from Train 682 (SB) | Connect to Train 684 (SB) | Connect to Train 681 (NB) | Connect from Train 684 (SB) | Connect from Train 681 (NB) | Connect to Train 686 (SB) | Connect from Train 686 (SB) |
| Royal Jct             | 4:56 AM ←                 | 4:56 AM ↑                   | 7:56 AM ←                 | 7:56 AM ↑                   | 11:36 AM                  | 11:59 AM                  | ↑ 11:36 AM                  | 11:59 AM ↑                  | 1:56 PM ←                 | 1:56 PM ↑                   |
| Portland              | ▼ 5:15 AM                 |                             | ▼ 8:15 AM                 |                             | ▼ 11:55 AM                |                           |                             | 11:40 AM ↑                  | ▼ 2:15 PM                 |                             |
| Brunswick             |                           | 4:30 AM                     |                           | 7:30 AM                     |                           | 12:25 PM ▼                |                             | 11:10 AM                    |                           | 1:30 PM                     |

|                       | Shuttle Trip 5            |                             | Shuttle Trip 6            |                             | Shuttle Trip 7            |                             | Shuttle Trip 8            |                             | Shuttle Trip 9            |                             |
|-----------------------|---------------------------|-----------------------------|---------------------------|-----------------------------|---------------------------|-----------------------------|---------------------------|-----------------------------|---------------------------|-----------------------------|
|                       | Direction SB              | Direction NB                | Direction SB              | Direction NB                | Direction SB              | Direction NB                | Direction SB              | Direction NB                | Direction SB              | Direction NB                |
| Lewiston              | 3:23 PM                   | 4:35 PM ↑                   | 5:15 PM                   | 6:27 PM ↑                   | 7:13 PM                   | 8:25 PM ↑                   | 8:38 PM                   | 9:50 PM ↑                   | 12:43 AM                  | 1:55 AM ↑                   |
| Park and Ride         | 3:30 PM                   | 4:28 PM                     | 5:22 PM                   | 6:20 PM                     | 7:20 PM                   | 8:18 PM                     | 8:45 PM                   | 9:43 PM                     | 12:50 AM                  | 1:48 AM                     |
| Royal Jct             | ▼ 3:53 PM                 | ▶ 4:05 PM                   | ▼ 5:45 PM                 | ▶ 5:57 PM                   | ▼ 7:43 PM                 | ▶ 7:55 PM                   | ▼ 9:08 PM                 | ▶ 9:20 PM                   | ▼ 1:13 AM                 | ▶ 1:25 AM                   |
| Downeaster Connection | Connect to Train 683 (NB) | Connect from Train 683 (NB) | Connect to Train 688 (SB) | Connect from Train 688 (SB) | Connect to Train 685 (NB) | Connect from Train 685 (NB) | Connect to Train 687 (NB) | Connect from Train 687 (NB) | Connect to Train 689 (NB) | Connect from Train 689 (NB) |
| Royal Jct             | 3:59 PM ←                 | 3:59 PM ↑                   | 5:51 PM ←                 | 5:51 PM ↑                   | 7:49 PM ←                 | 7:49 PM ↑                   | 9:14 PM ←                 | 9:14 PM ↑                   | 1:19 AM ←                 | 1:19 AM ↑                   |
| Portland              |                           | 3:40 PM ↑                   | ▼ 6:10 PM                 |                             |                           | 7:30 PM ↑                   |                           | 8:55 PM ↑                   |                           | 1:00 AM ↑                   |
| Brunswick             | ▼ 4:25 PM                 |                             |                           | 5:25 PM                     | ▼ 8:15 PM                 |                             | ▼ 9:40 PM                 |                             | ▼ 1:45 AM                 |                             |

### Weekend and Holiday Shuttle Service

|                       | Shuttle Trip 1            |                             | Shuttle Trip 2            |                             | Shuttle Trip 3            |                           |                             |                             |
|-----------------------|---------------------------|-----------------------------|---------------------------|-----------------------------|---------------------------|---------------------------|-----------------------------|-----------------------------|
|                       | Direction SB              | Direction NB                | Direction SB              | Direction NB                | Direction SB              |                           | Direction NB                |                             |
| Lewiston              | 5:50 AM                   | 7:02 AM ↑                   | 7:20 AM                   | 8:32 AM ↑                   | 11:10 AM                  |                           | 1:55 PM ↑                   |                             |
| Park and Ride         | 5:57 AM                   | 6:55 AM                     | 7:27 AM                   | 8:25 AM                     | 11:17 AM                  |                           | 1:48 PM                     |                             |
| Royal Jct             | ▼ 6:20 AM                 | ▶ 6:32 AM                   | ▼ 7:50 AM                 | ▶ 8:02 AM                   | ▼ 11:40 AM                |                           | ▶ 1:25 PM                   |                             |
| Downeaster Connection | Connect to Train 690 (SB) | Connect from Train 690 (SB) | Connect to Train 692 (SB) | Connect from Train 692 (SB) | Connect to Train 694 (SB) | Connect to Train 691 (NB) | Connect from Train 694 (SB) | Connect from Train 691 (NB) |
| Royal Jct             | 6:26 AM ←                 | 6:26 AM ↑                   | 7:56 AM ←                 | 7:56 AM ↑                   | 11:46 AM                  | 1:19 PM                   | ↑ 11:46 AM                  | 1:19 PM ↑                   |
| Portland              | ▼ 6:45 AM                 |                             | ▼ 8:15 AM                 |                             | ▼ 12:05 PM                |                           |                             | 1:00 PM ↑                   |
| Brunswick             |                           | 6:00 AM                     |                           | 7:30 AM                     |                           | 1:45 PM ▼                 |                             | 11:20 AM                    |

|                       | Shuttle Trip 4            |                             | Shuttle Trip 5            |                             | Shuttle Trip 6            |                             | Shuttle Trip 7            |                             |
|-----------------------|---------------------------|-----------------------------|---------------------------|-----------------------------|---------------------------|-----------------------------|---------------------------|-----------------------------|
|                       | Direction SB              | Direction NB                | Direction SB              | Direction NB                | Direction SB              | Direction NB                | Direction SB              | Direction NB                |
| Lewiston              | 5:55 PM                   | 7:07 PM ↑                   | 7:03 PM                   | 8:15 PM ↑                   | 9:53 PM                   | 11:05 PM ↑                  | 12:43 AM                  | 1:55 AM ↑                   |
| Park and Ride         | 6:02 PM                   | 7:00 PM                     | 7:10 PM                   | 8:08 PM                     | 10:00 PM                  | 10:58 PM                    | 12:50 AM                  | 1:48 AM                     |
| Royal Jct             | ▼ 6:25 PM                 | ▶ 6:37 PM                   | ▼ 7:33 PM                 | ▶ 7:45 PM                   | ▼ 10:23 PM                | ▶ 10:35 PM                  | ▼ 1:13 AM                 | ▶ 1:25 AM                   |
| Downeaster Connection | Connect to Train 698 (SB) | Connect from Train 698 (SB) | Connect to Train 695 (NB) | Connect from Train 695 (NB) | Connect to Train 697 (NB) | Connect from Train 697 (NB) | Connect to Train 699 (NB) | Connect from Train 699 (NB) |
| Royal Jct             | 6:31 PM ←                 | 6:31 PM ↑                   | 7:39 PM ←                 | 7:39 PM ↑                   | 10:29 PM ←                | 10:29 PM ↑                  | 1:19 AM ←                 | 1:19 AM ↑                   |
| Portland              | ▼ 6:50 PM                 |                             |                           | 7:20 PM ↑                   |                           | 10:10 PM ↑                  |                           | 1:00 AM ↑                   |
| Brunswick             |                           | 6:05 PM                     | ▼ 8:05 PM                 |                             | ▼ 10:55 PM                |                             | ▼ 1:45 AM                 |                             |

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## Appendix B: Photos from Rail Field Visits

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**St. Lawrence and Atlantic Rail Line Photos**



MP 4.5 – Presumpscot Bridge



MP 5.21 – Lunt Rd Crossing



MP 5.21 – Lunt Rd Crossing



MP 5.55 – Buckham Rd Crossing



MP 5.95 – I95 Bridge



MP 6.79 – Johnson Rd Crossing



MP 8.99 – Tuttle Rd Bridge





MP 8.99 – Tuttle Road Bridge



MP 10.14 – State Garage Crossing



MP 10.25 – Pedestrian Crossing



MP 10.66 – Portland St Crossing



MP 11.10 – Cleaves Rd Crossing



MP 11.34 – Main St Crossing



MP 11.34 – Main St Crossing



MP 11.2 – Former Yarmouth Station



MP 11.43 – Mill St Crossing



MP 11.43 – Mill St Crossing



MP 11.65 – Elm St Crossing



MP 11.66 Royal River 6<sup>th</sup> Bridge





MP 11.66 – Royal River 6<sup>th</sup> Bridge



MP 11.84 – River Bend Rd Crossing



MP 12.15 – Pan Am Diamond



MP 12.75 – Private Crossing



MP 12.90 – Farm Rd Crossing



MP 13.04 – Old Field Rd Crossing



MP 13.14 – Deer Run Private Crossing



MP 13.34 – Blueberry Field Private Crossing



MP 13.50 – Farm Crossing



MP 13.97 – Farms Edge Private Crossing



MP 14.15 – Farm Crossing



MP 14.17 – Skillings North Rd Crossing



MP 14.17 – Skillings North Rd Crossing



MP 14.40 – Redmont Rd Private Crossing



MP 14.63 – Private Crossing 1





MP 14.63 – Private Crossing 2



MP 14.89 – Sawyers North Rd Crossing



MP 14.89 – Sawyers North Rd Crossing



MP 14.93 – Private Crossing



MP 15.33 – Dunns Memorial Highway Crossing



MP 15.60 – Atkinson Bridge North Rd Crossing



MP 15.70 – Royal River 5<sup>th</sup> Bridge



MP 16.06 – Recreation Trail Crossing



MP 16.40 – Farm Crossing



MP 16.55 – Farm Crossing



MP 17.02 – Cluff Youngs Rd Crossing



MP 17.18 – Milliken Bowes Rd Crossing



MP 18.01 – Farm Utility Crossing



MP 18.54 – Depot Rd Private Crossing



MP 18.60 – Allen Rd Bridge





MP 18.70 – Private Crossing



MP 20.55 – Snow Mobile Farm Crossing



MP 20.95 – Farm Crossing



MP 21.12 – Farm Crossing



MP 21.51 – Farm Crossing



MP 21.80 – Farm Crossing



MP 22.08 – Farm Crossing



MP 22.48 – Intervale New Gloucester Crossing



MP 22.48 – Intervale New Gloucester Crossing



MP 23.56 – Farm Crossing



MP 23.90 – Royal River 4<sup>th</sup> Bridge



MP 24.40 – Royal River 3<sup>rd</sup> Bridge



MP 24.55 – Cobbs Bridge Rd Crossing



MP 24.55 – Cobbs Bridge Rd Crossing





MP 24.90 – Royal River 2<sup>nd</sup> Bridge



MP 26.0 – MaineDOT Barricade

**Pan Am Rail Line Photos**



MP 158.42 – Stetson Rd Crossing



MP 158.92 – Barkers Bridge



MP 159.18 – Main St Bridge



MP 159.22 – DEN Signal



MP 159.88 – Strawberry Ave Crossing



MP 160.05 – Libbys Ave Industrial Crossing



MP 160.08 – Libby Signal



MP 160.08 – Russel St Bridge



MP 160.44 – Riverside St Bridge



MP 160.60 – Whipple St Crossing



MP 160.72 – Holland St Crossing





MP 160.88 – Bridge St Bridge



MP 161.10 – Middle St Crossing



MP 161.22 – Androscoggin River Bridge



MP 161.22 – Androscoggin River Bridge



MP 161.43 – Turner St Bridge



MP 161.49 – Spring St Crossing



MP 161.55 – Hampshire St Crossing



MP 161.61 – Library Ave Crossing



MP 161.67 – Court St Crossing



MP 162.09 – Elm St Crossing



MP 162.15 – High St Crossing



MP 162.37 – Albiston Way Crossing



MP 162.73 – Grand Trunk Railway Bridge



MP 163.05 – Signal 1631



MP 163.09 – Taylor Brook Bridge



MP 163.30 – ROW





MP 163.60 – Maine Metal Siding



MP 163.72 – Little Androscogin Bridge



MP 164.70 – Siding



MP 164.95 – Hacketts Switch



MP 165.00 – Hackett Rd Crossing



MP 165.82 – Poland Switch



MP 165.88 – Rounds Crossing Bridge



MP 166.09 – I-95 Bridge



MP 166.19 – Sampsons Crossing



MP 166.50 – International Paper Siding



MP 166.83 – Black Cat Rd Crossing



MP 166.95 – Danville East Switch



MP 167.20 – ROW



MP 167.43 – Danville Junction Rd Crossing



MP 167.46 – Danville Junction



MP 167.60 – Danville Junction Yard East End





MP 168.00 – Danville Junction Yard West End



MP 168.05 – Royal River Bridge Junction



MP 168.05 – Royal River Bridge



MP 168.15 – Private Maintenance of Way Crossing



MP 168.20 – 168 West Switch



MP 168.49 – Former Brown Rd Crossing



MP 170.54 – Cobbs Rd Bridge



MP 170.60 – Signal



MP 171.40 – Farm Crossing



MP 172.10 – New Gloucester Rd Crossing



MP 172.12 – Blake Junction



MP 173.39 – Stevens Brook Bridge



MP 173.52 – Penny Junction





MP 173.98 – Underground Pipeline



MP 174.32 – Penny Rd Bridge



MP 175.47 – Morse Rd Crossing



MP 176.14 – Royal River Bridge



MP 176.72 – Gray Siding



MP 176.73 – Depot Rd Crossing



MP 177.16 – Royal River Bridge



MP 178.80 – Mill Rd Crossing



MP 180.01 – New Gloucester Rd Bridge



MP 180.37 – Hayes Farm Rd Bridge



MP 181.02 – Hallowell Rd Bridge



MP 181.80 –Toddy Brook Ln Private Crossing



MP 182.08 – Sligo Rd Bridge



MP 182.12 – Farm Crossing



MP 182.80 – Farm Crossing





MP 183.25 – CPF183



MP 184 – W Main St Bridge



MP 184.40 – CPF185



MP 184.95 – Greely Rd Crossing



MP 184.95 – Greely Rd Crossing

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# Appendix C: Capital Cost Estimate Spreadsheets

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Project: Lewiston-Auburn Passenger Rail Study  
 Description: Infrastructure Assessment: Alternative 1A - LA to Portland on PAR FML  
 Calculated By: Mike McDonough, Ian Stewardson  
 Checked By: Tim Bryant, Gordon Edington

Project #: 14093.00  
 Sheet: \_\_\_\_\_  
 Date: 3/18/19  
 Date: 3/18/19

Alternative 1A - High-Frequency Service Between L-A and CPF 197 in Portland using Pan Am Corridor

| SEGMENT    | DESCRIPTION  | ESTIMATED<br>CONSTRUCTION<br>COST |                   |
|------------|--|-----------------------------------|-------------------|
| 1          | Pan Am Railways Freight Main Line Segment 1 - Lewiston to Danville Junction (with PTC)       | \$ 63,000,000                     | to \$ 77,000,000  |
| 2          | Pan Am Railways Freight Main Line Segment 2 - Danville Junction to Royal Junction (with PTC) | \$ 80,000,000                     | to \$ 97,000,000  |
| 3          | Pan Am Railways Freight Main Line Segment 3 - Royal Jct to CPF 197 (with PTC)                | \$ 46,000,000                     | to \$ 56,000,000  |
| SUBTOTAL = |  | \$ 189,000,000                    | to \$ 230,000,000 |

**SAY = \$ 189,000,000 to \$ 230,000,000**

Note: Misc. Items, Contingency and Design are included in the cost estimates for each segment.



Project: Lewiston-Auburn Passenger Rail Study  
 Description: Infrastructure Assessment: Alternative 1B - LA to Portland on SLA to Yarmouth Jct  
 Calculated By: Mike McDonough, Ian Stewardson  
 Checked By: Tim Bryant, Gordon Edington

Project #: 14093.00  
 Sheet: \_\_\_\_\_  
 Date: 3/18/19  
 Date: 3/18/19

Alternative 1B - High-Frequency Service Between L-A and CPF 197 in Portland using SLR to Yarmouth Junction

| SEGMENT | DESCRIPTION  | ESTIMATED<br>CONSTRUCTION<br>COST |                   |
|---------|--|-----------------------------------|-------------------|
| 1       | Pan Am Railways Freight Main Line Segment 1 - Lewiston to Danville Junction (with PTC) | \$ 63,000,000                     | to \$ 77,000,000  |
| 2       | St. Lawrence & Atlantic Main Line Segment 1 - Danville Junction to Yarmouth (with PTC) | \$ 87,000,000                     | to \$ 107,000,000 |
| 3       | Pan Am Railways Brunswick Branch Segment - Yarmouth Jct to Royal Jct (with PTC)        | \$ 11,000,000                     | to \$ 14,000,000  |
| 4       | Pan Am Railways Freight Main Line Segment 3 - Royal Jct to CPF 197 (with PTC)          | \$ 46,000,000                     | to \$ 56,000,000  |
|         |  | \$ 207,000,000                    | to \$ 254,000,000 |

**SAY = \$ 207,000,000 to \$ 254,000,000**

Note: Misc. Items, Contingency and Design are included in the cost estimates for each segment.





Project: Lewiston-Auburn Passenger Rail Study  
 Description: Infrastructure Assessment: Alternative 2B - LA to Portland via Back Cove on SLA  
 Calculated By: Mike McDonough, Ian Stewardson  
 Checked By: Tim Bryant, Gordon Edington

Project #: 14093.00  
 Sheet: \_\_\_\_\_  
 Date: 3/18/19  
 Date: 3/18/19

Alternative 2B - High-Frequency Service Between L-A and Ocean Gate using SLA Corridor

| SEGMENT | DESCRIPTION  | ESTIMATED<br>CONSTRUCTION<br>COST |                   |
|---------|--|-----------------------------------|-------------------|
| 1       | Pan Am Railways Freight Main Line Segment 1 - Lewiston to Danville Junction (with PTC) | \$ 63,000,000                     | to \$ 77,000,000  |
| 2       | St. Lawrence & Atlantic Main Line Segment 1 - Danville Junction to Yarmouth (with PTC) | \$ 87,000,000                     | to \$ 107,000,000 |
| 3       | St. Lawrence & Atlantic Main Line Segment 2 - Yarmouth to MP 1.7 (with PTC)            | \$ 49,000,000                     | to \$ 59,000,000  |
| 4       | St. Lawrence & Atlantic Main Line Segment 3 - MP 1.7 to Ocean Gate (with PTC)          | \$ 42,000,000                     | to \$ 52,000,000  |
|         |  | \$ 241,000,000                    | to \$ 295,000,000 |

**SAY = \$ 241,000,000 to \$ 295,000,000**

Note: Misc. Items, Contingency and Design are included in the cost estimates for each segment.



Project: Lewiston-Auburn Passenger Rail Study  
 Description: Infrastructure Assessment: Alternative 4 - Rail Conn L-A to Downeaster at Yarmouth Jct on SLA  
 Calculated By: Mike McDonough, Ian Stewardson  
 Checked By: Tim Bryant, Gordon Edington

Project #: 14093.00  
 Sheet: \_\_\_\_\_  
 Date: 3/18/19  
 Date: 3/18/19

Alternative 4 - High-Frequency Rail Shuttle Connecting L-A to Downeaster at Yarmouth Junction using St. Lawrence & Atlantic Corridor

| SEGMENT | DESCRIPTION  | ESTIMATED<br>CONSTRUCTION<br>COST |                   |
|---------|--|-----------------------------------|-------------------|
| 1       | Pan Am Railways Freight Main Line Segment 1 - Lewiston to Danville Junction (with PTC) | \$ 63,000,000                     | to \$ 77,000,000  |
| 2       | St. Lawrence & Atlantic Main Line Segment 1 - Danville Junction to Yarmouth (with PTC) | \$ 87,000,000                     | to \$ 107,000,000 |
|         |  | \$ 150,000,000                    | to \$ 184,000,000 |

**SAY = \$ 150,000,000 to \$ 184,000,000**

Note: Misc. Items, Contingency and Design are included in the cost estimates for each segment.



Project: Lewiston-Auburn Passenger Rail Study  
 Description: Infrastructure Assessment: Alternative 5 - Rail Conn L-A to Downeaster at Royal Jct on PAR  
 Calculated By: Mike McDonough, Ian Stewardson  
 Checked By: Tim Bryant, Gordon Edington

Project #: 14093.00  
 Sheet: \_\_\_\_\_  
 Date: 3/18/19  
 Date: 3/18/19

Alternative 5 - High-Frequency Rail Shuttle Connecting L-A to Downeaster at Royal Junction using Pan Am Corridor

| SEGMENT | DESCRIPTION  | ESTIMATED<br>CONSTRUCTION<br>COST |                   |
|---------|--|-----------------------------------|-------------------|
| 1       | Pan Am Railways Freight Main Line Segment 1 - Lewiston to Danville Junction (with PTC)       | \$ 63,000,000                     | to \$ 77,000,000  |
| 2       | Pan Am Railways Freight Main Line Segment 2 - Danville Junction to Royal Junction (with PTC) | \$ 80,000,000                     | to \$ 97,000,000  |
|         |  | \$ 143,000,000                    | to \$ 174,000,000 |

**SAY = \$ 143,000,000 to \$ 174,000,000**

Note: Misc. Items, Contingency and Design are included in the cost estimates for each segment.



Project: Lewiston-Auburn Passenger Rail Study  
 Description: Infrastructure Assessment: PAR Freight Main Line Segment 1 - Lewiston to Danville Jct  
 Calculated By: Mike McDonough, Ian Stewardson  
 Checked By: Tim Bryant, Gordon Edington

Project #: 14093.00  
 Sheet: \_\_\_\_\_  
 Date: 3/18/19  
 Date: 3/18/19

Pan Am Railways Freight Main Line Segment 1A - Lewiston to Danville Junction (with all PTC)

| ITEM    | DESCRIPTION                                 | ESTIMATED CONSTRUCTION COST |
|---------|---|-----------------------------|
| 1       | Track & Right-of-Way                        | \$ 12,860,000               |
| 2       | Turnouts                                    | \$ 2,350,000                |
| 3       | Grade Crossing Improvements                 | \$ 3,970,000                |
| 4       | Farm Crossing Improvements                  | \$ -                        |
| 5       | Undergrade Bridge Improvements              | \$ 5,600,000                |
| 6       | Culvert Improvements                        | \$ 300,000                  |
| 7       | Overhead Bridge Improvements                | \$ 900,000                  |
| 8       | Communications & Signal System Improvements | \$ 20,740,000               |
| 9       | Station Platforms & Station Buildings       | \$ 3,500,000                |
| TOTAL = |   | \$ 50,220,000               |

MISC. ITEMS (10%) = \$ 5,022,000  
 SUBTOTAL = \$ 55,242,000

CONTINGENCY (15%) = \$ 8,286,300  
 SUBTOTAL = \$ 63,528,300

DESIGN, PERMITTING AND CONSTRUCTION ENGINEERING (10%) = \$ 6,352,830  
 TOTAL = \$ 69,881,130

**SAY = \$ 63,000,000 to \$ 77,000,000**



Project: Lewiston-Auburn Passenger Rail Study  
 Description: Infrastructure Assessment: PAR Freight Main Line Segment 2 - Danville Jct to Royal Jct  
 Calculated By: Mike McDonough, Ian Stewardson  
 Checked By: Tim Bryant, Gordon Edington

Project #: 14093.00  
 Sheet: \_\_\_\_\_  
 Date: 3/18/19  
 Date: 3/18/19

Pan Am Railways Freight Main Line Segment 2A - Danville Junction to Royal Junction (with all PTC)

| ITEM    | DESCRIPTION                                 | ESTIMATED CONSTRUCTION COST |
|---------|---|-----------------------------|
| 1       | Track & Right-of-Way                        | \$ 25,070,000               |
| 2       | Turnouts                                    | \$ 1,650,000                |
| 3       | Grade Crossing Improvements                 | \$ 1,780,000                |
| 4       | Farm Crossing Improvements                  | \$ 300,000                  |
| 5       | Undergrade Bridge Improvements              | \$ 610,000                  |
| 6       | Culvert Improvements                        | \$ 1,100,000                |
| 7       | Overhead Bridge Improvements                | \$ 500,000                  |
| 8       | Communications & Signal System Improvements | \$ 30,800,000               |
| 9       | Station Platforms & Station Buildings       | \$ 1,500,000                |
| TOTAL = |   | \$ 63,310,000               |

MISC. ITEMS (10%) = \$ 6,331,000  
 SUBTOTAL = \$ 69,641,000

CONTINGENCY (15%) = \$ 10,446,150  
 SUBTOTAL = \$ 80,087,150

DESIGN, PERMITTING AND CONSTRUCTION ENGINEERING (10%) = \$ 8,008,715  
 TOTAL = \$ 88,095,865

**SAY = \$ 80,000,000 to \$ 97,000,000**



Project: Lewiston-Auburn Passenger Rail Study  
 Description: Infrastructure Assessment: PAR Freight Main Line Segment 3 - Royal Jct to Portland on FML  
 Calculated By: Mike McDonough, Ian Stewardson  
 Checked By: Tim Bryant, Gordon Edington

Project #: 14093.00  
 Sheet: \_\_\_\_\_  
 Date: 3/18/19  
 Date: 3/18/19

Pan Am Railways Freight Main Line Segment 3A - Royal Jct to CPF 197 (PTC Required)

| ITEM    | DESCRIPTION                                 | ESTIMATED CONSTRUCTION COST |
|---------|---|-----------------------------|
| 1       | Track & Right-of-Way                        | \$ 7,070,000                |
| 2       | Turnouts                                    | \$ 750,000                  |
| 3       | Grade Crossing Improvements                 | \$ 2,570,000                |
| 4       | Farm Crossing Improvements                  | \$ 10,000                   |
| 5       | Undergrade Bridge Improvements              | \$ 1,050,000                |
| 6       | Culvert Improvements                        | \$ -                        |
| 7       | Overhead Bridge Improvements                | \$ -                        |
| 8       | Communications & Signal System Improvements | \$ 24,980,000               |
| 9       | Station Platforms & Station Buildings       | \$ -                        |
| TOTAL = |   | \$ 36,430,000               |

MISC. ITEMS (10%) = \$ 3,643,000  
 SUBTOTAL = \$ 40,073,000

CONTINGENCY (15%) = \$ 6,010,950  
 SUBTOTAL = \$ 46,083,950

DESIGN, PERMITTING AND CONSTRUCTION ENGINEERING (10%) = \$ 4,608,395  
 TOTAL = \$ 50,692,345

**SAY = \$ 46,000,000 to \$ 56,000,000**



Project: Lewiston-Auburn Passenger Rail Study  
 Description: Infrastructure Assessment: PAR Brunswick Branch - Yarmouth Jct to Royal Jct  
 Calculated By: Mike McDonough, Ian Stewardson  
 Checked By: Tim Bryant, Gordon Edington

Project #: 14093.00  
 Sheet: \_\_\_\_\_  
 Date: 3/18/19  
 Date: 3/18/19

Pan Am Railways Brunswick Branch - Yarmouth Jct to Royal Jct (PTC Required)

| ITEM    | DESCRIPTION                                 | ESTIMATED CONSTRUCTION COST |
|---------|---|-----------------------------|
| 1       | Track & Right-of-Way                        | \$ 3,560,000                |
| 2       | Turnouts                                    | \$ 600,000                  |
| 3       | Grade Crossing Improvements                 | \$ 310,000                  |
| 4       | Farm Crossing Improvements                  | \$ -                        |
| 5       | Undergrade Bridge Improvements              | \$ 110,000                  |
| 6       | Culvert Improvements                        | \$ -                        |
| 7       | Overhead Bridge Improvements                | \$ -                        |
| 8       | Communications & Signal System Improvements | \$ 4,000,000                |
| 9       | Station Platforms & Station Buildings       | \$ -                        |
| TOTAL = |   | \$ 8,580,000                |

MISC. ITEMS (10%) = \$ 858,000  
 SUBTOTAL = \$ 9,438,000

CONTINGENCY (15%) = \$ 1,415,700  
 SUBTOTAL = \$ 10,853,700

DESIGN, PERMITTING AND CONSTRUCTION ENGINEERING (10%) = \$ 1,085,370  
 TOTAL = \$ 11,939,070

**SAY = \$ 11,000,000 to \$ 14,000,000**



Project: Lewiston-Auburn Passenger Rail Study  
 Description: Infrastructure Assessment: SLA Main Line Segment 1 - Danville Jct to Yarmouth  
 Calculated By: Mike McDonough, Ian Stewardson  
 Checked By: Tim Bryant, Gordon Edington

Project #: 14093.00  
 Sheet: \_\_\_\_\_  
 Date: 3/18/19  
 Date: 3/18/19

St. Lawrence & Atlantic Main Line Segment 1A - Danville Junction to Yarmouth (all PTC)

| ITEM    | DESCRIPTION                                 | ESTIMATED CONSTRUCTION COST |
|---------|---|-----------------------------|
| 1       | Track & Right-of-Way                        | \$ 25,380,000               |
| 2       | Turnouts                                    | \$ 1,370,000                |
| 3       | Grade Crossing Improvements                 | \$ 5,700,000                |
| 4       | Farm Crossing Improvements                  | \$ 230,000                  |
| 5       | Undergrade Bridge Improvements              | \$ 3,980,000                |
| 6       | Culvert Improvements                        | \$ 1,300,000                |
| 7       | Overhead Bridge Improvements                | \$ -                        |
| 8       | Communications & Signal System Improvements | \$ 29,800,000               |
| 9       | Station Platforms & Station Buildings       | \$ 1,500,000                |
| TOTAL = |   | \$ 69,260,000               |

MISC. ITEMS (10%) = \$ 6,926,000  
 SUBTOTAL = \$ 76,186,000

CONTINGENCY (15%) = \$ 11,427,900  
 SUBTOTAL = \$ 87,613,900

DESIGN, PERMITTING AND CONSTRUCTION ENGINEERING (10%) = \$ 8,761,390  
 TOTAL = \$ 96,375,290

**SAY = \$ 87,000,000 to \$ 107,000,000**





Project: Lewiston-Auburn Passenger Rail Study  
 Description: Infrastructure Assessment: SLA Main Line Segment 2 - Yarmouth to MP 1.7  
 Calculated By: Mike McDonough, Ian Stewardson  
 Checked By: Tim Bryant, Gordon Edington

Project #: 14093.00  
 Sheet: \_\_\_\_\_  
 Date: 3/18/19  
 Date: 3/18/19

St. Lawrence & Atlantic Main Line Segment 2A - Yarmouth to MP 1.7 (with all PTC)

| ITEM    | DESCRIPTION                                 | ESTIMATED CONSTRUCTION COST |
|---------|---|-----------------------------|
| 1       | Track & Right-of-Way                        | \$ 11,760,000               |
| 2       | Turnouts                                    | \$ 1,060,000                |
| 3       | Grade Crossing Improvements                 | \$ 3,710,000                |
| 4       | Farm Crossing Improvements                  | \$ 230,000                  |
| 5       | Undergrade Bridge Improvements              | \$ 200,000                  |
| 6       | Culvert Improvements                        | \$ 700,000                  |
| 7       | Overhead Bridge Improvements                | \$ -                        |
| 8       | Communications & Signal System Improvements | \$ 20,880,000               |
| 9       | Station Platforms & Station Buildings       | \$ -                        |
| TOTAL = |   | \$ 38,540,000               |

MISC. ITEMS (10%) = \$ 3,854,000  
 SUBTOTAL = \$ 42,394,000

CONTINGENCY (15%) = \$ 6,359,100  
 SUBTOTAL = \$ 48,753,100

DESIGN, PERMITTING AND CONSTRUCTION ENGINEERING (10%) = \$ 4,875,310  
 TOTAL = \$ 53,628,410

**SAY = \$ 49,000,000 to \$ 59,000,000**



Project: Lewiston-Auburn Passenger Rail Study  
 Description: Infrastructure Assessment: SLA Freight Main Line Segment 3 - MP 1.7 to Ocean Gate  
 Calculated By: Mike McDonough, Ian Stewardson  
 Checked By: Tim Bryant, Gordon Edington

Project #: 14093.00  
 Sheet: \_\_\_\_\_  
 Date: 3/18/19  
 Date: 3/18/19

St. Lawrence & Atlantic Main Line Segment 3A - MP 1.7 to Ocean Gate (with all PTC)

| ITEM    | DESCRIPTION                                 | ESTIMATED CONSTRUCTION COST |
|---------|---|-----------------------------|
| 1       | Track & Right-of-Way                        | \$ 4,500,000                |
| 2       | Turnouts                                    | \$ 150,000                  |
| 3       | Grade Crossing Improvements                 | \$ 1,750,000                |
| 4       | Farm Crossing Improvements                  | \$ -                        |
| 5       | Undergrade Bridge Improvements              | \$ 20,000,000               |
| 6       | Culvert Improvements                        | \$ -                        |
| 7       | Overhead Bridge Improvements                | \$ -                        |
| 8       | Communications & Signal System Improvements | \$ 4,000,000                |
| 9       | Station Platforms & Station Buildings       | \$ 3,000,000                |
| TOTAL = |   | \$ 33,400,000               |

MISC. ITEMS (10%) = \$ 3,340,000  
 SUBTOTAL = \$ 36,740,000

CONTINGENCY (15%) = \$ 5,511,000  
 SUBTOTAL = \$ 42,251,000

DESIGN, PERMITTING AND CONSTRUCTION ENGINEERING (10%) = \$ 4,225,100  
 TOTAL = \$ 46,476,100

**SAY = \$ 42,000,000 to \$ 52,000,000**

# Appendix D: O&M Cost Estimate Spreadsheets

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**Lewiston-Auburn Passenger Rail Service Plan  
Alignment 1A Operating and Maintenance Cost Estimate**

**Proposed Service Inputs for Alignment 1A**

|  |      |
|--|------|
| Number of Weekday One Way Trips  | 28   |
| Number of Weekend One Way Trips  | 16   |
| One Way Trip Run Time with Turnaround/Recovery (Min)                           | 68   |
| Total Weekdays of Service in a Year  | 261  |
| Total Weekends/Holidays of Service in a Year                                   | 104  |
| One Way Revenue Miles  | 35.9 |
| One Way Revenue Miles in Pan Am Territory                                      | 35.9 |
| One Way Revenue Miles in Exclusive Territory                                   | 0    |
| Track Miles (Sidings + Main Line Track)  | 70.4 |
| Track Miles in Pan Am Territory  | 70.4 |
| Track Miles in Exclusive Territory   | 0    |
| # of Passenger Cars (coaches)  | 2    |
| Total Number of Cars in Train (Assumes 1 locomotive, 1 coach, 1 coach cab car) | 3    |
| Total Number of Trains in Fleet (Number needed for service + 1 spare)          | 5    |
| Ridership Estimate in 2025 (High End)  | 800  |

**Calculated Service Inputs for Alignment 1A**

|   |               |
|---|---------------|
| Number of Rail Vehicles (locomotives, coaches, and coach cab cars)                      | 15            |
| Annual Train Revenue Hours  | 10,168.27     |
| Annual Passenger Car Revenue Hours  | 20,336.53     |
| Annual Train Revenue Miles  | 322,094.80    |
| Annual Train Revenue Miles in Pan Am Territory  | 322,094.80    |
| Annual Passenger Car Revenue Miles  | 644,189.60    |
| Annual Passenger Miles (Assume all passenger ride end to end for conservative estimate) | 10,482,800.00 |

**Alignment 1A - NNEPRA Operated Service Estimated O&M Costs (Low End of Estimate)**

| Vehicle Operations                    | Unit Cost       | Unit   | Quantity      | Approximate Cost        | Allocated Contingency | Approximate Cost with Contingency |
|---------------------------------------|-----------------|--|---------------|-------------------------|-----------------------|-----------------------------------|
| Train & Engine Crew Labor             | \$ 269.00       | per train revenue hour                         | 10,168        | \$ 2,735,263.73         | 10%                   | \$ 3,008,790.11                   |
| On Board Technology                   | \$ 50,000.00    | lump sum                                       | 1             | \$ 50,000.00            | 10%                   | \$ 55,000.00                      |
| Reservations & Call Centers           | \$ 250,000.00   | lump sum                                       | 1             | \$ 250,000.00           | 10%                   | \$ 275,000.00                     |
| Regional/Local Police                 | \$ 132,648.00   | lump sum                                       | 1             | \$ 132,648.00           | 10%                   | \$ 145,912.80                     |
|                                       | \$ 0.005        | per passenger mile                             | 10,482,800.00 | \$ 52,414.00            | 10%                   | \$ 57,655.40                      |
| Insurance                             | \$ 0.01         | per passenger mile                             | 10,482,800    | \$ 104,828.00           | 10%                   | \$ 115,310.80                     |
| Performance Payment                   | \$ 350,000.00   | lump sum                                       | 1             | \$ 350,000.00           | 10%                   | \$ 385,000.00                     |
| Fuel                                  | \$ 4.50         | per train revenue mile                         | 322,095       | \$ 1,449,426.60         | 10%                   | \$ 1,594,369.26                   |
| <b>Subtotal:</b>                      |                 |  |               | <b>\$ 5,124,580.33</b>  |                       | <b>\$ 5,637,038.37</b>            |
| <b>Vehicle Maintenance</b>            |                 |  |               |                         |                       |                                   |
| Amtrak Capital Equipment Charge       | \$ 182,197.71   | per vehicle (locomotive, coach, coach cab car) | 15            | \$ 2,732,965.65         | 10%                   | \$ 3,006,262.22                   |
| Car & Locomotive MoE                  | \$ 112,082.00   | per vehicle (locomotive, coach, coach cab car) | 15            | \$ 1,681,230.00         | 10%                   | \$ 1,849,353.00                   |
| Turnaround                            | \$ 1,271,000.00 | lump sum                                       | 1             | \$ 1,271,000.00         | 10%                   | \$ 1,398,100.00                   |
| <b>Subtotal:</b>                      |                 |  |               | <b>\$ 5,685,195.65</b>  |                       | <b>\$ 6,253,715.22</b>            |
| <b>Non-Vehicle Maintenance</b>        |                 |  |               |                         |                       |                                   |
| Maintenance Facility Upkeep           | \$ 250,000.00   | lump sum                                       | 1             | \$ 250,000.00           | 10%                   | \$ 275,000.00                     |
| Shared Track with Pan Am              |                 |  |               |                         |                       |                                   |
| Track Maintenance                     | \$ 2.80         | per train revenue mile in Pan Am territory     | 322,095       | \$ 901,865.44           | 25%                   | \$ 1,127,331.80                   |
| Track Inspection                      | \$ 200,000.00   | lump sum                                       | 1             | \$ 200,000.00           | 25%                   | \$ 250,000.00                     |
| Tie Replacement Program               | \$ 7,476.64     | per one way revenue mile in Pan Am territory   | 35.9          | \$ 268,411.38           | 25%                   | \$ 335,514.22                     |
| Exclusive Track                       |                 |  |               |                         |                       |                                   |
| Track Maintenance and Inspection      | \$ 70,029.00    | per track mile in exclusive territory          | 0             | \$ -                    | 10%                   | \$ -                              |
| <b>Subtotal:</b>                      |                 |  |               | <b>\$ 1,620,276.82</b>  |                       | <b>\$ 1,987,846.02</b>            |
| <b>General Administration</b>         |                 |  |               |                         |                       |                                   |
| Marketing                             | \$ 300,000.00   | lump sum                                       | 1             | \$ 300,000.00           | 10%                   | \$ 330,000.00                     |
| G&A (NNEPRA)                          | 3.30%           | of operations and maintenance cost             |               | \$ 356,722.61           | 10%                   | \$ 392,394.87                     |
| <b>Subtotal:</b>                      |                 |  |               | <b>\$ 656,722.61</b>    |                       | <b>\$ 722,394.87</b>              |
| <b>Total Estimated O&amp;M Costs:</b> |                 |  |               | <b>\$ 13,086,775.41</b> |                       | <b>\$ 14,600,994.47</b>           |

**Alignment 1A - Contractor Operated Service Estimated O&M Costs (High End of Estimate)**

| Vehicle Operations                    | Unit Cost       | Unit   | Quantity      | Approximate Cost        | Allocated Contingency | Approximate Cost with Contingency |
|---------------------------------------|-----------------|--|---------------|-------------------------|-----------------------|-----------------------------------|
| Train & Engine Crew Labor             | \$ 269.00       | per train revenue hour                         | 10,168        | \$ 2,735,263.73         | 10%                   | \$ 3,008,790.11                   |
| On Board Technology                   | \$ 50,000.00    | lump sum                                       | 1             | \$ 50,000.00            | 10%                   | \$ 55,000.00                      |
| Reservations & Call Centers           | \$ 250,000.00   | lump sum                                       | 1             | \$ 250,000.00           | 10%                   | \$ 275,000.00                     |
| Regional/Local Police                 | \$ 132,648.00   | lump sum                                       | 1             | \$ 132,648.00           | 10%                   | \$ 145,912.80                     |
|                                       | \$ 0.005        | per passenger mile                             | 10,482,800.00 | \$ 52,414.00            | 10%                   | \$ 57,655.40                      |
| Insurance                             | \$ 0.01         | per passenger mile                             | 10,482,800    | \$ 104,828.00           | 10%                   | \$ 115,310.80                     |
| Performance Payment                   | \$ 350,000.00   | lump sum                                       | 1             | \$ 350,000.00           | 10%                   | \$ 385,000.00                     |
| Fuel                                  | \$ 4.50         | per train revenue mile                         | 322,095       | \$ 1,449,426.60         | 10%                   | \$ 1,594,369.26                   |
| <b>Subtotal:</b>                      |                 |  |               | <b>\$ 5,124,580.33</b>  |                       | <b>\$ 5,637,038.37</b>            |
| <b>Vehicle Maintenance</b>            |                 |  |               |                         |                       |                                   |
| Amtrak Capital Equipment Charge       | \$ 182,197.71   | per vehicle (locomotive, coach, coach cab car) | 15            | \$ 2,732,965.65         | 10%                   | \$ 3,006,262.22                   |
| Car & Locomotive MoE                  | \$ 112,082.00   | per vehicle (locomotive, coach, coach cab car) | 15            | \$ 1,681,230.00         | 10%                   | \$ 1,849,353.00                   |
| Turnaround                            | \$ 1,271,000.00 | lump sum                                       | 1             | \$ 1,271,000.00         | 10%                   | \$ 1,398,100.00                   |
| <b>Subtotal:</b>                      |                 |  |               | <b>\$ 5,685,195.65</b>  |                       | <b>\$ 6,253,715.22</b>            |
| <b>Non-Vehicle Maintenance</b>        |                 |  |               |                         |                       |                                   |
| Maintenance Facility Upkeep           | \$ 250,000.00   | lump sum                                       | 1             | \$ 250,000.00           | 10%                   | \$ 275,000.00                     |
| Shared Track with Pan Am              |                 |  |               |                         |                       |                                   |
| Track Maintenance                     | \$ 2.80         | per train revenue mile in Pan Am territory     | 322,095       | \$ 901,865.44           | 25%                   | \$ 1,127,331.80                   |
| Track Inspection                      | \$ 200,000.00   | lump sum                                       | 1             | \$ 200,000.00           | 25%                   | \$ 250,000.00                     |
| Tie Replacement Program               | \$ 7,476.64     | per one way revenue mile in Pan Am territory   | 35.9          | \$ 268,411.38           | 25%                   | \$ 335,514.22                     |
| Exclusive Track                       |                 |  |               |                         |                       |                                   |
| Track Maintenance and Inspection      | \$ 70,029.00    | per track mile in exclusive territory          | 0             | \$ -                    | 10%                   | \$ -                              |
| <b>Subtotal:</b>                      |                 |  |               | <b>\$ 1,620,276.82</b>  |                       | <b>\$ 1,987,846.02</b>            |
| <b>General Administration</b>         |                 |  |               |                         |                       |                                   |
| Marketing                             | \$ 300,000.00   | lump sum                                       | 1             | \$ 300,000.00           | 10%                   | \$ 330,000.00                     |
| G&A (Contractor)                      | 33.30%          | of operations and maintenance cost             |               | \$ 3,599,655.40         | 10%                   | \$ 3,959,620.94                   |
| <b>Subtotal:</b>                      |                 |  |               | <b>\$ 3,899,655.40</b>  |                       | <b>\$ 4,289,620.94</b>            |
| <b>Total Estimated O&amp;M Costs:</b> |                 |  |               | <b>\$ 16,329,708.20</b> |                       | <b>\$ 18,168,220.54</b>           |

|  |                  |
|--|------------------|
| <b>Expected Range of O&amp;M Costs for this Alignment:</b> |                  |
| Low End  | \$ 14,600,994.47 |
| High End   | \$ 18,168,220.54 |
| Say: \$15 to \$19 million                                  |                  |

**Lewiston-Auburn Passenger Rail Service Plan  
Alignment 1B Operating and Maintenance Cost Estimate**

**Proposed Service Inputs for Alignment 1B**

|  |      |
|--|------|
| Number of Weekday One Way Trips  | 28   |
| Number of Weekend One Way Trips  | 16   |
| One Way Trip Run Time with Turnaround/Recovery (Min)                           | 68   |
| Total Weekdays of Service in a Year  | 261  |
| Total Weekends/Holidays of Service in a Year                                   | 104  |
| One Way Revenue Miles  | 36.3 |
| One Way Revenue Miles in Pan Am Territory                                      | 21.7 |
| One Way Revenue Miles in Exclusive Territory                                   | 14.6 |
| Track Miles (Sidings + Main Line Track)  | 64.3 |
| Track Miles in Pan Am Territory  | 42   |
| Track Miles in Exclusive Territory   | 22.3 |
| # of Passenger Cars (coaches)  | 2    |
| Total Number of Cars in Train (Assumes 1 locomotive, 1 coach, 1 coach cab car) | 3    |
| Total Number of Trains in Fleet (Number needed for service + 1 spare)          | 5    |
| Ridership Estimate in 2025 (High End)  | 800  |

**Calculated Service Inputs for Alignment 1B**

|   |               |
|---|---------------|
| Number of Rail Vehicles (locomotives, coaches, and coach cab cars)                      | 15            |
| Annual Train Revenue Hours  | 10,168.27     |
| Annual Passenger Car Revenue Hours  | 20,336.53     |
| Annual Train Revenue Miles  | 325,683.60    |
| Annual Train Revenue Miles in Pan Am Territory  | 194,692.40    |
| Annual Passenger Car Revenue Miles  | 651,367.20    |
| Annual Passenger Miles (Assume all passenger ride end to end for conservative estimate) | 10,599,600.00 |

**Alignment 1B - NNEPRA Operated Service Estimated O&M Costs (Low End of Estimate)**

| Vehicle Operations                    | Unit Cost       | Unit   | Quantity      | Approximate Cost        | Allocated Contingency | Approximate Cost with Contingency |
|---------------------------------------|-----------------|--|---------------|-------------------------|-----------------------|-----------------------------------|
| Train & Engine Crew Labor             | \$ 269.00       | per train revenue hour                         | 10,168        | \$ 2,735,263.73         | 10%                   | \$ 3,008,790.11                   |
| On Board Technology                   | \$ 50,000.00    | lump sum                                       | 1             | \$ 50,000.00            | 10%                   | \$ 55,000.00                      |
| Reservations & Call Centers           | \$ 250,000.00   | lump sum                                       | 1             | \$ 250,000.00           | 10%                   | \$ 275,000.00                     |
| Regional/Local Police                 | \$ 132,648.00   | lump sum                                       | 1             | \$ 132,648.00           | 10%                   | \$ 145,912.80                     |
|                                       | \$ 0.005        | per passenger mile                             | 10,599,600.00 | \$ 52,998.00            | 10%                   | \$ 58,297.80                      |
| Insurance                             | \$ 0.01         | per passenger mile                             | 10,599,600    | \$ 105,996.00           | 10%                   | \$ 116,595.60                     |
| Performance Payment                   | \$ 350,000.00   | lump sum                                       | 1             | \$ 350,000.00           | 10%                   | \$ 385,000.00                     |
| Fuel                                  | \$ 4.50         | per train revenue mile                         | 325,684       | \$ 1,465,576.20         | 10%                   | \$ 1,612,133.82                   |
| <b>Subtotal:</b>                      |                 |  |               | <b>\$ 5,142,481.93</b>  |                       | <b>\$ 5,656,730.13</b>            |
| <b>Vehicle Maintenance</b>            |                 |  |               |                         |                       |                                   |
| Amtrak Capital Equipment Charge       | \$ 182,197.71   | per vehicle (locomotive, coach, coach cab car) | 15            | \$ 2,732,965.65         | 10%                   | \$ 3,006,262.22                   |
| Car & Locomotive MoE                  | \$ 112,082.00   | per vehicle (locomotive, coach, coach cab car) | 15            | \$ 1,681,230.00         | 10%                   | \$ 1,849,353.00                   |
| Turnaround                            | \$ 1,271,000.00 | lump sum                                       | 1             | \$ 1,271,000.00         | 10%                   | \$ 1,398,100.00                   |
| <b>Subtotal:</b>                      |                 |  |               | <b>\$ 5,685,195.65</b>  |                       | <b>\$ 6,253,715.22</b>            |
| <b>Non-Vehicle Maintenance</b>        |                 |  |               |                         |                       |                                   |
| Maintenance Facility Upkeep           | \$ 250,000.00   | lump sum                                       | 1             | \$ 250,000.00           | 10%                   | \$ 275,000.00                     |
| Shared Track with Pan Am              |                 |  |               |                         |                       |                                   |
| Track Maintenance                     | \$ 2.80         | per train revenue mile in Pan Am territory     | 194,692       | \$ 545,138.72           | 25%                   | \$ 681,423.40                     |
| Track Inspection                      | \$ 200,000.00   | lump sum                                       | 1             | \$ 200,000.00           | 25%                   | \$ 250,000.00                     |
| Tie Replacement Program               | \$ 7,476.64     | per one way revenue mile in Pan Am territory   | 21.7          | \$ 162,243.09           | 25%                   | \$ 202,803.86                     |
| Exclusive Track                       |                 |  |               |                         |                       |                                   |
| Track Maintenance and Inspection      | \$ 70,029.00    | per track mile in exclusive territory          | 22.3          | \$ 1,561,646.70         | 10%                   | \$ 1,717,811.37                   |
| <b>Subtotal:</b>                      |                 |  |               | <b>\$ 2,719,028.51</b>  |                       | <b>\$ 3,127,038.63</b>            |
| <b>General Administration</b>         |                 |  |               |                         |                       |                                   |
| Marketing                             | \$ 300,000.00   | lump sum                                       | 1             | \$ 300,000.00           | 10%                   | \$ 330,000.00                     |
| G&A (NNEPRA)                          | 3.30%           | of operations and maintenance cost             |               | \$ 357,313.36           | 10%                   | \$ 393,044.70                     |
| <b>Subtotal:</b>                      |                 |  |               | <b>\$ 657,313.36</b>    |                       | <b>\$ 723,044.70</b>              |
| <b>Total Estimated O&amp;M Costs:</b> |                 |  |               | <b>\$ 14,204,019.45</b> |                       | <b>\$ 15,760,528.67</b>           |

**Alignment 1B - Contractor Operated Service Estimated O&M Costs (High End of Estimate)**

| Vehicle Operations                    | Unit Cost       | Unit   | Quantity      | Approximate Cost        | Allocated Contingency | Approximate Cost with Contingency |
|---------------------------------------|-----------------|--|---------------|-------------------------|-----------------------|-----------------------------------|
| Train & Engine Crew Labor             | \$ 269.00       | per train revenue hour                         | 10,168        | \$ 2,735,263.73         | 10%                   | \$ 3,008,790.11                   |
| On Board Technology                   | \$ 50,000.00    | lump sum                                       | 1             | \$ 50,000.00            | 10%                   | \$ 55,000.00                      |
| Reservations & Call Centers           | \$ 250,000.00   | lump sum                                       | 1             | \$ 250,000.00           | 10%                   | \$ 275,000.00                     |
| Regional/Local Police                 | \$ 132,648.00   | lump sum                                       | 1             | \$ 132,648.00           | 10%                   | \$ 145,912.80                     |
|                                       | \$ 0.005        | per passenger mile                             | 10,599,600.00 | \$ 52,998.00            | 10%                   | \$ 58,297.80                      |
| Insurance                             | \$ 0.01         | per passenger mile                             | 10,599,600    | \$ 105,996.00           | 10%                   | \$ 116,595.60                     |
| Performance Payment                   | \$ 350,000.00   | lump sum                                       | 1             | \$ 350,000.00           | 10%                   | \$ 385,000.00                     |
| Fuel                                  | \$ 4.50         | per train revenue mile                         | 325,684       | \$ 1,465,576.20         | 10%                   | \$ 1,612,133.82                   |
| <b>Subtotal:</b>                      |                 |  |               | <b>\$ 5,142,481.93</b>  |                       | <b>\$ 5,656,730.13</b>            |
| <b>Vehicle Maintenance</b>            |                 |  |               |                         |                       |                                   |
| Amtrak Capital Equipment Charge       | \$ 182,197.71   | per vehicle (locomotive, coach, coach cab car) | 15            | \$ 2,732,965.65         | 10%                   | \$ 3,006,262.22                   |
| Car & Locomotive MoE                  | \$ 112,082.00   | per vehicle (locomotive, coach, coach cab car) | 15            | \$ 1,681,230.00         | 10%                   | \$ 1,849,353.00                   |
| Turnaround                            | \$ 1,271,000.00 | lump sum                                       | 1             | \$ 1,271,000.00         | 10%                   | \$ 1,398,100.00                   |
| <b>Subtotal:</b>                      |                 |  |               | <b>\$ 5,685,195.65</b>  |                       | <b>\$ 6,253,715.22</b>            |
| <b>Non-Vehicle Maintenance</b>        |                 |  |               |                         |                       |                                   |
| Maintenance Facility Upkeep           | \$ 250,000.00   | lump sum                                       | 1             | \$ 250,000.00           | 10%                   | \$ 275,000.00                     |
| Shared Track with Pan Am              |                 |  |               |                         |                       |                                   |
| Track Maintenance                     | \$ 2.80         | per train revenue mile in Pan Am territory     | 194,692       | \$ 545,138.72           | 25%                   | \$ 681,423.40                     |
| Track Inspection                      | \$ 200,000.00   | lump sum                                       | 1             | \$ 200,000.00           | 25%                   | \$ 250,000.00                     |
| Tie Replacement Program               | \$ 7,476.64     | per one way revenue mile in Pan Am territory   | 21.7          | \$ 162,243.09           | 25%                   | \$ 202,803.86                     |
| Exclusive Track                       |                 |  |               |                         |                       |                                   |
| Track Maintenance and Inspection      | \$ 70,029.00    | per track mile in exclusive territory          | 22.3          | \$ 1,561,646.70         | 10%                   | \$ 1,717,811.37                   |
| <b>Subtotal:</b>                      |                 |  |               | <b>\$ 2,719,028.51</b>  |                       | <b>\$ 3,127,038.63</b>            |
| <b>General Administration</b>         |                 |  |               |                         |                       |                                   |
| Marketing                             | \$ 300,000.00   | lump sum                                       | 1             | \$ 300,000.00           | 10%                   | \$ 330,000.00                     |
| G&A (Contractor)                      | 33.30%          | of operations and maintenance cost             |               | \$ 3,605,616.64         | 10%                   | \$ 3,966,178.30                   |
| <b>Subtotal:</b>                      |                 |  |               | <b>\$ 3,905,616.64</b>  |                       | <b>\$ 4,296,178.30</b>            |
| <b>Total Estimated O&amp;M Costs:</b> |                 |  |               | <b>\$ 17,452,322.73</b> |                       | <b>\$ 19,333,662.27</b>           |

|  |                  |
|--|------------------|
| <b>Expected Range of O&amp;M Costs for this Alignment:</b> |                  |
| Low End  | \$ 15,760,528.67 |
| High End   | \$ 19,333,662.27 |
| Say: \$16 to \$20 million                                  |                  |

**Lewiston-Auburn Passenger Rail Service Plan  
Alignment 2B Operating and Maintenance Cost Estimate**

**Proposed Service Inputs for Alignment 2B**

|  |      |
|--|------|
| Number of Weekday One Way Trips  | 30   |
| Number of Weekend One Way Trips  | 18   |
| One Way Trip Run Time with Turnaround/Recovery (Min)                           | 63   |
| Total Weekdays of Service in a Year  | 261  |
| Total Weekends/Holidays of Service in a Year                                   | 104  |
| One Way Revenue Miles  | 33.7 |
| One Way Revenue Miles in Pan Am Territory                                      | 7.1  |
| One Way Revenue Miles in Exclusive Territory                                   | 26.6 |
| Track Miles (Sidings + Main Line Track)  | 54.9 |
| Track Miles in Pan Am Territory  | 16.3 |
| Track Miles in Exclusive Territory   | 38.6 |
| # of Passenger Cars (coaches)  | 2    |
| Total Number of Cars in Train (Assumes 1 locomotive, 1 coach, 1 coach cab car) | 3    |
| Total Number of Trains in Fleet (Number needed for service + 1 spare)          | 5    |
| Ridership Estimate in 2025 (High End)  | 800  |

**Calculated Service Inputs for Alignment 2B**

|   |              |
|---|--------------|
| Number of Rail Vehicles (locomotives, coaches, and coach cab cars)                      | 15           |
| Annual Train Revenue Hours  | 10,187.10    |
| Annual Passenger Car Revenue Hours  | 20,374.20    |
| Annual Train Revenue Miles  | 326,957.40   |
| Annual Train Revenue Miles in Pan Am Territory  | 68,884.20    |
| Annual Passenger Car Revenue Miles  | 653,914.80   |
| Annual Passenger Miles (Assume all passenger ride end to end for conservative estimate) | 9,840,400.00 |

**Alignment 2B - NNEPRA Operated Service Estimated O&M Costs (Low End of Estimate)**

| Vehicle Operations                    | Unit Cost       | Unit   | Quantity     | Approximate Cost        | Allocated Contingency | Approximate Cost with Contingency |
|---------------------------------------|-----------------|--|--------------|-------------------------|-----------------------|-----------------------------------|
| Train & Engine Crew Labor             | \$ 269.00       | per train revenue hour                         | 10,187       | \$ 2,740,329.90         | 10%                   | \$ 3,014,362.89                   |
| On Board Technology                   | \$ 50,000.00    | lump sum                                       | 1            | \$ 50,000.00            | 10%                   | \$ 55,000.00                      |
| Reservations & Call Centers           | \$ 250,000.00   | lump sum                                       | 1            | \$ 250,000.00           | 10%                   | \$ 275,000.00                     |
| Regional/Local Police                 | \$ 132,648.00   | lump sum                                       | 1            | \$ 132,648.00           | 10%                   | \$ 145,912.80                     |
|                                       | \$ 0.005        | per passenger mile                             | 9,840,400.00 | \$ 49,202.00            | 10%                   | \$ 54,122.20                      |
| Insurance                             | \$ 0.01         | per passenger mile                             | 9,840,400    | \$ 98,404.00            | 10%                   | \$ 108,244.40                     |
| Performance Payment                   | \$ 350,000.00   | lump sum                                       | 1            | \$ 350,000.00           | 10%                   | \$ 385,000.00                     |
| Fuel                                  | \$ 4.50         | per train revenue mile                         | 326,957      | \$ 1,471,308.30         | 10%                   | \$ 1,618,439.13                   |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 5,141,892.20</b>  |                       | <b>\$ 5,656,081.42</b>            |
| <b>Vehicle Maintenance</b>            |                 |  |              |                         |                       |                                   |
| Amtrak Capital Equipment Charge       | \$ 182,197.71   | per vehicle (locomotive, coach, coach cab car) | 15           | \$ 2,732,965.65         | 10%                   | \$ 3,006,262.22                   |
| Car & Locomotive MoE                  | \$ 112,082.00   | per vehicle (locomotive, coach, coach cab car) | 15           | \$ 1,681,230.00         | 10%                   | \$ 1,849,353.00                   |
| Turnaround                            | \$ 1,271,000.00 | lump sum                                       | 1            | \$ 1,271,000.00         | 10%                   | \$ 1,398,100.00                   |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 5,685,195.65</b>  |                       | <b>\$ 6,253,715.22</b>            |
| <b>Non-Vehicle Maintenance</b>        |                 |  |              |                         |                       |                                   |
| Maintenance Facility Upkeep           | \$ 250,000.00   | lump sum                                       | 1            | \$ 250,000.00           | 10%                   | \$ 275,000.00                     |
| Shared Track with Pan Am              |                 |  |              |                         |                       |                                   |
| Track Maintenance                     | \$ 2.80         | per train revenue mile in Pan Am territory     | 68,884       | \$ 192,875.76           | 25%                   | \$ 241,094.70                     |
| Track Inspection                      | \$ 200,000.00   | lump sum                                       | 1            | \$ 200,000.00           | 25%                   | \$ 250,000.00                     |
| Tie Replacement Program               | \$ 7,476.64     | per one way revenue mile in Pan Am territory   | 7.1          | \$ 53,084.14            | 25%                   | \$ 66,355.18                      |
| Exclusive Track                       |                 |  |              |                         |                       |                                   |
| Track Maintenance and Inspection      | \$ 70,029.00    | per track mile in exclusive territory          | 38.6         | \$ 2,703,119.40         | 10%                   | \$ 2,973,431.34                   |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 3,399,079.30</b>  |                       | <b>\$ 3,805,881.22</b>            |
| <b>General Administration</b>         |                 |  |              |                         |                       |                                   |
| Marketing                             | \$ 300,000.00   | lump sum                                       | 1            | \$ 300,000.00           | 10%                   | \$ 330,000.00                     |
| G&A (NNEPRA)                          | 3.30%           | of operations and maintenance cost             |              | \$ 357,293.90           | 10%                   | \$ 393,023.29                     |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 657,293.90</b>    |                       | <b>\$ 723,023.29</b>              |
| <b>Total Estimated O&amp;M Costs:</b> |                 |  |              | <b>\$ 14,883,461.05</b> |                       | <b>\$ 16,438,701.14</b>           |

**Alignment 2B - Contractor Operated Service Estimated O&M Costs (High End of Estimate)**

| Vehicle Operations                    | Unit Cost       | Unit   | Quantity     | Approximate Cost        | Allocated Contingency | Approximate Cost with Contingency |
|---------------------------------------|-----------------|--|--------------|-------------------------|-----------------------|-----------------------------------|
| Train & Engine Crew Labor             | \$ 269.00       | per train revenue hour                         | 10,187       | \$ 2,740,329.90         | 10%                   | \$ 3,014,362.89                   |
| On Board Technology                   | \$ 50,000.00    | lump sum                                       | 1            | \$ 50,000.00            | 10%                   | \$ 55,000.00                      |
| Reservations & Call Centers           | \$ 250,000.00   | lump sum                                       | 1            | \$ 250,000.00           | 10%                   | \$ 275,000.00                     |
| Regional/Local Police                 | \$ 132,648.00   | lump sum                                       | 1            | \$ 132,648.00           | 10%                   | \$ 145,912.80                     |
|                                       | \$ 0.005        | per passenger mile                             | 9,840,400.00 | \$ 49,202.00            | 10%                   | \$ 54,122.20                      |
| Insurance                             | \$ 0.01         | per passenger mile                             | 9,840,400    | \$ 98,404.00            | 10%                   | \$ 108,244.40                     |
| Performance Payment                   | \$ 350,000.00   | lump sum                                       | 1            | \$ 350,000.00           | 10%                   | \$ 385,000.00                     |
| Fuel                                  | \$ 4.50         | per train revenue mile                         | 326,957      | \$ 1,471,308.30         | 10%                   | \$ 1,618,439.13                   |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 5,141,892.20</b>  |                       | <b>\$ 5,656,081.42</b>            |
| <b>Vehicle Maintenance</b>            |                 |  |              |                         |                       |                                   |
| Amtrak Capital Equipment Charge       | \$ 182,197.71   | per vehicle (locomotive, coach, coach cab car) | 15           | \$ 2,732,965.65         | 10%                   | \$ 3,006,262.22                   |
| Car & Locomotive MoE                  | \$ 112,082.00   | per vehicle (locomotive, coach, coach cab car) | 15           | \$ 1,681,230.00         | 10%                   | \$ 1,849,353.00                   |
| Turnaround                            | \$ 1,271,000.00 | lump sum                                       | 1            | \$ 1,271,000.00         | 10%                   | \$ 1,398,100.00                   |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 5,685,195.65</b>  |                       | <b>\$ 6,253,715.22</b>            |
| <b>Non-Vehicle Maintenance</b>        |                 |  |              |                         |                       |                                   |
| Maintenance Facility Upkeep           | \$ 250,000.00   | lump sum                                       | 1            | \$ 250,000.00           | 10%                   | \$ 275,000.00                     |
| Shared Track with Pan Am              |                 |  |              |                         |                       |                                   |
| Track Maintenance                     | \$ 2.80         | per train revenue mile in Pan Am territory     | 68,884       | \$ 192,875.76           | 25%                   | \$ 241,094.70                     |
| Track Inspection                      | \$ 200,000.00   | lump sum                                       | 1            | \$ 200,000.00           | 25%                   | \$ 250,000.00                     |
| Tie Replacement Program               | \$ 7,476.64     | per one way revenue mile in Pan Am territory   | 7.1          | \$ 53,084.14            | 25%                   | \$ 66,355.18                      |
| Exclusive Track                       |                 |  |              |                         |                       |                                   |
| Track Maintenance and Inspection      | \$ 70,029.00    | per track mile in exclusive territory          | 38.6         | \$ 2,703,119.40         | 10%                   | \$ 2,973,431.34                   |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 3,399,079.30</b>  |                       | <b>\$ 3,805,881.22</b>            |
| <b>General Administration</b>         |                 |  |              |                         |                       |                                   |
| Marketing                             | \$ 300,000.00   | lump sum                                       | 1            | \$ 300,000.00           | 10%                   | \$ 330,000.00                     |
| G&A (Contractor)                      | 33.30%          | of operations and maintenance cost             |              | \$ 3,605,420.25         | 10%                   | \$ 3,965,962.28                   |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 3,605,420.25</b>  |                       | <b>\$ 4,295,962.28</b>            |
| <b>Total Estimated O&amp;M Costs:</b> |                 |  |              | <b>\$ 18,131,587.41</b> |                       | <b>\$ 20,011,640.13</b>           |

|  |                  |
|--|------------------|
| <b>Expected Range of O&amp;M Costs for this Alignment:</b> |                  |
| Low End  | \$ 16,438,701.14 |
| High End   | \$ 20,011,640.13 |
| Say: \$17 to \$21 million                                  |                  |

**Lewiston-Auburn Passenger Rail Service Plan  
Alignment 4 Operating and Maintenance Cost Estimate**

**Proposed Service Inputs for Alignment 4**

|  |      |
|--|------|
| Number of Weekday One Way Trips  | 18   |
| Number of Weekend One Way Trips  | 14   |
| One Way Trip Run Time with Turnaround/Recovery (Min)                           | 39   |
| Total Weekdays of Service in a Year  | 261  |
| Total Weekends/Holidays of Service in a Year                                   | 104  |
| One Way Revenue Miles  | 21.7 |
| One Way Revenue Miles in Pan Am Territory                                      | 7.1  |
| One Way Revenue Miles in Exclusive Territory                                   | 14.6 |
| Track Miles (Sidings + Main Line Track)  | 38.6 |
| Track Miles in Pan Am Territory  | 16.3 |
| Track Miles in Exclusive Territory   | 22.3 |
| # of Passenger Cars (coaches)  | 2    |
| Total Number of Cars in Train (Assumes 1 locomotive, 1 coach, 1 coach cab car) | 3    |
| Total Number of Trains in Fleet (Number needed for service + 1 spare)          | 2    |
| Ridership Estimate in 2025 (High End)  | 800  |

**Calculated Service Inputs for Alignment 4**

|   |              |
|---|--------------|
| Number of Rail Vehicles (locomotives, coaches, and coach cab cars)                      | 6            |
| Annual Train Revenue Hours  | 4,000.10     |
| Annual Passenger Car Revenue Hours  | 8,000.20     |
| Annual Train Revenue Miles  | 133,541.80   |
| Annual Train Revenue Miles in Pan Am Territory  | 43,693.40    |
| Annual Passenger Car Revenue Miles  | 267,083.60   |
| Annual Passenger Miles (Assume all passenger ride end to end for conservative estimate) | 6,336,400.00 |

**Alignment 4 - NNEPRA Operated Service Estimated O&M Costs (Low End of Estimate)**

| Vehicle Operations                    | Unit Cost       | Unit   | Quantity     | Approximate Cost       | Allocated Contingency | Approximate Cost with Contingency |
|---------------------------------------|-----------------|--|--------------|------------------------|-----------------------|-----------------------------------|
| Train & Engine Crew Labor             | \$ 269.00       | per train revenue hour                         | 4,000        | \$ 1,076,026.90        | 10%                   | \$ 1,183,629.59                   |
| On Board Technology                   | \$ 50,000.00    | lump sum                                       | 1            | \$ 50,000.00           | 10%                   | \$ 55,000.00                      |
| Reservations & Call Centers           | \$ 250,000.00   | lump sum                                       | 1            | \$ 250,000.00          | 10%                   | \$ 275,000.00                     |
| Regional/Local Police                 | \$ 132,648.00   | lump sum                                       | 1            | \$ 132,648.00          | 10%                   | \$ 145,912.80                     |
|                                       | \$ 0.005        | per passenger mile                             | 6,336,400.00 | \$ 31,682.00           | 10%                   | \$ 34,850.20                      |
| Insurance                             | \$ 0.01         | per passenger mile                             | 6,336,400    | \$ 63,364.00           | 10%                   | \$ 69,700.40                      |
| Performance Payment                   | \$ 350,000.00   | lump sum                                       | 1            | \$ 350,000.00          | 10%                   | \$ 385,000.00                     |
| Fuel                                  | \$ 4.50         | per train revenue mile                         | 133,542      | \$ 600,938.10          | 10%                   | \$ 661,031.91                     |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 2,554,659.00</b> |                       | <b>\$ 2,810,124.90</b>            |
| <b>Vehicle Maintenance</b>            |                 |  |              |                        |                       |                                   |
| Amtrak Capital Equipment Charge       | \$ 182,197.71   | per vehicle (locomotive, coach, coach cab car) | 6            | \$ 1,093,186.26        | 10%                   | \$ 1,202,504.89                   |
| Car & Locomotive MoE                  | \$ 112,082.00   | per vehicle (locomotive, coach, coach cab car) | 6            | \$ 672,492.00          | 10%                   | \$ 739,741.20                     |
| Turnaround                            | \$ 1,271,000.00 | lump sum                                       | 1            | \$ 1,271,000.00        | 10%                   | \$ 1,398,100.00                   |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 3,036,678.26</b> |                       | <b>\$ 3,340,346.09</b>            |
| <b>Non-Vehicle Maintenance</b>        |                 |  |              |                        |                       |                                   |
| Maintenance Facility Upkeep           | \$ 250,000.00   | lump sum                                       | 1            | \$ 250,000.00          | 10%                   | \$ 275,000.00                     |
| Shared Track with Pan Am              |                 |  |              |                        |                       |                                   |
| Track Maintenance                     | \$ 2.80         | per train revenue mile in Pan Am territory     | 43,693       | \$ 122,341.52          | 25%                   | \$ 152,926.90                     |
| Track Inspection                      | \$ 200,000.00   | lump sum                                       | 1            | \$ 200,000.00          | 25%                   | \$ 250,000.00                     |
| Tie Replacement Program               | \$ 7,476.64     | per one way revenue mile in Pan Am territory   | 7.1          | \$ 53,084.14           | 25%                   | \$ 66,355.18                      |
| Exclusive Track                       |                 |  |              |                        |                       |                                   |
| Track Maintenance and Inspection      | \$ 70,029.00    | per track mile in exclusive territory          | 22.3         | \$ 1,561,646.70        | 10%                   | \$ 1,717,811.37                   |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 2,187,072.36</b> |                       | <b>\$ 2,462,093.45</b>            |
| <b>General Administration</b>         |                 |  |              |                        |                       |                                   |
| Marketing                             | \$ 300,000.00   | lump sum                                       | 1            | \$ 300,000.00          | 10%                   | \$ 330,000.00                     |
| G&A (NNEPRA)                          | 3.30%           | of operations and maintenance cost             |              | \$ 184,514.13          | 10%                   | \$ 202,965.54                     |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 484,514.13</b>   |                       | <b>\$ 532,965.54</b>              |
| <b>Total Estimated O&amp;M Costs:</b> |                 |  |              | <b>\$ 8,262,923.75</b> |                       | <b>\$ 9,145,529.98</b>            |

**Alignment 4 - Contractor Operated Service Estimated O&M Costs (High End of Estimate)**

| Vehicle Operations                    | Unit Cost       | Unit   | Quantity     | Approximate Cost       | Allocated Contingency | Approximate Cost with Contingency |
|---------------------------------------|-----------------|--|--------------|------------------------|-----------------------|-----------------------------------|
| Train & Engine Crew Labor             | \$ 269.00       | per train revenue hour                         | 4,000        | \$ 1,076,026.90        | 10%                   | \$ 1,183,629.59                   |
| On Board Technology                   | \$ 50,000.00    | lump sum                                       | 1            | \$ 50,000.00           | 10%                   | \$ 55,000.00                      |
| Reservations & Call Centers           | \$ 250,000.00   | lump sum                                       | 1            | \$ 250,000.00          | 10%                   | \$ 275,000.00                     |
| Regional/Local Police                 | \$ 132,648.00   | lump sum                                       | 1            | \$ 132,648.00          | 10%                   | \$ 145,912.80                     |
|                                       | \$ 0.005        | per passenger mile                             | 6,336,400.00 | \$ 31,682.00           | 10%                   | \$ 34,850.20                      |
| Insurance                             | \$ 0.01         | per passenger mile                             | 6,336,400    | \$ 63,364.00           | 10%                   | \$ 69,700.40                      |
| Performance Payment                   | \$ 350,000.00   | lump sum                                       | 1            | \$ 350,000.00          | 10%                   | \$ 385,000.00                     |
| Fuel                                  | \$ 4.50         | per train revenue mile                         | 133,542      | \$ 600,938.10          | 10%                   | \$ 661,031.91                     |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 2,554,659.00</b> |                       | <b>\$ 2,810,124.90</b>            |
| <b>Vehicle Maintenance</b>            |                 |  |              |                        |                       |                                   |
| Amtrak Capital Equipment Charge       | \$ 182,197.71   | per vehicle (locomotive, coach, coach cab car) | 6            | \$ 1,093,186.26        | 10%                   | \$ 1,202,504.89                   |
| Car & Locomotive MoE                  | \$ 112,082.00   | per vehicle (locomotive, coach, coach cab car) | 6            | \$ 672,492.00          | 10%                   | \$ 739,741.20                     |
| Turnaround                            | \$ 1,271,000.00 | lump sum                                       | 1            | \$ 1,271,000.00        | 10%                   | \$ 1,398,100.00                   |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 3,036,678.26</b> |                       | <b>\$ 3,340,346.09</b>            |
| <b>Non-Vehicle Maintenance</b>        |                 |  |              |                        |                       |                                   |
| Maintenance Facility Upkeep           | \$ 250,000.00   | lump sum                                       | 1            | \$ 250,000.00          | 10%                   | \$ 275,000.00                     |
| Shared Track with Pan Am              |                 |  |              |                        |                       |                                   |
| Track Maintenance                     | \$ 2.80         | per train revenue mile in Pan Am territory     | 43,693       | \$ 122,341.52          | 25%                   | \$ 152,926.90                     |
| Track Inspection                      | \$ 200,000.00   | lump sum                                       | 1            | \$ 200,000.00          | 25%                   | \$ 250,000.00                     |
| Tie Replacement Program               | \$ 7,476.64     | per one way revenue mile in Pan Am territory   | 7.1          | \$ 53,084.14           | 25%                   | \$ 66,355.18                      |
| Exclusive Track                       |                 |  |              |                        |                       |                                   |
| Track Maintenance and Inspection      | \$ 70,029.00    | per track mile in exclusive territory          | 22.3         | \$ 1,561,646.70        | 10%                   | \$ 1,717,811.37                   |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 2,187,072.36</b> |                       | <b>\$ 2,462,093.45</b>            |
| <b>General Administration</b>         |                 |  |              |                        |                       |                                   |
| Marketing                             | \$ 300,000.00   | lump sum                                       | 1            | \$ 300,000.00          | 10%                   | \$ 330,000.00                     |
| G&A (Contractor)                      | 33.30%          | of operations and maintenance cost             |              | \$ 1,861,915.31        | 10%                   | \$ 2,048,106.84                   |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 2,161,915.31</b> |                       | <b>\$ 2,378,106.84</b>            |
| <b>Total Estimated O&amp;M Costs:</b> |                 |  |              | <b>\$ 9,940,324.93</b> |                       | <b>\$ 10,990,671.27</b>           |

|  |                  |
|--|------------------|
| <b>Expected Range of O&amp;M Costs for this Alignment:</b> |                  |
| Low End  | \$ 9,145,529.98  |
| High End   | \$ 10,990,671.27 |
| Say: \$9 to \$11 million                                   |                  |



**Lewiston-Auburn Passenger Rail Service Plan  
Alignment 5 Operating and Maintenance Cost Estimate**

**Proposed Service Inputs for Alignment 5**

|  |      |
|--|------|
| Number of Weekday One Way Trips  | 18   |
| Number of Weekend One Way Trips  | 14   |
| One Way Trip Run Time with Turnaround/Recovery (Min)                           | 42   |
| Total Weekdays of Service in a Year  | 261  |
| Total Weekends/Holidays of Service in a Year                                   | 104  |
| One Way Revenue Miles  | 23.3 |
| One Way Revenue Miles in Pan Am Territory                                      | 23.3 |
| One Way Revenue Miles in Exclusive Territory                                   | 0    |
| Track Miles (Sidings + Main Line Track)  | 47.1 |
| Track Miles in Pan Am Territory  | 47.1 |
| Track Miles in Exclusive Territory   | 0    |
| # of Passenger Cars (coaches)  | 2    |
| Total Number of Cars in Train (Assumes 1 locomotive, 1 coach, 1 coach cab car) | 3    |
| Total Number of Trains in Fleet (Number needed for service + 1 spare)          | 2    |
| Ridership Estimate in 2025 (High End)  | 800  |

**Calculated Service Inputs for Alignment 5**

|   |              |
|---|--------------|
| Number of Rail Vehicles (locomotives, coaches, and coach cab cars)                      | 6            |
| Annual Train Revenue Hours  | 4,307.80     |
| Annual Passenger Car Revenue Hours  | 8,615.60     |
| Annual Train Revenue Miles  | 143,388.20   |
| Annual Train Revenue Miles in Pan Am Territory  | 143,388.20   |
| Annual Passenger Car Revenue Miles  | 286,776.40   |
| Annual Passenger Miles (Assume all passenger ride end to end for conservative estimate) | 6,803,600.00 |

**Alignment 5 - NNEPRA Operated Service Estimated O&M Costs (Low End of Estimate)**

| Vehicle Operations                    | Unit Cost       | Unit   | Quantity     | Approximate Cost       | Allocated Contingency | Approximate Cost with Contingency |
|---------------------------------------|-----------------|--|--------------|------------------------|-----------------------|-----------------------------------|
| Train & Engine Crew Labor             | \$ 269.00       | per train revenue hour                         | 4,308        | \$ 1,158,798.20        | 10%                   | \$ 1,274,678.02                   |
| On Board Technology                   | \$ 50,000.00    | lump sum                                       | 1            | \$ 50,000.00           | 10%                   | \$ 55,000.00                      |
| Reservations & Call Centers           | \$ 250,000.00   | lump sum                                       | 1            | \$ 250,000.00          | 10%                   | \$ 275,000.00                     |
| Regional/Local Police                 | \$ 132,648.00   | lump sum                                       | 1            | \$ 132,648.00          | 10%                   | \$ 145,912.80                     |
|                                       | \$ 0.005        | per passenger mile                             | 6,803,600.00 | \$ 34,018.00           | 10%                   | \$ 37,419.80                      |
| Insurance                             | \$ 0.01         | per passenger mile                             | 6,803,600    | \$ 68,036.00           | 10%                   | \$ 74,839.60                      |
| Performance Payment                   | \$ 350,000.00   | lump sum                                       | 1            | \$ 350,000.00          | 10%                   | \$ 385,000.00                     |
| Fuel                                  | \$ 4.50         | per train revenue mile                         | 143,388      | \$ 645,246.90          | 10%                   | \$ 709,771.59                     |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 2,688,747.10</b> |                       | <b>\$ 2,957,621.81</b>            |
| <b>Vehicle Maintenance</b>            |                 |  |              |                        |                       |                                   |
| Amtrak Capital Equipment Charge       | \$ 182,197.71   | per vehicle (locomotive, coach, coach cab car) | 6            | \$ 1,093,186.26        | 10%                   | \$ 1,202,504.89                   |
| Car & Locomotive MoE                  | \$ 112,082.00   | per vehicle (locomotive, coach, coach cab car) | 6            | \$ 672,492.00          | 10%                   | \$ 739,741.20                     |
| Turnaround                            | \$ 1,271,000.00 | lump sum                                       | 1            | \$ 1,271,000.00        | 10%                   | \$ 1,398,100.00                   |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 3,036,678.26</b> |                       | <b>\$ 3,340,346.09</b>            |
| <b>Non-Vehicle Maintenance</b>        |                 |  |              |                        |                       |                                   |
| Maintenance Facility Upkeep           | \$ 250,000.00   | lump sum                                       | 1            | \$ 250,000.00          | 10%                   | \$ 275,000.00                     |
| Shared Track with Pan Am              |                 |  |              |                        |                       |                                   |
| Track Maintenance                     | \$ 2.80         | per train revenue mile in Pan Am territory     | 143,388      | \$ 401,486.96          | 25%                   | \$ 501,858.70                     |
| Track Inspection                      | \$ 200,000.00   | lump sum                                       | 1            | \$ 200,000.00          | 25%                   | \$ 250,000.00                     |
| Tie Replacement Program               | \$ 7,476.64     | per one way revenue mile in Pan Am territory   | 23.3         | \$ 174,205.71          | 25%                   | \$ 217,757.14                     |
| Exclusive Track                       |                 |  |              |                        |                       |                                   |
| Track Maintenance and Inspection      | \$ 70,029.00    | per track mile in exclusive territory          | 0            | \$ -                   | 10%                   | \$ -                              |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 1,025,692.67</b> |                       | <b>\$ 1,244,615.84</b>            |
| <b>General Administration</b>         |                 |  |              |                        |                       |                                   |
| Marketing                             | \$ 300,000.00   | lump sum                                       | 1            | \$ 300,000.00          | 10%                   | \$ 330,000.00                     |
| G&A (NNEPRA)                          | 3.30%           | of operations and maintenance cost             |              | \$ 188,939.04          | 10%                   | \$ 207,832.94                     |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 488,939.04</b>   |                       | <b>\$ 537,832.94</b>              |
| <b>Total Estimated O&amp;M Costs:</b> |                 |  |              | <b>\$ 7,240,057.07</b> |                       | <b>\$ 8,080,416.68</b>            |

**Alignment 5 - Contractor Operated Service Estimated O&M Costs (High End of Estimate)**

| Vehicle Operations                    | Unit Cost       | Unit   | Quantity     | Approximate Cost       | Allocated Contingency | Approximate Cost with Contingency |
|---------------------------------------|-----------------|--|--------------|------------------------|-----------------------|-----------------------------------|
| Train & Engine Crew Labor             | \$ 269.00       | per train revenue hour                         | 4,308        | \$ 1,158,798.20        | 10%                   | \$ 1,274,678.02                   |
| On Board Technology                   | \$ 50,000.00    | lump sum                                       | 1            | \$ 50,000.00           | 10%                   | \$ 55,000.00                      |
| Reservations & Call Centers           | \$ 250,000.00   | lump sum                                       | 1            | \$ 250,000.00          | 10%                   | \$ 275,000.00                     |
| Regional/Local Police                 | \$ 132,648.00   | lump sum                                       | 1            | \$ 132,648.00          | 10%                   | \$ 145,912.80                     |
|                                       | \$ 0.005        | per passenger mile                             | 6,803,600.00 | \$ 34,018.00           | 10%                   | \$ 37,419.80                      |
| Insurance                             | \$ 0.01         | per passenger mile                             | 6,803,600    | \$ 68,036.00           | 10%                   | \$ 74,839.60                      |
| Performance Payment                   | \$ 350,000.00   | lump sum                                       | 1            | \$ 350,000.00          | 10%                   | \$ 385,000.00                     |
| Fuel                                  | \$ 4.50         | per train revenue mile                         | 143,388      | \$ 645,246.90          | 10%                   | \$ 709,771.59                     |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 2,688,747.10</b> |                       | <b>\$ 2,957,621.81</b>            |
| <b>Vehicle Maintenance</b>            |                 |  |              |                        |                       |                                   |
| Amtrak Capital Equipment Charge       | \$ 182,197.71   | per vehicle (locomotive, coach, coach cab car) | 6            | \$ 1,093,186.26        | 10%                   | \$ 1,202,504.89                   |
| Car & Locomotive MoE                  | \$ 112,082.00   | per vehicle (locomotive, coach, coach cab car) | 6            | \$ 672,492.00          | 10%                   | \$ 739,741.20                     |
| Turnaround                            | \$ 1,271,000.00 | lump sum                                       | 1            | \$ 1,271,000.00        | 10%                   | \$ 1,398,100.00                   |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 3,036,678.26</b> |                       | <b>\$ 3,340,346.09</b>            |
| <b>Non-Vehicle Maintenance</b>        |                 |  |              |                        |                       |                                   |
| Maintenance Facility Upkeep           | \$ 250,000.00   | lump sum                                       | 1            | \$ 250,000.00          | 10%                   | \$ 275,000.00                     |
| Shared Track with Pan Am              |                 |  |              |                        |                       |                                   |
| Track Maintenance                     | \$ 2.80         | per train revenue mile in Pan Am territory     | 143,388      | \$ 401,486.96          | 25%                   | \$ 501,858.70                     |
| Track Inspection                      | \$ 200,000.00   | lump sum                                       | 1            | \$ 200,000.00          | 25%                   | \$ 250,000.00                     |
| Tie Replacement Program               | \$ 7,476.64     | per one way revenue mile in Pan Am territory   | 23.3         | \$ 174,205.71          | 25%                   | \$ 217,757.14                     |
| Exclusive Track                       |                 |  |              |                        |                       |                                   |
| Track Maintenance and Inspection      | \$ 70,029.00    | per track mile in exclusive territory          | 0            | \$ -                   | 10%                   | \$ -                              |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 1,025,692.67</b> |                       | <b>\$ 1,244,615.84</b>            |
| <b>General Administration</b>         |                 |  |              |                        |                       |                                   |
| Marketing                             | \$ 300,000.00   | lump sum                                       | 1            | \$ 300,000.00          | 10%                   | \$ 330,000.00                     |
| G&A (Contractor)                      | 33.30%          | of operations and maintenance cost             |              | \$ 1,906,566.64        | 10%                   | \$ 2,097,223.31                   |
| <b>Subtotal:</b>                      |                 |  |              | <b>\$ 2,427,223.31</b> |                       | <b>\$ 2,427,223.31</b>            |
| <b>Total Estimated O&amp;M Costs:</b> |                 |  |              | <b>\$ 8,957,684.68</b> |                       | <b>\$ 9,969,807.05</b>            |

|  |    |              |
|--|----|--------------|
| <b>Expected Range of O&amp;M Costs for this Alignment:</b> |    |              |
| Low End  | \$ | 8,080,416.68 |
| High End   | \$ | 9,969,807.05 |
| Say: \$8 to \$10 million                                   |    |              |

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# Appendix E: Environmental Evaluation Tech Memo

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|              |                         |                   |  |
|--------------|-------------------------|-------------------|--|
| <b>To:</b>   | Project Committee       | <b>Date:</b>      | December 18, 2018  |
|              |                         | <b>Project #:</b> | 14093.00   |
|              | Natasha Velickovic, VHB |                   | L-A Passenger Rail Service Plan:<br>Preliminary High-Level |
| <b>From:</b> | Kyle Taniguchi, VHB     | <b>Re:</b>        | Environmental Screening                                    |

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As part of the effort to evaluate the expansion of passenger rail service to Lewiston-Auburn, a high-level preliminary and qualitative environmental screening was conducted to identify potential impacts of the project. National Environmental Policy Act (NEPA)-related resources were preliminarily evaluated since state and federal funding are assumed for this project. This memorandum presents the environmental resources analyzed, methods used, assumptions made, and preliminary results of this high-level environmental screening. This data can be used to guide the Project Committee in understanding any fatal flaws regarding potential environmental impacts of each alternative, helping guide the decision towards a preferred alternative.

## 1.1 Alternatives Considered

Alternatives considered in this high-level assessment included:

- **Alternatives 1A and 1B** propose operating a frequent, independent service between Lewiston-Auburn (L-A) and Portland. These alternatives would terminate at the existing Portland Transportation Center (or a relocated one on the main line). These alternatives would operate independent of the existing Amtrak Downeaster service that currently runs from Boston to Brunswick.
- **Alternatives 2A and 2B** are similar to Alternatives 1A and 1B but would instead use the Back Cove Bridge.
- **Alternatives 3A and 3B** adjust the existing Downeaster service pattern. Today, six trips run to Brunswick. These alternatives would propose splitting three of them to go to L-A and three to go to Brunswick.
- **Alternative 4** would run as a timed-transfer rail shuttle from L-A to Yarmouth Junction to meet northbound and southbound Downeaster trains.
- **Alternative 5** would be a timed-transfer rail shuttle from L-A to Royal Junction to meet northbound and southbound Downeaster trains.

## 1.2 Methods and Assumptions

This qualitative, high-level assessment on Federal environmental aspects was conducted using the Environmental Protection Agency's (EPA) NEPAAssist Tool, the United States Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPac) Tool, the National Oceanic and Atmospheric Administration's (NOAA) Listed Marine Species Directory, and EPA's EJSCREEN.<sup>1,2,3,4</sup>

NEPAAssist is a GIS, web-based application for screening of environmental indicators for a user-defined area of interest. The base map used was Bing Aerial Roads with an activated railroad transportation layer. The corridors for each alternative were drawn with a buffer of 0.025 miles to focus the assessment on railroad track areas for Alternatives 1 through 5. Outputs analyzed included presence of:

- Non-Attainment or maintenance areas for ozone, sulfur dioxide (SO<sub>2</sub>), lead, particulate matter 2.5 micrometers (µm) or less (PM<sub>2.5</sub>), and PM<sub>10</sub>;
- Federal land;
- Impaired streams or water bodies;
- Streams or water bodies;
- Federal National Wetlands Inventory (NWI) wetlands;
- Brownfields or Superfund sites;
- Toxic Release Inventory (TRI) sites;
- Water dischargers (National Pollutant Discharge Elimination Systems [NPDES]);
- Hazardous waste (Resource Conservation and Recovery Act [RCRA]) facilities;
- Air emission facilities;
- Sole source aquifers; and
- Historic properties on the National Register of Historic Places (NRHP).

The alternatives and preliminary potential actions were considered against the aspects listed above and potential impacts were qualitatively determined. In most cases, impact was determined on an alternative's potential to impair a resource's function.

The high-level screening of threatened and endangered species and critical habitat was conducted using the USFWS's IPac Tool and NOAA's Listed Marine Species Directory. Outputs included identification of threatened or endangered species within the alternative corridors and identification of critical habitat.

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<sup>1</sup> Environmental Protection Agency. 2018. NEPAAssist Tool. Accessed from <https://www.epa.gov/nepa/nepassist>. Accessed on November 27, 2018.

<sup>2</sup> U.S. Fish and Wildlife Service. 2018. IPac Tool. Accessed from <https://ecos.fws.gov/ipac/>. Accessed on November 27, 2018.

<sup>3</sup> National Oceanic and Atmospheric Administration. Listed Marine Species Directory. Accessed from <https://www.fisheries.noaa.gov/species-directory/threatened-endangered>. Accessed on November 27, 2018.

<sup>4</sup> Environmental Protection Agency. 2018. EJSCREEN Tool. Accessed from <https://www.epa.gov/ejscreen>. Accessed on November 27, 2018.

A very high-level screening of environmental justice populations was conducted using EPA's EJSCREEN. EJSCREEN uses standard and nationally-consistent data to highlight places that may have higher environmental burdens and vulnerable populations. The data outputs are in a high geographic resolution and reports how a selected location compares to the rest of the nation, EPA region or state. Data was collected on the percentage of minority populations and low-income populations within the alternative corridors (including buffer of 0.025 miles). Data of minority and low-income populations within the alternative corridors was compared to the state of Maine's average minority and low-income populations. In the cases where the alternative percentage exceeded the state's average, a preliminary determination of potential impact was identified.

Assumptions were made during this analysis given the conceptual stage of the alternatives as the planning process and operational analysis are still underway. These included:

- Focus on the railroad track and roadway areas since a specific study area (including potential station siting locations) has not yet been determined. A more refined study area may be larger than the area delineated for this high-level analysis of the railroad tracks and roadway with a 0.025-mile buffer.
- The Back Cove Bridge would be altered or replaced in alternatives that have corridors running through this area (Alternatives 2A and 2B).
- Alternatives that would use the Downeaster alignment would include track improvements (Alternatives 1A, 1B, 2A, 3A, 3B, 4, and 5).
- Only Federal data layers were used.

### 1.3 High-Level, Qualitative Results

The results of the environmental screening are presented in Figures 1 through 8. The high-level, qualitative results of this environmental screening are summarized in Table 1. It should be noted that the TRI, NPDES, and RCRA sites identified in the figures are not reflected in the table as it is not possible to ascertain their significance at this time. In summary, resources that may be impacted by the project may include:

- **Air:** Alternatives 1 and 2 would have the potential to impact air emissions due to increased operations. Alternatives 4 and 5 are a shorter distance and would likely have lower air emissions impacts. Alternative 3 would have negligible impacts since existing service will be split and operations would not be increased.
- **Impaired water bodies:** Some alternatives have the potential to further degrade already impaired streams or rivers due to increased operations. Alternative 1A and 3A have the potential to impact one stream/river, while Alternatives 1B, 3B, and 4 have the potential to impact a stream and a river.
- **Water Bodies:** All alternatives may have the potential to impact water bodies. Alternative 1A has the potential to impact ten water bodies; Alternative 1B, six water bodies; Alternative 2A, ten water bodies; Alternative 2B, six water bodies; Alternative 3A, nine water bodies; Alternative 3B, seven water bodies; Alternative

4, six water bodies; and Alternative 5, five water bodies. More significantly, Alternatives 2A and 2B have a potential to highly impact Casco Bay if the Back Cove Bridge is renovated or replaced.

- **Wetlands:** Alternatives 2A and 2B would impact the most federal wetland types between Royal Junction/Yarmouth Junction and Lewiston and would have potential to highly impact wetlands around the Back Cove Bridge if the bridge is renovated or replaced.
- **Historic Resources:** Alternatives 2A and 2B have the potential to impact two historic locations: The Grand Trunk Railroad Station in Portland and the Captain S.C. Blanchard House near Yarmouth Junction.
- **Threatened or Endangered Species:** The USFWS has listed three federal species that have the potential to be present in the areas analyzed. These species include the Northern Long-eared Bat (*Myotis septentrionalis*) which is threatened, the Small Whorled Pogonia (*Isotria medeoloides*) which is threatened, and the Atlantic Salmon (*Salmo salar*) which is endangered. Further assessment of the environment within the project corridor and Section 7 consultation with the USFWS would be necessary to confirm the probable presence or absence of these species at specific locations. This assessment does not include identification of any state-listed species of concern.
- **Environmental Justice Populations:** Alternatives 1 through 3 have the potential to impact minority populations; and Alternatives 2A, 2B, and 3B have the potential to impact low-income populations based on the high-level comparison with the state averages.

Alternatives 2A and 2B pose the highest potential for environmental impacts as operations could result in increased air emissions, encounters many water bodies and wetland types (with the renovation or rebuilding of the Back Cove Bay posing potentially significant impacts to wetlands and water bodies), and has the potential to impact historic places, and may potentially impact environmental justice populations. Alternatives 1A, 1B, 3A, 3B, 4 and 5 pose a moderate potential for environmental impacts but would not impact the Back Cove Bay and historic properties.

All alternatives would require NEPA review. In terms of permitting, Alternatives 1A and 1B would require the least effort as it would avoid Section 106 and Sections 401 and 404 permitting and consultation since there are very minimal water bodies potentially affected and there are no historic properties. Alternatives 2A and 2B would require the most permitting as they would require the most consultation (e.g., Sections 106, 7, 401, and 404).

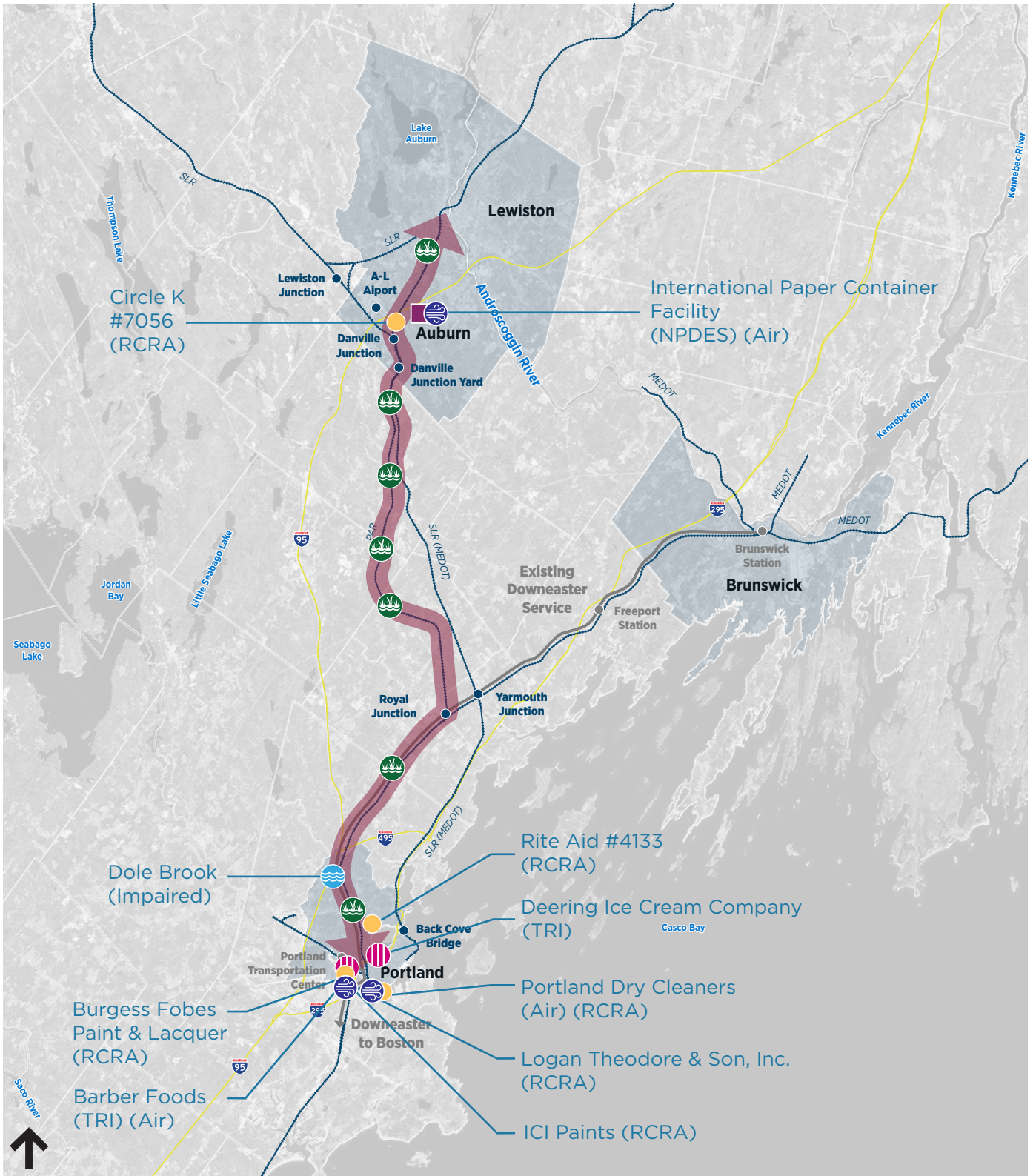


Table 1: Preliminary High-Level Environmental Screening Results

|                        | <b>Resource</b>                                     | <b>Alt 1A</b>  | <b>Alt 1B</b>   | <b>Alt 2A</b>   | <b>Alt 2B</b>  | <b>Alt 3A</b>  | <b>Alt 3B</b>  | <b>Alt 4</b>   | <b>Alt 5</b>   |
|------------------------|---|--|---|---|--|--|--|--|--|
| <i>Air</i>             | Air Emissions                                       | Potential impact due to increased operations   | Potential impact due to increased operations  | Potential impact due to increased operations  | Potential impact due to increased operations   | Negligible potential impact due to no increased operations                                       | Negligible potential impact due to no increased operations   | Moderate potential impact due to increased operations  | Moderate potential impact due to increased operations  |
| <i>Land Use</i>        | Federal Land  | No Impact  | No Impact   | No Impact   | No Impact  | No Impact  | No Impact  | No Impact  | No Impact  |
| <i>Water</i>           | Impaired Water Bodies                               | Potential to further impair due to increased operations<br>• Dole Brook  | Potential to further impair due to increased operations<br>• Dole Brook<br>• Chandler River/East Branch   | No Impact   | Potential to further impair due to increased operations<br>• Chandler River/East Branch  | No Impact  | Potential to further impair due to increased operations<br>• Chandler River/East Branch                                  | Potential to further impair due to increased operations<br>• Chandler River/East Branch                                  | No Impact  |
| <i>Water</i>           | Water Bodies  | Potential to impact 10 water bodies<br>• Royal River<br>• Presumpscot River<br>• Little Androscoggin River<br>• Androscoggin River<br>• Piscataqua River<br>• 5 brooks | Potential to impact 6 water bodies<br>• Royal River<br>• Presumpscot River<br>• Little Androscoggin River<br>• Androscoggin River<br>• 2 brooks | Potential to impact 10 water bodies with potential to significantly impact Casco Bay<br>• Casco Bay<br>• Royal River<br>• Presumpscot River<br>• Little Androscoggin River<br>• 5 brooks<br>• 1 creek | Potential to impact 6 water bodies with potential to significantly impact Casco Bay<br>• Casco Bay<br>• Royal River<br>• Little Androscoggin River<br>• Androscoggin River<br>• 2 brooks             | Potential to impact 5 water bodies<br>• Royal River<br>• Little Androscoggin River<br>• 3 brooks | Potential to impact 6 water bodies<br>• Royal River<br>• Little Androscoggin River<br>• Androscoggin River<br>• 3 brooks | Potential to impact 6 water bodies<br>• Royal River<br>• Little Androscoggin River<br>• Androscoggin River<br>• 3 brooks | Potential to impact 5 water bodies<br>• Royal River<br>• Little Androscoggin River<br>• 3 brooks |
| <i>Wetlands</i>        | Wetlands  | Potential to impact<br>• Freshwater Forested/Shrub Wetland<br>• Freshwater Pond<br>• Freshwater Emergent Wetland<br>• Riverine   | Potential to impact<br>• Freshwater Forested/Shrub Wetland<br>• Freshwater Pond<br>• Freshwater Emergent Wetland<br>• Riverine                  | Potential to impact<br>• Freshwater Forested/Shrub Wetland<br>• Freshwater Pond<br>• Freshwater Emergent Wetland<br>• Riverine<br>• Estuarine and Marine Wetland<br>• Estuarine and Marine Deepwater  | Potential to impact<br>• Freshwater Pond<br>• Freshwater Forested/Shrub Wetland<br>• Riverine<br>• Freshwater Emergent Wetland<br>• Estuarine and Marine Wetland<br>• Estuarine and Marine Deepwater | Potential to impact<br>• Riverine<br>• Freshwater Emergent Wetland                               | Potential to impact<br>• Riverine  | Potential to impact<br>• Riverine  | Potential to impact<br>• Riverine<br>• Freshwater Emergent Wetland                               |
| <i>Water</i>           | Sole Source Aquifer                                 | No Impact  | No Impact   | No Impact   | No Impact  | No Impact  | No Impact  | No Impact  | No Impact  |
| <i>Hazardous Waste</i> | Brownfields   | No Impact  | No Impact   | No Impact   | No Impact  | No Impact  | No Impact  | No Impact  | No Impact  |
| <i>Hazardous Waste</i> | Superfund Sites                                     | No Impact  | No Impact   | No Impact   | No Impact  | No Impact  | No Impact  | No Impact  | No Impact  |
| <i>Historic</i>        | National Register of Historic Places (Federal Only) | No Impact  | No Impact   | Potential to impact<br>• Grand Trunk Railroad Station<br>• Capt. S.C. Blanchard House   | Potential to impact<br>• Grand Trunk Railroad Station<br>• Capt. S.C. Blanchard House  | No Impact  | No Impact  | No Impact  | No Impact  |

**Table 1:** Preliminary High-Level Environmental Screening Results

|                                 | <b>Resource</b>                        | <b>Alt 1A</b>  | <b>Alt 1B</b>  | <b>Alt 2A</b>  | <b>Alt 2B</b>  | <b>Alt 3A</b>  | <b>Alt 3B</b>  | <b>Alt 4</b>   | <b>Alt 5</b>   |
|---------------------------------|--|--|--|--|--|--|--|--|--|
| <i>T&amp;E</i>                  | Threatened or Endangered Species       | Potential for presence of <ul style="list-style-type: none"> <li>Northern Long-eared Bat (Threatened)</li> <li>Atlantic Salmon (Endangered)</li> <li>Small Whorled Pogonia (Threatened)</li> </ul> | Potential for presence of <ul style="list-style-type: none"> <li>Northern Long-eared Bat (Threatened)</li> <li>Atlantic Salmon (Endangered)</li> <li>Small Whorled Pogonia (Threatened)</li> </ul> | Potential for presence of <ul style="list-style-type: none"> <li>Northern Long-eared Bat (Threatened)</li> <li>Atlantic Salmon (Endangered)</li> <li>Small Whorled Pogonia (Threatened)</li> </ul> | Potential for presence of <ul style="list-style-type: none"> <li>Northern Long-eared Bat (Threatened)</li> </ul> | Potential for presence of <ul style="list-style-type: none"> <li>Northern Long-eared Bat (Threatened)</li> <li>Atlantic Salmon (Endangered)</li> <li>Small Whorled Pogonia (Threatened)</li> </ul> | Potential for presence of <ul style="list-style-type: none"> <li>Northern Long-eared Bat (Threatened)</li> <li>Atlantic Salmon (Endangered)</li> <li>Small Whorled Pogonia (Threatened)</li> </ul> | Potential for presence of <ul style="list-style-type: none"> <li>Northern Long-eared Bat (Threatened)</li> <li>Atlantic Salmon (Endangered)</li> <li>Small Whorled Pogonia (Threatened)</li> </ul> | Potential for presence of <ul style="list-style-type: none"> <li>Northern Long-eared Bat (Threatened)</li> <li>Atlantic Salmon (Endangered)</li> <li>Small Whorled Pogonia (Threatened)</li> </ul> |
| <i>T&amp;E</i>                  | Critical Habitat                       | No Impact  | No Impact  | No Impact  | No Impact  | No Impact  | No Impact  | No Impact  | No Impact  |
| <i>EJ</i>                       | Minority Population                    | Potential to impact  | Potential to impact  | Potential to impact  | Potential to impact  | No Impact  | No Impact  | No Impact  | No Impact  |
| <i>EJ</i>                       | Low Income Population                  | No Impact  | No Impact  | Potential to impact  | Potential to impact  | No Impact  | No Impact  | No Impact  | No Impact  |
| <i>Permits and Consultation</i> | Require NEPA Review                    | Yes  | Yes  | Yes  | Yes  | Yes  | Yes  | Yes  | Yes  |
|                                 | Section 106                            | No   | No   | Yes  | Yes  | No   | No   | No   | No   |
|                                 | Section 7                              | Yes  | Yes  | Yes  | Yes  | Yes  | Yes  | Yes  | Yes  |
|                                 | Corps of Engineers (401 & 404 Permits) | Yes  | Yes  | Yes  | Yes  | Yes  | Yes  | Yes  | Yes  |
| <i>Impact</i>                   | Qualitative Potential Overall Impact   | Moderate   | Moderate   | High   | High   | Moderate   | Moderate   | Moderate   | Moderate   |



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- Impaired Stream/River
- Wetland
- NPDES
- RCRA
- TRI
- Air
- 0.025 Mile Analysis Buffer

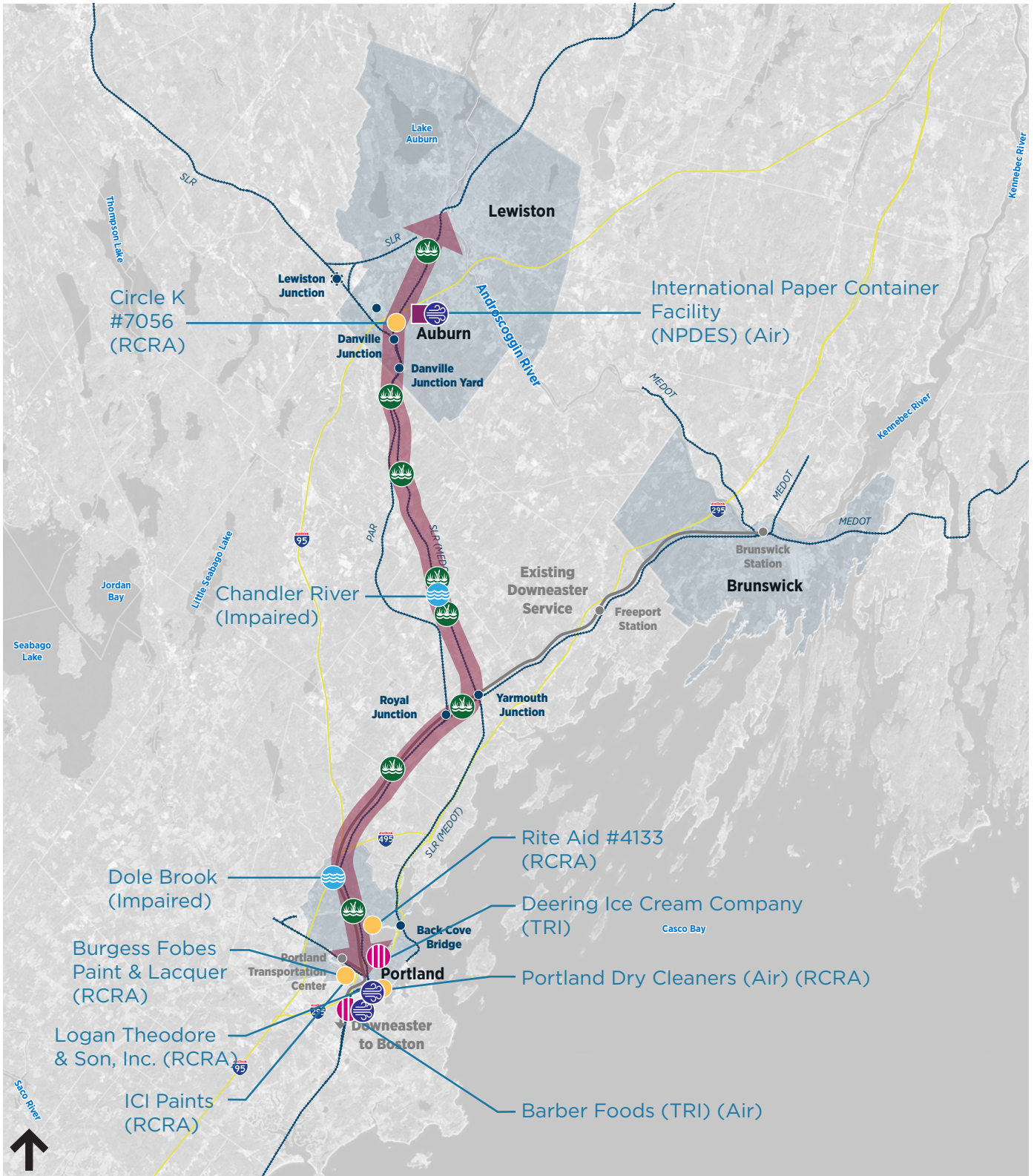
NPDES: National Pollutant Discharge Elimination System  
 RCRA: Resource Conservation & Recovery Act  
 TRI: Toxic Release Inventory

NOTE: Features on this map merely indicate presence, not potential impact

**LEWISTON-AUBURN PASSENGER RAIL SERVICE PLAN**

**Figure 1: Environmental Features for Alternative 1A**

High-Frequency Service between Lewiston-Auburn and Portland using Pan Am Corridor



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- Impaired Stream/River
- Wetland
- NPDES
- RCRA
- TRI
- Air
- 0.025 Mile Analysis Buffer

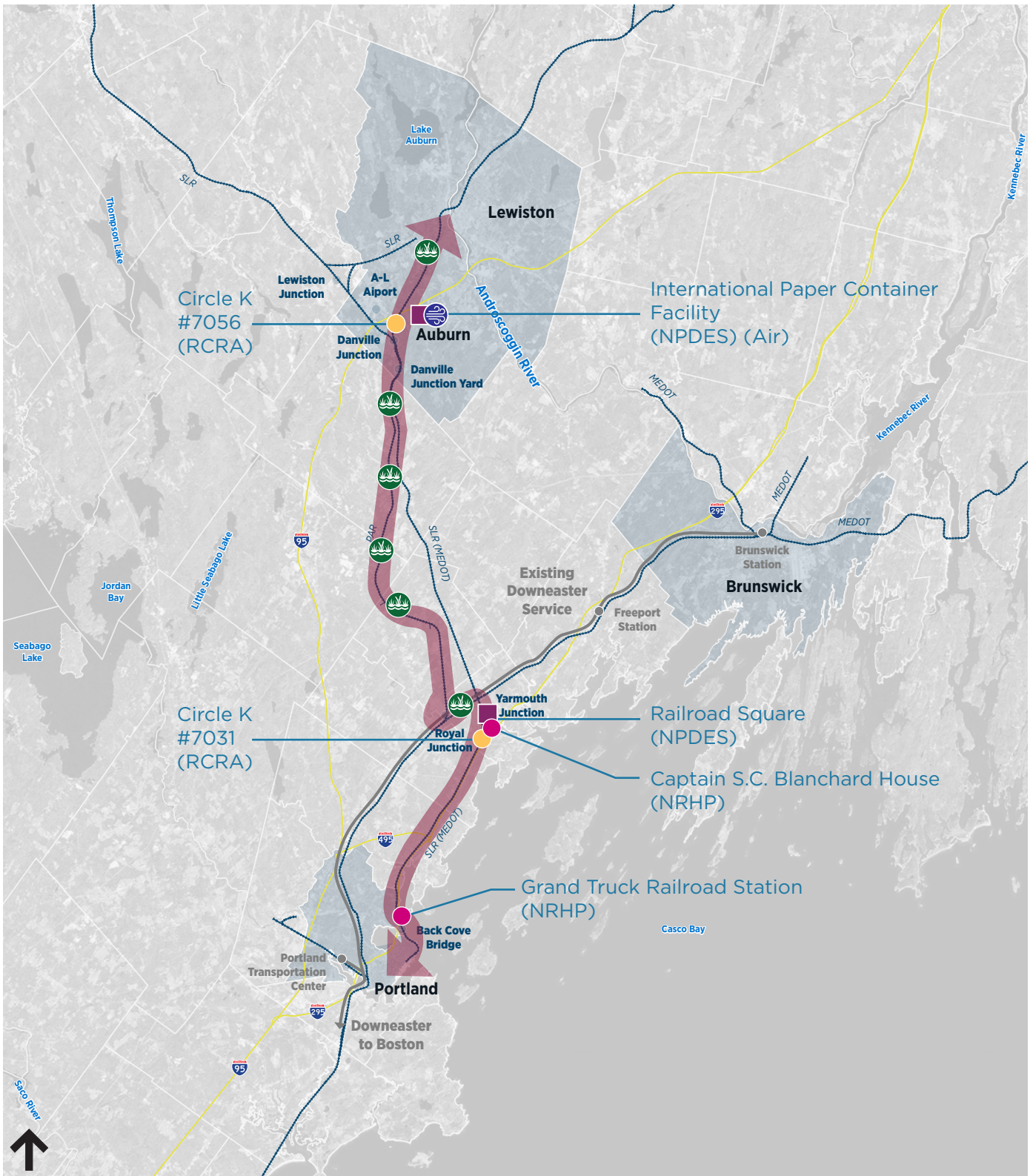
NPDES: National Pollutant Discharge Elimination System  
 RCRA: Resource Conservation & Recovery Act  
 TRI: Toxic Release Inventory

NOTE: Features on this map merely indicate presence, not potential impact

LEWISTON-AUBURN PASSENGER RAIL SERVICE PLAN

**Figure 2: Environmental Features for Alternative 1B**

High-Frequency Service between Lewiston-Auburn and Portland using SLR to Yarmouth Junction



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- NRHP
- NPDES
- RCRA
- Wetland

0.025 Mile Analysis Buffer

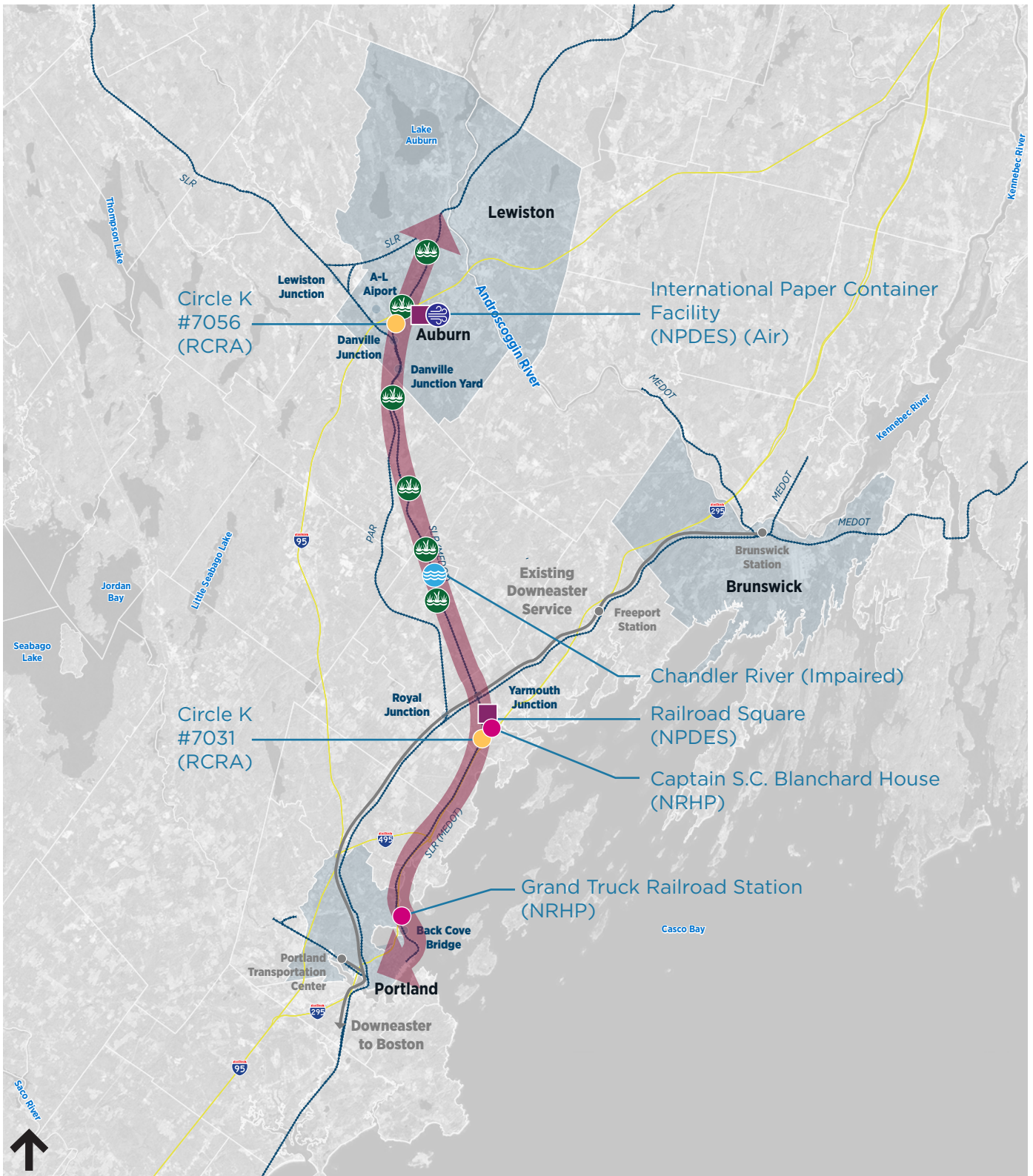
NPDES: National Pollutant Discharge Elimination System  
 RCRA: Resource Conservation & Recovery Act  
 NRHP: National Register of Historical Places

NOTE: Features on this map merely indicate presence, not potential impact

**LEWISTON-AUBURN PASSENGER RAIL SERVICE PLAN**

**Environmental Features for Figure 3: Alternative 2A**

High-Frequency Service between L-A and Portland via Back Cove Bridge using Pan Am Corridor through Royal Junction



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- Impaired Stream/River
- Wetland
- NPDES
- RCRA
- NRHP
- Air
- 0.025 Mile Analysis Buffer

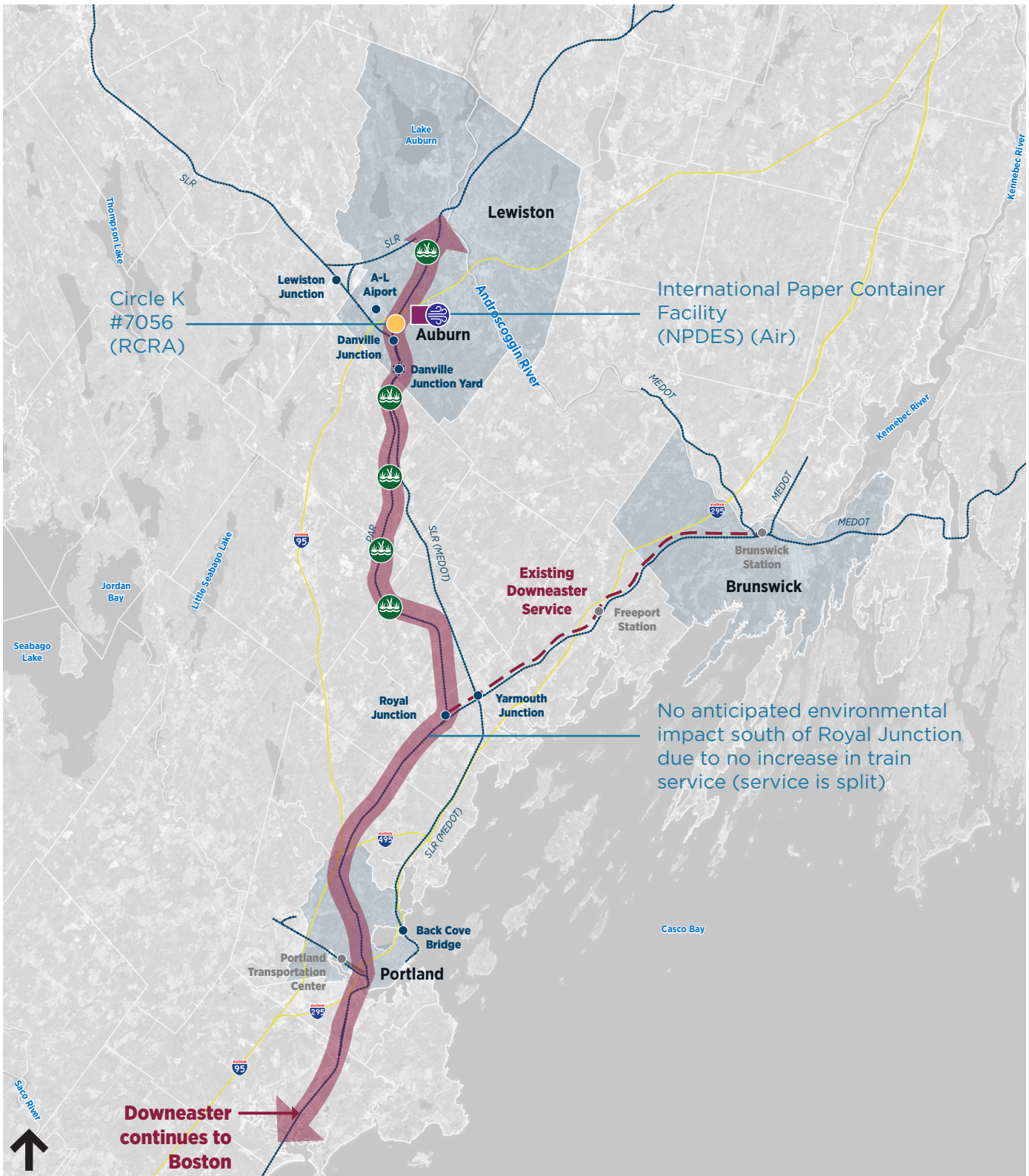
NPDES: National Pollutant Discharge Elimination System  
 RCRA: Resource Conservation & Recovery Act  
 NRHP: National Register of Historical Places

NOTE: Features on this map merely indicate presence, not potential impact

**LEWISTON-AUBURN PASSENGER RAIL SERVICE PLAN**

**Figure 4: Environmental Features for Alternative 2B**

High-Frequency Service between L-A and Portland via Back Cove Bridge using SLR Corridor



\\whb\gbl\proj\Boston\14093.00\graphics\NEWSLET\Alternatives\_EV.indd

- Wetland
- NPDES
- RCRA
- Air

0.025 Mile Analysis Buffer

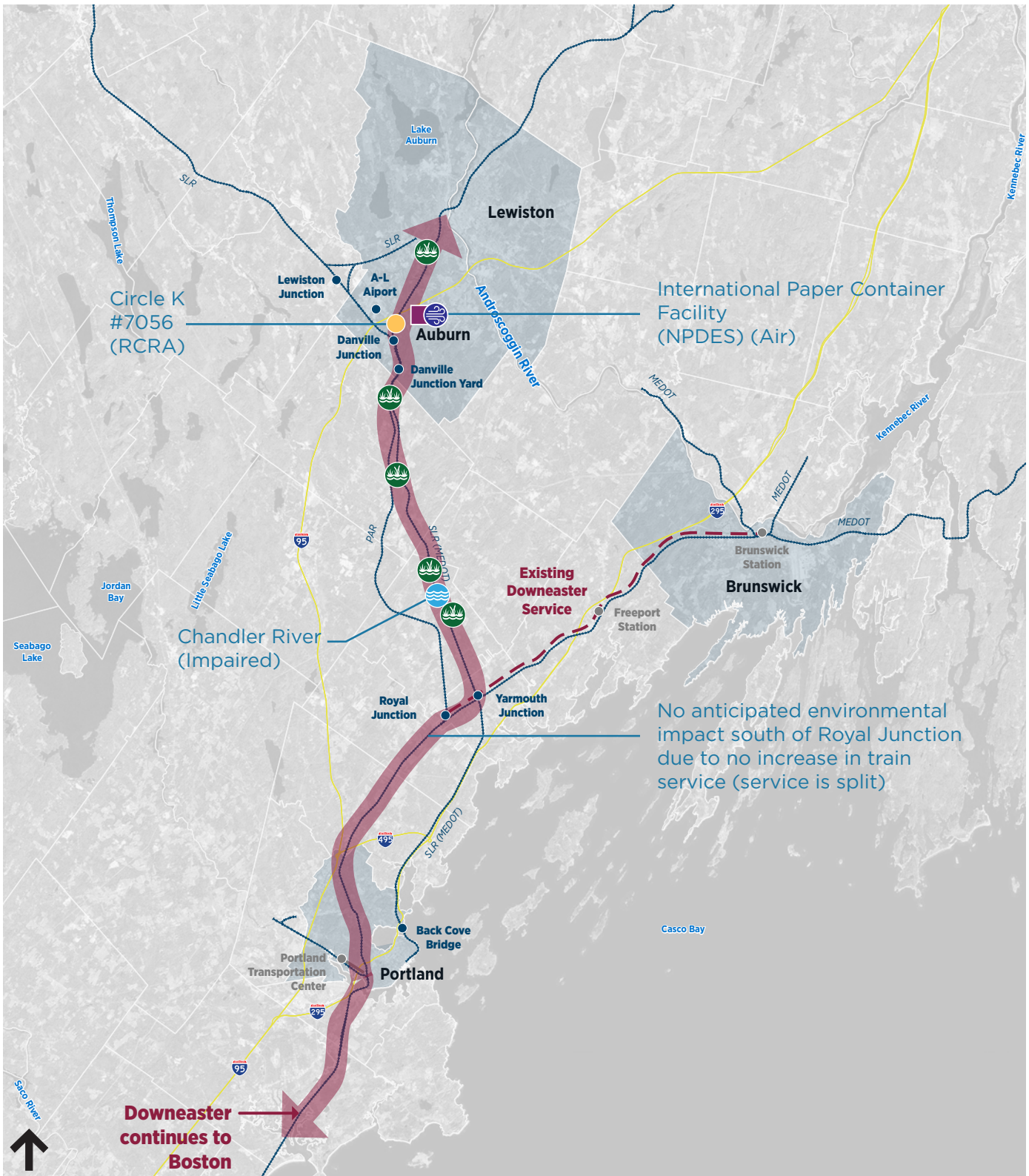
NPDES: National Pollutant Discharge Elimination System  
 RCRA: Resource Conservation & Recovery Act

NOTE: Features on this map merely indicate presence, not potential impact

LEWISTON-AUBURN PASSENGER RAIL SERVICE PLAN

**Figure 5: Environmental Features for Alternative 3A**

Split Brunswick-bound Downeaster Service between Lewiston-Auburn and Brunswick using Pan Am Corridor



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- Wetland
- NPDES
- RCRA
- Air

0.025 Mile Analysis Buffer

NPDES: National Pollutant Discharge Elimination System  
 RCRA: Resource Conservation & Recovery Act

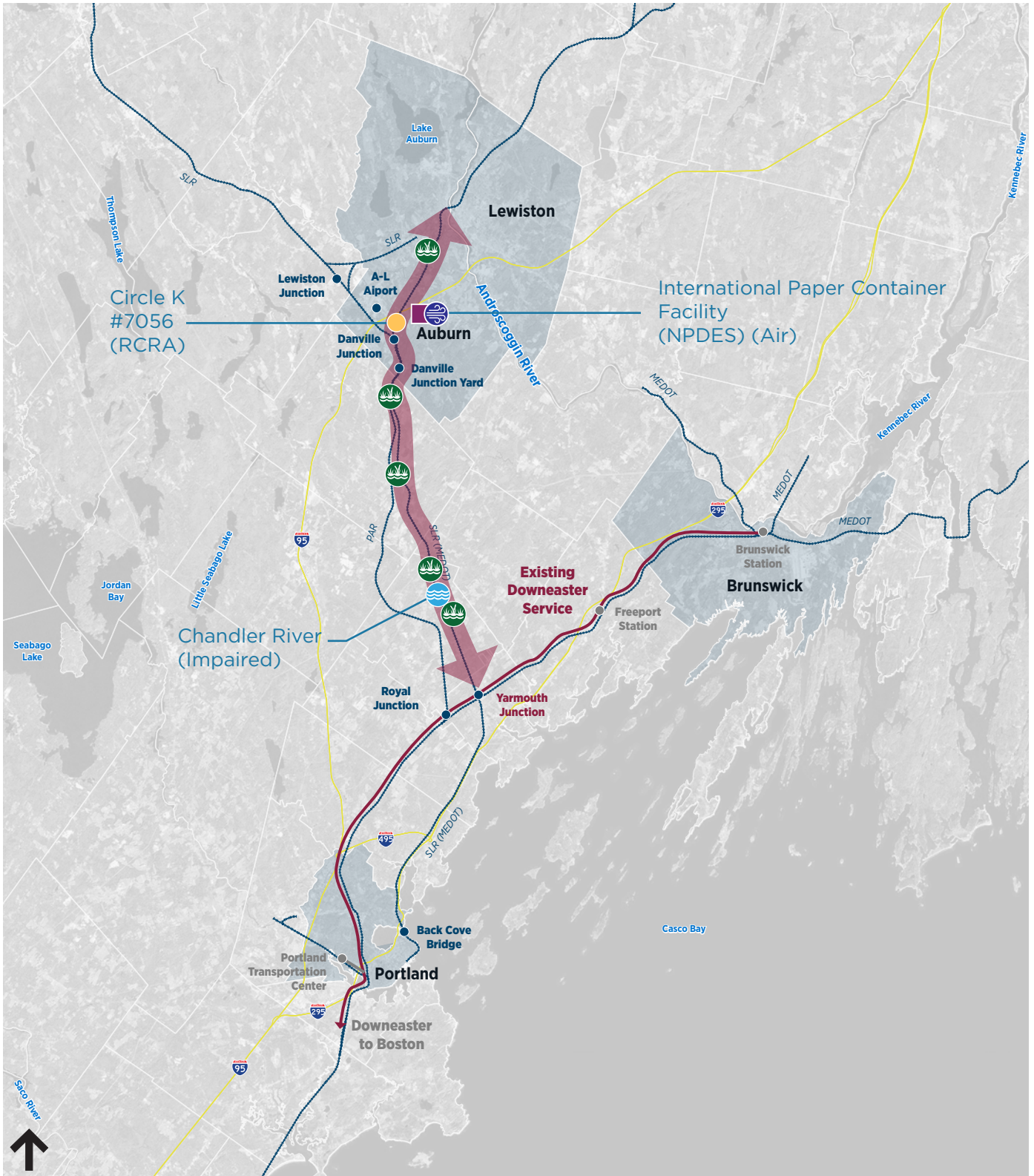
NOTE: Features on this map merely indicate presence, not potential impact

LEWISTON-AUBURN PASSENGER RAIL SERVICE PLAN

**Figure 6: Environmental Features for Alternative 3B**

Split Brunswick-bound Downeaster Service between Lewiston-Auburn and Brunswick using SLR Corridor





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- Wetland
- NPDES
- RCRA
- Air
- 0.025 Mile Analysis Buffer

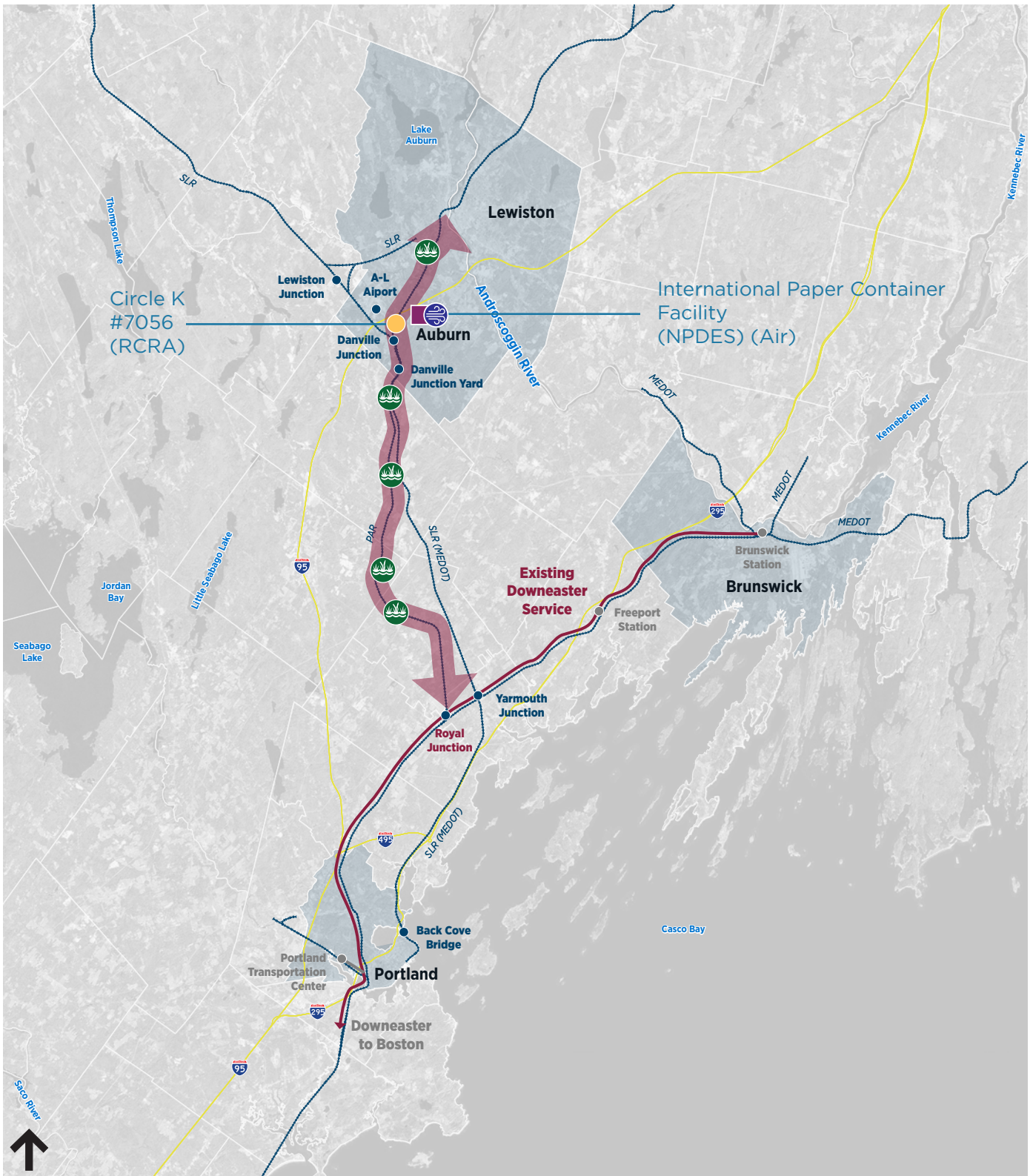
NPDES: National Pollutant Discharge Elimination System  
 RCRA: Resource Conservation & Recovery Act

NOTE: Features on this map merely indicate presence, not potential impact

LEWISTON-AUBURN PASSENGER RAIL SERVICE PLAN

**Figure 7: Environmental Features for Alternative 4**

Rail Shuttle Connecting Lewiston-Auburn to Downeaster at Yarmouth Junction using SLR Corridor



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- Wetland
- NPDES
- RCRA
- Air
- 0.025 Mile Analysis Buffer

NPDES: National Pollutant Discharge Elimination System  
 RCRA: Resource Conservation & Recovery Act

NOTE: Features on this map merely indicate presence, not potential impact

**LEWISTON-AUBURN PASSENGER RAIL SERVICE PLAN**

**Figure 8: Environmental Features for Alternative 5**  
 Rail Shuttle Connecting Lewiston-Auburn to Downeaster at Royal Junction using Pan Am Corridor

# APPENDIX F: PUBLIC MEETING SUMMARY

Lewiston Public Library -  
March 27, 2019 (6:00 to 8:00 PM)

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# Flyer

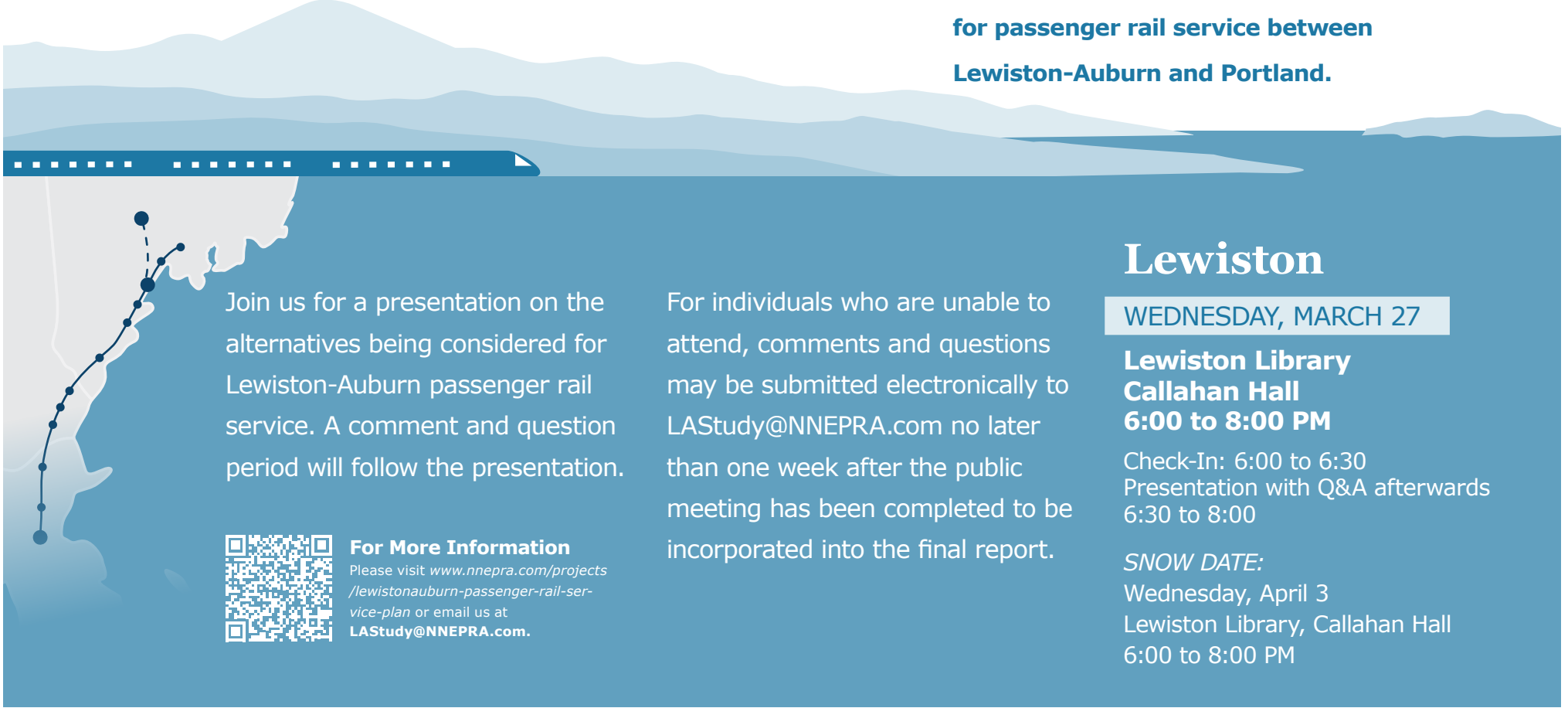
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# Passenger Rail between Lewiston-Auburn and Portland?

## We need your feedback!

The Cities of Lewiston and Auburn, in conjunction with Maine DOT and NNEPRA, invite you to a public meeting to **discuss the potential alternatives for passenger rail service between Lewiston-Auburn and Portland.**



Join us for a presentation on the alternatives being considered for Lewiston-Auburn passenger rail service. A comment and question period will follow the presentation.



**For More Information**  
Please visit [www.nnepra.com/projects/lewistonauburn-passenger-rail-service-plan](http://www.nnepra.com/projects/lewistonauburn-passenger-rail-service-plan) or email us at [LAStudy@NNEPRA.com](mailto:LAStudy@NNEPRA.com).

For individuals who are unable to attend, comments and questions may be submitted electronically to [LAStudy@NNEPRA.com](mailto:LAStudy@NNEPRA.com) no later than one week after the public meeting has been completed to be incorporated into the final report.

### Lewiston

WEDNESDAY, MARCH 27

**Lewiston Library  
Callahan Hall  
6:00 to 8:00 PM**

Check-In: 6:00 to 6:30  
Presentation with Q&A afterwards  
6:30 to 8:00

**SNOW DATE:**  
Wednesday, April 3  
Lewiston Library, Callahan Hall  
6:00 to 8:00 PM

## Lewiston-Portland و Auburn ركاب السكك الحديدية بين مدينتي نحن نحتاج إلى رأيكم!

يسر مدينتنا Lewiston و Auburn، بالتعاون مع Maine DOT و NNEPRA، دعوتكم لحضور اجتماع عام لمناقشة بدائل محتملة للذين يركبون السكك الحديدية بين Lewiston-Auburn و Portland. الأشخاص الذين يتعذر عليهم الحضور إلى الاجتماع، يمكنهم إرسال تعليقاتهم وأسئلتهم إلى [LAStudy@NNEPRA.com](mailto:LAStudy@NNEPRA.com) في موعد أقصاه أسبوع واحد بعد انتهاء الاجتماع العام.

### Lewiston

الأربعاء، 27 آذار/مارس

المكتبة العامة لـ Lewiston  
صالة Callahan

من 6 إلى 8 مساءً

التسجيل: من 6 إلى 6:30 مساءً

العرض التقديمي والأسئلة والأجوبة بعد ذلك: من 6:30 إلى 8 مساءً

التاريخ البديل:

الأربعاء، 3 نيسان/أبريل

المكتبة العامة لـ Lewiston،

صالة Callahan

من 6 إلى 8 مساءً

## Rakaabka Tareenka ee u dhexeeya Lewiston-Auburn iyo Portland?

### Waxaan u baahanahay jawaab celintaada!

Magaaloyinka Lewiston iyo Auburn oo ay isku xirka Waaxda Gaadiidka ee Maine (Maine Department of Transportation) iyo Hay'adda Qaybta Waqooyiga oo Gobolka Ingiriiska Cusub ee Maamulka Tareenka (Northern New England Rail Authority), ayaa kugu martiqaadaya kulan dadweyne si looga wada hadlo fursadaha kale ee suurtagalka ah ee adeega tareenka ee dhexeeya Lewiston-Auburn iyo Portland. Shaqsiyaadka aan awoodin inay ka qaybgalaan, faalooyinka iyo su'aalaha ayaa loo gudbin karaa [LAStudy@NNEPRA.com](mailto:LAStudy@NNEPRA.com) ugu dambeyn hal todobaad kadib marka la dhammeeyo kulanka.

### Lewiston

ARBACO, MAARSO 27

Maktabadda Lewiston  
Callahan Hall

6:00 ilaa 8:00 galabnimo

Is xadiri: 6:00 ilaa 6:30

Soo bandhigida su'aalaha iyo jawaabaha kadib:

6:30 ilaa 8:00

HADII UU BARAF DA'A:

Arbaco, Abril 3

Maktabadda Lewiston,

Callahan Hall

6:00 ilaa 8:00 galabnimo

## Transport ferroviaire de voyageurs entre Lewiston-Auburn et Portland ? Nous avons besoin de votre avis !

Les villes de Lewiston et Auburn, conjointement avec le département des transports de l'État du Maine et l'autorité des transports ferroviaires de voyageurs de la Nouvelle-Angleterre du Nord, vous invitent à une assemblée publique pour **discuter de l'expansion éventuelle du service de transport ferroviaire des voyageurs entre Lewiston-Auburn et Portland.** Pour les personnes ne pouvant s'y rendre, commentaires et questions peuvent être soumis, au plus tard une semaine après la date de l'assemblée, à [LAStudy@NNEPRA.com](mailto:LAStudy@NNEPRA.com).

### Lewiston

MERCREDI 27 MARS

Bibliothèque de Lewiston  
Callahan Hall

De 18h à 20h

Inscription entre 18h et 18h30

Présentation avec questions et

réponses de 18h30 à 20h

**EN CAS DE NEIGE:**

Mercredi 3 avril

Bibliothèque de Lewiston,

Callahan Hall

De 18h à 20h

## ¿Transporte ferroviario de pasajeros entre Lewiston-Auburn y Portland?

### ¡Necesitamos sus comentarios!

Las ciudades de Lewiston y Auburn, conjuntamente con el Departamento de Transporte de Maine y la Autoridad Ferroviaria de Pasajeros del Norte de Nueva Inglaterra, le invitan a participar en una asamblea pública para debatir las potenciales alternativas del servicio ferroviario de pasajeros entre Lewiston-Auburn y Portland. Aquellos que no puedan asistir, podrán someter sus comentarios y preguntas a [LAStudy@NNEPRA.com](mailto:LAStudy@NNEPRA.com) por un período de una semana, después de finalizada la asamblea pública.

### Lewiston

MIÉRCOLES, 27 DE MARZO

Biblioteca de Lewiston Callahan Hall

De las 6:00 a las 8:00 PM

Registrarse: de las 6:00 a las 6:30 PM

Después de la presentación habrá una

sesión de preguntas y respuestas:

De las 6:30 a las 8:00 PM

**FECHA ALTERNATIVA EN**

**CASO DE NIEVE:**

Miércoles 3 de abril

Biblioteca de Lewiston,

Callahan Hall

De las 6:00 a las 8:00 PM

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# Press Release

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# Media Advisory

**March 19, 2019**

**For Immediate Release**

**For More Information:**

Natasha Velickovic, Lead Project Consultant, VHB

**617-607-2909**

**NVelickovic@VHB.com**

The Lewiston/Auburn Passenger Rail Service Plan Committee is hosting a public to discuss Service Scenarios for a passenger rail service between the communities of Lewiston/Auburn and Portland to present information to and gather feedback from the public about the initiative. Members of the public are encouraged to attend.

**Date: Wednesday, March 27, 2019 (snow date April 3, 2019)**

**Location: Lewiston Library, Callahan Hall**

**Time: 6:00pm-8:00pm**

Building upon the results of the ridership propensity analysis, which was developed as Phase 1 of this initiative, the group has focused on rail alignments and service levels which would support a high-frequency, commuter type rail service between the two regions. Route and station options, as well as potential schedules will be discussed as well as capital and operating cost estimates.

## **PROJECT BACKGROUND**

In 2015, the 127th Maine Legislature, in PL 2015, c. 267, Pt. YY, approved a \$500,000 fund allocation and directed the Department of Transportation (MaineDOT), in consultation with the cities of Lewiston and Auburn and Northern New England Passenger Rail Authority (NNEPRA), to conduct a study and complete a plan for the implementation of passenger rail service between the cities of Lewiston and Auburn and the Amtrak Downeaster service. The municipalities of Lewiston and Auburn have contributed \$50,000 toward the project cost.

Overseeing the project, a nine-member Project Committee was established, to represent the diverse views and regional perspectives included representatives from NNEPRA and MaineDOT, as well as

representatives from the Cities of Lewiston and Auburn. VHB has been selected as the Project Consultant Team.

## **PROJECT ELEMENTS**

This project has been organized into two distinct evaluations: (1) transit propensity assessment (i.e., ridership estimation); and (2) corridor considerations and operating service evaluations.

The first analysis involved an assessment of potential ridership. A range of ridership estimates were developed by evaluating the demographics and travel patterns in the area, by considering the potential development opportunities of a rail connection and by examining similar rail corridors across the country.

The second evaluation has included the development of Service Scenarios, an assessment of infrastructure needs and costs to support various service scenarios, and a potential plan for implementation, which will be presented for comment at the March 27, 2019 meeting. Various rail alignments are under consideration, which may include the communities of Lewiston, Auburn, Gray, North Yarmouth, Yarmouth, Falmouth, and Cumberland as well as Portland.

Members of Feedback and questions related to the project may be directed to: [lastudy@nnepra.com](mailto:lastudy@nnepra.com)

# Sign-in Sheets

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# Lewiston-Auburn Passenger Rail Project

Lewiston Public Meeting – March 27, 2019

6:00-8:00 PM (Lewiston Library, Callahan Hall)

| Name               | City/Town      | Email Address                   | How did you hear about this meeting? |
|--------------------|----------------|---------------------------------|--------------------------------------|
| Michael Perry      | BANGOR         | PERRY.MICHAELT@GMAIL.           | FRIEND                               |
| Michael Marcotte   | Lewistn        | tmym@btmail.com                 | City Council                         |
| Carl Wilcox        | New Glcester   | carl@cox.maine@gmail.com        | Radio                                |
| Sara Zografos      | PAcTS          | szografos@gpcap.com             |                                      |
| Whitney King-Baker | Minot          | wkingbaker@se.yahoo.com         | MRTC & Tony/Sun Journal              |
| Debra Smith        | New Gloucester | debra.hs.now@gmail.com          | friend                               |
| Mia Purcell        | Woodstock      | mpurcell@community-concepts.org | HOCC                                 |
| JOSEPH DANIELS     | LEWISTON       | Syndereisi@icloud.com           | FACEBOOK                             |
| Jeremiah Bartlett  | Auburn         | jeremiah.bartlett@gmail.com     | Face book                            |
| Peggy Rotundo      | Lewiston       | mrotundo@bates.edu              | poster/email                         |
| Larry W. Mayes     | Lewiston       | lwntem@yahoo.com                | Sen Libby                            |
| Andrew Titus       | Auburn         | atitus@auburnmaine.gov          | E-mail                               |
|                    |                |                                 |                                      |
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|                    |                |                                 |                                      |
|                    |                |                                 |                                      |

# Lewiston-Auburn Passenger Rail Project

Lewiston Public Meeting – March 27, 2019

6:00-8:00 PM (Lewiston Library, Callahan Hall)

| Name           | City/Town | Email Address             | How did you hear about this meeting? |
|----------------|-----------|---------------------------|--------------------------------------|
| PEN SCHWARTZ   | BRUNSWICK | penster4062@yahoo.com     | AOCC                                 |
| Eric Cousens   | Auburn    | ecousens@auburnmaine.gov  |                                      |
| LEROY WALKER   | Auburn    | @auburnmaine.gov          | Auburn                               |
| Scott LaFlamme | Yarmouth  | slflamme@garmouth.me.us   | Town of Yarmouth                     |
| Pat Libby      | LEWISBORO | 10 COPOLAND WAY           | PAPER                                |
| CAMERON DIBBON | PORTLAND  | desk@newscenter-maine.com | NEWS                                 |
| Tim Wells      | PORTLAND  | welmaurya@gmail.com       | MAINE BIZ                            |
| JOHN MYRAND    | LEWISTON  |                           |                                      |
| Alisan Jacobs  | Auburn    | ajacobs@bermansimmons.com | email                                |
| Ben Santos     | Auburn    | benjamin@tea-lobster.com  | Facebook                             |
| JASON LEVESQUE | AUBURN    | JLevesque@AUBURNMAINE.GOV | -                                    |
|                |           |                           |                                      |
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|                |           |                           |                                      |

# Lewiston-Auburn Passenger Rail Project

Lewiston Public Meeting – March 27, 2019

6:00-8:00 PM (Lewiston Library, Callahan Hall)



| Name            | City/Town | Email Address              | How did you hear about this meeting? |
|-----------------|-----------|----------------------------|--------------------------------------|
| Gina Fuller     | Lewiston  | GFuller1130@gmail          |                                      |
| Kegan Fuller    | Lewiston  | kfuller@maine.net!org      | news-                                |
| Suzanne Piecuch | Auburn    | zekerism@gmail             | Facebook                             |
| Neil Donaldson  | Portland  | hcd@portlandmaine.gov      |                                      |
| FRANK CARR      | LEWISTON  | frank@nohypeconsulting.com | TONY DONOVAN                         |
| Irwin GOLTZ     | Portland  | newsroom@mainepublic.org   |                                      |
| Beckie Conrad   | Auburn    | Beckie@lametrochamber.com  | Chamber of Commerce                  |
| Donald Christie | Gray      | dchristie@roadrunner.com   | newspaper (ST)                       |
| Ted Walworth    | Lewiston  | ezwalworth@gmail.com       | LST, email, Chamber                  |
|                 |           |                            |                                      |
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# Lewiston-Auburn Passenger Rail Project

Lewiston Public Meeting – March 27, 2019

6:00-8:00 PM (Lewiston Library, Callahan Hall)



| Name         | City/Town                     | Email Address               | How did you hear about this meeting? |
|--------------|-------------------------------|-----------------------------|--------------------------------------|
| Emily Manter | Lewiston (Rep. Golden office) | emily.manter@mail.house.gov |                                      |
| Rich Byard   | Auburn                        | jersey53@roadrunner.com     | - word of mouth                      |
| Jensen Cook  | Portland                      | jensen.cook@gmail.com       | Social Media                         |
| Jim Lyson    | Lewiston                      | JamesLyson2@gmail.com       | Word of Mouth                        |
|              |                               |                             |                                      |
|              |                               |                             |                                      |
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|              |                               |                             |                                      |

# Lewiston-Auburn Passenger Rail Project

Lewiston Public Meeting – March 27, 2019

6:00-8:00 PM (Lewiston Library, Callahan Hall)

| Name                | City/Town | Email Address                   | How did you hear about this meeting? |
|---------------------|-----------|---------------------------------|--------------------------------------|
| Michael Chammasi    | Auburn    | mchammasi@auburnme.gov          |                                      |
| Deborah Watten Finn | Yarmouth  | deborah.wattenfinn@gmail.com    |                                      |
| Airt Bell           | Yarmouth  | ABELL9086@AOL.COM               |                                      |
| Ralph Chapman       | Lewiston  | mainenightowl4706mail.com       |                                      |
| John Casey          | Lewiston  | john.casey@mail.com             | press / FB                           |
| JENNIFER WILLIAMS   | LEWISTON  | jwilliams@avco.org              |                                      |
| REP JIM HANDY       | LEWISTON  | JIM.HANDY@LEGISLATURE.MAINE.GOV |                                      |
| Tony Donouan        | Portland  | me.likesrail@gmail.com          | I Funder, T                          |
| Alan Downey         | Lewiston  | AlanBDowney@gmail.com           | FB                                   |
| Robert Edwards      | Lewiston  |                                 |                                      |
| Rick Speer          | Auburn    |                                 | FB                                   |
| CLIFF TOWNSEND      | TREEMOUNT | Townsendcs@comcast.net          | DPH / MPBN                           |
| Rita + Mike Lajae   | Lewiston  | lajae1@midmaine.com             | E-mail                               |
| W L Wray            | Auburn    |                                 | San Journal                          |
| Elizabeth Eames     | Lewiston  | eeames@bates.edu                | many many places                     |
| Allison Beane       | Auburn    | allison.beane@hilton.com        |                                      |

# Lewiston-Auburn Passenger Rail Project

Lewiston Public Meeting – March 27, 2019

6:00-8:00 PM (Lewiston Library, Callahan Hall)

| Name                   | City/Town  | Email Address              | How did you hear about this meeting? |
|------------------------|------------|----------------------------|--------------------------------------|
| Glen Snow              | Lewiston   | gsnow@qwi.net              | newspaper                            |
| Sue Ellen Bordwell     | Yarmouth   | sebordwell@gmail.com       |                                      |
| Kiernan Majors-Collins | Lewiston   | kiernamc@gmail.com         | Dick Grandmason                      |
| Kevin J. Michael       | Lewiston   | Kmichael@bates.edu         | F.B.                                 |
| Michael Rice           | Auburn     |                            | Dampshire St. Auburn, Me. also       |
| Peter Ruck             | Lewiston   | peter@intheadustry.com     | Sun Journal                          |
| Jack Sutton            | Belgrade   | jsutton@roachrunner.com    | Maine Rail Group (MRG, Inc)          |
| Stanley C. Koski       | Augusta    | stanley.koski@gmail.com    | Maine Rail Group ↑                   |
| Rick Luman             | Auburn     | RLANMAN@FCYTO.ME.COM       | NEWS PAPER                           |
| Dale F. Doughty        | Lewiston   | ddoughty@lewisstonme.com   | City                                 |
| WS Horn                | Lewiston   | shorn@auburnschl.edu       | Paper                                |
| Matthew Daigle         | Lewiston   | mداigle@sunmedgroup.net    | Sun Journal                          |
| Cynthia J. Peters      | Lewiston   | cj1955@yahoo.com           | Dick Grandmason <sup>also</sup>      |
| Warren Leunig          | Hebron     | Ttranenut@juno.com         |                                      |
| Susan h. Charle        | Lewiston   | susan.charle2010@gmail.com | Dick Grandmason                      |
| Paul Weiss             | Cumberland | WEISSp@ME.com              | Radio                                |

# Information Booklet

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# Lewiston-Auburn Passenger Rail Service Plan Project

Thank you for your interest in this project.

The project has answered several important questions over the past several months, including how many people would ride a train between Lewiston-Auburn and Portland, as well as what a rail service would look like, and what it would take to get it up and running. We hope that you find this quick project summary helpful. Further detail on this evaluation can be found on the project website. We encourage you to share your comments and questions with us.

## Project Description

This project is a two-phase planning study that is examining a potential passenger rail service between Lewiston-Auburn and Portland. Initial project evaluations focused on ridership potential. That evaluation revealed a latent demand for a high-frequency transit connection between Lewiston-Auburn and Portland, which is summarized in the ridership table below.

The project is currently evaluating alignments for a passenger rail connection between Lewiston-Auburn to Portland, including how the service would operate, and how much it would cost.

All work under this project has been performed under the direction of a Project Committee, which includes representatives from the City of Lewiston, City of Auburn, MaineDOT, and the Northern New England Passenger Rail Authority.

## Propensity Findings

|                                  | 2025 Ridership Range   |      | 2040 Ridership Range |       |
|----------------------------------|------------------------|------|----------------------|-------|
|                                  | Daily Riders (One-Way) |      |                      |       |
|                                  | LOW                    | HIGH | LOW                  | HIGH  |
| <b>Higher-Frequency Service*</b> | 600                    | 800  | 700                  | 1,900 |
| <b>Lower-Frequency Service**</b> | 210                    | 240  | 250                  | 330   |

\*12 to 20 round trips per day | \*\*4 round trips per day

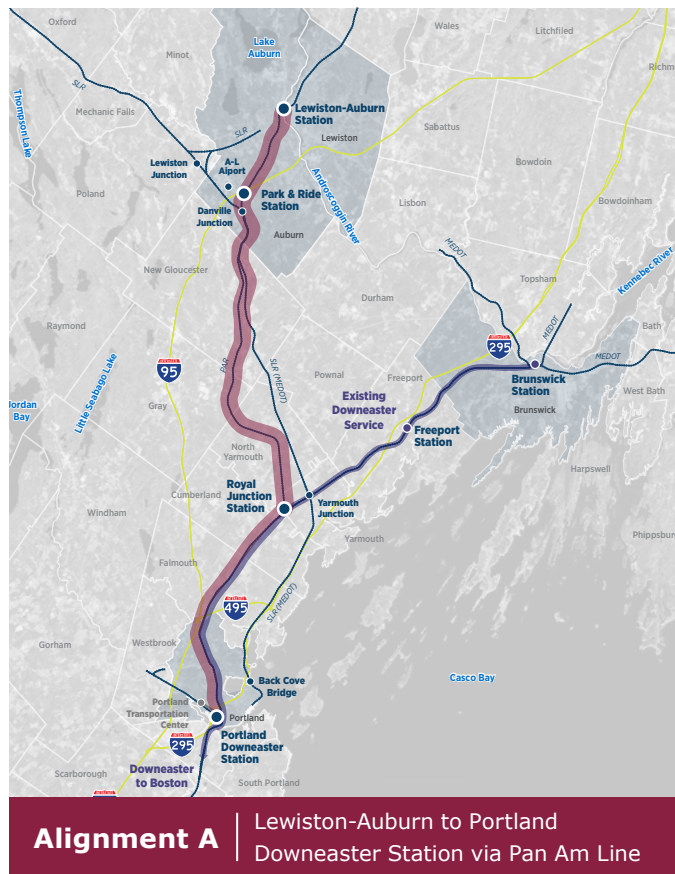
## What alignments are being considered for passenger rail service between Lewiston-Auburn and Portland?

Three alignments are being considered. These alignments use one or a combination of two rail corridors to make the connection between the two regions: the Pan Am Rail Line and the Saint Lawrence and Atlantic Rail (SLR) Line. The three alignment options are shown on these two pages.

### Where will the stations be?

It is envisioned that there will be one station in either downtown Lewiston or downtown Auburn, one station at the Maine Turnpike Exit 75 to facilitate park and ride access, and one station in Portland. Depending on the alignment, one station could also be provided at either Royal Junction or Yarmouth Junction. Stations in other locations could also be considered and examined at a later date.

At this preliminary stage of planning, specific sites for stations have not been identified. Should this project advance, a detailed parcel evaluation will be performed to identify the most ideal location for a station in terms of environmental impact, land use compatibility, appropriateness of size for desired station amenities (e.g., parking), and potential for transit oriented development.



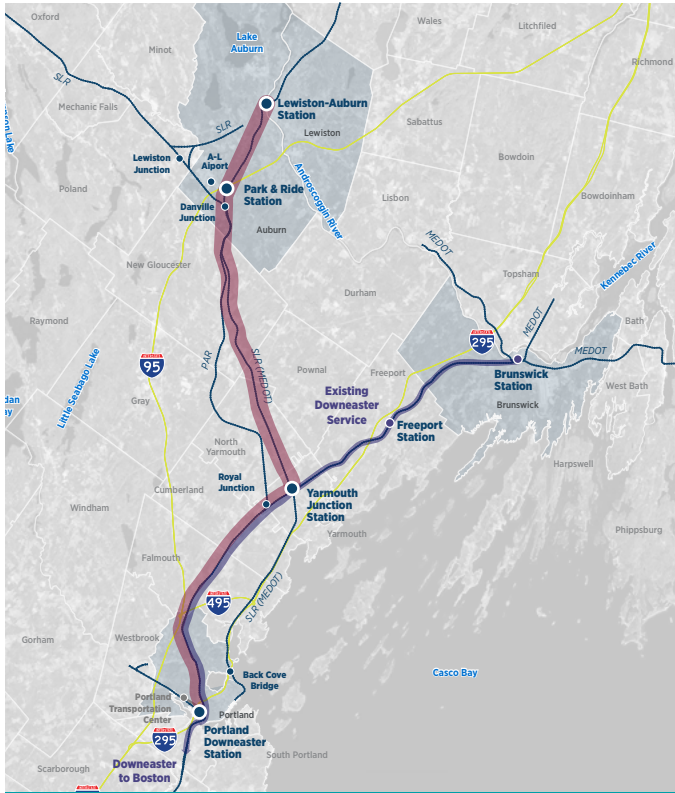
### How much will tickets cost?

While it is too early in the planning process to determine a ticket price, similar services charge \$6-\$10 for one way tickets and offer discounts and multi-ride passes.

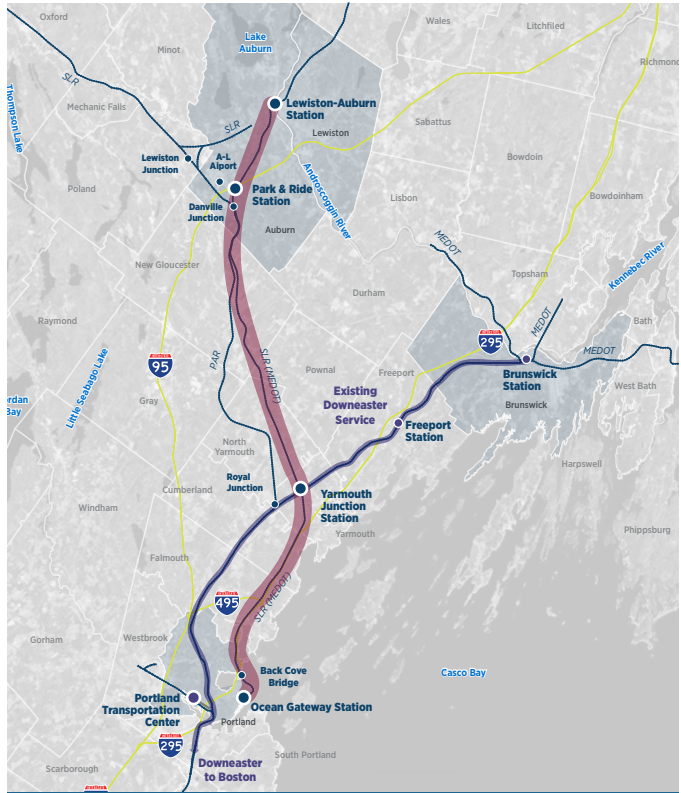
### What would the service plan look like?

|   | Alignment A  | Alignment B  | Alignment C  |
|---|--|--|--|
| <b>Peak Hour Frequency</b>                      | Every 30 mins  | Every 30 mins  | Every 30 mins  |
| <b>Number of Train Round Trips per Day</b>      | 14 on weekdays<br>8 on weekends/holidays                     | 14 on weekdays<br>8 on weekends/holidays                     | 15 on weekdays<br>9 on weekends/holidays               |
| <b>Travel Time</b>                              | 50 mins*<br>Downtown Lewiston to Portland Downeaster Station | 48 mins*<br>Downtown Lewiston to Portland Downeaster Station | 43 mins<br>Downtown Lewiston to Portland Ocean Gateway |
| <b>Comparable Drive Time (During Rush Hour)</b> | 40-60 mins   | 40-60 mins   | 45-65 mins   |
| <b>Estimated Daily Ridership (2040)</b>         | 700-1,900 daily riders (one-way)                             | 700-1,900 daily riders (one-way)                             | 700-1,900 daily riders (one-way)                       |

\*Note: Assumes a main line station in Portland



**Alignment B** | Lewiston-Auburn to Portland Downeaster Station via SLR Line



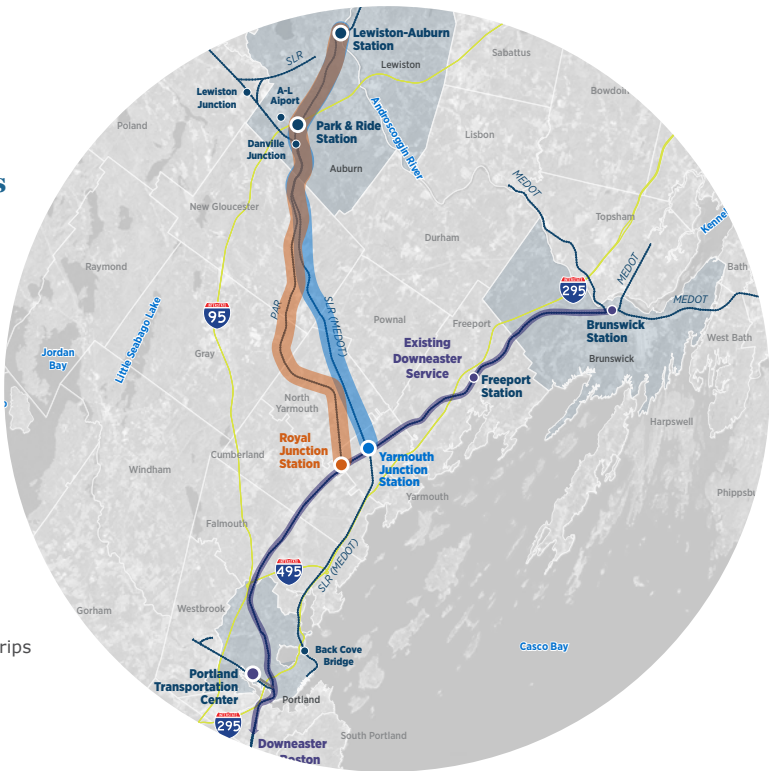
**Alignment C** | Lewiston-Auburn to Portland Ocean Gateway

**Potential Phasing Options**

While any of these alignments could be implemented in their entirety, they could also be implemented as part of a phased approach.

- Rail Shuttle from Lewiston-Auburn to Downeaster via Pan Am Line
- Rail Shuttle from Lewiston-Auburn to Downeaster via SLR Line

Connects to five daily Downeaster round trips



**L-A Rail Shuttle**



Cross-platform transfer to existing Downeaster service



**Downeaster Train**

## How much will the project cost?

Costs for the various alignments are presented in the table below.

The construction cost estimate includes improvements to the track (both to allow for increased speeds necessary for passenger rail service and to allow trains to pass each other); bridge upgrades or replacements; grade crossing improvements; signal/communication systems; rail stations; and design, permitting, and engineering.

The vehicle cost estimate covers the cost of procuring new train sets to operate the 30 minute peak service and necessary spare equipment.

The annual operating and maintenance cost estimate covers all applicable costs to operate the service, including crew labor, vehicle and track maintenance, and general administration support.

## How will the project be funded?

Funding for a project of this size will likely need to be provided by a few sources. Federal grant programs have been known to fund approximately 50% to 80% of transit investments like this one. The remaining 20% to 50% would need to be provided by local and

state sources including the possibility for private contributions such as Public-Private Partnerships. A funding plan and implementation approach are things that would be developed at a later stage.

## When could passenger rail service between Lewiston-Auburn and Portland begin?

There are still many steps that need to be taken for this potential passenger rail service, including final selection of an alignment, a cost and benefit analysis, environmental review, design, and construction. These next steps are currently not funded.

In addition to gaining support from all impacted communities, operating agreements would need to be developed and there would need to be a firm financial commitment to operate and maintain the system.

## When will we see the final results of this planning project?

The Lewiston-Auburn Service Plan Project is expected to be finalized in April 2019. A final report will be published and made available on the project website. Use the QR code or website link below to access the site.

## Estimated Project Cost

|   | Alignment A               | Alignment B               | Alignment C               |
|---|---------------------------|---------------------------|---------------------------|
| <b>Estimated Construction Cost (2019\$)</b>                     | \$189 to \$230 million    | \$207 to \$254 million    | \$241 to \$295 million    |
| <b>Estimated Vehicle Cost (2019\$)</b>                          | \$75 to 95 million        | \$75 to 95 million        | \$75 to 95 million        |
| <b>Estimated Annual Operating and Maintenance Cost (2019\$)</b> | \$15 to \$19 million/year | \$16 to \$20 million/year | \$17 to \$21 million/year |



# Thank you!

## For More Information Please Visit

[www.nnepra.com/projects/lewistonauburn-passenger-rail-service-plan](http://www.nnepra.com/projects/lewistonauburn-passenger-rail-service-plan) or email us at [LAStudy@NNEPRA.com](mailto:LAStudy@NNEPRA.com)

We invite individuals who have not provided their comments or questions to submit them electronically to [LAStudy@NNEPRA.com](mailto:LAStudy@NNEPRA.com) no later than **11:59 PM on April 3, 2019**.

# PowerPoint Presentation

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# Lewiston-Auburn Passenger Rail Service Project

**Project Update Meeting**  
Lewiston Library-Callahan Hall  
March 27, 2019



# Welcome from the Project Committee

## City of Lewiston



- Dick Grandmaison
- Lincoln Jeffers
- John Myrand

## City of Auburn



- Jonathan Labonte
- Bettyann Sheats
- Bob Stone

## NNEPRA



- Patricia Quinn

## Maine DOT



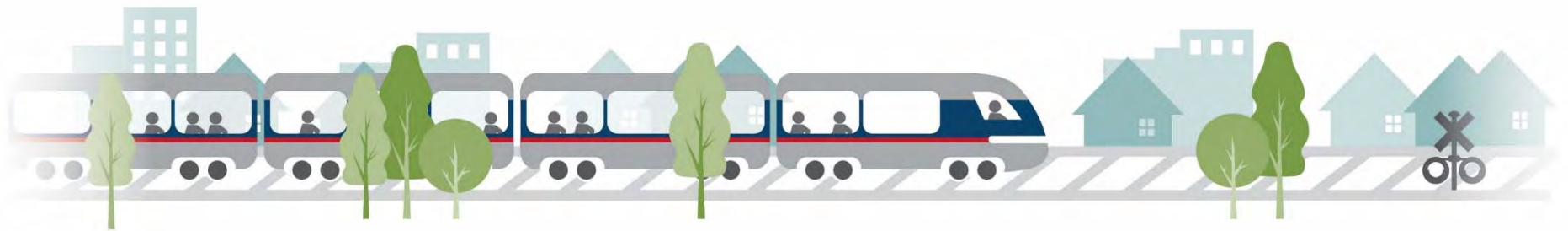
- Mary Ann Hayes

- *Met monthly to review project approach and evaluations*
- *Provided local knowledge and insight to Project Team*
- *Reviewed and discussed evaluation results*



# AGENDA

- Overview of Project Scope
- Study Area
- Ridership Assessment
- Open House Workshops
- Potential Alignments
- Cost Estimates
- Next Steps for this Project
- Implementation Plan
- Comments and Questions
- Project Poll

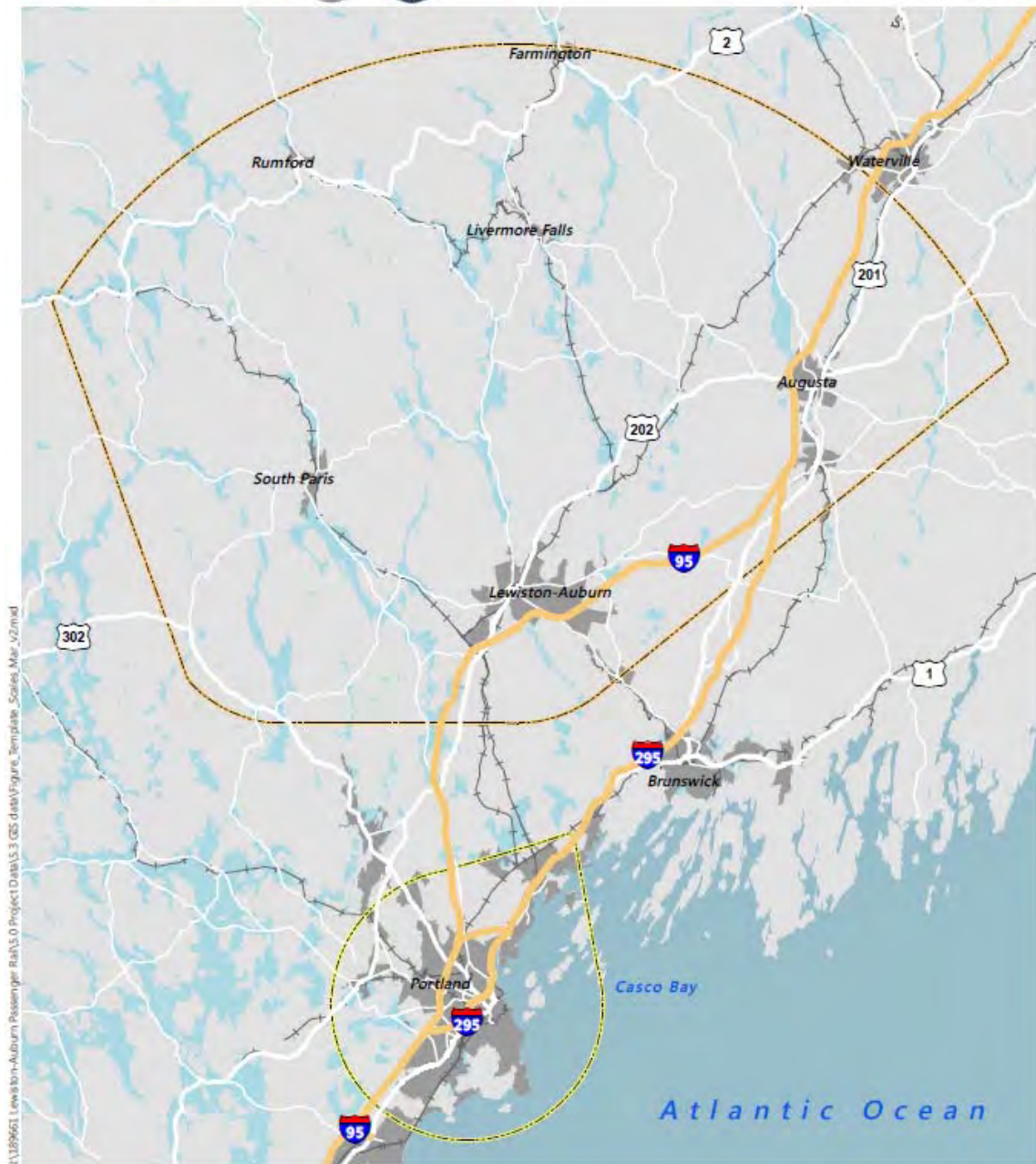
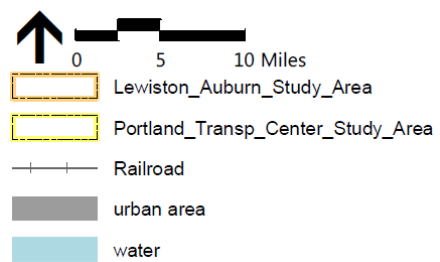


# Overview of Project Scope

Scope split in two distinct phases:

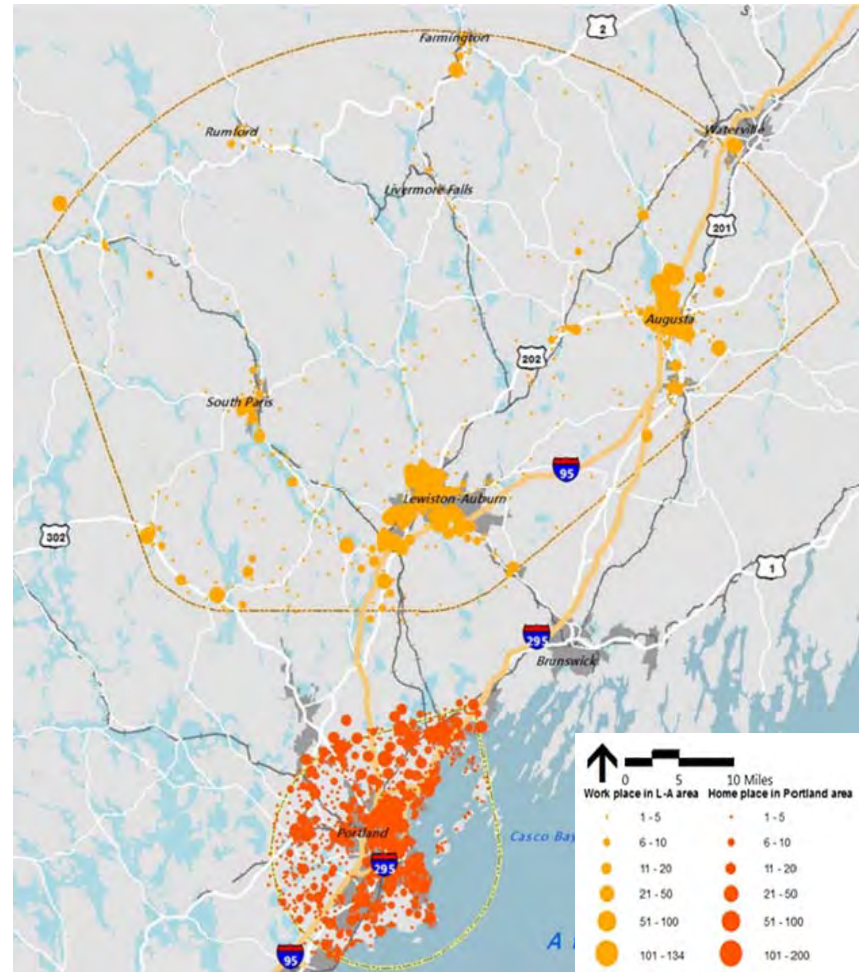
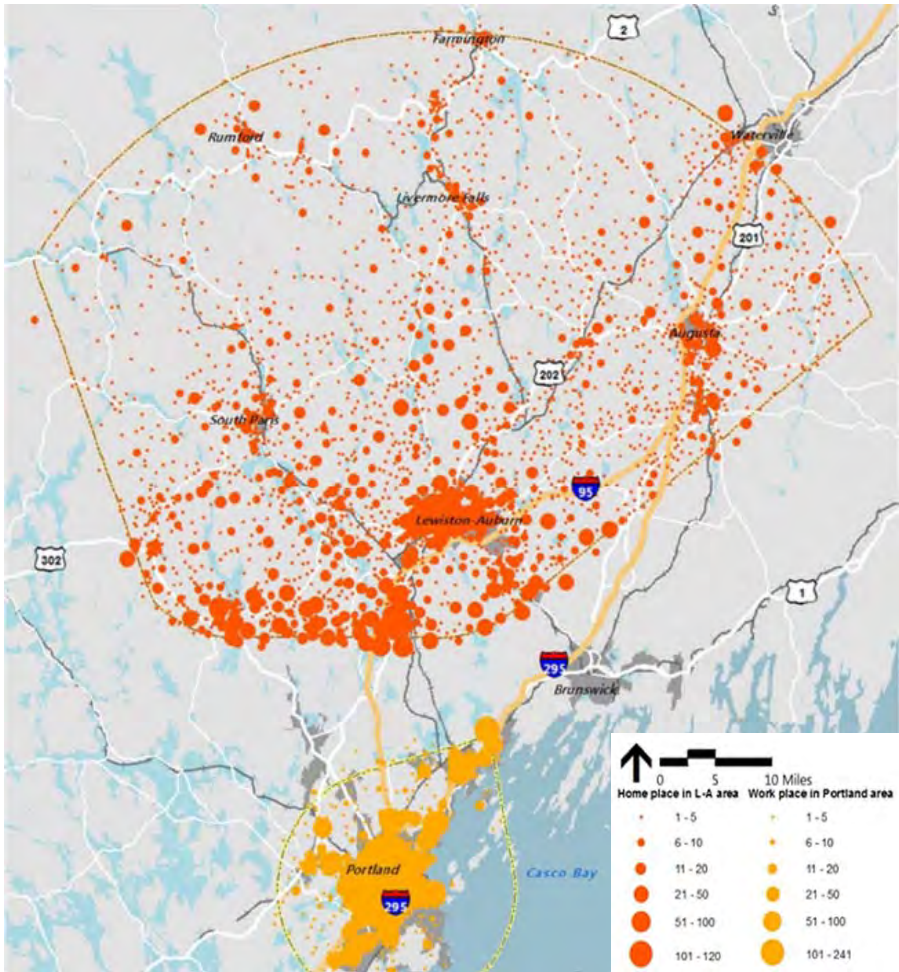
- I. Transit Propensity – Completed in May 2018  
Including Ridership Assessment and Two Open House Meetings
  
- II. Service Plans, Infrastructure Needs and Costs – Scheduled completion in April 2019

# Study Area



I:\189661\_Lewiston-Auburn\_Passenger\_Rail\1.0\_Project Data\1.3\_GIS\_data\Figure\_Template\_Scales\_Map\_V2.mxd

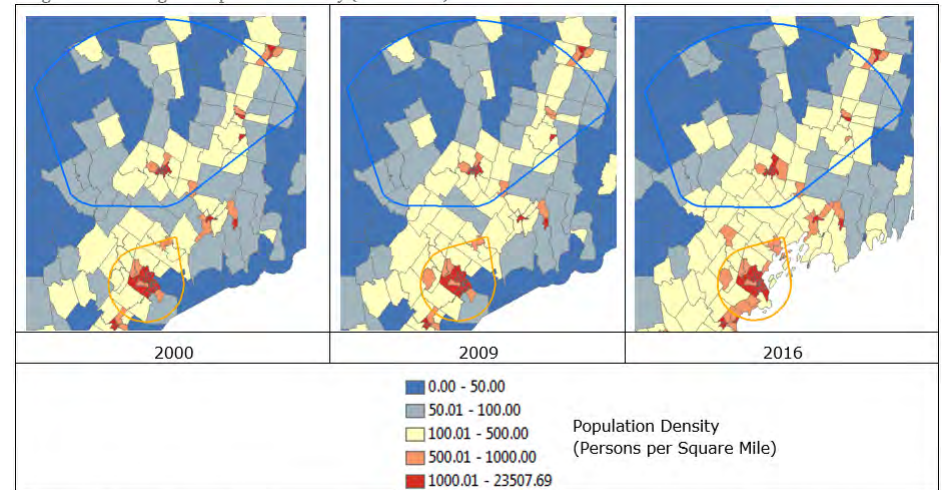
# Transit Propensity Analysis



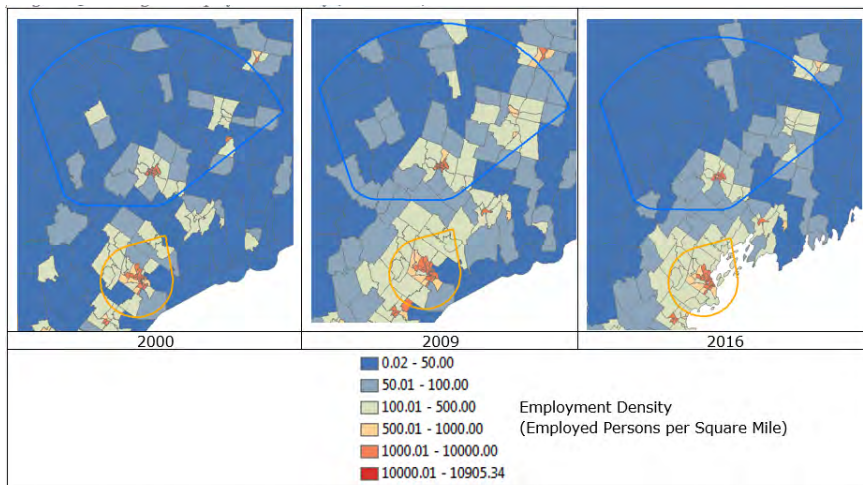
# Transit Propensity Analysis



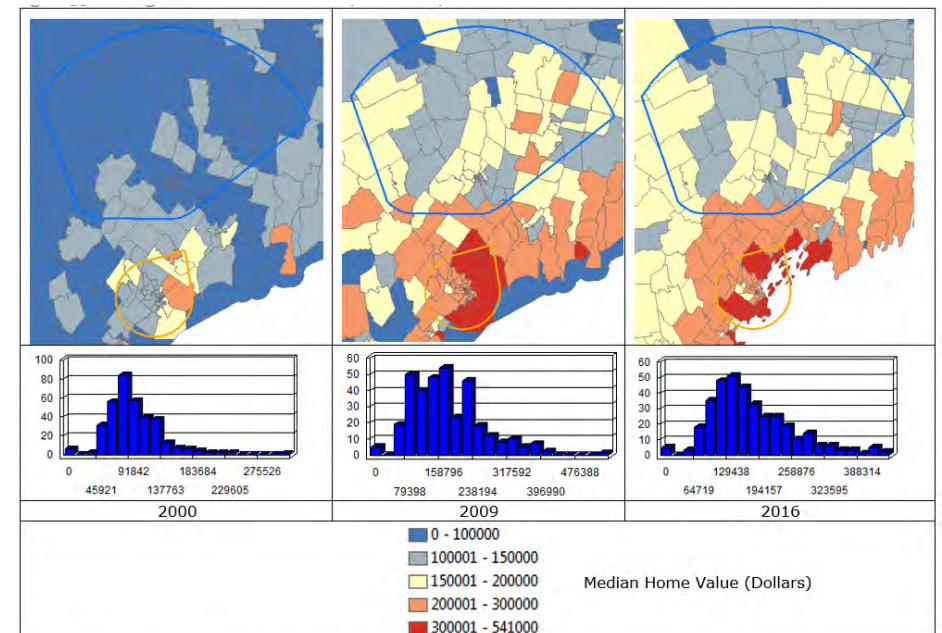
Source: US Census Bureau – 2000 Decennial Census; 2005-2009 and 2012-2016 American Community Survey 5-Year Estimates



Source: US Census Bureau – 2000 Decennial Census; 2005-2009 and 2012-2016 American Community Survey 5-Year Estimates



Source: US Census Bureau – 2000 Decennial Census; 2005-2009 and 2012-2016 American Community Survey 5-Year Estimates

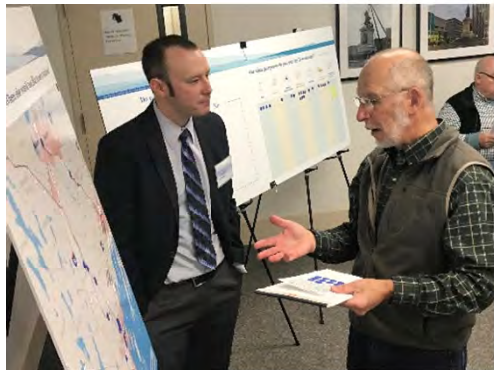


Source: US Census Bureau – 2000 Decennial Census and 2012-2016 American Community Survey 5-Year Estimates

# Major Takeaways from Ridership Assessment

- I. The region has a latent demand for a transit connection between Lewiston-Auburn and Portland.
- II. The lower and upper limit of the ridership demand depend largely on the level of service and connections that would be made.

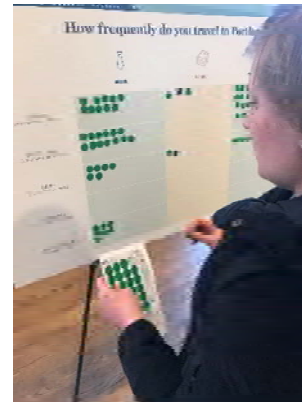
|                        | 2025 Projection                  |      | 2040 Projection                  |      |
|------------------------|----------------------------------|------|----------------------------------|------|
|                        | Daily Riders<br><i>(one way)</i> |      | Daily Riders<br><i>(one way)</i> |      |
|                        | Low                              | High | Low                              | High |
| High-Frequency Service | 600                              | 800  | 700                              | 1900 |
| Low-Frequency Service  | 210                              | 240  | 250                              | 330  |



## Open House Workshops

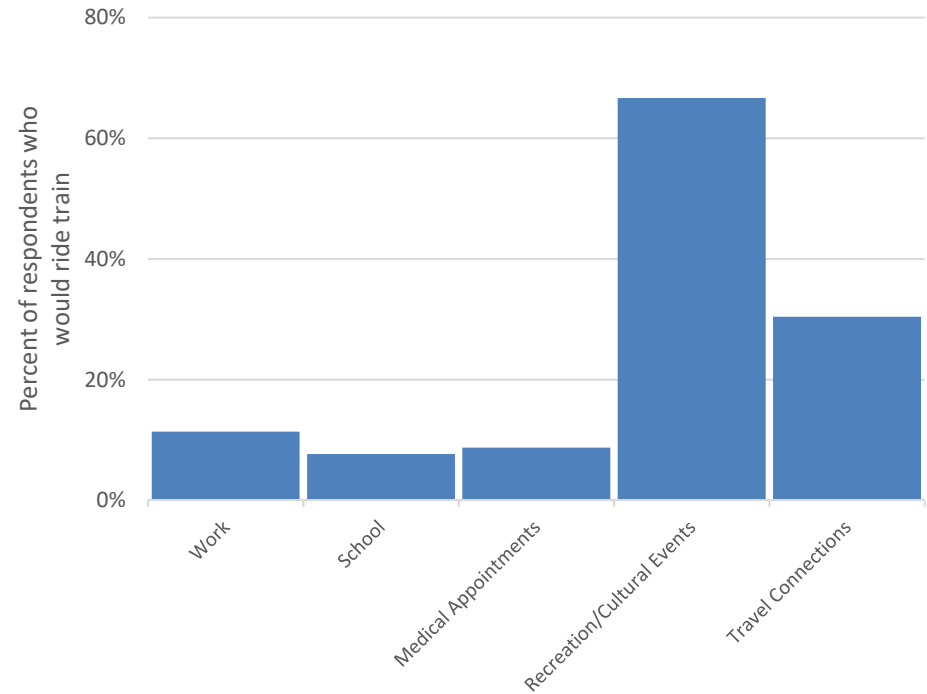
Lewiston – March 28, 2018  
90 members of the public

Portland – March 27, 2018  
28 members of the public



# Summary of Open House Workshops

- Common trip purposes cited for riding potential train:
  - Recreational/cultural events
  - Travel connections
  
- Top responses to what would make individuals more likely to ride the train:
  - Proximity to destination
  - High frequency of service (many trains a day)
  - Lower cost than driving
  - Direct train to Boston



*Approximately 71% to 98% of those surveyed would use a passenger rail service if available between L-A and Portland*

|                       | On-board amenities | Proximity to destination | High frequency of service (Many trains per day) | Amenities at station | Lower cost than driving and parking | Travel time competitive to driving | Direct train to Boston |
|-----------------------|--------------------|--------------------------|---|----------------------|-------------------------------------|------------------------------------|------------------------|
| 1st (Most important)  | 2%                 | 41%                      | 39%   | 2%                   | 33%                                 | 8%                                 | 33%                    |
| 2nd                   | 5%                 | 38%                      | 29%   | 2%                   | 24%                                 | 24%                                | 13%                    |
| 3rd                   | 28%                | 5%                       | 17%   | 2%                   | 17%                                 | 24%                                | 9%                     |
| 4th                   | 17%                | 8%                       | 10%   | 0%                   | 13%                                 | 17%                                | 20%                    |
| 5th                   | 9%                 | 3%                       | 4%  | 7%                   | 7%                                  | 14%                                | 16%                    |
| 6th                   | 27%                | 5%                       | 1%  | 14%                  | 6%                                  | 10%                                | 8%                     |
| 7th (Least important) | 13%                | 2%                       | 0%  | 72%                  | 0%                                  | 3%                                 | 2%                     |
| TOTAL                 | 100%               | 100%                     | 100%  | 100%                 | 100%                                | 100%                               | 100%                   |



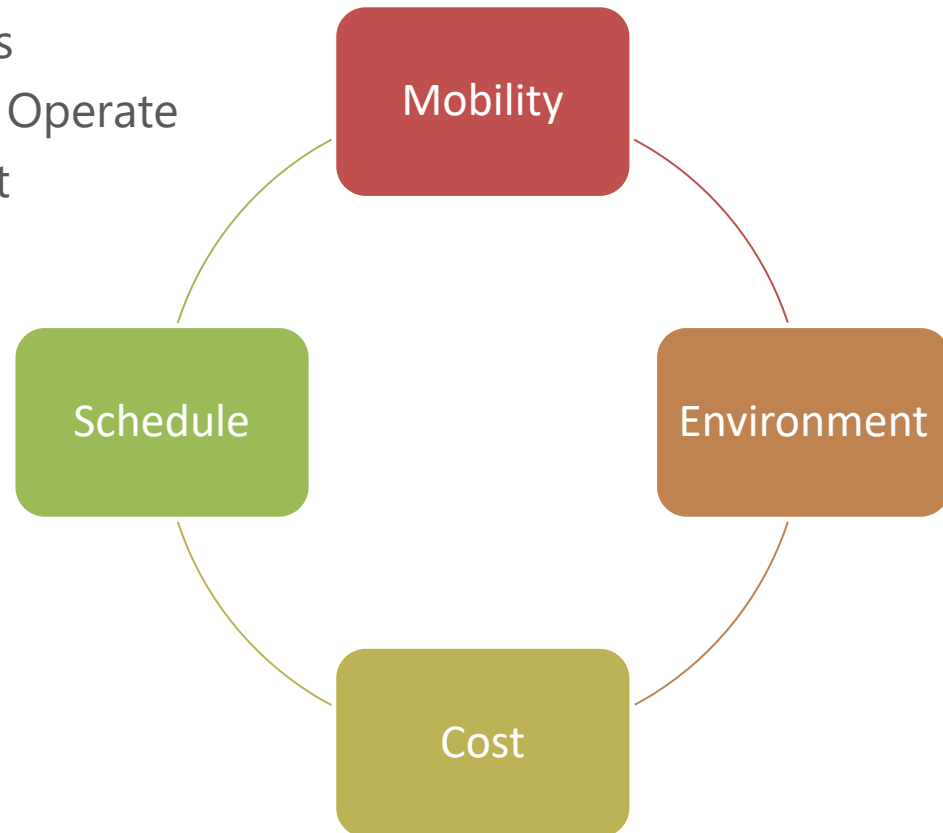
# Service Planning and Infrastructure Needs

- I. Develop Family of Service Scenarios
- II. Assess Infrastructure Need and Necessary Improvements
- III. Develop Cost Estimates
- IV. Establish Implementation Plan

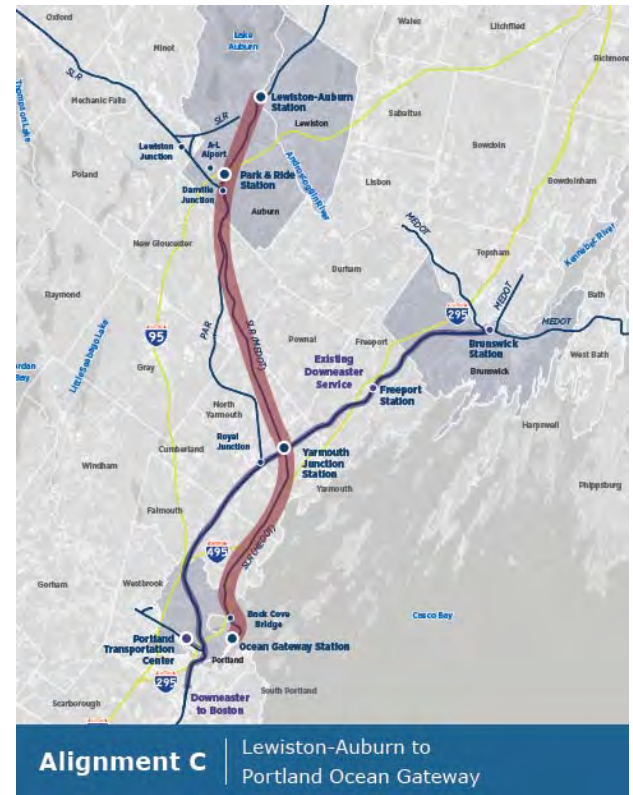
... all through monthly Project Committee Coordination

# The Alignments

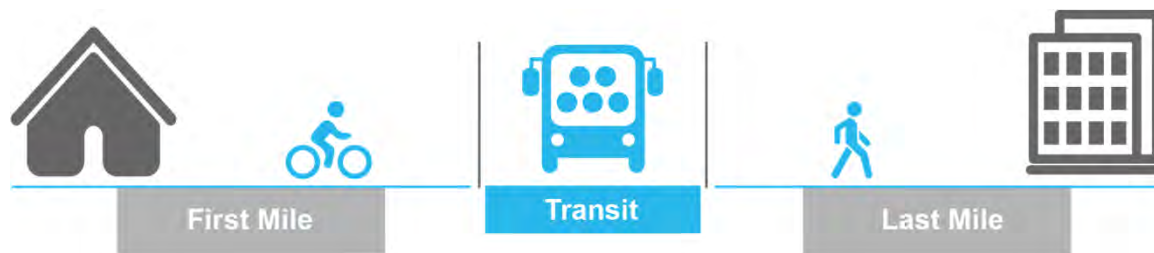
- Started with nine alignments
- Evaluated for five metrics
  - Connections and Access
  - Environmental Impacts
  - Cost to Construct and Operate
  - Timeline to Implement



# Alignments and Stops Considered



# Connecting Options within Portland



### Potential Phasing Options

While any of these alternatives could be implemented in their entirety, they could also be implemented as part of a phased approach.

- Rail Shuttle from Lewiston-Auburn to Downeaster via Pan Am Line
- Rail Shuttle from Lewiston-Auburn to Downeaster via SLR Line



### L-A Rail Shuttle



Cross-platform transfer to existing Downeaster service

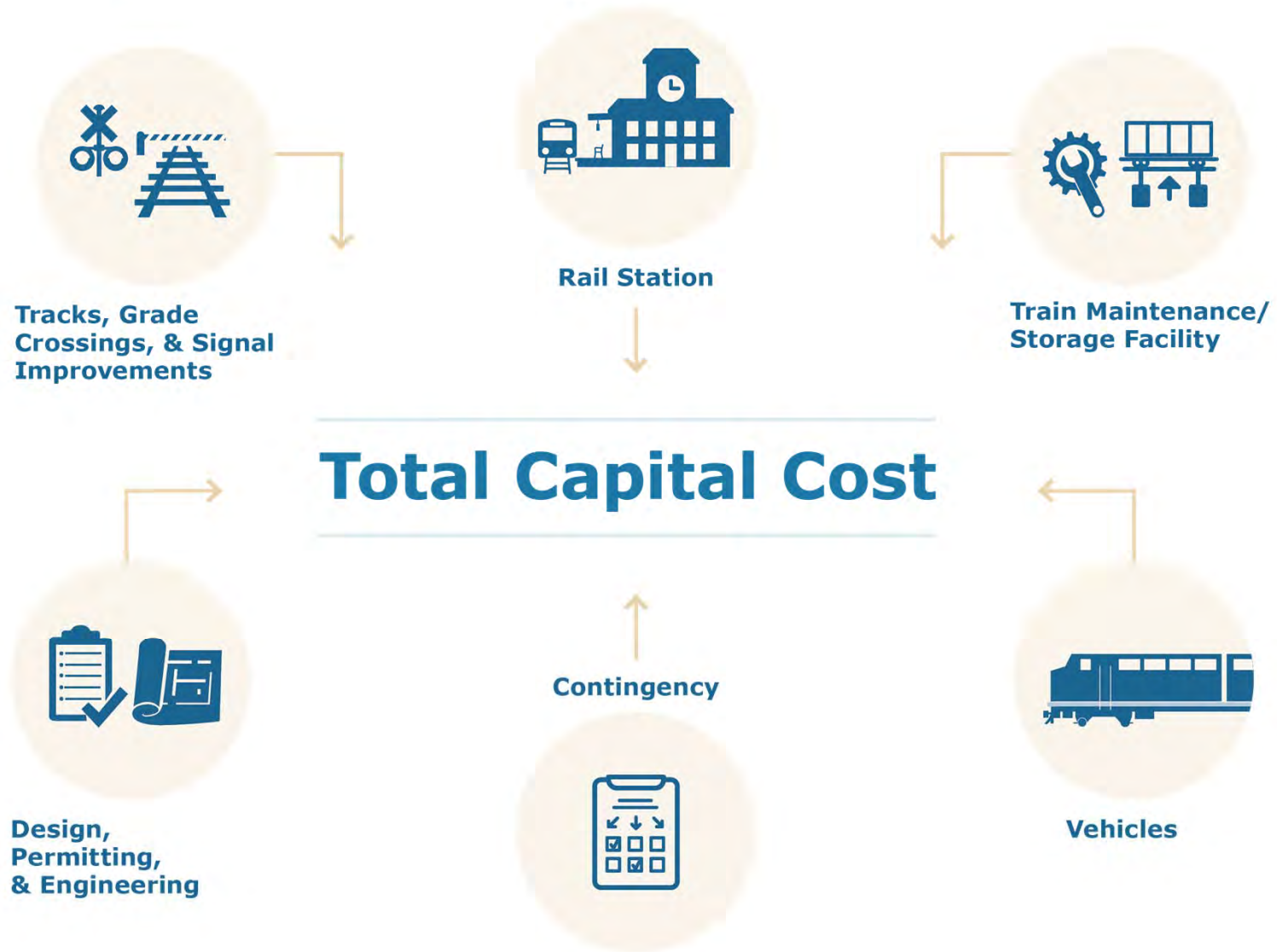


### Downeaster Train

# Operating Plan

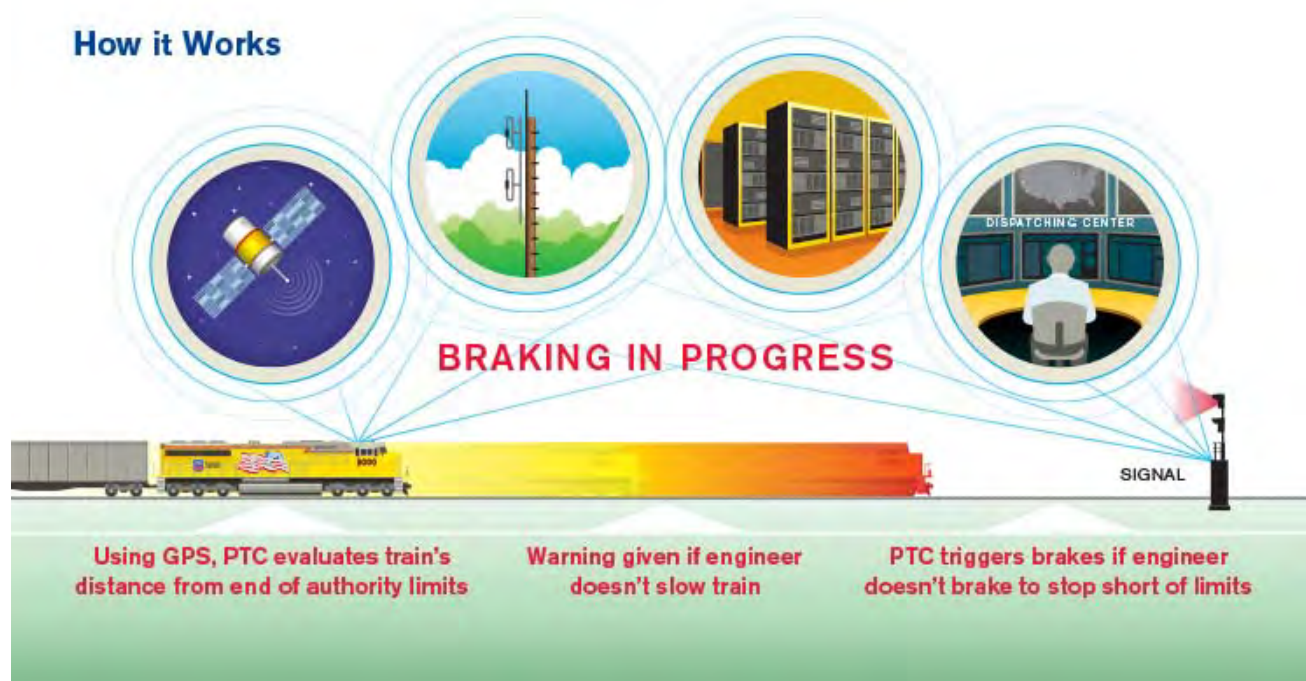
- Weekday service
  - Service generally from 5 AM to 10:30 PM
  - 30 minute peak service from 7 to 9 AM and 4 to 6 PM
  - 14 to 15 round trips daily
- Weekend/holiday service
  - Service generally from 5 AM to 10:30 PM
  - 8 to 9 round trips daily
- Shuttle train alignments will meet every Downeaster train daily

# Capital Cost Components



# Capital Cost Components – PTC

- Federally mandated technology for rail corridors with more than six daily round trips
- Safety technology designed to enforce red signals and speed limits
- Costs approximately \$1.5 to 2.5 million per mile



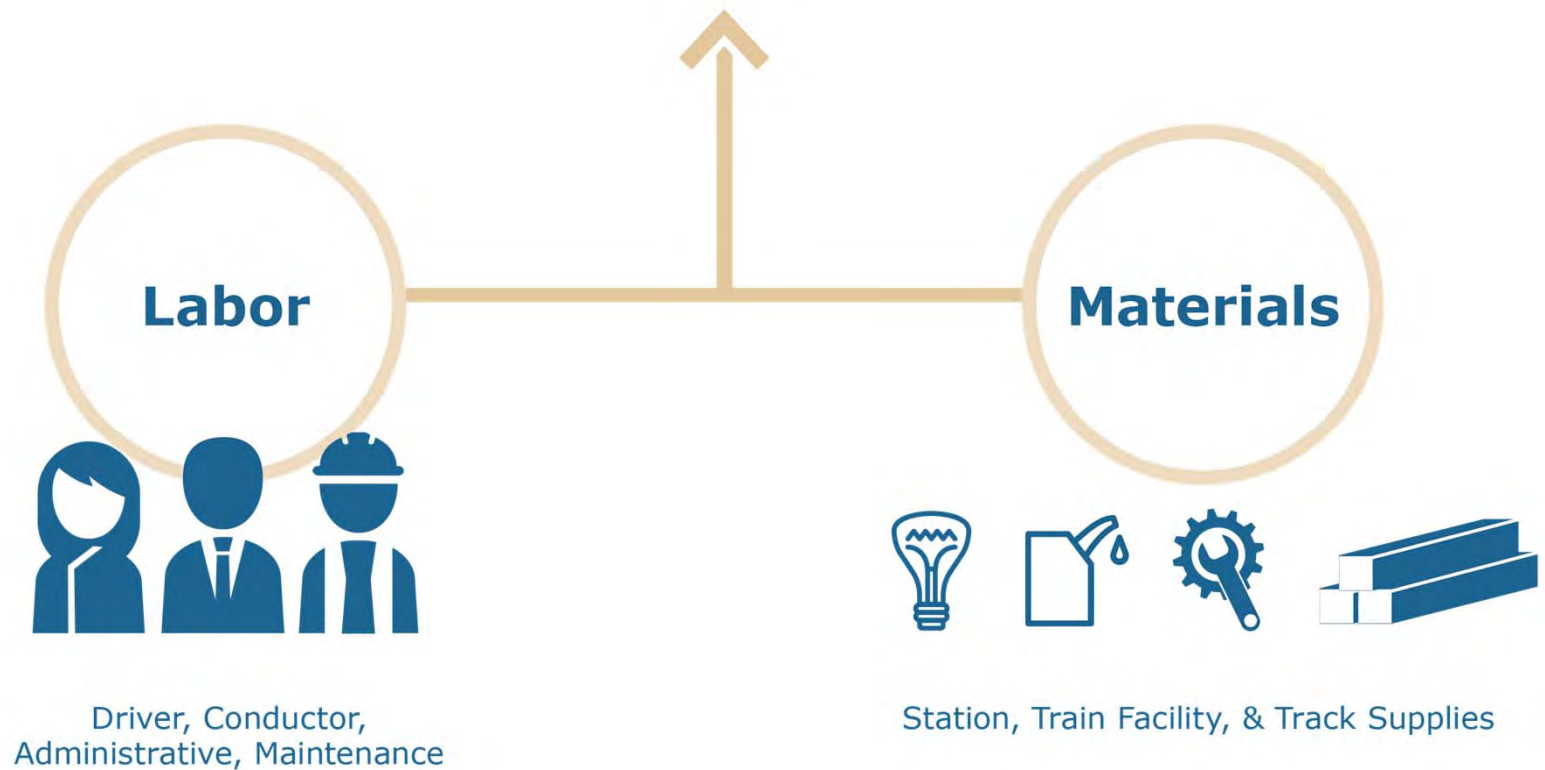


# Capital Cost Components - Vehicles

- Diesel Multiple Units (DMUs)
- Traditional Commuter Rail



# Total Rail Operations & Maintenance Cost



# Estimated Costs

*Revenue not accounted for  
Assume \$6 -10 per ride*



|   | Alignment A               | Alignment B               | Alignment C               |
|---|---------------------------|---------------------------|---------------------------|
| <b>Estimated Construction Cost (2019\$)</b>                     | \$189 to \$230 million    | \$207 to \$254 million    | \$241 to \$295 million    |
| <b>Estimated Vehicle Cost (2019\$)</b>                          | \$75 to 95 million        | \$75 to 95 million        | \$75 to 95 million        |
| <b>Estimated Annual Operating and Maintenance Cost (2019\$)</b> | \$15 to \$19 million/year | \$16 to \$20 million/year | \$17 to \$21 million/year |

# Next Steps for this Planning Project

- Document comments and questions from this public meeting
- Prepare final report summarizing operating plans, infrastructure needs and costs
- Identify next steps including possible funding options
  
- Completion date: April 2019

# Where does the project need to go from here?

- Establish a Purpose and Need Statement
- Identify preferred alignment
- Identify and secure funding (Federal, State, Local, Private)
- Finalize operating plan
- Develop Operating/Third-Party agreements
- Gain municipal acceptance
- Complete design, permitting and environmental review
- Construction

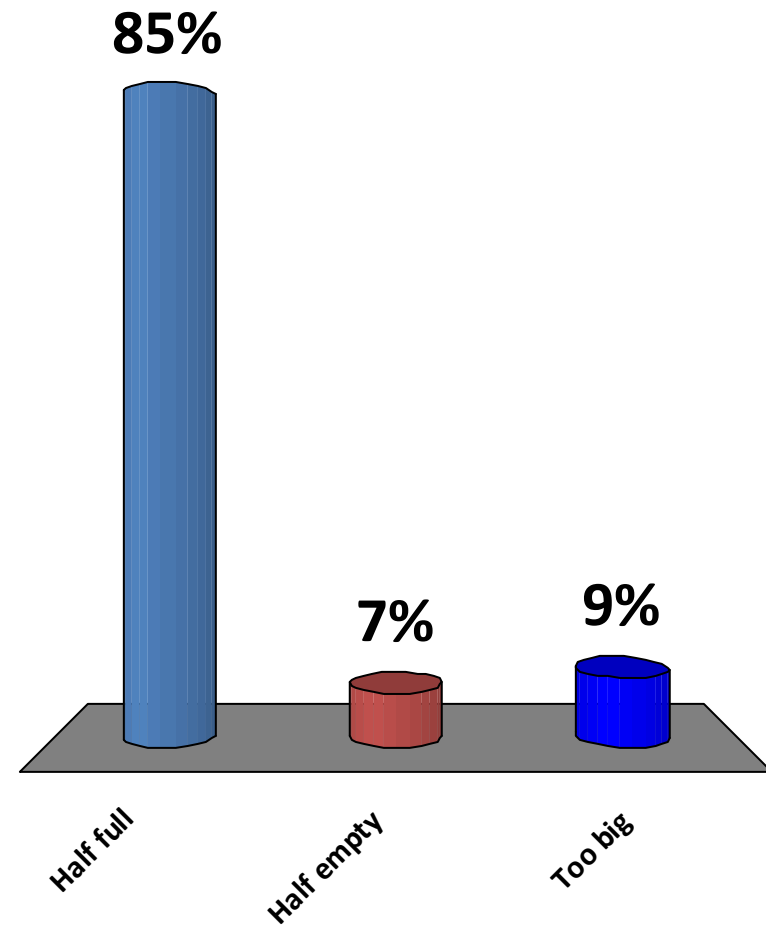
# Comments? Questions?

- Format for this evening
- Opportunity to provide additional Comments/Questions
  - Fill out a comment card and submit before leaving
  - Send an email to [LASstudy@NNEPRA.com](mailto:LASstudy@NNEPRA.com) (email open through April 3, 2019)
- Or, feel free to reach out directly:

Natasha Velickovic at VHB  
617.607.2909  
nvelickovic@vhb.com

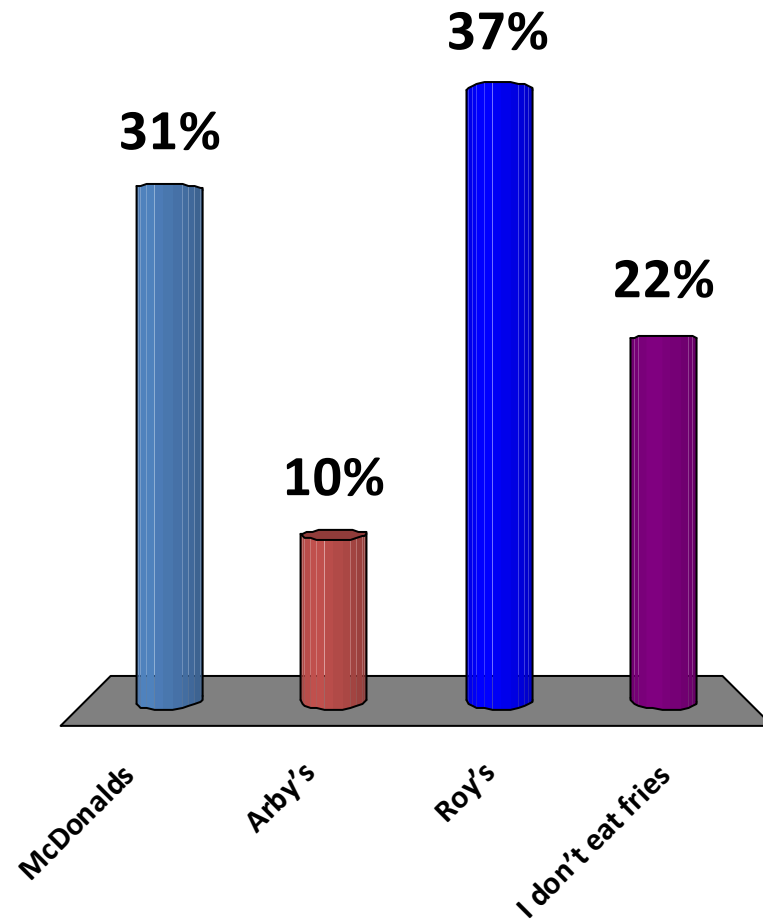
## Test Question: The glass is...

- A. Half full
- B. Half empty
- C. Too big



## Test Question: Who has the best fries?

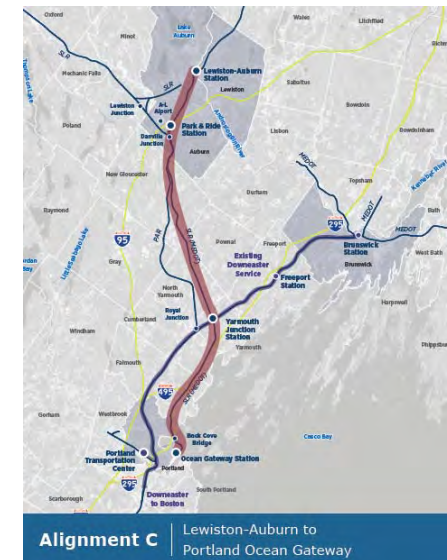
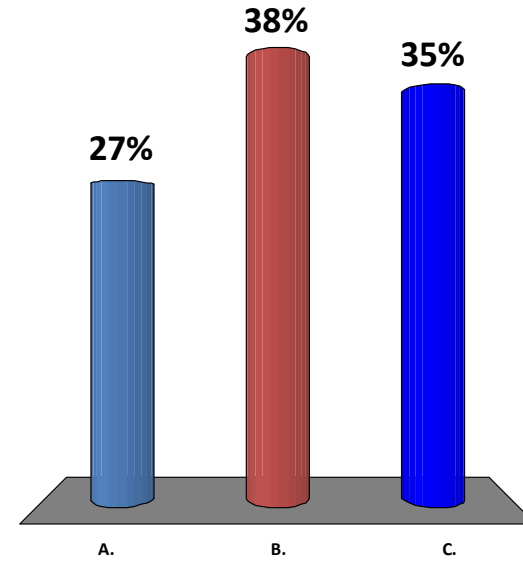
- A. McDonalds
- B. Arby's
- C. Roy's
- D. I don't eat fries





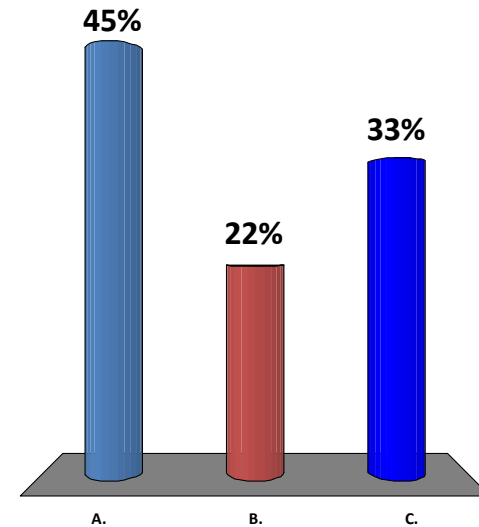
# Would you want more or fewer stops on this service?

- A. Fewer stops (to accommodate a faster service)
- B. More stops (to provide access to other communities)
- C. As proposed



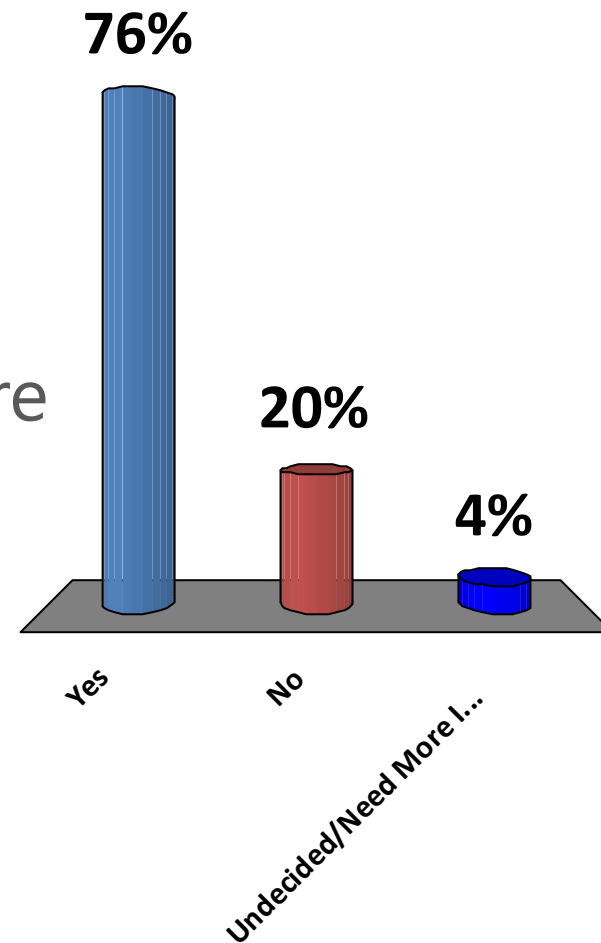
# Financial considerations aside, which alignment would you prefer?

- A. LA to Portland coming into Portland Transportation Center
- B. LA to Portland coming into Ocean Gateway
- C. Undecided/Need More Information



# Financial considerations aside, would you support funding a passenger rail service?

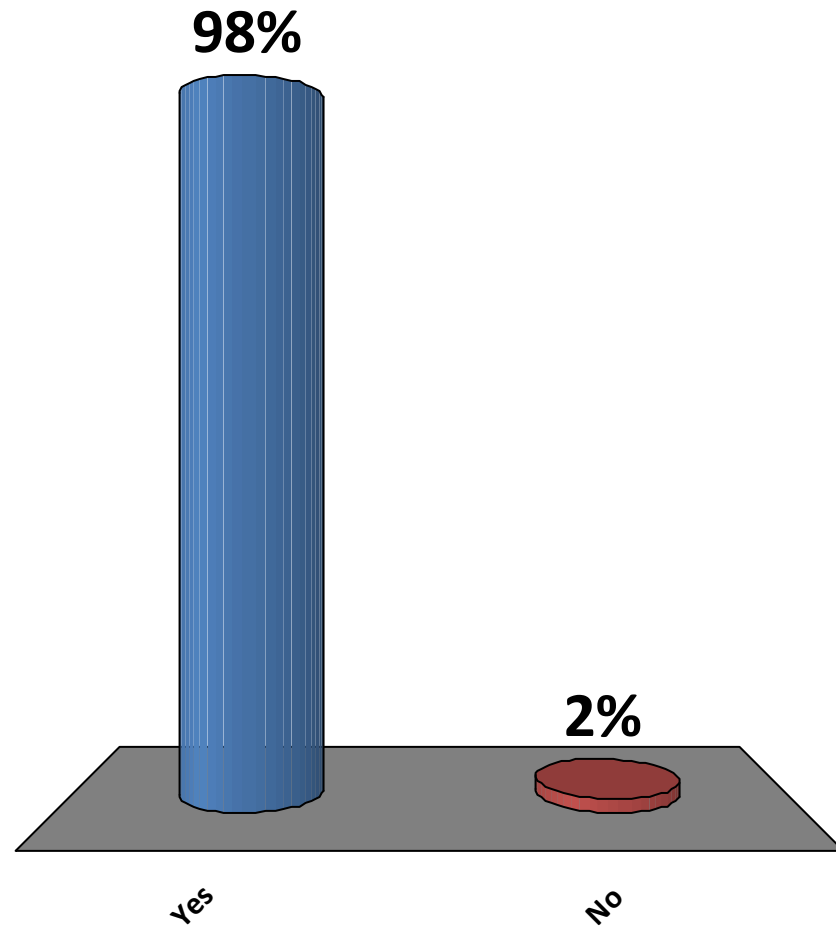
- A. Yes
- B. No
- C. Undecided/Need More Information



# Did you find this public meeting helpful?

A. Yes

B. No



# THANK YOU FOR COMING!

- Additional ways to ask questions or provide comments:
  - Fill out a comment card and submit before leaving
  - Send an email to [LASStudy@NNEPRA.com](mailto:LASStudy@NNEPRA.com) (email open through April 3, 2019)
- Or, feel free to reach out directly:

Natasha Velickovic at VHB  
617.607.2909  
nvelickovic@vhb.com



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# Meeting Minutes

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# LEWISTON-AUBURN PASSENGER RAIL SERVICE PLAN

## Meeting Minutes

**Attendees:** 68 members of the public who signed in

**Project Committee Members**

Patricia Quinn, NNEPRA  
Stephen Houdlette, NNEPRA  
Richard (Dick) Grandmaison  
John Myrand  
Robert Stone, Former Auburn City Councilor  
Jonathan LaBonte, Former Mayor of Auburn  
Lincoln Jeffers, ECD, City of Lewiston  
Rep. Bettyann Sheats, Maine House of Representatives  
Mary Ann Hayes, MaineDOT

**Others**

Jim Russell, NNEPRA

**Consultant Team**

Tim Bryant, VHB  
Gordon Edington, VHB  
Michael McDonough, VHB  
Natasha Velickovic, VHB  
Kyle Taniguchi, VHB

**Location:** Lewiston Library (200 Lisbon St, Lewiston, ME 04240),  
Callahan Hall

**VHB Project No.:** 14903.00

**Re:** Lewiston-Auburn Project  
Phase II Public Meeting

**Date/Time:** March 27, 2019 – 6:00 to 8:00 PM

**Prepared by:** K. Taniguchi

---

### **Welcome/Introductions**

Bettyann and Dick opened the meeting at 6:30 PM by thanking everyone for coming. They stated that this project is still in the planning stage and that there is still more work to be done before a potential passenger rail service to Lewiston-Auburn (L-A) can be operational. They went on to state that the purpose of this meeting was to present the alignments that were being considered, answer any questions from the audience, and take down any comments. They went on to introduce the role of the Project Committee and the members that were serving on the Committee. They went over the format of the evening (presentation with questions afterwards) before turning it over to Natasha.

### **Presentation**

Natasha thanked Bettyann and Dick for the introduction and proceeded to go through the presentation (see attached PowerPoint slides). She asked that audience members stick around to the end of the question and answer session to complete an interactive polling exercise (see later section of the minutes for responses to questions asked).

### **Questions and Answers**

Following the presentation, Natasha opened the floor up to comments and questions. Comments and questions, along with any responses (if applicable) are documented below. All responses were made by Natasha unless otherwise indicated.

- Question: Were the rail options compared to a motor coach option in regards to capital and O&M costs?

Response: Yes, a motor coach option was analyzed as a basis of comparison to the rail alignments. In fact, there is already a motor coach option available between L-A and Portland operated by Concord Coach Lines.

- Question: I think I get Alignment C. What is the difference between Alignment A and B?

Response (Natasha): First off, all three alignments start in L-A and end in Portland. The difference is whether to use the Pan Am Line (PAR) or St. Lawrence and Atlantic Line (SLR) to get to Royal or Yarmouth Junctions. Both of these have their

opportunities and challenges. On PAR, freight trains already operate on the corridor today so incremental improvements would be needed to upgrade the corridor to passenger rail speeds and to allow for trains to pass each other. On the SLR, the line is owned by the Maine DOT and passenger trains would have exclusive use of the corridor; however, since the corridor has fallen into disrepair, more extensive improvements would be needed to upgrade the tracks to accommodate passenger rail service.

Response (Bettyann): It's also important to point out that these two rail corridors already exist. The improvements being discussed would upgrade the rail lines to support passenger rail service, such as with higher speeds and tracks for trains to pass.

- Question: Where is the Portland Transportation Center?

Response: This is near Thompson's Point, close to where I-295 and the Fore River Parkway intersect. It's where the Amtrak Downeaster and Concord Coach Lines buses currently stop. It is worth pointing out that there is currently a separate effort underway to relocate this station onto the Pan Am Freight Main Line to negate the need for a reverse maneuver into and out of the station. This improvement would be needed in order to accommodate the high peak frequencies that this service is proposing.

- Question: Two public open houses were done last year: one here in Lewiston and one in Portland. Did the project look into how many people might stop and park their cars at Exit 53 on the Maine Turnpike (in West Falmouth) rather than keeping on going into Portland?

Response: This was not looked at specifically, but the travel propensity between L-A and Portland was examined as part of the first phase of this project.

- Question: The possibility of four or five stations was mentioned. Can they be identified for me?

Response: Starting in L-A, it has not been determined if there will be a station in Auburn, Lewiston, or both. The current thinking is there would be just one station in the L-A area. The next station would be at Exit 75 to capture any drivers currently on the Maine Turnpike. Then, depending on the alignment selected, there would be a station at either Royal or Yarmouth Junctions to capture riders from Cumberland and Yarmouth, as well as to facilitate potential transfers to the Downeaster. Finally, there would be a station in Portland, either at Ocean Gateway or at a relocated station on the main line.

- Question: Was a station considered in Pineland? I live in New Gloucester and I don't know if I would ride it because it is inconvenient for me to get to one of the proposed stations.

Response: At this point, no station has been considered for Pineland; however, that does not preclude a station from being added there. This is one of the tradeoffs in planning a passenger rail service. More stations can be added to improve access, but then travel times are increased from end to end. The fewer stations along the route, the higher the speeds and the shorter the travel time.

- Comment: Tony Donovan, Maine Rail Transit Coalition and Maine Sierra Club. I believe Alignment B makes the most sense as a first phase, with Alignment C being the logical full build phase.

I would like to point out that contrary to what was said earlier, the SLR line is not abandoned and is in fact owned by the State of Maine.

With regards to stations, I do not believe that park and rides are the right type of stations to be constructing because they offer minimal amenities to waiting passengers. This is a flaw with this study and the previous study that was done as well. There is so much potential with transit oriented development (TOD) and we have a true opportunity to make our downtowns more livable. Just look at Falmouth, there is TOD going on right now. There are many other communities that can benefit from TOD along the rail line, including Cumberland.

In regards to a station in Lewiston, I believe common sense should prevail. Why should we reinvent the wheel when the railroad previously had an operational train station on Bates Street. We should use that.

I believe it's time to move forward with passenger rail service to L-A. Also, I previously submitted some questions in a memo to the Project Committee. I would appreciate a response to those questions.

- Question: I have seen some track work going on the Pan Am Line in Cumberland. Do you know what that project is?

Response: That track work is for the Royal Junction siding extension project, which is constructing about four miles of new double track from Royal Junction. The siding extension is not part of this project; however, it will benefit L-A passenger rail service if this stretch of track becomes part of the alignment.

- Comment: I think Alignment B is good option as there is no interference with the freight trains. The SLR track at Danville Junction is only a stone's throw away from the Pan Am Line. And, the State of Maine owns the rail corridor for SLR. Plus, you don't need to install Positive Train Control (PTC) if you only run six daily round trips from L-A to Portland.

Response: Thank you for the comment. Just one point of clarification on your statement regarding PTC. Even if only six daily round trips are run from L-A to Portland, PTC will still need to be installed. The only way PTC can be avoided is if service is run from L-A to Yarmouth Junction.

- Comment: I think there is a huge demand for passenger rail travel to Bethel and on to Montreal. The two challenges with Alignment C. The first is that there is no connection to Boston if you terminate at Ocean Gate. The second is that the Back Cove Bridge is currently stuck in the open position and would need to be replaced.
- Comment: I don't know how many people have tried to use transit to travel between L-A and Portland but I have. I can tell you from firsthand experience that it is so difficult to get from the Portland Transportation Center to downtown Portland that anyone who has another option to travel would likely choose that before taking transit. I strongly recommend that consideration be given for having a rail station in downtown Portland.
- Comment: Cliff Townsend. I have lived in Freeport since 1981. I'm not interested in the L-A study. I'm currently a road warrior and I believe we have a traffic issue. I want to talk to you about I-295 getting opened up. Wex just opened up their headquarters in downtown Portland. That's 400 more people going into Portland every day. Covetrus is also planning to put a headquarters in Ocean Gate.
- Question: In your presentation, you said the SLR does not have any freight trains running on it today. If you are using this alignment, why do you still need PTC?

Response: PTC is still needed because the passenger trains would still be mixing with freight trains to get to L-A from Danville Junction.

- Comment: The MaineDOT built a park and ride in Yarmouth, just off of I-295 at Exit 15. It is extremely underutilized with no more than 15 cars in the lot at any given time. I'd like to see us leverage this resource to help get people headed for downtown Portland off the roads and onto a train.
- Question: Do you have any estimate on travel time for each of the alternatives? I think it is important that we keep travel times competitive with car travel.

Response: Alignment A has a travel time of 50 minutes, compared to a drive time of 40-60 minutes during rush hour. Alignment B has a travel time of 48 minutes, compared to a drive time of 40-60 minutes during rush hour. Alignment C has a travel time of 43 minutes, compared to a drive time of 45-65 minutes during rush hour.

- Comment: Jack Sutton, former president of Maine Railroad, Inc. Our membership is mainly centered in the Augusta area. We appreciate the success of getting this far in the study. We hope this project continues to move forward and that the lessons learned can be used in getting passenger rail service restored to Augusta and Waterville.
- Comment: Paul Weiss, Maine Rail Transit Coalition, Sierra Club. I wanted to provide a perspective on the costs. People need to remember that transportation projects are long-term investments. We also need to realize that Portland and L-A are the two largest metro areas in the state. When the Turnpike was originally conceived, they never had to do ridership studies to justify it. They just built it. Since the Downeaster started service, ridership has exceeded expectations and I expect the same to happen with this service.

Personally, I think the cost estimates that were presented are inflated and conservative. I think both Alignments B and C are both good options for the Downeaster and this service. A 100 years ago, we had passenger rail service throughout the state. We don't need to be reinventing the wheel, just get it done.

- Question: What does the acronym DMU mean? And how does the ride feel compared to a traditional train?

Response: DMU stands for diesel multiple unit. It is essentially a self-propelled diesel train that does not need a locomotive to move. It is a newer technology that is not prevalent in this part of the country. California and Texas have a number of systems that have these new DMU vehicles. In terms of the rider experience, they feel the exact same as a traditional coach car pulled by a diesel locomotive.

- Question: This is probably one of the top three economic development initiatives the state can undertake as there is tremendous opportunity for people to live in L-A and work in Portland. Do you have a sense of what the break even point in terms of recouping all of the costs? Is it, say, 3,500 riders a day?

Response: We have not done the analysis for what that might be. However, I will say I have yet to see a transit service that pays for itself.

- Question: What effect do fares have on ridership?

Response: The lower a fare is, the higher the ridership will be. Conversely, the higher the fare, the lower the ridership. You may even see no ridership if it is too high. Since the fare policy for this service has not yet been determined, it will be important to examine what other systems in the region are charging for services that are a similar length.

- Question: To clarify, when you state the O&M cost is \$15 to 20 million, that does not include fares and other revenue sources?

Response (Natasha): Yes, that is correct.

Response (Bettyann): While it is true that this service would likely need to be subsidized, I would also like to point out that everything in transportation is subsidized. Roads are subsidized, except for the Maine Turnpike which charges a toll. Airline tickets are subsidized as the cost you pay for a ticket only covers the cost borne by the airline.

- Question: Joseph Daniels, Lewiston. I am impressed with the analyses on costs. I would like hear some challenges on the Portland Transportation Center, which I believe was constructed in 1994 and is already at capacity.

Response: Thank you for the question. We have looked at the Portland Transportation Center (PTC) as part of this analysis. Currently, in order for the Downeaster to get into the PTC, it has to do a reverse move. Coming from Brunswick, the train needs to go past the Mountain Branch and then reverse into the station. When it leaves, it can then pull forward and continue towards Boston. Coming from Boston, it can pull forward directly into the station, but then it has to reverse out of the Mountain Branch and then go forward to continue onto Brunswick. This maneuver is inefficient and eats up valuable travel time. If L-A service ultimately terminates here, the existing PTC would not be able to accommodate the 30 minute peak service that is being proposed. As such, the operating plan that was developed assumed a station on the Pan Am Freight Main Line. At this time, it is assumed that the PTC would be relocated under a separate effort. However, if that relocation does not happen, it may need to be incorporated as part of the L-A service.

- Comment: I prefer the Portland Transportation Center alternatives because of the connections available to get to Boston. I would also like to point out that Concord Coach buses have Wi-Fi and I hope that this passenger rail service does too.

- Question: Have you coordinated with the local RTAs for feeder bus service to stations?

Response: Sort of. The RTAs are aware of this project and the need to provide feeder bus service to rail stations once passenger rail service commences. However, since specific locations for stations have not been identified, the feeder bus plan is another thing that would need to be weaved into the implementation plan.

- Question: Would Wi-Fi be provided on the trains?

Response: Yes, that is an amenity that is provided.

- Question: Was an electrified trains considered in lieu of diesel ones?

Response: Yes, electrified equipment was considered in the initial transit mode screening process. For those that are not aware, there are generally two types of trains that could be run. One is electric, similar to the locomotives that use the Amtrak Northeast Corridor from Boston to DC; while the other is diesel, which is what the Amtrak Downeaster uses. The challenge with electrified equipment is that the overhead wires are more expensive to build and maintain than to just operate diesel trains. In fact, electrification is more expensive than the \$1.5 million to \$2.5 million per mile that PTC costs. As such, most corridors in the world that propose the use of electrified service typically tie into existing electrified corridors.

- Comment (Bettyann): I would just like to say that I think this passenger rail service could serve two major benefits. The first is that this service will go a long way in attracting and retaining young people in Maine who don't like driving and are looking to live in areas that have other options for getting around. Second, this service would help to combat distracted driving. Crash/fatality rates have been decreasing since 2000 thanks to improvements in vehicle design and other safety efforts. However, in recent years, drivers getting distracted with their phones has reversed this decreasing trend, and made it a huge safety concern. This passenger rail service is a step in the right direction in getting rid of distracted driving.
- Comment: Dick Woodbury, Yarmouth. I am a huge fan of greenways. Since we have two rail corridors to choose from, how about we put passenger rail service on one corridor and turn the other one into a greenway? Thank you.
- Comment: Ray Folsha. On the slide for next steps, I would like to point out that you have not satisfied the NEPA requirements just yet as you have not looked at a rubber tire solution like BRT. A rubber tire solution is something that would need to be evaluated as part of the Alternatives Analysis process. I used to work at Maine DOT. BRT could be a better solution and could be implemented sooner.
- Comment: John Weiss, Lewiston. I'm originally from Chicago but I have been here 35 years. I take Amtrak quite a bit. I see in the maps that the station is on the west side of the river. I think that we have a huge opportunity for ecotourism here with this service. We have to change the mindset of how people travel and I think this is one way we can do it, especially if this service links other modes of transportation together. Between all the alignments, I believe the Pan Am alignment should be used.
- Comment: Carl Wilcox, New Gloucester. I agree with Mr. Townsend's comment earlier. Traffic going from Brunswick to Portland is worse than L-A to Portland. I would like to point out that you can get to Boston from Portland faster on the bus than the Downeaster. I support Option C.

### Polling Exercise

Following the question and answer period, Natasha asked that attendees stay a little while longer to complete a quick polling exercise. Remote clickers were distributed to all attendees in the room, which were used to answer the polling questions posted on the screen. The questions that were asked, and the results obtained are as follows:

- Would you want more or fewer stops on this service?
  - Fewer stops (to accommodate a faster service): 27%
  - More stops (to provide access to other communities): 38%
  - As proposed: 35%
- Financial considerations aside, which alignment would you prefer?
  - L-A to Portland coming into Portland Transportation Center: 45%
  - L-A to Portland coming into Ocean Gateway: 22%
  - Undecided/Need More Information: 33%
- Financial considerations aside, would you support funding a passenger rail service? (At the meeting, it was pointed out that the wording to this question did not make sense. As such, this question was clarified to say: Would you support funding a passenger rail service?)
  - Yes: 76%
  - No: 20%
  - Undecided/Need More Information: 4%

### Closing Remarks

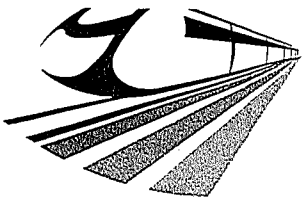
Bettyann and Dick thanked everyone for coming. They requested that if attendees did not have an opportunity to speak that they submit their questions and comments using either a comment card or via the project email ([LAStudy@NNEPRA.com](mailto:LAStudy@NNEPRA.com)).

**NOTE:** These meeting notes are VHB's attempt at capturing the key discussion points, decisions, action items, and resolutions discussed at the meeting. It is not intended to be a verbatim transcript of the meeting.

# Written Comments

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## 129<sup>th</sup> Maine Legislative Session LD 1093

### RAILROAD INFRASTRUCTURE TRANSPORTATION BOND

**LD 1093; “An Act to Authorize a General Fund Bond Issue to Invest in Maine’s Rail Infrastructure”.** is a Bond Sponsored by Senator Ned Claxton of Androscoggin District 20 (Auburn, Mechanic Falls, Minot, New Gloucester & Poland); to fund restoration of Railroad Infrastructure. This Bond bill is a direct result of the decades of advocacy work of the cities of Lewiston and Auburn to connect to the Downeaster Amtrak service to Boston.

This Bill is a call to the Governor, the Commissioner of the Maine Department of Transportation and Maine Legislature to support passenger train service investment. These plans have been prioritized by the residents and businesses of Central and Western Maine for decades. No more delays - **2019 is the time to do this.** All indications point to a significant 2020 national infrastructure fund and Maine needs to be ready with matching funds for these federal railroad and transit programs.

**We urge you to contact the Office of Governor Janet Mills (207) 287-3531  
Today and ask her to support Passenger Train Service to  
Lewiston/Auburn for Jobs and Equitable Transportation to  
Maine’s 2<sup>nd</sup> Largest Metro Center**

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**FOR MORE INFORMATION, CONTACT:  
The Maine Rail Transit Coalition  
MeLikesRail@Gmail.com**



# Lewiston-Auburn Passenger Rail Study Public Meeting

Lewiston Library, Callahan Hall

200 Lisbon St, Lewiston, ME 04240

March 27, 2019 at 6:00 p.m. to 8:00 p.m.

## Comments/Questions

About time - Please let me know  
now I can help.

Jim Horn  
Shorn@auburnschl.edu  
520-7032

Optional

Name: \_\_\_\_\_

Email: \_\_\_\_\_

Address: \_\_\_\_\_ City/State: \_\_\_\_\_

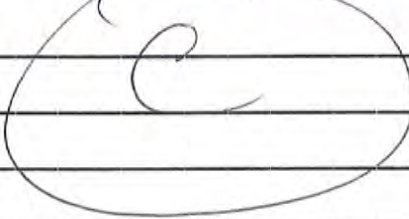
# Lewiston-Auburn Passenger Rail Study Public Meeting

Lewiston Library, Callahan Hall

200 Lisbon St, Lewiston, ME 04240

March 27, 2019 at 6:00 p.m. to 8:00 p.m.

## Comments/Questions

Please Pick 

Optional

Name: Michael Rier

Email: \_\_\_\_\_

Address: 15 Hampshire St. City/State: Auburn, Maine

# Lewiston-Auburn Passenger Rail Study Public Meeting

Lewiston Library, Callahan Hall

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March 27, 2019 at 6:00 p.m. to 8:00 p.m.

## Comments/Questions

Put the station in Lewiston!

Optional

Name: \_\_\_\_\_

Email: \_\_\_\_\_

Address: \_\_\_\_\_ City/State: \_\_\_\_\_

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March 27, 2019 at 6:00 p.m. to 8:00 p.m.

## Comments/Questions

- ~~no~~ need for 2nd station @ Turnpike. Make the Downtown station include a parking garage, w/ designated P+R Levels = Additional Revenue + Less Staff.
- school trips to museums, rent a car have class
- Partner with other communities for funds for station
- No Turnpike station
- \$55 Roundtrip to Boston via Bus
- Hydrogen cell? Train in Germany outputs water

Optional

Name: Benjamin Santos

Email: Benjamin@tea-lobster.com

Address: 277 ~~Main~~ Turner St Apt 2. City/State: Auburn, ME

# Lewiston-Auburn Passenger Rail Study Public Meeting

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March 27, 2019 at 6:00 p.m. to 8:00 p.m.

## Comments/Questions

It is very important that "Local" cost is made public as soon as possible.

The local tax base is very fragile.

It would be a shame to sell everyone on this project, only to find out we cannot afford it.

Very big money. Too much for twin city

Optional

Name: Andrew Titus

Email: atitus@auburnmaine.gov

Address: 24 Rubite Ln

City/State: Auburn, me

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March 27, 2019 at 6:00 p.m. to 8:00 p.m.

## Comments/Questions

How much proof do you have that there will be so many people using the train?

Are you assuming people will go instead of cars?

Do you have data to prove less expensive

Optional

than cars?

Name:

Email:

Address:

City/State:

# Lewiston-Auburn Passenger Rail Study Public Meeting

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March 27, 2019 at 6:00 p.m. to 8:00 p.m.

## Comments/Questions

Under subsidy "how do you expect to get this?"

↳ Bond issues?

↳ raising taxes in cities affected by train?

Optional

Name: \_\_\_\_\_

Email: \_\_\_\_\_

Address: \_\_\_\_\_

City/State: \_\_\_\_\_

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## Comments/Questions

The "elephant in the room" is the long-overdue need to restore passenger service between Portland & Montreal (and points beyond in Quebec & Ont) and, vice versa, from Quebec to Portland & Boston. Check the Franco names in the L/A phonebook, in Biddeford/Seco, as well as OOB visitors, to see a ready patronage for restored Maine-Montreal service. It takes political will (i.e., voter buy-in & support) to move through regulations - some not needed or applicable to the not true high speed transit of issue, here.

Optional

Name: Donald Christie

Email: dchristie@roadrunner.com

Address: 7 Fairview Ave

City/State: Gray (but work daily in

Lewiston) & would love to take the train again to Montreal or Portland-Boston)

→ Will there be student rates?  
VSM at L/A → needs to go to Gorham.  
or Portland.  
Do you have options for them  
to connect with Portland/Gorham  
campuses?

- Have you sunneled in the cost of safety/security?
- Are there enough jobs here in Lewiston/Auburn to make people want to come here (From Bethel, Farmington)?  
(one of routes)
- Aging population - use of train - would it be that feasible?

## Lewiston-Auburn Passenger Rail Study Public Meeting

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March 27, 2019 at 6:00 p.m. to 8:00 p.m.

### Comments/Questions

Primary interests would be travel to Genealogical society in Boston and perhaps other eastern MA location perhaps twice per year.

Likely other connections to San Antonio, TX.  
Have not asked other area relations about travel by rail.

### Optional

Name: Larry W. Mayes

Email: lwmmtem@yahoo.com

Address: 163 Summer St

City/State: Lewiston 04240

# Lewiston-Auburn Passenger Rail Study Public Meeting

Lewiston Library, Callahan Hall

200 Lisbon St, Lewiston, ME 04240

March 27, 2019 at 6:00 p.m. to 8:00 p.m.

## Comments/Questions

Will a cell phone app be provided that shows train location and expected minutes to arrival at specific locations such as agricultural grade crossings? My grade crossing is around a curve visibility is limited

Optional

Name: CARL WILCOX  
Email: cwilcoxmaine@gmail.com  
Address: 1047 Intervale Rd City/State: New Gloucester, ME

# Lewiston-Auburn Passenger Rail Study Public Meeting

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March 27, 2019 at 6:00 p.m. to 8:00 p.m.

## Comments/Questions

Thanks for this presentation. Please look closely at a Pineland Station - there are hundreds of commuters traveling from/to Lewiston-Auburn + Portland daily, there is a location for a station and parking within a short walk of the campus. There are also hundreds of people who drive to Pineland on weekends for recreation and special events.

Optional

Name: Debra Smith  
Email: debra.is.nrw@gmail.com  
Address: 9 Cobb's Bridge Rd City/State: New Gloucester ME 04200

# Lewiston-Auburn Passenger Rail Study Public Meeting

Lewiston Library, Callahan Hall

200 Lisbon St, Lewiston, ME 04240

March 27, 2019 at 6:00 p.m. to 8:00 p.m.

## Comments/Questions

Our family is very much for the passenger rail service to Lewiston/Auburn.  
The economic, environmental, health care, tourism <sup>beneficial</sup> ~~and~~ <sup>and</sup> alternative transportation option that is relaxing and ease of use.

There are many individuals that live in the L/A area that commute to Portland and would utilize this service - no congestion as experience in commuter vehicle transportation, as well as reducing impact on the roadways.  
DMUs are a feasible economical option.

Optional

Name: Whitney King-Baker

Email: wkingbaker98@yahoo.com

Address: 243 Hersey Hill Rd

City/State: Minot, Maine

# Lewiston-Auburn Passenger Rail Study Public Meeting

Lewiston Library, Callahan Hall

200 Lisbon St, Lewiston, ME 04240

March 27, 2019 at 6:00 p.m. to 8:00 p.m.

## Comments/Questions

Thanks  
Let's do it!!!

I am for Option C - take it to downtown Portland. The Boston connection can be done at Yarmouth. Also use Maine-owned corridor

Optional

Name: John Casey

Email: john.casey@mail.com

Address: 31 Googin St

City/State: ME 04240

Lewiston, ME 04240



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Lewiston Library, Callahan Hall

200 Lisbon St, Lewiston, ME 04240

March 27, 2019 at 6:00 p.m. to 8:00 p.m.

## Comments/Questions

ALIGNMENT B - PHASE 1  
" C - PHASE 2

Optional

Name: REP JIM HANNY  
Email: JIM.HANNY@LEGISLATURE.MAINE.GOV  
Address: 9 MAYLEWOOD RD City/State: LEWISTON

# Lewiston-Auburn Passenger Rail Study Public Meeting

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March 27, 2019 at 6:00 p.m. to 8:00 p.m.

## Comments/Questions

Please confirm the railroads responsibility to provide fencing along the railroad, and maintenance, where livestock are grazed including maintaining livestock underpasses and paying fair market value for livestock that pass through the RR fence and are killed or maimed by the train

Optional

Name: Carl Wilcox  
Email: Cwilcox.maine@gmail.com  
Address: 1047 Intervale Rd City/State: New Gloucester, ME

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# Email Comments Received

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**From:** Michel Courchesne  
**To:** [LAStudy](#)  
**Subject:** Bring the railway to Lewiston-Auburn  
**Date:** Wednesday, March 27, 2019 7:39:27 PM

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For many years, the residents of the L-A area have waited for the railway corridor to connect with other cities to the south.

I for one applaud, encourage and support the railway to come to this area to continue the railway's growth and to reach the residents of Lewiston-Auburn and its environs. I look forward to good news from the meeting at the Lewiston Public Library this week.

Michel Courchesne  
Resident of Lewiston

**From:** Paul Weiss  
**To:** [LStudy](#)  
**Cc:** [Tony Donovan](#)  
**Subject:** Feedback on the Rail plan for Lewiston  
**Date:** Thursday, March 28, 2019 9:17:30 AM

---

I attended the public meeting in Lewiston this past evening and wanted to offer my feedback on the presentation and the study. Thank you for hosting the meeting and for the most part, it was a civil discussion, with some excellent points raised.

Regarding feedback on the presentation:

1. The presenter did a good general job, however I was very disappointed in the Bias she showed when mentioning topics like: “it is very expensive” many times during the discussion. This should not have been done and was very distracting and gave a tone of this project not being affordable. A consultant should not be presenting bias. State the facts, answer questions, and solicit feedback.
2. Also the presenter did not know where Yarmouth Station was, Yarmouth Y or the largest single Federal Rail Project currently in Maine (the Royal Junction Passing Siding). That was worrisome and unprofessional.
3. Also not mentioned was the state plans to upgrade tracks to Leeds Jct and the then Bias toward PanAM routing.
4. The number on ridership were so far off that they were ridiculous.
5. Prices were inflated over the value even given in their own data on positive train control.
6. No mention of the state owned line from Danville Junction down not needing PTC since there will not be freight operating and the dramatic price drop due to that fact.

Regarding the Project:

1. We should be pursuing the SMO line instead of PanAm. We should have both services of Amtrak to Boston and also a commuter service into Portland. The Amtrak should go through Yarmouth Junction and then onto the PanAm line and the Commuter Service should also share the same line and continue into Portland. We should not be using state funds on a private RR. We purchased the SMO St Lawrence and Atlantic line for the purposes of commuter rail. We spent millions on it. It should not be abandoned and turned into the most expensive bike path on earth!
2. The ridership numbers as do far off they are a joke. In 20 years the number are at 1900. Well the Downeaster broke their projected 20 year ridership in 2 years. This will do the same.
3. We should be considering right from the start the electrification of this line. We had an electrified interurban RR over 100 years ago when Maine was less populated. It travelled faster than this service will and had more frequent stops. Why is it so hard to even get back to what we had?
4. We really do not need expensive consultants to tell us these facts. We just need a service plan to get started. I thought that is what this was, but you are still arguing over routes and buses.
5. No BUSES! we all want trains! Let’s get this service started! This may cost 300-400

million, yes, but it will be paid off over many years and will bring an order of magnitude of economic activity into our 2 largest metro areas.

6. Next time you do surveys, try to get a lot more low wage earners into the room. We only seem to get older white males, who really do not represent our state demographic.

Thank you for your time and I hope you take these considerations seriously.

Paul Weiss  
Maine Rail Transit Coalition and Maine Sierra Club  
Cumberland, ME  
[weissp@me.com](mailto:weissp@me.com)

**From:** townsendcs@comcast.net  
**To:** [LStudy](#)  
**Subject:** Feedback  
**Date:** Friday, March 29, 2019 11:40:56 AM

---

Thank you for your presentation on Wednesday evening in Lewiston. I found the information helpful.

I understand the success of The Downeaster rail service is truly because of the commuter numbers from Exeter, NH and south to Boston. And I understand with the rolling stock and routes currently available that a continuation to Lewiston / Auburn is a no-brainer, but it seems foolish to think this extension / expansion of service to Portland is the best use of our efforts.

I spoke at the presentation Wednesday night; that room was full of old "railroaders" that might take the train from L/A to Boston a couple times a year for a Celtics game @ North Station. This is not the commuter demographic you need to capture.

The idea of the Portland Transportation Center as the commuter destination for high frequency rail service is flawed. Even if you move the rail stop to the area behind Mercy Hospital on Fore River Parkway, it's not in a location that folks working in downtown Portland will find at all convenient. Your "last mile" criteria doesn't hold up.

The option for light rail / DMU service to the Portland waterfront (your Alignment C) plays right into the need for moving lots of millennials to the new headquarters for WEX (400 workers) and Covetrus (1000+ workers), plus the Old Port / Commercial Street. While I understand the NNEPRA would like to utilize the existing / operating PanAm lines and AmTrak trains, the St. Lawrence and Atlantic railbed is ideal to alleviate the congestion of 295 North from Brunswick, Freeport, Yarmouth, Cumberland and Falmouth. There is not a congestion / automobile commute issue from L/A to Portland, so what is driving this skewed thinking?

Please, let's address the real problem of commuter congestion where rail is a true solution, not a joy ride opportunity for the Twin Cities.

Are there any employment opportunities to help move this initiative forward? I'd love to discuss further!

Sincerely,  
Cliff Townsend

@townsendbuilt  
TownsendCS, LLC  
73 Webster Road  
Freeport, Maine 04032  
207-776-1120



**From:** TODD GILMOUR  
**To:** [LAStudy](#)  
**Subject:** For consideration  
**Date:** Wednesday, March 27, 2019 1:24:03 PM  
**Attachments:** [image1.jpeg](#)

---

For routing rail service between LA and Portland, please consider starting/ending the service near Marden's Plaza / CMP, where a larger commuter parking lot could be accommodated, then including a small stations at Bates College / Russell Street and at former downtown station, behind the Hospital, with limited parking at both since students/patients/passengers there will likely use a taxi/Uber/Lyft service for the "last mile" —

In Auburn there could be another limited-parking station near Court Street, and a large-parking lot suburban station at the Turnpike / across from the Park & Ride — this could be the largest / most regional serving station at this end of the line.

If this service could run into Portland via the Eastern Promenade rail bridge, it could best serve as a commuter option that would alleviate the traffic and parking demands building up in the Old Port.

If this service could be Diesel Multiple Units or Light Rail trains that are much smaller and more nimble than the big traditional locomotive-pulled trains, then service could be restored to continue along Commercial Street — serving the full tourist, business and emerging residential market along the waterfront — to Thompson's Point Amtrak/Concord transportation center, to provide full connectivity across and beyond the region.

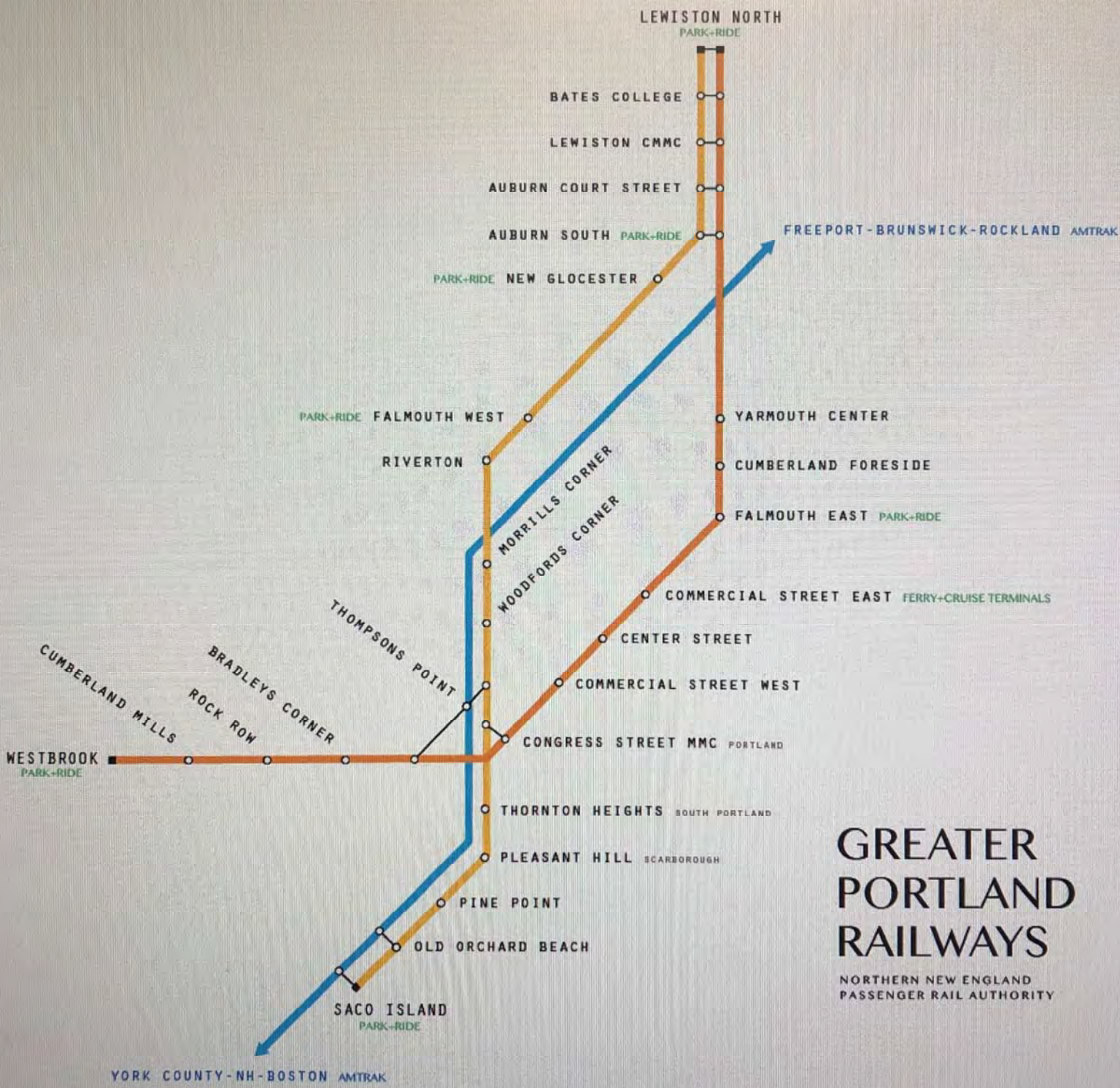
Service could begin as follows:

1. Lewiston to Portland East Thames Street
2. Service extension: East Thames Street to Thompson's Point
3. Service extension: Thompson's Point to Westbrook
4. Service extension: Lewiston to Thompson's Point via West Falmouth to Portland Morrill's Corner / Deering Junction / Woodford's Corner



Please let me know if this idea raises any questions I could help answer.

Respectfully, Todd Gilmour



# GREATER PORTLAND RAILWAYS

NORTHERN NEW ENGLAND PASSENGER RAIL AUTHORITY

**From:** Stephen Houdlette  
**To:** [Stephen Houdlette](#)  
**Subject:** FW: summary from 3/27 workshop?  
**Date:** Thursday, March 28, 2019 11:50:38 AM  
**Attachments:** [image001.gif](#)

---

Phone comments added:

- Consider Pineland as a potential stop
- Her neighbor commented: “no station, no project” (for New Gloucester)

### **Stephen Houdlette**

Data Specialist

Northern New England Passenger Rail Authority (NNEPRA)

75 West Commercial Street, Suite 104 Portland, ME 04101

[stephen@nnepra.com](mailto:stephen@nnepra.com)

**(O) 207-780-1000 x 106**

**(F) 207-780-1001**



*Notice: Under Maine law, documents - including e-mails - in the possession of NNEPRA that are received or prepared for use in connection with NNEPRA's business may be public records. There are very few exceptions. As a result, please be advised that what is written in an e-mail could be released to the public and/or the media if requested.*

**From:** Debra Smith <[debra.is.now@gmail.com](mailto:debra.is.now@gmail.com)>  
**Sent:** Thursday, March 28, 2019 11:35 AM  
**To:** LAStudy <[lastudy@nnepra.com](mailto:lastudy@nnepra.com)>  
**Subject:** summary from 3/27 workshop?

Hello,

Thanks for the presentation last night in Lewiston.

I'm looking for a PDF of the summary you handed out at the meeting last night and cant find it on your website. Can you direct me or send me as an attachment?

Thanks,  
Debra Smith

**From:** [Velickovic, Natasha](#)  
**To:** [Taniguchi, Kyle](#)  
**Subject:** FW: [External] Fwd: Comment Letter- Lewiston/Auburn Rail  
**Date:** Friday, April 5, 2019 2:43:43 PM  
**Attachments:** [LewistonAuburnCommentLetterPortland.pdf](#)

---

Include in the Outreach appendix.

**Natasha Velickovic, PE**  
Principal, Transit & Rail

Direct 617.607.2909 | Mobile 617.480.7701  
[www.vhb.com](http://www.vhb.com)

---

**From:** Patricia Quinn <Patricia@nnepra.com>  
**Sent:** Monday, April 1, 2019 1:41 PM  
**To:** Velickovic, Natasha <NVelickovic@VHB.com>  
**Subject:** [External] Fwd: Comment Letter- Lewiston/Auburn Rail

Sent from my U.S. Cellular® Smartphone

----- Original message -----

From: Jeff Levine <[jlevine@portlandmaine.gov](mailto:jlevine@portlandmaine.gov)>  
Date: 4/1/19 12:51 PM (GMT-05:00)  
To: Patricia Quinn <[Patricia@nnepra.com](mailto:Patricia@nnepra.com)>  
Cc: Helen Donaldson <[hcd@portlandmaine.gov](mailto:hcd@portlandmaine.gov)>  
Subject: Comment Letter- Lewiston/Auburn Rail

Please see attached. As always, let me know if you have any questions.

best,

Jeff

Jeff Levine, AICP  
Director  
Planning & Urban Development Department  
389 Congress Street 4th Floor  
Portland, Maine 04101  
Phone (207)874-8720  
Fax (207)756-8258  
<http://www.portlandmaine.gov/planning>  
@portlandplan

Notice: Under Maine law, documents - including e-mails - in the possession of public officials or city employees about government business may be classified as public records. There are very few exceptions. As a result, please be advised that what is written in an e-mail could be released to the public and/or the media if requested.



**CITY OF PORTLAND**  
**Planning & Urban Development**  
**Jeff Levine, AICP, Director**

Patricia Quinn  
Northern New England Passenger Rail Authority  
75 West Commercial Street, Suite 104  
Portland, ME 04101

**Re: Lewiston-Auburn Passenger Rail Service Plan Project**

Dear Ms. Quinn,

Thank you for the opportunity to comment on the Lewiston-Auburn Passenger Rail Service Plan Project. The project represents a considerable amount of work and provides valuable information for regional transportation policy-makers.

The study is particularly helpful in beginning to quantify the number of potential riders that might benefit from improved transit service between Lewiston/Auburn and Portland. We support improving that service to provide better access between these two urban centers. Given the high estimated cost of rail service, we would support looking at an interim or alternative commuter bus service that might provide higher frequency and convenience at far lower capital costs. Once those ridership numbers are known, they could be adjusted based on the differences between rail and bus service and provide a more informed estimate for rail service operations.

We also support consideration of the broader regional transit picture, in conjunction with subregional efforts, such as PACTS's Transit Tomorrow initiative. This initiative will prioritize regional transit investments based on technical analysis and broad public engagement, and could be critical in helping to determine the larger context for of transit service between Lewiston/Auburn and Portland.

Finally, with respect to the alignments presented in the public materials for the project, we have some concerns about the impacts of service through the Eastern Promenade (as shown in Alignment C, which terminates at Ocean Gateway). The Eastern Promenade is a historic landscape district on the National Register of Historic Places and a highly-prized city park which provides public access to the waterfront. Running commuter trains, and all the infrastructure associated with them, along the waterfront in this location raises questions about impacts to the park as a limited open space for a growing downtown and public safety. While running service along that corridor is not inconsistent with past uses, the land use changes and City plans for those areas should be factored into any alignment decisions. In general, we would prefer use of the existing Downeaster corridor for any increased service, as it has been improved more recently and currently provides passenger rail service.

**389 Congress Street • Portland, Maine 04101 • 207-874-8720**  
**[jlevine@portlandmaine.gov](mailto:jlevine@portlandmaine.gov) • [www.portlandmaine.gov](http://www.portlandmaine.gov)**

In closing, we want to reiterate our support for the concept of interurban and regional transit connections. Building a strong transit network is a key to the sustainable growth of the region and the state. We look forward to continuing to work with NNEPRA, Lewiston/Auburn, and other regional partners on transit solutions for our communities.

As always, I look forward to working with you and other partners to improve mobility options in Portland and Maine.

Sincerely,



Jeff Levine, AICP  
Director

cc: Lewiston/Auburn Passenger Rail Service Plan Project Committee  
Lincoln Jeffers, Lewiston Director of Economic Development  
Richard Grandmaison, Lewiston  
John Myrand, Lewiston  
Representative Bettyann Sheats, Auburn  
Jonathan Labonte, Former Mayor of Auburn  
Robert Stone, Former Auburn City Councilor  
Mary Ann Hayes, MaineDOT

**From:** Whitney King-Buker  
**To:** [LAsudy](#)  
**Subject:** I am very much in support-passenger rail  
**Date:** Wednesday, March 27, 2019 12:46:29 PM

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To whom it may concern,

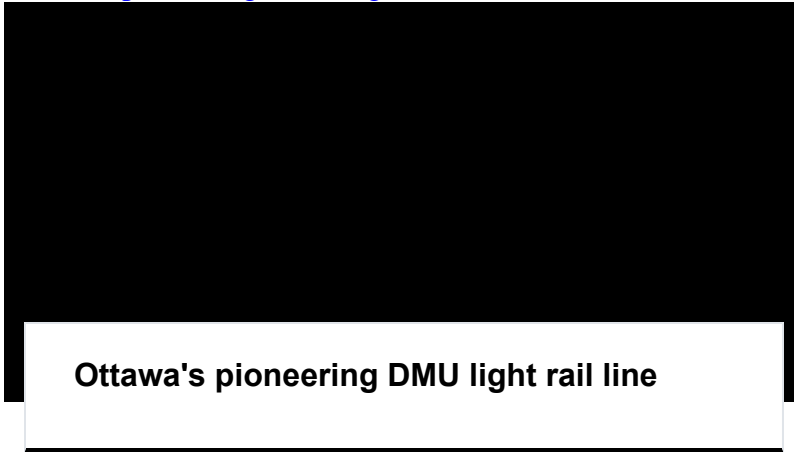
I am very much in support of passenger rail from Portland to Lewiston/Auburn to Western Maine to Montreal.

Passenger rail service will bring economic, environmental, access to healthcare, reduction of road congestion appeal/benefits to our community.

This is a cost beneficial project that will bring so many financial gain to our region. (Our restaurants, hotels, hospitals, colleges, real estate, community centers...the list is boundless.)

Europe and Ottawa, Canada have proven DMU passenger rail is feasible and active.

[Ottawa's pioneering DMU light rail line](#)



Please continue to move forward toward approval of production of a passenger rail line between Lewiston/Auburn and Portland.

Thank you,  
Whitney King-Buker  
Minot, Maine

[Sent from Yahoo Mail on Android](#)



**From:** Rick Lanman  
**To:** [LAStudy](#)  
**Subject:** LA Passenger Rail Study  
**Date:** Thursday, March 28, 2019 1:54:14 PM

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Greetings,

I applaud the work and forethought that has been put into the study to this point. The statistical information and demographics are smart and informative. The choice selection based on the information are comprehensively thought-out. The committee has created a solid foundation for the decision-making process to happen. Thank you for all that work.

I attended the presentation in Lewiston on 27 March 2019. Based on the printed and verbal information, I would support a start small and develop-as-you-go approach. In my opinion, the place to start the entire service would with the shuttle idea that can be ostensibly done rather quickly and with a minimal investment in track updates, etc. I also believe the frequency on that alternative is correct, 14 to 20 trips per day, as that will be key to finding the usefulness of the service. Once the shuttle service is functioning, without pause to watch what happens, the work should commence to build-out alternative B to fruition. I would further that notion with as the Alt B gets close to maturity, work begins to extend the service north towards Montreal and east towards Caribou or St Johns, depending the service available at that time.

That said, my first and biggest take away from the presentation is the stark absence of young people in the room. I believe a good 90% of the attendees at the presentation I attended will not be benefactors of the proposed service. I would advocate that the committee makes the same presentation to an assembly of high school students; they are going to be the benefactors and most probably the source of the where-with-all to establish the proposed passenger rail service. People with birthdays after the year 2000 need to be heard as part of the public outreach.

Respectfully,

Rick Lanman  
Auburn Resident

**From:** Danielle Dellacroix  
**To:** [LAsStudy](#)  
**Subject:** L/A Rail to Portland  
**Date:** Wednesday, March 27, 2019 11:59:33 AM

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Good morning;

I'm disabled and my husband is going blind; he just had his second eye surgery. This is the only reason we aren't attending tonight's forum in person. We're both 40: he doesn't drive and we both have lived in the area for 3 years. We've voted in every election. We moved here from South Portland because rent was too high( he still works for Anthem BCBS out of South Portland). It's quite an ordeal to get to Portland but I managed because he needed his eye surgery. It was 3 days in a row, consult, surgery, follow up. I would visit a lot more often if I didn't have to drive; even though I'm young I have mobility issues and limited energy. Not to mention it would ultimately reduce the carbon footprint of commuters traveling to the city priced out of housing. There's a lot!

Thanks for your time.

**From:** Wayne Duffett  
**To:** [LAStudy](#)  
**Subject:** LA study  
**Date:** Friday, March 22, 2019 11:16:25 AM

---

Folks,

Is there a link to the study, or a pdf you can send me. Thank you.

\*\*\*\*\*  
Wayne W. Duffett, P.E. 207-767-6068 office  
TEC Associates 207-767-7125 fax  
46 Sawyer Street 207-232-3581 cellular  
South Portland, Maine 04106 [wayne@tecassoc.com](mailto:wayne@tecassoc.com)  
\*\*\*\*\*

**From:** Tony Donovan  
**To:** [Patricia Quinn](#); [LStudy](#)  
**Cc:** [Velickovic, Natasha](#); [Paul Weiss Sierra](#)  
**Subject:** March 27, 2019 Public Meeting on Service Plan - COMMENTS  
**Date:** Monday, March 18, 2019 11:40:40 AM  
**Attachments:** [ROUTE MEMO.pdf](#)

---

Patricia/Natasha

Please consider the attached feedback and questions related to the **Lewiston/Auburn Passenger Rail Service Plan**  
Thank you

Please confirm receipt

Tony Donovan

--

**Anthony J. Donovan**  
**Founding Member; Maine Rail Transit Coalition**  
**84 Middle St. Portland, Me. 04101**  
**(207) 329-6732 Mobile**  
Mailto: [MElikesRail@Gmail.com](mailto:MElikesRail@Gmail.com)

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## Maine Rail Transit Coalition:



*“... to elevate rail transportation to its proper balance in transportation investments, planning and decision-making.”*

3/17/2019

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### Memo

**FROM:** Maine Rail Transit Coalition (MRTC)  
Paul Weiss, Managing Director  
Anthony J Donovan, Director

**TO:** Lewiston Passenger Train Service Plan Stakeholder Committee  
C/O Northern New England Passenger Rail Authority  
Patricia Quinn, Executive Director  
207-780-1000 x105 [patricia@nnepra.com](mailto:patricia@nnepra.com)

**CC:** Natasha Velickovic, VHB Project Manager  
99 High Street, 10th Floor  
Boston, MA 02110  
617.728.7777 [NVelickovic@VHB.com](mailto:NVelickovic@VHB.com)

**Date:** Sunday, March 17, 2019

**Re:** **March 27, 2019 Public Meeting on Service Plan for the Development of Passenger Rail Service to Lewiston and Auburn**

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The purpose of this memo is to provide the VHB consulting team and the State rail authority with a series of questions and suggestions that might be addressed at the March 27 public presentation of the alternative routes. We trust that this will assist in your deliberations as to recommendations for the next phase of this L/A passenger train service project, in a manner that will not impose additional delays to implementation of the service.

MRTC has reports by the state and state consultants on ridership, costs and economic impacts dating back to 2005 and through to the most recent report in 2011.

The MRTC has reviewed most of the material provided to the committee in the VHB review and evaluation of the Lewiston-Auburn Passenger train study. This includes the;

- August 2018 Transit Propensity Study and,
- Draft costs of alternatives, operations and equipment.
  - The January 23, 2019 Draft costs of alternatives, operations and equipment:
  - Lewiston-Auburn Study Operations & Maintenance (O&M)
  - Cost Estimate Lewiston-Auburn Study Vehicle Capital Cost Estimate
  - Summary of Estimated Infrastructure Costs for Alternatives (18 Pages)
  - 2019-01-23 Estimated Costs by Segment

The MRTC in its own consultant review asks that the following be addressed for discussion at the March 27 public session:

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# Maine Rail Transit Coalition:



“... to elevate rail transportation to its proper balance in transportation investments, planning and decision-making.”

3/17/2019

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## 1. DMU Train Set Costs.

- a. Consultants hired by MeDOT for the 2011 FTA New Starts Portland North study provided costs for DMU rail cars of between \$5 and \$5.5 million. Both Nippon Sharyro and Bombardier confirmed these prices in discussions with MRTC contacts. In 2005 Austin, Texas purchased six Statler DMU Train Sets for \$6 million each. **Why does the VHB study equipment set costs at \$12 million?**

## 2. Stations and Ridership.

- a. Although the VHB Study references other stations in a short section asking respondent where they would like additional stops, the Propensity Analysis and draft alternatives do not include stops at any of the town centers. The report references a stop in the “Lewiston-Auburn Area”, which MRTC assumes is referring to the former Maine Central Station in Downtown Lewiston. Otherwise the only station stops referenced in the VHB study is a Maine Turnpike Park and Ride. This appears to leave out station stops on the entire length of the State of Maine-owned SLR route between Danville Junction and Portland at India Street – and the associated ridership and economic development prospects. **The VHB Study bases ridership projections from limited stops. Please explain.**

## 3. Infrastructure Assessment. These VHB prices appear to be significantly inflated over previous project costs.

*\* MRTC recommends double track between the Maine Central Station on Bates Street in Lewiston to Danville Junction to separate freight from passenger and allow for high-frequency commuter service*

- a. Recognizing that the one constant in the service to Auburn/Lewiston will be the six (6) miles of PanAm track from Danville Junction, the VHB estimate is \$49 million. At almost \$7 million per mile, **is this double track?**
- b. The PanAm freight line between Portland and Brunswick was reconstructed (by PanAm) in 2013 at a cost of less than \$40 million (35 miles). A passing siding was added to Royal Junction in 2018 at a cost of \$8 million (4 miles). The 2011 analysis indicated the full costs of infrastructure, including PTC and stations between India Street and Danville Junction at just over \$100 million (29 miles). **Please provide the sources for the VHB estimates and an explanation of what type of track and how much distance of track infrastructure is being reconstructed.**

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3/17/2019

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#### 4. **Reconstruction of the Corridor currently used by Downeaster.**

- a. The VHB report indicates the costs of Infrastructure between Yarmouth and Portland Transportation Center on the PanAm main Freight line at \$47 million. Recognizing that the VHB report appears to include relocation of the Portland station (an item not anticipated by the original RFP); what is the \$47 million to be spent on? **A new Portland Station? Reconstruction of the existing track? Double Track. This needs an explanation.**

Thank you for considering the above. We fully recognize the professionalism and detail provided by the VHB consultants. Our questions are specific to implementing the service in a timely manner, after over a decade of delays. And, as has been made clear in our meetings and correspondence with the MeDOT, NEPRA and VHB, we advocate for a specific route, specific equipment with a range of operations proposals. All can be reviewed in reports issued by the MRTC found on our website [www.mrtc.org](http://www.mrtc.org)

In consideration of the current planning of alternative services, routes and operations, including a review of initial costs projections, MRTC and its coalition of interests recommend the following alternative is the best choice:

## Maine Rail Transit Coalition:



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3/17/2019

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1. Reconstruction of the railroad as described in the VHB report as; <sup>1</sup> Infrastructure Assessment Alternative 2B-1, LA to Portland via Back Cove on SLA with high-frequency regularly scheduled commuter service operating hybrid passenger trains (DMUs) on the following route:

- **From Lewiston at the Iron Horse Court Maine Central Station (Bates St.) on the Pan Am Railway Freight Maine-Line (FML) to Danville Junction. South from Danville Junction on the SMO-SLR to Yarmouth Junction.**
- **At Yarmouth Junction the reconstruction of the railway will provide for low-frequency (Amtrak Downeaster) trains to travel west on the PanAm FML and, high-frequency DMU commuter rail south on the State of Maine Owned Saint Lawrence and Atlantic Railway (SLR) to the Portland OceanGate Terminal (POT) on India Street.**
- **Station stops can be provided by the high-frequency DMU commuter service at the Pineland Business Park, downtown Yarmouth, Cumberland and Falmouth. DMU platform connections to the Downeaster at Yarmouth Junction be included.**

2. Use of the existing PAR FML, reconstructed to the extent required for additional shared passenger train service and, with modifications, as described in the VHB report as; Infrastructure Assessment Alternative 1B-4, LA to Portland on FML using SLR to Yarmouth Junction, with lower-frequency\_Amtrak between Boston and Lewiston<sup>2</sup> (one or two R/T daily).

All railway track restoration will be modern tracks, with Positive Train Control (PTC), continuous welded rail allowing Class-4 speeds (79 mph) allowing for both Amtrak Downeaster push-pull locomotive trains and the DMU Trainsets as referenced in the same VHB study.

*A critical component of the alternative analysis must note that the route alternative of the privately-owned PanAm freight line from Danville Junction to Royal Junction, through to Portland and Boston, while meeting the low-frequency requirement for Amtrak to Lewiston, precludes the possibility of high-frequency service between Lewiston/Auburn and Portland downtowns. It also limits passenger service to shared route with freight, a limitation when considering FTA funding, while in addition uses public funds to improve a private freight railroad, rather than benefit a state-owned transportation infrastructure asset.*

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<sup>1</sup> Lewiston-Auburn Passenger Rail Study VHB Transit & Rail Department December 23, 2019 Project # 14093

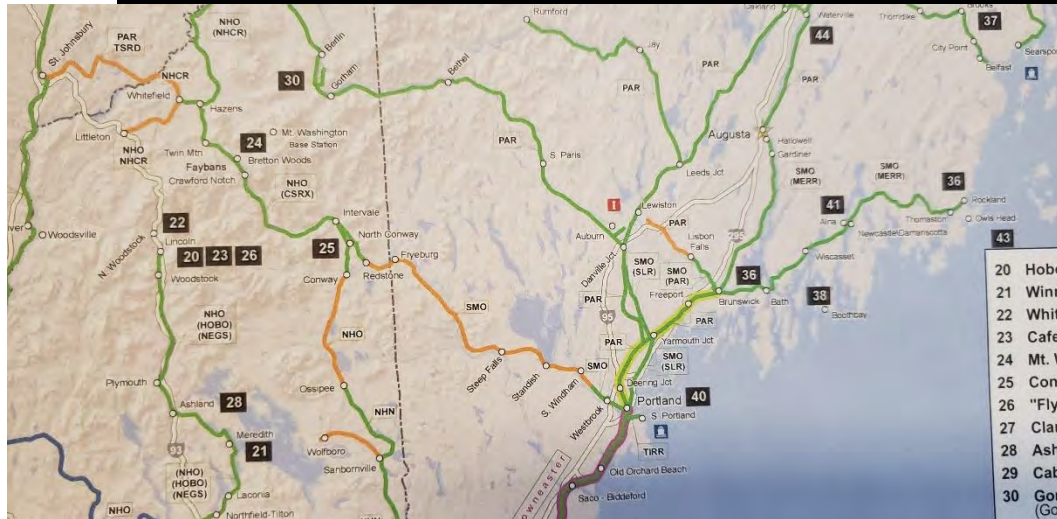
<sup>2</sup> This proposal assumes a new Portland Station on the Main-Line using the Mercy Hospital property.



# Maine Rail Transit Coalition:

“... to elevate rail transportation to its proper balance in transportation investments, planning and decision-making.”

3/17/2019



## Nippon Sharyo DMU Railcar

fact sheet

### Key Features

#### Safety

- Fully compliant with FRA Tier I vehicle standards, including for crashworthiness.
- Also features CEM (Crash Energy Management) elements for added occupant safety.
- Collapsible coupler designed to absorb impact forces.
- Carbody designed with "crush zones" to protect occupants.
- PTC equipped.

#### Green

- Latest technology Cummins diesel engine, the first EPA Tier 4 Final compliant engine in North American rail service.
- Features Selective Catalytic Reduction (SCR) delivering state-of-the-art NOx reduction.
- Fuel efficient.

#### Accessibility

- Fully ADA compliant, including:
  - Level boarding and floor height throughout the vehicle.
  - Door sills, aisles and passage between cars meet accessibility standards.
  - Accessible toilet.

#### Rider Comfort

- Large comfortable seats with tray tables and overhead storage.
- Work tables with facing seats.
- Service bar offering a variety of snacks and beverages.
- Large windows.
- Air suspension for comfortable ride.

#### Easy Maintenance

- Stainless steel carbody with aerodynamic front nose.
- Modular diesel power system design improves maintainability and reduces downtime.

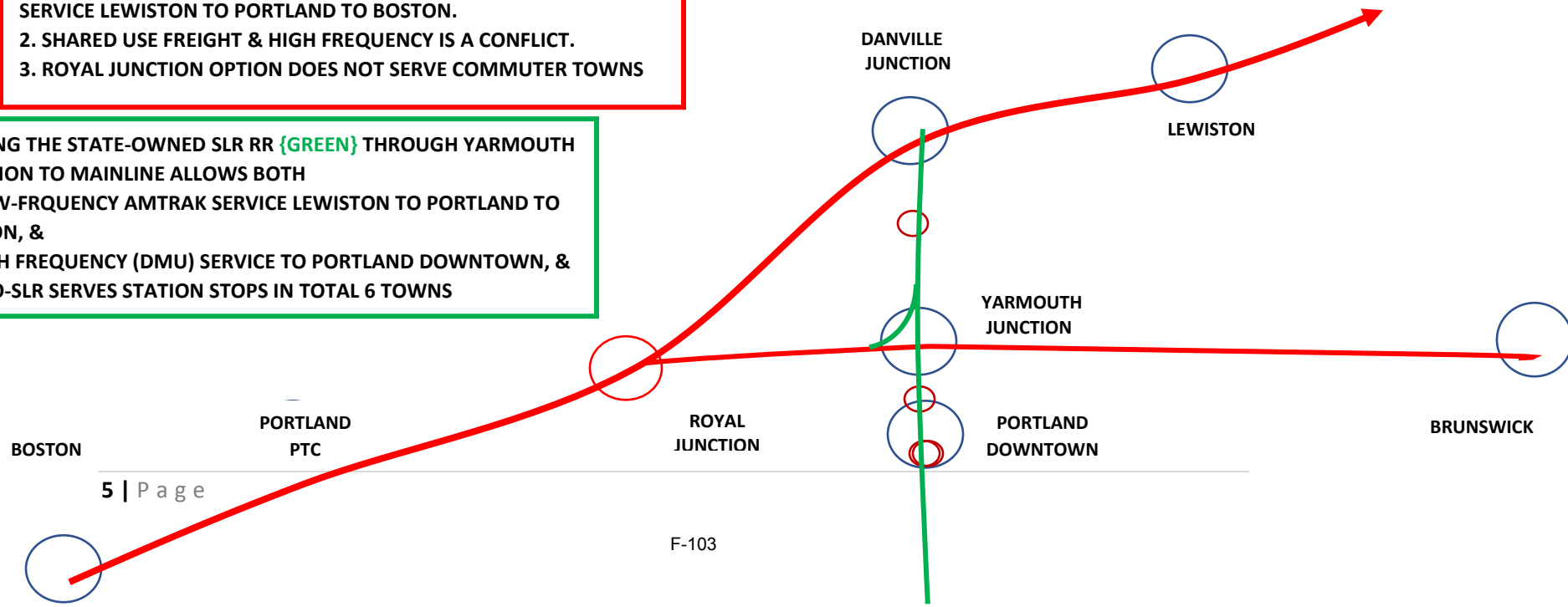


Sumitomo Corporation of Americas

NIPPON SHARYO

1. THE USE OF THE PANAM FREIGHT LINE {IN RED} THROUGH ROYAL JUNCTION TO MAINLINE WORKS FOR LOW-FRQUENCY AMTRAK SERVICE LEWISTON TO PORTLAND TO BOSTON.  
 2. SHARED USE FREIGHT & HIGH FREQUENCY IS A CONFLICT.  
 3. ROYAL JUNCTION OPTION DOES NOT SERVE COMMUTER TOWNS

1. USING THE STATE-OWNED SLR RR {GREEN} THROUGH YARMOUTH JUNCTION TO MAINLINE ALLOWS BOTH  
 a. LOW-FRQUENCY AMTRAK SERVICE LEWISTON TO PORTLAND TO BOSTON, &  
 b. HIGH FREQUENCY (DMU) SERVICE TO PORTLAND DOWNTOWN, &  
 c. SMO-SLR SERVES STATION STOPS IN TOTAL 6 TOWNS



**From:** abell9086@aol.com  
**To:** [Velickovic, Natasha](#); [LAStudy](#)  
**Subject:** MDOT meeting in Lewiston on 3/27 on the Lewiston-Auburn Passenger Rail Service Project  
**Date:** Monday, April 1, 2019 10:03:26 AM

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I attended the MDOT meeting in Lewiston on 3/27 on the Lewiston-Auburn Passenger Rail Service Project.

Establishing passenger rail service between Portland and Lewiston Auburn does NOT make sense. While the goal may be worthy, using 19th century railroad technology is not an appropriate way to solve a 21st century problem. The automobile-centered infrastructure that has been put in place over the past 100 years makes it far more attractive to utilize automobile & bus service to achieve this goal. Passenger rail is unattractive **economically** (costly to upgrade & get running, will require annual subsidy, and will be unlikely to win Federally-funded support. Passenger rail is unattractive **operationally** ... it is slow, not nimble (can only go from A to B ... not where the people need to get to) and is not community friendly ... noise nuisance & safety issues.

The rail proposal is driven by people nostalgic for the good old days of train travel. Today, however, the rail corridor remains a valuable asset for our communities, but not a railroad, but rather as a bike/pedestrian recreational trail. Throughout America, and indeed, even here in Maine, old rail corridors are being transformed into economically valuable recreational pathways.

I urge you to consider this better use of this asset.

Sincerely,

Art Bell  
Yarmouth, ME

**From:** Richard Whiting  
**To:** [LAStudy](#)  
**Subject:** Old Interurban Model  
**Date:** Wednesday, March 27, 2019 3:33:44 PM

---

Greetings,

I don't know how feasible this would be, but I think a successful train service to Lewiston Auburn would offer small trains more frequently, like trolley cars/single motorized cars, with at least a couple trips in the morning/afternoon commuting hours, a mid-day run and a mid-late evening run. The closer it goes to Portland's downtown and public transportation hub(s) the better. I think the idea of a short connector line to the Downeaster should be a last resort, as I don't think people will trust having good connections without long waits, missed connections, etc.

Regards,  
Rick Whiting  
24 Beaver Road  
Auburn, Maine

**From:** Alyson Peabody  
**To:** [LAStudy](#)  
**Subject:** Passenger Rail to Lewiston/Auburn  
**Date:** Wednesday, April 3, 2019 12:26:24 PM

---

Good day!

My name is Alyson Peabody and I am the News Editor for the USM *Free Press*. I was wondering if someone would be willing to explain the process of establishing this rail between Portland and Lewiston/Auburn. My main questions are:

1. How will it work?
2. What should passengers know? What are the estimated fare cost and riding time?
3. Are there more projects in the works for establishing passenger rails elsewhere in Maine?
4. Once the project is off the ground, how long will it take until it is up and running?

If you could include your name and position with the response that would be helpful. Thank you very much for your time!

Best,

Alyson Peabody, *News Editor*  
**The Free Press** | USM Student Newspaper



**From:** Tony Castro  
**To:** [LAsudy](#)  
**Subject:** Pineland Stop  
**Date:** Monday, April 1, 2019 1:41:49 PM

---

Hi.. I would like to offer that I think a stop at Pineland on rail service between Portland and Lewiston/Auburn could be very beneficial. I hope you are successful in establishing this route.  
Thanks, Tony Castro

[Sent from Yahoo Mail on Android](#)

**From:** Joshua Nagine  
**To:** [LAsudy](#)  
**Subject:** Re: Rail Service Between Lewiston-Auburn and Portland ME  
**Date:** Thursday, March 28, 2019 5:31:45 PM

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Sorry, here are my correct contacts details.

Joshua Nagine  
108 Spring St,  
Lewiston, ME 04240  
207-240-2779

On Thu, Mar 28, 2019 at 5:30 PM Joshua Nagine <[joshuanagine@gmail.com](mailto:joshuanagine@gmail.com)> wrote:

Hello All,

I wasn't able to make the meeting, but I did want to confirm that the I would take the train from Lewiston to Portland round trip at least three times a week at a billing of \$12-15 round trip. I would also gladly take a late night train from Portland to Lewiston at least twice a month for up to \$20 one way.

I'd like to say, early morning, midday and late afternoon commuter service is most attractive and a depots downtown would increase my usage. That and Wi-Fi. I'm very interested in seeing this project happen.

Best-  
Joshua

**From:** Tony Donovan  
**To:** [Paul Weiss Sierra](mailto:Paul.Weiss.Sierra)  
**Cc:** [LAsudy](#)  
**Subject:** Re: Feedback on the Rail plan for Lewiston  
**Date:** Friday, March 29, 2019 7:02:22 AM

---

Well said!  
Td

On Thu, Mar 28, 2019, 9:17 AM Paul Weiss <[weissp@me.com](mailto:weissp@me.com)> wrote:

I attended the public meeting in Lewiston this past evening and wanted to offer my feedback on the presentation and the study. Thank you for hosting the meeting and for the most part, it was a civil discussion, with some excellent points raised.

Regarding feedback on the presentation:

1. The presenter did a good general job, however I was very disappointed in the Bias she showed when mentioning topics like: “it is very expensive” many times during the discussion. This should not have been done and was very distracting and gave a tone of this project not being affordable. A consultant should not be presenting bias. State the facts, answer questions, and solicit feedback.
2. Also the presenter did not know where Yarmouth Station was, Yarmouth Y or the largest single Federal Rail Project currently in Maine (the Royal Junction Passing Siding). That was worrisome and unprofessional.
3. Also not mentioned was the state plans to upgrade tracks to Leeds Jct and the then Bias toward PanAM routing.
4. The number on ridership were so far off that they were ridiculous.
5. Prices were inflated over the value even given in their own data on positive train control.
6. No mention of the state owned line from Danville Junction down not needing PTC since there will not be freight operating and the dramatic price drop due to that fact.

Regarding the Project:

1. We should be pursuing the SMO line instead of PanAm. We should have both services of Amtrak to Boston and also a commuter service into Portland. The Amtrak should go through Yarmouth Junction and then onto the PanAm line and the Commuter Service should also share the same line and continue into Portland. We should not be using state funds on a private RR. We purchased the SMO St Lawrence and Atlantic line for the purposes of commuter rail. We spent millions on it. It should not be abandoned and turned into the most expensive bike path on earth!
2. The ridership numbers as do far off they are a joke. In 20 years the number are at 1900. Well the Downeaster broke their projected 20 year ridership in 2 years. This will do the same.
3. We should be considering right from the start the electrification of this line. We had an electrified interurban RR over 100 years ago when Maine was less populated. It travelled faster than this service will and had more frequent stops. Why is it so hard to even get back to what we had?

4. We really do not need expensive consultants to tell us these facts. We just need a service plan to get started. I thought that is what this was, but you are still arguing over routes and and buses.
5. No BUSES! we all want trains! Let's get this service started! This may cost 300-400 million, yes, but it will be paid off over many years and will bring an order of magnitude of economic activity into our 2 largest metro areas.
6. Next time you do surveys, try to get a lot more low wage earners into the room. We only seem to get older white males, who really do not represent our state demographic.

Thank you for your time and I hope you take these considerations seriously.

Paul Weiss  
Maine Rail Transit Coalition and Maine Sierra Club  
Cumberland, ME  
[weissp@me.com](mailto:weissp@me.com)



**From:** Tony Donovan  
**To:** [L/Study; Velickovic, Natasha](#)  
**Cc:** [Paul Weiss Sierra](#); [Patricia Quinn](#); [Sheats, Bettyann](#); [Ned.Claxton@legislature.maine.gov](mailto:Ned.Claxton@legislature.maine.gov)  
**Subject:** Re: March 27, 2019 Public Meeting on Service Plan - COMMENTS  
**Date:** Friday, March 29, 2019 6:57:55 AM

---

Good morning Natasha

I appreciate your speaking to me before the 3/27 meeting about the questions posed in the March 18 memo to you. However the memo request specific answers that have not been provided.

Would you be able to provide these answers? If it is outside the scope of services the L/A study committee provided for VHB, please indicate so.

The 3/27 report raised many more questions that MRTC will address soon. However it is critical to our work in the legislature that we understand the basis for the VHB cost conclusions referenced in that memo.

I look forward to your reply

Tony Donovan

On Mon, Mar 18, 2019, 11:39 AM Tony Donovan <[melikesrail@gmail.com](mailto:melikesrail@gmail.com)> wrote:

Patricia/Natasha

Please consider the attached feedback and questions related to the **Lewiston/Auburn Passenger Rail Service Plan**  
Thank you

Please confirm receipt

Tony Donovan

--

**Anthony J. Donovan**  
**Founding Member; Maine Rail Transit Coalition**  
**84 Middle St. Portland, Me. 04101**  
**(207) 329-6732 Mobile**  
Mailto: [MElikesRail@Gmail.com](mailto:MElikesRail@Gmail.com)

***Train Time***



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**From:** C.Martin  
**To:** [LAStudy](#)  
**Subject:** Station location, Yarmouth  
**Date:** Wednesday, March 27, 2019 12:09:06 PM

---

Hello,

I'm curious as to what I've been reading about the possible location of a station at Yarmouth Junction?

I'm confused, because for a long time, knowing Erv Bickford, now passed, worked hard at getting the train back through Yarmouth and talked about the station location being near the State Garage and New Transportation parking lot off the Yarmouth exit.

There is no parking in the business/residential area of Yarmouth Junction, but utilizing the parking off 295 would better allow those one day looking to travel to L/A and future locations to Montreal would better benefit the train service if it is established now instead of spending more money later on which has many at odds with this project now.

Many had concerns with the amount of money spent on the park and ride, so why not utilize it to show Mainers that tax money isn't going to waste with these projects since it was done with a purpose!

I'm all for the train. Many Yarmouth residents are at odds and are on Facebook complaining about Yarmouth Junction being a stop over besides the fact the train will be going directly through town.

I have tried to remind citizens that at one time, Yarmouth was covered with not only tracks for trains, but tracks for trolleys that went up the coast and towards Auburn, and many vacation destinations. It's just something we need to get used to. And thankfully we have crossing gates today to warn us of train crossing.

In fact, I tried to get Yarmouth to move their old Yarmouth train station up the tracks by the park where they could have created a parking lot and given the train lots of length to stop. I wanted it here because I had been working with several groups to create a community center near the RR tracks located in the Mason building.

Unfortunately, the train station was sold to someone rich and will be turned into an office/ATM building. Even though it will be restored, history is still lost for me. It could oh made such a beautiful welcome center for travelers to Yarmouth. A dying architectural site along our RR tracks.

I really would like to have been at the meeting. I'm disabled veteran, living in Yarmouth. I used to be a land surveyor/engineer at one time. It's projects like this that interest me.

Thanks for all your hard work in getting the train back in service.

Sincerely,  
Craig Martin

**From:** Debra Smith  
**To:** [LAStudy](#)  
**Subject:** summary from 3/27 workshop?  
**Date:** Thursday, March 28, 2019 11:35:42 AM

---

Hello,  
Thanks for the presentation last night in Lewiston.

I'm looking for a PDF of the summary you handed out at the meeting last night and cant find it on your website. Can you direct me or send me as an attachment?

Thanks,  
Debra Smith

**From:** patbr1@maine.rr.com  
**To:** [LAsStudy](#)  
**Subject:** train  
**Date:** Wednesday, March 27, 2019 2:57:41 PM

---

I don't think that it's worth the money. But that said, I hope if the train goes on that the train will be fully handicap accessible for those of us using wheelchairs, canes and walkers. I also like the stop in the old port best because if riding the train, we won't have a car to get around. Also that the fares between Lewiston and Portland are reasonable

**From:** Pamela Johnson  
**To:** [LAsudy](#)  
**Subject:** YES to passenger rail  
**Date:** Wednesday, March 27, 2019 12:24:43 PM

---

I am writing to express my strongest support for passenger rail between Lewiston/Auburn and Portland, Maine, for multiple compelling reasons.

Thank you,

Pamela Johnson

78 Franklin Street

Lewiston, Maine 04240

--

Pamela Johnson

Associate Professor

Department of Art and Visual Culture

Bates College Lewiston, Maine 04240

<https://www.pamelajohnson.art/>

**From:** Susan Weiss  
**To:** [L/ASTudy](#)  
**Subject:** Yes!  
**Date:** Wednesday, March 27, 2019 4:11:39 PM

---

I say "Yes!" To bringing a passenger train between L/A and Portland. The population of L/A is one of the largest in the state. We are underserved by not having access to passenger trains in L/A. This train service would give citizens in L/A the ability to travel to link up with trains to Boston and elsewhere. Our housing prices are bringing people who work in Portland to L/A to live; these people might commute to work by train. Both Portland and L/A could benefit economically and culturally from increased transportation services between our cities. Railroad service would also cut down on carbon emissions from cars and help out environment. Adding train service between Portland and Maine is positively forward thinking!

Susan Weiss  
85 Dillingham Hill  
Auburn, Me. 04210

Sent from my iPhone

**From:** Stephen Houdlette  
**To:** [Taniguchi, Kyle](#)  
**Cc:** [Patricia Quinn](#)  
**Subject:** [External] FW: Letter from the Mayor of Portland, ME  
**Date:** Monday, April 8, 2019 1:30:33 PM  
**Attachments:** [Northern N.E Passenger Rail Authority letter.pdf](#)

---

Note, this public comment is longer than the others...

**Stephen Houdlette**

Data Specialist

Northern New England Passenger Rail Authority (NNEPRA)

75 West Commercial Street, Suite 104 Portland, ME 04101

**stephen@nnepra.com**

**(O) 207-780-1000 x 106**

**(F) 207-780-1001**

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**From:** Deivy Periana <[deivyp@portlandmaine.gov](mailto:deivyp@portlandmaine.gov)>  
**Sent:** Monday, April 8, 2019 12:18 PM  
**To:** LAsStudy <[lastudy@nnepra.com](mailto:lastudy@nnepra.com)>  
**Cc:** Ethan Strimling <[estrimling@portlandmaine.gov](mailto:estrimling@portlandmaine.gov)>  
**Subject:** Re: Letter from the Mayor of Portland, ME

Good afternoon,

My apologies, I just realized that I emailed you the unsigned copy of the letter. Please see attached.

Sincerely,

Deivy

On Mon, Apr 8, 2019 at 11:59 AM Deivy Periana <[deivyp@portlandmaine.gov](mailto:deivyp@portlandmaine.gov)> wrote:

Good Morning,

Please see attached letter from the Mayor Strimling from the City of Portland.

--

Sincerely,

**Deivy Periana**  
**Senior Executive Assistant**  
**Executive Department**  
**City of Portland,ME**

**389 Congress St Room 208  
Portland ME 04101  
Phone: 207-874-8685  
E-mail: [deivyp@portlandmaine.gov](mailto:deivyp@portlandmaine.gov)**

--

Sincerely,

**Deivy Periana  
Senior Executive Assistant  
Executive Department  
City of Portland,ME  
389 Congress St Room 208  
Portland ME 04101  
Phone: 207-874-8685  
E-mail: [deivyp@portlandmaine.gov](mailto:deivyp@portlandmaine.gov)**

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**MAYOR ETHAN K. STRIMLING  
CITY OF PORTLAND**

Patricia Quinn  
Northern New England Passenger Rail Authority  
75 West Commercial Street, Suite 104  
Portland Maine 04101

RE: Lewiston-Auburn Passenger Rail Service Plan

April 5, 2019

Dear Ms. Quinn

I appreciate the opportunity to comment on the current proposal to establish passenger train service to the cities of Lewiston and Auburn. This project offers an immediate opportunity to address the issue of traffic congestion in Portland, while bringing economic benefits to the cities of L/A. This is an opportunity to engage a broad regional coalition on the issues of traffic congestion, automobile pollution, and equitable transportation.

The proposed alternatives include a service using the DMU train sets on the St. Lawrence and Atlantic Railroad, owned by the state connecting the Portland Waterfront at India Street. I support this as an investment in railroad infrastructure that will allow for the use of this route to provide direct access to downtown Portland and the Lewiston/Auburn urban center.

I cannot emphasize strongly enough, the importance of bringing rail service all the way to the waterfront. A commuter train that lands outside of easy walking distance to our downtown, will not alleviate our already overcrowded streets and parking garages.

As I stated in my State of the City address on January 14th of this year:

*“Current estimates by the Sierra Club show that installing hybrid electric rail cars to come into Portland across the B&M plant site could result in 600-800 fewer cars coming in and out of our downtown every day. With WEX and Vets Choice bringing a thousand new jobs to the eastern waterfront, and with all the traffic down there already squeezing out our fishermen and women, we must act quickly.*

*Let’s put ourselves on a path to installing light, hybrid rail that will bring 100 people per trip, 100 people without a car, to the eastern waterfront in the next five years. We have the rails. We have the bridge. All we need is the political will to put a plan in place to leverage the federal dollars we will need.”*

The railroad corridor along Portland’s Eastern Promenade has historically served as an important connection for the residents of the City. For more than 20 years the corridor has been shared with walkers, bikers and the Narrow-Gauge railroad operations. The preservation of this historic transportation corridor

now allows an opportunity to design a world-class rail/trail allowing both active transportation and regional mobility connections for all.

Finally, with respect to the alignments presented by the consultant for the project, I support the Boston to Lewiston route through Yarmouth Junction, which then allows for a careful evaluation of the railroad from Yarmouth Junction to Portland. The regional planners for Cumberland and Androscoggin Counties can be directed to consider ridership and costs of infrastructure as well as development of a model for operations of a regional transit system including trains, local and regional bus transit, pedestrian and bicycle connections.

In closing I want to reiterate my support for the investment in passenger train services between downtown Lewiston/Auburn and the Portland waterfront.

We look forward to the release of the report and the next steps in addressing the very significant issue of transportation and its impacts on Portland and on the environment.

Sincerely



Ethan Strimling, Mayor

**From:** [Bryant, Tim](#)  
**To:** [Velickovic, Natasha](#); [Taniguchi, Kyle](#); [McDonough, Michael](#); [Edington, Gordon](#)  
**Subject:** FW: [External] Comments on the Passenger Rail feasibility study  
**Date:** Monday, April 8, 2019 4:01:05 PM

---

FYI

**Timothy S. Bryant, PE, NBIS, ENV SP**  
Director of Structural Engineering

P 207.889.3103  
[www.vhb.com](http://www.vhb.com)

**From:** Sue Ellen Bordwell <[sebordwell@gmail.com](mailto:sebordwell@gmail.com)>  
**Sent:** Monday, April 8, 2019 2:54 PM  
**To:** Bryant, Tim <[tbryant@vhb.com](mailto:tbryant@vhb.com)>  
**Cc:** Patricia Quinn <[Patricia@nnepra.com](mailto:Patricia@nnepra.com)>  
**Subject:** [External] Comments on the Passenger Rail feasibility study

Tim,

Much as I tried, I could not find a way to get my comments delivered to NNEPRA. The link didn't work, longhand typing it didn't work, forwarding to Patricia didn't seem to work. I say didn't seem to work - the email I sent directly to NNEPRA, I requested acknowledgement of receipt of my comments, but didn't receive anything.

So, Tim, as you are someone I trust, I am sending this to you and copying Patricia, in the hopes that my thoughts are as important as all those whose opinion may differ from my own and that you can get them forwarded.

Sue Ellen

I'm sorry to have to inform you that your message could not be delivered to one or more recipients.

<[info@nnepra.com](mailto:info@nnepra.com)>: host [d74312a.ess.barracudanetworks.com](http://d74312a.ess.barracudanetworks.com)[209.222.82.144] said:  
550 permanent failure for one or more recipients ([info@nnepra.com:blocked](mailto:info@nnepra.com:blocked))  
(in reply to end of DATA command)

Reporting-MTA: dns; [ms11p00im-qufo17291401.me.com](http://ms11p00im-qufo17291401.me.com)

X-Postfix-Queue-ID: B188E76025F

X-Postfix-Sender: rfc822; [sebordwell@icloud.com](mailto:sebordwell@icloud.com)

Arrival-Date: Wed, 3 Apr 2019 21:19:49 +0000 (UTC)

Final-Recipient: rfc822; [info@nnepra.com](mailto:info@nnepra.com)

Original-Recipient: rfc822;[info@nnepra.com](mailto:info@nnepra.com)

Action: failed

Status: 5.0.0

Remote-MTA: dns; [d74312a.ess.barracudanetworks.com](mailto:d74312a.ess.barracudanetworks.com)

Diagnostic-Code: smtp; 550 permanent failure for one or more recipients  
([info@nnepra.com](mailto:info@nnepra.com):blocked)

From: Sue Ellen Bordwell <[sebordwell@icloud.com](mailto:sebordwell@icloud.com)>

Subject: **LA passenger rail study**

Date: April 3, 2019 at 5:19:47 PM EDT

To: [info@nnepra.com](mailto:info@nnepra.com)

I've tried twice to send the message below to the [LAStudy@NNEPRA.com](mailto:LAStudy@NNEPRA.com). Both times I was blocked. Please acknowledge that you have receive this. It is 5:19pm, April 3

Sue Ellen Bordwell  
Yarmouth Maine

I have attended two Lewiston public meetings and read the feasibility study on passenger rail service from L/A to Portland. I am struck by several realities that signal for me that passenger rail is not feasible, but before decision makers decide, regardless of fact, a passenger rail must be built, I would make the following comments:

1. Why are we looking at a 19th century transportation mode for 21st century needs? Do we even know what the transportation needs, patterns, and modes will be by 2040 - the date used for rider projections.
2. The costs far outweigh the benefits, with the taxpayers making up the difference. Even if tax payers agree to build passenger rail capacity, taxpayers will continue to pay for ever ride and every rider for the life of the service. We already do that for road, bus transit, and airports, but those facilities exist. Do we really need one more mode, or should we figure out how to be more efficient with what we have.
3. Bus service appears to be as (or more) efficient and effective as train service with the added advantage of using existing stops and stations.
4. To expect riders to drive 5 or 10 miles to get on a train that deposits them 10 or 15 minutes from their destination is a non-starter for most. The proposal as I read and listened to it fails the first miles of a trip and the last minutes of a trip.
4. I felt the fare costs are woefully understated.
5. If the decision is to proceed with passenger rail service, I would strongly recommend the following

- There not be redundancy built into the system. Having 2 parallel lines makes no sense. Alignment A is the only option.
- NNEPRA and public policy makers dropped the ball when setting standards for stations and rail cars resulting in a failure to provide complete, full access to all rail users: in two words: bicycle access to all routes and all scheduled service.

I enjoyed attending the Lewiston meetings and reading the full feasibility on line. We spent, have spent and will continue to spend vast sums of money and time on a beautiful, but unworkable dream.

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## Possible Lewiston-Auburn to Portland rail routes to be discussed

BY STAFF

3/21/2019



COURTESY / NEPRA

A public meeting on possible Amtrak Downeaster expansion to Lewiston-Auburn will be held March 27.

Cumberland, as well as Portland, according to a news release from the Department of Transportation.

The Lewiston/Auburn Passenger Rail Service Plan Committee is hosting the meeting in order to discuss service scenarios and get feedback from the public. The meeting will be from 6 p.m. to 8 p.m. Wednesday, March 27, in Callahan Hall, Lewiston Public Library, 200 Lisbon St.

The step comes after the first phase, which studied how many people would likely use the service. The second phase focuses on rail alignments and service levels that would support a high-frequency, commuter-type rail service between the two regions. Route and station options, as well as potential schedules will be discussed at the meeting, as well as capital and operating cost estimates, according to the release.

The project began in 2015, when the Legislature approved \$500,000 to look into extending Amtrak Downeaster service, which now runs from Brunswick to Boston, to the Lewiston-Auburn area.

The Maine Department of Transportation, in consultation with the cities of Lewiston and Auburn and Northern New England Passenger Rail Authority, is conducting the study. The cities of Lewiston and Auburn have contributed \$50,000 toward the project cost.

A nine-member project committee includes representatives from the two cities, NNEPRA, and the transportation department. Engineering firm VHB, of South Portland, is the project consultant team.

The first phase assessed potential ridership. A range of ridership estimates were developed by evaluating the demographics and travel patterns in the area, considering the potential development opportunities of a rail connection and by examining similar rail corridors across the country, the release said.

The second evaluation has included developing service scenarios that include an assessment of infrastructure needs and costs to

Possible routes and other service details of a plan for train service between Lewiston-Auburn and Portland will be discussed at a public information meeting next week.

The meeting is the second phase of a project to extend Amtrak Downeaster rail service to the twin cities that began in 2015.

Various rail alignments are under consideration and may include Lewiston, Auburn, Gray, North Yarmouth, Yarmouth, Falmouth and

support them and a potential plan for implementation.

There are five Amtrak Downeaster round trips between Boston and Brunswick a day, with stops in Freeport, Portland, Saco and Wells in Maine; Dover, Durham and Exeter in New Hampshire; and Haverhill and Woburn in Massachusetts before arriving in Boston.

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# State Seeks More Public Input On Portland-To-Lewiston Train Service

By [IRWIN GRATZ](#) · MAR 23, 2019

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The state is continuing to study the possibility of passenger rail service between Portland and Lewiston. The public is invited to a meeting Wednesday in Lewiston to see what's been learned so far, and to offer more input.

Lincoln Jeffers, the economic development chief in Lewiston, says the meeting is a follow-up to public meetings held last year to begin to gauge interest.

"We know from the early meetings about a year ago that folks, certainly a high percentage - I think it was 80 percent of the people who attended the meetings - said, 'Yeah, if it was there I'd certainly use it,'" Jeffers says. "But the question is, would they use it daily? Would they use it monthly? Would they use it a couple of times a year?"

At Wednesday's meeting, officials will discuss what they continue to learn about which tracks trains might use, and where they may stop between Portland and the twin cities. Jeffers says the study group is also beginning to understand costs.

"It really starts, all in, probably about \$189 million," he says. "It's, sort of, the lowest cost option, and it would increase from there. And that is just on the construction costs - that's improving the rails, perhaps additional double-tracking areas that only have single track at this point."

And, Jeffers says, there would be an expense for grade crossings.

Jeffers says study results so far seem to point to a more limited, inter-city rail service as being more practical, compared with more frequent commuter service.

But he says there are many questions still to be answered, including where to find the money that might be needed to pay for track upgrades.

[Wednesday's meeting](#) will be held from 6 to 8 p.m. in Callahan Hall at the Lewiston Public Library.

# Lewiston-Auburn to Portland rail options to be explored at meeting

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[pressherald.com/2019/03/26/meeting-will-detail-possible-lewiston-auburn-to-portland-rail-connection/](https://pressherald.com/2019/03/26/meeting-will-detail-possible-lewiston-auburn-to-portland-rail-connection/)

By Andrew Rice Sun Journal

March 26, 2019

LEWISTON — A proposal to connect the Twin Cities to Portland and the Amtrak Downeaster with a commuter rail service will take another step Wednesday as officials host a meeting to present possible service scenarios between the two regions.

According to Bob Stone, member of the Lewiston/Auburn Passenger Rail Service Plan Committee, most of the scenarios to be presented Wednesday center on the idea of connecting Lewiston-Auburn to the Portland Transportation Center, where travelers could continue on to Boston.

Another option would connect to the Portland Ocean Gateway on Commercial Street.

The meeting, intended to get feedback from the public, will be from 6-8 p.m. Wednesday in Callahan Hall at the Lewiston Public Library, 200 Lisbon St.

Stone said the feedback heard Wednesday will play into the committee's eventual recommendation to be made after Phase 2 of the group's study is completed this spring. Phase 1 of the study, conducted last year, focused on gauging demand and potential ridership for the service, which found a "latent demand" for a passenger rail connection to Portland.

"We wanted to give the public a status update, but the second objective is to get public input," he said.

The Northern New England Passenger Rail Authority manages the Amtrak Downeaster passenger rail service from Boston to Maine. Last year, the company expanded train service to Brunswick and Freeport.

The process in Lewiston-Auburn began in 2015, when the Legislature approved \$400,000 to conduct a study and complete a plan for the implementation of passenger rail service between the cities. Lewiston and Auburn each contributed \$50,000 toward the project.

A nine-member committee was established to oversee the project and engineering firm VHB was brought in as a consultant.

According to a news release from Natasha Velickovic, lead project consultant for VHB, the second phase of the study included service scenarios and "an assessment of infrastructure needs and costs to support various service scenarios, and a potential plan for implementation," which will be presented Wednesday.

"Various rail alignments are under consideration, which may include the communities of Lewiston, Auburn, Gray, North Yarmouth, Yarmouth, Falmouth, and Cumberland, as well as Portland," she said.

Stone gave a basic breakdown of the scenarios Tuesday, saying there are four main scenarios. Most would establish a “commuter rail” service, with between 12 and 15 round trips daily.

Route A, he said, would take passengers from Lewiston-Auburn to the Portland Transportation Center via the PanAm line, which is currently used for freight. Route B would take passengers from Lewiston-Auburn to the Portland Transportation Center via the St. Lawrence line to Yarmouth, switching there to the PanAm line.

Route C, and seemingly less likely, would go from Lewiston-Auburn to the Portland Ocean Gateway via the St. Lawrence line, heading past B&M Baked Beans and Tukey’s Bridge and requiring upgrades to the “swing bridge” alongside the highway that’s permanently stuck in the open position.

The final option, Stone said, would be a phasing plan, bringing a “rail shuttle” from Lewiston-Auburn to the Yarmouth junction, where it would meet the Downeaster.

He said phasing would provide a more cost-effective option that could lead to one of the first three routes once funding is in place. No matter what, he estimated, the state would be looking at roughly \$200 million in track rehabilitation and other costs.

Stone said the committee had not yet determined where stations would be located in Lewiston and Auburn.

At a well-attended public meeting last spring, a majority of the survey respondents said they’d more likely use the Lewiston to Portland connection for leisure reasons. Sporting and entertainment events in Portland and Boston were routinely cited.

Stone said Tuesday that one of problems all transit faces is a “first mile-last mile issue,” which means how a rider gets from home to the train, and from the train to either a job or other destination. He said Route C, for example, could still leave passengers needing another connection to the Downeaster.

He said the final committee meeting is set for April and he expects the group’s recommendation to come soon after that.

[email protected]

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amtrak downeaster, auburn maine, lewiston maine

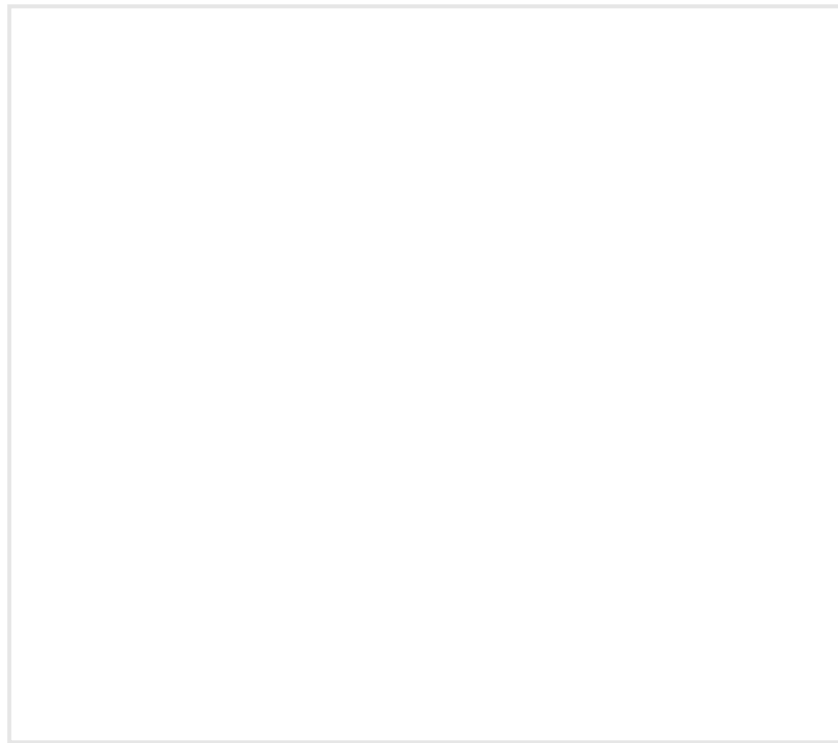
# Lewiston holds public hearing on potential commuter rail service

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A potential passenger rail service, commissioned by the Maine Legislature in 2015, would connect Lewiston and Auburn to Portland and beyond.

LEWISTON, Maine — Dozens of people packed a room in the Lewiston Public Library for a public hearing on the latest developments in a potential passenger rail service that would connect the twin cities to Portland and beyond.

The Maine Legislature commissioned the project in 2015. They've employed a consultant group called "VHB" to spearhead the effort.



So far, VHB's research shows great interest from the public in a commuter-type service between LA and Portland, with a clear and easy connection to Boston.

They presented various rail paths, service scenarios, and costs of implementation at Wednesday's meeting.

Right now, VHB estimates the construction of that commuter rail system to cost between \$200 and \$300 million dollars.

During the meeting, many people got up to voice their opinion on the location of potential rail stops.

"Park and rides offer neither proximity nor amenities, and as someone said earlier, if you're in your car, you're not going to get out of your car -- you're going to keep driving right down there. If you want to take the train, you are probably going to want to live in downtown Lewiston and not own a car," said Tony Donovan, who is the president of the Maine Rail Transit Coalition.

"I can't begin to tell you how difficult it is to get to the Portland Transportation Center and get into downtown Portland. It was incredibly inconvenient to the point where I would think that if anyone had any other option, they would take that option," said one Lewiston resident.

For VHB, the next steps are to compile feedback from tonight's meeting, fine tune costs, and make a final report with recommendations available to the public by the end of April.



# Lewiston-Portland Passenger Rail Could Cost \$300 Million

By AP · MAR 28, 2019

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A consulting engineer says a proposed commuter rail service connecting Lewiston and Auburn to Portland could cost up to \$300 million.

Natasha Velickovic of the engineering firm VHB says trains would cost between \$75 and \$95 million, and annual operating and maintenance costs would fall between \$15 million and \$20 million. The Sun Journal reports Velickovic presented her findings to the Lewiston/Auburn Passenger Rail Service Plan Committee at a Wednesday meeting.

The process for pursuing passenger rail service in the Lewiston area began in 2015, when the state Legislature approved \$400,000 to conduct a study on the implementation of passenger rail service.

The study estimates that between 700 and 1,900 people would ride the rail daily.

Lewiston-Auburn

# Lewiston-Portland passenger rail could cost \$300 million



F-133

The Amtrak Downeaster passenger train travels through Portland, Dec. 8, 2011. A consulting engineer said a proposed commuter rail service connecting Lewiston and Auburn to Portland could cost up to \$300 million.

The Associated Press  
March 28, 2019 12:40 pm

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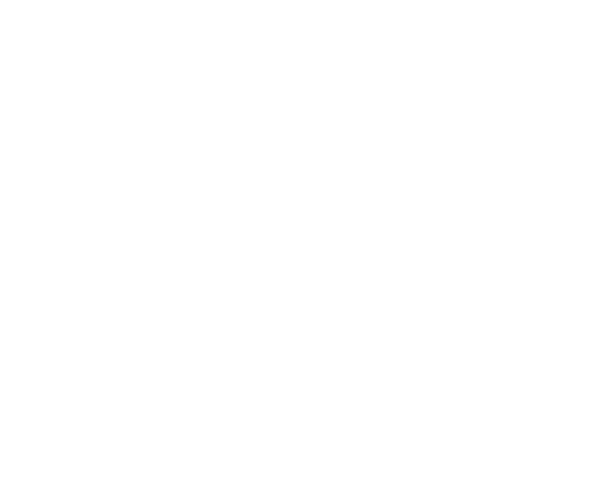
***[As local debate heats up, Chamber reasserts support for Lewiston passenger rail plan]***

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***[Portland-Auburn passenger train could be first step toward rail connection with Bethel, Montreal]***

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***Have feedback? Want to know more? Send us ideas for follow-up stories.***

# Passenger rail service between Lewiston-Auburn and Portland could cost \$300 million

SJ [sunjournal.com/2019/03/27/lewiston-auburn-passenger-rail-service-plan-committee/](http://sunjournal.com/2019/03/27/lewiston-auburn-passenger-rail-service-plan-committee/)

By Matthew Daigle Sun Journal

March 28, 2019

LEWISTON — A proposed commuter rail service to connect the Twin Cities to Portland would likely cost between \$200 and \$300 million, depending on which service scenario is selected, according to an engineering consultant.

Trains would cost between \$75 and \$95 million, and annual operating and maintenance costs would fall between \$15 million and \$20 million, said Natasha Velickovic of the engineering firm VHB.

She said the annual costs for the project would be offset by rider revenue, “but I haven’t seen a service yet that has entirely paid for itself, so this would require some level of subsidy.”

The cost of a ticket would likely be between \$6 and \$10, Velickovic said.

The process for pursuing passenger rail service in Lewiston-Auburn began in 2015, when the Legislature approved \$400,000 to conduct a study and complete a plan for the implementation of passenger rail service between the cities. Lewiston and Auburn each contributed \$50,000 toward the project.

A nine-member committee was established to oversee the project, and VHB was brought in as a consultant.

The proposal suggests connecting the Amtrak Downeaster with a commuter rail service.

According to the Northern New England Passenger Rail Authority, which manages Amtrak Downeaster service between Maine and Boston, the project would be funded through “a few different methods,” with federal grant programs making up 50 to 80 percent and the remaining 20 to 50 percent being provided by local and state sources.

Velickovic said the project committee had narrowed to three the possible service scenarios for a passenger rail connection between Lewiston-Auburn and Portland.



Natasha Velickovic outlines the results of a passenger rail feasibility study at a meeting hosted by the Lewiston/Auburn Passenger Rail Service Plan Committee at the Lewiston Public Library on Wednesday evening. *Sun Journal* photo by Andree Kehn

One proposal would take passengers from Lewiston-Auburn to the Portland Transportation Center via the Pan Am Rail Line, while a second alignment would use the St. Lawrence & Atlantic Rail Line.

The Pan Am Rail Line alignment would result in a 50-minute ride and could cost between \$189 million and \$230 million to construct, while the St. Lawrence & Atlantic Rail Line alignment would take 48 minutes and cost between \$207 million and \$254 million.

Another scenario would connect passengers from Lewiston-Auburn to the Portland Ocean Gateway on Commercial Street, using the St. Lawrence & Atlantic Rail Line.

The third scenario would offer a 43-minute ride but be the most expensive, with an estimated construction cost between \$241 million and \$295 million.

The study estimated that between 700 and 1,900 people would ride the rail daily.

State Rep. Bettyann Sheats, D-Auburn, said the rail lines already exist, meaning land would not be taken by eminent domain and environmental studies would not be required.

"We just need to bring those rail lines up to passenger rail standards, such as adding more rail ties or adding more places for rails to pass each other," Sheats said.

Paul Weiss, a founding member of Maine Rail Transit Coalition, said people should not think about the project "in terms of what this year's budget looks like," but instead should "think long term and what it will do for the state."

He added rider studies being done by the committee "are very conservative."

"I don't think it takes into account the people who work jobs that don't allow them to go to these hearings," Weiss said. "Those are the people who would be utilizing the service."

The next step for the project would involve preparing a final report, selecting a preferred alignment and establishing a "purpose and need statement," Velickovic said.

"(A purpose and need statement) is important to chasing federal funding and making the federal government see that we're a worthwhile investment," Velickovic said. "The largest chunk of change will come from federal funding."

[email protected]

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