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## **ME-Downeaster-Pan Am Line : High-Speed Intercity Passenger Rail (HSIPR) Program, Application Form, October 2, 2009**

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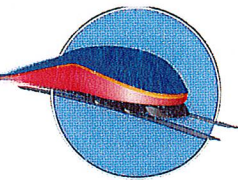
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Corridor Program Name: ME-Downeaster-Pan Am Line Date of Submission: 10/02/09 Version Number: 1

## High-Speed Intercity Passenger Rail (HSIPR) Program

### Track 2–Corridor Programs:

### Application Form



Welcome to the Application Form for Track 2–Corridor Programs of the Federal Railroad Administration’s High-Speed Intercity Passenger Rail (HSIPR) Program.

This form will provide information on a cohesive set of projects—representing a phase, geographic segment, or other logical grouping—that furthers a particular corridor service.

**Definition:** For purposes of this application, a “Corridor Program” is “a group of projects that collectively advance the entirety, or a ‘phase’ or ‘geographic section,’ of a corridor service development plan.” (*Guidance, 74 Fed. Reg. 29904, footnote 4*). A Corridor Program must have independent utility and measurable public benefits.

In addition to this application form and required supporting materials, applicants are required to submit a Corridor Service Overview.

An applicant may choose to represent its vision for the entire, fully-developed corridor service in one application or in multiple applications, provided that the set of improvements contained in each application submitted has independent utility and measurable public benefits. The same Service Development Plan may be submitted for multiple Track 2 Applications. Each Track 2 application will be evaluated independently with respect to related applications. Furthermore, FRA will make its evaluations and selections for Track 2 funding based on an entire application rather than on its component projects considered individually.

We appreciate your interest in the HSIPR Program and look forward to reviewing your entire application. If you have questions about the HSIPR program or the Application Form and Supporting Materials for Track 2, please contact us at [HSIPR@dot.gov](mailto:HSIPR@dot.gov).

#### Instructions for the Track 2 Application Form:

- Please complete the HSIPR Application electronically. See Section G of this document for a complete list of the required application materials.
- In the space provided at the top of each section, please indicate the Corridor Program name, date of submission (mm/dd/yyyy), and an application version number assigned by the applicant. The Corridor Program name must be identical to the name listed in the Corridor Service Overview Master List of Related Applications. Consisting of less than 40 characters, the Corridor Program name must consist of the following elements, each separated by a hyphen: (1) the State abbreviation of the State submitting this application; (2) the route or corridor name that is the subject of the related Corridor Service Overview; and (3) a descriptor that will concisely identify the Corridor Program’s focus (e.g., HI-Fast Corridor-Main Stem).
- Section B, Question 10 requires a distinct name for each project under this Corridor Program. Please the following the naming convention: (1) the State abbreviation; (2) the route or

corridor name that forms part of the Corridor Program name; and (3) a project descriptor that will concisely identify the project's focus (e.g., HI-Fast Corridor-Wide River Bridge). For projects previously submitted under another application, please use the **same name** previously used on the project application.

- For each question, enter the appropriate information in the designated gray box. If a question is not applicable to your Track 2 Corridor Program, please indicate "N/A."
- Narrative questions should be answered within the limitations indicated.
- Applicants must up load this completed and all other application materials to [www.GrantSolutions.gov](http://www.GrantSolutions.gov) by October 2, 2009 at 11:59 pm EDT.
- Fiscal Year (FY) refers to the Federal Government's fiscal year (Oct. 1- Sept. 30).

Corridor Program Name: ME-Downeaster-Pan Am Line Date of Submission: 10/02/09 Version Number: 1

## A. Point of Contact and Application Information

<b>(1) Application Point of Contact (POC) Name:</b> Patricia Quinn		<b>POC Title:</b> Executive Director		
<b>Applicant State Agency or Organization Name:</b> Northern New England Passenger Rail Authority				
<b>Street Address:</b> 75 West Commercial Street, Suite 104	<b>City:</b> Portland	<b>State:</b> ME	<b>Zip Code:</b> 04101	<b>Telephone Number:</b> 207-780-1000 x 105
<b>Email:</b> patricia@nneptra.com		<b>Fax:</b> 207-780-1001		



Corridor Program Name: ME-Downeaster-Pan Am Line Date of Submission: 10/2/09 Version Number: 1

## B. Corridor Program Summary

(1) **Corridor Program Name:** ME-Downeaster-PanAm Line

(2) **What are the anticipated start and end dates for the Corridor Program?** (mm/yyyy)

**Start Date:** April 2010

**End Date:** October 2012

(3) **Total Cost of the Corridor Program:** (Year of Expenditure (YOE) Dollars\*) \$ 52,598,000

**Of the total cost above,, how much would come from the FRA HSIPR Program:** (YOE Dollars\*\*) \$ 52,598,000

**Indicate percentage of total cost to be covered by matching funds:** 0 %

**Please indicate the source(s) for matching funds:**

\* Year-of-Expenditure (YOE) dollars are inflated from the base year. Applicants should include their proposed inflation assumptions (and methodology, if applicable) in the supporting documentation.

\*\* This is the amount for which the Applicant is applying.

(4) **Corridor Program Narrative.** *Please limit response to 12,000 characters.*

Describe the main features and characteristics of the Corridor Program, including a description of:

- The location(s) of the Corridor Program's component projects including name of rail line(s), State(s), and relevant jurisdiction(s) (include a map in supporting documentation).
- How this Corridor Program fits into the service development plan including long-range system expansions and full realization of service benefits.
- Substantive activities of the Corridor Program (e.g., specific improvements intended).
- Service(s) that would benefit from the Corridor Program, the stations that would be served, and the State(s) where the service operates.
- Anticipated service design of the corridor or route with specific attention to any important changes that the Corridor Program would bring to the fleet plan, schedules, classes of service, fare policies, service quality standards, train and station amenities, etc.
- How the Corridor Program was identified through a planning process and how the Corridor Program is consistent with an overall plan for developing High-Speed Rail/Intercity Passenger Rail service, such as State rail plans or plans of local/regional MPOs.
- How the Corridor Program will fulfill a specific purpose and need in a cost-effective manner.
- The Corridor Program's independent utility.
- Any use of new or innovative technologies.
- Any use of railroad assets or rights-of-way, and potential use of public lands and property.
- Other rail services, such as commuter rail and freight rail that will make use of, or otherwise be affected by, the Corridor Program.
- Any PE/NEPA activities to be undertaken as part of the Corridor Program, including but not limited to: design studies and resulting program documents, the approach to agency and public involvement, permitting actions, and other key activities and objectives of this PE/NEPA work.

The Downeaster Corridor extends from Boston, MA to Brunswick, ME. It includes 36 miles of track owned by the Massachusetts Bay Transportation Authority, and approximately 78 miles owned by Pan Am Railways to Portland, and is anticipated to include an additional 28 miles of Pan Am track and 1.6 miles of State of Maine owned track.

The objective of the ME-Downeaster-Pan Am Line (Pan Am Line Program) is to reduce the scheduled transit time from Portland to Boston and to provide infrastructure capacity upgrades to eventually accommodate two additional daily round trips on this corridor. The Pan Am Line Program was developed with input from Pan Am, Amtrak, and NNEPRA personnel during the Preliminary Engineering process.

Travel time has been one of the Downeaster's biggest challenges. The typical Portland-Boston drive time is approximately 2 hours, but Downeaster travel time is currently 2 hours, 25 minutes. Ridership continues to be robust, but is clearly inhibited by trip time. When service was first initiated in 2001, Portland to Boston travel time was 2 hours, 45 minutes which resulted in a significant ridership decline once the novelty of the service wore off. In April 2005, travel time was reduced to 2 hours and 30 minutes, resulting in a 31 percent increase in travel the following year. A summer 2009 survey of Downeaster passengers indicated that 86 percent of passengers would be likely or somewhat likely to ride the Downeaster more if travel time was decreased.

A series of improved alignments and curve modifications on the Pan Am segment of the Downeaster Corridor which will allow speeds to be increased have been identified. The result of these investments will be an approximate 10 minute reduction in scheduled travel time. It is projected that this capital investment of \$52.6M will add 100,000 new passengers annually and generate \$1.7M in new fare revenue while adding very little cost to operations and maintenance. Additionally, the program of projects will significantly improve reliability of the entire Downeaster service.

Although the service continues to be a favorite among riders, reliability has been declining over the past several years. Factors contributing to train delays include commuter and freight train interference due to constrained capacity, infrastructure deficiencies and mechanical failures. NNEPRA will improve reliability through a multi-faceted improvement program of investments and set the stage for the eventual operation of seven daily round trips.

Currently, the maximum authorized speed on the Pan Am segment of the Downeaster Corridor is 79 mph, and travel at that speed is restricted to a few isolated locations. The goal of the Pan Am Line Program is to apply passenger speed of 79 mph to as many locations as possible and to increase incremental speeds where possible.

The Pan Am Line Program includes a series of interlocking upgrades, track and tie replacements, curve adjustments, and signal modifications which will ultimately result in a minimum reduction in scheduled Downeaster travel time of approximately 10 minutes along this segment. These schedule adjustments were calculated via a computerized train simulation model of this corridor generated by Amtrak. The proposed schedule adjustments as indicated in the NNEPRA Segment Times per Assumptions-South Bound dated 9/22/09 (found in the Preliminary Engineering Materials submitted under separate attachment) are based on the time saved between in line stations. The final schedule adjustments will be based on the updated Amtrak simulation models which will be calculated upon approval of the work plan and methodology.

The Pan Am Line Program addresses capacity constraints along this segment as well. Currently, the passing sidings authorized for passenger use in Rockingham, Dover, Wells, Saco and Scarborough are limited to 30mph. The capacity improvements for passenger service include the installation of the following: Arundel siding, East Kinston siding, Wells double track extension, and the utilization of the #2 track between CPF-198 and CPF-196. These proposed capacity improvements will allow for improved on time performance and will provide the capacity necessary for NNEPRA to increase the number of daily round trip trains to seven. The limits of the proposed capacity improvements and speeds are defined on the previously referenced Preliminary Engineering Materials.

The Pan Am Line Program has been segmented into five different sections as outlined in the project estimate. NNEPRA anticipates the project to progress in an incremental order that results in increased speeds and schedule adjustments as the project progresses. Speed and schedule adjustments will take priority over capacity improvements. An approved project construction schedule will be developed with milestones for section completion and resulting schedule adjustments. All work on the Pan Am portion of the project is anticipated to be completed within 3 years of notice to proceed.

Although a detailed preliminary engineering and environmental analysis has been performed in preparation of this application, final design and approval of NEPA documentation will be required to effectively execute the program in the corridor. As noted in section B (10) narrative, construction sequencing must be carefully coordinated to minimize impacts on railroad operations. The environmental process will be completed through the Categorical Exception process since all work is located within the trackbed of this existing railroad right-of-way.

The Pan Am Western Main Line operated historically as a two-track line, and the project will involve restoring the second track in four locations, comprising a total of 11.8 miles of track, along the entire 78-mile Pan Am Corridor in Maine and New Hampshire. The project will not involve takings of properties, permanent waterway or wetland impacts, or other impacts on community or natural resources. Therefore, mitigation is not proposed.

The proposed addition of two daily Downeaster trains has the potential to reduce vehicle miles travelled (VMT) in the highway corridor from Portland, ME to Boston, MA. There would be a reduction in VMT of 81,000 miles per day. Within the highway network from Portland, ME to Boston, MA, this reduction in VMT would produce proportional reductions in CO, O<sub>3</sub>, PM<sub>10</sub>, NO<sub>x</sub> and CO<sub>2</sub> vehicular emissions when compared to the existing VMT within the corridor. These reductions are noted in Section D(3).

**(5) Describe the service objective(s) for this Corridor Program** *(check all that apply):*

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Additional Service Frequencies                 | <input checked="" type="checkbox"/> Increased Average Speeds/Shorter Trip Times |
| <input checked="" type="checkbox"/> Improved Service Quality                       | <input type="checkbox"/> New Service on Existing IPR Route                      |
| <input checked="" type="checkbox"/> Improved On-Time performance on Existing Route | <input type="checkbox"/> New Service on New Route                               |
| <input type="checkbox"/> Reroute Existing Service                                  | <input type="checkbox"/> Other <i>(Please Describe):</i>                        |

**(6) Right-of-Way-Ownership.** Provide information for all railroad right-of-way owners in the Corridor Program area. Where railroads currently share ownership, identify the primary owner. *If more than three owners, please detail in Section F of this application.*

Type of Railroad	Railroad Right-of-Way Owner	Route Miles	Track Miles	Status of agreements to implement projects
Regional or Shortline	Pan Am Railways	78	89	Master Agreement in Place
Commuter Railroad				Master Agreement in Place
Class 1 Freight				Master Agreement in Place

**(7) Services.** Provide information for all existing rail services within Corridor Program boundaries (freight, commuter, and intercity passenger). *If more than three services, please detail in Section F of this application.*

Type of Service	Name of Operator	Top Speed Within Boundaries	Number of Route Miles	Average Number of Daily	Notes
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		Passenger	Freight	Within Boundaries	One-Way Train Operations within Boundaries <sup>1</sup>	
Freight	Pan Am Railways		40mph	78	6	
Intercity Pass	Amtrak Downeaster	79		78	10	
Commuter						

**(8) Rolling Stock Type.** Describe the fleet of locomotives, cars, self-powered cars, and/or trainsets that would be intended to provide the service upon completion of the Corridor Program. *Please limit response to 2,000 characters.*

As is currently the case with the Downeaster operation, two Amtrak owned single-level train sets (not including protect equipment) will continue to be utilized to support the upgrades, with each train set consisting of a P42 or equivalent locomotive, Amfleet 1 food service/business class café car, three or four coaches (depending on demand and equipment availability) and a F40 cab-baggage control unit. Overnight turn-around servicing will be performed at the existing Portland layover facility.

**(9) Intercity Passenger Rail Operator.** If applicable, provide the status of agreements with partners that will operate the benefiting high-speed rail/intercity passenger rail service(s) (e.g., Amtrak). If more than one operating partner is envisioned, please describe in Section F.

Name of Operating Partner: Amtrak

Status of Agreement: Preliminary executed agreement/MOU

<sup>1</sup> One round trip equals two one-way train operations.

**(10) Master Project List.** Please list all projects included in this Track 2 Corridor Program application in the table below. If available, include more detailed project costs for each project as a supporting form (see Section G below).

[illegible]

**Note:** In addition to **program** level supporting documentation, all applicable **project** level supporting documentation is required prior to award. If project level documentation is available now, you may submit it; however, if it is not provided in this application, this project may be considered as a part of a possible Letter of Intent but will not be considered for FD/Construction grant award until this documentation has been submitted.



**In narrative form, please describe the sequencing of the projects listed in Question 10. Which activities must be pursued sequentially, which can be done at any time, and which can be done simultaneously? Please limit response to 4,000 characters.**

The project is proposed to be constructed in different segments in a phased approach as the planned improvements must be performed “under traffic” and therefore must be carefully sequenced to minimize impacts on railroad operations. The collaborative preliminary design effort included Pan Am, Amtrak and NNEPRA personnel and identified the most effective work plan and construction schedule to achieve program benefits. Based on this input and industry best practices it is recommended that the program elements be sequenced as follows:

Segment 1: Portland Sta - MP 208.2 150 days Mon 5/17/10 Fri 12/10/10

Segment 2: MP 208.2-MP 250.5 Durham Sta 400 days Mon 5/17/10 Fri 11/25/11

Segment 3: Durham Sta. MP 250.5 - MP 274.6 161 days Mon 5/2/11 Mon 12/12/11

Segment 4: Arundel Siding 326 days Fri 7/1/11 Fri 9/28/12

Segment 5: East Kingston Siding 326 days Fri 7/1/11 Fri 9/28/12

Miscellaneous Project Clean-up 275 days Mon 9/12/11 Fri 9/28/12

This schedule is based on April 1, 2010 NTP

Corridor Program Name: ME-Downeaster Pan Am Line Date of Submission: 10/2/09 Version Number: 1

## C. Eligibility Information

**(1) Select applicant type, as defined in Appendix 1.1 of the HSIPR Guidance:**

- ☐ State  
☐ Amtrak

**If one of the following, please append appropriate documentation as described in Section 4.3.1 of the HSIPR Guidance:**

- ☐ Group of States  
☐ Interstate Compact  
☒ Public Agency established by one or more States  
☐ Amtrak in cooperation with a State or States

**(2) Establish completion of all elements of a Service Development Plan.** Note: One Service Development Plan may be referenced in multiple Track 2 Applications for the same corridor service.

Please provide information on the status of the below Service and Implementation Planning Activities:

	Select <u>One</u> of the Following:			Provide Dates for all activities:	
	No study exists	Study Initiated	Study Completed	Start Date (mm/yyyy)	Actual or Anticipated Completion Date (mm/yyyy)
<b>Service Planning Activities/Documents</b>					
Purpose & Need/Rationale	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		08/2009
Service/Operating Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		09/2009
Prioritized Capital Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		09/2009
Ridership/Revenue Forecast	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		09/2009
Operating Cost Forecast	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		09/2009
Assessment of Benefits	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		09/2009
<b>Implementation Planning Activities/Documents</b>					
Program Management Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		09/2009
Financial Plan (capital & operating -- sources/uses)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		09/2009
Assessment of Risks	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		09/2009

- (3) Establish Completion of Service NEPA Documentation (the date document was issued and how documentation can be verified by FRA).** The following are approved methods of NEPA verification (in order of FRA preference): 1) References to large EISs and EAs that FRA has previously issued, 2) Web link if NEPA document is posted to a website (including www.fra.gov), 3) Electronic copy of non-FRA documents attached with supporting documentation, or 4) a hard copy of non-FRA documents (large documents should not be scanned but should be submitted to FRA via an express delivery service). See HSIPR Guidance Section 1.6 and Appendix 3.2.9.

Note to applicants: Prior to obligation of funds for FD/Construction activities under Track 2, all project specific documents will be required (e.g. Project NEPA, Financial Plan, and Project Management Plan).

Documentation	Date (mm/yyyy)	Describe How Documentation Can be Verified
Non-tiered NEPA EA	06/1993	Electronic Attachment
Tier 1 NEPA EA		
Tier 1 NEPA EA		

**(4) Indicate if there is an environmental decision from FRA (date document was issued and web hyperlink if available)**

Documentation	Date (mm/yyyy)	Hyperlink (if available)
Finding of No Significant Impact		
Finding of No Significant Impact		
Finding of No Significant Impact		



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## D. Public Return on Investment

**(1) 1A. Transportation Benefits.** See HSIPR Guidance Section 5.1.1.1. Please limit response to 8,000 characters.

How is the Corridor Program anticipated to improve Intercity Passenger Rail (IPR) service? Describe the overall transportation benefits, including information on the following (*please provide a level of detail appropriate to the type of investment*):

- Introduction of new IPR service: Will the Corridor Program lead directly to the introduction of a new IPR service that is not comparable to the existing service (if any) on the corridor in question? Describe the new service and what would make it a significant step forward in intercity transportation.
- IPR network development: Describe projected, planned, and potential improvements and/or expansions of the IPR network that may result from the Corridor Program, including but not limited to: better intermodal connections and access to stations; opportunities for interoperability with other services; standardization of operations, equipment, and signaling; and the use of innovative technologies.
- IPR service performance improvements (*also provide specific metrics in table 1B below*): Please describe service performance improvements directly related to the Corridor Program, as well as a comparison with any existing comparable service. Describe relevant reliability improvements (e.g., increases in on-time performance, reduction in operating delays), reduced schedule trip times, increases in frequencies, aggregate travel time savings (resulting from reductions to both schedule time and delays, e.g., expressed in passenger-minutes), and other relevant performance improvements.
- Suggested supplementary information (*only when applicable*):
  - Transportation Safety: Describe overall safety improvements that are anticipated to result from the Corridor Program, including railroad and highway-rail grade crossing safety benefits, and benefits resulting from the shifting of travel from other modes to IPR service.
  - Cross-modal benefits from the Corridor Program, including benefits to:
    - ✓ Commuter Rail Services – Service improvements and results (applying the same approach as for IPR above).
    - ✓ Freight Rail Services – Service performance improvements (e.g., increases in reliability and capacity), results (e.g. increases in ton-miles or car-miles of the benefiting freight services), and/or other congestion, capacity or safety benefits.
    - ✓ Congestion Reduction/Alleviation in Other Modes; Delay or Avoidance of Planned Investments – Describe any expected aviation and highway congestion reduction/alleviation, and/or other capacity or safety benefits. Also, describe any planned investments in other modes of transportation (and their estimated costs if available) that may be avoided or delayed due to the improvement to IPR service that will result from the Corridor Program.

The proposed speed and capacity improvements to the Downeaster Corridor will augment and enhance what has already become an integral part of the New England intercity passenger rail system. In July of 2009, the departments and agencies of transportation for the six New England states reaffirmed their support and their vision for this system. The report issued at that time, states that “[the Downeaster] is a national model for the successful introduction of new intercity passenger rail service.” The improvement of this service will make it even more successful.

Intermodality with other public transportation systems has been a hallmark of this service since its inception. While the Downeaster currently provides five daily round trips between Boston and Portland, it is thoroughly integrated, for both scheduling and for ticketing purposes, with high quality intercity bus services between Boston and the Downeaster station communities of Portland, Dover, Durham and Exeter, enhancing opportunities for car-free travel in this congested corridor.

Furthermore, many Downeaster stations are shared with other rail and transportation services, including North Station

in Boston, which links to the MBTA's commuter rail service and extensive subway network, and to Logan Airport and the Anderson Regional Transportation Center in Woburn, which the Downeaster shares with MBTA commuter rail, the Logan Express and the Flightline Airport Shuttle.

Improved train performance will enable intercity passenger rail services to effectively compete with the highway mode, thereby slowing the rate of growth of congestion on the highways.

The Downeaster Pan Am Line improvements, coupled with the extension north to Brunswick, will enhance mobility and improve safety in the region and along the I-95 corridor.

This Downeaster Pan Am Line Program will enhance the current operation on a number of levels. While always difficult to project with precision, ridership will increase. Because time competitiveness has been one of the Downeaster's biggest challenges, an estimated 10-minute reduction in the Downeaster schedule is anticipated to generate approximately 20% more riders. This increase is consistent with previous schedule reductions. Furthermore, the only additional operating costs associated with the improvements are those associated with a modest increase for right-of-way maintenance.

NNEPRA compared performance benchmarks associated with the Pan Am Line Program investments in the FY13 compared to FY13 performance benchmarks with NO service improvements. If the Program improvements are made:

- Total passenger revenue will increase \$1.2m and expenses will increase \$400k annually
- Revenues per passenger will increase by nearly \$.40 per passenger
- The overall cost per passenger will decrease by \$4.53
- The subsidy per passenger will decrease by \$4.90
- Cost recovery will increase from 51% to 61%.

On time performance will also benefit from these improvements, in addition to increasing speeds, the proposed improvements will also eliminate some existing speed restrictions which currently hamper Downeaster reliability.

#### Benefits/Costs Analysis

As shown in Table 1, the estimated Downeaster Pan Am Line project's budget is \$52.6 million. The equipment and materials line item includes work for track, turnout, and bridge construction as well as stabilization, and grade crossing maintenance. The labor component includes final design engineering, contractor and railroad force account labor. In addition an average of \$7.6M in operations and maintenance is assumed for the proposed investment.

Table 1 - Downeaster Pan Am Line Project Budget

Equipment and Materials	\$31,401,000
Labor	\$21,197,000
Total	\$52,598,000

The Downeaster expects to generate \$324 million of benefits in constant 2009 dollars, by 2030 in the United States compared to its \$67 million cost and nearly \$123 million total expenditures is anticipated for operations and maintenance until the year 2030. Using a 3% discount rate will generate a positive net present value of more than \$225 million by 2030 yielding a benefit-cost ratio of 1.73. At 7%, the anticipated net present value will exceed \$145 million with benefit-cost ratio of 1.56.

The benefit cost analysis is based on estimates for projected passenger volumes and truck to rail diversions. Costs include capital investment and anticipated increases in operations and maintenance for the rail operations. Benefits in the analysis include estimates for time, passenger, freight, emissions, safety, and highway maintenance savings based on industry accepted values.



Downeaster	3% Discount Rate	7% Discount Rate
Discounted Costs	\$129,933,760	\$ 93,338,388
Discounted Benefits	\$225,208,015	\$145,935,131
NPV	\$ 95,274,255	\$ 52,596,743
BCA Ratio	1.73	1.56

Discounting converts future benefits and costs into “present value.” A discount rate reflects the “time value of money,” in that money in hand today is more valuable than the identical amount of money received in the future.

When discounting, future benefits decrease in value as a discount rate increases. Though this also true of costs, the fact that substantial project investments are close to the current year means that discounting affects capital investment less severely than downstream benefits and relatively minimal operation and maintenance expenses. By discounting and normalizing benefits and costs to present value, decision makers have a common basis to compare projects and alternatives when costs and benefits are spread out over 20 or more years.

The proposed project has a benefit cost ratio above 1.0 indicating that discounted benefits are higher than discounted costs and therefore provide net gain in overall benefits for the investment.

Methodology and key assumptions used to derive benefits are noted below.

(1) Time Savings- Passenger Rail

- \* Existing passengers on the Downeaster decrease their travel time by an estimated 10 minutes.
- \* This is balanced by the 6 minutes in increased travel time by passengers switching from car to the Downeaster.

(2) Operational costs savings

- \* Additional passengers on rail line save \$46 by replacing the \$63 cost per trip (car operating cost; \$.58/mile for 109 miles) with the \$17 rail fare.

(2) Safety Benefit

- \* Total vehicle miles traveled (VMT) reduction on I-95 is 20.5 million by 2030 which leads to a reduction in accidents.
- \* No-Build crash rates for fatalities, injuries and property damage accident rates are .04 , 12, and 198 respectively.
- \* Costs per accident type are \$3.6 million for fatal accidents, \$211,000 for injuries, and \$2,800 for property damage.

(3) Improvement in Reliability

- \* Increasing On-Time Performance (OTP) from 74% to 90% reduces buffer time delay (additional time factored into trip for unanticipated delay) by 23%.

- \* Average value per hour of buffer time is \$21.20

(4) Reduced Fuel Use

- \* Fuel consumption is already included in vehicle operation costs per mile for cars (\$.58) and freight costs per ton mile for trucks (\$.25).

\* Total fuel consumption:

- In 2030, car VMT reduction on I-95 is 20.5 million
- Average car fuel consumption is 23 miles per VMT.
- Overall combined reduction in fuel consumption is 893,000 gallons

## (5) Emissions

- \* With the increased speeds, throttle levels, and additional ridership, rail emissions are expected to increase.
- \* The removal of cars from the highway decreases emissions
- \* Standard emission pollutant types are Volatile Organic Compounds (VOC), Nitrogen Oxides (NOx), Carbon Monoxide (CO), Carbon Dioxide (CO2), and Particulate Matter (PM).

**1B. Operational and Ridership Benefits Metrics:** In the table(s) below, provide information on the anticipated levels of transportation benefits and ridership that are projected to occur in the corridor service or route, following completion of the proposed Corridor Program.

**Note:** The “Actual—FY 2008 levels” only apply to rail services that currently exist. If no comparable rail service exists, leave column blank.

Corridor Program Metric	Actual – FY 2008 levels	Projected Totals by Year		
		First full year of operation	Fifth full year of operation	Tenth full year of operation
Annual passenger-trips	442,000	593,000	757,000	966,000
Annual passenger-miles (millions)	37m	49m	62m	79m
Annual IPR seat-miles offered (millions)	111m	111m	111m	111m
Average number of daily round trip train operations (typical weekday)	10	10	10	10
On-time performance (OTP) <sup>2</sup> —percent of trains on time at endpoint terminals	71%	90%	90%	90%
Average train operating delays: minutes of en-route delays per 10,000 train-miles <sup>3</sup>	1,064	532	510	500
Top passenger train operating speed (mph)	79mph	79mph	79mph	79mph
Average scheduled operating speed (mph) (between endpoint terminals)	46mph	51mph	51mph	51mph

<sup>2</sup> 'On-time' is defined as within the distance-based thresholds originally issued by the Interstate Commerce Commission, which are: 0 to 250 miles and all Acela trains—10 minutes; 251 to 350 miles—15 minutes; 351 to 450 miles—20 minutes; 451 to 550 miles—25 minutes; and 551 or more miles—30 minutes.

<sup>3</sup> As calculated by Amtrak according to its existing procedures and definitions. Useful background (but not the exact measure cited on a route-by-route basis) can be found at pages E-1 through E-6 of Amtrak's May 2009 Monthly Performance Report at <http://www.amtrak.com/pdf/0905monthly.pdf>

**(2) A. Economic Recovery Benefits:** *Please limit response to 6,000 characters. For more information, see Section 5.1.1.2 of the HSIPR Guidance.*

Describe the contribution the Corridor Program is intended to make towards economic recovery and reinvestment, including information on the following:

- How the Corridor Program will result in the creation and preservation of jobs, including number of onsite and other direct jobs (on a 2,080 work-hour per year, full-time equivalent basis), and timeline for achieving the anticipated job creation.
- How the different phases of the Corridor Program will affect job creation (consider the construction period and operating period).
- How the Corridor Program will create or preserve jobs or new or expanded business opportunities for populations in Economically Distressed Areas (consider the construction period and operating period).
- How the Corridor Program will result in increases in efficiency by promoting technological advances.
- How the Corridor Program represents an investment that will generate long-term economic benefits (including the timeline for achieving economic benefits and describe how the Corridor Program was identified as a solution to a wider economic challenge).
- If applicable, how the Corridor Program will help to avoid reductions in State-provided essential services.

The direct, indirect and induced economic impacts of the proposed rail system investments were evaluated using the Transportation Economic Development Impact System (TREDIS). TREDIS is a framework for evaluating both user impacts and total regional economic impacts of transportation investments. It accounts for both short-term and long-term travel cost impacts, as well as effects of changes in market access and spending patterns. TREDIS utilizes an economic model of the Southern Maine, coastal New Hampshire regions which combines an input-output model (known as IMPLAN) with a cost response forecasting and analysis system (known as the CRIO – the cost response input-output model), and a detailed accounting framework for calculating impacts on revenues and costs affecting various classes of shippers, carriers, households and government. The system also traces how different industries are affected by changes in costs of alternative rail, road and intermodal transportation options.

The TREDIS economic analysis system was applied to depict the changes from 2009 through 2030 emanating from proposed rail system improvements. The overall and sector-specific results reflect foremost the direct reliance of various types of businesses on passenger rail and freight rail services.

The following table summarizes the economic impacts associated with the rail investments. Business output is the economic measurement of goods and services being exchanged. Value added is a sub measurement of business output that includes wages and profit, effectively the “value” that is added to material purchased before it is sold. As such, value added is the broadest measure of aggregate income in a region or state (at the state level, it is GSP, or gross state product). Wages is the aggregate measurement of compensation (including wages and benefits) paid to employees for the goods or services provided. Each type of economic impact also has an associated number of jobs that are created.

<b>Downeaster</b>	<b>Business Output (\$ mil.)</b>	<b>Value Added (\$ mil.)</b>	<b>Jobs</b>	<b>Wage Income (\$ mil.)</b>
Construction Impact (all years)	\$82.6	\$43.2	364	\$20.87
O&M Impact (annual Impact)	\$1.1	\$0.5	9	\$0.39
O&M Impact (all years)	\$20.8	\$10.4	171	\$7.39
Tourism Impact (annual Impact)	\$9.6	\$5.2	132	\$3.28
Tourism Impact (all years)	\$154.3	\$83.1	2,106	\$52.52
Operational Impact (2030)	\$7.8	\$4.2	78	\$2.77
Operational Impact (all years)	\$125.1	\$66.4	1,254	\$44.23

*Sources: Calculated by EDR Group from EDR-LEAP and IMPLAN modeling packages. Indirect and induced benefits are for Maine and Coastal New Hampshire.*

The above table contains the total impact by each impact type.



The \$52.6M in construction costs were estimated to create a total \$82.6M in economic activity and 364 jobs: 136 jobs in the construction sector (direct), 139 jobs due to construction expenditures on purchases of materials and supplies (indirect), and 88 jobs due to the effects of construction wage expenditures on household supplies and services (induced). These 364 jobs provide over \$20M in wages. The increase in Operations and Maintenance costs provides an increase in \$20.8 of economic activity, 171 of jobs and \$7.39M in additional wages. The Operational impact contains the sum of time, vehicle operating, and freight cost differential savings for passenger and freight rail which translate into increased production for the benefitting which triggers increased purchasing and wage spending (so-called indirect and induced effects). Increased tourism spending adds an additional 2,106 jobs through 2030. The aggregate cost savings to businesses and follow-on economic activity translates to an additional 78 permanent jobs in Maine in the year 2030 and are associated with an increase \$4.2M in gross state product. Over the life of the project (2009 to 2030), the investment in the Downeaster Pan Am Project is expected to generate \$44.23M in wages and over 1,254 jobs.

### Quality Jobs and Opportunities for Low Income Workers

The total impacts generated from the Downeaster Pan Am Line Project will generate 69 annual quality jobs in the region.

In addition, the Downeaster Pan Am Line Project will create career opportunities for lower income wage earners, which pay a livable wage and offer the possibility of a career ladder. Based on direct impacts, it is anticipated that 150 such jobs will be generated in counties along the corridor.

### Economic Distress

Areas defined as economically distressed meet one or more of the following criteria: (1) low per capita income – being the area has a per capita income of 80 percent or less of the national average; or (2) unemployment rate above national average – being the area has an unemployment rate that is, for the most recent 24-month period for which data are available, at least 1 percent greater than the national average unemployment rate.

**2B. Job Creation.** Provide the following information about job creation through the life of the Corridor Program. Please consider construction, maintenance and operations jobs.

Anticipated number of onsite and other direct jobs created (on a 2080 work-hour per year, full-time equivalent basis).	FD/ Construction Period	First full year of operation	Fifth full year of operation	Tenth full year of operation
	364 FTE	171 FTE	525 FTE	1,050 FTE

**(3) Environmental Benefits.** Please limit response to 6,000 characters.

How will the Corridor Program improve environmental quality, energy efficiency, and reduce in the Nation's dependence on oil? Address the following:

- Any projected reductions in key emissions (CO<sub>2</sub>, O<sub>3</sub>, CO, PM<sub>x</sub>, and NO<sub>x</sub>) and their anticipated effects. Provide any available forecasts of emission reductions from a baseline of existing travel demand distribution by mode, for the first, fifth, and tenth years of full operation (*provide supporting documentation if available*).
- Any expected energy and oil savings from traffic diversion from other modes and changes in the sources of energy for transportation. Provide any available information on changes from the baseline of the existing travel demand distribution by mode, for the first, fifth, and tenth years of full operation (*provide supporting documentation if available*).
- Use of green methods and technologies. Address green building design, "Leadership in Environmental and Energy Design" building design standards, green manufacturing methods, energy efficient rail equipment, and/or other environmentally-friendly approaches.

Improved rail operations will affect the emissions associated with passenger and freight rail operations in the Corridor. In addition to the cost savings associated with reductions in fuel use, emissions reductions will contribute to policy goals of the Corridor states with regard to reduction of criteria pollutant emissions. These emission reductions have an economic value in terms of the market value of CO<sub>2</sub> and other emissions associated with rail operations. With additional frequency of passenger rail, there is an increase in emissions due to increased rail fuel usage which is balanced by the corresponding decrease in emissions due to reduced car VMT for



travelers that are switching to rail transportation. For freight rail the increased allowable track speeds is expected to reduce overall fuel consumption from current levels. Improved track speeds increase freight operation reliability that in turn will attract more business. With a truck to rail car diversion ratio conservatively at 3:1, truck to rail diversions provide a net overall reduction in fuel consumption and associated emissions. Freight rail is considered to be more efficient in miles per gallon of fuel utilized and also produces significantly less emissions when compared to freight transported by truck. These emissions reductions have an economic value and were calculated using current market pricing estimates. Increased freight shipments via rail consequently result in increased emissions however the corresponding reductions in truck emissions are greater which provide a net environmental benefit.

Current state - Emissions - decreased truck volume 2030					
	VOC	NOx	CO	CO2	Total
2030 (in MT's)	6	4	172	51,470	51,652
Total Thru 2030	\$134,482	\$85,524	\$244,013	\$16,535,712	\$16,999,730

Future state -Emissions - Psgnr Rail 2030						
	VOC	NOx	CO	CO2	PM	Total
2030 (in MT's)	1.96	88.24	5.88	1,816.60	1.31	1,914
Total Thru 2030	\$44,589	\$1,733,500	\$8,367	\$583,617	\$27,889	\$2,397,961

	Value
Rail emissions value	\$2,397,961
Truck emissions value	\$16,999,730
Net emissions reduction (2030)	\$14,601,769

#### Estimate of tons per pollution type (for VOC, NOx, CO, CO2, & PM)

The amount of tons per pollution type was calculated using several estimates. For the Downeaster, the type of engine, average throttle run, and times savings were annualized and then used to estimate the overall hours and gallons of fuel saved. These savings (due to the "Build" scenario) were then cross referenced with the EPA locomotive emissions table<sup>4</sup> to estimate the decrease in kilograms per year which was then converted into tons per year. Car and truck emissions were estimated using the EPA Mobile 6 emissions table and state environmental estimates.

#### (4) Livable Communities Corridor Program Benefits Narrative. (For more information, see Section 5.1.1.3 of the HSIPR Guidance, Livable Communities). Please limit response to 3,000 characters.

How will the Corridor Program foster Livable Communities? Address the following:

- Integration with existing high density, livable development: Provide specific examples, such as (a) central business districts with walking/biking and (b) public transportation distribution networks with transit-oriented development.
- Development of intermodal stations: Describe such features as direct transfers to other modes (both intercity passenger transport and local transit).

Implementation of the project will foster the development of livable communities. According to a study by the Center for Neighborhood Technology ("CNT") done in March, 2008, Transit Oriented Development (TOD) has been an incentive for in-migration to Maine by residents of other states. The obvious starting point for TOD is a public transit station around which homes and businesses may be developed within walking distances of the station. CNT found that the existing Downeaster service between Boston and Portland has already fostered TOD, and improved service generating new riders will continue to produce TOD benefits.

CNT estimates that by 2030 the economic benefits attributable to the Downeaster will include the following: \$982 million in cumulative construction investment; construction of almost 6000 new housing units and approximately 900,000 s/f of commercial space; creation of approximately 2400 jobs; the saving of \$21 million of transportation costs; and additional tax revenues of approximately \$16 million per year. Many Downeaster communities are already benefiting from TOD and improved service – and resulting increased ridership – will only enhance those benefits.

The \$100 million Island Point is an emerging TOD located in an old mill complex adjacent to the Downeaster rail station in Saco, ME. The campus currently houses office space, restaurants and apartments. Construction is underway to develop retail shops, condos, conference space and a marina. Developers agree that they chose that location because of proximity to the Downeaster.

The City of Saco recently spent over \$2 million to construction a “green” train station powered by its own wind turbine. The local Chamber of Commerce has moved into this downtown, walkable location. Local officials have been surprised that the Station has become a community gathering place used for a number of small functions, and even games of chess.

Dover, NH sites the Downeaster as key component to the community’s economic development strategies. Recently, the Children’s Museum of New Hampshire relocated there to be within walking distance of the train. The project included a \$3.7 million renovation and welcomed more than 130,000 visitors during its first year of operation.

In Old Orchard Beach, a new Chamber of Commerce building, adjacent to the train platform, was opened across from a completely renovated Memorial Park. More than 808 new condominiums and single family homes have been built in the last 5 years. Old Orchard Beach has been only a seasonal stop for the Downeaster. It is anticipated, however, that town officials will be requesting expanded service within the next two years to accommodate the growing number of year-round residents. Town officials believe the Downeaster has played a key role in the changing landscape of this community.

Improved Downeaster service will encourage more of these kinds of projects, and foster new developments in formerly struggling downtown communities.

Corridor Program Name: ME-Downeaster-Pan Am Line Date of Submission: 10/02/09 Version Number: 1

## E. Application Success Factors

**(1) Project Management Approach and Applicant Qualifications Narrative.** *Please provide separate responses to each of the following. Additional information on program management is provided in Section 5.1.2.1 of the HSIPR Guidance, Project Management.*

**1A. Applicant qualifications.**

Management experience: Does the applicant have experience in managing rail investments and Corridor Programs of a similar size and scope to the one proposed in this application?

- ☒ Yes - Briefly describe experience (brief project(s) overview, dates)  
☐ No- Briefly describe expected plan to build technical and managerial capacity. Provide reference to Project Management Plan.

*Please limit response to 3,000 characters.*

NNEPRA has significant experience managing construction projects within guidelines and specifications required by federal funding partners. From 1999 through 2001, NNEPRA successfully managed the "Passenger Rail Project" required to upgrade between Plaistow, NH and Portland, ME to support the operation of the Downeaster. The line had been used solely for freight for approximately 30 years. The project included the rehabilitation of 78 miles of track, replacement of 100,000 ties and 150,000 tons of ballast, upgrades to 31 public grade crossings, and the construction of 7 passenger platforms in Maine and New Hampshire. Under NNEPRA's leadership, the \$70m project was delivered within all guidelines specified by the Federal Transit Administration (FTA). Downeaster service began on December 15, 2001 and since that time NNEPRA has managed a number of improvement projects with Pan Am Railways including the \$1m project in 2004 to increase track speeds in Kennebunk, Maine; a \$6m capacity project in 2006-2007 to construct sidings in Maine and New Hampshire to support additional frequencies; a variety of projects included in the annual capital maintenance plan, and the Portland Area Infrastructure Project, funded by FRA, which is currently underway. NNEPRA's financial operation is audited by an independent agency annually with consistently no findings. NNEPRA has also completed two FTA Triennial Audits with no or few findings.

**1B. Describe the organizational approach for the different Corridor Program stages included in this application (e.g., final design, construction), including the roles of staff, contractors and stakeholders in implementing the Corridor Program. For construction activities, provide relevant information on work forces, including railroad contractors and grantee contractors.** *Please limit response to 3,000 characters.*

The NNEPRA Board of Directors has authorized the Executive Director to oversee the final design and construction of elements in the Downeaster Pan Am Line Program including the overall program responsibility for construction management, contract administration, procurement of professional services, procurement of construction services, budget and schedule management and public outreach.

NNEPRA has dedicated staff to perform the various support tasks throughout the life of the project, including the Manager of Budget and Administration, Data Analyst, Clerk of the Works and Marketing Coordinator.

NNEPRA has contracted with HNTB to provide preliminary design and engineering services for the Pan Am Line Program. In cooperation with the host railroads, a contractor will be hired to complete the final design phase in preparation for construction.

To assist NNEPRA in carrying out the management, a Project Management Consultant firm will be hired through a professional services contract. The selected contractor will be required to appoint a Project Manager to coordinate project management responsibilities and to be the liaison among NNEPRA, Pan Am Railways, Amtrak and the various construction contractors. Responsibilities of the Project Manager shall include final design, pre-bid plan and specification review, modification to design plans, subcontractor approval, construction material approval, field inspection, equipment system testing and construction management. Administrative responsibilities will include invoice payment review, change order review and preparation and cost estimating. The Project Manager shall also be responsible for monitoring all work performed by Railroads.

NNEPRA will contract with Pan Am Railways to construct improvements on their portion of the line. Labor and equipment will be provided by Pan Am Railways under a fixed price agreement; materials required for the performance of the Project will be purchased by NNEPRA; and outside contractor services will be obtained as required.

**1C. Does any part of the Corridor Program require approval by FRA of a waiver petition from a Federal railroad safety regulation? (Reference to or discussion of potential waiver petitions will not affect FRA's handling or disposition of such waiver petitions).**

- ☐ YES- If yes, explain and provide a timeline for obtaining the waivers  
☒ NO

*Please limit response to 1,500 characters.*

**1D. Provide a preliminary self-assessment of Corridor Program uncertainties and mitigation strategies (consider funding risk, schedule risk and stakeholder risk). Describe any areas in which the applicant could use technical assistance, best practices, advice or support from others, including FRA. *Please limit response to 2,000 characters.***

NNEPRA has already successfully managed a very similar project, working with the same host railroad, over a 78-mile rail line that led to the inception of the existing Downeaster service. In addition, since service began in 2001, NNEPRA has managed, on a continuing basis, a number of capital projects aimed at upgrading and improving the existing service. The same management methodologies and techniques will be applied to this Program. Consequently, it is anticipated that this experience, along with the project's detailed work plan developed with the cooperative support of the host railroad will result in a quality project delivered on time and within budget.

There is always some uncertainty in any project involving the acquisition of large amounts of material such as rail, crossties and signaling equipment which have experienced substantial price increases in recent years. To eliminate or mitigate that risk, a 15% project contingency is included in the project budget to address any unforeseen field conditions along with a 4% inflation value to consider market fluctuations. The nature of the work is relatively low risk as a majority of the capacity improvements include installation of sidings or extension of double track in locations where tracks once existed. NNEPRA is fully prepared to purchase the project materials upon receipt of a notice of award of the funding requested through this application. NNEPRA will manage the acquisition processes internally and is in a position to place orders immediately, reducing the risk of price escalation and also avoiding delays related to material ordering. In the event of unforeseen budget overruns beyond contingency, Maine has demonstrated an unwavering commitment to find the resources to complete the project.

An early decision from FRA on this application will help keep this Program on schedule, as it will allow for prudent planning and construction preparation over the winter and actual construction in 2010.

**(2) Stakeholder Agreements Narrative.** *Additional information on Stakeholder Agreements is provided in Section 5.1.2.2 of the HSIPR Guidance.*

Under each of the following categories, describe the applicant's progress in developing requisite agreements with key stakeholders. In addition to describing the current status of any such agreements, address the applicant's experience in framing and implementing similar agreements, as well as the specific topics pertaining to each category.

**2A. Ownership Agreements** – Describe how agreements will be finalized with railroad infrastructure owners listed in the “Right-of-Way Ownership” and “Service Description” tables in Section B. If appropriate, “owner(s)” may also include operator(s) under trackage rights or lease agreements. Describe how the parties will agree on Corridor Program design and scope, benefits, implementation, use of Corridor Program property, maintenance, scheduling, dispatching and operating slots, Corridor Program ownership and disposition, statutory conditions and other essential topics. Summarize the status and substance of any ongoing or completed agreements. *Please limit response to 3,000 characters.*

The Pan Am Line Program has been a collaborative effort between Pan Am Railways, Amtrak and NNEPRA. All parties are in full agreement regarding project elements and results. NNEPRA and Pan Am have executed a written Agreement In Principal outlining their ongoing cooperation to enter into a construction agreement if Program funding is awarded. NNEPRA and Pan Am have a successful history of partnering on major capital projects, and anticipate that the Program Construction Agreement will be structured in a similar fashion.

**2B. Operating Agreements** – Describe the status and contents of agreements with the intended operator(s) listed in “Services” table in the Application Overview section above. Address Corridor Program benefits, operation and financial conditions, statutory conditions, and other relevant topics. *Please limit response to 3,000 characters.*

The Pan Am Line Program has been a collaborative effort between Pan Am Railways, Amtrak and NNEPRA. All parties are fully supportive of the proposed improvements and agree on the resulting benefits to be realized. NNEPRA and Amtrak have executed a written Agreement In Principal outlining their ongoing cooperation to implement faster and more frequent service upon completion of Program elements.

**2C. Selection of Operator** – If the proposed operator railroad was not selected competitively, please provide a justification for its selection, including why the selected operator is most qualified, taking into account cost and other quantitative and qualitative factors, and why the selection of the proposed operator will not needlessly increase the cost of the Corridor Program or of the operations that it enables or improves. *Please limit response to 3,000 characters.*

Amtrak operates the Downeaster service between Boston and Portland in accordance with a Service Agreement which has governed the operation since 1996. Amtrak initially became the operator of the Downeaster in order to reconnect northern New England with the national passenger rail network and to use Amtrak's statutory right of access. It would not be feasible nor economically advantageous to use an operator other than Amtrak.

**2D. Other Stakeholder Agreements** – Provide relevant information on other stakeholder agreements including State and local governments. *Please limit response to 3,000 characters.*

**2E. Agreements with operators of other types of rail service** - Are benefits to non-intercity passenger rail services (e.g., commuter, freight) foreseen? Describe any cost sharing agreements with operators of non-intercity passenger rail service (e.g., commuter, freight). *Please limit response to 3,000 characters.*

**(3) Financial Information**

**3A. Capital Funding Sources.** Please provide the following information about your funding sources (if applicable).



Non FRA Funding Sources	New or Existing Funding Source?	Status of Funding <sup>5</sup>	Type of Funds	Dollar Amount (millions of \$ YOY)	% of Program Cost	Describe uploaded supporting documentation to help FRA verify funding source
	New	Committed				
	New	Committed				
	New	Committed				
	New	Committed				

**3B. Capital Investment Financial Agreements.** Describe any cost sharing contribution the applicant intends to make towards the Corridor Program, including its source, level of commitment, and agreement to cover cost increases or financial shortfalls. Describe the status and nature of any agreements between funding stakeholders that would provide for the applicant's proposed match, including the responsibilities and guarantees undertaken by the parties. Provide a brief description of any in-kind matches that are expected. *Please limit response to 3,000 characters.*

N/A

**3C. Corridor Program Sustainability and Operating Financial Plan.**

Please report on the Applicant's projections of future financial requirements to sustain the service by completing the table below (in YOY dollars) and answering the following question. Describe the source, nature, share, and likelihood of each identified funding source that will enable the State to satisfy its projected financial support requirements to sustain the operation of the service addressed in this Corridor Program. *Please limit response to 2,000 characters.*

NNEPRA expects that improvements associated with the Pan Am Line Program will decrease overall operating costs by generating more revenues than costs. It is important to note that the State of Maine is committed to the Downeaster and to the continued funding of operations.

In April 2008, Maine's 123rd Legislature passed a Joint Resolution in Support of the Expansion of Downeaster Rail Service and Governor Baldacci signed into law "An Act To Make Capital Rail Improvements for Economic Development Purposes" (the "Rail Improvement Act") (23 MRSA section 4210-B, subsection 7), to provide funding to sustain and expand the Downeaster. This source is expected to provide \$3 million annually. Further, NNEPRA is encouraged to believe that reauthorization of federal surface transportation legislation will continue to allow the use of Congestion Mitigation and Air Quality funds for our operations. This belief is buttressed by the express support of the Maine congressional delegation and endorsed by resolution of leading regional and national organizations. Further, we note the Obama Administration proposal for authorization calls for greater flexibility in the use of all transportation funding. We also note with interest that the report (House Report 111-218) accompanying HR 3288 (THUD FY 2010) (page 98) recognizes operating costs are a critical issue. Finally, we hope that New Hampshire and Massachusetts will continue to make, albeit modest, capital improvements that reduce operating costs that enhance reliability and that contribute to an increase in ridership.

<sup>5</sup> Reference Notes: The following categories and definitions are applied to funding sources:

**Committed:** Committed sources are programmed capital funds that have all the necessary approvals (e.g. legislative referendum) to be used to fund the proposed phase without any additional action. These capital funds have been formally programmed in the State Rail Plan and/or any related local, regional, or State Capital Investment Program CIP or appropriation. Examples include dedicated or approved tax revenues, State capital grants that have been approved by all required legislative bodies, cash reserves that have been dedicated to the proposed phase, and additional debt capacity that requires no further approvals and has been dedicated by the sponsoring agency to the proposed phase.

**Budgeted:** This category is for funds that have been budgeted and/or programmed for use on the proposed phase but remain uncommitted, i.e., the funds have not yet received statutory approval. Examples include debt financing in an agency-adopted CIP that has yet to be committed in their near future. Funds will be classified as budgeted where available funding cannot be committed until the grant is executed, or due to the local practices outside of the phase sponsor's control (e.g., the phase development schedule extends beyond the State Rail Program period).

**Planned:** This category is for funds that are identified and have a reasonable chance of being committed, but are neither committed nor budgeted. Examples include proposed sources that require a scheduled referendum, requests for State/local capital grants, and proposed debt financing that has not yet been adopted in the agency's CIP.



**Note: Please enter supporting projections in the Track 2 Application Supporting Forms, and submit related funding agreements or other documents with the Supporting Materials described in Part G of this Track 2 Application. The numbers entered in this table must agree with analogous numbers in the Supporting Forms.**

Funding Requirement (as identified on the Supporting Form)	Projected Totals by Year (\$ Millions Year Of Expenditure (YOE)* Dollars - One Decimal)			
	Baseline Actual-FY 2009 Levels (State operating subsidy for FY 2009 if existing service)	First full year of operation	Fifth full year of operation	Tenth full year of operation
Indicate the Fiscal Year	2009	2013	2018	2023
Surplus/deficit after capital asset renewal charge <sup>6</sup>	-6,330	-7,395	-9,305	-11,745
Total Non-FRA sources of funds applicable to the surplus/deficit after capital asset renewal	6,330	7,395	9,305	11,745
Funding Requirements for which Available Funds Are Not Identified	0	0	0	0

\* Year-of-Expenditure (YOE) dollars are inflated from the base year. Applicants should include their proposed inflation assumptions (and methodology, if applicable) in the supporting documentation.

Note: Data reported in this section should be consistent with the information provided in the Operating and Financial Performance supporting form for this application.

<sup>6</sup> The “capital asset renewal charge” is an annualized provision for **future** asset replacement, refurbishment, and expansion. It is the annualized equivalent to the “continuing investments” defined in the FRA’s Commercial Feasibility Study of high-speed ground transportation (*High-Speed Ground Transportation for America*, September 1997, available at <http://www.fra.dot.gov/us/content/515> (see pages 5-6 and 5-7)).

- (4) Financial Management Capacity and Capability** – Provide audit results and/or other evidence to describe applicant capability to absorb potential cost overruns, financial shortfalls identified in 3C, or financial responsibility for potential disposition requirements (include as supporting documentation as needed). Provide statutory references/ legal authority to build and oversee a rail capital investment. *Please limit response to 3,000 characters.*

The Northern New England Passenger Rail Authority (NNEPRA) is a State of Maine public transportation authority created in 1995 to develop and provide passenger rail service between Maine and Boston. NNEPRA manages the \$13m annual budget and holds a 20-year agreement with Amtrak to operate the Downeaster rail service between Portland and Boston and is party to agreements with host railroads.

NNEPRA has the authority as well as significant experience managing construction projects within guidelines and specifications required by federal funding partners. From 1999 through 2001 NNEPRA successfully managed the \$70m "Passenger Rail Project" which lead to the initiation of the Downeaster service between Boston and Portland in 2001. NNEPRA has managed several smaller projects, totaling more than \$10m in state and federal dollars, since that time. An additional \$6.5m in projects, funded through state and federal sources, are currently underway.

An independent contractor audits NNEPRA's financial performance annually, with few or no findings. NNEPRA has also completed two FTA Triennial Reviews.

Most significantly, in April 2008, Maine's 123rd Legislature passed a Joint Resolution in Support of Downeaster Rail Service and Governor Baldacci signed into law the "Rail Improvement Act" (23 MRSA section 4210-B, subsection 7), to provide a dedicated funding stream to support the Downeaster service as it exists today, and when completed to include stations in Freeport and Brunswick. By Cooperative Agreement with the Maine Department of Transportation, this will provide up to \$3m annually to supplement CMAQ and meet the remaining financial obligations associated with Downeaster service.

- (5) Timeliness of Corridor Program Completion** – Provide the following information on the dates and duration of key activities, if applicable. For more information, see Section 5.1.3.1 of the HSIPR Guidance, Timeliness of Corridor Program Completion.

Final Design Duration:	3 months
Construction Duration:	28 months
Rolling Stock Acquisition/Refurbishment Duration:	n/a months
Service Operations Start date:	10/2012 (mm/yyyy)

- (6) If applicable, describe how the Corridor Program will promote domestic manufacturing, supply and industrial development, including furthering United States-based equipment manufacturing and supply industries.** *Please limit response to 1,500 characters.*

The total estimated material cost for the Downeaster Pan Am Line Program is \$31 million. The project will require the acquisition of 113,000 railroad ties, 33 miles of new rail, 14 turnouts, over \$4.1 million in new signaling materials and a significant amount of other track-related material.

This material will be acquired from low bid United States-based companies which will promote domestic manufacturing, supply and industrial development. Pan Am Railways will likely utilize its quarry in Emden, ME for rock ballast. Emden is located in Somerset County, which has been defined by FHWA as an economically-distressed area.

One candidate for the supply of railroad ties is Koppers in Pittsburgh, PA. Koppers has recently supplied treated ties to Maine DOT.

**(7) If applicable, describe how the Corridor Program will help develop United States professional railroad engineering, operating, planning and management capacity needed for sustainable IPR development in the United States. Please limit response to 1,500 characters.**

The Downeaster Pan Am Line Program represents continued growth in what has become a growth industry. Over the past two decades, new intercity services such as the Downeaster, the Capitol Corridor and the Cascades have all proven to be very successful in attracting impressive levels of ridership.

Each of these services has been the product of careful planning, engineering, rolling stock and, ultimately, operational/management expertise. This project will help assure the continuation of that trend, through the application of sound railroad engineering practices, skilled track/signal upgrading, careful project management of the construction project, as discussed in Section E (1), and safe, efficient operation of the newly-created service.

The Downeaster Pan Am Line Program will help to make the current engineers and managers engaged in the project more experienced and it will also provide experience for those participants working on a project of this type for the first time.

In addition NNEPRA will benefit from the opportunity to once again manage a major railroad construction project, as it did so successfully in the original start-up of the Downeaster.

Diversity will also be addressed in this project as the ensuing operation will be governed by Amtrak's well-established nationwide diversity program.

Corridor Program Name:

Date of Submission:

Version Number:

## F. Additional Information

- (1) Please provide any additional information, comments, or clarifications and indicate the section and question number that you are addressing (e.g., Section E, Question 1B). *This section is optional.*



Corridor Program Name:

Date of Submission:

Version Number:

## G. Summary of Application Materials

Note: In addition to the requirements listed below, applicants must comply with all requirements set forth in the HSIPR Guidance and all applicable Federal laws and regulations, including the American Recovery and Reinvestment Act of 2009 (ARRA) and the Passenger Rail Investment and Improvement Act of 2008 (PRIIA).

Application Forms	Required for Corridor Programs	Required for Projects [See Note Below]	Reference	Comments
<input type="checkbox"/> This Application Form	✓		HSIPR Guidance Section 4.3.3.3	
<input type="checkbox"/> Corridor Service Overview (Same Corridor Service Overview may be used for multiple applications)	✓		HSIPR Guidance Section 4.3.3.3	
Supporting Forms (Forms are provided by FRA on Grant Solutions and the FRA website)	Required for Corridor Programs	Required for Projects [See Note Below]	Reference	Comments
<input type="checkbox"/> General Info	✓	✓	HSIPR Guidance Section 4.3.5	FRA Excel Form
<input type="checkbox"/> Detailed Capital Cost Budget	✓	✓	HSIPR Guidance Section 4.3.5	FRA Excel Form
<input type="checkbox"/> Annual Capital Cost Budget	✓	✓	HSIPR Guidance Section 4.3.5	FRA Excel Form
<input type="checkbox"/> Operating and Financial Performance and Any Related Financial Forms	✓		HSIPR Guidance Section 5.3.5	FRA Excel Form
<input type="checkbox"/> Program or Project Schedule	✓	✓	HSIPR Guidance Section 4.3.5	FRA Excel Form

<b>Supporting Documents</b> <i>(Documents to be generated and provided by the applicant)</i>	<b>Required for Corridor Programs</b>	<b>Required for Projects</b> [See Note Below]	<b>Reference</b>	<b>Comments</b>
<input type="checkbox"/> Map of Corridor Service	✓		Corridor Service Overview Question B.2	
<input type="checkbox"/> Service Development Plan	✓		HSIPR Guidance Section 1.6.2	
<input type="checkbox"/> "Service" NEPA	✓		HSIPR Guidance Section 1.6.2	
<input type="checkbox"/> Project Management Plan	✓		HSIPR Guidance Section 4.3.3.2	
<input type="checkbox"/> "Project" NEPA (Required before obligation of funds)		✓	HSIPR Guidance Section 1.6.2	
<input type="checkbox"/> PE Materials	✓	✓	HSIPR Guidance Section 1.6.2	
<input type="checkbox"/> Stakeholder Agreements	✓	✓	HSIPR Guidance Section 4.3.3.2	
<input type="checkbox"/> Financial Plan	✓	✓	HSIPR Guidance Section 4.3.3.2	
<input type="checkbox"/> Job Creation	✓	✓	HSIPR Guidance Section 1.6.2	
<b>Standard Forms</b> <i>(Can be found on the FRA website and <a href="http://www.forms.gov">www.forms.gov</a>)</i>	<b>Required for Corridor Programs</b>	<b>Required for Projects</b> [See Note Below]	<b>Reference</b>	<b>Comments</b>

<input type="checkbox"/> SF 424: Application for Federal Assistance	✓		HSIPR Guidance Section 4.3.3.3	Form
<input type="checkbox"/> SF 424C: Budget Information-Construction	✓		HSIPR Guidance Section 4.3.3.3	Form
<input type="checkbox"/> SF 424D: Assurances-Construction	✓		HSIPR Guidance Section 4.3.3.3	Form
<input type="checkbox"/> FRA Assurances Document	✓		HSIPR Guidance Section 4.3.3.3	Form
<b>Note: Items checked under “Corridor Programs” are required at the time of submission of this Track 2 Corridor Programs application. Items checked under “Projects” are optional at the time of submission of this Track 2 Corridor Programs application, but required prior to FD/Construction grant award.</b>				

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