

## Scope of Work: Northern Tier Passenger Rail Study

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SPR A.14 / Corridor Planning Studies

### I. Introduction & Project Background

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The Massachusetts Legislature has directed the Massachusetts Department of Transportation (MassDOT) to conduct a study of the feasibility of passenger rail service from Boston to Greenfield and North Adams (the corridor known as the Northern Tier), with the speed, frequency, and reliability necessary to be a competitive option for travel along this corridor. The applicable section of the legislation is provided below.

*SECTION 84. Notwithstanding any general or special law to the contrary, the Massachusetts Department of Transportation shall conduct a feasibility study of rail access between the cities of North Adams and Boston.*

*The study shall examine and evaluate the costs and economic opportunities related to establishing rail service between the cities of North Adams and Greenfield and the cities of Greenfield and Boston including, but not limited to: (i) the projected capital costs; (ii) the projected operating costs and revenue estimates; (iii) the projected ridership levels; (iv) the prospect of operating rail service on existing rights of way and other operational issues; (v) an estimate of the environmental impact and benefits; (vi) an analysis of community impact and benefits; (vii) the potential sources and availability of federal, state, local and private sector funding; and (viii) the resulting economic, employment, social and cultural benefits to Franklin and Berkshire counties and the commonwealth as a whole.*

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Beginning in the late 19<sup>th</sup> century, the Boston and Maine Railroad provided previous passenger rail service within the Northern Tier corridor via the Fitchburg and Berkshire Division Main Lines, respectively. Services to Greenfield and North Adams ceased in the mid-20<sup>th</sup> century.

This study will closely examine the statewide and regional economic and environmental benefits as well as any associated implementation challenges, and identify all necessary improvements to support passenger rail service between Boston and Northwestern Massachusetts. The project limits for this study and for potential infrastructure improvements sit between Boston, Greenfield, and North Adams, as well as any additional right-of-way that may be necessary to accommodate maintenance, adjust alignments, or otherwise support the examined future passenger service.

The selected consultant team will be directed and monitored by MassDOT's Office of Transportation Planning (MassDOT Planning). As part of the public involvement process, a study Working Group will be developed by MassDOT Planning, which will be finalized as part of the study process. A project manager designated by MassDOT Planning will be the primary interface between the consultant and the Working Group.

The final product will be in the form of a report that includes all tasks outlined in this scope. The overall study report is expected to take 18 months from issuance of a Notice to Proceed (NTP).

## IA. Data

All data proposed for use in in this project work must be reviewed and approved by OTP independently of this scope. OTP owns and has access to data that can and may be used as part of this project; the selected consultant must review the data currently owned and retained by MassDOT and privilege this data over outside or additional resources. Should additional data be considered required or beneficial, all proposed data procurements must be approved by OTP along with this scope prior to Notice to Proceed.

Should a data procurement be found to be beneficial or necessary by OTP, MassDOT will retain exclusive and non-transferable ownership of the procured data beyond applications to the immediate project. The rights and privileges associated with the procured data will be at the sole discretion of OTP. This means that OTP retains the right to make use of, and have designated users make use, of any procured data for purposes deemed worthwhile for enhancing transportation planning activities in the Commonwealth of Massachusetts.

## II. Project Tasks

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The following sections addressing the specific tasks of the Scope of Work to be undertaken by the consultant are intended to serve as a guide for prospective consultants in preparing their respective technical proposals.

The selected consultant team will be directed by MassDOT Planning, and the consultant's progress will be monitored by the Project Manager. The selected consultant will perform specific tasks as outlined below, with a summary report, presentation materials (presumably in MS PowerPoint software), and other products as needed for each major task.

Each task will be accomplished in coordination with a public involvement plan. However, no items in this scope shall preclude the consultant from proposing modified or additional approaches or activities to accomplish the objectives of this effort. ***At the same time, the selected consultant must recognize that while this scope includes most major tasks expected to be required, the consultant will be responsible for other tasks necessary to deliver the major study elements, even though not all may be explicitly referenced in this scope.***

### Task 1. Public Involvement Plan

The study's Public Involvement Plan will be developed by the consultant in consultation with MassDOT Planning. It is anticipated that at a minimum, it will have two components: 1) meetings with the study's Working Group and 2) general public informational meetings at key project milestones. In addition to resident, industrial, local, state, legislative and federal representation, the Working Group will also include, but not be limited to, regional representation.

Working Group meetings will be scheduled at key project milestones with input from the members, and will be conducted by MassDOT Planning and the consultant. Following consultant selection, the first Working Group meeting will be scheduled to discuss the study area limits and scope of work; to discuss the goals, objectives, and evaluation criteria for the project; to review the anticipated

methodologies to assess potential ridership, economic impact and environmental issues; and to give the Working Group the opportunity to comment on these elements.

MassDOT and the consultant will conduct public informational meetings at major project milestones. Public meetings will be scheduled and publicized by MassDOT Planning and the consultant. At the discretion of MassDOT Planning, the consultant will be expected to provide support for all elements of the public meetings.

The consultant shall be principally responsible for the preparation of presentation and display materials for Working Group meetings and public informational meetings. These materials shall be prepared in advance to allow MassDOT Planning adequate time for review and approval. At MassDOT Planning's discretion, the consultant may be required to present materials in advance of the Working Group or public informational meeting.

A project website will be created, maintained, and updated by MassDOT. The consultant will be responsible for providing content data for development of this website. The consultant will also be responsible for providing relevant historical documents, task deliverables, and both pre- and post-meeting materials to the MassDOT project manager for posting in a timely manner.

All elements of the Public Involvement Plan must include specific communication strategies to provide continuous and meaningful opportunities for involvement by the public throughout the study process. These strategies must provide the opportunity for the full and fair participation by all potentially affected communities, including minority and low-income populations, at this stage of the transportation decision-making process. Likewise, these strategies must include provisions to actively engage communities of color and gather their responses, as well as mitigate against potential discrimination based on race, color, national origin, English proficiency, income, religious creed, ancestry, disability, age, gender, sexual orientation, military service, or gender identity or expression. The consultant should utilize MassDOT's Public Participation Plan, and [Engage](#) (MassDOT's mapping tool for outreach) to guide the public participation process. All public materials produced as part of this study, including those posted to the project website, must be in an accessible format consistent with MassDOT guidelines.

Please refer to the following web address for additional information on accessibility:  
<https://www.mass.gov/web-accessibility-statement>

### Task 1 Deliverables

- Public Involvement Plan

### **Task 2. Documenting Past Efforts**

MassDOT is looking to build off of any previous analyses that has examined the benefits, impediments and opportunities to make passenger rail a viable option for travel along the corridor and for some commuting trips; and fast enough to be competitive with other modes of travel between Boston and Northwestern Massachusetts. Therefore the Consultant must ensure that any and all past studies are examined, to avoid the duplication of past efforts. Other projects of relevance must also be examined.

### Task 2 Deliverables

- A memorandum that summarizes the findings of any prior studies and identifies major gaps in past analysis, as they relate to the concept of providing more frequent east-west passenger rail service.

### **Task 3. Current Conditions - Market Analysis**

The consultant will provide current conditions, by giving an overview of the travel market. This will include an examination of demographics, land use, and current and projected future travel patterns by rail and other modes between Boston and Northwestern Massachusetts communities. The Consultant will provide an overview of the rail service as it operates today, reflecting existing Amtrak, MBTA, and intercity bus service patterns during peak and non-peak travel times, in addition to traffic counts and congestion on parallel roadways.

### Task 3 Deliverables

- A memorandum that explains the travel market, including current travel options, and incorporates a demographic and land use analysis. It should be accompanied by existing and future projections of travel patterns along the study area using the current network build.

### **Task 4. Current Conditions - Physical, Regulatory, and ROW Ownership**

The consultant will provide an assessment of physical, regulatory, and ownership opportunities and constraints based on current conditions.

Modifications to the Northern Tier route's track, right-of-way, or condition since the completion of prior studies or plans should be documented in this task. The consultant shall identify the freight usage of the Northern Tier route, and report on future capacity of the line under a status quo scenario, identifying where track capacity is most limited based on corridor-level analysis. Potential service options envisioned in the study must consider track, signaling, and platform specifications that Pan Am Southern, the MBTA or potentially other rail system owners/operators would require as owner, need in order to operate, or would be required to comply with. The consultant should also identify critical Pan Am-owned section of track in this corridor whose ROW is important to passenger rail expansion, if the sale of Pan Am assets are still in flux.

To prepare for analysis of the physical opportunities and constraints, the consultant shall document: (1) corridor capacity levels, both current and future; (2) grade crossings by their condition and protections, identifying any signalization needs; (3) the extent and physical characteristics of Positive Train Control (PTC) in use along the corridor or committed as funding; (3) current speed restrictions along the entirety of the corridor; (4) station platform conditions, including those platforms that do not meet ADA requirements for their full length; and (5) contractual, regulatory, and other restrictions on use of the corridor.

### Task 4 Deliverables

- A technical memorandum identifying all major physical, regulatory, and ownership opportunities and constraints of the rail corridors between Boston and the studied end point(s) as outlined above.

### **Task 5. Development of Potential Service Plans and Alternatives**

MassDOT is looking to evaluate specific service models for direct point-to-point service between Boston, Greenfield, and North Adams. Potential alternatives should support the long-term role of the rail corridor between Rotterdam Junction and Boston as part of the nation's freight network. Through the use of operations simulation tools, the Consultant will help determine if new passenger alternatives can be operated given the existing track capacity, with and without investments, and any right-of-way.

The Consultant will consider any viable service models identified in previous studies or services, or any outputs from the MBTA Rail Vision, if available, as part of its development of alternatives. The consultant may identify potential alternatives that require additional track or other infrastructure, or that meet the needs of an east-west rail connection in a way that may not necessarily include a one-seat rail connection. Any additional infill stops between Greenfield and North Adams will also be considered. Further, at least one alternative should assess the value and impediments of extension to Albany, NY.

The Consultant will work with MassDOT to determine key factors for each alternative including, but not limited to, the following:

- Additional right-of-way necessary
- Environmental and community impacts, including those related to any shift in freight movement from rail to trucking, grade crossings, VMT reductions and LOS improvements on Route 2, etc.
- New/expanded rail storage facilities needed
- Direct, indirect and induced economic benefits and impacts
- Impact on statewide emission reduction and other statewide clean energy goals

#### Task 5 Deliverables

- A draft version and final version of a technical memorandum identifying up to six service alternatives, and the process used to select those alternatives. As part of this deliverable, detailed maps and high quality graphics of each of the alternatives will be developed.

### **Task 6. Alternatives Evaluation and Cost Estimate**

The Consultant will work with MassDOT to evaluate the alternatives identified in Task 5. In order to project ridership, the Consultant will work with MassDOT and other associated operators to ensure that the alternatives developed meet and address the below baseline factors, including but not limited to:

- Projected Ridership – The Consultant should propose ridership projection methods including travel demand models

- Compliance with all Federal and other private freight carrier requirements around shared freight and passenger service
- Ability to deliver competitive passenger rail service
- Impacts on freight capacity, including those related to increased need for maintenance windows
- Impacts on the scheduling and performance of existing MBTA Commuter Rail service
- Additional permitting requirements

In addition to the ridership analysis, alternatives will be evaluated using MassDOT investment criteria (system preservation, mobility, cost effectiveness, economic impact, safety, social equity and fairness, environment and health impacts, and policy support).

The Consultant will also work with MassDOT to develop order of magnitude cost estimates for each of the alternatives evaluated, based on Task 6. This cost estimate will consider both Amtrak and other potential operator cost structures, and include or be based on:

- Construction costs based on other projects of comparable scope, with a focus on any new stations, applicable track and signal expansion or upgrades, PTC investments
- Rolling stock/vehicle costs for each service plan
- Property takings, if necessary
- Operations and maintenance costs for each service plan
- Revenue implications including projected fare box revenues and fare recovery ratios based on ridership projections for each service plan, as well as potential joint development revenue opportunities
- Conduct a full cost-benefits analysis to quantify the economic, social and cultural benefits to both the Franklin and Berkshire regions, and any others directly served by the recommended alternative.

The cost estimate is to be based on comparable projects, adjusted appropriately to reflect scope and context.

#### Task 6 Deliverables

- A draft version and final version of a technical memorandum summarizing the evaluation of each of the Task 5 alternatives. This will include a detailed report on costs and ridership projections, with a transparent overview of ridership methodology.

#### **Task 7. Development of Recommended Next Steps**

The Consultant will assist MassDOT in developing a framework around the results of Tasks 6 and 7 to recommend next steps. The Consultant will support MassDOT with the following subtasks:

- Summarize all available public and private sector funding opportunities, and assess the likelihood of value capture as a funding mechanism.
- Develop a projected timeline for design, permitting and construction

#### Task 7 Deliverables

- The consultant shall work closely with MassDOT to provide a final report to MassDOT that assesses the options considered, and presents MassDOT recommendations for both near-term and long-term actions, funding opportunities. The final report will also include a cost-benefit analysis and a project implementation timeline.