



TIER 1 ENVIRONMENTAL ASSESSMENT

APPENDICES

May 2016

Northern New England Intercity Rail Initiative

Tier 1 Environmental Assessment

APPENDICES – VOLUME 2

Appendix F	Cultural Resources and Historic Properties Technical Report
Appendix G	Section 4(f) Properties Technical Report
Appendix H	Section 6(f) Properties Technical Report

Appendix F
**Cultural Resources and Historic Properties Technical
Report**

CULTURAL RESOURCES AND HISTORIC PROPERTIES TECHNICAL MEMORANDUM

May 2016



Northern New England Intercity Rail Initiative

BOSTON | SPRINGFIELD | NEW HAVEN | MONTREAL

This page intentionally left blank

Introduction

The Massachusetts Department of Transportation (MassDOT) and the Vermont Agency of Transportation (VTRANS), with support from the Federal Railroad Administration (FRA), and in collaboration with the Connecticut Department of Transportation (CTDOT) and the Ministère des Transports du Québec, are undertaking the Northern New England Intercity Rail Initiative (NNEIRI) to examine the implementation and operation of more frequent and higher speed intercity passenger rail service in the region. The NNEIRI Corridor is made up of two routes that utilize existing rail lines. One operating route connects Boston, Massachusetts and New Haven, Connecticut via Springfield, Massachusetts, known as the Inland Route Service, and the other one connects Boston, Massachusetts and Montreal, Quebec via Springfield, Massachusetts. Both routes share the same segment between Boston and Springfield (see Figure 1).

The following memorandum has been prepared to assess the potential for impacts to cultural resources and historic properties resulting from the NNEIRI program. The discussion that follows outlines the federal and state regulatory requirements and methodology employed in the analysis; inventories of historic properties within 300 feet of the centerline of the NNEIRI right-of-way (ROW), referred to as the NNEIRI Study Area; and assesses potential impacts of the Draft Build Alternative on these resources. This analysis provides the foundation for the discussion of Cultural Resources and Historic Properties within the Environmental Assessment (EA). It also supports the discussion of 4(f) historic properties in the 4(f) Technical Memorandum and the EA.



Figure 1
NNEIRI Corridor

Regulatory Requirements

Section 106 of the National Historic Preservation Act (NHPA) of 1966 requires that federal agencies take into account the effects of their undertakings on historic properties. A historic property is any prehistoric or historic district, site, building, structure, or object included on, or eligible for inclusion on, the National Register of Historic Places (NRHP). The Section 106 review process is outlined in regulations promulgated by the Advisory Council on Historic Preservation, "[Protection of Historic Properties](#)" (36 CFR Part 800), which became effective August 5, 2004. In accordance with these regulations, effects on historic properties are identified and evaluated by (1) determining the area of potential effects (APE), (2) identifying historic properties present within the APE that are listed on or eligible for listing on the National Register (NR), (3) applying the criteria of adverse effect, and (4) considering ways to avoid, minimize or mitigate adverse effects. An adverse effect is an alteration to the characteristics of a historic property qualifying it for inclusion on or eligibility for the National Register. These regulations allow for the phased identification of historic properties when the alternatives under consideration consist of corridors or large land areas.

Effects to historic properties are further regulated under Section 4(f) of the Department of Transportation Act of 1966 (49 U.S.C. 303). Under Section 4(f), a federal transportation agency may not approve the use of a Section 4(f) property (which includes historic sites) unless it determines that there is no feasible and prudent alternative to avoid the use of the property and the action includes all possible planning to minimize harm resulting from such use, or the project has a *de minimis* impact. Section 4(f) is discussed in greater detail in the Section 4(f) Technical Memorandum, included herein as Appendix G.

In addition to Section 106 and Section 4(f), legislation enacted in Massachusetts, New Hampshire and Vermont addresses preservation of historic properties. Applicable regulations are summarized below:

- *Massachusetts* – M.G.L. Title 2 Chapter 9, Sections 26 to 27C calls for the establishment of the Massachusetts Historical Commission (MHC). The Commission, together with the State Archaeologist and the Board of Underwater Archaeological Resources, advises the State Secretary on matters relating to the historical and archeological assets of the Commonwealth and assists the Secretary in compiling and maintaining an inventory of the assets. The Commission encourages all governmental bodies and persons considering actions that may affect a historical or archeological asset of the Commonwealth to consult with the Commission to avoid any adverse effects.
- *New Hampshire* – In New Hampshire Statutes Title 19 Chapter 227-C: Historic Preservation, the General Court established that “the historical, archeological, architectural, engineering, and cultural heritage of New Hampshire is one of the most important environmental assets of the state and that the rapid social and economic development of contemporary society threatens the remaining vestiges of this heritage.” The Court thereby established that it is in the public interest of the state to engage in a comprehensive program of historic preservation. To this end, Chapter 227-C calls for the establishment of the Division of Historical Resources, which serves as the State Historic Preservation Office (SHPO). Key responsibilities of the Division of Historical Resources include undertaking a statewide survey of historic properties; preparing the state’s historic preservation plan; providing information on historic properties within the state;

accepting and directing monies for historic preservation; providing technical assistance in matters related to historic preservation; and developing an ongoing program of historical, architectural and archeological research within the state. The regulations also establish a review process, which is administered by the Director of the Division of Historical Resources, to ensure the protection of designated New Hampshire heritage landmarks.

- *Vermont* – In the state of Vermont, historic preservation is regulated under the Vermont Historic Preservation Act (V.S.A. Title 22 Chapter 14: Historic Preservation), as well as under Act 250 (Title 10 V.S.A Chapter 151: State Land Use and Development Plans). The Vermont Historic Preservation Act requires that state agencies take measures to preserve the historic resources under its ownership. A state agency, department, division or commission must consult the Vermont Advisory Council on Historic Preservation before demolishing, altering or transferring any property that is potentially of historical, architectural, archeological or cultural significance, including properties listed on the State Register of Historic Places. It is the responsibility of the state agency involved in the project to initiate consultation with the State Historic Preservation Office, the Vermont Division for Historic Preservation. The Division’s role is to advise and assist state agencies in carrying out their responsibilities under V.S.A. Title 22 Chapter 14. Through project review, the state agency evaluates the project’s potential impacts to historic buildings and structures, historic districts, historic landscapes and settings, and known or potential archeological resources.

Act 250 has a broader purpose than V.S.A. Title 22 Chapter 14. The Act seeks to prevent Vermont land from being used in a manner detrimental to the environment. The Act requires that permits be issued for certain developments to ensure that the development would not have an adverse effect on key resource areas, including historic sites.

Methodology

To identify historic properties along the Corridor, the Study Team reviewed the NRHP Geographic Information System (GIS) database in March and April 2015. A combination of spatial data and tabular data contributed to the derivation of the full list of National Register-listed properties. To address irregularities in the spatial data, the Study Team confirmed historic district boundaries based on maps or boundary descriptions provided within the National Register nominations, where feasible. The Study Team further identified historic properties by reviewing a NRHP GIS data layer for properties determined eligible for the National Register and through the State of Massachusetts GIS.¹ Comparable state GIS data documenting historic properties is currently not available in New Hampshire or Vermont. The Study Team did not take additional data collection efforts for the corridor segment between New Haven, Connecticut and Springfield, Massachusetts or for the segment between Springfield and East Northfield, Massachusetts, as both segments were the subject of prior NEPA

¹ MA GIS data was sourced from <http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/srhp.html>; National Register GIS data was sourced from http://www.nps.gov/nr/research/data_downloads.htm.

documentation and Section 106 review by the FRA. No online data was available on historic properties within the Canadian segment of the Corridor.

For the purposes of this Tier 1 analysis, the Study Team defined a preliminary Area of Potential Effect (APE) that extends 300 feet from the rail centerline (NNEIRI Study Area). Based on the NRHP and Massachusetts GIS data, properties that lie within the APE were identified. Mapping was prepared illustrating the historic properties identified to understand the proximity of the historic properties to the rail ROW.

The Study Team inventoried existing bridges located between Boston to Springfield and north of East Northfield, Massachusetts into New Hampshire and Vermont using existing sources such as track charts and other available databases. Structures that are likely to be modified or replaced under the Build Alternative were identified at the conceptual level.

The Federal Railroad Administration (FRA) prepared and submitted information packages describing the NNEIRI Build Alternative and the preliminary APE to the Massachusetts, New Hampshire, Vermont, and Connecticut State Historic Preservation Officers (SHPOs). The objective of this Tier 1 evaluation was to identify the locations of known historic properties within the preliminary APE from readily available federal and state GIS data, and to assess the potential for effects to these properties based on conceptual plans for the Build Alternative. As the design of the Build Alternative is advanced and more detailed information becomes available in Tier 2, the APE would be formally identified by FRA, or another lead federal agency, in consultation with the Massachusetts, Vermont and New Hampshire SHPOs. The lead federal agency's Tier 2 Section 106 efforts would also include, in consultation with the appropriate SHPOs and consulting parties, the identification of additional historic properties, determinations of effect, and resolution of any adverse effects.

The following analysis identifies National Register-listed properties by segment, concentrations of such properties, and properties that, due to their proximity to planned passenger rail-related improvements, may be the most likely to be affected. In addition, National Register-eligible properties as identified with the NRHP GIS data were also identified. Note that the total number of properties identified in the Existing Conditions discussion below is different than that presented in the 2014 Existing Conditions Report due to revisions to the National Register GIS database. Due to irregularities within the National Register GIS and to access issues along the Corridor, additional analysis would be required in Tier 2 to precisely identify and determine impacts to historic properties. In addition, a full inventory of bridges, culverts, and other railway infrastructure in the segments between Boston and Springfield, Massachusetts and East Northfield, Massachusetts and Alburgh, Vermont may be necessary as part of the Section 106 efforts during Tier 2.

Existing Conditions

Boston, Massachusetts to Springfield, Massachusetts

According to the Massachusetts and National Register GIS data, there are 59 National Register-listed properties within the Corridor in the segment between Boston and Springfield. These include 39 buildings, 18 districts, one object and one site. Many of these properties are clustered in Springfield, Worcester, and Newton, Massachusetts. Of these properties, five are historic railroad stations, among them the South Station Headhouse in Boston, Union Station in Palmer, Union Station in Worcester, the Framingham Railroad Station, and the Wellesley Farms

Railroad Station. An additional seven properties are documented as eligible within the National Register GIS, including five buildings, one district and one structure. Based on the GIS data, of the 19 historic districts, three appear to abut the ROW and another three are bisected by it.

Table 1 below identifies these historic properties, their city and state, status, property type, and location in relationship to the ROW.

Table 1: National Register (NR) Properties within the Boston to Springfield, Massachusetts Segment of the Corridor

City, State	Name	Status	Type	Relationship to corridor or ROW
Ashland, MA	Ashland House	DOE	NR Building	Within corridor
Boston, MA	Back Bay Historic District	NR	NR District	Abuts ROW
Boston, MA	Fenway Studios	NR, NHL	NR Building	Within corridor
Boston, MA	Fenway Park	NR	NR District	Within corridor
Boston, MA	Harvard Avenue Historic District	NR	NR District	Within corridor
Boston, MA	House at 1 Bay Street	NR	NR Building	Within corridor
Boston, MA	Interlocking System/Tower 1	DOE	NR Structure	Within corridor
Boston, MA	Leather District	NR	NR District	Within corridor
Boston, MA	Peter Fuller Building	NR	NR Building	Within corridor
Boston, MA	South End District	NR	NR District	Within corridor
Boston, MA	South Station Headhouse	NR	NR Building	Within corridor
Boston, MA	Youth's Companion Building	NR	NR Building	Within corridor
Brookline, MA	Cottage Farm Historic District	NR	NR District	Abuts ROW
Brookline, MA	Olmsted Park System	NR	NR District	Within corridor
Framingham, MA	Concord Square Historic District	NR	NR District	Within corridor
Framingham, MA	Framingham Railroad Station	NR	NR Building	Within corridor
Framingham, MA	Irving Square Historic District	NR	NR District	Within corridor
Framingham, MA	Sudbury Aqueduct Linear District	NR	NR District	Within corridor
Framingham, MA	Whit's Diner	NR	NR Building	Within corridor
Grafton, MA	Grafton State Hospital	DOE	NR District	Bisected by ROW
Natick, MA	Casey's Diner	NR	NR Building	Within corridor
Natick, MA	Natick Center Historic District	NR	NR District	Within corridor
Natick, MA	Wilson, Henry, Shoe Shop	NR	NR Building	Within corridor
Newton, MA	Fenno, John A., House	NR	NR Building	Within corridor
Newton, MA	First Unitarian Church	NR	NR Building	Within corridor
Newton, MA	Howes, C. G., Dry Cleaning - Carley Real Estate	NR	NR Building	Within corridor

City, State	Name	Status	Type	Relationship to corridor or ROW
Newton, MA	Jackson Homestead	NR	NR Building	Within corridor
Newton, MA	Myrtle Baptist Church Neighborhood Historic District	NR	NR District	Within corridor
Newton, MA	Newton Street Railway Car barn	NR	NR Building	Within corridor
Newton, MA	Our Lady Help of Christians Historic District	NR	NR District	Within corridor
Newton, MA	Plummer Memorial Library	NR	NR Building	Within corridor
Newton, MA	Potter Estate	NR	NR Building	Within corridor
Newton, MA	West Newton Village Center Historic District	NR	NR District	Within corridor
Newton, MA	Whittemore's Tavern	NR	NR Building	Within corridor
Oxford, MA	Capt. Abijah Davis Home	DOE	NR Building	Within corridor
Oxford, MA	Joslin, Allen L., House	DOE	NR Building	Within corridor
Oxford, MA	Memorial Hall	DOE	NR Building	Within corridor
Oxford, MA	The Benjamin Paine House	DOE	NR Building	Within corridor
Palmer, MA	Union Station	NR	NR Building	Within corridor
Springfield, MA	Chapin National Bank Building	NR	NR Building	Within corridor
Springfield, MA	Cutler and Porter Block	NR	NR Building	Within corridor
Springfield, MA	Downtown Springfield Railroad District	NR	NR District	Bisected by ROW
Springfield, MA	Clark W. Bryan Company Building	NR	NR Building	Within corridor
Springfield, MA	Hampden Savings Bank	NR	NR Building	Within corridor
Springfield, MA	New Bay Diner Restaurant	NR	NR Building	Within corridor
Springfield, MA	Produce Exchange Building	NR	NR Building	Within corridor
Springfield, MA	Sanderson, Julia, Theater	NR	NR Building	Within corridor
Springfield, MA	Wason-Springfield Power Blocks	NR	NR Building	Within corridor
Springfield, MA	Whitcomb Warehouse	NR	NR Building	Within corridor
Warren, MA	1767 Milestone	NR	NR Object	Within corridor
Warren, MA	Warren First Congregational-Federated Church	NR	NR Building	Within corridor
Warren, MA	Warren Public Library	NR	NR Building	Within corridor
Warren, MA	Warren Town Hall	NR	NR Building	Within corridor
Wellesley, MA	Elm Park and Isaac Sprague Memorial Tower	NR	NR Site	Within corridor
Wellesley, MA	Wellesley Farms Railroad Station	NR	NR Building	Within corridor
Wellesley, MA	Wellesley Town Hall	NR	NR Building	Within corridor

City, State	Name	Status	Type	Relationship to corridor or ROW
West Brookfield, MA	West Brookfield Center Historic District (Boundary Increase)	NR	NR District	Bisected by ROW
Westborough, MA	West Main Street Historic District (Boundary Increase III)	NR	NR District	Within corridor
Worcester, MA	East Worcester School-Norcross Factory	NR	NR Building	Within corridor
Worcester, MA	Holy Name of Jesus Complex	NR	NR Building	Within corridor
Worcester, MA	McCafferty, Elizabeth, Three-Decker	NR	NR Building	Within corridor
Worcester, MA	Miss Worcester Diner	NR	NR Building	Within corridor
Worcester, MA	St. John's Catholic Church	NR	NR Building	Within corridor
Worcester, MA	Southbridge-Sargent Manufacturing District	NR	NR District	Abuts ROW
Worcester, MA	Union Station	NR	NR Building	Within corridor
Worcester, MA	Worcester Bleach and Dye Works	NR	NR Building	Within corridor

Source: Natural Register Information System (NRIS) GIS 2015 and MA GIS 2015

Note: NR denotes properties listed in the National Register; NHL denotes properties listed as National Historic Landmarks; DOE denotes those properties listed as eligible within the NRHP GIS; additional eligible properties may be identified in Tier 2 in consultation with the MA SHPO

According to track charts, there are 186 bridges in the Corridor between Boston and Springfield. Of these, 77 are undergrade bridges and 109 are overhead bridges. Information such as date, materials, and methods of construction is not currently available, and thus FRA has not made any determinations of National Register eligibility at this time. In addition, a comprehensive list of culverts and other railway infrastructure along the Corridor is not available, nor is data on archaeological resources within the Corridor. Consequently, additional data needs may be identified in Tier 2 in consultation with the Massachusetts Historical Commission (MHC).

Springfield, Massachusetts to New Haven, Connecticut

Historic properties within the Corridor between New Haven, Connecticut and Springfield, Massachusetts are addressed in the *New Haven-Hartford-Springfield Line High Speed Intercity Passenger Rail Project Environmental Assessment/Environmental Impact Evaluation* (NHHS EA/EIE). FRA prepared the NEPA document in cooperation with the Federal Transit Administration (FTA) and the Connecticut Department of Transportation (CTDOT) in May 2012 and made a Finding of No Significant Impact (FONSI) on August 9, 2012. In addition, FRA, FTA, CTDOT, Connecticut SHPO, and MHC executed a Section 106 Programmatic Agreement for the NHHS High Speed Intercity Passenger Rail Project on August 9, 2012; FRA, CTDOT, and Connecticut SHPO executed a Section 106 Memorandum of Agreement on April 23, 2015 addressing adverse effects to bridges and culverts within the NHHS rail corridor between New Haven and Windsor; and FRA made a final Section 4(f) determination on May 12, 2015 regarding these bridges and culverts. For a detailed discussion of historic properties within this

segment of the Corridor, refer to the NEPA, Section 106, and Section 4(f) documentation for the NHHS project.

Springfield, Massachusetts to Canadian Border

Historic properties within the Corridor between Springfield, Massachusetts and East Northfield, Massachusetts are addressed in the *Environmental Assessment for the Knowledge Corridor – Restore Vermonter, Springfield to East Northfield, Massachusetts* prepared by FRA and the MassDOT in 2009. Section 106 consultation occurred between FRA and MHC in September 2010 regarding effects to 16 historic bridges requiring in-kind repair or replacement of components, effects of station and platform improvements to the nearby Northampton Downtown Historic District and the Greenfield Main Street Historic District, and effects to Northampton Railroad Station (Union Station). FRA determined, and MHC concurred, that the Knowledge Corridor project would not result in adverse effects to these historic properties. FRA issued a FONSI for this project on February 5, 2011. For a detailed discussion of historic properties within this segment of the Corridor, refer to the Knowledge Corridor NEPA documentation.

The National Register GIS identified 39 National Register-listed properties within the segment of the Corridor between East Northfield, Massachusetts and Alburgh, Vermont. This includes 12 buildings, 21 districts, and six structures. The majority of the properties are historic districts in small village centers in Vermont. One additional property, a historic bridge in Northfield, Vermont, is documented as eligible within the National Register GIS. Of the 21 historic districts, five abut the ROW and an additional 10 are bisected by the ROW.

Table 2 below identifies these historic properties, their city and state, status, property type, and location in relationship to the ROW.

Table 2: National Register (NR) Properties within the East Northfield, Massachusetts to Alburgh, Vermont Segment of the Corridor

City, State	Name	Status	Type	Relationship to ROW
Berlin, VT	Bridge No. 27	NR	NR Structure	Within corridor
Bethel, VT	Bethel Village Historic District	NR	NR District	Bisected by ROW
Bethel, VT	McKenstry Manor	NR	NR District	Within corridor
Bolton, VT	Preston-Lafreniere Farm	NR	NR District	Within corridor
Brattleboro, VT	Brattleboro Downtown Historic District	NR	NR District	Abuts ROW
Brattleboro, VT	Brooks House	NR	NR Building	Within corridor
Brattleboro, VT	Union Station	NR	NR Building	Within corridor
Charlestown, NH	Charlestown Main Street Historic District	NR	NR District	Abuts ROW
Charlestown, NH	North Charlestown Historic District	NR	NR District	Abuts ROW
Cornish Flat, NH	Chase, Salmon P., Birthplace	NR	NR Building	Within corridor

East Putney, VT	East Putney Brook Stone Arch Bridge	NR	NR Structure	Within corridor
Essex Junction, VT	Downtown Essex Junction Commercial Historic District	NR	NR District	Bisected by ROW
Hartford, VT	Terraces Historic District	NR	NR District	Within corridor
Hartford, VT	West Hartford Village Historic District	NR	NR District	Bisected by ROW
Hartford, VT	White River Junction Historic District and Boundary Increase	NR	NR District	Bisected by ROW
Northfield, VT	Central Vermont Railway Depot	NR	NR Building	Within corridor
Northfield, VT	Lower Cox Brook Covered Bridge	NR	NR Structure	Within corridor
Northfield, VT	Northfield Falls Covered Bridge	NR	NR Structure	Within corridor
Northfield, VT	Slaughterhouse Covered Bridge	NR	NR Structure	Within corridor
Northfield, VT	Vine Street Bridge	DOE	NR Structure	Within corridor
Randolph, VT	Depot Square Historic District	NR	NR District	Bisected by ROW
Richmond, VT	Gray Rocks	NR	NR District	Bisected by ROW
Rockingham, VT	Bellows Falls Downtown Historic District	NR	NR District	Bisected by ROW
Rockingham, VT	Bellows Falls Neighborhood Historic District	NR	NR District	Within corridor
Rockingham, VT	William A. Hall House	NR	NR Building	Within corridor
Roxbury, VT	Roxbury Fish Hatchery	NR	NR District	Abuts ROW
Royalton, VT	Fessenden, Joseph, House	NR	NR Building	Within corridor
Royalton, VT	South Royalton Historic District	NR	NR District	Bisected by ROW
Sharon, VT	Bridge 15	NR	NR Structure	Within corridor
St. Albans, VT	Central Vermont Railroad Headquarters	NR	NR District	Bisected by ROW
St. Albans, VT	St. Albans Historic District	NR	NR District	Within corridor
St. Albans City, VT	Giroux Furniture Company Building	NR	NR Building	Within corridor
St. Albans City, VT	Willard Manufacturing Company Building	NR	NR Building	Within corridor
Vernon, VT	Vernon District Schoolhouse No. 4	NR	NR Building	Within corridor
Waterbury, VT	Waterbury Village Historic District	NR	NR District	Bisected by ROW
Westminster, VT	Westminster Village Historic District	NR	NR District	Within corridor
Windsor, VT	Buckman, Twing, House	NR	NR Building	Within corridor
Windsor, VT	Fowler-Steele House	NR	NR Building	Within corridor
Windsor, VT	Old Constitution House	NR	NR Building	Within corridor
Windsor, VT	Windsor Village Historic District	NR	NR District	Abuts ROW

Source: NRIS GIS 2015

Note: NR denotes properties listed in the National Register, while DOE denotes those properties listed as eligible within the NRIS GIS; additional eligible properties may be identified in Tier 2 in consultation with the MA, NH and VT SHPOs

According to track charts, there are 141 bridges in the Corridor between East Northfield, Massachusetts and Alburgh, Vermont. Of these, 103 are undergrade bridges and 38 are overhead bridges. Information such as date, materials and methods of construction is not currently available, and thus FRA has not made any determinations of National Register eligibility at this time. In addition, a comprehensive list of culverts and other railway infrastructure along the Corridor is not available, nor is data on archaeological resources within the Corridor. Additional data needs may be identified in Tier 2 in consultation with the Massachusetts, New Hampshire, and Vermont SHPOs.

No-Build Alternative Consequences

Under the No-Build Alternative, the CTDOT infrastructure improvements to the NHHS rail line have been completed or are underway, including double-tracking, station improvements, and repair and replacement of numerous bridges and culverts. The NHHS improvements affecting historic properties in the segment of the corridor between New Haven and Windsor are already covered by Section 106 agreement documents and adverse effects have been resolved through consultation among FRA, CTDOT, CTSHPO, and other consulting parties. Tier 2 NEPA analysis, a Memorandum of Agreement, and a 4(f) Evaluation for the portion of the corridor between Windsor and Springfield (Phase 3B) will be completed prior to the release of construction funding for these improvements. Similarly, site-specific compliance and documentation will be undertaken for four planned stations along the NHHS corridor. In addition, Section 106 consultation between FRA and MHC for the Knowledge Corridor project between Springfield and East Northfield, Massachusetts also occurred, which resulted in a No Adverse Effect determination for the Northampton Railroad Station (Union Station), the Northampton Downtown Historic District, and the Greenfield Main Street Historic District.

Other planned passenger rail-related projects, including Springfield Union Station improvements and the expansion of Boston's South Station (SSX), and associated layover facilities, improvements to the rail infrastructure between the U.S. border and Montreal, and improvements to the Montreal Central Station Customs Checkpoint would also be completed under the NNEIRI No-Build Alternative.

In accordance with the MEPA, MassDOT prepared a state-level DEIR for the SSX project on October 31, 2014, and received a MEPA Certificate from the Massachusetts Secretary of Energy and Environmental Affairs on December 31, 2014. MassDOT also received grant funding from FRA to conduct preliminary engineering and NEPA analysis for the SSX project. As of the writing of this EA, MassDOT, in coordination with FRA, is preparing an EA for the SSX project. Section 106 consultation between FRA, MassDOT, MHC and other consulting parties is being coordinated with the NEPA process, and will be completed before FRA makes a NEPA determination. This Section 106 review will consider effects to the National Register-listed station building, as well as any other historic properties in the APE.

No additional impacts to cultural resources beyond those resulting from, and already documented elsewhere for, the above projects are anticipated from the No-Build Alternative.

Build Alternative Consequences

The Build Alternative proposes the addition of a second track or passing siding in several locations throughout the Corridor in order to increase capacity to accommodate additional passenger service. The Build Alternative would provide one new daily round trip between Boston and Montreal, eight new daily round trips between Boston and New Haven and one additional daily round trip between Montreal and New Haven (for a total of two daily round trips).

Under the Build Alternative, the following improvements are proposed:

- Additional train service & upgrade of railroad tracks
- ROW improvements
- Restoration of second track and sidings
- Modifications to bridges and overpasses
- Station Improvements
- Addition of Centralized Traffic Control

For a full discussion of these improvements, please refer to the Draft Build Alternatives Report (February 2015).

Additional Train Service and Upgrades to Railroad Tracks

Under the Build Alternative, railroad tracks and alignment would be upgraded so that speeds up to 79 mph would be possible throughout the Corridor. Although track improvements would be undertaken, including minor realignments and double-tracking, all work would take place within the existing ROW. Improvements to some passenger stations and bridges and the installation of signal systems would also occur. No new layover facilities are proposed beyond those identified under the No-Build Alternative.

Right-of-way Improvements

ROW improvements are planned in the segment of the Corridor between Worcester and Springfield, Massachusetts. This segment of the ROW was historically a double-track corridor, however most of the track was removed in the mid-20th century. The additional service within the Corridor would require the reconstruction of the second track and minor track realignments. In addition, one double track location between Spencer and East Brookfield, Massachusetts would require an additional siding to accommodate NNEIRI services. These improvements would occur in the vicinity of the West Brookfield Center Historic District (Boundary Increase) in West Brookfield, Massachusetts; the Warren Town Hall, Warren Public Library, 1767 Milepost, and the Warren First Congregational – Federated Church in Warren, Massachusetts; and Union Station in Palmer, Massachusetts. However, the improvements would be limited to the existing ROW and therefore adverse effects to adjacent historic properties are not anticipated.

Restoration of Second Track and Sidings

The restoration of a second track is also planned along the Corridor between Brattleboro and Bellows Falls, Vermont and between St. Albans and Swanton, Vermont. These improvements would occur in the vicinity of the following National Register-listed properties: Union Station in Brattleboro, the Brattleboro Downtown Historic District, and the Brooks House in Brattleboro, Vermont; the East Putney Brook Stone Arch Bridge, in East Putney, Vermont; and the

Westminster Village Historic District in Westminster, Vermont. However, the improvements would be limited to the existing ROW. While the Brattleboro Downtown Historic District appears to abut the ROW, adverse effect to this or other historic properties that lie within the Corridor is not anticipated. No known historic properties are located in the area of planned double-tracking between St. Albans and Swanton. Additional sidings would be provided in East Northfield, Massachusetts, extending into Vernon, Vermont, and Roxbury, Vermont and Randolph, Vermont. Although the Vernon District Schoolhouse No. 4 is adjacent to one of these track-work areas, the work would be limited to the existing ROW and thus adverse effects are not anticipated.

Modifications to Bridges & Overpasses

Seventeen bridges and overpasses located in the segment of the Corridor between Worcester and Springfield, Massachusetts would need to be modified to accommodate the double track. An additional five bridges and overpasses would require improvements due to double-tracking between Brattleboro and Bellows Falls, Vermont. The National Register eligibility of these and other structures would be determined in Tier 2. If these structures are determined to be historic, FRA (or another lead federal agency) would be responsible for compliance with Section 106, including assessing effects from Tier 2 projects and resolving any adverse effects in consultation with MHC and other consulting parties as appropriate.

Station Improvements

The NNEIRI program includes improvements at two stations along the Corridor between Boston and Springfield. Three locations are currently under consideration for construction of a new station in Palmer, Massachusetts. At least one of these sites lies in close proximity to the historic Palmer Union Station. As such, there is the potential for visual effects, however direct effects to this resource are not anticipated. In addition, a new 1,000-foot long platform would be constructed at Union Station in Worcester. The platform would be an island location between tracks and would be located within the existing ROW in an area historically used for station platforms. The platform would connect to Worcester Union Station via an elevator and stair beneath the platform to the existing pedestrian tunnel. The pedestrian tunnel originally connected passengers from the Worcester Union Station headhouse to island platforms. Although the elevator and stair would be vertical elements, they would connect from tunnel below the tracks vertically to the platform surface; therefore, no visual effects to Worcester Union Station are anticipated.

Centralized Traffic Control

Centralized Traffic Control (CTC) would be added along those segments of the Corridor that are currently under Track Warrant Control (TWC); specifically, in the section between East Northfield, Massachusetts and West River, Vermont, and in the section between White River Junction and Alburgh, Vermont. Intermediate signals would be installed every two miles and interlocking signals would be added at the ends of the planned passing sidings in St. Albans, Oakland, Berlin, Roxbury, Bethel, South Royalton, Hartland, Swanton, Fonda Junction, Bolton Valley, Randolph and Brattleboro, Vermont. Signal systems would be located entirely within the existing ROW and generally not visible to the public. Where elements are visible, they would be compatible with existing railway infrastructure. Thus, adverse effects to historic properties resulting from the new signal systems are unlikely.

As part of the NEPA and Section 106 processes for the NHHS project, the entire rail corridor between New Haven and the Connecticut/Massachusetts state line was determined eligible for

the National Register. Contributing elements include passenger stations, bridges, culverts, freight houses, signal towers, historic archaeological sites, and wayside railroad features. The segment of the rail line from the Connecticut/Massachusetts state line to Springfield was not determined eligible for the National Register. The eligibility of bridges, culverts and other railway infrastructure within the ROWs between Boston and Springfield, Massachusetts and East Northfield, Massachusetts and Alburgh, Vermont would be determined in Tier 2. In addition, efforts to identify areas of potential archaeological sensitivity along the Corridor, should they exist, would occur in Tier 2.

Based on the nature of the improvements that would be necessary to implement NNEIRI service, direct and indirect effects to historic properties are likely. However, at the Tier 1 level, there is not enough information to be able to assess and determine effects to historic properties. FRA, or another lead federal agency, would be responsible for Section 106 compliance for any Tier 2 projects affecting historic properties.

Potential Mitigation Measures

During Tier 2, once the design has advanced, additional data may be collected regarding properties that may be eligible for the National Register. These properties may include historic buildings, structures, sites, objects and districts not yet evaluated for National Register listing; railway infrastructure such as bridges, culverts, bridges, freight houses, signal towers, and wayside railroad features; and archaeological sites. A Programmatic Agreement may be developed between FRA, the Massachusetts Historical Commission, the Vermont Division for Historic Preservation, and the New Hampshire Division of Historical Resources, ACHP, and other consulting parties to specify the documentation requirements, review procedures, and scheduling and sequencing of decisions for compliance under Tier 2. If it is determined during Tier 2 that the NNEIRI program would result in adverse effects to National Register-listed or eligible properties, measures to avoid, minimize or mitigate the effects would be developed in consultation with the Massachusetts, New Hampshire and Vermont SHPOs and other consulting parties.

The Section 106 process would be followed if construction of the Build Alternative receives federal funding or permits. This would involve defining the project Area of Potential Effects (APE), further identification of historic properties, assessment of effects, and resolution of adverse effects by FRA or another lead federal agency in consultation with the Massachusetts, New Hampshire and/or Vermont SHPOs and other consulting parties as appropriate.

References

Connecticut Department of Transportation and the Federal Railroad Administration. *New Haven-Hartford-Springfield Line High Speed Intercity Passenger Rail Project Environmental Assessment/Environmental Impact Evaluation*. May 2012.

Massachusetts Department of Transportation and the Federal Railroad Administration. *Environmental Assessment for the Knowledge Corridor – Restore Vermonter, Springfield to East Northfield, Massachusetts*. 2009.

Massachusetts GIS data. Accessed March and April 2015. Available at <http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/srhp.html>

National Register of Historic Places GIS. Accessed March and April 2015. Available at http://www.nps.gov/nr/research/data_downloads.htm.

Appendix G

Section 4(f) Properties Technical Report

SECTION 4(f) PROPERTIES TECHNICAL MEMORANDUM

May 2016

This page intentionally left blank

Introduction

The Massachusetts Department of Transportation (MassDOT) and the Vermont Agency of Transportation (VTRANS), with support from the Federal Railroad Administration (FRA), and in collaboration with the Connecticut Department of Transportation (CTDOT) and the Ministère des Transports du Québec, are undertaking the Northern New England Intercity Rail Initiative (NNEIRI) to examine the implementation and operation of more frequent and higher speed intercity passenger rail service in the region. The NNEIRI Corridor is made up of two routes that utilize existing rail lines. One operating route connects Boston, Massachusetts and New Haven, Connecticut via Springfield, Massachusetts, known as the Inland Route Service, and the other one connects Boston, Massachusetts and Montreal, Quebec via Springfield, Massachusetts. Both routes share the same segment between Boston and Springfield (see Figure 1).

The following memorandum has been prepared to assess the potential for impacts to properties regulated under Section 4(f) of the U.S. Department of Transportation Act of 1966 resulting from the NNEIRI program. The discussion that follows outlines the federal and state regulatory requirements and methodology employed in the analysis; inventories of 4(f) properties within 300 feet of the centerline of the NNEIRI right-of-way (ROW), referred to as the NNEIRI Study Area; and assesses potential impacts of the No-Build Alternative and Build Alternative on these resources. This analysis provides the foundation for the discussion of 4(f) Properties within the Environmental Assessment (EA).



Figure 1
NNEIRI Corridor

Regulatory Requirements

Section 4(f) refers to the original section within the U.S. Department of Transportation Act of 1966, which provided for consideration of park and recreation lands, wildlife and waterfowl refuges, and historic sites during transportation project development. The law, now codified in 49 U.S.C. §303 and 23 U.S.C. §138, applies only to the U.S. Department of Transportation (USDOT) and is implemented by the Federal Highway Administration (FHWA) and the Federal Transit Administration through the regulation 23 Code of Federal Regulations (CFR) 774.

In accordance with Section 4(f) of the Department of Transportation Act of 1966, the Secretary of Transportation must make every effort to “preserve the natural beauty of the countryside, publicly owned parks, recreation areas, wildlife and waterfowl refuges, or any historic sites of national, state, or local significance.” As such, Section 4(f) prohibits federal transportation agencies from approving a project that uses land from a significant public park, recreation area, wildlife or waterfowl refuge, or historic site listed on or eligible for listing on the National Register of Historic Places (NRHP), unless the agency determined that there is no feasible or prudent avoidance alternative to the use of that property and that the proposed project includes all feasible planning to minimize harm to the property resulting from its use; or the agency determines that the use, including any measures to minimize harm, will ultimately have a minimal and insignificant adverse effect on the property. The use of a Section 4(f) property occurs when the property is permanently incorporated into the transportation project through a taking of the land; when it is temporarily occupied; or when its significant features are substantially impaired such that its value as a 4(f) resource will be meaningfully diminished or lost.

The following is a summary of defining characteristics that properties must possess in order to be qualifying for protection under Section 4(f):

Parks, Recreation Areas and Refuges

- ***It must be publicly owned***, meaning it is owned by a local, state or federal government agency
- ***It must be open to the public*** (except in certain cases for refuges). Open to the public means access is permitted to the entire public during normal hours of operation. This would be the case for park and recreation areas. With respect to refuges, public access may be restricted during certain times of the year, or from certain areas within the property for purposes of protecting refuge habitat and species.
- ***Its major purpose (or primary function) must be for park, recreation, or refuge activities***
- ***It must be significant as a park, recreation area or refuge***. The term "significant" means that in comparing the availability and function of the park, recreation area or refuge, with the park, recreation or refuge objectives of the agency, community or authority with ownership, the property in question plays an important role in meeting those objectives. A determination of significance is made during consultation with the official with jurisdiction over the property.

Historic Sites

In order to qualify for protection under Section 4(f), a historic site must meet the following criteria:

- ***It must be of national, state or local significance.***
- ***It must be on or eligible for listing on the NRHP.***

Unlike the other Section 4(f) property categories—parks, recreation areas, and refuges—historic sites ***do not require public ownership*** in order to qualify for protection under Section 4(f).

Archaeological Sites

In order for an archaeological resource to be eligible for protection under Section 4(f):

- ***It must be listed on or eligible for listing on the NRHP, and***
- ***It must warrant “preservation in place”***

Additional coordination with the appropriate State Historic Preservation Offices (SHPOs) would need to be undertaken as the project development process advances in order to determine if archaeological resources exist within the Corridor, and if so, the applicability of Section 4(f) to archaeological resources within the Corridor.

Since Section 4(f) is strictly a federal regulation applicable only to federal transportation agencies, there is no state regulatory equivalent.

Methodology

The identification of public parks, recreation areas, wildlife refuges and waterfowl refuges was made from Geographic Information Systems (GIS) data from the states of Massachusetts, New Hampshire and Vermont. In addition, schools data was obtained from Environmental Systems Research Institute (ESRI), since some school grounds include publicly-used playgrounds and recreational fields. GIS data layers reviewed included:

- Massachusetts “Protected and Recreation Open Space” updated 2013
- New Hampshire “nhrec” updated 2010
- Vermont “Cadastral Conspub” updated 2009
- ESRI “Schools” updated 2012

The Study Team then compiled the GIS data and queried out parks that are privately-owned or are the property of organizations or land trusts. In addition, private schools, public schools without known or visible outdoor recreational areas, and publicly-owned lands that do not serve primarily recreational purpose were removed. The Study Team then plotted the remaining properties on base mapping overlaid on the NNEIRI Study Area. For the purposes of this Tier 1 analysis, the NNEIRI Study Area for Section 4(f) properties encompasses an envelope that extends 300 feet from the rail centerline. An analyst then progressively examined the Corridor from Boston to Springfield, Massachusetts, and from East Northfield, Massachusetts to Alburgh, Vermont to identify and annotate locations where public parks, recreation areas, wildlife or waterfowl refuges encroach into the NNEIRI Study Area envelope. Encroachments were qualified into three categories in order to assess the potential for impacts:

1. Property is within 300 feet of the rail centerline
2. Property is within 300 feet of the rail centerline and actually abuts the ROW
3. Property is bisected by the ROW

For each GIS data polygon/point that fell within the NNEIRI Study Area, internet research was conducted to obtain additional information about the property to help confirm or refute its status as a Section 4(f) resource. Also, when progressively viewing the NNEIRI Study Area on aerial base mapping, the analyst noted recreational facilities in the NNEIRI Study Area envelope that were not included in the GIS data. The analyst subsequently conducted internet queries for each of those suspect properties, namely reviewing specific town plans including conservation and development plans and/or parks and recreation plans, to determine whether those facilities or properties qualify as Section 4(f) resources. The Study Team did not undertake additional data collection efforts for the segment between New Haven, Connecticut and Springfield, Massachusetts or for the segment between Springfield and East Northfield, Massachusetts, as both segments were the subject of prior NEPA documentation. In addition, no data was available within Canada. The results of the parks, recreation areas, and refuge analysis were reported in tables for each segment of the Corridor. These tables are included as Tables 1 and 2 below.

The Study Team proceeded the identification of Section 4(f) historic properties along the NNEIRI Study Area in a similar manner using different data sources. That analysis involved reviewing the National Register of Historic Places (NRHP) Geographic Information System (GIS) database in March and April 2015. A combination of spatial data and tabular data contributed to the derivation of the full list of National Register-listed properties. To address irregularities in the spatial data, the Study Team confirmed historic district boundaries were confirmed based on maps or boundary descriptions provided within the National Register nominations, where feasible. The Study Team further identified the properties through the State of Massachusetts GIS.¹ Then the Study Team cross-referenced the National Register-listed properties within the Massachusetts GIS against the NRHP data. Comparable state GIS data documenting historic properties is not currently available in New Hampshire and Vermont. A NRHP GIS data layer for properties determined eligible for the National Register was also consulted.² As mentioned above, the Study Team did not undertake additional data collection efforts for the segment between New Haven, Connecticut and Springfield, Massachusetts or for the segment between Springfield and East Northfield, Massachusetts. In addition, no data was available on Section 4(f) historic properties within Canada. Historic properties within the Corridor are listed in Tables 1 and 2 within the Cultural Resources and Historic Properties Technical Memorandum, included in the EA herein as Appendix F.

The objective of this Tier 1 evaluation was to identify locations of known Section 4(f) properties within the NNEIRI Study Area from readily available federal and state GIS data, and to assess the potential effects to these 4(f) properties based on conceptual plans for the proposed Build Alternative. As the design of the Build Alternative is advanced and more detailed information becomes available in Tier 2, the nature and extent of impacts to Section 4(f) resources can be more formally evaluated.

¹ MA GIS data was sourced from <http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/srhp.html>.

² National Register GIS data was sourced from http://www.nps.gov/nr/research/data_downloads.htm.

The following analysis identifies Section 4(f) properties by segment, concentrations of such properties, and properties that, due to their proximity to planned passenger rail-related improvements, may be the most likely to be affected.

Existing Conditions

Boston to Springfield

According to the Massachusetts GIS data and information identified while screening the NNEIRI Study Area, there are 48 public parks, recreation areas and wildlife or waterfowl refuges within the Corridor in the segment between Boston and Springfield. Of these 48 Section 4(f) properties, five are bisected by the ROW, 23 properties abut the ROW, and the remainders are within 300 feet of the rail centerline. Larger concentrations of Section 4(f) recreational resources are found in the urban centers of Boston, Worcester and Springfield as well in the Boston suburbs of Newton and Wellesley.

Table 1 below identifies these Section 4(f) parks, recreation areas and wildlife refuges; their location; their formal name; a description of each; and their relationship to the NNEIRI Study Area.

Table 1: Section 4(f) Parks, Recreation Areas, and Wildlife Refuges within the Boston to Springfield, Massachusetts Segment of the Corridor

City, State	Name of Property	Property Description	Relationship to the Corridor ROW
Ashland, MA	Sudbury Reservoir	50-plus acre State Park administered by the DCR that includes a reservoir located between Fountain Street on the northwest and the railroad corridor on the southeast. Hiking, snowshoeing, cross country skiing, picnicking and shoreline fishing occur within the park.	Portion of the park abut the ROW. The southern extent of the park is bisected by the ROW where it crosses the reservoir.
Ashland, MA	Sudbury River Park	Bounded by the Sudbury Reservoir on the north and the railroad line to the south, this 9.5-acre public park includes baseball fields accessed from High Street.	Baseball fields abut the ROW.
Ashland, MA	Sudbury River Access	52-acre recreational / open space parcel managed by Massachusetts Fish and Game located south of the railroad tracks and north of Hopkinton State Park. Accessed via Aikens Road.	Property is within 300 feet of the rail centerline.
Boston, MA	Southwest Corridor Park	A linear urban park that is part of the Metropolitan Park System of Greater Boston and Managed by the Mass Department of Conservation and Recreation (DCR). Dartmouth Street is the NW-most starting point of the park which continues to the SW.	Park is within 300 feet of the rail centerline. Rail corridor is underground through this area.
Boston, MA	Olmstead Park System	One of the oldest park systems in the US	Segment of the park is located within 300-feet of the rail centerline.

City, State	Name of Property	Property Description	Relationship to the Corridor ROW
Boston, MA	Gaston Square	Part of the Back Bay Fens Park located in the vicinity of Boylston and Ipswich Streets	Park is within 300-feet of the rail centerline.
Boston, MA	Back Bay Fens	Park located in the vicinity of Boylston and Ipswich Streets	Park is within 300 feet of the rail centerline.
Boston, MA	Charles River Reservation	17-mile long state park managed by DCR	Several segments of the park are located within 300 feet of the rail centerline.
Boston, MA	Birmingham Parkway	DCR managed park located east of Market Street and north of Leo M. Birmingham Parkway	North of and within 300 feet of rail centerline.
Brookfield, MA	Quaboag WMA	Over 150 acres of State-owned WMA located within town	Portions of the WMA abut the ROW. WMA is also bisected by the ROW near Brookfield/West Brookfield town line.
Charlton, MA	Bennett WMA	290-acre State-owned wildlife management area	Southernmost extent of the WMA abuts ROW
Charlton, MA	Stafford Street Conservation Land	40-acre Town-owned parcel with passive recreation including nature trails	Property abuts the ROW.
East Brookfield, MA	Quaboag Wildlife Management Area (WMA)	State-owned WMA covering two locations in East Brookfield; one 10 acres in size and the other 338 acres in size.	Portions of the WMA abut ROW.
Framingham, MA	Mary Dennison Playground	Park with baseball and softball fields accessed from either Beaver Street on the west or Route 135 on the north.	Park is within 300 feet of the rail centerline.
Framingham, MA	Downtown Common	Approximately 1-acre greenspace with walkways in downtown bounded by Park, Howard, and Concord Streets.	Park is within 300 feet of the rail centerline.
Framingham / Natick, MA	Morency Woods Conservation Area	Conservation lands with hiking trails located at the end of Arthur Street.	Property abuts the ROW.
Natick, MA	Cochituate State Park	State owned and operated (DCR) public park with lakefront located off of State Route 135 (West Central Street).	Park is bisected by the ROW at two locations.
Natick, MA	Henry Wilson Memorial Park	Old park with memorial dedicated in 1901 to shoemaker and later US Senator and Vice President Henry Wilson.	Park abuts the ROW.
Newton, MA	Hunnewell Playground	4.66-acre public park owned and operated by the City of Newton and located at 193 Newton Street. Includes soccer/lacrosse field and baseball field	Park abuts the ROW.
Newton, MA	Charlesbank Park	Small pocket park located just west of Nonantum Place in Newton	Park is within 300 feet of the rail centerline.
Newton, MA	Veteran's	City owned 0.1-acre park located on Washington Street by Newton Corner.	Park abuts the ROW.

City, State	Name of Property	Property Description	Relationship to the Corridor ROW
	Memorial Park	Primary Newton memorial site with flagpole.	
Newton, MA	Reverend Ford Playground	Approximately 3-acre playground located off of Crescent Street	Playground is within 300 feet of rail centerline.
Palmer, MA	Quaboag River Conservation Area	Open space owned by the Town of Palmer located along the banks of the Quaboag River supporting passive recreational activities	Property abuts the ROW.
Southborough, MA	Sudbury River	Approximately 82 acres of DCR-owned land along the Sudbury River in Southborough bisected by Fruit Street. Land includes recreational trails and canoe/kayak and fishing access	Property abuts the ROW in several locations.
Spencer, MA	Spencer State Forest	Over 500 acres of State-owned (DCR managed) forest offering a variety of recreational activities and including a section of the Mid-State Trail	Property is bisected by the ROW.
Spencer, MA	Railroad Park	Town owned unimproved forest land used for hiking, bird watching and other passive recreational activities	Property is bisected by the ROW.
Springfield, MA	Hubbard Park	28-acre City Park located off of Parker Street that encompasses Dimmock Pond. Includes tennis courts and recreational fields. Was redeveloped with LWCF funds.	Park abuts the ROW.
Springfield, MA	Lake Lorraine Conservation Area and State Park	State DCR managed park with swimming and fishing on southwest end of lake, and designated wildlife conservation area on east side of lake.	The park and conservation area abut the ROW.
Springfield, MA	Springfield Central High School	Public use athletic fields including baseball field, track, and tennis courts associated with high school.	Track is within 300 feet of the rail centerline.
Springfield, MA	Blunt Park	160-acre Municipal Park bounded by Bay Street and Roosevelt Avenue. Park includes a variety of recreational fields, courts and amenities. Park redeveloped with LWCF funds in early 1980s.	Park is within 300 feet of the rail centerline.
Springfield, MA	Gurdon Bill Park	8-acre pocket park located off of Liberty and Genessee Streets. Passive recreation only (picnicking).	Park is within 300 feet of the rail centerline.
Warren, MA	Warren Common	Small 1.5-acre pocket park in center of town	Parcel abuts the ROW.
Warren, MA	Cutter Park	2.6-acre park with ballfield and paths	Park is within 300 feet of the rail centerline.
Wellesley, MA	Farm Station Pond and Farm Station South	Government-owned land appears to involved passive recreation/walking trail	Parcel abuts the ROW.
Wellesley, MA	Brown Park	3.64 acre park with playground and baseball field located off of Colburn Road	Park is within 300 feet of the rail centerline.

City, State	Name of Property	Property Description	Relationship to the Corridor ROW
Wellesley, MA	Colburn Road Reservation	Open space for passive recreation along east side of Colburn Road	Parcel abuts the ROW.
Wellesley, MA	Elm Park	3.37-acre corner park located off of Washington Street in the area of Wellesley known as Grantville. Park includes a monument and walkways	Western-most portion of the park is within 300 feet of the rail centerline.
Wellesley, MA	Senior High / Hunnewell Field	Athletic complex with baseball fields, track, soccer, tennis courts, a crosstown trail and Brook Path	Western-most portion of the park is within 300 feet of the rail centerline.
Wellesley, MA	Morton Park	Approximately 12 acre park with passive recreation	Park abuts the ROW.
Wellesley, MA	Morses Pond Land and Morses Beach	Access from Turner Road – includes a public beach and passive recreation areas	Parcel abuts the ROW.
Westborough, MA	Cedar Swamp	Two separate land areas owned by DCR totaling 157 acres located to the north of the rail corridor. Recreation includes hiking trails, canoeing and wildlife observation.	Property abuts the ROW.
Weston, MA	Leo J. Martin Memorial Golf Course	9-hole Public Golf Course on Charles River Reservation located at 190 Park Road	Course abuts the ROW.
Wilbraham, MA	Mill Pond Conservation Area	22.5 acres of town-owned conservation land with passive recreation	Parcel is within 300 feet of the rail centerline.
Wilbraham, MA	Spectacle Pond Park	30-acre town park with soccer and baseball fields, basketball courts, and other recreational amenities	Park abuts the ROW.
Worcester, MA	Perkins Farm	Approximately 70-acre city-owned conservation area / wildlife sanctuary accessed from Jolma Road.	Property abuts the ROW.
Worcester, MA	Lake Park	Third largest municipal park in the City comprising 78-acres bounded by Lake Avenue, Colburn Avenue, and Hamilton Street. Recreational amenities include ball fields and playgrounds.	Park is within 300 feet of the rail centerline.
Worcester, MA	University Park	14-acre City Park located off of Illinois Street with picnic area, basketball courts, and pond.	Park is within 300 feet of the rail centerline.
Worcester, MA	Hadwen Park	50-plus acre City Park with baseball field, playground, and hiking trails located off of Heard Street.	Park abuts the ROW.

Source: MassGIS "Protected and Recreation OpenSpace" updated 2013; New Hampshire GRANIT "nhrec," updated 2010; Vermont Center for Geographic Information "Cadastral Conspub," updated 2009; and ESRI "Schools" updated 2012.

According to the Massachusetts and National Register GIS data, there are 59 National Register-listed buildings, sites, structures, objects and districts within the Corridor in the segment between Boston and Springfield. These include 39 buildings, 18 districts, one object and one site. Many of these properties are clustered in Springfield, Worcester, and Newton, Massachusetts. An additional seven properties are documented as eligible within the National Register GIS, including five buildings, one district and one structure. Based on the GIS data, of the 19 historic districts, three appear to abut the ROW and another three are bisected by it. Please refer to the Cultural Resources and Historic Properties Technical Memorandum included in the EA as Appendix F for a full list of historic properties. Additional properties may be identified as part of the Tier 2 analysis.

Data on National Register archaeological resources warranting preservation in place, which qualifies them for protection under Section 4(f), is not available for the Corridor at this Tier 1 stage. Additional data needs may be identified in Tier 2 in consultation with the Massachusetts SHPO.

New Haven to Springfield

Section 4(f) properties within the Corridor between New Haven, Connecticut and Springfield, Massachusetts are addressed in the *New Haven-Hartford-Springfield Line High Speed Intercity Passenger Rail Project Environmental Assessment/Environmental Impact Evaluation* (NHHS EA/EIE). FRA prepared the NEPA document in cooperation with the Federal Transit Administration (FTA) and the CTDOT in May 2012 and made a Finding of No Significant Impact (FONSI) on August 9, 2012. In addition, FRA, FTA, CTDOT, Connecticut SHPO, and MHC executed a Section 106 Programmatic Agreement for the NHHS High Speed Intercity Passenger Rail Project on August 9, 2012; FRA, CTDOT, and Connecticut SHPO executed a Section 106 Memorandum of Agreement on April 23, 2015 addressing adverse effects to bridges and culverts along the NHHS rail corridor between Windsor and Springfield; and FRA made a final Section 4(f) determination on May 12, 2015 regarding these bridges and culverts. A 4(f) Evaluation for the portion of the corridor between Windsor and Springfield (Phase 3B) will be completed before the release of construction funding for these improvements. For a detailed discussion of Section 4(f) properties within this segment of the Corridor, refer to the NEPA, Section 106, and Section 4(f) documentation for the NHHS project.

Springfield to Canadian Border

Section 4(f) properties within the Corridor between Springfield, Massachusetts and East Northfield, Massachusetts are addressed in the *Environmental Assessment for the Knowledge Corridor – Restore Vermonter, Springfield to East Northfield, Massachusetts* prepared by FRA and the MassDOT in 2009. FRA made a FONSI for this project on February 5, 2011. For a detailed discussion of Section 4(f) properties within this segment of the Corridor, refer to the Knowledge Corridor EA.

According to the Massachusetts, New Hampshire and Vermont GIS data and information identified by the analyst while screening the NNEIRI Study Area, there are 24 public parks, recreation areas and wildlife or waterfowl refuges within the Corridor in the segment between East Northfield, Massachusetts and Alburgh, Vermont. Of these 24 Section 4(f) properties, three are bisected by the ROW, eight properties abut the ROW, and the remainders are within 300-feet of the rail centerline. Two of the three properties that are bisected by the ROW are expansive wildlife management areas (the White River Wildlife Management Area and the Missisquoi National Wildlife Refuge). Due to the less urbanized character of the Corridor

through Vermont as compared to the Corridor from Boston, Massachusetts to Springfield, Massachusetts, there are no areas with large concentrations of Section 4(f) recreational resources. Towns with several Section 4(f) resources include Hartford/White River Junction, South Royalton, Bethel, and Waterbury.

Table 2 below identifies these Section 4(f) parks, recreation areas and wildlife refuges, providing their location; formal name; a description of each; and their relationship to the NNEIRI Study Area. There are no Section 4(f) parks, recreation areas, or wildlife refuges within the NNEIRI Study Area in the State of New Hampshire.

Table 2: Section 4(f) Parks, Recreation Areas, and Wildlife Refuges within the East Northfield, Massachusetts to Alburgh, Vermont Segment of the Corridor

City, State	Name of Property	Property Description	Relationship to the Corridor ROW
Bellows Falls, VT	Unnamed Pocket Park	Small pocket park in the center of town located off of Church Street that has paved walkways, green area and a monument.	Park is within 300 feet of the rail centerline.
Bethel, VT	Branliere Forest (Bethel Town Forest)	Branliere Forest is a 70-acre tract of land open to the public for hiking and other passive recreational pursuits.	Western edge of the forest is within 300 feet of the rail centerline.
Bethel, VT	Bethel Band Shell and Town Common	Located west of the White River and just east of Route 12, this small pocket park includes a band shell and area for passive recreation and picnicking.	Park is within 300 feet of the rail centerline.
Brattleboro, VT	Old Ferry Road Boat Access	Public boat launch/access.	Property abuts the ROW.
Dummerston, VT	Dummerston Landing	Small CT River public access point in Dummerston that is maintained by the Vermont Fish and Game Department.	Property abuts the ROW.
East Northfield, MA	West Northfield Playground Association	Small town-owned recreational parcel with a ball field and open mixed-use athletic field operated by the West Northfield Playground Association	Property abuts the ROW.
Essex Junction, VT	Maple Street Park and Pool	Park is located at 75 Maple Street and includes multi-use fields, ballfields, tennis courts, and a pool.	Park abuts the ROW.
Hartford – White River Junction, VT	George Ratcliff Park	Park is located west of the river at 75 Latham Work Lane and includes baseball and soccer fields and basketball courts.	Park is within 300 feet of the rail centerline.

City, State	Name of Property	Property Description	Relationship to the Corridor ROW
Hartford – White River Junction, VT	Fred Briggs Park	Small pocket park located at 6 South Main Street that supports passive recreation including picnicking.	Park abuts the ROW.
Hartford – White River Junction, VT	Veterans Memorial Park	Small pocket park located at 12 Railroad ROW on the south side of the White River. Passive recreation including picnicking.	Park is within 300 feet of the rail centerline.
Hartland, VT	Hammond Cove Access Area	State owned property located off of Ferry Road that contains a public shooting range and fishing access area.	Property abuts the ROW.
Northfield, MA	Pioneer Valley Regional School	Regional public school and associated recreational facilities including a track and ball fields,	Property is within 300 feet of the rail centerline.
Putney, VT	Putney Landing	Small CT River public access point in Putney that is maintained by the Vermont Fish and Game Department.	Property is bisected by the ROW.
Roxbury, VT	Roxbury State Forest	Roxbury State Forest includes 5,509 acres of public land for remote camping, backcountry hiking, snowshoeing, and cross-country skiing.	Western edge of forest is within 300 feet of the rail centerline.
Sharon, VT	White River Wildlife Management Area (WRWMA)	The WRWMA is 624 acres of state-owned land managed by the Vermont Fish & Wildlife Department. The property is a public recreational area for hunting and fishing.	A portion of the WRWMA is bisected by the ROW.
South Royalton, VT	South Royalton Town Forest	Located off of VT Route 107, the Royalton Town Forest is approximately 55 acres and includes several public hiking trails.	Small area of the Town Forest is within 300-feet of the rail centerline.
South Royalton, VT	South Royalton Town Fountain/Park	Small town green/pocket park with fountain, gazebo and walking paths.	Park is within 300 feet of the rail centerline.
St. Albans, VT	Cioffi Park	Located at 50 Aldis Street, Cioffi Park includes Little League baseball fields.	Fields on the south side of the park abut the ROW.
Swanton, VT	Missisquoi National Wildlife Refuge	Missisquoi National Wildlife Refuge includes over 3,000 acres managed by the United States Fish and Wildlife Service. Located at 29 Tabor Road in Swanton, the refuge offers hunting, fishing and wildlife viewing for the public.	Refuge is bisected by the ROW.
Vernon, VT	Vernon	Public elementary school located at 381	Recreation field is within 300

City, State	Name of Property	Property Description	Relationship to the Corridor ROW
	Elementary School	Governor Hunt Road with associated recreational fields including a ball field and basketball court.	feet of the rail centerline.
Waterbury, VT	Waterbury, VT Ice Center	Located off of River Road, the Waterbury Ice Center is a public skating rink. Other outdoor recreational facilities on site include soccer fields, hiking trailhead for Putnam State Forest, mountain biking, and canoe/kayak access to the Winooski River. A dog park and volleyball courts are also planned at the site.	Property abuts the ROW
Waterbury, VT	Rusty Parker Memorial Park	Park is located off of Park Row and includes memorials, picnic area, gazebo, gardens, farmers market, and band shell.	Park is within 300 feet of the rail centerline.
Waterbury, VT	Dascomb Rowe Fields	Dascomb "Dac" Rowe Fields is a town-owned recreational complex located off of Winooski Street. There are four soccer fields and five baseball fields.	Recreational complex is within 300 feet of the rail centerline.
Waterbury, VT	Camels Hump State Park	Camels Hump State Park is a 1400- acre park managed by the Vermont Department of Forest, Parks and Recreation. The park is a primitive timber management and wildlife preservation area.	Northern portion of the park is within 300 feet of the rail centerline.

Source: MassGIS "Protected and Recreation OpenSpace" updated 2013; New Hampshire GRANIT "nhrec," updated 2010; Vermont Center for Geographic Information "Cadastral Conspub," updated 2009; and ESRI "Schools", updated 2012.

The National Register GIS identified 39 National Register-listed buildings, sites, structures, objects and districts within the segments of the Corridor between East Northfield, Massachusetts and Alburgh, Vermont. This includes 12 buildings, 21 districts, and six structures. The majority of the properties are historic districts in small village centers in Vermont. One additional property, a historic bridge in Northfield, Vermont, is documented as eligible within the National Register GIS. Of the 21 historic districts, five abut the ROW and an additional 10 are bisected by the ROW. Please refer to the Cultural Resources and Historic Properties Technical Memorandum included in the EA as Appendix F for a full list of historic properties. Additional properties may be identified as part of the Tier 2 analysis.

Data on National Register archaeological resources warranting preservation in place, which qualifies them for protection under Section 4(f), is not available for the Corridor at this Tier 1 stage. Additional data needs may be identified in Tier 2 in consultation with the Massachusetts, New Hampshire and Vermont SHPOs.

No-Build Alternative Consequences

Under the No-Build Alternative, the proposed NNEIRI improvements would not occur, and therefore they would not result in direct or indirect impacts to Section 4(f) properties within the Corridor.

Foreseeable improvements in the Corridor under the No-Build Alternative include the completion of construction activities to support the Knowledge Corridor – Restore Vermonter, the NHHS and the SSX projects.

FRA determined that the Knowledge Corridor – Restore Vermonter project would affect, but not adversely affect, historic properties (Northampton Railroad Station (Union Station), the Northampton Downtown Historic District, and the Greenfield Main Street Historic District) that are protected under Section 4(f). Because FRA made a No Adverse Effect determination pursuant to Section 106, and MHC concurred, FRA was able to make a *de minimis* impact determination under Section 4(f).

For the segment of the NHHS corridor between New Haven and Windsor (Phase 1, Phase 2 and Phase 3A of the NHHS Project), FRA submitted a draft Section 4(f) Evaluation to the U.S. Department of the Interior (DOI) for review and comment pursuant to Section 4(f) of the U.S. Department of Transportation Act of 1966. FRA received DOI's concurrence with its finding on April 1, 2015, and FRA made its final Section 4(f) determination regarding the use of historic properties in this portion of the corridor on May 12, 2015. FRA determined that the NHHS improvements between New Haven and Windsor would not require the use of any publicly owned parks, recreational areas, or wildlife or waterfowl refuges. In this same segment of corridor, FRA determined that there was no prudent and feasible alternative to the proposed use of 4(f) historic properties, which consist of 14 bridges, 15 culverts, and one tunnel that are contributing resources to the National Register-eligible NHHS Rail Corridor Historic District. The improvements include rehabilitation and replacement of these 30 historic properties. All possible planning to minimize harm was incorporated into the project design and project mitigation commitments; this includes execution in April 2015 of an MOA between FRA, CTSHPO, and CTDOT pursuant to Section 106 of the NHPA. Tier 2 NEPA analysis, a Memorandum of Agreement, and a 4(f) Evaluation for the portion of the corridor between Windsor and Springfield (Phase 3B) will be completed before the release of construction funding for improvements in this segment of the corridor. Similarly, site-specific compliance and documentation will be undertaken for four planned stations along the NHHS corridor.

Other planned passenger rail-related projects, including Springfield Union Station and the expansion of Boston's South Station (SSX), and associated layover facilities, improvements to the rail infrastructure between the U.S. border and Montreal, and improvements to the Montreal Central Station Customs Checkpoint would also be completed under the NNEIRI No-Build Alternative.

No additional impacts to cultural resources beyond those resulting from, and already documented elsewhere for, the above projects are anticipated from the No-Build Alternative.

Build Alternative Consequences

The Build Alternative proposes the addition of a second track or passing siding in several locations throughout the Corridor in order to increase capacity to accommodate additional

passenger service. The Build Alternative would provide one new daily round trip between Boston and Montreal, eight new daily round trips between Boston and New Haven and one additional daily round trip between Montreal and New Haven (for a total of two daily round trips).

Under the Build Alternative, the railroad tracks and alignment would be upgraded so that speeds up to 79 mph would be possible throughout the Corridor. Although tracks would be upgraded, including minor realignments and double-tracking, all work would take place within the existing ROW. Improvements to some passenger stations and bridges and the installation of signal systems would also occur. No new layover facilities are proposed beyond those identified under the No-Build Alternative.

ROW improvements are planned in the segment of the Corridor between Worcester and Springfield, Massachusetts. This segment of the ROW was historically a double-track corridor, however most of the track was removed in the mid-20th century. The additional service within the Corridor would require the reconstruction of the second track and minor track realignments. These improvements would occur adjacent to the Quabaug Wildlife Management Area in East Brookfield, Massachusetts, and to Cutter Park and the Warren Common in Warren, Massachusetts. In addition, one double track location between Spencer and East Brookfield would require an additional siding to accommodate NNEIRI services. This would occur in the vicinity of the Spencer State Forest. However, it is unlikely that they would diminish significant features or the use of the wildlife management area, forest or parks, and thus adverse impacts to these 4(f) resources are unlikely. In addition, the ROW improvements would occur in the vicinity of several 4(f) historic properties including the West Brookfield Center Historic District (Boundary Increase) in West Brookfield, Massachusetts; the Warren Town Hall, Warren Public Library, 1767 Milepost, and the Warren First Congregational – Federated Church in Warren, Massachusetts; and Union Station in Palmer, Massachusetts. However, the improvements would be limited to the existing ROW and therefore the use of these 4(f) historic properties is not anticipated.

The restoration of a second track is also planned along the Corridor between Brattleboro and Bellows Falls, Vermont and between St. Albans and Swanton, Vermont. There are no 4(f) parks, recreation areas and wildlife refuges in the immediate vicinity of the improvements. There are several 4(f) historic properties adjacent to these segments of the Corridor, including Union Station in Brattleboro, the Brattleboro Downtown Historic District, and the Brooks House in Brattleboro, Vermont; the East Putney Brook Stone Arch Bridge, in East Putney, Vermont; and the Westminster Village Historic District in Westminster, Vermont. However, the improvements would be limited to the existing ROW and therefore the use of adjacent 4(f) properties is not anticipated. Additional passing sidings would be provided in East Northfield, Massachusetts, extending into Vernon, Vermont, and Roxbury and Randolph, Vermont. Although the Vernon District Schoolhouse No. 4 is adjacent to one of these track-work areas, the work would be limited to the ROW and thus adverse effects are not anticipated.

Seventeen bridges and overpasses located in the segment of the Corridor between Worcester and Springfield, Massachusetts would be modified to accommodate the double track. An additional five bridges and overpasses would require improvements due to double-tracking between Brattleboro and Bellows Falls, Vermont. The potential eligibility of these and other structures for the NRHP would be evaluated in Tier 2.

The NNEIRI program includes improvements at two stations along the Corridor between Boston and Springfield. Three locations are currently under consideration for construction of a

new station in Palmer, Massachusetts. At least one of these sites lies in close proximity to the historic Palmer Union Station, a 4(f) historic property. In addition, a new platform would be constructed at Union Station in Worcester. The platform would be an island location between tracks and would be located within the existing ROW in an area historically used for station platforms. The platform would connect to Worcester Union Station via an elevator and stair beneath the platform to the existing pedestrian tunnel. The pedestrian tunnel originally connected passengers from the Worcester Union Station headhouse to island platforms. Although the elevator and stair would be vertical elements, they would connect from a tunnel below the tracks vertically to the platform surface therefore, no visual effects to Worcester Union Station are anticipated.

Centralized Traffic Control (CTC) would be added along those segments of the Corridor that are currently under Track Warrant Control (TWC); specifically, in the section between East Northfield, Massachusetts and West River, Vermont, and in the section between White River Junction and Alburgh, Vermont. Intermediate signals would be installed every two miles and interlocking signals would be added at the ends of the planned passing sidings in St. Albans, Oakland, Berlin, Roxbury, Bethel, South Royalton, Hartland, Swanton, Fonda Junction, Bolton Valley, Randolph and Brattleboro, Vermont. Signal systems would be located entirely within the existing ROW and would not be visible to the public. Thus, these improvements would not require the use of 4(f) properties.

Based on the type of improvements that would be necessary to implement NNEIRI service, there is the potential for the use of 4(f) historic properties. However, FRA does not generally make 4(f) determinations in Tier 1 NEPA documents. The use of 4(f) properties resulting from the NNEIRI program will be thoroughly evaluated in Tier 2 upon completion of the Section 106 process.

Potential Mitigation Measures

During Tier 2, once the design has been advanced by the project proponent (i.e., transportation agency such as MassDOT or VTTrans), additional data may be collected regarding 4(f) properties. These properties may include historic buildings, structures, sites, objects and districts not yet evaluated for National Register listing; railway infrastructure such as bridges, culverts, bridges, freight houses, signal towers, and wayside railroad features; and archaeological sites. Information may also be collected on the hours of operation, public programs, and use of potential 4(f) parks, recreation areas, and wildlife refuges. If federal funding is provided for Tier 2 NNEIRI-related projects, FRA or another lead federal agency would more precisely determine if a 4(f) use would occur. If it is determined that a 4(f) use will occur, a 4(f) Evaluation will be completed. If FRA determines that there is no prudent and feasible alternative, the project would include all reasonable measures to minimize harm to any 4(f) properties or mitigate impacts..

References

Connecticut Department of Transportation and the Federal Railroad Administration. *New Haven-Hartford-Springfield Line High Speed Intercity Passenger Rail Project Environmental Assessment/Environmental Impact Evaluation*. May 2012.

Massachusetts Department of Transportation and the Federal Railroad Administration. *Environmental Assessment for the Knowledge Corridor – Restore Vermonter, Springfield to East Northfield, Massachusetts*. 2009.

MassGIS, “Protected and Recreation Open Space” data layer updated 2013. Available at <http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/srhp.html>.

National Register of Historic Places GIS. Accessed March and April 2015. Available at http://www.nps.gov/nr/research/data_downloads.htm.

New Hampshire GRANIT, “nhrec” data layer updated 2010. Available at <http://www.granit.unh.edu/data/downloadfreedata/downloaddata.html>.

The Land and Water Conservation Fund State Assistance Program website. Available at <http://waso-lwcf.ncrc.nps.gov/public/index.cfm>.

Vermont Center for Geographic Information, “Cadastral Conspub” updated 2009. Available at <http://vcgi.vermont.gov>.

Appendix H

Section 6(f) Properties Technical Report

SECTION 6(f) PROPERTIES TECHNICAL MEMORANDUM

May 2016



This page intentionally left blank

Introduction

The Massachusetts Department of Transportation (MassDOT) and the Vermont Agency of Transportation (VTRANS), with support from the Federal Railroad Administration (FRA), and in collaboration with the Connecticut Department of Transportation (CTDOT) and the Ministère des Transports du Québec, are undertaking the Northern New England Intercity Rail Initiative (NNEIRI) to examine the implementation and operation of more frequent and higher speed intercity passenger rail service in the region. The NNEIRI Corridor is made up of two routes that utilize existing rail lines. One operating route connects Boston, Massachusetts and New Haven, Connecticut via Springfield, Massachusetts, known as the Inland Route Service, and the other one connects Boston, Massachusetts and Montreal, Quebec via Springfield, Massachusetts. Both routes share the same segment between Boston and Springfield (see Figure 1).

The following memorandum has been prepared to assess the potential for impacts to Section 6(f) properties resulting from the NNEIRI program. The discussion that follows outlines the federal and state regulatory requirements and methodology employed in the analysis; inventories Section 6(f) properties within 300 feet of the centerline of the NNEIRI right-of-way (ROW), referred to as the NNEIRI Study Area; and assesses potential impacts of the No-Build Alternative and Build Alternative on these properties. This analysis provides the foundation for the discussion of Section 6(f) Properties within the Environmental Assessment (EA).



Figure 1
NNEIRI Corridor

Regulatory Requirements

The Land and Water Conservation Fund Act of 1965 (16 USC 460 1-4) (Section 6(f)) was enacted to preserve, develop and assure accessibility to outdoor recreation resources by:

- 1) Providing funds for and authorizing federal assistance to states for the planning, acquisition, and development of needed land and water areas and facilities, and
- 2) Providing funds for the federal acquisition and development of certain land areas.

The actual Land and Water Conservation Fund (LWCF) is funded by the revenue from fees paid to the federal government from offshore drilling, surplus property taxes, motorboat fuel tax, and other revenue streams. Administration of the LWCF program is the responsibility of the National Park Service (NPS) as codified in 36 CFR 59.

Properties acquired (either wholly or partially), developed, or redeveloped with LWCF funds are identified as Section 6(f) properties and are afforded protection under the Act. As such, any project that proposes to convert property that was purchased or improved with Section 6(f) funds must receive approval from the NPS. Although there is no formal permit process with the NPS for Section 6(f) approval, the project proponent must make a formal request to the NPS for authorization of the Section 6(f) property conversion. Requests are made through the state agency with Section 6(f) oversight; in this case The Massachusetts Department of Conservation and Recreation for properties located in Massachusetts; the Vermont Department of Forests, Parks and Recreation for properties located in Vermont; and the New Hampshire Department of Resources and Economic Development for properties located in New Hampshire. Requests must include details of the proposal to substitute the converted Section 6(f) land with other property of equivalent usefulness and location and with equal or better fair market value. Securing Section 6(f) conversion approval typically occurs during the National Environmental Policy Act (NEPA) documentation process.

Section 4(f) of the Department of Transportation Act of 1966, which regulates public parks, recreation areas, wildlife refuges and National Register historic sites affected by US Department of Transportation projects, is a regulatory program that has some overlapping jurisdiction with Section 6(f) because of the protection it affords to public recreational properties. A separate Section 4(f) Technical Memorandum has been prepared and is included in the EA herein as Appendix G.

Section 6(f) is strictly federal legislation. There is no state equivalent legislation for the protection of Section 6(f) properties.

Methodology

The identification of Section 6(f) properties was a three-step process that first involved collecting and reviewing public recreation and open space Geographic Information System (GIS) data from the states of Massachusetts, New Hampshire and Vermont. GIS data layers reviewed included:

- Massachusetts “Protected and Recreation Open Space” updated 2013
- New Hampshire “nhrec” updated 2010

- Vermont “Cadastral Conspub” updated 2009

As part of this first step, the Study Team queried the compiled GIS data was queried to identify privately-owned recreation and open space properties as well as those properties owned by organizations or land trusts. The Study Team removed those properties and plotted the remaining properties on base mapping overlaid on the NNEIRI Study Area. For the purposes of this analysis, the NNEIRI Study Area encompasses an envelope that extends 300 feet from the rail centerline. In the second step, an analyst progressively examined the Corridor from Boston to Springfield, Massachusetts, and from East Northfield, Massachusetts to Alburgh, Vermont to identify and annotate locations where public parks and recreation areas (potential Section 6(f) properties) encroach into the NNEIRI Study Area envelope. Encroachments were qualified into three categories in order to assess the potential for impacts:

1. Property is within 300 feet of the proposed NNEIRI Study Area
2. Property is within 300 feet of the proposed NNEIRI Study Area and actually abuts the ROW
3. Property is bisected by the ROW

Step three involved comparing properties that fell within the NNEIRI Study Area envelope with a list of properties that were either acquired, developed or redeveloped with LWCF funds (i.e., Section 6(f) properties). The Study Team consulted the Land and Water Conservation Fund State Assistance Program website (<http://waso-lwcf.nrc.gov/public/index.cfm>) to acquire a list of Section 6(f) properties for each state: Massachusetts, Vermont, and New Hampshire. Section 6(f) properties identified as lying partially or wholly within the NNEIRI Study Area were then tabulated (refer to Tables 1 and 2) and the potential for impacts assessed.

The objective of this Tier 1 evaluation was to identify locations of known Section 6(f) properties within the NNEIRI Study Area from readily available federal and state GIS data, and to assess the potential for effects to these properties based on conceptual plans for the proposed Build Alternative. As the design of the alternative is advanced and more detailed information becomes available in Tier 2, the nature and extent of impacts to Section 6(f) properties can be more formally evaluated.

The following analysis identifies Section 6(f) properties by segment that, due to their proximity to planned rail-related improvements, may be the most likely to be affected.

Existing Conditions

Boston to Springfield

According to the Massachusetts GIS database “Protected and Recreation Open Space” (2013) and the Section 6(f) properties listing obtained from the Land and Water Conservation Fund State Assistance Program website (identified above), there are six (6) Section 6(f) properties within the Corridor in the segment between Boston and Springfield. These include one park in Natick, three parks in Worcester, and two parks in Springfield. Table 1 provides the city or town where each Section 6(f) property is located, the formal name of the parks, and a general description of each property. Also included in Table 1 is an explanation of the spatial relationship between each Section 6(f) property and the Corridor ROW.

Table 1: Section 6(f) Properties within the Boston to Springfield, Massachusetts Segment of the Corridor

City/Town	Name of Property	Property Description	Relationship to the Corridor ROW
Natick	Cochituate State Park	State owned and operated (DCR) public park with lakefront located off State Route 135 (West Central Street). Park received 6(f) funding in 1991 for waterfront improvements.	Park is bisected by the ROW
Worcester	Lake Park	Third largest municipal park in the City of Worcester bounded by Lake Ave., Colburn Ave., and Hamilton Street. Includes 78 total acres with ball fields and playgrounds.	Park is within 300 feet of the rail centerline
Worcester	University Park	City Park comprised of 14 acres located off Illinois Street. Amenities include picnic area, basketball courts, and pond.	Park is within 300 feet of the rail centerline
Worcester	Hadwen Park	City Park located off Heard Street comprised of over 50 acres and includes ball field, playground, and hiking trails.	Park abuts the ROW
Springfield	Hubbard Park	City park located off Parker Street that includes 28 acres encompassing Dimmock Pond. Amenities include tennis courts and recreational fields. Park redeveloped with LWCF funds.	Park abuts the ROW
Springfield	Blunt Park	160-acre Municipal Park bounded by Bay Street and Roosevelt Avenue. Includes a wide variety of recreational fields, courts and amenities. Park redeveloped with LWCF funds in early 1980s	Park is within 300 feet of the rail centerline

Source: MassGIS "Protected and Recreation OpenSpace" updated 2013; and *The Land and Water Conservation Fund State Assistance Program website*.

New Haven to Springfield

Section 6(f) properties within the Corridor between New Haven, Connecticut and Springfield, Massachusetts are addressed in the *New Haven-Hartford-Springfield Line High Speed Intercity Passenger Rail Project Environmental Assessment/Environmental Impact Evaluation* (NHHS EA/EIE). FRA prepared the NEPA document in cooperation with the Federal Transit Administration (FTA) and the Connecticut Department of Transportation (CTDOT) in May 2012 and made a Finding of No Significant Impact (FONSI) on August 9, 2012. For a detailed discussion of Section 6(f) properties within this segment of the Corridor, refer to the NEPA documentation for NHHS project.

Springfield to Canadian Border

Section 6(f) properties within the Corridor between Springfield, Massachusetts and East Northfield, Massachusetts are addressed in the *Environmental Assessment for the Knowledge Corridor – Restore Vermonter, Springfield to East Northfield, Massachusetts* prepared by FRA and the MassDOT in 2009. FRA made a FONSI for this project on February 5, 2011. For a detailed

discussion of Section 6(f) properties within this segment of the Corridor, refer to the Knowledge Corridor EA.

According to the Vermont GIS database “Cadastral Conspub” (2009) and the Section 6(f) properties listing obtained from the Land and Water Conservation Fund State Assistance Program website (identified above), there are four (4) Section 6(f) properties within the Corridor between East Northfield, Massachusetts and Alburgh, Vermont. No Section 6(f) properties are located within 300 feet of the rail centerline in New Hampshire; all four Section 6(f) properties are located in Vermont. Of the Section 6(f) properties in Vermont, two are parks (Camels Hump State Park and Maple Street Park and Pool), one is a boat access (Old Ferry Road Boat Access), and the other is a wildlife management area (White River Wildlife Management Area). Table 2 provides the town where each Section 6(f) property is located, the formal name of the property, and a general description of each property. Also included in Table 2 is an explanation of the spatial relationship between each Section 6(f) property and the Corridor ROW.

Table 2: Section 6(f) Properties within the East Northfield, Massachusetts to Alburgh, Vermont Segment of the Corridor

County	City/Town, State	Property Name	Property Description	Relationship to the Corridor ROW
Windham	Brattleboro, VT	Old Ferry Road Boat Access	Public boat launch/access that was acquired using LWCF funds by the City of Brattleboro in 1987.	Property abuts the ROW
Windsor	Sharon, VT	White River Wildlife Management Area (WRWMA)	The WRWMA is a 624-acre property owned by the State of Vermont and managed by the Vermont Fish & Wildlife Department. The property is a public recreational area for hunting and fishing. 129 acres of the WRWMA were purchased with LWCF funds.	Property is bisected by the ROW
Washington	Waterbury, VT	Camels Hump State Park	Camels Hump State Park is an approximately 1,400- acre park managed by the Vermont Department of Forest, Parks and Recreation. The park is a primitive timber management and wildlife preservation area with passive recreation including hiking, snow shoeing, and wildlife observation. Several LWCF grants were used for park property acquisition in the 1960s.	Property is within 300-feet of the rail centerline
Chittenden	Essex Junction, VT	Maple Street Park and Pool	This park is located at 75 Maple Street and includes multi-use fields, baseball fields, tennis courts, and a pool. Several LWCF grants over the years have been used to develop the property.	Property abuts the ROW

Source: MassGIS “Protected and Recreation OpenSpace” updated 2013; New Hampshire GRANIT “nhrec,” updated 2010; Vermont Center for Geographic Information “Cadastral Conspub,” updated 2009; and The Land and Water Conservation Fund State Assistance Program website.

No-Build Alternative Consequences

Under the No-Build Alternative, the proposed NNEIRI improvements would not occur, and therefore they would not result in direct or indirect impacts to Section 6(f) properties within the Corridor.

Foreseeable improvements in the Corridor under the No-Build Alternative include the completion of construction activities to support the Knowledge Corridor – Restore Vermonter, the NHHS and the SSX projects.

The Knowledge Corridor – Restore Vermonter EA identified no impact to Section 6(f) resources.

According to the NHHS EA, the NHHS project is immediately adjacent to the west side of the Bushnell Park located in Downtown Hartford, Connecticut. This is the only Section 6(f) property within the NHHS Corridor and the NHHS EA identified no impact to the park as a result of the proposed project.

Other planned passenger rail-related projects, including Springfield Union Station improvements and the expansion of Boston’s South Station (SSX), and associated layover facilities, improvements to the rail infrastructure between the U.S. border and Montreal, and improvements to the Montreal Central Station Customs Checkpoint would also be completed under the NNEIRI No-Build Alternative.

No additional impacts to Section 6(f) properties beyond those resulting from, and already documented elsewhere for, the above projects are anticipated from the No-Build Alternative.

Build Alternative Consequences

The Build Alternative proposes the addition of a second track or passing siding in several locations throughout the Corridor in order to increase capacity to accommodate additional passenger service. The Build Alternative would provide one new daily round trip between Boston and Montreal, eight new daily round trips between Boston and New Haven and one additional daily round trip between Montreal and New Haven (for a total of two daily round trips).

Under the Build Alternative, the following improvements are proposed:

- Additional train service & upgrade of railroad tracks
- ROW improvements
- Restoration of second track and sidings
- Modifications to bridges and overpasses
- Station Improvements
- Addition of Centralized Traffic Control

For a full discussion of these improvements, please refer to the Draft Build Alternatives Report (February 2015).

Additional Train Service and Upgrades to Railroad Tracks

Under the Build Alternative, additional trains would be added between Boston and Springfield, and New Haven and Montreal. Railroad tracks and alignment would be upgraded so that speeds up to 79 mph would be possible throughout the Corridor. Although track improvements would

be undertaken, including minor realignments and double-tracking, all work would take place within the existing ROW. Improvements to some passenger stations and bridges and the installation of signal systems would also occur. No new layover facilities are proposed beyond those identified under the No-Build Alternative. The additional train service and track improvements would not require the conversion of Section 6(f) protected properties to uses other than public outdoor recreational uses, and as such permanent impacts to Section 6(f) properties are not anticipated. The potential for the temporary (less than 6-months in duration) non-conforming use of Section 6(f) properties during construction is also unlikely as it is not expected that any project activities will occur within the physical limits of a Section 6(f) protected property. This presumption will be evaluated and verified in Tier 2 when specific projects have been identified.

Right-of-way (ROW) Improvements

ROW improvements are planned in the segment of the Corridor between Worcester and Springfield, Massachusetts. This segment of the ROW was historically a double-track corridor; however, most of track was removed in the mid-20th century. The additional service within the Corridor would require the reconstruction of the second track and minor track realignments. In addition, one double track location between Spencer and East Brookfield would require an additional siding to accommodate NNEIRI services. However, the realignments would not occur in the immediate vicinity of any identified 6(f) properties and thus there would be no impacts.

Restoration of Second Track and Sidings

The restoration of a second track is also planned along the Corridor between Brattleboro and Bellows Falls, Vermont and between St. Albans and Swanton, Vermont. In addition, one double track location between Spencer and East Brookfield would require an additional siding to accommodate NNEIRI services. However, no Section 6(f) properties have been identified in the areas of planned double-tracking. Additional sidings would be provided in East Northfield, Massachusetts, extending to Vernon, Vermont, and Roxbury and Randolph, Vermont however, no Section 6(f) properties have been identified within these proposed track-work areas. Thus, there would be no impacts.

Modifications to Bridges & Overpasses

Seventeen bridges and overpasses located in the segment of the Corridor between Worcester and Springfield, Massachusetts would be modified to accommodate the double track. An additional five bridges and overpasses would require improvements due to double-tracking between Brattleboro and Bellows Falls, Vermont. None of these bridge and overpass improvements would have an impact on Section 6(f) properties identified along the Corridor.

Station Improvements

The NNEIRI program includes improvements at two stations along the Corridor between Boston and Springfield. Three locations are currently under consideration for a new station in Palmer, Massachusetts. There are no Section 6(f) properties located along the rail corridor in Palmer that would be impacted by new station work. In addition, a new 12-foot wide platform would be constructed at Union Station in Worcester. There are no Section 6(f) properties in the vicinity of the Union Station in Worcester so no impacts would occur from work associated with these station improvements.

Centralized Traffic Control

Centralized Traffic Control (CTC) would be added along those segment of the Corridor that are currently under Track Warrant Control (TWC); specifically, in the section between East Northfield, Massachusetts and West River, Vermont, and in the section between White River Junction and Alburgh, Vermont. Intermediate signals would be installed every two miles and interlocking signals would be added at the ends of the planned passing sidings in St. Albans, Oakland, Berlin, Roxbury, Bethel, South Royalton, Hartland, Swanton, Fonda Junction, Bolton Valley, Randolph and Brattleboro, Vermont. Signal systems would be located entirely within the existing ROW and thus impacts to Section 6(f) properties resulting from the new signal systems are unlikely.

Potential Mitigation Measures

If the project advances to Tier 2, design details would be developed by the project proponent (i.e., transportation agency such as MassDOT or VTrans) and additional data may be collected regarding Section 6(f) properties. If federal funding is provided for Tier 2 NNEIRI-related projects, FRA or another lead federal agency would more precisely determine if a 6(f) conversion would occur. If it is determined during Tier 2 that the NNEIRI-related projects would result in the conversion of a Section 6(f) property, a request for approval of that conversion will need to be submitted by the project proponent(s) to the National Park Service. As stated above under the regulatory section of this memorandum, the request would be made through the state agency with Section 6(f) oversight; in this case the Massachusetts Department of Conservation and Recreation (DCR) for properties located in Massachusetts; the Vermont Department of Forests, Parks and Recreation for properties located in Vermont; and the New Hampshire Department of Resources and Economic Development (DRED) for properties located in New Hampshire. Such requests must include details of the proposal to substitute the converted Section 6(f) land with other property of equivalent usefulness and location and with equal or better fair market value.

References

Connecticut Department of Transportation and the Federal Railroad Administration. *New Haven-Hartford-Springfield Line High Speed Intercity Passenger Rail Project Environmental Assessment/Environmental Impact Evaluation*. May 2012.

Massachusetts Department of Transportation and the Federal Railroad Administration. *Environmental Assessment for the Knowledge Corridor – Restore Vermonter, Springfield to East Northfield, Massachusetts*. 2009.

MassGIS, “Protected and Recreation Open Space” data layer updated 2013. Available at <http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/srhp.html>.

New Hampshire GRANIT, “nhrec” data layer updated 2010. Available at <http://www.granit.unh.edu/data/downloadfreedata/downloaddata.html>.

The Land and Water Conservation Fund State Assistance Program website. Available at <http://waso-lwcf.ncrc.nps.gov/public/index.cfm>.

Vermont Center for Geographic Information, “Cadastral Conspub” updated 2009. Available at <http://vcgi.vermont.gov>.