7.9 Cultural Resources and Historic Properties

7.9 CULTURAL RESOURCES AND HISTORIC PROPERTIES

7.9.1 Introduction

Cultural resources and historic properties are the physical evidence or places of past human activity that are significant representations of our nation's history. Disturbances to cultural resources and historic properties by modification, destruction, or changes to visual or physical settings can result in a compromise to their meaning and context. This chapter provides a description of known cultural resources and historic properties in the Study Area and identifies the potential for the No Action and Action Alternatives to affect these properties. The FRA also considered cultural resources and historic properties as part of the assessment of Visual and Aesthetic Resources (Chapter 7.10), Noise and Vibration (Chapter 7.12), and as part of the Section 4(f) evaluation (Chapter 7.16) of this Tier 1 Draft Environmental Impact Statement (Draft EIS).

Key Resource: Cultural Resources and Historic Properties

- NEC FUTURE program identified as an "undertaking" under Section 106 of NHPA.
- The FRA—in consultation with ACHP, SHPOs and tribes, and other consulting parties—has developed a draft Programmatic Agreement to comply with Section 106.
- Informs the Section 4(f) analysis. be avoided or minimized.
- Analysis of cultural resources informs Section 4(f) analysis.
- Types of effects include loss of or damage to cultural resources and historic properties.

7.9.1.1 Definition of Resources

For this Tier 1 Draft EIS, the FRA relies on the Advisory Council on Historic Preservation's (ACHP)[1] and the Council of Environmental Quality (CEQ)[2] definitions for historic properties and cultural resources. The ACHP defines historic properties as "a prehistoric or historic district, site, building, structure, or object included in or eligible for inclusion in the National Register of Historic Places. This term includes artifacts, records, and remains that are related to and located within these National Register properties. The term also includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization, so long as that property also meets the criteria for listing in the National Register."[3] The CEQ and ACHP define cultural resources to include historic properties "as well as additional resources such as sacred sites, archaeological sites not eligible for the NRHP, and archaeological collections."[4]

The National Register of Historic Places (NRHP) is the official list of the nation's historic places worthy of preservation; it is authorized by the National Historic Preservation Act (NHPA) and maintained by

[1] The Advisory Council on Historic Preservation is an independent federal agency that promotes the preservation, enhancement, and productive use of our nation's historic resources, and advises the President and Congress on national historic preservation policy. *http://www.achp.gov/aboutachp.html*

[2] The Council on Environmental Quality (CEQ) coordinates federal environmental efforts and works closely with agencies and other White House offices in the development of environmental policies and initiatives. *https://www.whitehouse.gov/administration/eop/ceq/*

[3] Advisory Council on Historic Preservation. (updated 2010). *Protecting Historic Properties: A Citizen's Guide to Section 106, Advisory Council on Historic Preservation*. Retrieved from *http://www.achp.gov/docs/CitizenGuide.pdf*

[4] Council on Environmental Quality and Advisory Council on Historic Preservation. (March 2013). *NEPA and NHPA, A Handbook for Integrating NEPA and Section 106.* Retrieved from *http://www.achp.gov/docs/NEPA_NHPA_Section_106_Handbook_Mar2013.pdf*

the National Park Service (NPS). The NPS or the ACHP may designate the properties on the NRHP as traditional cultural properties. Tribal resources identified in the NPS 2010 database and the Housing and Urban Development (HUD) Tribal Directory Assessment Tool (TDAT) database have been included as part of this assessment. Some NRHP-listed properties have obtained the highest federal designation of historic significance. The NPS designates them additionally as National Historic Landmarks (NHL) because of their national importance. As a result, they require the most stringent consultation under Section 106 of the NHPA to resolve adverse effects.

For purposes of this Tier 1 analysis, the Federal Railroad Administration (FRA) did not evaluate cultural resources and historic properties that are only listed in or deemed eligible for listing in the state register of historic places (state register) or were recognized at the local level as important (county, city, village, or town).

Appendix E, Section E.09, contains additional information about data sources and resource assessment.

7.9.1.2 Section 106 Compliance

Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties through a consultation process that includes a State Historic Preservation Officer (SHPO) and other parties. Regulations issued by the ACHP (36 CFR 800) outline the requirements for Section 106 consultation. The regulations define an "undertaking" to include "a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license or approval."

The FRA has determined that the NEC FUTURE proposed action, the development and adoption of an investment program to improve passenger rail service on the NEC, is an undertaking with the potential to affect historic properties.[5] Therefore, the FRA is conducting a Section 106 consultation process for NEC FUTURE concurrently with the National Environmental Policy Act process.

The Section 106 consultation process during Tier 1 has included consultation with the Federal Transit Administration (FTA), SHPOs,[6] the ACHP, federally recognized tribes, and other consulting parties. This process has focused on identification of historic properties listed by the NRHP ("known historic resources") and identification of the types of potential effects on known historic resources that could occur as a result of Tier 2 undertakings. The FRA identified known historic resources within a preliminary area of potential effect (Preliminary APE), which is intended to include those resources that have the greatest potential to be affected by the Tier 1 Draft EIS Action Alternatives (see Section 7.9.3 for a description of the Preliminary APE). The FRA documented the results of this analysis in this chapter of the Tier 1 Draft EIS. More-detailed identification of historic properties, assessments of

[5] This determination is based on FRA's role in sponsoring and funding the development of the Investment Program and the likelihood that decisions made by FRA as part of NEC FUTURE will be used to guide future federal funding decisions for projects on the NEC over a period of many years.

[6] The consulting parties during Tier 1 included the SHPOs from the District of Columbia and the states of Maryland, Delaware, New Jersey, Pennsylvania, New York, Connecticut, Rhode Island, and Massachusetts.

effects, and resolution of adverse effects will occur as part of Tier 2 undertakings for individual Tier 2 projects.

As part of Section 106 compliance for NEC FUTURE, the FRA has worked with the FTA, SHPOs, ACHP, tribes, and others to develop a Programmatic Agreement; the Programmatic Agreement, establishes the process that will be followed for Section 106 compliance during the environmental review process for Tier 2 projects. Appendix G provides the draft Programmatic Agreement for review and comment during the public comment period associated with this Tier 1 Draft EIS. Based on feedback received during the comment period, the FRA will revise and finalize the Programmatic Agreement for execution.

During Tier 2 studies for individual Tier 2 projects, the FRA (or another federal agency with Section 106 responsibilities for the particular Tier 2 project) will determine a project-specific APE and will complete the identification of historic properties, assessment of effects, and resolution of adverse effects for each Tier 2 undertaking. Consulting parties will be invited to participate in Section 106 consultation for individual Tier 2 projects, as appropriate, in accordance with the Section 106 regulations and the Programmatic Agreement.

7.9.1.3 Tribal Coordination

The FRA undertook government-to-government consultation, in compliance with Section 106 of the NHPA, with federally recognized tribes identified having lands or resources in the Study Area. The FRA identified the following tribes:

- Absentee-Shawnee Tribe of Oklahoma
- Cayuga Nation of New York
- Delaware Nation
- Delaware Tribe
- Eastern Shawnee Tribe of Oklahoma
- **Mashantucket (Western) Pequot of Connecticut**
- **Mashpee Wampanoag Tribe**
- **Mohegan Indian Tribe of Connecticut**
- **Narragansett Indian Tribe of Rhode Island**
- Oneida Nation of New York
- Oneida Tribe of Indians of Wisconsin
- Onodaga Nation of New York
- Seneca Nation of New York
- Seneca-Cayuga Tribe of Oklahoma
- Shawnee Tribe
- **Shinnecock Indian Nation**
- Saint Regis Mohawk Tribe
- **Stockbridge-Munsee Mohican Tribe**
- Towanda Band of Seneca Indians of New York
- Tuscarora Nation of New York
- **Wampanoag Tribe of Gay Head (Aquinnah) of Massachusetts**

The FRA contacted each tribe to initiate government-to-government consultation and subsequently invited each tribe to participate in the Section 106 process as consulting parties. In addition, the FRA identified the tribes known to have tribal lands or resources, or that claim ancestral lands or resources, in counties within the Study Area that are traversed by the No Action and Action Alternatives. The FRA specifically invited tribes within this smaller group (noted above in bold text) to be concurring parties to the NEC FUTURE Programmatic Agreement. As part of the government-to-government consultation, the FRA met with many of these tribes; the FRA regularly provided all tribes information about program updates via emails, letters, and meetings and by inviting the tribes to participate in public meetings and/or government-to-government consultations. (Appendix G provides a list of correspondence with tribes.)

7.9.1.4 Effect-Assessment Methodology

The FRA developed an effects-assessment methodology to evaluate cultural resources and historic properties (see Appendix E, Section E.09). The effects-assessment methodology defines the resources and data sources, explains how the Preliminary APE was defined and established and how potential effects on each property were evaluated and reported. (Appendix E, Section E.09, provides data that supports the analysis presented in this chapter. Appendix A, Mapping Atlas, provides the general locations of cultural resources and historic properties associated with each Action Alternative.)

The assessment evaluated the presence of the following within the Study Area:

- NRHP-listed properties and NHLs listed by the NPS (NPS 2010 database). (The NPS 2010 database does not include confidential archaeological site information, so these sites are not included.)
- Railroad-related NRHP-eligible[7] properties inventoried separately by the NPS.
- Properties determined to be NRHP-eligible as indicated in letters provided by several SHPOs.
- Tribal lands and resources identified by the FRA through consultation with federally recognized tribes (but not listed on the NRHP).

The FRA collected data for each Action Alternative for the 1-mile-wide Preliminary APE to comply with Section 106 of the NHPA and 5-mile-wide Context Area, centered on the Representative Routes. Table 7.9-1 summarizes key factors associated with the effects-assessment methodology for cultural resources and historic properties.

The information available in this Tier 1 process allows for the identification of potential effects on known historic properties, but the assessment of effects at Tier 1 is constrained by (1) the limitations of existing records, which do not comprehensively identify all historic properties that may be eligible for listing in the NRHP; and (2) the level of detail known about the Action Alternatives, which are developed only at a conceptual level during Tier 1.

[7] The term *eligible for inclusion in the National Register* includes both properties formally determined as such in accordance with regulations of the Secretary of the Interior and all other properties that meet the National Register criteria. For purposes of NEC FUTURE, the FRA does not quantify NRHP-eligible resources with the exception of railroad-related properties previously identified by others and those specifically called out by SHPOs.

Table 7.9-1: Effects-Assessment Methodology Summary: Cultural Resources and Historic Properties

Resource	Affected Environment (Preliminary APE)	Type of Assessment	Outcome
National Register of Historic Places (NRHP)-listed and National Historic Landmark (NHL)-listed properties and districts	1-mile-wide swath centered along Representative Route for each Action Alternative	▪ Number of NRHP and NHL properties identified in NPS 2010 data base ▪ Tribal counties of interest identified through coordination with tribes and HUD TDAT data base.*	▪ Identification of cultural resources and historic properties potentially affected by the Action Alternatives (i.e., number of NRHP-listed and NHL properties and districts that lie within the Affected Environment).

Source: NEC FUTURE Cultural Resources and Historic Properties Effects-Assessment Methodology, Appendix E, Section E.09, 2014

*. Tribal coordination and efforts to identify tribal resources are documented in Appendix G, Section 106 Documentation

7.9.2 Resource Overview

Implementation of the No Action and Action Alternatives could affect cultural resources and historic properties through physical disturbance or demolition of the property, through proximity effects such as noise and vibration, or through changes to the visual character or aesthetic qualities. The FRA identified numerous historic properties listed on the NRHP, some of which are designated as NHLs within the Study Area. The FRA specifically called out NHLs in this analysis because of their national importance, and they require the most stringent consultation under Section 106 of the NHPA to resolve adverse effects. Potential effects on NHLs are an important consideration in identifying a Preferred Alternative.

Cultural resources and historic properties are dispersed throughout the Study Area with higher numbers of NRHP properties and especially NHLs found in urban areas that were heavily populated during the colonial era (i.e., Washington, D.C., Philadelphia, New York City, Providence, and Boston). Typically, greater numbers of historic buildings and districts are associated with areas where the Action Alternatives are close to the existing NEC, or divert into new urban areas.

In addition, the FRA identified federally recognized tribes known to have tribal lands or resources, or that claim ancestral lands or resources, in counties within the Study Area. The FRA further identified those federally recognized tribes that claim ancestral lands or resources in counties traversed by the No Action and Action Alternatives. The FRA has identified tribal and ancestral lands in Suffolk County, NY; New London County, CT; and Washington County, RI. The FRA identified additional ancestral lands in all counties within the NEC FUTURE Study Area that are located Pennsylvania, New Jersey, New York, Connecticut, Rhode Island, and Massachusetts.

Key findings of this analysis are:

- Cultural resources and historic properties have the potential to be affected under all alternatives. Of particular note, elements of the existing NEC, including numerous stations, are considered historic and may be affected by all alternatives.
- All Action Alternatives cross counties of interest to federally recognized tribes.
- The states with the greatest numbers of NRHP-listed properties within the Affected Environment are Pennsylvania and Connecticut.
- The state with the greatest numbers of NHLs within the Affected Environment is Pennsylvania.
- Alternative 3 has the highest number of NHLs and NRHP-listed properties affected.
- NHLs identified within the Representative Route for each Action Alternative represent the greatest potential impact; however, specific effects on these NHLs have not been determined. Identified NHLs within the Representative Route for the Action Alternatives include:
  - Fairmont Waterworks, Philadelphia, PA (Alternatives 1 and 2)
  - John Bartram House, Philadelphia, PA (Alternative 2)
  - Andalusia, Bucks County, PA (Alternatives 1, 2 and 3)
  - Washington Square West Historic District, Philadelphia, PA (Alternative 3)_
  - Reading Terminal, Philadelphia, PA (Alternative 3)
  - John B. Smith Building, Boston, MA (Alternative 3)

7.9.3 Affected Environment

Most counties within the Preliminary APE for the No Action Alternative and each Action Alternative contain NRHP-listed cultural resources and historic properties; fewer contain NHLs. Table 7.9-2 summarizes the number of cultural resources and historic properties identified as occurring in the Affected Environment for the existing NEC and each Action Alternative. Cultural resources and historic properties are concentrated primarily in urban areas such as Washington, D.C.; Philadelphia, PA; New York City, NY; Hartford, CT; Providence, RI; and Boston, MA. Some of the NHLs identified include the United States Capitol (Washington, D.C.); New York Public Library, Empire State Building, Grand Central Terminal (New York City); Boston Public Library, Old South Church, Trinity Church, and the New England Conservatory of Music (Boston). (Appendix E, Section E.09, provides data for each state and county. Appendix A, Mapping Atlas, depicts property counts (NHLs and NRHP-listed properties) by county.)

Table 7.9-2: Affected Environment: Cultural Resources and Historic Properties

Geography	Type	Existing NEC (# of properties)	Alternative 1 (# of properties)	Alternative 2 (# of properties)	Alternative 3 (# of properties)
D.C.	NHL	10	10	10	10
	NRHP-Listed	27	30	30	29
MD	NHL	3	3	3	15
	NRHP-Listed	90	96	96	230
DE	NHL	2	2	2	2
	NRHP-Listed	79	83	84	84
PA	NHL	12	10	10	27
	NRHP-Listed	130	138	135	305
NJ	NHL	4	4	4	4
	NRHP-Listed	79	86	86	89
NY	NHL	10	10	10	12–20
	NRHP-Listed	93	102	106	131–200
CT	NHL	8	9	11	11–12
	NRHP-Listed	215	218	312	322–373
RI	NHL	6	6	8	6–8
	NRHP-Listed	154	158	191	156–191
MA	NHL	6	6	6	7–13
	NRHP-Listed	96	125	125	129–405
TOTAL NHL		**61**	**60**	**64**	**93–109**
TOTAL NRHP-Listed		**963**	**1,036**	**1,165**	**1,510–1,870**

Source: NEC FUTURE team, 2015
Note: All Action Alternatives assume improvements to the existing NEC; therefore, the number of properties presented is inclusive of the existing NEC as well as any new route option or off-corridor route associated with each Action Alternative. Counts of National Register of Historic Places-listed properties and National Historic Landmarks include both individual properties and districts with multiple structures that are counted as one individual property. Only tribal resources identified as part of the National Park Service (NPS) 2010 database have been included in the table. The FRA did not round the numbers since they are discrete occurrences identified by the NPS.

7.9.3.1 Tribal Lands

A review of the HUD TDAT database and coordination identified counties where federally recognized tribes have claimed (or have indicated to the FRA) that they may have tribal resources within them. Table 7.9-3 provides a list of the federally recognized tribes and counties of interest by alternative. For any future Tier 2 activities that may occur within these counties, the lead federal agency would be required to further consult with identified tribes.

Table 7.9-3: Counties of Interest to Federally Recognized Tribes

State	County	Alternative(s)	Tribe(s)
MD	Prince George's	1, 2, 3	▪ Delaware Tribe
	Anne Arundel		
	Baltimore County		
	Baltimore City		
	Howard		
	Harford		
	Cecil		
DE	New Castle	1, 2, 3	▪ Delaware Tribe
PA	Delaware	1, 2, 3	▪ Delaware Tribe
	Philadelphia		
	Bucks		▪ Delaware Tribe ▪ Stockbridge-Munsee Mohican Tribe
NJ	Mercer	1, 2, 3	▪ Delaware Tribe ▪ Stockbridge-Munsee Mohican Tribe
	Middlesex		▪ Delaware Tribe
	Union		
	Essex		
	Hudson		
NY	New York	1, 2, 3	▪ Delaware Tribe ▪ Stockbridge-Munsee Mohican Tribe
	Queens		
	Kings		
	Bronx		
	Westchester		
	Nassau	3	▪ Delaware Tribe ▪ Stockbridge-Munsee Mohican Tribe
	Suffolk		▪ Shinnecock Indian Nation*
	Putnam		▪ Delaware Tribe ▪ Stockbridge-Munsee Mohican Tribe
CT	Fairfield	1, 2, 3	▪ Delaware Tribe ▪ Narragansett Indian Tribe
	New Haven		
	Middlesex		▪ Narragansett Indian Tribe
	New London		▪ Mashantucket Pequot Indian Tribe* ▪ Mohegan Indian Tribe of Connecticut* ▪ Narragansett Indian Tribe
	Hartford	2, 3	▪ Narragansett Indian Tribe
	Tolland		
	Windham		
RI	Washington	1, 2, 3	▪ Narragansett Indian Tribe*
	Kent		▪ Narragansett Indian Tribe
	Providence		▪ Mashpee Wampanoag Tribe ▪ Narragansett Indian Tribe ▪ Wampanoag Tribe of Gay Head (Aquinnah)

Table 7.9-3: Counties of Interest to Federally Recognized Tribes (continued)

State	County	Alternative(s)	Tribe(s)
MA	Hampden	3	▪ Delaware Tribe ▪ Narragansett Indian Tribe
	Worcester		▪ Narragansett Indian Tribe ▪ Stockbridge-Munsee Mohican Tribe
	Middlesex		▪ Mashpee Wampanoag Tribe ▪ Narragansett Indian Tribe ▪ Wampanoag Tribe of Gay Head (Aquinnah)
	Bristol	1, 2, 3	▪ Mashpee Wampanoag Tribe ▪ Narragansett Indian Tribe ▪ Wampanoag Tribe of Gay Head (Aquinnah)
	Norfolk		▪ Mashpee Wampanoag Tribe ▪ Narragansett Indian Tribe ▪ Stockbridge-Munsee Mohican Tribe
	Suffolk		▪ Mashpee Wampanoag Tribe ▪ Stockbridge-Munsee Mohican Tribe ▪ Wampanoag Tribe of Gay Head (Aquinnah)

Source: NEC FUTURE team, 2015
* = Tribal reservation exists within county for specified tribe.

7.9.4 Environmental Consequences

As outlined in the effects-assessment methodology and draft Programmatic Agreement, the FRA has determined that for purposes of Section 106 compliance, the NEC FUTURE program is an undertaking with the potential to affect historic properties. The FRA has taken steps during the Tier 1 process to identify historic properties and assess potential effects on historic properties by:

- Determining a Preliminary APE (see Table 7.9-1);
- Identifying known historic properties with the Preliminary APE (see Section 7.9.3); and
- Identifying historic properties located within the Representative Route of each Action Alternative.

This analysis does not include any findings regarding determination of effects for historic properties identified in the Preliminary APE. Determinations on effects on historic properties would be made as part of Tier 2 undertakings.

In this Tier 1 process, the FRA assessed potential effects on historic properties by using mapping overlays to identify historic properties location with the Representative Route of each Action Alternative. The FRA noted the properties identified within the Representative Routes as potential environmental "effects," since these properties would be expected to have a higher likelihood of being directly affected by the implementation of an Action Alternative during construction or through operations. Indirect effects on cultural resources and historic properties, caused by implementation of an Action Alternative, could occur outside the Representative Route and could include increased noise levels, increased vibration, changes to the visual setting, or changes to access. While no determinations have been made on the specific effects of proposed construction types on specific properties identified, the following general effects on cultural resources and historic properties could occur as a result of the various construction types and methods proposed for the Action Alternatives:

- **At-grade:**
  - Direct physical and/or contextual disturbance to existing historic structures (such as buildings) and/or districts through the construction and introduction of new track bed and landscaping, and the installation of utilities and/or catenary poles
  - Direct physical disturbance to below-grade archaeological sites through excavation and/or compaction for track bed, utilities, landscaping, and/or catenary poles
- **Trench:**
  - Direct physical and/or contextual disturbance to existing historic structures and/or districts through the construction and introduction of new trenches and landscaping, and the installation of utilities and/or catenary poles
  - Direct physical disturbance to below-grade archaeological sites through open pit excavation, earth moving, utility installation, landscaping, and/or compaction
- **Embankment:**
  - Direct physical and/or contextual disturbance to existing historic structures and/or districts through the introduction of new retaining walls and/or earthen berms
  - Direct physical disturbance to below-grade archaeological sites through excavation, earth moving, landscaping, and/or compaction
- **Aerial Structure or Major Bridge:**
  - Direct physical disturbance to existing historic structures and/or districts at the site of abutments and/or pilings on land and in waterways and/or contextual disturbance to existing historic structures and/or districts through the introduction of new aerial structures
  - Direct physical disturbance to below-grade archaeological sites through excavations for abutments and/or pilings on land and in waterways, and/or landscaping
- **Tunnel:**
  - Direct physical and/or contextual disturbance to existing historic structures and/or districts at tunnel boring machine (TBM) launch sites, ventilation shafts and egress points, and potential indirect disturbance through vibrations
  - Direct physical disturbance to below-grade archaeological sites at TBM launch sites, ventilation shafts and egress points, and potential indirect disturbance through vibrations

Temporary construction effects could occur during implementation of an Action Alternative, where access roads are created and at staging and lay-down areas. Impacts could include temporary contextual disturbance to existing historic structures and/or districts, and direct physical disturbance to below-grade archaeological sites through grading, earth moving, compaction, and/or landscaping.

Table 7.9-4 presents the number of NHRP/NHL listed properties identified within the Representative Route of each Action Alternative. Table 7.9-5 provides the number of properties for each Alternative 3 route option. The FRA specifically called out NHLs in this analysis because of their national importance, and they require the most stringent consultation under Section 106 of the NHPA to

resolve adverse effects. (Appendix E, Section E.09, contains relevant data for each county, and provides further qualitative highlights about those properties identified in this analysis as potentially affected.)

Table 7.9-4: Environmental Consequences: Representative Route – Cultural Resources and Historic Properties

Geography	Type	Existing NEC (# of properties)	Alternative 1 (# of properties)	Alternative 2 (# of properties)	Alternative 3 (# of properties)
D.C.	NHL	0	0	0	0
	NRHP-Listed	3	7	7	7
MD	NHL	0	0	0	0
	NRHP-Listed	0	13	13	15-17
DE	NHL	0	0	0	0
	NRHP-Listed	3	9	9	4–7
PA	NHL	1	2	3	3
	NRHP-Listed	2	5	5	8
NJ	NHL	0	0	0	0
	NRHP-Listed	1	12	13	12
NY	NHL	0	0	0	0
	NRHP-Listed	2	12	12	13–19
CT	NHL	0	0	0	0
	NRHP-Listed	14	47	65	45–51
RI	NHL	0	0	0	0
	NRHP-Listed	3	24	33	3–21
MA	NHL	0	0	0	0–1
	NRHP-Listed	3	13	14	16–17
TOTAL NHL		**1**	**2**	**3**	**3-4**
TOTAL NRHP-Listed		**31**	**142**	**171**	**132–150**

Source: NEC FUTURE team, 2015

Note: All Action Alternatives assume improvements to the existing NEC; therefore, the number of properties presented includes the Environmental Consequences inclusive of improvements to existing NEC and any new option or off-corridor route associated with each Action Alternative. Counts of National Register of Historic Places-listed properties and National Historic Landmarks include both individual properties and districts with multiple structures that are counted as one individual property. Only tribal resources identified as part of the National Park Service (NPS) 2010 database have been included in the table. The FRA did not round numbers since they are discrete occurrences identified by the NPS.

Table 7.9-5: Environmental Consequences: Representative Route of Alternative 3 Route Options – Cultural Resources and Historic Properties

Geography	Type	Existing NEC	Alternative 3				
				New York City to Hartford		Hartford to Boston	
			D.C. to NYC (# of properties)	via Central Connecticut (# of properties)	via Long Island (# of properties)	via Providence (# of properties)	via Worcester (# of properties)
D.C.	NHL	0	0	—	—	—	—
	NRHP-Listed	3	7	—	—	—	—
MD	NHL	0	0	—	—	—	—
	NRHP-Listed	0	15-17	—	—	—	—
DE	NHL	0	0	—	—	—	—
	NRHP-Listed	3	4–7	—	—	—	—
PA	NHL	1	3	—	—	—	—
	NRHP-Listed	2	8	—	—	—	—
NJ	NHL	0	0	—	—	—	—
	NRHP-Listed	1	12	—	—	—	—
NY	NHL	0	—	0	0	—	—
	NRHP-Listed	2	—	13	19	—	—
CT	NHL	0	—	0	0	0	0
	NRHP-Listed	14	—	25	21	6	3
RI	NHL	0	—	—	—	0	0
	NRHP-Listed	3	—	—	—	21	30
MA	NHL	0	—	—	—	0	1
	NRHP-Listed	3	—	—	—	16	17
TOTAL NHL		**1**	**3**	**0**	**0**	**0**	**1**
TOTAL NRHP-Listed		**31**	**46-51**	**36**	**40**	**43**	**50**

Source: NEC FUTURE team, 2015

Note: Totals for Alternative 3 do not equal the total presented in Table 7.9-4. This is a result of the way Alternative 3 diverges in Hartford, CT, and data were assigned to a specific route option in a conservative manner (i.e., if a resource fell within the Representative Route of multiple Alternative 3 route options, it was counted as an effect under each Alternative 3 route option)..

— = Not applicable within that alternative/route option.

Tribal Lands

Through government-to-government consultations and review of the HUD TDAT database, the FRA identified no property-specific tribal resources. As noted in Table 7.9-3, the FRA identified several counties within the Study Area as having tribal resources. During government-to-government consultation, the tribes reiterated the importance of continuing coordination with them during subsequent Tier 2 studies to confirm locations of sacred lands. The tribes further indicated that it should not be assumed that future activities taking place within an existing transportation right-of-way would not encounter tribal resources. Their concern is that some of the existing transportation, communication, and utility rights-of-way were developed at a time that pre-date the more stringent environmental legislation and federal agency review processes in place today; therefore, undiscovered tribal resources may exist. During Tier 2 analysis, coordination with identified tribes would continue to confirm the absence or presence of tribal resources.

7.9.4.1 No Action Alternative

Some properties associated with the existing NEC rail infrastructure are listed in or are potentially eligible for listing in the NRHP; therefore, it is likely that with actions being undertaken as part of the No Action Alternative, cultural resources and historic properties could be affected either temporarily by construction activities or permanently.

7.9.4.2 Alternative 1

Two NHLs lie within the Representative Route for Alternative 1: the Fairmount Waterworks in Philadelphia and the historic estate of Andalusia in Bucks County, PA. Because the facilities and infrastructure proposed as part of Alternative 1 would be similar to the facilities and infrastructure present on the existing NEC, the FRA expects visual impacts to these properties to be minimal since changes to the appearance of the Representative Route are not expected.

Most properties are in urban locations such as Washington, D.C.; Baltimore, MD; Wilmington, DE; and Philadelphia. Additional areas of higher properties counts in Connecticut, Rhode Island, and Massachusetts result from prior NRHP listing or determinations of eligibility for railroad-related properties in these states as part of a prior Amtrak evaluation of properties in this corridor. There are 142 NRHP-listed properties associated with Alternative 1, including the Old Lyme Historic District in New London County, CT; the Rhode Island Statehouse in Providence, RI; and the South End District in Suffolk County, MA.

7.9.4.3 Alternative 2

Three NHLs lie within the Representative Route for Alternative 2: the Fairmount Waterworks and the John Bartram House in Philadelphia; and the historic estate of Andalusia in Bucks County, PA. The types of facilities and infrastructure that would be constructed near these NHLs would be the same as the NEC. The FRA expects visual impacts to these properties to be minimal, so changes to the appearance of the Representative Route are not expected, with the exception of the John Bartram House. Construction of infrastructure proposed under Alternative 2 near the John Bartram House would be on an embankment adjacent to Bartram Park surrounding the house. There are 171 NRHP-listed properties associated with this alternative, including Capitol Hill Historic District in Washington,

D.C.; the Galloway Walker House in New Castle County, DE; and the Mid-Town Historic District in Union County, NJ.

The New Haven-Hartford-Providence new segment of Alternative 2 passes through the cities of New Haven and Hartford, and Tolland and Windham Counties, CT, each containing numerous identified properties. The FRA's coordination with the CT SHPO indicated that a Representative Route through Connecticut could encounter additional properties that have not yet been identified.

7.9.4.4 Alternative 3

Washington, D.C., to New York City

Three NHLs lie within the Representative Route for Alternative 3 in the Washington, D.C., to New York City portion: the Washington Square West Historic District; the Reading Terminal and Trainshed; and the historic estate of Andalusia (Pennsylvania). The types of facilities and infrastructure constructed near Andalusia would be the same as the NEC, so visual impacts to these properties are not expected. Construction near the Reading Terminal and Trainshed and Washington Square West Historic District would be in a tunnel with minimal changes to those areas.

The 46–51 NRHP-listed properties include Woodwardville in Anne Arundel County, MD; the Philadelphia Naval Shipyard Historic District in Philadelphia; and the Grand Hotel in New York City.

New York City to Hartford

Via Central Connecticut

No NHLs exist within the Representative Route of this route option, but there are 36 NRHP-listed properties, including Southbury Historic District No. 1 in New Haven County, CT; and the Farmington Canal-New Haven and Northampton Canal in Hartford County, CT. Hartford County, CT, contains 18 properties (the highest number of properties of any county for this route option), mostly in the city of Hartford. Given the rural, undeveloped nature of the rest of Central Connecticut, the potential exists to encounter undiscovered cultural resources and historic properties along this route option.

Via Long Island

No NHLs exist within the Representative Route of this route option. There are 40 NRHP-listed properties associated with this route option include Prospect Cemetery in Queens County, NY, and the Bellarose Village Municipal Complex in Nassau County, NY. There are 16 properties in the Representative Route through Hartford County, CT (the highest number of properties of any county for this route option), mostly within the city of Hartford. The FRA's coordination with both the New York SHPO and Connecticut SHPO indicated that tunneling under the Long Island Sound could encounter archaeological sites and would require more-detailed investigations and field surveys were this route option to be advanced further.

Hartford to Boston

Via Providence

No NHLs exist within the Representative Route of this route option. There are 43 NRHP-listed properties in this Representative Route, including Pomfret Street Historic District in Windham

County, CT, and Olmsted Park System in Norfolk County, MA, as well as the NRHP-eligible Waiting Room in the NRHP-listed South Station Headhouse in Suffolk County, MA. Providence County, RI, contains 18 properties, which is the highest number of properties of any county for this option. Within Providence County, properties include the NRHP-listed Central Street and College Hill Historic Districts.

Via Worcester

One NHL lies within this option—the John B. Smith Building adjacent to Fenway Park in Boston. The Representative Route will be at-grade in this area and there is a potential for impact since it is adjacent to the property. Although the Representative Route passes through several historic districts in Hartford and Tolland Counties, CT; and Middlesex, Worcester, Norfolk, and Suffolk Counties, MA, virtually all contributing structures are outside, but near, the corridor. These districts include the NRHP-listed Blackstone Canal Historic District in Worcester County, MA, and the Newtonville Historic District in Middlesex County, MA.

7.9.4.5 Stations

The Action Alternatives include continued service to existing stations along the NEC, modifications to existing stations, which may require an increase in the station footprint, and new stations. Many of the existing stations along the NEC are themselves either NRHP-listed or NRHP-eligible.

Adverse effects may occur to historic properties where physical modifications are proposed, or to adjacent historic properties if there are changes in the setting caused by increases in the station footprint (i.e., expansion of or improvements to stations and associated facilities and amenities); such adverse effects could occur as part of implementation of an Action Alternative and would be assessed through the Tier 2 planning and Section 106 consultation process. Proposed new stations could result in adverse effects if they are located near NRHP-listed, NRHP-eligible, or NHL properties. Table 7.9-6 identifies which modified or new stations affect historic properties, by alternative and by station ID. Appendix E, Section E.09, provides detailed support data for Table 7.9-6.

Environmental Consequences for stations in each of the Action Alternatives would occur primarily from proposed modifications to existing stations. Many existing stations along the existing NEC are NRHP-listed or NRHP-eligible, meaning that physical changes to these stations in any of the Action Alternatives could result in an adverse effect. The construction of new stations would affect far fewer historic properties since the FRA proposed new stations in locations where fewer historic properties have been identified. Alternative 3 could have more station impacts than either Alternative 1 or 2, primarily in Baltimore City, MD; Philadelphia County, PA; Hartford County, CT; Worcester County, MA; and Suffolk County, MA, which would be caused by the modification of existing stations and the potential construction of new stations near existing cultural resources and historic properties.

Table 7.9-6: Environmental Consequences: Cultural Resources and Historic Properties Present in Station Locations

Geography	County	Station ID	Station Type	Station Name	Alt. 1	Alt. 2	Alt. 3
D.C.		1	Existing	Washington Union	X	X	X
MD	Prince George's	4	Existing	Bowie State	X	X	X
	Baltimore City	9	New	Upton	X	X	X
		10	Existing	Baltimore Penn Station	X	X	X
		11	New	Baltimore Downtown			X
		12		Broadway	X	X	X
	Cecil	23		Elkton	X	X	X
DE	New Castle	25	Existing	Churchman's Crossing	X	X	X
		26	New	Newport	X	X	X
		27	Existing	Wilmington Station	X	X	X
		28	New	Edgemoor	X	X	X
		29	Existing	Claymont	X	X	X
PA	Delaware	32	Existing	Chester	X	X	X
	Philadelphia	45		Philadelphia 30th Street	X	X	X
		46		Philadelphia Market East			X
		47		North Philadelphia	X	X	X
	Bucks	53		Cornwells Heights	X	X	X
		57		Levittown	X	X	X
NJ	Middlesex	64	Existing	New Brunswick	X	X	X
	Union	71		Elizabeth	X	X	X
	Essex	74		Newark Penn Station	X	X	X
		75		Newark Penn Station H.S.			X
NY	New York	77	Existing	Penn Station New York	X	X	
	New York	9993		Grand Central Terminal			X
	Westchester	82	Existing	New Rochelle	X	X	X
		88		Port Chester	X	X	X
CT	Fairfield	89	Existing	Greenwich	X	X	X
		90		Cos Cob	X	X	X
		91		Riverside	X	X	X
		92		Old Greenwich	X	X	X
		93		Stamford	X	X	X
		94	New	Stamford H.S.	X		
		95	Existing	Noroton Heights		X	
		96		Darien		X	
		98		South Norwalk	X		X
		100		Westport		X	
		102		Southport	X		X
		103		Fairfield	X		X
		104		Fairfield Metro		X	
		105		Bridgeport	X	X	X
		108		Stratford		X	

Table 7.9-6: Environmental Consequences: Cultural Resources and Historic Properties Present in Station Locations (continued)

Geography	County	Station ID	Station Type	Station Name	Alt. 1	Alt. 2	Alt. 3
CT (cont'd)	New Haven	109	Existing	Milford	X		X
		111		New Haven Station	X	X	X
		112	New	New Haven Station H.S.		X	X
		113	Existing	New Haven State Street	X	X	X
		114		Branford	X	X	X
		115		Guilford	X	X	X
	New London	121	Existing	New London	X	X	X
		122		Mystic	X	X	X
		124	New	Mystic/New London H.S.	X		
	Hartford	161	New	Newington		X	
		164		Hartford (New)		X	X
		166		Tolland/Storrs			X
RI	Washington	123	Existing	Westerly	X	X	X
		125		Kingston	X	X	X
		126		Wickford Junction	X	X	X
	Providence	128	Existing	Providence Station	X	X	X
		129	New	Providence Station H.S.		X	X
MA	Bristol	132	Existing	Attleboro	X	X	X
	Worcester	172	Existing	Worcester			X
	Suffolk	139	Existing	Forest Hills	X	X	X
		140		Ruggles Street	X	X	X
		141		Back Bay	X	X	X
		142	New	Back Bay H.S.			X
		143	Existing	Boston South Station	X	X	X

Source: NEC FUTURE team, 2015
X = X = Presence of NRHP-listed properties and/or NHLs within station footprints. Determination of effects and more-detailed identification of NHLs within station footprints subject to Tier 2 analysis.
Blank cell = No effects identified for subject properties for listed station for specified alternative.
H.S. = high speed

7.9.5 Context Area

There are numerous geographic areas in the Context Area where there are high densities of NRHP-listed properties and NHLs; these areas are mainly in urban locations. The number of properties in the 5-mile-wide Context Area outside of the Affected Environment is drastically greater than the number of properties identified in the narrower Affected Environment because of the drastically larger size of the Context Area. Table 7.9-7 identifies the total number of properties within the Context Area, with support data presented in Appendix E, Section E.09.

Table 7.9-7: Context Area: National Register of Historic Places and National Historic Landmarks Identified

Study Area	Alternative 1 (# properties)	Alternative 2 (# properties)	Alternative 3 (# properties, range)
Context Area (excluding Affected Environment)	3,576	3,839	4,052–4,936

Source: NEC FUTURE team, 2015
Note: All Action Alternatives assume improvements to the existing NEC; therefore, the number of properties includes the Environmental Consequences inclusive of improvements to existing NEC and any new option associated with each alternative. Counts are National Register of Historic Places-listed and National Historic Landmarks combined. Only tribal resources identified as part of the National Park Service (NPS) 2010 database are included in the table. Numbers were not rounded since they are discrete occurrences identified by the NPS.

NHLs within the Context Area are of particular concern because the NPA designates NHLs as nationally significant properties. As a result, they require the additional consultation under Section 106 of the NHPA to resolve adverse effects. Prominent NHLs in the Context Area for the various Action Alternatives include the following:

- Washington, D.C.
  - Corcoran Gallery of Art and the Smithsonian Institution Building
- Philadelphia, PA
  - Independence National Historical Park
- New York City, NY
  - African Burial Ground
- Hartford, CT
  - Connecticut Statehouse
- Providence, RI
  - John Brown House
- Worcester, MA
  - American Antiquarian Society
- Cambridge, MA
  - Old Harvard Yard
  - Longfellow National Historic Site
  - Several prominent buildings at Harvard University
- Brookline (Norfolk County), MA

- Frederick Law Olmsted House
- John Fitzgerald Kennedy National Historic Site

- Boston (Suffolk County), MA
  - Boston Public Library
  - Trinity Church
- Boston, MA
  - African Meetinghouse
  - Massachusetts Statehouse
  - Paul Revere House

7.9.6 Potential Mitigation Strategies

Potential mitigation strategies, or treatment measures developed as part of resolution of adverse effects during the Section 106 consultation process, are dependent upon the type of cultural resource or historic property affected and the type of impact(s). The draft Programmatic Agreement presented in Appendix G lists standard treatments, stipulations, and methods to resolve adverse effects. With respect to Tier 2 evaluations, the Programmatic Agreement lays out roles and responsibilities as well as guidance for Tier 2 project-level identification and evaluation of historic properties, and mitigation.

Some examples of measures to avoid, minimize, or mitigate adverse effects to cultural resources and historic properties include the following:

- Modify construction methods to minimize impacts.
- Incorporate the use of context-sensitive design.
- Undertake other design modifications in order to blend proposed infrastructure into the existing setting.
- Shift the location of the alternatives during the Tier 2 process away from densities of properties that may be affected.
- Complete archaeological data recovery for sites that cannot be avoided or preserved in place.
- Install interpretive signage in locations where above- or below-ground historic properties must be removed (or otherwise adversely affected) in order to accommodate new construction.

7.9.7 Subsequent Tier 2 Analysis

This Tier 1 analysis focuses on previously identified, or known, historic properties. During Tier 2 analysis, the lead federal agency for the Tier 2 undertaking would be responsible for continued Section 106 compliance and for defining a project-specific APE; cultural resources and historic properties identified as part of this Tier 1 Draft EIS would be analyzed in greater detail, and efforts to identify and evaluate additional properties within the Tier 2 project APE would be undertaken. In addition, resources of state and local importance would be identified. E For any future Tier 2 activities that may occur within counties noted as having tribal interests, the lead federal agency would be required to further consult with identified tribes.

Effects to the more thorough and complete listing of cultural resources and historic properties would be determined through field surveys as appropriate, and consultation with each relevant SHPO and/or tribe or THPO and local government. Counties of interest to the federally recognized tribes identified in Section 7.9.1.3 exist within the Study Area; therefore, any subsequent Tier 2 actions involving these counties would require the lead federal agency to consult with those tribes to confirm the absence or presence of tribal resources in relation to a proposed alignment or ancillary facility. Property-specific treatment measures and designs would be developed that would avoid, minimize, or mitigate adverse effects on cultural resources and historic properties. The analyses would comply with federal and state regulations identified in the state-specific appendices of the Programmatic Agreement (see Appendix G).