7.4 Parklands and Wild and Scenic Rivers

7.4 PARKLANDS AND WILD AND SCENIC RIVERS

7.4.1 Introduction

This chapter provides a brief description of parklands and wild and scenic rivers in the Affected Environment and broader Context Area and includes the evaluation of potential Environmental Consequences of the Tier 1 Final Environmental Impact Statement (Tier 1 Final EIS) Preferred Alternative on these resources. The Federal Railroad Administration (FRA) further examines those parkland resources identified in this chapter as potentially affected as part of the Section 4(f) and Section 6(f) evaluations (Chapter 7.16).

Parklands

- Section 4(f) of the U.S. DOT Act protects publicly owned parks, recreation areas, and wildlife/waterfowl refuges, and historic properties. Impacts on these resources are discouraged and require additional analysis to determine the type of impact and whether identified impacts can be avoided or minimized.
- Analysis of parklands informs Section 4(f) analysis.
- Types of effects can include conversion of parkland resources to non-recreational uses, visual changes, noise and vibration, and access.

7.4.2 Resource Overview

Implementation of the No Action or Preferred Alternatives could result in conversion of existing parklands to non-recreational uses and expanded or new crossings of designated wild and scenic rivers.[1] Conversions of parklands may occur by modifying existing rail infrastructure or constructing new rail infrastructure within parklands. Crossing a wild and scenic river may affect the visual character or setting that may be important to the designation. The No Action or Preferred Alternatives could also result in proximity effects, such as noise and vibration effects. Throughout the 2,000-foot-wide Affected Environment of the Preferred Alternative, while the most parks occur in Maryland, the highest acreages of these lands are found in Rhode Island, followed by Maryland and Connecticut. The Affected Environment contains one wild and scenic river: White Clay Creek in New Castle, Delaware.

Key findings for the analysis of the effects of the NEC FUTURE Preferred Alternative on parklands are listed below:

- Benefits:
  - New and modified stations as well as increases in rail service under the Preferred Alternative could create new access to existing and future parklands and could contribute to increasing demand for outdoor recreation opportunities. Examples of parklands that are within a half-mile of new or modified station locations include:
    - East Coast Greenway
    - Pelham Bay Park
    - Blackstone River Valley National Heritage Corridor
    - Star-Spangled Banner National Historic Trail

[1] A crossing of a parkland resource indicates an area where, if the Preferred Alternative is implemented, land from a protected resource could be converted to a transportation use.

- Washington-Rochambeau National Historic Trail
- Captain John Smith Chesapeake National Historic Trail

- Impacts:
  - The Environmental Consequences analysis highlights the parks that would have the highest acreage of parkland potentially converted to a transportation use as well as the parks that would have the highest percentage of that park's land potentially converted to a transportation use by the Preferred Alternative. Refer to Table 7.4-3 for the list of parks that the Preferred Alternative would potentially affect.
  - The Preferred Alternative crosses 122 parks and approximately 675 acres of parklands in comparison to 111 parks and approximately 475 acres crossed by the Existing NEC + Hartford/Springfield Line. Of the 675 acres, approximately 210 acres fall outside of the footprint of the Existing NEC + Hartford/Springfield Line; therefore, the Preferred Alternative would likely convert the 210 acres to a transportation use.
  - The highest number of acres of parkland within the Representative Route of the Preferred Alternative occurs primarily within the Existing NEC, followed by locations where the Preferred Alternative diverges from the Existing NEC and creates new segments or extends off-corridor, notably in Rhode Island and Maryland.
  - The parks that would have the highest acreage potentially converted to a transportation use by the Preferred Alternative are listed below.
    - The Rhode Island Greenway in Washington County, RI would have over 50 acres converted to a transportation use.
    - Gunpowder Falls State Park in Baltimore County, MD, would have approximately 40 acres converted to a transportation use.
  - The following three parks would have the highest percentage of parkland potentially converted to a transportation use by the Preferred Alternative:
    - David Craig Park in Harford County, MD (100 percent)
    - Saugatuck River Water Access in Fairfield County, CT (100 percent)
    - Mianus River Water Access in Fairfield County, CT (67 percent)
  - West Park and East Park (part of the Fairmount Park system) in Philadelphia, PA, also have the potential to be affected as the representative construction type proposed as part of the Preferred Alternative is an embankment and major bridge in this area. The FRA discussed the routing of the Preferred Alternative in this area with the City of Philadelphia in June 2016. Based on this outreach, the FRA understands the potential effects of this construction type to these resources. The Tier 2 process will further address how to achieve the service under the Preferred Alternative while minimizing or avoiding impacts. Bartram's Garden in Philadelphia, PA, also has the potential to be affected.

- The Preferred Alternative crosses the following National Historic and Scenic Trails in a new location when compared to the Existing NEC:
  - Star-Spangled Banner National Historic Trail (Baltimore City)
  - Washington-Rochambeau National Historic Trail (Cecil County and Philadelphia County)
  - Captain John Smith Chesapeake National Historic Trail (Cecil County)
- The Preferred Alternative crosses a wild and scenic river: the White Clay Creek in New Castle, Delaware. The Preferred Alternative expands the Existing NEC crossing and creates a new bridge crossing adjacent to and south of the Existing NEC, which also crosses the river.

The Preferred Alternative avoids substantial crossings of National Wildlife Refuges (such as the crossing shown in Alternative 3 in the area of Patuxent Research Refuge) and minimizes impacts to National Wildlife Refuges.[2] Tier 2 subsequent analysis will further examine the effects to parks as well as appropriate measures to avoid or minimize harm.

7.4.3 Affected Environment

This section and Table 7.4-1 identify the number of federal, state, and county parks, total park acreage, and percentage of the total park acreage located within the Affected Environment of the Existing NEC and Hartford/Springfield Line, and Preferred Alternative. The Affected Environment of the Existing NEC and Preferred Alternative contains one wild and scenic river (White Clay Creek) in New Castle, DE.

Table 7.4-1: Affected Environment: Parklands and Wild and Scenic Rivers

Geography	Total Acres of Resources	Existing NEC + Hartford/Springfield Line			Preferred Alternative		
		# of Parks	Acres	% of Total Park Acres	# of Parks	Acres	% of Total Park Acres
D.C.	1,162	9	200	17%	9	200	17%
MD	107,939	79	1,020	1%	78	1,590	1%
DE	1,160	16	255	22%	16	260	22%
PA	9,660	51	565	6%	48	740	8%
NJ	4,772	15	210	4%	15	230	5%
NY	3,415	49	750	22%	57	760	22%
CT	126,615	32	1,170	1%	35	1,250	1%
RI	320,029	30	4,195	1%	31	4,775	1%
MA	105,999	9	205	<1%	9	205	<1%
TOTAL	680,751	290	8,570	1%	298	10,010	1%

Source: NEC FUTURE team, 2016

Within the Affected Environment of the Preferred Alternative, Baltimore City, MD, has the highest number of parks (42 parks), followed by Philadelphia County, PA (38 parks), and Bronx County, NY (27 parks). In comparison, the Affected Environment of the Existing NEC contains a higher number of parks (52 parks) in Baltimore City, MD and Philadelphia County, PA (40 parks) but a lower number of parks for Bronx County, NY (25 parks). The counties that have the most park acreage in the

[2] Volume 2, Chapter 4, shows the Representative Route for Alternative 3 in the area of Patuxent Wildlife Refuge.

Affected Environment for the Preferred Alternative include Washington County, RI (over 3,760 acres); Providence County, RI (740 acres); and New London County, CT (up to 690 acres). In comparison, the Affected Environment of the Existing NEC contains a lower acreage of parks in Washington County, RI (over 3,180 acres) and New London County, CT (approximately 630 acres), with the same acreage in Providence County, RI. (See Volume 1, Appendix E.04, for a complete list and the acreages of parklands and wild and scenic rivers identified.) Some of the largest parks in the Affected Environment of both the Preferred Alternative and Existing NEC include the Rhode Island Greenway, which goes through Kent, Providence, and Washington, RI; Cockaponset State Forest in New Haven County, CT; and the Patuxent Research Refuge and Patapsco Valley State Park in Maryland. In addition, Gunpowder Falls State Park in Maryland contains some of the largest acreages of parklands in the Affected Environment of the Preferred Alternative, but does not exist in the Affected Environment of the Existing NEC.

In addition, several National Historic and Scenic Trails exist within the Affected Environment of the Existing NEC and Hartford/Springfield Line, and the Preferred Alternative. Sections 7.4.4 and 7.4.5 analyze these trails further.

7.4.4 Environmental Consequences

This section presents the direct effects and proximity effects that would occur to parklands as a result of the implementation of the Preferred Alternative. Direct effects have the potential to result in a conversion of a park to a transportation use. The following types of effects could occur as a result of the construction types and methods proposed:

- At-grade – Direct physical disturbance to existing parklands through the construction and introduction of new track bed and landscaping, and the installation of utilities and/or catenary poles and potential proximity effects (i.e., visual, noise, vibration)
- Trench – Direct physical disturbance to existing parklands through the construction and introduction of new trenches and landscaping, and the installation of utilities and/or catenary poles and potential proximity effects (i.e., visual, noise, vibration)
- Embankment – Direct physical disturbance to existing parklands through the introduction of new retaining walls and/or earthen berms and potential proximity effects (i.e., visual, noise, vibration)
- Aerial Structure or Major Bridge – Direct physical disturbance to existing parklands at the site of abutments and/or pilings on land and in waterways and disturbance to existing parklands through the introduction of new aerial structures and potential proximity effects (i.e., visual, noise, vibration)
- Tunnel – Direct physical disturbance to existing parklands at tunnel boring machine launch sites, ventilation shafts and egress points, and potential proximity effects through vibrations

In addition, temporary construction effects could occur where access roads are created and at staging and lay-down areas. Impacts could include temporary disturbance to existing parklands. Chapter 8, Construction Effects, presents a qualitative description and examples of potential construction-related effects for parklands.

7.4.4.1 No Action Alternative

Projects being implemented under the No Action Alternative will occur within or adjacent to the Existing NEC right-of-way and the Hartford/Springfield Line. Land uses in the Existing NEC and Hartford/Springfield Line are already dedicated to support existing train operations, and the right-of-way contains rail infrastructure and ancillary facilities located adjacent to parklands and wild and scenic rivers. It is expected that within areas of existing transportation use, land uses will not change under the No Action Alternative, and train operations will remain essentially the same as existing conditions; therefore, no new noise or vibration impacts are expected. The introduction of new or modified infrastructure associated with No Action Alternative projects may result in visual effects to parks and wild and scenic rivers within the Affected Environment for the Existing NEC and Hartford/Springfield Line. Additional effects could also include sliver takes in parklands directly adjacent to existing infrastructure. Separate studies will determine effects on these resources associated with the No Action Alternative.

7.4.4.2 Preferred Alternative

Direct Effects: Parks within the Representative Route of the Preferred Alternative

Table 7.4-2 presents the number and acreage of parks that are within the Representative Routes of the Existing NEC and Hartford/Springfield Line, and the Preferred Alternative. The acreage for the Preferred Alternative includes any area crossed by the Existing NEC and Hartford/Springfield Line. The highest acreages occur primarily within the Existing NEC, followed by locations where the Preferred Alternative diverges from the Existing NEC and creates new segments, notably in Rhode Island and Maryland.

Table 7.4-2: Environmental Consequences: Representative Route – Parklands and Wild and Scenic Rivers

Geography	Total Acres of Resources	Existing NEC + Hartford/Springfield Line			Preferred Alternative		
		# of Parks	Acres	% of Total Park Acres	# of Parks	Acres	% of Total Park Acres
D.C.	1,060	4	10	1%	4	10	1%
MD	62,460	23	10	<1%	26	90	<1%
DE	1,050	5	5	<1%	7	10	1%
PA	7,260	17	20	<1%	17	30	<1%
NJ	1,000	5	2	<1%	6	10	1%
NY	3,035	10	50	2%	11	50	2%
CT	126,250	21	70	<1%	24	90	<1%
RI	319,820	20	260	<1%	21	340	<1%
MA	105,905	6	45	<1%	6	45	<1%
TOTAL	627,845	111	475	<1%	122	675	<1%

Source: NEC FUTURE team, 2016

* The Preferred Alternative assumes improvements to the Existing NEC; therefore, the data presented include the Environmental Consequences inclusive of improvements to the Existing NEC and any new route option or off-corridor route associated with the Preferred Alternative.

For all states, the Preferred Alternative crosses up to 3 additional parks than those already crossed by the Existing NEC and Hartford/Springfield Line. The highest acreages of parks within the

Representative Route of the Preferred Alternative fall in Rhode Island, followed by Maryland and Connecticut. Washington County, RI, would have the highest number of parks affected (16 parks), followed by Philadelphia County, PA (12 parks). Most of these parks also occur within the footprint of the Existing NEC. Washington County, RI (up to 270 acres); Baltimore County, MD (up to 40 acres); Bronx County, NY (35 acres), and Suffolk County, MA (up to 35 acres) would have the highest acreage of parks within the Representative Route of the Preferred Alternative. All of the acreages that fall within the Representative Route of the Preferred Alternative in Bronx County, NY, and Suffolk County, NY, also fall within the footprint of the Existing NEC. In contrast, approximately 190 acres in Washington County, RI, and zero acres in Baltimore County, MD, fall within the footprint of the Existing NEC. (See Appendix EE.04, for a complete list and the acreages of parklands and wild and scenic rivers identified.)

With regard to new or upgraded segments, south of New York City, most of the parks and acres that fall within the Representative Route of the Preferred Alternative fall within the new segment between Bayview, MD, and Newport, DE (approximately 85 acres within 18 parks). Additional parks and acreages also fall within the Wilmington Segment (less than 1 acre within 1 park), Philadelphia Segments (approximately 30 acres within 12 parks), and the New Brunswick to Secaucus new segment (approximately 10 acres within 2 parks).

North of New York City, most of the parks and acres that fall within the Representative Route of the Preferred Alternative fall within the Old Saybrook-Kenyon new segment (approximately 90 acres within 13 parks). Additional parks and acreages also fall within the Hartford/Springfield Line (15 acres within 4 parks), and the New Rochelle to Greens Farms new segment (approximately 10 acres within 3 parks).

The Preferred Alternative crosses a wild and scenic river—the White Clay Creek in New Castle, DE. The Preferred Alternative expands the existing crossing and creates a new bridge crossing adjacent to and south of the Existing NEC, which also crosses the river. Based on review of the Tier 1 Draft EIS, the National Park Service (NPS) does not anticipate any potential visual impacts in Tier 1 to the White Clay Creek, as there are no particular visual attributes in the area that would be affected. However, subsequent coordination in Tier 2 should be carried out with the NPS when the exact nature of the proposed crossing is known.

Table 7.4-3 lists the parks that fall outside of the footprint of the Existing NEC and Hartford/Springfield Line and would likely be affected by the Preferred Alternative. The potential effects for each park and the elements of the Preferred Alternative that the effects are associated with are also described within the table.

The Preferred Alternative would likely convert approximately 210 parkland acres to a transportation use. Although the highest acreages of parks within the Representative Route of the Preferred Alternative fall in Rhode Island, Maryland, and Connecticut (Table 7.4-2), only Maryland and Connecticut have the highest acreages that fall outside of the footprint of the Existing NEC and Hartford/Springfield Line and would likely be affected by the Preferred Alternative.

Table 7.4-3: Environmental Consequences: Representative Route – Parklands and Wild and Scenic Rivers

State	County	Resource of Interest	Total Area of Resource (acres)	Number of Acres Affected	% of Total Area Affected	Construction Type	Element(s) of the Preferred Alternative	Potential Impact
MD	Baltimore	Gunpowder Falls Sp	15,950	40	<1%	Aerial	Bayview to Newport (new segment)	Crosses the park; Visual effects
		Herring Run Park	555	1	<1%	Aerial, Embankment		Potential land conversion; Visual and noise effects
	Harford	Anita C. Leight Estuary Center	90	10	11%	Embankment, Trench		Potential land conversion; Potential acquisition; Visual and noise effects
		Belcamp Park	10	1	10%	Embankment		
		Bush Declaration Natural Resources MA	265	1	<1%	Aerial, Embankment		Potential land conversion; Visual and noise effects
		David Craig Park	1	1	100%	Major Bridge		Crosses park; Visual effects
		Havre De Grace Activity Center	4	1	25%	At-grade		Potential land conversion; Potential acquisition; Visual and noise effects
		North Deen Park	10	4	40%	Embankment		
		Perryman Park	90	5	6%	Aerial, Embankment		
	Cecil	Fletchwood Community Park	25	10	40%	Aerial, Embankment		Potential land conversion; Potential acquisition; Visual and noise effects
		West Branch Community Park	30	10	33%			
		Total MD	**17,040**	**80**	**<1%**			

Table 7.4-3: Environmental Consequences: Representative Route – Parklands and Wild and Scenic Rivers (continued)

State	County	Resource of Interest	Total Area of Resource (acres)	Number of Acres Affected	% of Total Area Affected	Construction Type	Element(s) of the Preferred Alternative	Potential Impact
DE	New Castle	Banning Park	150	1	1%	At-grade	Wilmington Segment (bypasses Wilmington Station) Bayview to Newport (new segment)	Potential land conversion; Visual and noise effects
		Cool Run Park	35	1	3%	At-grade	Bayview to Newport (new segment)	Potential land conversion; Visual and noise effects
		Harmony Hills Park	45	1	2%	At-grade		
		Pleasant Hills Park	25	1	4%	Aerial		
		Rutherford Park	5	1	20%	At-grade		
		White Clay Creek Wild and Scenic River	700	1	<1%	Aerial, At-grade, Embankment		Crosses creek; National Park Service does not currently anticipate any potential visual impacts
	Total DE		**960**	**3**	**<1%**			

Table 7.4-3: Environmental Consequences: Representative Route – Parklands and Wild and Scenic Rivers (continued)

State	County	Resource of Interest	Total Area of Resource (acres)	Number of Acres Affected	% of Total Area Affected	Construction Type	Element(s) of the Preferred Alternative	Potential Impact
PA	Delaware	BicyclePA Route E	295	3	1%	At-grade	Philadelphia Segments (new segments)	Potential land conversion; Visual and noise effects
	Philadelphia	John Heinz National Wildlife Refuge	1,075	<1	<1%	Aerial, Embankment		Intersects with a sliver along the boundary of the park; Visual and noise effects
		East Park (Fairmount Park)[1]	610	3	<1%	Major Bridge		Potential land conversion; Visual effects
		Pennypack Creek Park	1,330	1	<1%	Aerial, Embankment		Potential land conversion; Potential acquisition; Visual and noise effects
		West Park (Fairmount Park)[1]	1,295	5	<1%	Major Bridge		Crosses into and follows park for 0.5 mi.; Visual and noise effects
		Bartram's Garden	45	4	9%	Aerial, Embankment		Potential land conversion; Visual and noise effects
		East Coast Greenway	160	1	1%	Embankment		
		Schuylkill River Water Trail	520	1	<1%	Major Bridge		Visual effects
		Pennypack Trail	45	1	2%	Aerial		
	Total PA		**5,370**	**20**	**<1%**			
NJ	Middlesex	Merill Park	180	5	3%	Embankment	New Brunswick to Secaucus (new segment)	Potential land conversion; Potential acquisition; Visual and noise effects
	Union	Merill Park	180[2]	1	1%	Embankment		Potential land conversion; Visual and noise effects
	Total NJ		**180**	**5**	**3%**			
NY	Bronx	Starlight Park	10	4	40%	Aerial, Embankment	Curve modification to Existing NEC	Potential land conversion; Potential acquisition; Visual and noise effects
	Bronx	Pelham Pkwy	80	1	1%	At-grade		Potential land conversion; Visual and noise effects
	Total NY		**90**	**5**	**6%**			

Table 7.4-3: Environmental Consequences: Representative Route – Parklands and Wild and Scenic Rivers (continued)

State	County	Resource of Interest	Total Area of Resource (acres)	Number of Acres Affected	% of Total Area Affected	Construction Type	Element(s) of the Preferred Alternative	Potential Impact
CT	Fairfield	Fivemile River Water Access	5	1	20%	Aerial	New Rochelle to Greens Farms (new segment)	Potential land conversion of sliver of park; Visual and noise effects
		Mianus River Water Access	15	10	67%	Aerial, Embankment, Major Bridge		Potential land conversion; Potential acquisition; Visual and noise effects
		Saugatuck River Water Access	1	1	100%	Aerial		Potential land conversion; Visual and noise effects
	Middlesex	Ragged Rock Creek Marsh Wildlife Area[3]	200	1	1%	Trench	Old Saybrook-Kenyon (new segment)	Visual and noise effects
	New London	Greenway[4]	104,570	2	<1%	Trench		
		Mystic Oral School	65	3	5%	Embankment, Major Bridge		Potential land conversion; Potential acquisition; Visual and noise effects
		Thames River Water Access [5]	45	1	2%	Major Bridge		Visual and noise effects
	Total CT		**335**	**15**	**4%**			
RI	Washington	Bradford/Bradford Dye / Grills Preserve	485	15	3%	Aerial, Embankment	Old Saybrook-Kenyon (new segment)	Potential land conversion; Potential acquisition; Visual and noise effects
		Bradford/Grills / Hopkinton Land Trust	165	4	2%	Aerial, Embankment		
		Burlingame Management Area/ Burlingame Management	990	1	<1%	Trench		Potential land conversion; Visual and noise effects
		Burlingame Management Area/ Drew	210	5	2%	Aerial, Embankment		Potential land conversion; Potential acquisition; Visual and noise effects

Table 7.4-3: Environmental Consequences: Representative Route – Parklands and Wild and Scenic Rivers (continued)

State	County	Resource of Interest	Total Area of Resource (acres)	Number of Acres Affected	% of Total Area Affected	Construction Type	Element(s) of the Preferred Alternative	Potential Impact
RI	Washington (cont'd)	Burlingame Management Area/ Holley	165	1	1%	Trench	Old Saybrook-Kenyon (new segment)	Potential land conversion; Visual and noise effects
		Burlingame Management Area/ Phantom Bog	255	1	<1%	Embankment		Potential land conversion; Potential acquisition; Visual and noise effects
		Great Swamp Management Area/ Great Swamp	2,835	4	<1%	Aerial, Embankment		
		Great Swamp Management Area/ Pelky	10	1	10%	Aerial		Visual effects
		Greenway	104,570	50	<1%	Aerial, Embankment, Trench		Potential land conversion; Potential acquisition; Visual and noise effects
		Stripped	310	1	<1%	Aerial, Embankment		
		Total RI	**109,990**	**80**	**<1%**			
		TOTAL ALTERNATIVE	**133,960**	**210**	**<1%**			

Source: NEC FUTURE team, 2016

1. The Preferred Alternative follows an embankment and major bridge in this area. The FRA discussed the routing of the Preferred Alternative in this area with the City of Philadelphia in June/July 2016. The FRA understands the potential effects of this construction type to these resources and that the Tier 2 process would need to resolve how to achieve the service under the Preferred Alternative with acceptable impacts.
2. Not included in total to avoid double-counting.
3. Affected acreage is a new segment that overlaps with the Existing NEC.
4. Total acreage of park not included in state total or grand total to avoid double-counting. Acres of impact are included in RI total as this is a Rhode Island resource.
5. Adjacent to I-95 Corridor.

The parks that would have the highest acreage potentially converted to a transportation use by the Preferred Alternative are the Rhode Island Greenway (over 50 acres converted), which crosses Kent, Providence, and Washington Counties, RI, and Gunpowder Falls State Park in Baltimore County, MD (approximately 40 acres converted). Note that the greatest acreages do not necessarily imply that the Preferred Alternative would result in the greatest overall impact to the resource. Both of these acreages comprise less than 1 percent of the total park areas. In addition, the Rhode Island Greenway includes natural greenway and greenbelt corridors proposed by the Rhode Island State Greenways Plan. The greenways are buffered to create large bands of land, which may explain the higher-than-average acreage of impact.

The three parks that have the highest percentage of parkland potentially converted to a transportation use by the Preferred Alternative are the David Craig Park in Harford County, MD (100 percent); the Saugatuck River Water Access in Fairfield County, CT (100 percent); and the Mianus River Water Access in Fairfield County, CT (67 percent).

West Park and East Park (part of the Fairmount Park system), as well as Bartram's Garden in Philadelphia, PA, also have the potential to be affected. The Preferred Alternative would minimize land conversions within the National Wildlife Refuge System.

National Historic and Scenic Trails

During the public comment period, the NPS requested further evaluation and consideration of potential effects to National Historic and Scenic Trails. The FRA has included an evaluation of these trails in relationship to the Existing NEC and Preferred Alternative. Through a review of trail data, the FRA identified areas where the Existing NEC and the Preferred Alternative cross National Historic and Scenic Trails. In particular, the NPS requested a review of the area where the Existing NEC crosses the Anacostia River and the Baltimore Washington Parkway in Washington, D.C. The NPS noted that the Existing NEC crosses three trails in that location: Potomac Heritage National Scenic Trail, Star-spangled Banner National Historic Trail, and Washington-Rochambeau National Historic Trail. In this location, improvements associated with the Preferred Alternative occur within the Existing NEC and would not directly affect the trails. Proximity effects, such as increased noise and vibration, may occur.

The FRA identified three types of crossings:

- **Crosses trail in a new location:** This means the Preferred Alternative diverges from the Existing NEC and crosses the trail at a new location.
- **Crosses trail in the same location as the Existing NEC:** This means the Preferred Alternative crosses the trail using the Existing NEC.
- **Crosses trail in the same location as the Existing NEC but outside of the existing rail right-of-way:** This means the Preferred Alternative crosses the trail generally in the same location as the existing rail right-of-way but improvements occur outside of the existing rail right-of-way.

Without field investigations, the FRA could not evaluate more-detailed information of property boundaries, and site-specific conditions and specific effects at these crossings. However, general

effects could result from the need to modify trails to ensure pedestrian/bicycle safety, maintain access to the trail, or to preserve unique features of the trail. In addition to potential direct effects, potential proximity effects (i.e., visual, noise, vibration) and temporary construction effects could occur in all locations where the Preferred Alternative crosses National Historic and Scenic Trails. These effects could have temporary or permanent effects on the user experience. Coordination with NPS will be carried out during Tier 2 project analysis to ensure safe continuation of trail use during construction.

Table 7.4-4 identifies the National Historic and Scenic Trails that the Preferred Alternative crosses 1) in a new location and 2) in the same location as the Existing NEC but outside of the existing rail right-of-way. Appendix EE.04 documents where the Preferred Alternative crosses the National Historic and Scenic Trails, using the Existing NEC.

Table 7.4-4: Environmental Consequences: Representative Route – National Historic and Scenic Trails

County	National Historic and Scenic Trail	Description
Baltimore City (MD)	Star-Spangled Banner National Historic Trail	In one location, the Preferred Alternative crosses resource in a new location compared to the Existing NEC. In another location, the Preferred Alternative crosses resource in the same location as the Existing NEC, but outside of the existing rail right-of-way.
	Washington-Rochambeau National Historic Trail	Preferred Alternative crosses resource in the same location as the Existing NEC, but outside of the existing rail right-of-way.
Harford County (MD)	Captain John Smith Chesapeake National Historic Trail	Preferred Alternative crosses resource in the same location as the Existing NEC, but outside of the existing rail right-of-way (expands the Existing NEC).
	Washington-Rochambeau National Historic Trail	Preferred Alternative crosses resource in the same location as the Existing NEC in four locations, but outside of the existing rail right-of-way (expands the Existing NEC).
Cecil County (MD)	Captain John Smith Chesapeake National Historic Trail	Preferred Alternative crosses resource in a new location compared to the Existing NEC.
	Star-Spangled Banner National Historic Trail	Preferred Alternative crosses resource in the same location as the Existing NEC, but outside of the existing rail right-of-way (expands the Existing NEC).
	Washington-Rochambeau National Historic Trail	Preferred Alternative crosses resource in a new location (in a tunnel) compared to the Existing NEC.
New Castle County (DE)	Washington-Rochambeau National Historic Trail	Preferred Alternative crosses resource in the same location as the Existing NEC, but outside of the existing rail right-of-way.
Philadelphia County (PA)	Washington-Rochambeau National Historic Trail	Preferred Alternative crosses resource in a new location compared to the Existing NEC.
Middlesex County (NJ)	Washington-Rochambeau National Historic Trail	Preferred Alternative crosses resource in the same location as the Existing NEC in two locations, but outside of the existing rail right-of-way (expands the Existing NEC).

Source: NEC FUTURE team, 2016

Proximity Effects

Parklands within the Affected Environment that are adjacent to the Representative Route of the Preferred Alternative could experience proximity effects such as visual interference or noise that may affect the designated use for which the parkland was intended. Proximity effects could result from new service or infrastructure, such as new noise and vibration impacts from an increase in trains passing, and visual impacts resulting from new construction and operations. However, parklands that would experience the greatest effects would be those where all or portions of the parkland are within the Representative Route of the Preferred Alternative.

Examples of parks that abut the Representative Route of the Preferred Alternative where it follows the Existing NEC are listed below. In these locations, the FRA adjusted the Representative Route of the Preferred Alternative, relative to the Representative Routes of the Action Alternatives so as to minimize effects to the following resources:

- Patuxent Research Refuge (Prince George's and Anne Arundel Counties, MD) – The Existing NEC and Preferred Alternative follow the eastern boundary of the refuge.
- John Heinz National Wildlife Refuge (Delaware and Philadelphia Counties, PA) – The Preferred Alternative utilizes an existing rail line that abuts the southeastern boundary of the refuge.
- Stewart B. McKinney National Wildlife Refuge – Salt Meadow Unit (Middlesex County, CT) – The Existing NEC and Preferred Alternative follow the southern boundary of the refuge.

In addition, the Existing NEC crosses the following National Historic and Scenic Trails in certain locations and the FRA does not propose any modification in footprint of the Existing NEC in these areas under the Preferred Alternative: Captain John Smith Chesapeake National Historic Trail; Potomac Heritage National Scenic Trail; Star-Spangled Banner National Historic Trail; and New England National Scenic Trail.

These parks would experience proximity effects attributed to expanded service as well as temporary construction effects. Subsequent analysis conducted during the planning process for Tier 2 projects will further evaluate potential for proximity effects.

7.4.5 Stations

Table 7.4-5 summarizes the potential Environmental Consequences of the proposed stations on parklands, including National Historic and Scenic Trails. The table lists only those locations where impacts would occur at new and modified stations that are part of the Preferred Alternative.

New and modified stations as well as increases in rail service under the Preferred Alternative could create new access to existing and future parklands and could contribute to increasing demand for outdoor recreation opportunities. Examples of parklands that are within a half-mile of new or modified station locations include the following:

- East Coast Greenway
- Pelham Bay Park

- Blackstone River Valley National Heritage Corridor
- Star-Spangled Banner National Historic Trail
- Washington-Rochambeau National Historic Trail
- Captain John Smith Chesapeake National Historic Trail

The Preferred Alternative also increases service to existing stations near parklands. Although access to parklands may improve in these locations, the opportunities for increased access to parklands are greater along new or modified stations.

Table 7.4-5: Environmental Consequences: Preferred Alternative – Modified or New Stations – Parklands and Wild and Scenic Rivers

State	County	Station ID	Station Type	Station Name	Acres	Affected Parks
PA	Delaware	34	New	Baldwin	3	▪ Washington-Rochambeau National Trail ▪ BicyclePA Route E
NY	Bronx	81	New	Co-op City	10	▪ Pelham Bay Park
Hartford/Springfield Line						
No effects.						

Source: NEC FUTURE team, 2016

7.4.6 Context Area

The Preferred Alternative contains over 2,000 parks in the Context Area. If the Representative Route shifted during further design at Tier 2, it is likely that different parks as well as different acreages of the larger parks (those over 100 acres) within the Context Area would be encountered. A summary of the parks with large areas in the Context Area is provided below by geography:

- **Washington, D.C.**: Five parks have over 100 acres: Anacostia Park, the National Arboretum, National Mall, East Potomac Park, and West Potomac Park/Lincoln Memorial/Vietnam Veterans Memorial.
- **Maryland:** Some of the larger parks, some of which cross more than one county include Patuxent River Park, Patuxent Research Refuge, Patapsco Valley State Park, Gunpowder Falls State Park, and Elk Neck State Forest.
- **Delaware:** Nine parks have over 100 acres: White Clay Creek State Park, Middle Run Valley Natural Area, Iron Hill Park, Bellevue State Park, Alapocas Run State Park, White Clay Creek Wild and Scenic River, Banning Park, Brandywine Park, and Carousel Park.
- **Pennsylvania:** Seven parks are located across more than one county: Bicycle PA Route E, Cobbs Creek Park, East Coast Greenway, Eastwick Regional Park, John Heinz National Wildlife Refuge at Tinicum, Schuylkill River Water Trail, and Tidal Delaware Water Trail.
- **New Jersey:** New Jersey contains several parks with over 100 acres, including Mercer County Park, Six Mile Run, Sawmill Creek/WMA, and D&R Canal/SP. Six parks are located in more than

one county: D&R Canal/SP, Hazelwood Cemetery, Merill Park, Oak Ridge Park, Sawmill Creek/WMA, and the Tidal Delaware Water Trail.

- **New York:** The largest parks with over 100 acres include Pelham Bay Park, Central Park, Saxon Woods County Park, and Bronx Park. Pelham Bay Park also spans more than one county. Five additional parks, smaller in size, are located in more than one county: Astoria Athletic Field, Bridge Park (George Washington), East River/State Park, Field of Dreams Park, and Roberto Clemente/State Park. All of these parks except Roberto Clemente/State Park are New York City parks.
- **Connecticut:** Six parks are located across more than one county: Cockaponset State Forest, Charles E. Wheeler Wildlife Area, Connecticut River Water Access, Hammonasset Beach State Park, Hammonasset Natural Area Preserve, and Lamentation Mountain State Park Scenic Reserve.
- **Rhode Island:** Many parks in Rhode Island have over 100 acres. Some of the largest parklands include the Rhode Island Greenway, the Great Swamp Management Area/Great Swamp, and the Burlingame/Burlingame State Park. Four park resources are located across more than one county: Cranston Washington Secondary Bike Path, Rhode Island Greenway, Washington Secondary Bike Path, and additional bike lanes.
- **Massachusetts:** Two parks have over 100 acres: Borderland State Park (located across two counties) and Norfolk County Canoe River Wilderness. The Rhode Island Greenway also includes resources in Massachusetts.

Section 7.4.5 of Volume 2 contains more-detailed descriptions of many of these resources.

7.4.7 Comparison to the Action Alternatives

Similar to many of the Action Alternatives, the majority of parkland conversions under the Preferred Alternative would occur in Maryland and Rhode Island. However, the Preferred Alternative would convert approximately 210 acres of parkland to a transportation use, which is less than any of the Action Alternatives. Alternatives 1 and 2 would convert approximately 290 acres, whereas Alternative 3 would convert approximately 390–605 acres, depending on the route option.

The Action Alternatives evaluated in the Tier 1 Draft EIS identified effects on the Patuxent Research Refuge in Maryland, the John Heinz at Tinicum National Wildlife Refuge in Pennsylvania, and the Salt Meadow unit of Stewart B. McKinney National Wildlife Refuge in Connecticut. However, the FRA has identified a Preferred Alternative that minimizes effects on these resources by incorporating a Representative Route or new segments that minimize impacts to units of the National Wildlife Refuge System. The Preferred Alternative minimizes direct impacts to Patuxent Research Refuge and Salt Meadow unit of Stewart B. McKinney National Wildlife Refuge. The Preferred Alternative has been modified to stay within the existing rail corridor near the John Heinz National Wildlife Refuge to minimize effects. However, a sliver impact of less than one acre to the refuge has been identified. It is expected that during Tier 2 project studies, the routing in this area will continue to be refined and measures to minimize harm will be evaluated.

7.4.8 Potential Mitigation Strategies

Parkland resources are unique in that they each may provide different recreational opportunities and activities. Potential mitigation should be based not only on the effect anticipated but also on the characteristics of the specific resource affected. Examples of potential mitigation strategies could include design or construction modifications to avoid conversion of a parkland resource, the use of context-sensitive design in future stages of project development, the incorporation of natural design features such as earthen berms and tree plantings, as well as allocation of replacement parkland or open space. In addition, fencing and other approaches could be implemented to protect the safety of those using the parkland.

7.4.9 Subsequent Tier 2 Analysis

Subsequent analysis conducted during the planning process for Tier 2 projects will further define the effects to parklands and wild and scenic rivers, including municipal and local parks and privately held recreational or preservation lands, such as the Blue Blazed Hiking Trails, which are privately held trails located near the Preferred Alternative. The Connecticut Forest and Park Association identified these trails during the Tier 1 Draft EIS comment period. Tier 2 project analyses will also include evaluation of additional state programs, such as Maryland's State Scenic and Wild River program. Information will be collected with regard to activities (e.g., passive or active uses) and potentially affected user groups. Additionally, Tier 2 project studies will define a specific alignment that seeks to avoid the use of parklands, recreation areas and conservation areas. Potential options to avoid and minimize effects on parkland resources include shifting the Representative Route and re-evaluating the proposed construction types identified for the Preferred Alternative. The Fairmount Park system (West Park and East Park) in Philadelphia is an example of where changes in construction type could minimize effects on this resource.

Use of publicly owned parklands and wildlife/waterfowl refuges will be subject to Section 4(f) of the U.S. Department of Transportation Act. Where a use is unavoidable, the Tier 2 project analysis will include the development of mitigation measures and designs that avoid or minimize effects on parklands, wildlife/waterfowl refuges, National Historic and Scenic Trails and heritage areas. Effects on parkland resources that have been improved or purchased by funds through the Land and Water Conservation Fund Act (Section 6(f)) are subject to the requirements listed there within. For more discussion on the requirements for subsequent Tier 2 project evaluations, see Table 2 of the Parklands and Wild and Scenic Rivers Effects-Assessment Methodology Report (Volume 2, Appendix E.04).