

Appendix E.10

Visual and Aesthetic Resources

APPENDIX E.10

VISUAL AND AESTHETIC RESOURCES – ERRATA SHEET

No changes were made to the materials in this appendix. This Volume 2 file contains the same information as was presented in the Tier 1 Draft EIS published November 2015.



Visual and Aesthetic Resource Methodology

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Submitted by:



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1. Visual and Aesthetic Resources

1.1 INTRODUCTION

This methodology explains how the NEC FUTURE program will address the potential effects of the Tier 1 EIS Alternatives on visual and aesthetic resources in the Tier 1 EIS. The major components of this evaluation process include establishing the visual environment of the project and assessing the visual and aesthetic resources.

This methodology presents the regulatory framework, involved government agencies, expected regulatory and other outcomes of the Tier 1 EIS process, and relevance to Tier 2, project-level assessments. It also identifies data sources, metrics, and methods to be used to document existing conditions and analyze environmental consequences. This methodology may be revised as the NEC FUTURE program advances and new information is available.

1.2 DEFINITIONS

Visual and aesthetic resources include features of both the built and natural environment that together make the visual environment. Examples of these resources can include parks; natural areas; scenic features; open vistas; water bodies; and other landscape features. Historic or urban core districts can also be visual resources. All of these visual resources create aesthetic qualities that are valued by viewers.

Visual and aesthetic resources are often described in terms of their visual quality. Visual quality is an attribute or characteristic based on professional, public, or personal values and the intrinsic physical properties of the landscape. Visual quality is influenced by intactness or the extent to which the resource is free from obstruction.

Visual and aesthetic effects result from changes in the visual landscape and the viewer's response or sensitivity to these changes.

1.3 RELATED RESOURCES

The effects assessment from other resources evaluated as part of the Tier 1 EIS will contribute to the assessment of effects on visual and aesthetic resources. These related resources are identified in Table 1. Note that the individual effects assessments for those related resources will be documented within their respective Tier 1 EIS sections.

Table 1: Related Resource Inputs to Visual and Aesthetic Resources Assessment

Resource	Input to Visual and Aesthetic Assessment
Transportation	<ul style="list-style-type: none"> ▪ Location of existing and proposed transportation corridors and facilities to assess compatibility with the proposed Tier 1 EIS Alternatives ▪ Location of existing and proposed passenger rail stations to assess potential effects on existing or proposed land cover classifications
Land Cover	<ul style="list-style-type: none"> ▪ General information about the land cover types and delineation of areas where there may be open vistas or natural/human made landscape features for additional evaluation
Water Resources	<ul style="list-style-type: none"> ▪ Hydrologic features (major rivers, streams, etc.) that may be distinct landscape features across all land cover classifications
Ecological Resources	<ul style="list-style-type: none"> ▪ Distinct natural features or wildlife areas
Parklands/Wild and Scenic Rivers	<ul style="list-style-type: none"> ▪ Supplemental information about parklands and Wild and Scenic Rivers including type and accessibility that may provide visual and aesthetic resources and/or to identify the potential for change in use
Cultural and Historic Resources	<ul style="list-style-type: none"> ▪ Supplemental information about eligible and listed historic sites (archaeological or architectural) within the affected environment to assess the potential effects within the affected environment and/or areas of concern within the context area across all of the land cover classifications
Noise and Vibration	<ul style="list-style-type: none"> ▪ Supplemental information to identify areas with increased noise and vibration levels that may identify areas where future mitigation may result in some type of noise/vibration barrier

Source: NEC FUTURE JV Team, 2013

1.4 AGENCY AND REGULATORY FRAMEWORK

Visual and aesthetic resources are subject to regulation by multiple federal agencies and multiple legislative and regulatory vehicles. Applicable legislation and regulations, listed in Table 2, will be considered, consistent with a Tier 1 level of assessment, in the evaluation of visual and aesthetic resources for the NEC FUTURE program.

Table 2: Management and Regulation of Visual and Aesthetic Resources

Federal Agency	Regulatory Oversight	Description of Regulation	Regulated Resource
Federal Highway Administration	<ul style="list-style-type: none"> ▪ National Scenic Byways (Title 23, Section 162 of the United States Code, TEA-21, SAFETEA-LU) 	<ul style="list-style-type: none"> ▪ Preserves, enhances identified roadways that possess certain cultural, historic, scenic, natural or recreational qualities 	<ul style="list-style-type: none"> ▪ National Scenic Byways
National Parks Service	<ul style="list-style-type: none"> ▪ 36 CFR Parts 1 to 199 – Parks, Forests, and Public Property 	<ul style="list-style-type: none"> ▪ Provides for the proper use, management, government, and protection of persons, property, and natural and cultural resources within areas under the jurisdiction of the National Park Service. 	<ul style="list-style-type: none"> ▪ Federal Parks ▪ Federal Recreation areas ▪ Federal Heritage areas

Source: NEC FUTURE JV Team, 2013

Additionally the Federal Highway Administration (FHWA) has published a guidance document titled: Visual Impact Assessment for Highway Projects, Pub # FHWA-HI-88-054. This guidance presents an approach used to identify the importance of visual resources and to assess the impact of effects to these resources.

A number of visual resources (parks, scenic areas, National Register of Historic Places/Landmarks) are under the jurisdiction of the National Park Service (NPS). Proposed changes in visual environment surrounding these resources may require coordination with the National Parks Service (NPS). Specific coordination with the NPS will be addressed within the Parklands and Wild and Scenic Rivers Methodology and the Cultural and Historic Resources Methodology.

1.4.1 Regulatory Compliance

No formal agency approvals would be requested for the Tier 1 EIS. However, the FRA will engage in dialogue with the FHWA and NPS on methodologies, assumptions, and findings of the Tier 1 EIS analysis. The requirements for subsequent Tier 2 evaluations will be described in the Tier 1 EIS. During the Tier 1 EIS, the FRA will identify potential opportunities to streamline subsequent Tier 2 environmental reviews (see Section 1.7). Coordination with FHWA and NPS will be consistent with the NEC FUTURE's Agency Coordination Plan and support the Statement of Principles (SOP) established between the FRA and federal regulatory agencies as part of the Council on Environmental Quality (CEQ) Pilot program.

1.5 EFFECTS METHODOLOGY

This effects assessment methodology identifies the approach and assumptions for describing existing conditions of visual and aesthetic resources and environmental consequences of the Tier 1 EIS Alternatives on those resources. It identifies data sources, defines the Affected Environment and Context Area considered for visual and aesthetic resources, and the approach for evaluating potential direct effects.¹ Direct effects include encroachment or alternation of existing visual and aesthetic resources. Indirect effects,² such as those resulting from induced growth, as a result of the Tier 1 EIS Alternatives will be addressed in a separate methodology (see Indirect Effects Assessment Methodology).

1.5.1 Existing Conditions

The data sources listed in Table 3 will be used to establish the existing conditions for visual and aesthetic resources.

¹ Direct Effects are caused by the action and occur at the same time and place (40 CFR § 1508.8)

² Indirect effects are those that occur later in time or are further removed in distance (40 CFR § 1508.8)

Table 3: Visual and Aesthetic Resources Data Sources

Topic	Data Source	Data Application
Visual and Aesthetic Resources	<ul style="list-style-type: none"> ▪ Bing Maps and Aerial Photography ▪ Scenic Byway data and plans 	<ul style="list-style-type: none"> ▪ Identification of open areas and natural landscapes ▪ Identification of scenic byways
Land Cover	<ul style="list-style-type: none"> ▪ National Land Cover Database 	<ul style="list-style-type: none"> ▪ Confirm visual assessment of Bing Maps and supplement parklands and cultural and historic resources data
Parklands and Wild and Scenic Rivers	<ul style="list-style-type: none"> ▪ See Parklands Wild and Scenic Rivers 	<ul style="list-style-type: none"> ▪ Identification of parklands such as State Park or trail systems
Ecological Resources	<ul style="list-style-type: none"> ▪ See Ecological Resources 	<ul style="list-style-type: none"> ▪ Identification of distinct natural or wildlife areas
Cultural and Historic Resources	<ul style="list-style-type: none"> ▪ See Cultural and Historic Resources 	<ul style="list-style-type: none"> ▪ Identification of cultural and historic resources, such as historic properties on the National Register of Historic Places or tribal areas
Water Resources	<ul style="list-style-type: none"> ▪ See Water Resources and Wetlands Methodology ▪ See Floodplains Methodology ▪ See Coastal Zones and Saltwater Wetlands Methodology 	<ul style="list-style-type: none"> ▪ Confirm visual assessment of water resources on Bing Maps

Source: NEC FUTURE JV, 2013

Visual and Aesthetic resources will be identified using GIS and documented by generating a list of key visual resources. The visual resource list will include the following data:

- ▶ Resource (including the resource name if available)
- ▶ Location by county
- ▶ Tier 1 EIS Alternative where a portion or all of the visual and aesthetic resource is within the affected environment.
- ▶ Brief description to provide “visual setting” based on overlay data from parklands, land cover, water resources, ecological resources, and cultural and historic resources.

Unique maps will not be developed for visual and aesthetic resources. As needed, visual and aesthetic resources will cross reference maps within the Parklands and Wild and Scenic Rivers Section, the Land Cover Section, the Water Resources Section, the Ecological Resources Section, and the Cultural and Historic Resources Section.

The existing conditions for visual and aesthetic resources will be documented in the Tier 1 EIS for an established Affected Environment and Context Area. The affected environment is a 1-mile swath centered on the representative route for the Tier 1 EIS Alternatives. This 1-mile swath is sufficiently wide to:

- ▶ Encompass and account for the improvements associated with a Representative Route including infrastructure improvements (such as embankments, aerial structures, track improvements), ancillary facilities (such as stations, yards, and parking structures) or service changes.
- ▶ Account for contiguous visual features that extend beyond the Representative Route.
- ▶ Consider the maximum practical distance, considering obstructions, from which a viewer may see a project related improvement.

Resources identified in Table 1 will be reviewed to identify visually sensitive resources (parklands, cultural resources, water resources, ecological resources) within the Affected Environment. Visually sensitive resources will be documented by county and state. A brief description of the resources' features, including intactness, will be provided.

The Context Area is 5 miles wide, centered on the representative route for each of the Tier 1 EIS Alternatives. Within the Context Area, visual and aesthetic resources will be identified through the Parklands and Wild and Scenic Rivers, Land Cover, Ecological Resources, Water Resources and Cultural and Historic Resources Analysis. For resources within the Context Area, general characteristics of and location of visual and aesthetic resources will be presented; this information will be used to supplement the quantitative analysis of the effects for the Affected Environment.

1.5.2 Environmental Consequences

Environmental consequences for the Tier 1 EIS Alternatives will be assessed within the Affected Environment. A qualitative assessment of resources present in the Context Area will be used to supplement the effects assessment.

For the Affected Environment, potential effects of Tier 1 EIS Alternatives on visual and aesthetic resources will be undertaken using GIS mapping and Bing Aerial Photography. This will be done as described below:

1. Overlay GIS data indicating proposed construction elements and/or ancillary facilities associated with each alternative, with those resources identified as visually sensitive.
2. Identify where new visual elements, such as elevated structures and water crossings, related to the Tier 1 EIS Alternatives are introduced in proximity to or within sight of a visually sensitive resource. The introduction of a new visual element in proximity to or within a reasonable viewshed of the resource will be considered a potential effect. An evaluation of a resources' intactness and how the new visual element affects that will be considered.
3. Identify areas where the Tier 1 EIS Alternatives require removal of an existing visual feature, such as clearing of wooded areas and changes in existing topography.
4. Identify potential changes to visually sensitive areas and areas having unique aesthetic qualities as a result of the proposed rail infrastructure (such as embankments, aerial structures, track improvements), ancillary facilities (such as stations, yards and parking structures), or service changes

Visual and aesthetic resources within the Context Area will be qualitatively discussed based on information from the resources listed in Table 1. Visual and aesthetic resources from the perspective of the viewer and the viewer's sensitivity to changes in the visual character will be evaluated as part of the Tier 2 environmental assessment.

Temporary construction-related effects to visual and aesthetic resources will be described as to the location, duration and type of activity. The NEC FUTURE program overall approach to assessing construction-related effects at the Tier 1 EIS level is further described in a separate Construction Effects Assessment Approach document. Construction methods and activities for Alternatives Considered will be the basis of this assessment and will be described in Chapter 2.

1.5.3 Mitigation Strategies

A menu of potential mitigation measures will be developed on a programmatic scale for further consideration in Tier 2. Examples of programmatic mitigation measures for visual and aesthetic resources would include the use of context sensitive design features for ancillary facilities and incorporation of natural screening, such as landscaping, or buffers.

1.6 TIER 1 EIS OUTCOMES

This Tier 1 EIS visual and aesthetics resources assessment will:

- ▶ Identify dominant visual features and landscape components of the Affected Environment, noting the type of visual resource and aesthetic quality; each resource would be listed by State and County in a table
- ▶ Identify where there may be changes to the existing visual and aesthetic resources
- ▶ Identify where new visual elements are introduced in proximity to or within sight of a visually sensitive resource
- ▶ Identify potential mitigation strategies

Maps will not be provided for visual resources as many of the features will be identified in maps for other resource areas, such as Parklands and Wild and Scenic Rivers, and Cultural and Historic Resources. References to these maps may be included in the visual and aesthetic resource assessment.

1.7 APPLICABILITY TO TIER 2 ASSESSMENTS

The Tier 1 EIS will identify areas where there is potential for visual effects. More detailed visual effects assessment based on design plans and profiles will be performed as part of subsequent Tier 2 evaluations.

The Tier 2 assessment will likely characterize resources based on vividness, intactness, and unity;³ refine the potential effects on visual resources; assess the viewers and the viewer's sensitivity to change; and address specific mitigation measures for those site-specific effects.

Additionally, the FRA will identify ways in which agency coordination during the Tier 1 EIS process could create efficiencies and help streamline subsequent Tier 2 reviews and approvals. For example, if a particular portion or element of a Tier 1 EIS Alternatives avoids visual and aesthetic resources or any other impact on visual and aesthetic resources, the FRA may coordinate with the FHWA and the NPS to determine whether or not those portions need further evaluation during the Tier 2 environmental review process.

³ Vividness: The memorability of the visual impression received from the visual resource.
Intactness: The extent to which the visual resource is free from visual encroachment by other elements.
Unity: The degree to which various landscape components and visual resources join together to form a coherent visual pattern. Unity refers to the compatibility between landscape elements.

Application of Effects-Assessment Methodology

10.1 VISUAL AND AESTHETIC RESOURCES: APPLICATION OF THE EFFECTS-ASSESSMENT METHODOLOGY

10.1.1 Variations to the Effects-Assessment Methodology Variations

The following variations from the Effects-Assessment Methodology occurred during the process of developing the Tier 1 Draft EIS analysis:

- ▶ Effects on visual and aesthetic resources were discussed qualitatively as related to changes in the visual landscape and the viewer’s response or sensitivity to these changes. In the Environmental Consequences section, potential consequences are identified by the potential change in visual condition as a result of new infrastructure and/or stations.
- ▶ Intactness was removed as a criterion from both the existing conditions and Environmental Consequences analysis. Determination of intactness would be appropriate as part of the field work performed as part of the Tier 2 assessments.

10.1.2 Data Variations

Data from other resources evaluated as part of the Tier 1 Draft EIS contributed to the assessment of effects on visual and aesthetic resources. No new datasets were created. Information about the development of the data used in the visual and aesthetic analysis is found within the Appendix E resource materials for land cover, parklands, and wild and scenic rivers, ecological resources, and cultural resources and historic properties.

10.1.3 Criteria for Analysis

Existing Conditions

- ▶ Affected Environment: Identification of visual and aesthetic resources by state, county, and type of resource was provided, based on the following:
 - Parks greater than 10 acres or alongside the Affected Environment for at least 1,500 feet were included in the inventory of resources.
 - Waterbodies greater than 20 acres or alongside the Affected Environment for at least 1,500 feet were included in the inventory of resources. Swamps larger than 500 acres were also included.
 - Cultural resources and historic properties include all NHLs within the Affected Environment. Other cultural and historic resources, such as those on the National Register of Historic Places (NRHP), were assessed in aggregate.
 - Land Cover includes rural, suburban, and urban based upon aerial photography and confirmed with the Land Cover dataset.

Environmental Consequences

- ▶ The evaluation focused on areas where new visual elements would be introduced to the landscape. New visual elements include new stations, new alignment, or a change in the construction type.

Environmental Consequences – Stations

- ▶ The stations analysis considered all new stations. Underground stations would have minimal effects to visual resources because they do not impact the view shed in the same manner as an above ground station due to the size of the structure. Underground stations may still include vent shafts or passenger entrances with a potential to impact visual and aesthetic resources.

Data Matrices

State	County	Resource	Resource type	Existing NEC	Alternative 1	Alternative 2	Alternative 3				Qualitative "Highlights"
							via CC and PVD (3.1)	via LI and PVD (3.2)	via LI and WOR (3.3)	via CC and WOR (3.4)	
CT	Fairfield	Cos Cob Harbor	Water	X	X	X	X	X	X	X	
CT	Fairfield	Fivemile River	Water	X	X	X	X	X	X	X	
CT	Fairfield	Fivemile River Access	Coastal & Water		X	X	X	X	X	X	Resource bisected by Representative Route
CT	Fairfield	Greenwich Cove	Water	X	X	X	X	X	X	X	
CT	Fairfield	Housatonic River	Water	X	X	X	X	X	X	X	
CT	Fairfield	Indian River	Water	X	X	X	X	X	X	X	
CT	Fairfield	Mill River	Water	X	X	X	X	X	X	X	
CT	Fairfield	Noroton River	Water	X	X	X	X	X	X	X	
CT	Fairfield	Norwalk River	Water	X	X	X	X	X	X	X	
CT	Fairfield	Paugussett State Forest	Wildlife & Conservation				X			X	Resource bisected by Representative Route
CT	Fairfield	Pequonnock River	Water	X	X	X	X	X	X	X	
CT	Fairfield	Rippowam River	Water	X	X	X	X	X	X	X	
CT	Fairfield	Rooster River	Water	X	X	X	X	X	X	X	
CT	Fairfield	Saugatuck River	Water	X	X	X	X	X	X	X	
CT	Fairfield	Saugatuck River Access	Coastal & Water		X	X	X	X	X	X	Resource bisected by Representative Route
CT	Fairfield	Sherwood Island State Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
CT	Hartford	Farmington Canal Line State Park Trail	Trail				X			X	Resource bisected by Representative Route
CT	Hartford	Lamentation Mountain State Park Scenic Reserve	Park			X		X	X		
CT	Hartford	Silver Lake Water Access	Coastal & Water			X					
CT	Manchester	Wickham Park	Park						X	X	
CT	Middlesex	Connecticut River	Water	X	X	X	X	X	X	X	
CT	Middlesex	Hammock River Marsh Wildlife Area	Coastal & Water	X	X	X	X	X	X	X	
CT	Middlesex	Ragged Rock Creek Marsh Wildlife Area	Coastal & Water	X	X	X	X	X	X	X	Resource bisected by Representative Route: Existing NEC and Old Saybrook-Kenyon New Segment
CT	Middlesex	Tributary to Connecticut River	Water	X	X	X	X	X	X	X	
CT	New Haven	Aldo Leopold Wildlife Area	Wildlife & Conservation				X			X	Resource bisected by Representative Route
CT	New Haven	Beaver Swamp Brook	Water	X	X	X	X	X	X	X	
CT	New Haven	Cockaponset State Forest	Wildlife & Conservation	X	X	X	X	X	X	X	Resource bisected by Representative Route
CT	New Haven	Cove River	Water	X	X	X	X	X	X	X	
CT	New Haven	East River	Water	X	X	X	X	X	X	X	
CT	New Haven	Farm River	Water	X	X	X	X	X	X	X	
CT	New Haven	George C. Waldo State Park Scenic Reserve	Park				X			X	Resource bisected by Representative Route
CT	New Haven	Great Harbor Wildlife Area	Wildlife & Conservation	X	X	X	X	X	X	X	Resource bisected by Representative Route
CT	New Haven	Hammock River	Water	X	X	X	X	X	X	X	
CT	New Haven	Hammonasset River	Water	X	X	X	X	X	X	X	
CT	New Haven	Housatonic River Water Access	Coastal & Water	X	X	X	X	X	X	X	Resource bisected by Representative Route
CT	New Haven	Indian River	Water	X	X	X	X	X	X	X	
CT	New Haven	Larkin State Park Trail	Trail				X			X	Multiple intersect points with Representative Route
CT	New Haven	Menunketesuck River	Water	X	X	X	X	X	X	X	
CT	New Haven	Milford Reservoir	Water	X	X	X	X	X	X	X	
CT	New Haven	Mill River	Water	X	X	X	X	X	X	X	
CT	New Haven	Neck River	Water	X	X	X	X	X	X	X	
CT	New Haven	Oyster River	Water	X	X	X	X	X	X	X	
CT	New Haven	Patchogue River	Water	X	X	X	X	X	X	X	
CT	New Haven	Phipps Lake	Water	X	X	X	X	X	X	X	
CT	New Haven	Pine Orchard Marsh Wildlife Area	Coastal & Water	X	X	X	X	X	X	X	Resource bisected by Representative Route
CT	New Haven	Quinnipiac River	Water	X	X	X	X	X	X	X	
CT	New Haven	Quinnipiac River Marsh Wildlife Area	Coastal & Water	X	X	X	X	X	X	X	Resource bisected by Representative Route
CT	New Haven	Tributary to Farm River	Water	X	X	X	X	X	X	X	
CT	New Haven	Upper Lake Phipps	Water	X	X	X	X	X	X	X	

State	County	Resource	Resource type	Existing NEC	Alternative 1	Alternative 2	Alternative 3				Qualitative "Highlights"
							via CC and PVD (3.1)	via LI and PVD (3.2)	via LI and WOR (3.3)	via CC and WOR (3.4)	
CT	New Haven	Wepawaug River	Water	X	X	X	X	X	X	X	
CT	New Haven	West River	Water	X	X	X	X	X	X	X	
CT	New Haven	West River Marsh Wildlife Area	Coastal & Water	X	X	X	X	X	X	X	Resource bisected by Representative Route
CT	New London	Barn Island Wildlife Area	Wildlife & Conservation	X	X	X	X	X	X	X	Resource bisected by Representative Route
CT	New London	Birch Plain Creek	Water	X	X	X	X	X	X	X	
CT	New London	Bluff Point State Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
CT	New London	Duck River	Water	X	X	X	X	X	X	X	
CT	New London	Fourmile River	Water	X	X	X	X	X	X	X	
CT	New London	Great Island Wildlife Area	Wildlife & Conservation	X	X	X	X	X	X	X	Resource bisected by Representative Route
CT	New London	Haley Farm State Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
CT	New London	Lieutenant River	Water	X	X	X	X	X	X	X	
CT	New London	Mystic River	Water	X	X	X	X	X	X	X	
CT	New London	Niantic River	Water	X	X	X	X	X	X	X	
CT	New London	Pattagansett River	Water	X	X	X	X	X	X	X	
CT	New London	Pawcatuck River	Water	X	X	X	X	X	X	X	
CT	New London	Poquonock River	Water	X	X	X	X	X	X	X	
CT	New London	Quanaduck Cove	Water	X	X	X	X	X	X	X	
CT	New London	Rocky Neck State Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
CT	New London	Six Penny Island Wildlife Area	Wildlife & Conservation	X	X	X	X	X	X	X	Resource bisected by Representative Route
CT	New London	Stonington Harbor	Water	X	X	X	X	X	X	X	
CT	New London	Thames River	Water	X	X	X	X	X	X	X	
CT	New London	Thames River Water Access	Coastal & Water	X	X	X	X	X	X	X	Resource bisected by Representative Route
CT	New London	Threemile River	Water	X	X	X	X	X	X	X	
CT	New London	Wequetequock Cove	Water	X	X	X	X	X	X	X	
CT	Tolland	Bolton Notch State Park Scenic Reserve	Park			X	X	X	X	X	Resource bisected by Representative Route
CT	Tolland	Hop River State Park Trail	Trail			X		X	X		
CT	Tolland	Mansfield Hollow Wildlife Area	Wildlife & Conservation			X	X	X	X	X	Resource bisected by Representative Route
CT	Tolland	Nathan Hale State Forest	Wildlife & Conservation			X	X	X	X	X	Resource bisected by Representative Route
CT	Tolland	Nye Holman State Forest	Park						X	X	Aerial Structure
CT	Windham	Airline State Park Trail (Northern Section)	Trail			X	X	X	X	X	Resource bisected by Representative Route
CT	Windham	Killingly Pond State Park Scenic Reserve	Park			X	X	X	X	X	
CT	Windham	Natchaug State Forest	Wildlife & Conservation			X	X	X	X	X	Resource bisected by Representative Route
DC	District of Columbia	Anacostia Park, Section G	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
DC	District of Columbia	Anacostia River	Water	X	X	X	X	X	X	X	Resource bisected by Representative Route
DC	District of Columbia	Arboretum/Rec Center Grounds	Recreation	X	X	X	X	X	X	X	Resource bisected by Representative Route
DC	District of Columbia	Baltimore Washington Parkway	Parkway	X	X	X	X	X	X	X	Resource bisected by Representative Route
DC	District of Columbia	Brentwood Park (Patterson Tract)	Park	X	X	X	X	X	X	X	
DC	District of Columbia	L'Enfant Plan	NHL	X	X	X	X	X	X	X	Resource bisected by Representative Route
DE	New Castle	Banning Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
DE	New Castle	Christina River	River	X	X	X	X	X	X	X	
DE	New Castle	Cool Run Park	Park	X	X	X	X	X	X	X	
DE	New Castle	Delaware Bay / Delaware River	Coastal & Water	X	X	X	X	X	X	X	
DE	New Castle	Harmony Hills Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
DE	New Castle	Pleasant Hills Park	Park				X	X	X	X	Resource bisected by Representative Route
MA	Boston	Back Bay Fens	Park						X	X	At-grade
MA	Bristol	Bungay River	Water	X	X	X	X	X	X	X	
MA	Bristol	Rumford River	Water	X	X	X	X	X	X	X	
MA	Bristol	Sevenmile River	Water	X	X	X	X	X	X	X	
MA	Bristol	Ten Mile River	Water	X	X	X	X	X	X	X	

State	County	Resource	Resource type	Existing NEC	Alternative 1	Alternative 2	Alternative 3				Qualitative "Highlights"
							via CC and PVD (3.1)	via LI and PVD (3.2)	via LI and WOR (3.3)	via CC and WOR (3.4)	
MA	Bristol	Wading River	Water	X	X	X	X	X	X	X	
MA	Natick	Cochituate State Park	Park						X	X	Tunnel
MA	Newton	Newton Lower Falls Park	Park						X	X	Tunnel
MA	Norfolk	Bay Circuit Trail	Trail	X	X	X	X	X	X	X	Multiple intersect points with Representative Route
MA	Norfolk	East Branch Neponset River	Water	X	X	X	X	X	X	X	
MA	Norfolk	Neponset River	Water	X	X	X	X	X	X	X	
MA	Norfolk	Norfolk County Canoe River Wilderness	Coastal & Water	X	X	X	X	X	X	X	Resource bisected by Representative Route
MA	Suffolk	Boston Harbor	Coastal & Water	X	X	X	X	X	X	X	
MA	Suffolk	Fort Point Channel	Water	X	X	X	X	X	X	X	
MA	Suffolk	Pierre Lallement Southwest Corridor Park	Trail	X	X	X	X	X	X	X	
MA	Suffolk	Southwest Corridor Park	Park	X	X	X	X	X	X	X	Multiple intersect points with Representative Route
MA	Worcester	Hadwen Park	Park						X	X	
MA	Worcester	Quinsigamond State Park	Park						X	X	Aerial Structure
MD	Anne Arundel	Fran Uhler Natural Area	Wildlife & Conservation	X	X	X	X	X	X	X	Resource bisected by Representative Route
MD	Anne Arundel	Midland Park	Park	X	X	X	X	X	X	X	
MD	Anne Arundel	Patapsco Valley State Park	Park	X	X	X	X	X	X	X	
MD	Anne Arundel	Patuxent Research Refuge	Wildlife & Conservation	X	X	X	X	X	X	X	Resource bisected by Representative Route
MD	Anne Arundel	Patuxent River	River	X	X	X	X	X	X	X	Resource bisected by Representative Route
MD	Anne Arundel	Patuxent River Greenway	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
MD	Baltimore City	Bocek Park	Park	X	X	X	X	X	X	X	
MD	Baltimore City	Chesapeake Bay	Bay	X	X	X	X	X	X	X	Rivers feeding Chesapeake Bay: Gunpowder, Bus, Susquehanna
MD	Baltimore City	Druid Hill Park	Park	X	X	X	X	X	X	X	
MD	Baltimore City	Easterwood Park	Park	X	X	X	X	X	X	X	
MD	Baltimore City	Ellwood Park	Park	X	X	X	X	X	X	X	
MD	Baltimore City	Gwynns Falls Trail	Trail	X	X	X	X	X	X	X	Resource bisected by Representative Route
MD	Baltimore City	Gwynns Falls/Leakin Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
MD	Baltimore City	Herring Run Park	Park	X	X	X	X	X	X	X	
MD	Baltimore City	Mount Olivet & Phelps Lane	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
MD	Baltimore City	Violetville Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
MD	Baltimore County	Arbour Manor Park	Park	X	X	X	X	X	X	X	
MD	Baltimore County	Back River	River	X	X	X	X	X	X	X	
MD	Baltimore County	Chesaco Park	Park	X	X	X	X	X	X	X	
MD	Baltimore County	Chesapeake Bay	Coastal & Water	X	X	X	X	X	X	X	
MD	Baltimore County	Dundee Saltpeter Creeks Park	Park	X	X	X	X	X	X	X	
MD	Baltimore County	Eastern Regional Park	Park	X	X	X	X	X	X	X	
MD	Baltimore County	Gunpowder Falls	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
MD	Baltimore County	Herring Run Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
MD	Baltimore County	Patapsco Valley State Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
MD	Baltimore County	Relay Park	Park	X	X	X	X	X	X	X	
MD	Cecil	Elk Mills Community Park	Park			X	X				
MD	Cecil	Elk Neck State Forest	Wildlife & Conservation	X	X	X		X	X	X	Resource bisected by Representative Route
MD	Cecil	FAIR HILL NRMA	Wildlife & Conservation			X					
MD	Cecil	Fletcherwood Community Park	Park			X	X	X	X	X	Resource bisected by Representative Route
MD	Cecil	Hollingsworth Park	Park	X	X	X	X	X	X	X	
MD	Cecil	West Branch Christina River	River	X	X	X	X	X	X	X	Resource bisected by Representative Route
MD	Cecil	West Branch Community Park	Park			X	X	X	X	X	Resource bisected by Representative Route
MD	Harford	Anita C. Leight Estuary Center	Coastal & Water				X	X	X	X	Resource bisected by Representative Route
MD	Harford	Bush Declaration NRMA	Wildlife & Conservation				X	X	X	X	Resource bisected by Representative Route
MD	Harford	Bush River	River	X	X	X	X	X	X	X	

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MD	Harford	Forest Greens Park	Park	X	X	X	X	X	X	X	
MD	Harford	Mariner Point Park	Park	X	X	X	X	X	X	X	
MD	Harford	North Deen Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
MD	Harford	Perryman Park	Park				X	X	X	X	Resource bisected by Representative Route
MD	Harford	Susquehanna River	Wild & Scenic River	X	X	X	X	X	X	X	
MD	Harford	Swan Harbor Farm Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
MD	Harford	Victory Street Park	Park	X	X	X	X	X	X	X	
MD	Howard	Patapsco Valley State Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
MD	Prince George's	Dodge Park	Park	X	X	X	X	X	X	X	
MD	Prince George's	Folly Branch Stream Valley Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
MD	Prince George's	Glendale Community Center Park	Park	X	X	X	X	X	X	X	
MD	Prince George's	Huntington North Park	Park	X	X	X	X	X	X	X	
MD	Prince George's	Huntington South Park	Park	X	X	X	X	X	X	X	
MD	Prince George's	Landover Hills Park	Park	X	X	X	X	X	X	X	
MD	Prince George's	Northridge Park	Park	X	X	X	X	X	X	X	
MD	Prince George's	Patuxent Research Refuge	Wildlife & Conservation	X	X	X	X	X	X	X	
MD	Prince George's	Sherman Park	Park	X	X	X	X	X	X	X	
MD	Prince George's	Woodstream Neighborhood Park	Park	X	X	X	X	X	X	X	
NJ	Essex	Newark Bay / Hackensack River	Coastal & Water	X	X	X	X	X	X	X	
NJ	Essex	Passaic River	Water	X	X	X	X	X	X	X	
NJ	Hudson	Hackensack River	Water	X	X	X	X	X	X	X	
NJ	Hudson	Laurel Hill Park	Park	X	X	X	X	X	X	X	
NJ	Mercer	Millstone River	Water	X	X	X	X	X	X	X	
NJ	Mercer	Van Nest Wildlife Management Area	Wildlife & Conservation	X	X	X	X	X	X	X	
NJ	Middlesex	Edison State Park	Park	X	X	X	X	X	X	X	
NJ	Middlesex	Johnson Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
NJ	Middlesex	Merill Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
NJ	Middlesex	Raritan Bay / Raritan River	Coastal & Water	X	X	X	X	X	X	X	
NJ	Middlesex	Raritan River	Water	X	X	X	X	X	X	X	
NJ	Middlesex	Roosevelt Park	Park	X	X	X	X	X	X	X	
NJ	Union	Elizabeth Channel	Water	X	X	X	X	X	X	X	
NJ	Union	John Russell Wheeler Park	Park	X	X	X	X	X	X	X	
NJ	Union	Rahway River	Water	X	X	X	X	X	X	X	
NJ	Union	Rahway River Park	Park	X	X	X	X	X	X	X	
NY	Bronx	Bronx River Parkway	Parkway	X	X	X	X	X	X	X	Resource bisected by Representative Route
NY	Bronx	Hutchinson River Parkway	Parkway	X	X	X	X	X	X	X	Resource bisected by Representative Route
NY	Bronx	Long Island Sound	Coastal & Water	X	X	X	X	X	X	X	
NY	Bronx	Pehlam Pkwy	Parkway	X	X	X	X	X	X	X	Resource bisected by Representative Route
NY	Bronx	Pelham Bay Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
NY	Bronx	Soundview Park	Park	X	X	X	X	X	X	X	
NY	Bronx	St Mary's Park	Park	X	X	X	X	X	X	X	
NY	Bronx	Starlight Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
NY	Nassau	Eisenhower County Park	Park					X	X		
NY	New York	Asphalt Green	Park				X			X	Resource bisected by Representative Route
NY	New York	Dekovats Park	Park				X			X	Resource bisected by Representative Route
NY	New York	East River Esplanade	Park				X			X	Resource bisected by Representative Route
NY	New York	Hudson River	Coastal & Water	X	X	X	X	X	X	X	
NY	New York	Hudson River Park State Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
NY	New York	Randall's Island Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route

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NY	New York	Ward's Island Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
NY	Queens	Astoria Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
NY	Queens	East River	Coastal & Water	X	X	X	X	X	X	X	
NY	Queens	Forest Park	Park					X	X		
NY	Suffolk	Connetquot River State Park Preserve	Park					X	X		
NY	Suffolk	Edgewood Oak Brush Plains State Preserve	Wildlife & Conservation					X	X		
NY	Suffolk	Lakeland County Park	Park					X	X		
NY	Suffolk	Mcallister County Park (Undeveloped)	Park					X	X		
NY	Suffolk	Oak Brush Plains State Preserve	Wildlife & Conservation					X	X		
NY	Suffolk	South Setauket County Nature Preserve (Undeveloped)	Wildlife & Conservation					X	X		
NY	Westchester	Bronx River	Water	X	X	X	X	X	X	X	
NY	Westchester	Eastchester Bay	Water	X	X	X	X	X	X	X	
NY	Westchester	Mamaroneck River	Water	X	X	X	X	X	X	X	
NY	Westchester	Saxon Woods County Park	Park				X			X	Resource bisected by Representative Route
NY	Westchester	Sheldrake River	Water	X	X	X	X	X	X	X	
NY	Westchester	Silver Lake Preserve (County Park)	Park				X			X	Resource bisected by Representative Route
PA	Bucks	Andalusia Estate	NHL	X	X	X	X	X	X	X	
PA	Bucks	BicyclePA Route E	Trail	X		X	X	X	X	X	Multiple intersect points with Representative Route
PA	Bucks	D & L Trail - Delaware Canal Towpath	Trail	X	X	X	X	X	X	X	Resource bisected by Representative Route
PA	Bucks	Delaware Canal	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
PA	Bucks	East Coast Greenway	Trail	X	X	X	X	X	X	X	
PA	Bucks	Poquessing Creek Park	Park	X	X	X	X	X	X	X	
PA	Bucks	Silver Lake County Park	Park	X	X	X	X	X	X	X	
PA	Delaware	BicyclePA Route E	Trail	X	X	X	X	X	X	X	Multiple intersect points with Representative Route
PA	Delaware	Catania Park	Park	X	X	X	X	X	X	X	
PA	Delaware	Delaware Bay / Delaware River	Coastal & Water	X	X	X	X	X	X	X	
PA	Delaware	John Heinz National Wildlife Refuge at Tinicum	Wildlife & Conservation			X	X	X	X	X	
PA	Delaware	Ridley Park Lake	Water	X	X	X	X	X	X	X	
PA	Philadelphia	American Legion Playground	Recreation	X	X	X	X	X	X	X	
PA	Philadelphia	Bartram's Garden	Recreation	X	X	X	X	X	X	X	
PA	Philadelphia	Carmella Playground (Whitehall)	Recreation	X	X	X	X	X	X	X	
PA	Philadelphia	Clark Park Playground (2)	Recreation	X	X	X	X	X	X	X	
PA	Philadelphia	Connell Park	Park	X	X	X	X	X	X	X	
PA	Philadelphia	East Coast Greenway	Trail	X	X	X	X	X	X	X	Resource bisected by Representative Route
PA	Philadelphia	East Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
PA	Philadelphia	Elmwood Park	Park	X	X	X	X	X	X	X	
PA	Philadelphia	Fairmont Waterworks	NHL	X	X	X					
PA	Philadelphia	Fluehr Park	Park	X	X	X	X	X	X	X	
PA	Philadelphia	John Bartram House	NHL	X	X	X	X	X	X	X	
PA	Philadelphia	Moore, Cecil B Recreation Center	Recreation	X	X	X	X	X	X	X	
PA	Philadelphia	Part Disston Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
PA	Philadelphia	Pennypack Creek Park	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
PA	Philadelphia	Pennypack On The Delaware	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
PA	Philadelphia	Philadelphia Zoo/West Park	Recreation	X	X	X	X	X	X	X	Resource bisected by Representative Route
PA	Philadelphia	Poquessing Creek Park	Park	X	X	X	X	X	X	X	
PA	Philadelphia	Reading Terminal and Trainshed	NHL				X	X	X	X	Resource bisected by Representative Route
PA	Philadelphia	Russo Park Playground	Recreation	X	X	X	X	X	X	X	
PA	Philadelphia	Scanlon Recreation Center	Recreation	X	X	X	X	X	X	X	
PA	Philadelphia	Schuylkill River Park	Park	X	X	X	X	X	X	X	

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PA	Philadelphia	Schuylkill River Water Trail	Trail	X	X	X	X	X	X	X	Multiple intersect points with Representative Route
PA	Philadelphia	Washington Square West Historic District	NHL				X	X	X	X	Resource bisected by Representative Route
PA	Philadelphia	West Park	Park	X	X	X	X	X	X	X	
PA	Philadelphia	Franklin D. Roosevelt Park	Park				X	X	X	X	Resource bisected by Representative Route
RI	Kent	Apponaug Cove	Water	X	X	X	X	X	X	X	
RI	Kent	Greenway	Trail	X	X	X	X	X	X	X	
RI	Kent	Greenwich Bay	Water	X	X	X	X	X	X	X	
RI	Kent	Maskerchugg River	Water	X	X	X	X	X	X	X	
RI	Kent	Warwick-East Greenwich Bicycle Network	Trail	X	X	X	X	X	X	X	Multiple intersect points with Representative Route
RI	New London	Pawcatuck River	Water	X	X	X	X	X	X	X	
RI	Providence	Cranston Cross-City Bicycle Corridor	Trail	X	X	X	X	X	X	X	
RI	Providence	Greenway	Trail	X	X	X	X	X	X	X	Multiple intersect points with Representative Route
RI	Providence	Killingly Pond Management Area/Shippee	Coastal & Water			X	X	X	X	X	Resource bisected by Representative Route
RI	Providence	Moshassuck River	Water	X	X	X	X	X	X	X	
RI	Providence	Northwest Trail-Woonasquatucket River Bikeway	Trail	X	X	X	X	X	X	X	Multiple intersect points with Representative Route
RI	Providence	Pawtuxet River	Water	X	X	X	X	X	X	X	
RI	Providence	Roger Williams National Park/Nf	Park	X	X	X	X	X	X	X	Resource bisected by Representative Route
RI	Providence	Roosevelt Lake	Water	X	X	X	X	X	X	X	
RI	Providence	Seekonk River	Water	X	X	X	X	X	X	X	
RI	Providence	Snake Den State Park/Snake Den	Park			X	X	X	X	X	Resource bisected by Representative Route
RI	Providence	Ten Mile River	Water			X	X	X	X	X	
RI	Providence	West River	Water	X	X	X	X	X	X	X	
RI	Providence	Woonasquatucket River	Water	X	X	X	X	X	X	X	
RI	Washington	Annaquatucket River	Water	X	X	X	X	X	X	X	
RI	Washington	Beaver River	Water	X	X	X	X	X	X	X	
RI	Washington	Black Swamp	Water	X	X	X	X	X	X	X	
RI	Washington	Bradford/Bradford Dye / Grills Preserve	Wildlife & Conservation	X	X	X	X	X	X	X	Resource bisected by Representative Route
RI	Washington	Burlingame Management Area/Phantom Bog	Wildlife & Conservation	X	X	X	X	X	X	X	Resource bisected by Representative Route
RI	Washington	Carolina Management Area/Meadowbrook Pond	Wildlife & Conservation	X	X	X	X	X	X	X	
RI	Washington	Chipuxet River	Water	X	X	X	X	X	X	X	
RI	Washington	Cocumcussoc/Cocumcussoc	Park	X	X	X	X	X	X	X	
RI	Washington	Great Swamp Management Area/Great Swamp	Coastal & Water	X	X	X	X	X	X	X	Resource bisected by Representative Route
RI	Washington	Greenway	Trail	X	X	X	X	X	X	X	Multiple intersect points with Representative Route
RI	Washington	Hunt River	Water	X	X	X	X	X	X	X	
RI	Washington	Lafayette Hatchery Natural Area	Wildlife & Conservation	X	X	X	X	X	X	X	
RI	Washington	Narragansett Bay	Coastal & Water	X	X	X	X	X	X	X	
RI	Washington	Newton Swamp Management Area	Coastal & Water	X	X	X	X	X	X	X	Resource bisected by Representative Route
RI	Washington	Packer	Coastal & Water	X	X	X	X	X	X	X	
RI	Washington	South County Bike Path	Trail	X	X	X	X	X	X	X	
RI	Washington	Stripped	Trail	X	X	X	X	X	X	X	Multiple intersect points with Representative Route