NEC FUTURE: A VISION FOR GROWTH ON THE NORTHEAST CORRIDOR





What is NEC FUTURE?

The Federal Railroad Administration (FRA) is preparing a comprehensive plan for the Northeast Corridor (NEC) that will define a long-term vision and an incremental approach to achieving that vision. The plan, NEC FUTURE, considers the needs of all types of passengers on the NEC—commuters as well as intercity riders. As the first comprehensive plan for the NEC in 40 years, NEC FUTURE will establish a framework for future projects that may be undertaken and financed by the federal government, states, and railroads in the coming decades.

Why NEC FUTURE?

It takes many years to plan, design, and build major rail infrastructure, which can remain in use for a century or more. With multiple owners and operators on the NEC, a coordinated approach is needed so that the different investments made along the corridor work together to the benefit of all users. The result of NEC FUTURE will be FRA's adoption of an investment program to guide passenger rail improvement projects on the NEC through 2040.

The Need for Growth

The northeastern U.S. is the world's fifth largest economy, contributing 30% of all jobs in the U.S. and generating 20% of the nation's Gross Domestic Product. By 2040, seven million new residents will put further pressure on already congested modes of travel. Stronger, more reliable transportation options—including investment in the NEC—are essential to support mobility and sustain the region's economic growth.

Bringing the NEC to a state of good repair and relieving existing chokepoints are fundamental to safe and efficient travel in the Northeast.

- Some 750,000 travelers use the NEC every day to access work and other destinations.
- Unexpected service disruptions on the NEC compromise access to major cities— Washington, D.C., Baltimore, Philadelphia, New York, Boston—and force travelers onto already congested highways and airports.
- The NEC provides the connections to employment centers, educational institutions, and business opportunities that make the region's strong economy.







STUDY PROCESS

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Study Documents

NEC FUTURE includes a broad environmental analysis, called a Tier 1 Environmental Impact Statement (Tier 1 EIS), that assesses the impacts of proposed improvements, and a Service Development Plan (SDP) that describes the process for implementing the selected investment program from the Tier 1 EIS. Together, these studies will guide investments in the corridor through 2040. The outcome will be a package of improvement projects intended for phased completion.

Study Partners

The FRA is the lead federal agency for NEC FUTURE, working closely with a number of key partners including:

- Federal Transit Administration (FTA)
- NEC Commission
- Railroad operators (including Amtrak, eight commuter rail authorities, and freight railroads)
- State and federal agencies, as well as local jurisdictions along the NEC

Regulatory Compliance

The FRA is conducting the Tier 1
EIS in compliance with the National
Environmental Policy Act (NEPA), its
implementing regulations, and other
applicable laws and regulations,
including FRA's Procedures for
Considering Environmental Impacts.
Concurrent with the Tier 1 EIS, the
FRA conducted a review of potential
effects on historic properties under
Section 106 of the National Historic
Preservation Act.

Public and Agency Involvement

Throughout NEC FUTURE, the FRA has conducted an extensive agency and public involvement process to engage stakeholders and the public in the decision-making process. To date, the FRA has held 35 public meetings and over 250 meetings with agencies, railroads, and other interested organizations and reviewed thousands of comments from the public. Each stage of alternatives development and evaluation has been documented in reports on the website.

The timeline to the right shows the role of public input at each stage of NEC FUTURE.



Study Process Timeline

 NEC FUTURE begins with an agency and public scoping process to define the study scope, purpose and need, and analysis methods

2012

- Over 2,000 scoping comments help shape initial alternatives for analysis
- The FRA begins regular coordination with environmental resource agencies

2013

- The FRA develops 15 Preliminary Alternatives,
 representing the range of possible futures for the NEC
- Public workshops throughout the region provide input to the development and evaluation of the Preliminary Alternatives

2014

- The FRA evaluates the Preliminary Alternatives to determine a smaller set of alternatives for analysis in the Tier 1 Draft EIS
- Public dialogue continues with open houses in each NEC state, stakeholder meetings, and workshops

2015

- The FRA defines three Tier 1 EIS Action Alternatives and a No Action Alternative for evaluation
- Tier 1 Draft EIS is released for public comment; hearings and public comment period begin

2016

- The FRA considers comments from over 3,200 individuals, agencies, and interested organizations as it identifies a Preferred Alternative for evaluation in the Tier 1 Final EIS
- Tier 1 Final EIS is released, followed by a waiting period that allows the public to review and provide feedback on the Preferred Alternative

2017

- The FRA reviews public feedback and continues engagement with stakeholders, agencies, and local governments in preparation for a Record of Decision
- The FRA will prepare the Record of Decision, identifying the Selected Alternative



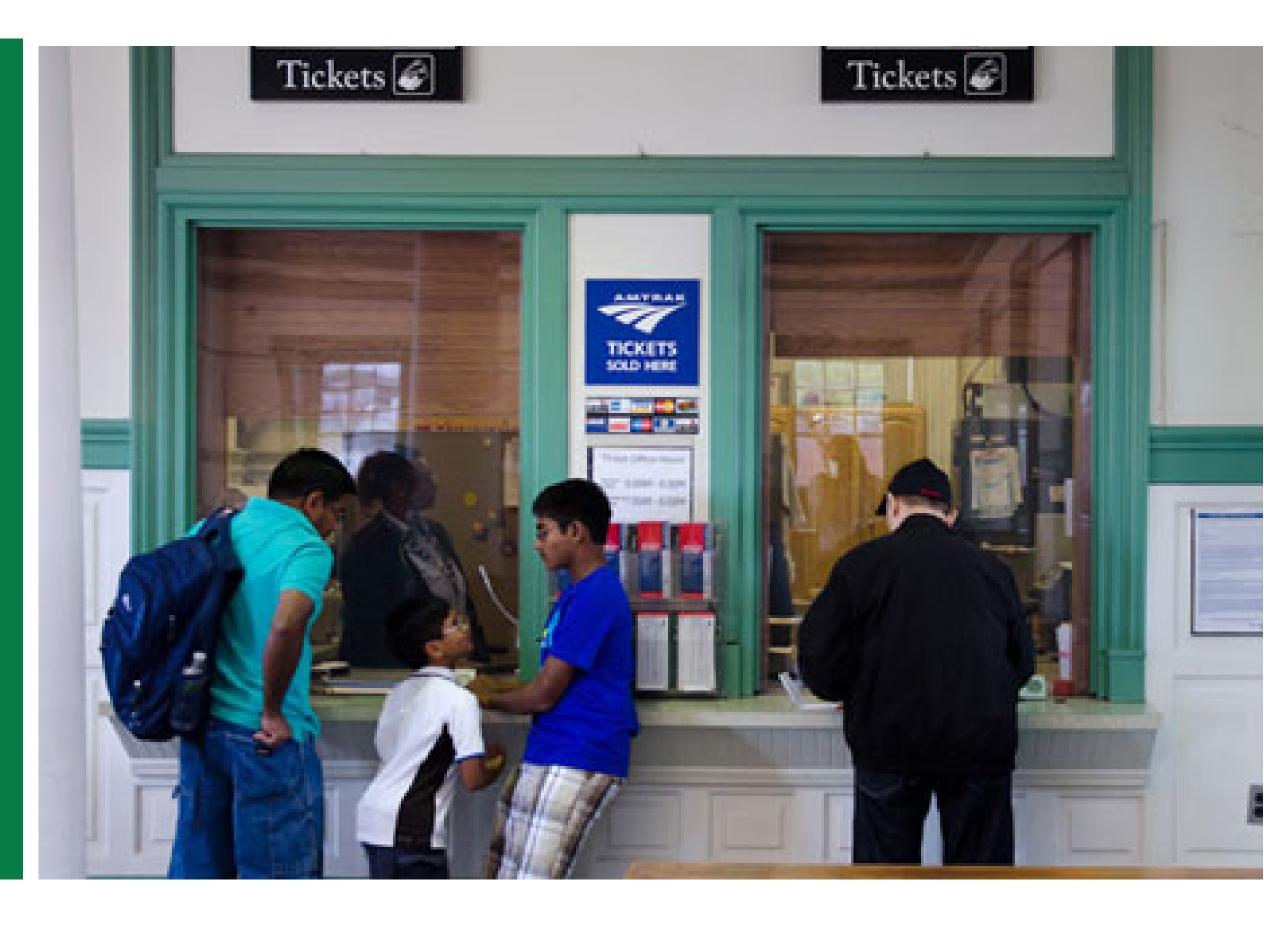
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PURPOSE AND NEED



Purpose

The purpose of NEC FUTURE is to upgrade aging infrastructure and to improve the reliability, capacity, connectivity, performance, and resiliency of passenger rail service on the NEC for both intercity and regional trips, while promoting environmental sustainability and economic growth.



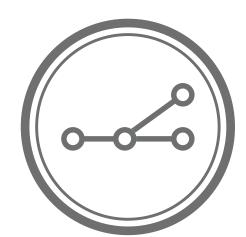


Needs for the NEC FUTURE program include the following:



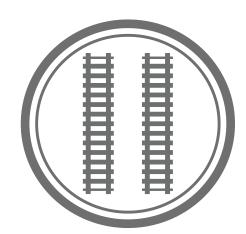
State of Good Repair

Service quality currently falls short, due to the aging and obsolete infrastructure that has resulted from insufficient investment in maintaining a state of good repair on the existing NEC. Achieving and maintaining a good repair is needed to improve service



Connectivity

The reach and effectiveness of the passenger rail network are limited by gaps in connectivity among transportation modes and between different rail services.



Capacity

Severe capacity constraints at critical infrastructure chokepoints limit service expansion and improvement, making it difficult to accommodate existing riders and growth in ridership.



Performance

In many markets, the trip times on passenger rail within the Study Area are not competitive with travel by air or highway. Improvements in travel times, frequency, or hours of service are needed to make passenger rail competitive with other modes.



System-Wide Resiliency

The NEC is vulnerable to the effect of severe storms. A more resilient and redundant passenger rail network is needed to enhance safety, security, and the reliability of the region's transportation system.



Environmental Sustainability

Throughout the Study Area, energy use and emissions associated with transportation affect the built and natural environment. Passenger rail can help meet the region's mobility needs with fewer environmental impacts.

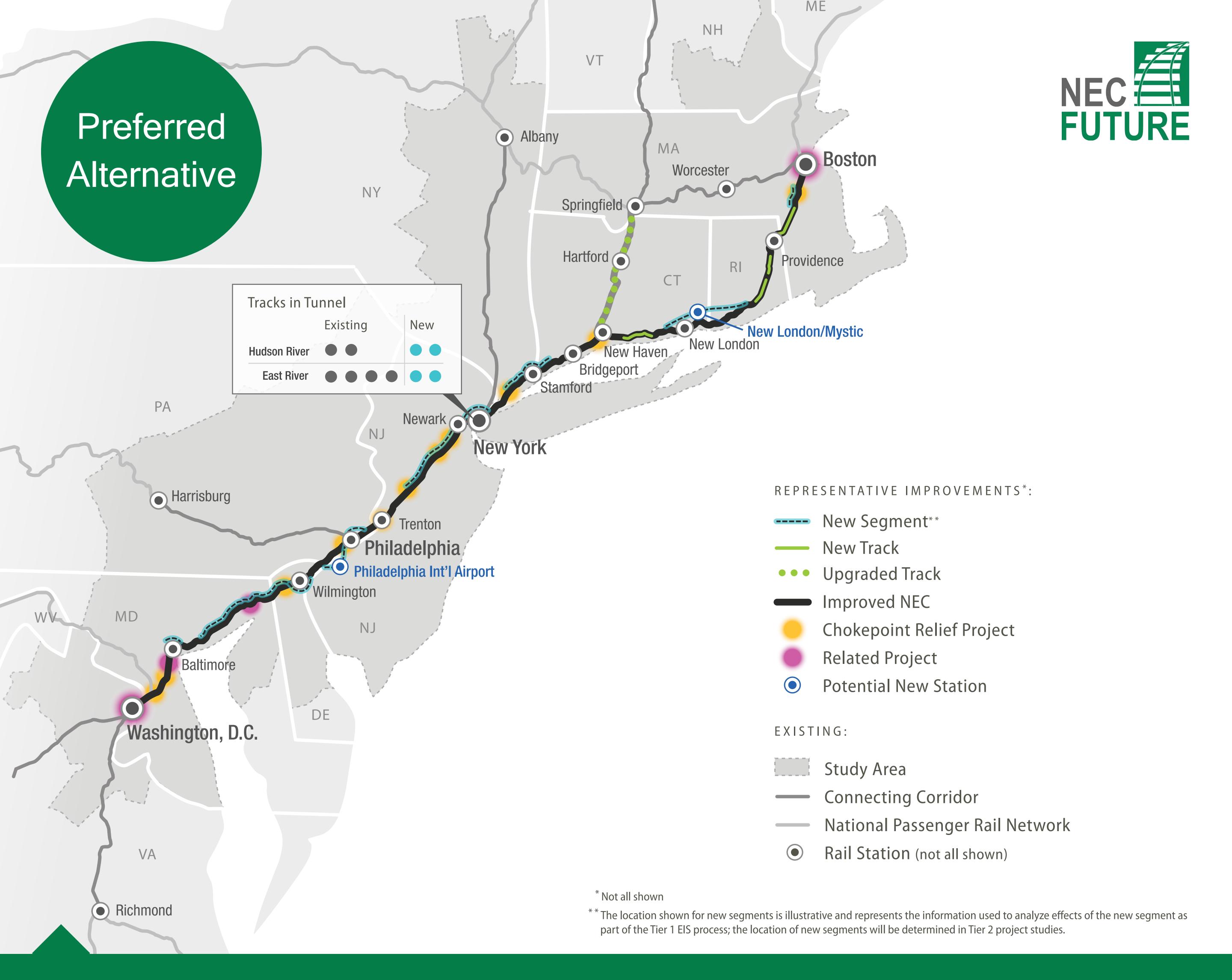


Economic Growth

A transportation system that provides options for reliable, efficient, and cost effective movement of passengers and goods is needed for continued economic growth in the Northeast region. The region's knowledge-based economic sector, including academic research and medical facilities, is especially reliant on access to convenient, reliable, and frequent rail service.



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The Preferred Alternative

- Includes improvements to bring the NEC to a state of good repair and relieve chokepoints
- Adds new track to grow the NEC to four tracks at most locations
- Integrates direct service on the Hartford/Springfield Line into the NEC, with upgraded track and electrification

What is a New Segment?

New segments are new track construction on new right-of-way that does not follow the existing NEC. They diverge from and reconnect to the existing NEC and expand the capacity of the railroad and/or relieve chokepoints.

The FRA has determined a need for new track segments in certain geographic sections of the NEC. The FRA or other agency providing funding for a particular project will evaluate specific locations for new segments as part of the Tier 2 project studies, prior to making a determination.

New segments in the following areas would grow capacity, allow higher speeds to reduce travel time, and enhance system resilience:

- Baltimore to Wilmington, supporting speeds up to 220 mph
- Replacement of the Baltimore and Potomac (B&P) tunnel
- In Philadelphia, connecting to an Intercity station at the Philadelphia International Airport
- Two new tracks in tunnels under both the Hudson and east Rivers to an expanded Penn Station New York
- Southeastern Connecticut to Western Rhode Island, supporting higher speeds and increased frequencies



BETTER SERVICE FOR PASSENGERS



More Reliable, Frequent Trains

- Double the number of Regional trains during peak hours in major metropolitan areas
- Up to five times the number of Intercity trains

Better Connections to More Places

- Frequent, direct service to Hartford, CT, and Springfield, MA and points in between
- Additional one-seat rides between NEC markets and connecting corridors, including Harrisburg, PA, Richmond, VA, and points south
- Improved airport access, with frequent connections to Baltimore-Washington International, Philadelphia International, Newark Liberty International, T.F. Green, and Bradley International Airports
- 22 new stations with Intercity or Regional rail service, expanding upon the 116 stations served today
- Five station upgrades to Hubs, with Regional rail and new Metropolitan service that fills gaps in regional connectivity: Odenton, MD; Secaucus, NJ; Green Farms, CT; Hartford, CT; T.F. Green Airport, RI

Faster Trips

- Boston to New York City in as little as 2 hrs 45 mins
- Washington, D.C. to New York City in as little as 2 hrs 10 mins
- Reduced delays for all services

More Service Options to Choose From

- More Regional rail service in every metropolitan area for easier commutes and trips throughout the day
- New, affordable Metropolitan service that stops frequently at more stations and links local and metropolitan markets
- More Intercity-Express trains with higher quality amenities and reduced travel times

Increased Convenience

- Integrated, seamless service, with a unified schedule for the NEC and a single ticket from any point on the NEC to one's destination
- Regular, repeating, and predictable service patterns
- Easier transfers, with coordinated arrivals at Hub stations







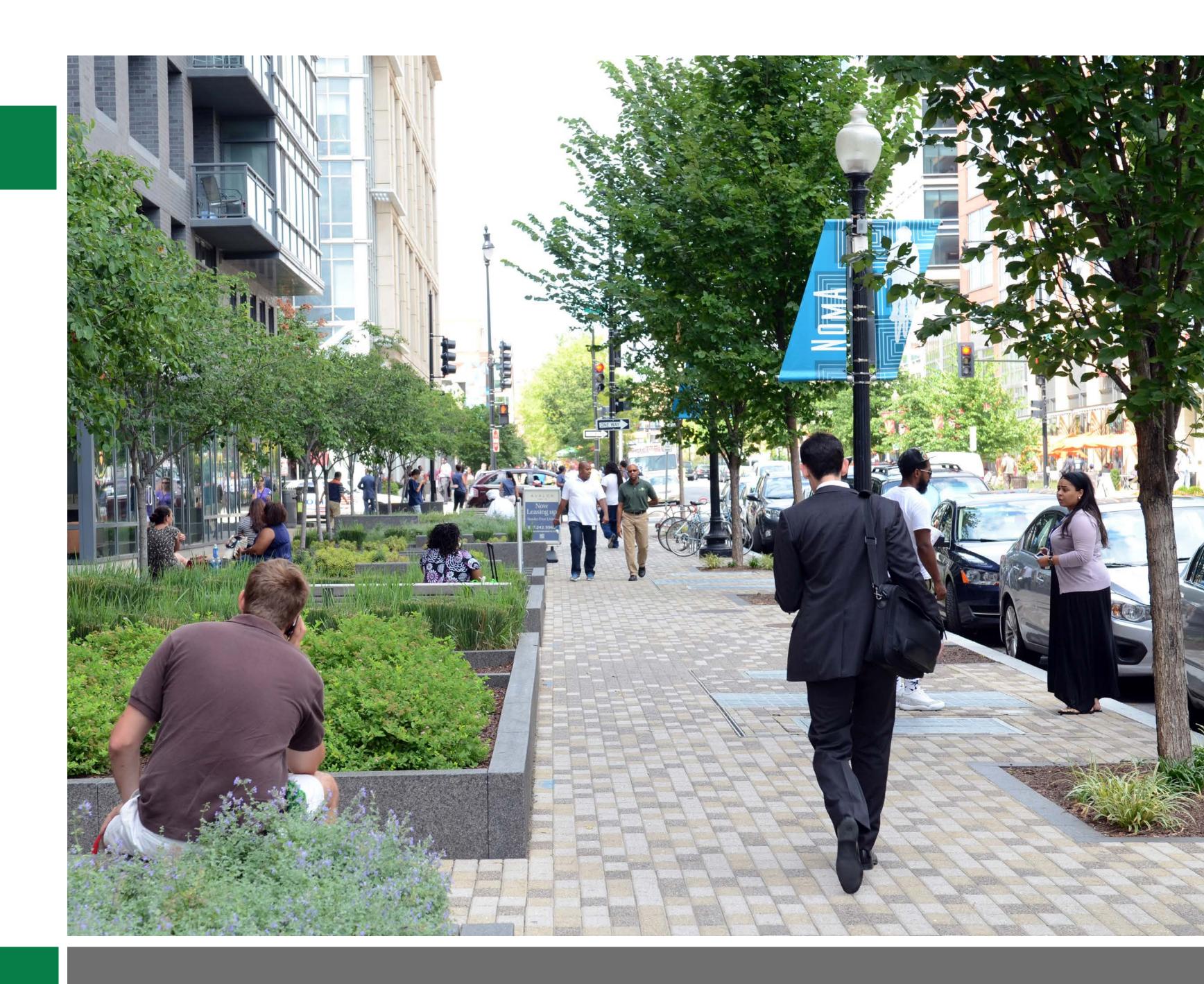






Strengthen Economies

- Expanded access to jobs and skilled workers
- Economic development opportunities in cities to leverage new or improved rail connections
- Enhanced economic integration among Northeast cities
- Improved rail-airport connections, benefitting business travel and tourism
- Reduced vulnerability to service disruptions, as rail infrastructure is improved and new segments provide redundancy



Increase Environmental Sustainability

- Lower greenhouse gas emissions as travelers shift to rail from other modes of transportation, generating air quality benefits
- Reduced energy use
- Resiliency to flooding and extreme weather events

A More Resilient NEC

The Preferred Alternative includes infrastructure both north and south of New York City that would improve the resiliency of the NEC.

- Investment in new infrastructure in the off-corridor sections would provide an opportunity to locate and design the infrastructure in a way that minimizes its risk to impacts from floods and extreme heat.
- Redundant track outside of the areas of risk that would provide alternative routing during flooding events or other situations where the track needs to be closed, allowing some service to be maintained.





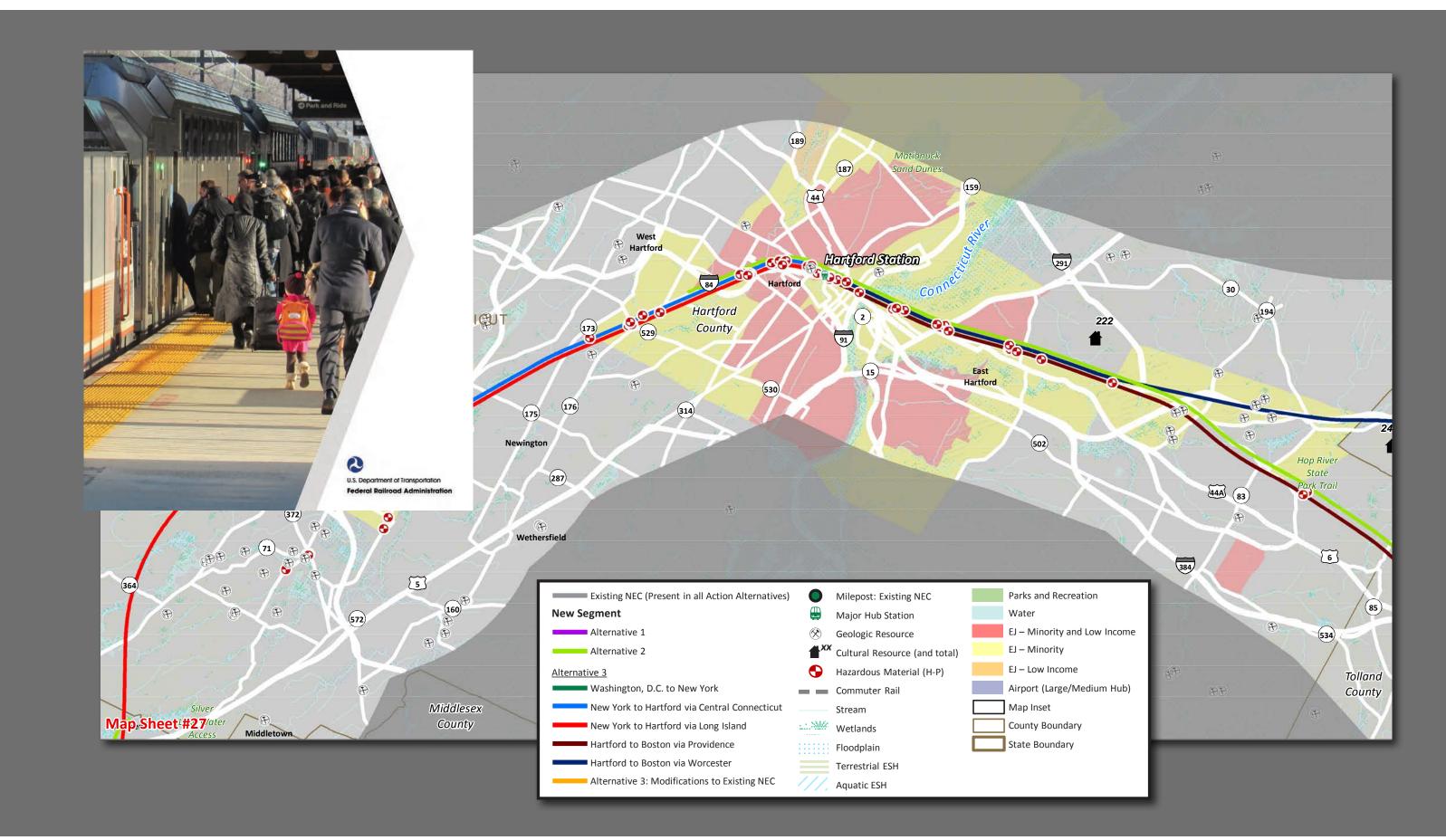
ENVIRONMENTAL ANALYSIS

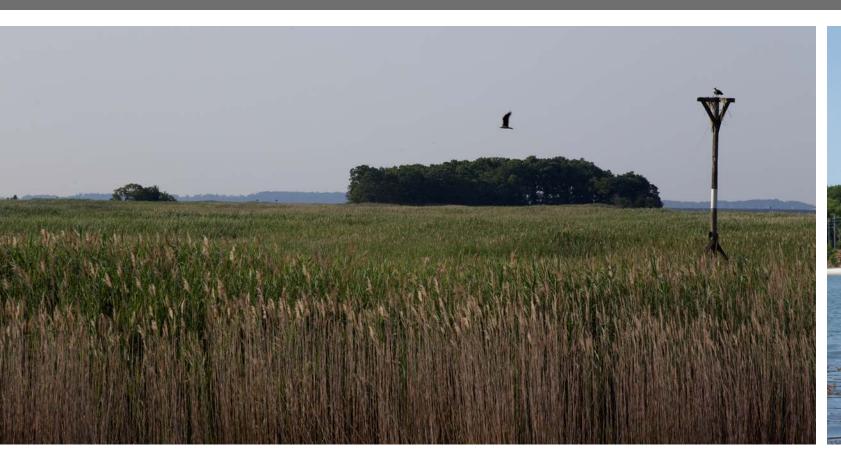


Level of Detail

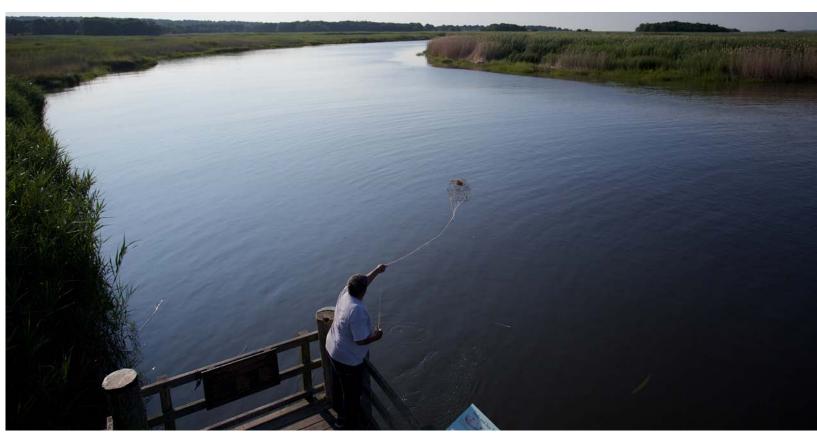
A Tier 1 EIS is a broad, high-level environmental review.

- "Desktop analysis" based on available mapping and information; no field investigations
- Service-related effects (noise, vibration, energy, air quality, etc.) based on representative service data
- Physical effects (water resources, ecological resources, parklands, cultural resources, etc.) based on representative routes
- Analysis provides conservative estimates that will be refined during subsequent Tier 2 studies









Key Resource Area Effects for Preferred Alternative

Effects identified during Tier 1 will inform alignment options during Tier 2.

Land Cover

Highest areas of conversions occur in MD & CT:

- Greatest conversion of developed land: Fairfield County, CT
- Greatest conversion of undeveloped land: New London County, CT

Parks

Resources with the highest acreages of conversions/effects:

- Rhode Island Greenway in Washington County, RI
- Gunpowder Falls State Park in Baltimore County, MD

Hydrologic Resources

Greatest effects in Connecticut

Environmental Justice (EJ)

Highest number of EJ census tracts:

- Baltimore City, MD
- Philadelphia County, PA
- Somerset County, NJ
- Essex County, NJ
- Bronx County, NY
- Fairfield County, CT

Cultural Resources

- 5 NHLs, 108 NRHP properties, and 34 identified National Register– eligible properties
- NHLs include: Andalusia, The Woodlands, the John Bartram House, and the municipally significant Fairmount Water Works (Philadelphia, PA); College Hill Historic District (Providence, RI)

Ecological Resources

- Connecticut has the highest potential ecological resource impacts (ESH, T&E, EFH)
- Gasheys Run, in Harford County,
 MD, is the only designated T&E critical habitat
- Minimizes effects on the Patuxent Research Refuge in MD, John Heinz National Wildlife Refuge in PA, and the Stewart B. McKinney National Wildlife Refuge in CT

Climate Change/Resiliency

Improvements over Existing NEC + Hartford/Springfield Line:

- Bayview to Newport new segment reduces risks from storm surge flooding and riverine flooding
- Old Saybrook to Kenyon new segment reduces risks from sea level rise, storm surge flooding, and riverine flooding

*Notes:

Environmental Justice populations include minority and low income populations, as specified in Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 16, 1994)

EFH - Essential Fish Habitat

NRHP - National Register of Historic Places

T&E - federally listed Threatened and Endangered species

ESH - Ecologically Sensitive Habitat NHL - National Historic Landmarks





SECTION 106 REVIEW

HISTORIC RESOURCES



To consider the potential effects on the historic properties along the NEC, the FRA conducted a review under Section 106 of the National Historic Preservation Act of 1966. This review, concurrent with the NEPA process, resulted in a programmatic-level identification of all resources listed on the National Register of Historic Places that may be affected by implementation of the alternatives and the Final Programmatic Agreement. It also considered National Register–eligible rail-related properties, as designated by the National Park Service in prior environmental studies.



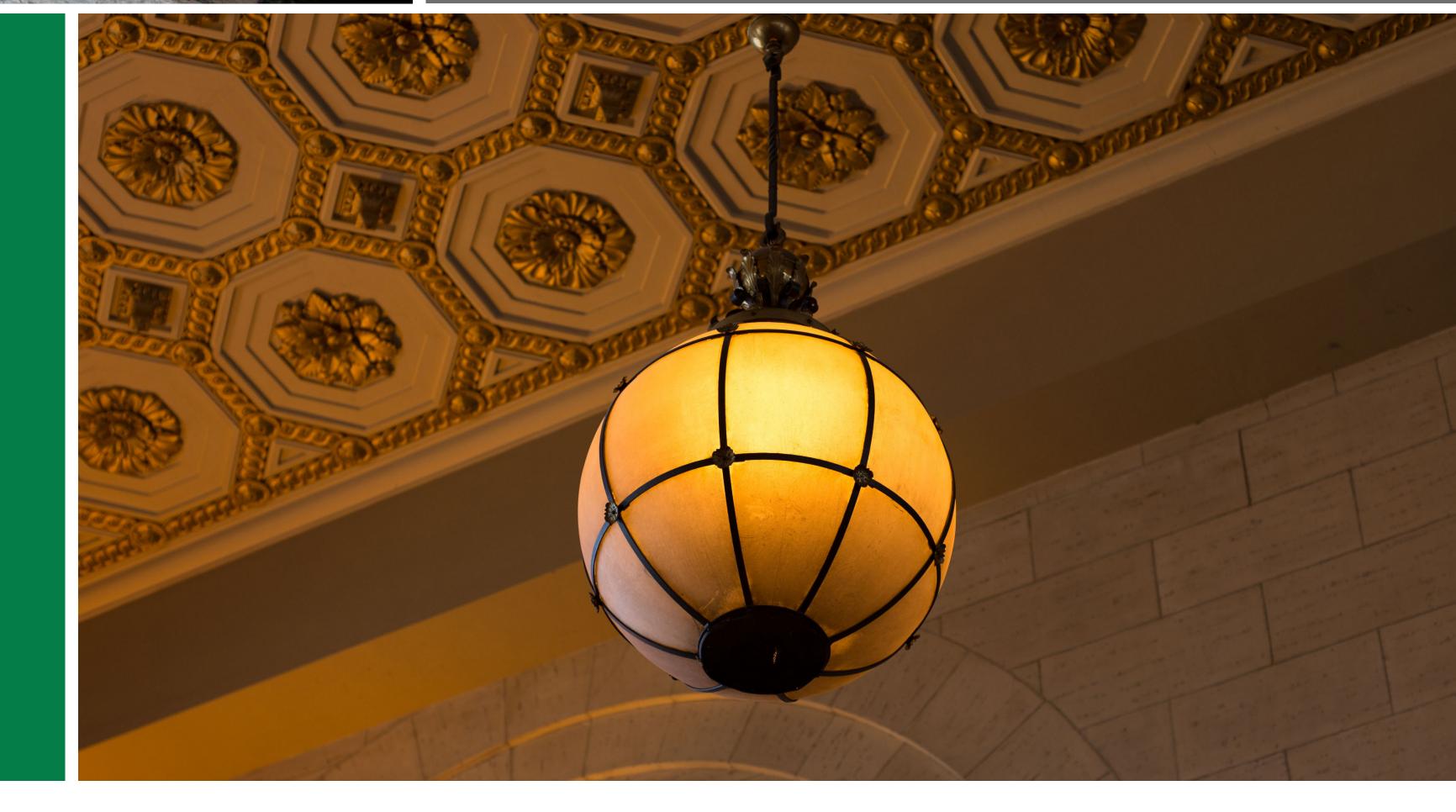


The Final Programmatic Agreement documents the Section 106 compliance as part of the Tier 1 EIS and lays out the framework for Section 106 compliance in future Tier 2 actions:

- Built in flexibility to carry Programmatic
 Agreement to 2040
- State-specific appendices for each participating state

Participants in Programmatic Agreement

- Signatories
 - Federal Railroad Administration (FRA), Advisory Council on Historic Preservation (ACHP), State Historic Preservation Offices (SHPOs) (all 8 States and Washington, D.C.)
- Invited Signatories
 - Federal Transit Administration (FTA)
- Consulting Parties
 - Federally recognized Tribes
 - National, state, and local historic preservation organizations
 - Rail owner/operators along the NEC
 - Various state and local entities





SERVICE AND ENVIRONMENTAL HIGHLIGHTS SOUTH OF NEW YORK CITY



Washington, D.C. to Baltimore, MD

Service Characteristics

- More than 3 times today's service frequency
- Expanded capacity and express/local operations through new Baltimore & Potomac (B&P) Tunnel
- New Intercity connection at Odenton, MD
- Enhanced connections to points south of Washington, D.C.
- Replacement of Bush, Gunpowder, and Susquehanna rail bridges
- Preserves freight access to the Port of Baltimore

Environmental Snapshot

- Potential effects on ecological and hydrologic resources associated with major water bodies such as Gunpowder and Bush Rivers
- New infrastructure might require use of parks such as Gunpowder Falls State Park and Patuxent Research Refuge
- Potential effects to 5 NRHP sites
- New or modified rail infrastructure would be built to reduce risks from storm surge flooding and riverine flooding
- Benefits and potential impacts to Environmental Justice communities in Baltimore City, MD

Trenton, NJ to Penn Station New York

476

76

Service Characteristics

- More than 3 times today's service frequency
- New Intercity connections in North Brunswick and Secaucus, NJ; expanded service at Metropark, NJ
- Relieves capacity chokepoints and creates separate express tracks between Newark, NJ and Penn Station New York (PSNY)
- Improved connectivity with NJ TRANSIT Regional services on the Main/Bergen/Pascack Valley lines with one-seat ride to PSNY via Secaucus, NJ
- Expanded PSNY and improved through-put to points west and east
- Travel times between Philadelphia and New York reduced by 15 minutes
- Preserves freight access to the ports of Newark and New York

Aberdeen

Environmental Snapshot

- Potential effects on ecological and hydrologic resources associated with Rahway, Passaic, Hackensack, and Hudson Rivers
- Potential effects to 1 NRHP site
- Potential use of Merrill Park by new segments
- Known concentrations of hazardous waste/ contaminated sites
- Benefits and potential impacts to Environmental Justice communities in Somerset and Essex Counties, NJ

Philadelphia

195

Newark New York

Philadelphia, PA to Trenton, NJ

Service Characteristics

Trenton

287

- More than 3 times today's service frequency
- Coordinated hub operations at Philadelphia 30th Street Station improve passenger connections to destinations east and west of Philadelphia
- Improved connections to Keystone Corridor services
- Travel time between Washington, D.C. and New York is reduced by 35 minutes

Environmental Snapshot

New Rochelle

- New segment poses potential effects on West Park and East Park (Fairmont Park system)
- Potential sliver impact on John Heinz Wildlife Refuge
- Potential effects to 5 NRHP sites and 4 NHL sites (Andalusia, The Woodlands, John Bartram House, Fairmont Waterworks)
- Known concentrations of hazardous waste/contaminated sites
- Benefits and potential impacts on Environmental Justice communities in Philadelphia County, PA

Baltimore, MD to Philadelphia, PA

295

Service Characteristics

• Newark, DE

Wilmington

- More than 3 times today's service frequency
- High-performance route enabling competitive trip times between Washington, D.C.,
 Philadelphia, and New York
- Travel time between Philadelphia and Washington, D.C. is 20 minutes faster than today
- New Intercity connections at Bayview, MD and Baldwin, PA
- New Regional rail connections at Elkton, MD;
 Newport, DE, and Edgemoor, DE
- New air-rail connection at Philadelphia International Airport
- Preserves freight access to the ports of Wilmington and Philadelphia

Environmental Snapshot

- Potential effects on ecological and hydrologic resources associated with the Gasheys Run Critical Habitat, Christina River and Brandywine Creek
- Potential use of David Craig Park and Banning Park
- Potential effects to 2 NRHP sites





Existing NECNew Segment

Environmental Context Area

NF

NRHP - National Register of Historic Places
NHL - National Historic Landmarks



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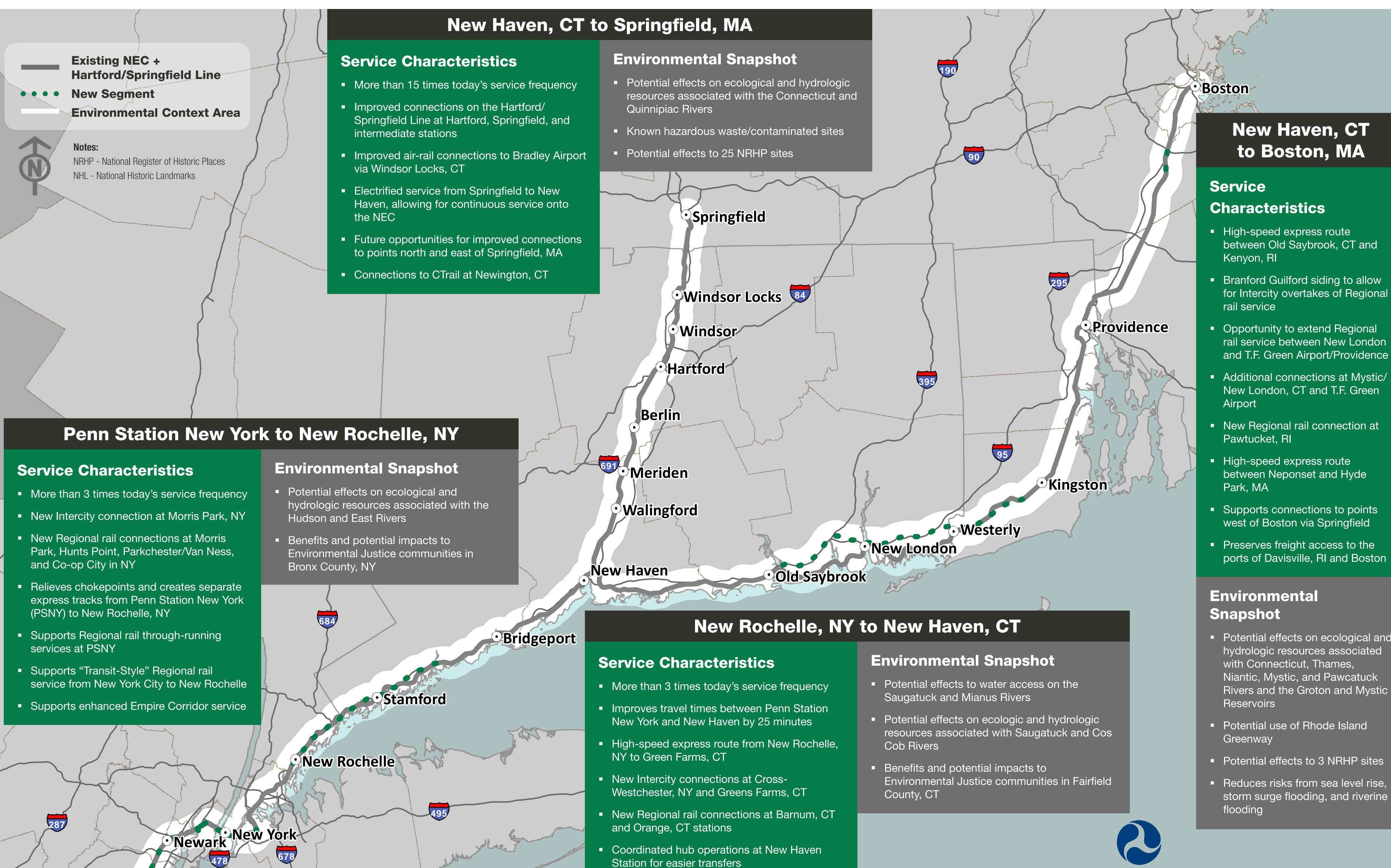
Federal Railroad Administration



SERVICE AND ENVIRONMENTAL HIGHLIGHTS

NORTH OF NEW YORK CITY





Supports "Transit-Style" Regional rail service

between New Rochelle and New Haven

New Haven, CT

- between Old Saybrook, CT and
- Branford Guilford siding to allow for Intercity overtakes of Regional
- Opportunity to extend Regional rail service between New London
- Additional connections at Mystic/ New London, CT and T.F. Green
- New Regional rail connection at
- High-speed express route between Neponset and Hyde
- Supports connections to points west of Boston via Springfield
- Preserves freight access to the ports of Davisville, RI and Boston
- Potential effects on ecological and hydrologic resources associated with Connecticut, Thames, Niantic, Mystic, and Pawcatuck Rivers and the Groton and Mystic
- Potential use of Rhode Island
- Potential effects to 3 NRHP sites
- Reduces risks from sea level rise, storm surge flooding, and riverine

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NEXT STEPS



(1) Record of Decision (ROD)

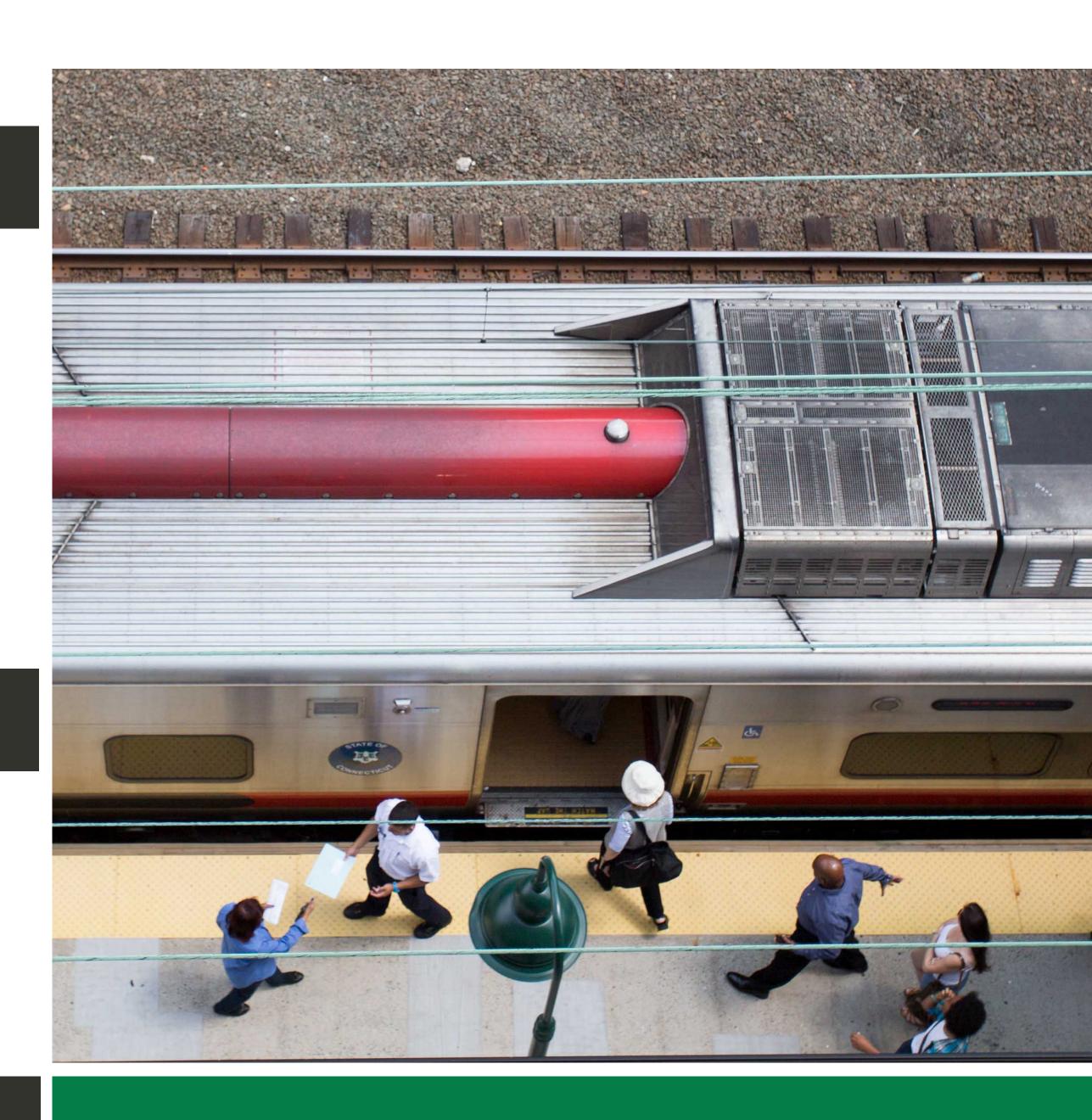
In the ROD, the FRA will document the formal selection of an investment program (referred to as the Selected Alternative). The Selected Alternative will serve as a framework to guide future Tier 2 project investments on the NEC. The issuance of the ROD will complete the Tier 1 NEPA process.

2) Service Development Plan (SDP)

The SDP will detail the process for implementing the Selected Alternative, including a first phase of projects to address the most critical needs on the NEC. The FRA will prepare the SDP in 2017.

(3) Tier 2 Project Studies

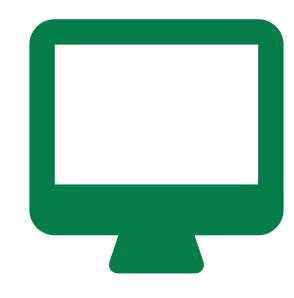
Once the ROD and SDP are completed, it will be up to individual project sponsors, such as states and railroads, to move forward with specific projects. These project sponsors will be able to use the ROD and SDP as a starting point to advance Tier 2 projects in coordination with other stakeholders. Each individual project will require more review and environmental study, as well as significant funding.



An example of a Tier 2 project would be adding a bridge at an existing river crossing. The NEC FUTURE Tier 1 EIS will identify the train service that a bridge could carry, but will not specify the location and design of the bridge, or examine its local impacts. A subsequent Tier 2 study and NEPA document would focus on that specific project, and would include opportunities for involvement of the affected communities, residents, and other stakeholders.



Please Stay Involved



For more information and to sign up for email updates: www.necfuture.com



To provide feedback to the FRA, please send feedback via email to: info@necfuture.com



U.S. Department of Transportation

Federal Railroad Administration



COORDINATION WITH OTHER AREA INITIATIVES

BALTIMORE REGION



Susquehanna River Rail Bridge

- Maryland, Amtrak, and the FRA are studying a replacement for the century-old Susquehanna River Bridge. The first of three major bridges in Maryland to be replaced as part of an effort to bring the NEC to a state of good repair, the new bridge will support increased passenger and freight rail service and faster travel times, as well as benefit river navigation. The project would consist of a new two-track bridge accommodating train speeds of up to 90 miles per hour and a second new two-track bridge.
- Included in NEC FUTURE Preferred Alternative; increases resilience and expands capacity for passenger and freight rail service.





Baltimore & Potomac (B&P) Tunnel

- Maryland, Amtrak, and the FRA are advancing replacement of the 143-year old B&P Tunnel under West Baltimore as part of an effort to bring the NEC to a state of good repair and to enhance service on the NEC. The project includes construction of a new four-track tunnel, supporting both a significant increase in train service and in train speeds. It will connect with the existing historic Baltimore Pennsylvania Station, as well support service to the West Baltimore MARC station. The project would also provide ADA accessible platforms to the West Baltimore MARC station.
- Included in NEC FUTURE Preferred Alternative; helps to achieve future capacity and travel time objectives, benefiting both Intercity and Regional rail service.

BWI Rail Station Expansion

- Maryland, Amtrak and the FRA are advancing work to expand the BWI rail station to support growth in both Amtrak and MARC rail service, improve train reliability, and enhance customer service. The project includes a new fourth track on the NEC, an additional station platform, and replacement of the passenger building to improve circulation and capacity to meet ADA requirements.
- Expands service, improves reliability and provides a more friendly passenger experience.

Magnetic Levitation (Maglev)

- In separate studies, the FRA continues to explore new technologies such as maglev, and is currently sponsoring a study of maglev between Baltimore and Washington, D.C.
- A maglev system would require separate stations from those on the NEC. It would not support run-through train service from NEC connecting corridors, nor offer efficient integration with today's NEC infrastructure and operators. For these reasons, the FRA did not incorporate advanced guideway or similar new technologies in the NEC FUTURE Tier 1 EIS.
- While the Preferred Alternative does not include maglev, it does not preclude the future option of building new transportation corridors using other technologies such as maglev.



COORDINATION WITH OTHER AREA INITIATIVES

SPRINGFIELD REGION



New Haven-Hartford-Springfield (NHHS) Rail Program

- Independent of NEC FUTURE, Connecticut and the FRA are jointly funding the expansion of capacity on the existing Amtrakowned NHHS line to support up to four-times as many daily trains. The program includes double tracking the entire line and upgrading and adding new train stations.
- NEC FUTURE leverages these improvements, and electrifies the line, to fully integrate service on the NHHS corridor (Hartford/ Springfield Line) into the NEC and increase travel options east and north of Springfield.





Northern New England Intercity Rail Initiative (NNEIRI)

- NNEIRI, a program led by MassDOT and VTRANS in collaboration with the CTDOT and the FRA, is refining options for implementing new rail service across New England. Objectives include new service to Vermont and Montreal from both New Haven and Boston, as well as up to 8 daily trains between New Haven and Boston via Springfield.
- Along with new service to Springfield under NEC FUTURE, new NNEIRI service would greatly expand rail service in New England.

Springfield Union Station

- The city of Springfield, Massachusetts, FTA, and local agencies are funding the restoration and expansion of the historic Springfield Union Station. The project includes restoration of the interior and exterior of the station and construction of a new six-story parking garage.
- Under NEC FUTURE, the station will become a terminus for NEC service. It will serve as a hub for travel across New England to Montreal, Vermont and central Massachusetts and Boston.



