

EXECUTIVE SUMMARY

ES-1.0 INTRODUCTION

Environmental Assessment/Environmental Impact Evaluation for the New Haven, Hartford, and Springfield High-Speed Intercity Rail Project

This Environmental Assessment/Environmental Impact Evaluation (EA/EIE) is a Tier 1 Service Level EA, which addresses the environmental effects resulting from implementation of the New Haven, Hartford and Springfield (NHHS) High-Speed Intercity Passenger Rail Project (the project) proposed by the Connecticut Department of Transportation (CTDOT), the project sponsor in conjunction with the Massachusetts Department of Transportation (MASSDOT). The Federal Railroad Administration (FRA), an agency of the U.S. Department of Transportation (USDOT), has awarded to the State of Connecticut three grants totaling \$190.9 million, toward the cost of designing and constructing the NHHS Rail Program improvements under the High-Speed Intercity Passenger Rail (HSIPR) Program.

The NHHS rail corridor includes 62 miles of existing rail line, owned and operated by the National Railroad Passenger Corporation (Amtrak). Historically, it included two or more tracks along its entire length, but today consists of just 23.3 miles of double track and 38.7 miles of single track. For purposes of the environmental review documented in this EA/EIE, the southern and northern termini of the NHHS rail corridor are, respectively, at Union Station in New Haven, Connecticut, and just east of Springfield Union Station in Springfield, Massachusetts (where a layover yard and maintenance facility is being proposed).

Passenger rail service in this once-robust corridor declined over the latter half of the 20th century. Currently, passenger service consists of no more than the six to eight daily round-trip passenger trains between New Haven and Springfield (with one continuing to Washington, D.C.) and a single daily round trip between Washington, D.C., via New Haven and Springfield, and St. Albans, Vermont. At New Haven, the corridor connects with Amtrak trains to New York and Boston, as well as commuter rail service operated by Metro-North Railroad to New York City and Connecticut Shore Line East service, operated by Amtrak, to New London, Connecticut.

The proposed project comprises significantly enhanced passenger rail service in the existing NHHS rail corridor, with up to 25 daily round-trip trains (up to 50 one-way trips per day) by 2030. Related operational improvements would include an increase in the capacity of the line to accommodate additional trains, an increase from a maximum of 80 miles per hour (mph) to a maximum train speed to 110 mph, service to new regional train stations, and reduced scheduled travel times. The proposed project's infrastructure improvements in the NHHS rail corridor (Figure ES-1) comprise:

- Restoration of sections of second track;
- Construction of new passing sidings;
- Construction of a layover and light maintenance facility;
- At-grade crossing upgrades;
- Facility-specific bridge and culvert rehabilitations, replacements and removals;
- Installation of new crossovers and signal upgrades;
- Improvement or relocation of existing passenger rail platforms for Amtrak intercity service, as well as additional station parking and improved station access;

- Improvements to platforms, track configuration and sidings in the Springfield Terminal area; and
- Construction of future FTA-funded new regional rail stations.

Beyond the Project, significant future investment in the NHHS corridor would be required to rehabilitate the Connecticut River Bridge between Windsor Locks and East Windsor; rehabilitation or relocation of the Hartford Viaduct, a three-bridge viaduct through the center of Hartford; upgrades in the Springfield area relating to high-level platforms at Springfield Union Station; location of a permanent layover facility; and track configuration changes in the Springfield area required to accommodate additional Amtrak trains serving the Vermonter, Knowledge, and inland Corridor. These future investments would need to be addressed in subsequent Tier 2 project-level environmental documents.

CTDOT developed this EA/EIE with close coordination and consultation with federal agencies, Massachusetts and Connecticut state-level agencies, local governments/agencies, operating railroads, stakeholder groups, and the public. Coordination included the presentation, consultation, and discussion of project attributes, alternatives, and impacts and stakeholder meetings, agency briefings, and public meetings and presentations.

FRA together with cooperating agencies the Federal Transit Administration (FTA) and CTDOT have prepared this EA/EIE pursuant to the National Environmental Policy Act (NEPA), 42 U.S.C. 4331 et seq, its implementing regulations at 40 CFR Part 1500 et seq., and FRA's Procedures for Considering Environmental Impacts (64 FR 28545). This EA/EIE has also been prepared in accordance with the Connecticut Environmental Policy Act (CEPA) Connecticut General Statutes, Sections 22a-1a through 22a-1h RA guidance on Compliance with NEPA in Implementing the High-Speed Intercity Passenger Rail Program, issued in August 13, 2009. The August 13, 2009 guidance describes service-level NEPA review for passenger rail corridor programs, such as the NHHS. The FRA has overall responsibility for facilitating completion of the environmental review process, reviewing and issuing a FONSI, if appropriate, and ensuring that CTDOT complies with all environmental review requirements.

To accommodate the flow of federal funding, the project has been divided geographically into a number of phases, as described below. The FRA previously advanced environmental review pursuant to NEPA for two of these phases – Meriden-Newington (Milepost [MP] 20.3 to MP 31.1) and Hartford-Windsor (MP 37.2 to MP 43.0) – and issued a Categorical Exclusion (CE) for both, completing the NEPA process. However, these two phases have not yet been approved under the state CEPA laws. Therefore, the potential environmental impacts of work in those two phases are documented in this EA/EIE. Copies of the CEs are included in Appendix 1.

The project phases comprise the following:

Phase 1 (Meriden-Newington) (CE): Using \$40 million in federal obligated American Recovery and Reinvestment Act (ARRA) funding and \$20 million in state funding, the 10.2 miles of track between Meriden and Newington will be upgraded by construction of a second track, installation of new signal and power cables and rehabilitation of bridges and culverts.

Phase 2 (New Haven-Hartford): Once the \$120.9 million in federal funding awarded in 2010 is obligated, along with a state match of \$144.8 million, the infrastructure and stations (Wallingford, Meriden, Berlin and Hartford) between New Haven and Hartford will be upgraded. The work includes installation of double track, new signal and power cables, at-grade crossing improvements, rehabilitation of bridges

and culverts and minor improvements at the Springfield Station or the Amtrak-owned Sweeney Yard site for use as a temporary layover facility.

Phase 3A (Hartford-Windsor) (CE): Using \$30 million in federal obligated ARRA funding and a state match of \$12.8 million, the railroad infrastructure between Hartford and Windsor will be upgraded. The work includes installation of double track, at-grade crossing improvements, and rehabilitation of bridges and culverts. In addition, new signal and power cables will be installed between Hartford and Springfield in order to complete installation of the cables along the entire NHHS rail corridor.

Phase 3B (Windsor-Springfield): Additional federal funding would be needed to complete the remaining improvements between Windsor and Springfield, including stations at Windsor, Windsor Locks and Springfield, and improvements to facilitate shuttle bus connections between Bradley International Airport and the Windsor Locks Station. The work includes installation of double track, at-grade crossing improvements, rehabilitation of bridges and culverts and construction of a permanent layover and light maintenance facility in the Springfield area.

Regional Rail Stations: To increase the benefits of improved rail service along the NHHS rail corridor, CTDOT intends to apply for FTA funding to add four new regional rail stations at Enfield, West Hartford, Newington, and North Haven, as well as an additional platform at the existing New Haven State Street Station.

This EA/EIE evaluates the potential environmental impacts of the proposed passenger rail service enhancement in the NHHS rail corridor and the associated capital improvements to the extent they have been defined (Figure ES-1).

The potential environmental impacts associated with the improvements evaluated in this EA/EIE are summarized in Table ES-1 (see end of this Executive Summary).

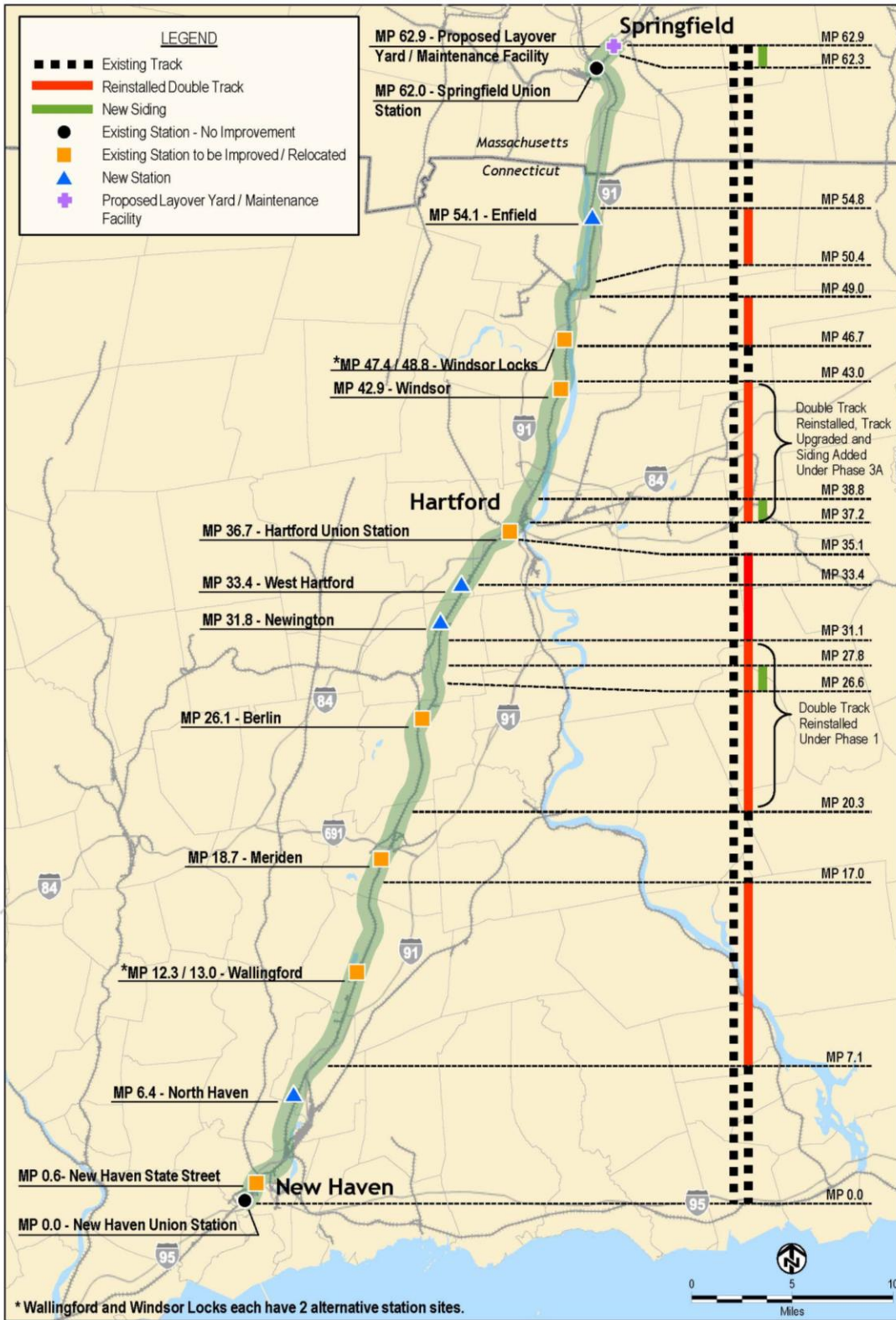


Figure ES-1 – NHHS Rail Corridor and Proposed Improvements

*Wallingford and Windsor Locks each have two alternate station sites under evaluation.

ES-2.0 PURPOSE AND NEED

Purpose

The purpose of the proposed project is to increase the safety, quality, frequency, and speed of passenger service along the NHHS rail corridor and to address the current and future transportation needs of Connecticut, Central Massachusetts, Boston and Vermont. This project is also intended to fulfill Connecticut's goal of providing additional commuting options along the corridor by increasing the number of daily trains through several of the communities along the corridor.

Need

The current rail infrastructure between Springfield, Massachusetts, and New Haven, Connecticut, is insufficient to handle the growth expected in the Northeast market. The needs for the project are the congestion, capacity constraints, and population and expected ridership growth in the project area. The Northeast market for intercity travel is estimated to reach 200 million medium-distance trips (between 100 and 400 miles) across all major transportation modes – auto, air, and rail – by 2025. With expected demographic growth, and increased capacity constraints on the study area's highways and at major airports, Amtrak's preliminary estimates are that intercity passenger rail ridership in the Northeast could double by 2030.

ES-3.0 ALTERNATIVES EVALUATION

No-Build Alternative

The No-Build Alternative assumes that passenger rail infrastructure in the NHHS rail corridor would be maintained in a state of good repair, potentially including any necessary safety and state-of-good repair improvements to the Connecticut River Bridge and the Hartford Viaduct. The No-Build Alternative also includes standard maintenance of up to 46 bridges and 115 culverts throughout the corridor that are not included in the proposed project. No restoration, improvement or new construction of passenger rail infrastructure would be undertaken in the corridor except as required by Amtrak to maintain safe rail operations.

Build Alternative

The proposed service plan would provide a one-seat ride or cross-platform transfers on service from Washington, D.C., and New York to Springfield, Boston and the Knowledge Corridor, as well as bi-directional, 30-minute peak-hour service and hourly midday service in the NHHS rail corridor. Related operational improvements include an increase in the capacity of the line to accommodate additional trains, an increase in the maximum train speed from 80 mph to 110 mph, service to future FTA-funded new regional rail stations and reduced scheduled travel times. These operational improvements, in turn, require rail infrastructure improvements.

Double Tracking: The project includes replacement of approximately 35 miles of second track that were removed by Amtrak in the early 1980s. The track, consisting of a sub-ballast foundation, wood or concrete railroad ties and steel rail, will be restored on the previously-engineered Amtrak track bed. The new track will be aligned to support speeds of up to 110 mph. There are five proposed sections of new double track, including one (MP 31.1 to MP 35.1) where the second track physically still remains, but is no longer in service and will be made serviceable:

- North Haven to Meriden (MP 7.1 to MP 17)

- Meriden to Newington (MP 20.3 to MP 31.1) (Phase 1 CE, App. 1)
- Hartford (MP 31.1 to MP 35.1)
- Hartford to Windsor (MP 37.2 to MP 43.0) (Phase 3A CE, App. 1)
- Windsor to Enfield (MP 46.7 to MP 49.0 and MP 50.4 to MP 54.8)

Amtrak also plans to widen the distance between the two tracks by two feet (to 15 feet between track centers) where feasible, to enhance ride quality and simplify track maintenance.

Existing Intercity Stations

The existing train stations at New Haven, Wallingford, Meriden, Berlin, Hartford, Windsor, Windsor Locks, and Springfield would continue to provide Amtrak intercity rail service.

New Haven Union Station: No improvements are planned at New Haven Union Station. It is anticipated that long-term (2030) additional parking demand (249 spaces) would result with enhanced service in the NHHS rail corridor (see Note 1).

Wallingford Station: The existing station location is not compatible with addition of high-level platforms, which would block local streets. Several alternative sites were considered for relocation of this station.

Both the Parker Street/North Colony Street and Ward Street/Judd Square locations are evaluated in this EA/EIE. A final recommendation for the station site will be deferred until after the EA/EIE public comment period. Both alternative sites would require some property acquisition and relocation. Additional future (2030) parking demand is estimated to be 210 spaces. Figure ES-2 indicates the mileposts for each alternative.

Meriden Station: High-level platforms and a parking structure would be added to support use of the existing station. From several conceptual station layouts presented to the City of Meriden, the preferred layout closes the Brook Street at-grade crossing and is consistent with the City's plans for TOD in the area. The improvements to the station area may require the demolition of the current Amtrak station building. Future (2030) additional parking demand is estimated to be 300 spaces.

Berlin Station: High-level platforms would be constructed near the existing station building, which would be renovated by the Town of Berlin as part of a separate project. Future (2030) additional parking demand at Berlin Station is estimated to be 232 spaces.

Hartford Union Station: At this existing station, the single 500-foot-long platform would be retrofitted or elevated to provide high-level boarding to trains. It is anticipated that future (2030) demand for an additional 342 parking spaces would result with enhanced service in the NHHS rail corridor (see Note 1, below).

Windsor Station: High-level platforms would be constructed near the existing station on Mechanic Street. Additional future (2030) parking demand is estimated to be 180 spaces; parking would be added on the east side of the tracks.

Windsor Locks Station: Two alternative station site options, each including improvements to support a bus shuttle connection to Bradley International Airport, were considered for this station. The Town of Windsor Locks has stated its preference for the location north of the Town's Central Business District, as part of a proposed renovation and expansion of the Windsor Locks Commons development and adjacent

to an existing historic station structure. Future (2030) additional parking demand at Windsor Locks Station is estimated to be 107 spaces. A final recommendation for the station site has been deferred until after the EA/EIE public comment period. Figure ES-2 indicates the mileposts for each alternative.

Springfield Union Station: High-level platforms are proposed for one or more of the platforms served by passenger trains at the existing Amtrak Springfield Union Station. Future 2030 additional parking demand resulting from enhanced service in the NHHS rail corridor is estimated at 364 spaces (see Note 1, below).

New Stations

The State of Connecticut intends to apply for FTA funding to support construction of new regional rail stations along the NHHS rail corridor to supplement planned intercity service.

New Haven State Street Station: One additional 180-foot-long high-level platform, sufficient for safe access to and from the planned two-to-three car regional trains, would be provided on the westernmost track with new (or modified existing) overhead walkway, elevator and stairs at this existing station (See Note 1 below).

North Haven Station: This proposed new station would be located at the intersection of Divine and State streets in North Haven. The site is adjacent to an existing park-and-ride lot owned by CTDOT, which would be enlarged to provide long-term future (2030) parking of up to 288 parking spaces.

Newington Station: This proposed new station would be located at the intersection of Willard and Francis Avenues on the east side of the tracks at the site of the historic station location. It would result in an intermodal site with a pedestrian overpass connecting to the proposed New Britain-Hartford Busway station located immediately west of the tracks. Future (2030) parking demand at Newington Station is estimated to be 202 spaces.

West Hartford Station: This new station would be located at the intersection of Flatbush and Newfield Avenues on the site of a commercial building on the east side of the tracks. It would result in an intermodal site with a pedestrian overpass connecting to the proposed New Britain-Hartford Busway station located immediately west of the tracks. Future (2030) parking demand at West Hartford Station is estimated to be 167 spaces.

Enfield Station: This new station would be located in the Village of Thompsonville at the intersection of Main and North River streets adjacent to an existing residential complex (Bigelow Commons) and a historic commercial building. Future parking demand at this station is estimated to be 214 spaces.

Layover and Light Maintenance Facility

The proposed project includes construction of a train layover and light maintenance facility in the Springfield area. The facility, required to support the planned 2030 service level, would be used for overnight storage, cleaning, and light maintenance of three regional trains.

Note 1: The project will not be constructing additional parking capacity at New Haven Union Station, New Haven State Street Station, Hartford Union Station, or Springfield Union Station. At these stations, parking will continue to be provided by the local parking authority. The parking capacity added by the local parking authorities may be phased over several years to meet the parking demand as it develops.

Three sites were considered for the Springfield layover and maintenance activities. On the basis of the qualitative analysis of the three potential sites, the Armory Street site was selected as the best long-term location to support the 2030 level of service. Access to the site will require construction of a new 2,000-foot-long access track from Springfield Union Station to the layover area along the former branch line. The site has sufficient space for the proposed facility and for potential future expansion. The other two sites – the Amtrak Sweeney Yard Site south of Springfield Union Station, and a site along tracks within Springfield Union Station -- would be sufficient for interim layover and maintenance needs but are too constrained to support service needs for the full 2030 NHHS project.

Sidings

Construction of three new railroad passing sidings is included in the proposed project. The sidings would run parallel to the main line tracks and be used to hold freight trains to avoid delays to passenger trains. The sidings would be located as follows:

- Berlin Siding (MP 26.6-27.8): This siding, which would not be required until 2030 service levels are achieved, would reduce train conflicts south of Hartford for Connecticut Southern Railroad (CSO) trains serving local area shippers.
- Hartford Yard Siding (MP 37.2-38.8): This siding would be located within the existing Hartford Railroad Yard and provide storage for freight trains operating to and from the yard and adjoining branch lines and turning passenger trains.
- Armory Street Siding (MP 62.3-62.9): This siding, consisting of construction of a parallel track, would provide access to the proposed Springfield layover and light maintenance facility, described above. This siding would be constructed only if the Armory Street site is selected as the location for the permanent layover and light maintenance facility.

Bridges and Culverts

On the basis of condition assessments and in-depth inspections of the bridges and culverts in the NHHS rail corridor, each structure's condition was rated as excellent, good, fair, poor, serious or unknown (the latter if access was not available or the structure could not be located) and an appropriate improvement was recommended for each structure, reflecting the specifics of its condition.

Based on that analysis, the proposed project includes improvements to 42 structures under the tracks called "under-grade bridges," four overhead bridges and 61 culverts located across the NHHS rail corridor. The remaining bridges and culverts in the corridor are not included in the proposed project's program of infrastructure improvements because they require only routine maintenance or no action.

Applicable Federal Regulations, Required Coordination and Permits

National Environmental Policy Act (NEPA): This environmental document has been prepared in accordance with NEPA and its implementing regulation. If it is determined that no significant impacts would result from the proposed project, a Finding of No Significant Impact (FONSI) will be issued by the FRA, the lead federal agency. If significant impacts will occur, further environmental analysis may be required.

U.S. Army Corps of Engineers (ACOE): The ACOE has jurisdiction, under the Federal Water Pollution Control Act or Clean Water Act of 1972 to regulate discharge of dredge or fill material into all waters of the United States including open water, inland wetlands, and tidal wetlands. The ACOE coordinates the issuance of a Section 404 wetlands permit with the State of Connecticut Water Quality Certification in accordance with Section 401 of the Clean Water Act.

Hazardous Materials Regulations: Risk sites, regulated by federal and/or state rules and regulations, may be located along the rail corridor. CTDOT Task 210 procedures would be implemented during the final design phase of the project for areas on or adjacent to identified high-risk sites.

Historic Preservation Act (Section 106): Section 106 of the National Historic Preservation Act of 1966 requires that federal agencies consider the effect of their undertakings on historic properties.

Section 4(f): Section 4(f) of the U.S. Department of Transportation Act of 1966 prohibits the use of publicly owned parks, recreational areas, wildlife and waterfowl refuges and public and private historic properties unless the responsible USDOT agency makes two findings: 1) that there is no feasible and prudent alternative that avoids the use of Section 4(f) properties; and 2) that the project or action includes all possible planning to minimize the harm that would result from the use of those properties.

Section 6(f): Section 6(f) of the Land and Water Conservation Fund Act (LWCFA) requires that property acquired or developed with LWCFA funding not be used for any purpose other than public outdoor recreation without the approval of the Secretary of the U.S. Department of the Interior.

Public Health Service Act (Safe Drinking Water Act): The 1986 Federal Safe Drinking Water Act grants primary authority to the states for adoption and enforcement of regulations for the protection of water systems and supplies.

Federal Uniform Relocation Assistance and Real Property Acquisition Policy Act of 1970: Affected property owners would be afforded relocation assistance through the Federal Uniform Relocation Assistance and Real Property Acquisition Policy Act of 1970. CTDOT is authorized and required to provide monetary and other relocation assistance to displaced property owners whose properties would be acquired for implementation of the proposed federally funded project.

Executive Orders: The federal Executive Orders listed below must be taken into consideration as part of the evaluation of each alternative:

- Executive Order 11990 mandates that federal agencies ensure preservation and enhancement of wetland resources;
- Executive Order 11988 directs federal agencies to take appropriate action to minimize flood hazards and impacts resulting from modifications to floodplains; and
- Executive Order 12898 requires federal agencies to ensure that their programs, policies and activities do not result in disproportionately high or adverse human health or environmental effects on minority or low-income populations.

Other Coordination Requirements

- National Railroad Passenger Corporation (Amtrak) Coordination: The NHHS rail corridor includes 62 miles of existing rail line, owned and operated by Amtrak, currently operates regional passenger service between New Haven, Connecticut, and Springfield, Massachusetts. Coordination with Amtrak is required during the planning, design and construction phases of the project.
- Rail Freight Operations Coordination: The proposed project requires coordination with rail freight operators to avoid adverse impacts to their operations during construction and as additional passenger rail service is phased in. This includes the following freight railroads: CSX

Transportation, Connecticut Southern Railroad, Pan Am Railroad, Providence Worcester Railroad and the Central New England Railroad.

Applicable State Regulations, Required Coordination and Permits

Connecticut Environmental Policy Act (CEPA): This environmental document has also been prepared in accordance with CEPA - Connecticut General Statutes (CGS), Sections 22a-1a through 22a-1h and thus serves as an EIE under CEPA review. If it is determined that no significant impacts would result from the proposed project, Connecticut's Office of Policy and Management would concur with the FRA's FONSI.

Massachusetts Environmental Policy Act (MEPA): The MassDOT has determined that the work proposed by the NHHS Project in Massachusetts does not trigger any thresholds under the Massachusetts Environmental Policy Act (MEPA) and therefore is not subject to review under MEPA.

The following regulations are applicable to the surface water resources and groundwater resources throughout the study corridor and to the proposed project:

- Connecticut Surface Water Quality Standards (Connecticut Department of Energy and Environmental Protection [CT DEEP], Effective February 25, 2011);
- State of Connecticut Integrated Water Quality Report (Draft, April 11, 2011); and
- CT DEEP Groundwater Quality Standards (Effective April 12, 1996)
- Massachusetts Surface Water Permit Discharge Program, 314CMR3.00 and 4.00

Principal applicable state law concerning the proposed project's impact to wetlands is as follows:

- The Connecticut Inland Wetland and Watercourses Act (CGS Section 22a-36 through 22a-45a, inclusive);
- The Connecticut Coastal Management Act (CCMA) (CGS Sections 22a-90 through 22a-112, inclusive); and
- The Massachusetts Wetlands Protection Act (MGL Chapter 13 Section 40).

The following regulations are applicable to the consideration of wild and scenic rivers, navigable waterways, and coastal resources in the NHHS rail corridor:

- Wild & Scenic Rivers Act, October 2, 1968;
- Navigable waterways of the United States are defined (33 CFR Part 329) as "those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been in the past, or may be susceptible for use to transport interstate or foreign commerce;
- Navigable waterways are also regulated by the CT DEEP, and bridges that cross them may be regulated by the U.S. Coast Guard;
- Connecticut's Coastal Management Act; and
- Section 22a-94 of the Connecticut General Statutes, in which coastal waters are defined by the state as those waters of Long Island Sound and other associated waters that contain a salinity of at least 500 parts per million (ppm) under low-flow stream conditions.
- Massachusetts Rivers Protection Act as Amended, 1996

In addition, the following regulations are applicable to the proposed project's effects on floodplains and floodways and Connecticut-designated stream channel encroachment lines (SCELs):

- Sections 25-68b through 25-68h, inclusive, of the CGS, Connecticut’s Flood Management Program. This program, administered by the CT DEEP, regulates state agency actions affecting floodplains and natural man-made storm drainage facilities. Agencies undertaking such actions must submit a Flood Management Certification (FMC) describing the project activities and the measures taken to meet the program’s standards. Under recent provisions, project-related improvements that result in the loss of flood storage capacity may be required to provide flood storage compensation.
- The Connecticut SCEL program, administered by the CT DEEP, regulates activities within designated SCELs and issues permits only if there is a clear demonstration that the project would not cause an increase in flood hazard or other adverse effects.

State laws governing review of the proposed project’s effects on threatened and endangered (T&E) species are as follows:

- The Connecticut Endangered Species Act (CGS 26-303) declared a policy of the State to conserve, protect, restore, and enhance any endangered or threatened species and essential habitat. The act requires that any action authorized, funded or performed by a state agency not threaten the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat designated as essential to such species, using the best scientific data available.
- Massachusetts Endangered Species Act (310 CMR10:00)

MassDOT Coordination: The NHHS rail corridor includes 62 miles of existing rail line, of which 6 miles are in Massachusetts. Since the early inception of this NHHS Project the CTDOT and MassDOT have worked cooperatively in project planning and project development activities. Consistent with *Vision for the New England High-Speed and Intercity Rail Network*, MassDOT acknowledges CTDOT’s lead on this project which is primarily in Connecticut. Coordination with MassDOT is required during the planning, design, and construction phases of the project. Massachusetts agreed to cooperate on the project in the above referenced vision through the following statement: “Through Connecticut’s leadership, we understand the importance of restoring the double track and replacing bridges on the Springfield Line that serves the cities of New Haven, Hartford, and Springfield in order to provide the foundation of the larger rail network.”

ES-4.0 AFFECTED ENVIRONMENT

Introduction

In order to accurately assess the potential impacts associated with the proposed project, a corridor approximately 1 mile wide was used for Community Facilities, Median Household Income, Minority Population, Ground Water, and Surface Water, while a corridor approximately 1,000 feet wide was used for Farmland Soils, Hazardous Materials, Cultural Resources, Section 4(f) and 6(f) Resources, Floodplains and Stream Channel Encroachment Lines, Noise and Vibration, Wetlands, Critical Environmental Areas and Threatened and Endangered Species. A study area of up to a 5-mile radius at each station was used to assess Socioeconomic and including environmental justice.

Table ES-1 Summary of Environmental Consequences & Mitigation, located at the end of this Executive Summary, identifies the project’s potential impacts and associated mitigation.

PHYSICAL ENVIRONMENT

Air Quality

The proposed project would not result in any local or regional short-term or long-term adverse air quality impacts. As the proposed project would comply with current control measures and would be consistent with emissions budgets, it is determined to be in conformity with the Clean Air Act, as amended, pursuant to all applicable U.S. Environmental Protection Agency (EPA) regulations.

For transportation projects, the criteria pollutants of greatest concern are carbon monoxide (CO) and ozone as they are predominantly influenced by motor vehicle activity. Particulate matter smaller than or equal to 2.5 microns in size (PM_{2.5}) is also a key pollutant because of the relative proximity of the study corridor to the New York Metropolitan Area, which is in nonattainment. In the past 9 years, overall trends in annual concentration of PM_{2.5} have shown a downward trend (with the exception of a slight increase in 2005). None of the improvements with the proposed project would cause or contribute to any new violations or increase the frequency or severity of any existing CO violations in CO nonattainment or maintenance areas.

Beginning in March 2012, a quantitative PM_{2.5} hot spot analysis will be required; at that time, the EPA MOVES model will be required as the industry standard. The new MOVES model will be a more stringent analysis (incorporating more variables) than the model in use today. Consequently, based on application of the new, more stringent analysis, the potential for PM_{2.5} hot spots along the study corridor from the increased rail activity with the proposed project could theoretically be higher than that with the No-Build Alternative. However, the most likely scenario is that emissions and hot spots would be less likely along the study corridor in the future because of the overall significant reductions in emissions projected by EPA for the study corridor and the region.

Noise and Vibration

Without mitigation, train-horn noise at grade crossings and existing and new regional rail stations would result in potentially severe noise impacts. However, designation of Quiet Zones, which eliminates or significantly reduces horn-noise impacts at public crossings, could be used to mitigate severe train-horn noise impacts. As part of the proposed project, Amtrak will add supplemental safety devices at all public crossings along the NHHS rail corridor, as necessary, to meet Quiet Zone requirements and to provide additional safety protection to prevent motorists from attempting to drive around the gates. This would enable the affected municipalities and Amtrak to jointly apply to FRA for Quiet Zone designations. Other options for horn noise mitigation include wayside horns, barriers, or insulation.

CTDOT will evaluate potential vibration-sensitive receptors on a case-by-case basis and determine the impact and the need for mitigation, based on the proposed project's track configuration determined during the final design phase or project development.

Additional noise analysis would be required when the permanent layover/maintenance facility is advanced to Tier 2 environmental documentation to support the 2030 level of train service, as there are residences within 250 feet of the preferred alternative's proposed facilities and tracks. Overall, as the project advances to final design, mitigation options will be evaluated to determine their appropriateness and feasibility.

Topography and Geology

Overall, the topography, geology, seismicity, and soils within the study corridor are stable and suitable for the proposed project, which would not result in impact to topography or geology. During the design phase of the proposed project, more detailed geotechnical analyses would be performed, including test borings along the corridor to enable the final design to accommodate all of the conditions encountered at specific locations of construction. Details of this analysis are provided in the Environmental Resource Analysis reference document.

Floodplains and Stream Channel Encroachment Lines

Impacts to 100-year floodplains would total approximately 10.7 acres of encroachment. Most of this acreage would be associated with improvements at existing stations and construction of new stations. Other impacts would result from restoration of double track and construction of the new rail siding. Some of the station work in floodplains would be for surface parking lots, which would be constructed to match existing grades, to the extent possible, thereby minimizing fill volumes in the floodplain, which could otherwise cause adjacent flooding effects. Proposed parking garages and overpass structures at the stations could also reduce the flood storage capacity of the floodplains. Additional encroachment impacts would affect approximately 1.0 acre of floodways and approximately 2.1 acres of SCELs due to the restoration of double track and construction of the new rail siding.

CTDOT will be required to secure a FMC from the CT DEEP for all work involving impacts to the 100-year floodplain or floodways in Connecticut. In addition, a SCEL permit will be required from the CT DEEP. For any locations where flood storage volumes and/or flooding are projected to be adversely affected, compensatory mitigation will be required. This may involve creation of new flood storage capacity to offset lost flood storage, provided either at or immediately adjacent to the site of the impact.

Relative to Executive Order 11988 on floodplain management, every effort will be made to avoid project-related impacts to floodplains. However, in some cases, there may be no practicable alternative to encroachment on 100-year floodplains and floodways. Impact avoidance, minimization, and mitigation measures will be investigated and implemented, as appropriate, in conformance with Federal Emergency Management Agency (FEMA) and State of Connecticut regulations.

NATURAL ENVIRONMENT

Critical Environmental Areas and Threatened and Endangered Species

A variety of T&E species and/or their habitats occur near many of the proposed project's improvements in Connecticut. As many as 18 Connecticut-listed species are located in the vicinity of several regional rail station sites and double-tracking segments in Connecticut, indicating potential impacts along the corridor. There would be a possibility of additional impacts at the bridge and culvert repair/replacement sites in Connecticut once specific locations are identified. Impacts to the state and federally endangered dwarf wedge mussel and Massachusetts-listed species and/or habitats along the Connecticut River are not anticipated. No species or habitats of concern were identified near the proposed Armory Street site being considered for a layover/maintenance yard in Springfield. The other layover/maintenance sites under consideration (Springfield Union Station and the Sweeny site) would require virtually no improvements. Therefore, no impacts to T&E species and/or their habitats would result from the Massachusetts portion of the project.

As the project design advances, additional coordination with the CT DEEP will be required to determine whether the species and habitats of interest actually occur at the specific improvement sites and to

identify the need for field surveys and avoidance and/or protective measures for the particular location(s). Based on the results of this coordination, field studies may be required prior to final identification of impact avoidance and minimization measures.

Water Resources and Water Quality

No impacts to groundwater are anticipated with the proposed project. Some potential exists for adverse impacts to surface waters from changes in stormwater flows from impervious surfaces and erosion and sedimentation during the period of active construction. There may be temporary impacts to some surface waters during construction, particularly during repairs and/or replacement of culverts and bridges. The installation of the proposed new siding has the potential to affect Piper Brook near the Newington/New Britain Town Line. During final design the track length, track centers, and track bed will be adjusted to minimize impact to this waterway and its tributary.

In order to avoid or substantially reduce potential water quality impacts associated with the proposed project, design details will be developed to avoid adverse impact. Final designs will be coordinated and permitted with the CT DEEP and Massachusetts Department of Environmental Protection (MADEP) and other resource agencies.

Wetlands

The wetland mapping from available GIS data indicates 40 wetland systems in the study corridor from Hamden, Connecticut, to Longmeadow, Massachusetts. Restoration of double-tracking and construction of rail sidings would directly impact approximately 3.9 acres of wetlands along the NHHS rail corridor in Connecticut; .6 acre due to proposed sidings and .7 acre due to proposed double track in this EA/EIA and 2.6 acres due to proposed double track in the CEs for Phases 1 and 3A. No wetland impacts are anticipated in Massachusetts.

Potential indirect impacts to off-site wetlands, particularly from stormwater runoff, would be negligible due to application of pertinent design and construction standards during later design phases of the proposed project. Some as-yet-undetermined level of wetland impact is anticipated from culvert and bridge repairs or replacements; as the proposed project's design progresses, any direct wetland impact that cannot be avoided will be minimized through design measures, to the greatest extent practicable. Based on conceptual layouts, no wetland impacts are anticipated from improved or new stations.

All potential wetland impacts from restoration of double-tracking, construction of rail siding and bridge/culvert rehabilitation or replacements will be mitigated. Compensatory wetland mitigation will be provided through a wetland mitigation plan developed in coordination with the ACOE and the CT DEEP and following the guidelines set forth in the ACOE *New England District Compensatory Mitigation Guidance* (July 20, 2010). While the priority mitigation options are wetland restoration and creation, the mitigation package may include a combination of restoration, creation, enhancement and preservation to adequately compensate for the lost acreage, types and functions-values of the impacted wetlands.

Wild and Scenic Rivers, Navigable Waterways, and Coastal Resources

None of the watercourses within the study corridor are included in the National Wild and Scenic Rivers System or are currently under consideration for such a designation. Navigable waterways that cross the study corridor include major rivers, tidal waters and tributaries to the river's head or upper limit of tide and include the Mill, Quinnipiac and Connecticut rivers. Only portions of the City of New Haven and Towns of Hamden and North Haven in the NHHS rail corridor lie within Connecticut's designated coastal zone. However, tidal influences along the Connecticut River extend as far north as South Windsor.

Restoration of double track through Windsor Locks between the existing track and the Connecticut River would be done in coordination with the U.S. Coast Guard, ACOE and the CT DEEP; final track design will locate the track improvements to avoid encroaching on the Connecticut River, designated a National Heritage River. The proposed project includes no improvements to the Connecticut River Bridge.

Most of the NHHS rail corridor within Connecticut's coastal boundary is already double-tracked with the exception of a small, single-track segment in North Haven. Restoration of the second track would occur within the existing railroad track bed and consistent with the transportation use of the existing facility. Accordingly, no impact to coastal resources is anticipated with the proposed project. Potential impacts to navigable waterways and coastal resources will require further assessment and agency coordination to determine avoidance/minimization measures. This assessment will occur during project design and permitting.

Prime Farmlands and Farmlands of Statewide Importance

The proposed project would have no impacts to prime and statewide important farmland soils as a result of construction of the Springfield layover area or station improvements. Restoration of double track and new sidings could impact up to 4.0 acres of prime and statewide important farmland soils in the event track centers and track bed shoulders are widened.

Once the direct impacts are quantified, a Farmland Conversion Impact Rating Form (Form AD-1006) will be completed in coordination with the Natural Resources Conservation Service (NRCS). The NRCS will evaluate the information using a land evaluation and site assessment (LESA) system to establish a farmland conversion impact rating score. From this, mitigation will be determined. Farmland conversion mitigation may include paying a fee to protect farmland or providing permanent protection of comparable farmland.

HUMAN ENVIRONMENT

Land Use and Zoning

The proposed project would result in no direct or indirect land use impacts associated with non-station area improvements. No direct impacts would result from the proposed improvements at six station locations. At the remaining stations, direct impacts would be either neutral or positive and could include complementing TOD plans and other improvements planned by others for the station areas, while increased activity at the stations could result in direct adverse impacts to access to surrounding land uses.

The local municipalities and CTDOT agreed upon the following ongoing considerations for final station design to ensure the compatibility of rail station design with local future land use plans:

- The Meriden station parking will be located to integrate into the TOD plan for the area.
- Parking for the Berlin station will be designed to be integrated into the TOD plan for the area.
- There will be ongoing coordination with the City of Hartford to respond to parking demand for rail patrons as City redevelopment plans for the area take shape.
- CTDOT will work with the Town of Enfield and Bigelow Commons' ownership to co-locate a portion of the Enfield Station parking within the Bigelow Commons development; minimize use of riverfront access for parking; and, at the same time, work to minimize adverse effects to access or parking for Bigelow Commons residents.

Consistency with State, Regional and Local Plans

Based on a review of local, regional, and state planning documents, the implementation of new and improved passenger rail service would be consistent with the stated goals, objectives, policies and actions of the state, regional and all but two local plans. Two station location options for both the Towns of Wallingford and Windsor Locks are being carried forward. The Towns have elected to postpone a final site selection until after the EA/EIE public hearings.

Property Acquisitions and Displacement

The proposed project would result in acquisition of approximately 31 properties (42.2 acres), comprising 18 full property acquisitions, and 13 partial property acquisitions required for improvements to existing stations and to construct new stations. This number may change slightly depending on selection of the preferred station site alternatives at Wallingford and Windsor Locks, and on the selection of a site for the permanent layover and light maintenance facility. Additional minor property acquisitions could be required for track, at-grade crossing, and bridge and culvert improvements. Mitigation will consist of monetary and other relocation assistance to displaced property owners.

Socioeconomics

Project-related impacts on socioeconomic conditions would be beneficial. The proposed project would not result in any adverse socioeconomic impacts. Beneficial regional and national economic impacts would result due to job creation; near regional rail stations in the NHHS rail corridor, beneficial economic impacts would result from project-related induced development opportunities. Injection of capital infrastructure spending into the regional economy would lead to jobs directly related to the construction of the proposed improvements and, potentially, additional jobs for the suppliers of materials and equipment and for related professional services. In turn, these jobs would support additional jobs made viable through the improved access by rail (induced impacts), all of which would bolster the regional economy by increasing economic growth.

Following the initial construction/capital investment, there would be ongoing operations and maintenance expenditures for the constructed facilities, equipment and associated services. Operations and maintenance contracts would include the hiring of employees and purchase of supplies and services, which would also result in positive economic impact. These direct expenditures give rise to multiplier effects for the estimation of the total economic impact.

In addition to the beneficial impact of job-years, the proposed improvements would have a significant potential for beneficial economic development in the cities and towns with regional rail stations. As the proposed project would not result in any adverse socioeconomic impacts, no mitigation is proposed.

Community Resources and Neighborhood Character

There is some potential for a mix of adverse and beneficial impacts to some study area neighborhoods due to changes in motor vehicle access, access to services and other businesses, noise, and neighborhood visual and physical cohesiveness. The improved rail corridor would result in a substantial increase in the number of trains along the rail line. This could result in some adverse impact on neighborhood noise levels and on interaction in those areas where closure of at-grade crossings may become more frequent and opportunities to cross the tracks may be reduced.

Station locations where the proposed project would have adverse impacts to neighborhood cohesion include: Wallingford (both alternative sites), Newington, West Hartford and Enfield. Potential adverse impacts will be mitigated through ongoing coordination with the affected communities and

representative neighborhood organizations during final design to offset those impacts to the extent feasible and practicable.

Visual Resources and Quality

The NHHS Rail Corridor has served as an active rail line for over 160 years, from the earliest days of the steam era to today. Many railroad facilities – stations, water towers, signal posts, tracks – have been built, removed or replaced as railroad technology has changed and communities have grown around the corridor. The NHHS Rail Project would add new railroad platforms, a pedestrian overpass and new parking facilities at existing and proposed new train stations. These same amenities exist at nearly all of the existing rail stations in Connecticut along the Northeast Corridor rail line. Addition of these improvements has the potential for adverse impacts to the visual environment in the vicinity of the existing and proposed NHHS rail stations at Wallingford (Parker Street alternative), Berlin, Newington, Windsor, Windsor Locks, and Enfield. The impacts will be mitigated through landscaping and use of building construction materials, colors and architectural styles consistent with station sites' surroundings, to the extent possible.

Cultural Resources

The NHHS rail corridor runs through an area of southern New England that has been the scene of human habitation for some 12,000 years. Consequently, the area is rich in pre-Colonial archaeological sites, historic-period archaeological sites, historic districts and individual historic properties. The exact nature of impacts on these resources, as well as archaeological resources that may be located in the corridor, has not yet been identified or fully evaluated at this time because some of the proposed project's infrastructure improvements have been only conceptually designed or have not yet advanced to that stage. A Draft Programmatic Agreement (PA) among the FRA, CTDOT, Connecticut State Historic Preservation Office (CTSHPO), Massachusetts State Historic Preservation Office (MASHPO), and other interested parties is being developed in accordance with 36 CFR § 800.4(b)2. The PA implements a phased process for further consultation among FRA, CTDOT, CTSHPO, MASHPO, and other interested parties including Native American Tribes; identification of historic properties that may be affected by individual elements of the proposed project; and resolution of all adverse effects to historic properties that may result with the proposed project.

It is the CTSHPO's opinion that the entire NHHS rail corridor in Connecticut is eligible for listing in the National Register of Historic Places (NRHP) as a thematically linked historic district. MASHPO has concurred with the concept of the entire historic rail corridor as a linear historic district. The proposed project may require physical alteration or demolition of historic resources that are individually eligible for listing in the NRHP or contribute to the significance of the National Register-eligible linear historic district. Further evaluation of the potential effects of the proposed project will be completed in accordance with Section 106 of the National Historic Preservation Act under the terms of the PA.

Section 4(f) Resources

There are 109 publicly owned parks and recreational areas in addition to wildlife and waterfowl refuges in the NHHS rail corridor. None would be impacted by the proposed project. However, the NHHS rail corridor is rich in historic districts and individual historic properties that are listed on the NRHP or have been determined to be National Register-eligible. The proposed project may require physical alteration or demolition of some historic resources. The exact nature of impacts has not yet been identified because some of the proposed project's infrastructure improvements have been only conceptually designed or have not yet advanced to that stage.

Section 6(f) Resources

Section 6(f) resources are municipal parks or open space properties that have either been purchased, maintained or enhanced with funding from the 1965 LWCF. Bushnell Park, located in Downtown Hartford, is the only Section 6(f) resource in the study corridor. The proposed project would not impact this resource. Since there would be no impacts to the Section 6(f) resources, no mitigation is warranted or proposed.

Transportation

Railroad: A detailed NHHS operations modeling simulation was performed to determine the projected performance of the future freight and passenger service, compared to the existing service. With the proposed project, freight service tonnage would be allowed to grow at 1.5 to 2 percent (1.75 percent average) compounded annually. Passenger train speed limits would be increased to a maximum of 110 mph at selected locations. During final design, the schedules for the future passenger and freight service will be optimized and an overall robustness study of the operating infrastructure would be completed for the corridor to validate infrastructure location.

Traffic: With implementation of the proposed project, adverse traffic impacts would occur at the following locations where traffic LOS would fall below the criteria for acceptable traffic flows.

Traffic impacts at the affected station access driveways and intersections near the stations:

- Route 173/Francis Avenue/Station access (Newington)
- Asylum Avenue/Spruce Street/Station Access (Hartford)

Traffic impacts at the affected grade crossings:

- Route 150/Hall Avenue/N. Cherry Street (Wallingford)
- Quinnipiac Avenue/N. Cherry St. (Wallingford)
- Quinnipiac Avenue/Hall Avenue/North Colony Street/Center Street (Wallingford)
- Route 150/Hall Avenue/Washington Street (Wallingford) - Signal timing changes.
- North Colony Street/Parker Street (Wallingford)
- North Colony Street/Ward Street (Wallingford)
- Route 140/Bridge Street/Route 159/Church Street (Windsor Locks)
- Main Street and Spring Street (Windsor Locks)
- Main Street and Church Street/Bridge Street (Windsor Locks)

Transit, Parking, and Non-Motorized: At Meriden Station, there are two tracks at the station, requiring passengers to cross the active track to access the train. This increases boarding time and can cause delays to other trains operating in the vicinity. The increase in train service will increase the number of passengers arriving and departing at each station and, in turn, increase the need for timed connectivity with local transit, as well as with commuter and Amtrak trains at New Haven connecting to points south/west and north/east. Parking at existing stations is not adequate to support the projected ridership for 2030.

Project related enhancements would include increased connections to and from local bus transit by providing two to four bus stalls at each rail station, with two additional stalls at the Windsor Locks Station to provide an express shuttle to Bradley International Airport. Bus stalls for private services at

the current rail stations would be maintained. Access to the New Britain – Hartford Busway buses will be integrated into the station designs at Newington and West Hartford. Parking will be increased at all stations except New Haven Union, New Haven State Street, Hartford Union and Springfield Union. At these stations, parking will continue to be provided by the local parking authority. All stations that are reconstructed, relocated, or newly constructed with the proposed project will Americans with Disabilities Act (ADA)-accessible routes from the existing sidewalks at the edge of the respective station to the boarding platforms. Similarly, the sites will be designed to provide access by bicycle on the station drives and bicycle storage. High-level platforms, connected by an aerial pedestrian overpass, will provide safe access to the platforms and the trains. All stations will receive high-level platforms and pedestrian overpasses except Springfield, Hartford, which will receive high-level platforms only and New Haven, where they already exist.

Public Utilities and Energy

The proposed project may require some utility relocation during project construction, which would be coordinated with utility providers to eliminate or minimize disruptions. Potential disruption to utility customers would also be minimized through coordination with utility providers. The proposed project would have a positive impact on energy requirements as increased regional rail ridership would result in a reduction in personal automobile usage and reduced fossil fuel consumption.

Overhead utilities at the Newington and North Haven stations may have to be raised to clear the proposed pedestrian crossover. Level 3 fiber optic cables running within and along the NHHS rail corridor would have to be replaced. In addition, Amtrak intends to install new power, signal, and communications cables along the west side of the corridor. CTDOT and MASSDOT have met with utility owners along the corridor to advise them of the project and to seek as-built and other design plans to help identify the location of utility crossings and their depth. As design of the improvements advance, CTDOT will work with the utility owners to optimize the scheduling of utility relocations.

Based on the preliminary Passenger Service Plan, the proposed project would result in a total reduction of 92.65 million miles in vehicle miles of travel (VMT) of light-duty vehicles and an increase of 760,000 gallons of diesel fuel used for train locomotion. Overall energy consumption would be reduced with increased regional rail ridership, particularly during peak hours of travel. The resulting reduction in regional consumption of fossil fuels would reduce greenhouse gas emissions.

Utility service disruptions during construction will be minimized through close coordination of construction activities, scheduling with utility providers, and advanced notice of any anticipated outages to nearby customers.

Hazardous Materials and Environmental Risk Sites

Hazardous waste sites were identified using the EPA's 2002 Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) GIS coverage for towns located in the NHHS rail corridor in Connecticut and Massachusetts. Based on the analysis, the rail corridor contains 19 CERCLIS-listed sites. In addition, 44 other potential hazardous waste sites were identified from CT DEEP Landfill, Leachate, and Waste Water Discharge GIS data layers.

The CERCLIS listed sites along with the other sites noted above are collectively called environmental risk sites – locations where hazardous materials are known to have been used and/or hazardous waste generated and potentially discharged to the ground or water.

- There is a high risk for encountering contaminated soils or debris in the existing railroad track bed during project construction. Along the existing railroad track bed and in the vicinity of the Springfield Layover site, there is a strong probability for encountering contamination during project construction. This work would be in future Tier 2 environmental documents.
- Older building structures in the NHHS rail corridor requiring demolition can contain lead and asbestos.
- The property at 17–35 Bartholomew Avenue in Hartford, which is listed as a brownfields site and is near a proposed section of double tracking to be restored, has a probability of the presence of oil and hazardous materials OHMs.
- There is a potential hazardous waste source on the site of the proposed North Haven Station consisting of treated industrial discharge from a chemical company.

For identified potential environmental risk and hazardous material sites in Connecticut, State of Connecticut regulatory requirements will be followed by CTDOT through its environmental compliance process as the proposed project progresses to final design and construction. All Massachusetts work would be in future Tier 2 environmental documents.

Safety and Security

The proposed project would not appreciably impact public health, safety and security in the NHHS rail corridor. While greater frequency of trains may increase the frequency of opportunities for conflict between trains and vehicles or people, safety improvements at crossings and improved communications among emergency responders would be a beneficial impact, serving to minimize potential conflicts and their consequences. Safety and security design features at the stations would also have a beneficial impact. An increase in rail service is expected to divert some vehicular traffic to the rail mode in the region and, thus, would indirectly improve safety on roads and highways. Implementation of the proposed project will conform to all applicable safety requirements, regulations, standards and certifications and a comprehensive NHHS System Safety Program (SSP) will be developed for the proposed project.

The NHHS Rail Program will conform to all applicable FRA, FTA, Occupational Safety and Health Administration (OSHA), Amtrak and state safety and security requirements, regulations, standards, and certifications. These measures will be incorporated into a comprehensive NHHS System Safety Program (SSP) that ensures the development and coordination of responsibilities for implementing key safety and security policies.

Environmental Justice

Concentrations of Environmental Justice (EJ) populations (minority and/or low-income) exist throughout the NHHS rail corridor study area, notably in the larger cities of New Haven, Hartford and Springfield. There are no EJ populations in the portions of the study area in Newington and Windsor Locks, or near the Springfield site of the proposed train layover/maintenance facility.

The proposed NHHS rail corridor service enhancements would have an indirect beneficial impact on EJ populations in the vicinity of improved existing stations and relocated and proposed new stations. The proposed project would provide new or improved access to regional rail transit services with station locations nearer to some EJ populations, thereby improving mobility options for those who are transit-dependent for work-related and other travel. It is anticipated that EJ populations near New Haven Union Station, Meriden, West Hartford, Hartford, and Springfield Union Station would be most beneficially impacted.

Adverse impacts due to traffic and noise that would affect EJ populations will be mitigated in the form of intersection improvements, Quiet Zones and potential noise insulation of some homes. As no other significant adverse impacts to EJ populations are anticipated, no additional mitigation is warranted or proposed.

Secondary and Cumulative Impacts

Secondary Impacts: Secondary impacts are those that are caused by the project and are later in time or farther removed in distance than are direct impacts, but are still reasonably foreseeable. Secondary impacts associated with the proposed project's improvements to existing passenger rail stations and introduction of new regional rail stations are expected to be generally beneficial and occur primarily from induced development. Increased human activity (such as pedestrian circulation) associated with a rail station can create a positive economic climate within which businesses want to locate. Such development and redevelopment can be expected to be stimulated in the vicinity of new or significantly upgraded station locations. Secondary impacts are anticipated to be mostly beneficial effects resulting from:

- Improved access and connectivity within the NHHS rail corridor, the New England region and its communities;
- Improved air quality from reduced traffic volumes;
- More employment opportunities due to increased access to jobs and the creation of new jobs associated with induced development; and
- Stimulation of TOD and community sustainability.

Cumulative Impacts: Cumulative impacts are impacts upon the environment that result from the incremental effect of the project when added to other past, present and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

The proposed project is consistent with and supported by all regional and local plans with the exception of the Town of Windsor Plan of Conservation and Development (June 2004), which supports constructing a second commuter railroad station, which is not included as an element of the proposed project. Therefore, development is assumed to continue to be managed consistent with local land use policies and regulations and the cumulative impacts of growth on community and natural resources will be offset by local land use management actions.

The long-term plan for High Speed Rail (HSR) service and infrastructure improvements in the NHHS rail corridor contemplates potential electrification of the line so that electric locomotives would be used in lieu of diesel locomotives. Such infrastructure improvements may involve property and environmental impacts beyond those discussed in this EA/EIE. Detailed infrastructure requirements and a full environmental assessment would be developed in the future as electrification of the line becomes a priority.

Overall cumulative effects of the development of the projects can be expected where new development emerges consistent with smart growth principles advocated by the State of Connecticut, Commonwealth of Massachusetts, and State of Vermont. These include concentrating new development in designated growth areas, preserving neighborhood character as development occurs, and locating new growth where supportive infrastructure, including all modes of transportation, is available.

Regional cumulative impacts due to the station improvements generally occur when the impacts of new local development or redevelopment new or improved station locations are added together. All proposed stations locations occur in existing well-developed communities where growth or change in land use patterns is ongoing. Adverse cumulative impacts for the station locations are not expected to be substantial, because changes in land use (development and redevelopment) are assumed to be managed consistent with local land use policies and regulations.

Construction Period Impacts

Construction of the proposed project would result in some temporary impacts, which would be minimized or mitigated through design- and construction-related measures and controls and implementation of plans developed in compliance with applicable state and federal requirements. Potential impacts would include fugitive-dust emissions; light pollution during any nighttime construction activity; erosion and sedimentation of wetlands, waterways and reduced quality of surface and ground waters; contaminated materials exposure; business disruptions; and localized increases in traffic volumes, parking relocation and detours to typical traffic patterns.

The most important way to reduce construction-related impacts is through proactive communications with residents, businesses, public officials, railroads and communities to ensure that those impacted by construction know when the work will take place, how long it will take, and the extent of likely impacts such as crossovers, detours and runarounds will be used. CTDOT is committed to a highly proactive communications program that relies on providing impacted parties detailed information about the project and project activities through the project website, Facebook, Twitter, newsletters, press releases, public meetings and other written materials and correspondence. CTDOT will work with all entities involved in the planning and implementation of construction work – including Amtrak and contractor forces – to maximize communications with the public and coordinate notifications in advance of work activities, track outages, and any schedule changes in train service. All Massachusetts work would be in future Tier 2 environmental documents.

Construction-related impacts would be temporary at any given location along the NHHS rail corridor. Overall, the proposed project could take approximately 60 months but may take longer based on funding availability. Track and signal work for comparable stretches of rail line often can be completed within a matter of weeks. Bridge and culvert repairs may be seasonally limited; the duration of work depends on both project scope and the availability of track outages. Station improvements are expected to take approximately 18 months each.

During final design and construction, Best Management Practices (BMPs) will be followed for track restoration, construction of rail sidings, bridge and culvert repair and replacement and station improvements. These BMPs include design features to properly manage storm water during/after construction, as well as temporary measures to minimize direct/indirect impacts during construction.

Irreversible and Irretrievable Commitment of Resources

The proposed project would result in an irretrievable and irreversible use of energy, construction materials, and human labor. It would also require a commitment of federal and state funds that are not retrievable for construction and future maintenance over the life of the facility. Labor, energy and natural resources would be used in the fabrication and preparation of construction materials. These materials are generally not retrievable. However, they are not in short supply and their use would not have an adverse effect upon the continued availability of these resources.

Cost Benefit Analysis

The proposed project would require a capital cost of about \$647 Million and, as a result, would generate significant transportation, economic, community, and environmental benefits within the NHHS corridor and the region. By providing the railroad infrastructure to support the 2030 service plan, the project would facilitate the following benefits:

- Car trips diverted to rail: 1.5 million
- Increase in passenger miles per year from 52 million to 133 million
- Increase in ridership: 1.26 million new annual trips by 2030
- Reduction in number of vehicles: 3.2 million
- Reduction in vehicle miles driven: 100+ million
- Fuel saved: 3.5+ million gallons
- Promotion of development of active, vibrant communities
- Percent of population living within 25-mile radius of planned service: 80 percent
- Service for transit-dependent populations
- Project-related construction and related jobs: 12,590
- Connection of regional travelers with local businesses and activities

Freight rail service also would be improved by the additional track capacity allowing operators to better serve their customers. It is anticipated that freight operations would grow at a rate of 1.75 percent per year. The proposed project has been developed to accommodate this growth; while freight delays would increase by about 8 minutes per 100 train miles or about 3 minutes per trip, it is expected that this will be mitigated by optimizing future freight and passenger schedules.

ES-5.0 AGENCY COORDINATION AND PUBLIC INVOLVEMENT

Agency coordination and public involvement for the NHHS High Speed Intercity Passenger Rail Project EA/EIE are being conducted in accordance with NEPA and CEPA.

Agency Coordination: The FRA is the Lead Agency for the environmental review pursuant to NEPA. The FRA has overall responsibility for facilitating completion of the environmental review process, reviewing the EA/EIE and issuing the decision document. The FTA is a Cooperating Agency for this EA/EIE because CTDOT anticipates seeking FTA funding for four future stations and improvements to one additional existing station along the line. CTDOT is the Sponsoring Agency for this project and is coordinating with the Connecticut Office of Policy and Management (OPM) regarding CEPA compliance.

Public Involvement: The public has been continuously engaged since 2002 in the development of improved passenger rail service in the NHHS rail corridor. This includes public participation in the NEPA/CEPA process associated with implementation of commuter rail service along the NHHS rail corridor, as well as for the 2010 Environmental Review and the current EA/EIE. During the public involvement effort for this EA/EIE, CTDOT has revisited the elected officials and managers of all of the NHHS rail corridor's towns, and has engaged the public to discuss the proposed project and receive public input. Through that effort, the proposed project has been refined to incorporate needs articulated by the towns' representatives.

Public support for the program has been constant since 2002. Public input from individuals and community leaders has focused on two primary issues: 1) coordination of station improvements and new station construction to ensure compatibility with local development plans; and 2) management of traffic congestion at grade crossings due to the increased number of gate closures necessitated by the proposed service enhancements.

Preparation of this NEPA/CEPA EA/EIE has involved a public involvement program intended to inform the public and receive input regarding the proposed project. Meetings with officials from each of the 13 communities in the NHHS rail corridor and public information meetings in Wallingford and Windsor Locks were held between April and September, 2011. Two public information meetings were held in August and September of 2011. Additional public outreach occurred via a project website, newsletters, public advertisements and press releases. Three Public Hearings are being held during the public comment period as part of the NEPA/CEPA process. The required 45-day comment period for the EA/EIE begins with the issuance of the EA/EIE and publication of the Notice of Availability.

Agency and Railroad Coordination: Coordination meetings with railroads currently operating freight and passenger service on the NHHS rail corridor were held on:

- March 17, 2008
- December 11, 2008
- March 20, 2009
- June 11, 2009
- January 13, 2011

An initial agency coordination meeting was held on March 26, 2010, with representatives from Connecticut, Massachusetts, Vermont, Amtrak, and freight railroads. During preparation of this EA/EIE, these representatives have communicated frequently, both formally and informally, on service, planning and funding issues. Freight railroads, which participated in these discussions, include Connecticut Southern Railroad (CSO), Providence and Worcester Railroad (PW), CSX Transportation (CSX), New England Central Railroad (NECR) and Pan Am. Amtrak, which owns and operates the NHHS rail corridor, has attended bi-weekly progress meetings, as well as other technical meetings, since January 2011.

Table 4-1 Summary of Potential Environmental Consequences & Potential Mitigation

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Environmental Resources		Proposed Improvements					
		Environmental Assessment/Environmental Impact Evaluation				Phase 1 Categorical Exclusion	Phase 3A Categorical Exclusion
		Reinstall Track: Mile Posts 7.1 to 17.0, 31.1 to 35.1, 46.7 to 49.0 and 50.4 to 54.8; New Siding: Mile Posts 26.6 to 27.8	Increased Passenger Train Frequency and Speed (Outcome of Proposed Improvements)	Springfield Layover and Maintenance (See Note 1)	Station Improvements (All stations identified are included in this project except for the <i>future commuter stations printed in bold italics</i>)	Reinstall Track: Mile Posts 20.3 to 31.1	Reinstall Track and New Siding: Mile Posts 37.2 to 43.0
4.3.4	Wild and Scenic Rivers, Navigable Waterways, and Coastal Resources	No impacts anticipated to the Connecticut River in Windsor Locks.	No impacts anticipated.	No impacts anticipated.	No impacts anticipated; however, Coastal Area Management review required for <i>North Haven</i> Station.	No impacts anticipated.	No impacts anticipated.
		Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None
4.3.5	Prime Farmlands and Farmlands of Statewide Importance	Potentially a total of 4.0 acres of impact along the 62 mile corridor	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.
		Proposed Mitigation: Mitigation through application of the Farmland Conversion Impact Rating Form, and compensatory mitigation.	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None
4.4.1	Land Use and Zoning	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.	Proposed use is consistent with local zoning. Both beneficial and adverse impacts for 6 station locations. No other anticipated land use impacts.	No impacts anticipated.	No impacts anticipated.
		Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: Will maintain ongoing coordination with affected communities during final design.	Proposed Mitigation: None	Proposed Mitigation: None
4.4.2	Consistency with State, Regional and Local Plans	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.	The Towns of Wallingford and Windsor Locks have not selected between two station locations options.	No impacts anticipated.	No impacts anticipated.
		Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: Continue to consult with Towns of Wallingford and Windsor Locks to reach consensus.	Proposed Mitigation: None	Proposed Mitigation: None

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		Environmental Assessment/Environmental Impact Evaluation				Phase 1 Categorical Exclusion	Phase 3A Categorical Exclusion
		Reinstall Track: Mile Posts 7.1 to 17.0, 31.1 to 35.1, 46.7 to 49.0 and 50.4 to 54.8; New Siding: Mile Posts 26.6 to 27.8	Increased Passenger Train Frequency and Speed (Outcome of Proposed Improvements)	Springfield Layover and Maintenance (See Note 1)	Station Improvements (All stations identified are included in this project except for the <i>future commuter stations printed in bold italics</i>)	Reinstall Track: Mile Posts 20.3 to 31.1	Reinstall Track and New Siding: Mile Posts 37.2 to 43.0
4.3	Property Acquisitions and Displacements	No impacts anticipated.	No impacts anticipated.	2 full and 2 partial property acquisitions, which would be consistent with local development plans.	16 full and 11 partial property acquisitions, which would be consistent with local development plans.	See Note 3.	Possible requirement for small takings, which will be mitigated by minimizing expansion of ROW.
		Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: Uniform Relocation Act will apply to any property acquisition or taking.	Proposed Mitigation: Uniform Relocation Act will apply to any property acquisition or taking.	Proposed Mitigation: Uniform Relocation Act will apply to any property acquisition or taking.	Proposed Mitigation: Uniform Relocation Act will apply to any property acquisition or taking.
4.4.4	Socio-economics	No impacts anticipated.	Project related impacts on socioeconomic conditions would be beneficial.	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.
		Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None
4.4.5	Community Resources and Neighborhood Character	No impacts anticipated.	Minimal impact due to noise and traffic congestion at grade crossings. Project related impacts on community resources and neighborhood character would be beneficial.	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.
		Proposed Mitigation: None	Proposed Mitigation: Horn noise will be mitigated by establishing Quiet Zones. Traffic congestion at grade crossings will be mitigated with traffic signal and intersection improvements.	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None
4.4.6	Visual Resources and Quality	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.	Potential adverse impacts at Berlin, Windsor Locks (North Main Street), Wallingford (Rt 5), Newington , Windsor and Enfield stations. No impacts anticipated at other station locations.	No impacts anticipated.	No impacts anticipated.
		Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: Impacts to be minimized and mitigated through ongoing community coordination and design reviews.	Proposed Mitigation: None	Proposed Mitigation: None
4.4.7	Cultural Resources	Impacts will be as stipulated in Programmatic Agreement	Impacts will be as stipulated in Programmatic Agreement	Impacts will be as stipulated in Programmatic Agreement	Impacts will be as stipulated in Programmatic Agreement	Impacts will be as stipulated in Programmatic Agreement	Impacts will be as stipulated in Programmatic Agreement

Table 4-1 Summary of Potential Environmental Consequences & Potential Mitigation

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Environmental Resources		Proposed Improvements					
		Environmental Assessment/Environmental Impact Evaluation				Phase 1 Categorical Exclusion	Phase 3A Categorical Exclusion
		Reinstall Track: Mile Posts 7.1 to 17.0, 31.1 to 35.1, 46.7 to 49.0 and 50.4 to 54.8; New Siding: Mile Posts 26.6 to 27.8	Increased Passenger Train Frequency and Speed (Outcome of Proposed Improvements)	Springfield Layover and Maintenance (See Note 1)	Station Improvements (All stations identified are included in this project except for the <i>future commuter stations printed in bold italics</i>)	Reinstall Track: Mile Posts 20.3 to 31.1	Reinstall Track and New Siding: Mile Posts 37.2 to 43.0
		Proposed Mitigation: Mitigation will be as stipulated in Programmatic Agreement	Proposed Mitigation: Mitigation will be as stipulated in Programmatic Agreement	Proposed Mitigation: Mitigation will be as stipulated in Programmatic Agreement	Proposed Mitigation: Mitigation will be as stipulated in Programmatic Agreement	Proposed Mitigation: Mitigation will be as stipulated in Programmatic Agreement	Proposed Mitigation: Mitigation will be as stipulated in Programmatic Agreement
4.4.8	Section 4(f)	Impacts will be as stipulated in Programmatic Agreement	Impacts will be as stipulated in Programmatic Agreement	Impacts will be as stipulated in Programmatic Agreement	Impacts will be as stipulated in Programmatic Agreement	Impacts to historical bridges and culverts resulting from repairs/replacement.	Impacts to historical bridges and culverts resulting from repairs/replacement.
		Proposed Mitigation: Mitigation will be as stipulated in Programmatic Agreement	Proposed Mitigation: Mitigation will be as stipulated in Programmatic Agreement	Proposed Mitigation: Mitigation will be as stipulated in Programmatic Agreement	Proposed Mitigation: Mitigation will be as stipulated in Programmatic Agreement	Proposed Mitigation: Mitigation through consultation and compliance with requirements of the SHPO and FRA and USACE permitting.	Proposed Mitigation: Mitigation through consultation and compliance with requirements of the SHPO and FRA and USACE permitting.
4.4.9	Section 6(f) Resources	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.
		Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None
4.4.10	Parkland Resources	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.
		Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None
4.4.11	Transportation	No impacts anticipated.	Project related impacts on transportation options available would be beneficial. Increased traffic congestion at 9 grade crossings.	No impacts anticipated.	Increased traffic congestion at 2 intersections.	No impacts anticipated.	No impacts anticipated.
		Proposed Mitigation: None	Proposed Mitigation: Traffic congestion at grade crossings will be mitigated with traffic signal and intersection improvements.	Proposed Mitigation: None	Proposed Mitigation: Traffic congestion at intersections will be mitigated with traffic signal and intersection improvements	Proposed Mitigation: None	Proposed Mitigation: None
4.4.12	Public Utilities and Energy Requirements	No impacts anticipated.	No impacts anticipated. Project related impacts on energy would be beneficial.	No impacts anticipated.	May require some utility relocation.	No impacts anticipated.	No impacts anticipated.
		Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: Coordinate with utilities to eliminate or minimize disruption.	Proposed Mitigation: None	Proposed Mitigation: None

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4.4.13	Hazardous Materials	Waste and toxic materials typical of railroad rights-of-way.	No impacts anticipated.	Waste and toxic materials typical of railroad ROW.	Buildings requiring demolition can contain lead and asbestos. Potential hazardous waste at North Haven property to be acquired.	Waste and toxic materials typical of railroad ROW.	Waste and toxic materials typical of railroad ROW.
		Proposed Mitigation: Investigation during final design. Develop and comply with Waste Management Plan.	Proposed Mitigation: None	Proposed Mitigation: Investigation during final design. Develop and comply with Waste Management Plan.	Proposed Mitigation: Investigation during final design. Develop and comply with Waste Management Plan.	Proposed Mitigation: Investigation during final design. Develop and comply with Waste Management Plan.	Proposed Mitigation: Investigation during final design. Develop and comply with Waste Management Plan.
4.4.14	Safety and Security	No impacts anticipated.	Increased Passenger Train Frequency and Speed	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.
		Proposed Mitigation: None	Proposed Mitigation: Grade crossings will be improved with supplemental safety devices.	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None
4.4.15	Environmental Justice	No impacts anticipated.	Beneficial impact of new or improved access to regional rail service. Adverse impact from increased traffic congestion at several grade crossings.	No impacts anticipated.	Provide stations near to EJ Populations improving mobility options. Impact due to increased traffic congestion at several intersections.	No impacts anticipated.	No impacts anticipated.
		Proposed Mitigation: None	Proposed Mitigation: Traffic congestion at grade crossings will be mitigated with traffic signal and intersection improvements.	Proposed Mitigation: None	Proposed Mitigation: Traffic congestion at intersections will be mitigated with traffic signal and intersection improvements	Proposed Mitigation: None	Proposed Mitigation: None
4.4.16	Secondary and Cumulative Impacts	No impacts anticipated.	Secondary impacts are generally beneficial due to induced development.	No impacts anticipated.	Secondary impacts are generally beneficial due to induced development. Potential for traffic congestion impacts at intersections as station development increases.	No impacts anticipated.	No impacts anticipated.
		Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: Traffic congestion at intersections will be mitigated with traffic signal and intersection improvements	Proposed Mitigation: None	Proposed Mitigation: None

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4.4.17	Construction Impacts	Impacts will be temporary, including train speed restrictions, noise, air quality, water quality, disposal of construction waste, contaminated soils, and utility impacts.	No impacts anticipated.	Impacts will be temporary, including train speed restrictions, noise, air quality, water quality, disposal of construction waste, contaminated soils, and utility impacts.	Impacts will be temporary, including lane restrictions, train speed restrictions, noise, air quality, water quality, disposal of construction waste, contaminated soils, and utility impacts.	Impacts will be temporary, including train speed restrictions, noise, air quality, water quality, disposal of construction waste, contaminated soils, and utility impacts.	Impacts will be temporary, including train speed restrictions, noise, air quality, water quality, disposal of construction waste, contaminated soils, and utility impacts.
		Proposed Mitigation: Mitigation incorporating Best Management Practices, maintenance of traffic, and compliance with permits.	Proposed Mitigation: None	Proposed Mitigation: Mitigation incorporating Best Management Practices, maintenance of traffic, and compliance with permits.	Proposed Mitigation: Mitigation incorporating Best Management Practices, maintenance of traffic, and compliance with permits.	Proposed Mitigation: Mitigation incorporating Best Management Practices, maintenance of traffic, and compliance with permits.	Proposed Mitigation: Mitigation incorporating Best Management Practices, maintenance of traffic, and compliance with permits.
4.4.18	Irreversible and Irrecoverable Commitment of Resources	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.	No impacts anticipated.
		Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None	Proposed Mitigation: None
<p>Note 1. The impacts for the Springfield Layover are based on using the Armory site. If the Springfield station or the Sweeny Yard are used, there would be no impacts anticipated.</p> <p>Note 2. Based on the information available during the preparation of the CE and knowing that the corridor historically carried two tracks, it was expected that the new track could be installed without permanent wetland or flood plain impacts; wetland impacts would be temporary during bridge and culvert work. During PE, with the topographical/ROW survey completed and design criteria established for track centers and shoulders, it is now recognized that permanent impacts would occur to avoid new retaining walls. However, Amtrak has indicated that it will work with CTDOT to avoid any such adverse impacts.</p> <p>Note 3. Based on the information available during the preparation of the CE and knowing that the corridor had historically carried two tracks, it was expected that the new track could be installed without ROW takes. During PE, with the topographical/ROW survey completed and track center design criteria established, it has been recognized that sliver takes may be required. Any necessary property takes would comply with federal requirements.</p>							