U.S. Department of Transportation
Federal Railroad Administration

FINDING OF NO SIGNIFICANT IMPACT
NEW HAMPSHIRE CAPITOL CORRIDOR RAIL PLANNING STUDY
BOSTON, MA to CONCORD, NH

(State Project Number 63037 A)

July 2015

Introduction

The New Hampshire Department of Transportation (NHDOT) is the recipient of grant funding for the New Hampshire Capitol Corridor Rail Planning Study (Study) under the Federal Railroad Administration's (FRA) High-Speed Intercity Passenger Rail Program. FRA must comply with the National Environmental Policy Act (42 U.S.C. § 4321 et seq.), applicable regulations and agency procedures (40 CFR Parts 1500 - 1508; 64 FR 28545; 78 FR 2713), and other applicable environmental review requirements. NHDOT in coordination with FRA prepared a Tier 1 Environmental Assessment (EA) to analyze and document whether intercity rail expansion in the Capitol Corridor (the focus of the Study) would have significant effects on the environment. This Finding of No Significant Impact (FONSI) is made based on the information in the Tier 1 EA.

Statement of Purpose and Need

The Study included preparation of a Service Development Plan (SDP) and accompanying environmental analysis, and was developed by a team of transportation planning, engineering, and environmental experts from FRA, NHDOT, and their respective consultants (Study Team). The overarching purpose of the Study was to identify and implement the intercity passenger rail investment strategy that will best leverage existing transportation infrastructure to improve connectivity to and from Boston, the region's largest economic hub; diversify options and reduce the primarily single-mode reliance on roadways for the movement of people and goods; support mobility options that match emerging demographic trends and preferences in the corridor; and maintain the region's high quality-of-life through strategic infrastructure investments. More specifically, the purpose of the Study was to evaluate options for introducing intercity passenger rail service between Boston, Massachusetts (MA) and Concord, New Hampshire (NH) over existing transportation infrastructure, namely the portion of the New Hampshire Mail Line (NHML) owned by Pan Am Railways (PAR), which is currently used for freight rail only.

There are a number of reasons why investment in an improved transportation strategy within the Capitol Corridor is needed, including:

- Increased roadway congestion: Projected population growth will result in increased congestion on the existing roadway network;
- Gaps in Connectivity: New Hampshire's existing transportation network does not effectively connect existing modes of transportation;
- Lack of Transportation Options: The regional economy is singularly dependent on automobile travel/roadways for movement of goods and passengers;
- Stagnant Economic Growth & Brain Drain in the Capitol Corridor: Multi-modal transportation investment is necessary to link New Hampshire's Millennial and Generation X workforce with the knowledge-based employment found in and near Boston. Without it, these employees will continue to move closer to these jobs rather than remaining New Hampshire residents and driving to work. Young New Hampshire professionals are leaving the area to be closer to employment and cultural/social opportunities associated with larger urban centers;
- Aging Population: New Hampshire's growing senior population needs more "car-light" mobility options;
- Sustainability: Multi-modal transportation investment is necessary to sustainably accommodate increases in traffic volume and development pressure associated with projected population growth; and
- Insufficient Capacity: The existing transportation network cannot accommodate increased levels of demand without negative environmental consequences.

Study Area

The Capitol Corridor extends 73 miles from Boston, MA to Concord, NH. The geographic area of the corridor encompasses the existing track alignment that runs north from Boston, through Lowell, Nashua and Manchester to Concord. The portion of the alignment within Massachusetts is owned by the Massachusetts Bay Transportation Authority (MBTA) and the portion within New Hampshire is owned by PAR. The corridor also includes US Route 3 and I-93 highway corridors, as well as Boston Logan International Airport and Manchester Airport. The corridor connects Boston with the three largest cities in New Hampshire: Concord, Manchester, and Nashua. These cities, as well as the other communities on the corridor, represent nearly 39 percent of the population and just over 41 percent of the employment in the entire State of New Hampshire. Manchester is the largest city in the northeast currently without passenger rail service.

Study Corridor Dynamics

The Capitol Corridor's transportation network includes roadways, highways, transit services, intercity passenger rail service (in Massachusetts), freight railroads, airports, and pedestrian and bicyclist facilities. Despite the multi-modal nature of this transportation network, demand is exceeding capacity (particularly within the highway network) and there are opportunities to encourage shifts to less congested and more efficient modes of transportation.

Metropolitan Boston, like most large American cities, has been continuously extending its reach and geographic scope for decades. With a 20th Century highway network and 21st Century communication links, the economies of Boston, Nashua, Manchester, and Concord have never been more closely intertwined. Boston's zone of influence first moved beyond the I-95/Route 128, then I-495 in Massachusetts, and now clearly extends into southern New Hampshire. It is expected to continue expanding northward, in addition to westward and southward.

The roadway congestion resulting from heavy north-south travel along the corridor is exacerbated by sprawl-type suburban residential development patterns throughout parts of southern New Hampshire. Sprawl-type development contributes to increased vehicle miles traveled (VMTs) throughout the corridor. Denser development also exists within the corridor, particularly in Nashua, Manchester, and Concord. Business development and job creation in the northern half of the corridor has not kept pace with residential growth, especially in the high-technology sectors that are flourishing in the southern half of the corridor. This residential/employment disconnect is exacerbating the transportation issues that necessitated the Study.

Alternatives

The Study team identified and screened three intercity passenger rail alternatives, and selected one of them (Intercity 8, which stands for eight trains per day) as the Build Alternative to be carried forward for analysis in the Tier 1 EA. The Build Alternative was selected because it was found to be the lowest cost of the three intercity alternatives (the other two being 12 and 18 trains per day) and maintains all existing bus service on I-93 and US Route 3. The Build Alternative performs about the same in terms of ridership, is slightly less favorable for land use and economic development, and has no significant difference in overall environmental impact. During the alternatives development process, the Study team considered a wide range of alternatives for many different factors of the project. In addition to the New Hampshire

Main Line (NHML), which is the preferred route alternative in the Study, the Manchester and Lawrence (M&L) Branch and the I-93 Corridor alternatives were evaluated and eliminated because each would require extensive upgrades, or entirely new rail infrastructure to accommodate future rail use. The NHML is the only corridor that has intact and maintained rail infrastructure along its entire length; therefore, it was chosen by NHDOT as part of the Build Alternative. Use of the existing NHML achieves the project purpose and need objectives at a reasonable cost. The main difference between the alternatives was operations cost, as the six and nine round trip alternatives would require an additional train set to accommodate the level of service. In addition to the service level alternatives analysis, the Study team performed a layover facility alternatives analysis and a passenger station location alternatives analysis.

No-Build Alternative

NEPA requires that the No-Build Alternative be evaluated as a baseline for comparing build alternatives' impacts. Under the No Build Alternative, the existing condition of the rail corridor would remain unchanged. There would be no intercity passenger rail service and there would be no other rail improvement projects planned for the corridor. Freight traffic would continue to serve the existing customers located on the NHML, and intercity bus service would continue to serve passengers between Concord, Manchester, Nashua and Boston. It is assumed that population growth in the region and the demand for jobs in the greater Boston market would further negatively impact corridor traffic conditions.

The No Build Alternative does not satisfy the project's purpose and need for several reasons:

- It fails to improve connectivity to and from Boston, the region's largest economic hub;
- It maintains single-mode reliance on roadways for the movement of people and goods;
- It does not increase mobility options that match emerging demographic trends and preferences in the corridor; and
- The region's high quality-of-life may deteriorate without strategic infrastructure investments.

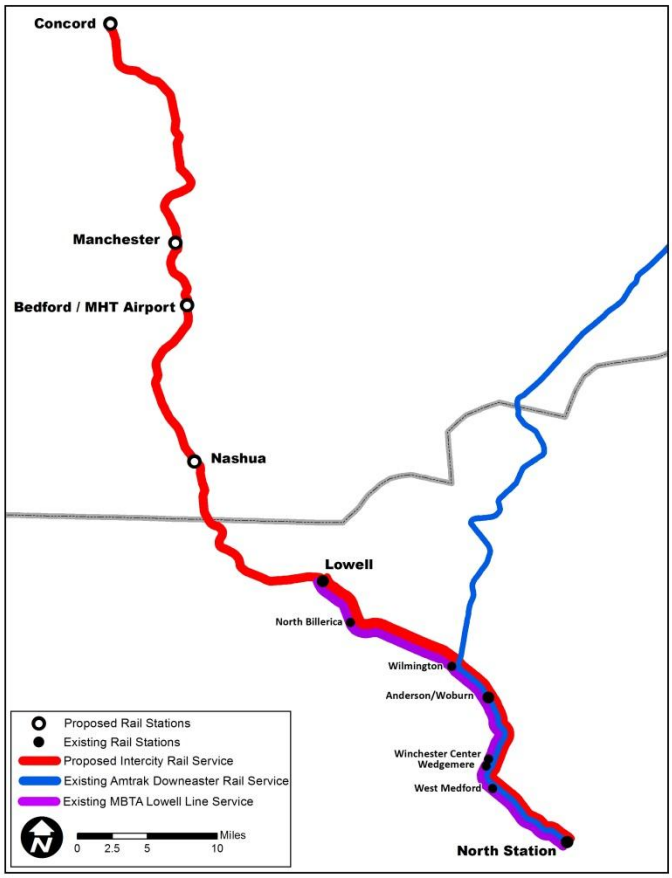
Build Alternative

After evaluating three intercity passenger rail build alternatives and consulting with stakeholders, primarily on the fiscal constraints faced by the State of New Hampshire, NHDOT in consultation with FRA selected the Intercity 8 alternative as the preferred Build Alternative because of its low net operating cost and mobility benefits. The Build Alternative is best able to achieve the project purpose and need without significant environmental impacts and by minimizing project costs. The number of additional

riders attracted by more frequent service under the other two alternatives did not justify the additional capital and operating costs.

The Build Alternative would operate eight trips per day between Boston North Station and Concord. This duplicates the level of service first used on the Amtrak Downeaster, which is a model for the proposed Capitol Corridor service. The four daily round trips over the 73-mile route would stop at five intermediate stations (Manchester, Bedford/Manchester Airport, Nashua, Lowell and Woburn) as shown in Figure 1. The end-to-end trip time would be approximately 96 minutes and the service would operate 584 daily train miles.

Figure 1 - Build Alternative



In order to add intercity passenger rail service, a variety of work would be necessary. This includes the construction of new stations, improvements to infrastructure such as track, bridges, grade crossings, and positive train control and signal systems. The Build Alternative is composed of one layover facility and four passenger station locations.

Under the Build Alternative, the new intercity passenger rail service could connect to private bus service to reach North Country destinations. The Build Alternative would not likely result in any substantial changes in express bus service for commuting to Boston via US Route3/Everett Turnpike or I-93. Decisions to make any changes in express bus service would be considered and made later if the rail project moves forward. Local bus service to the intercity rail stations could be offered but is not integral to the rail service design. The FRA considers local bus connection critical to supporting intercity travel, but determining the nature of local bus service is outside the scope of the Study. A Boston Express/Concord Coach/Intercity Rail fare integration scheme similar to

that employed by the Downeaster at Portland, Maine could be employed at the Concord and Manchester stations that would be shared by both intercity rail and coach bus services.

The Build Alternative would make four stops in New Hampshire (Concord – Stickney Avenue, Manchester – Granite Street, Bedford-Manchester Airport – Ray Wieczorek Drive, and Nashua – Crown Street), in addition to three existing Massachusetts commuter rail stops (Lowell – Gallagher Intermodal Terminal, Woburn – Anderson Transportation Center, and Boston – North Station). Four new passenger stations with high-level platforms would be constructed in New Hampshire.

Historically the NHML had two tracks along the entire length between Boston and Concord. Today, aside from sidings, the rail line is single tracked north of the Stony Brook wye in North Chelmsford, MA. In order to balance the need to achieve maximum allowable speed with an acceptable level of capital and operating expense, NHDOT determined that the existing track, bridges, crossings, and signals would be upgraded, and enough second track would be provided to accommodate both passenger rail and freight on the same line. These improvements would be entirely contained on the existing alignment. Double track would not need to be installed along the entire length of the corridor. No improvements south of MBTA's Lowell Gallagher Terminal would be required. North of Lowell the railroad would be upgraded to allow safe, reliable operation of eight daily passenger trains at speeds of up to 75 mph.

Ridership Projections

Ridership estimates are presented as station boardings. The Study team assumed that travel patterns would be symmetrical and each station would have an equal number of alightings, thus total system ridership would be two times the estimated boardings. The estimates are all present day forecasts and do not assume any changes in regional socioeconomics, travel demand, or auto congestion. Ridership estimates for the Build Alternative are based on the Fiscal Year 2013 Amtrak Downeaster ridership/revenue data. Each station under the Build Alternative is associated with a Downeaster "surrogate" station with similar travel time, station demographics, and train service characteristics.

Anticipated ridership responses to the proposed intercity rail service initiative would include new riders attracted to the new service. The Study team assumed that few current MBTA passengers living in New Hampshire would shift from using the MBTA Lowell and North Billerica Stations to the proposed new intercity rail service. Some Boston Express and Concord Coach customers might shift to intercity rail

service from Nashua, Manchester, and Concord. The overall increase in the quality and frequency of transit options to Manchester and Concord may also have the effect of stimulating bus ridership.

Table 1: Ridership Demand Forecast (Start of Service)

Station	Annual Boardings	Average Daily Boardings
Concord – Stickney Avenue	28,470	78
Manchester – Granite Street	67,890	186
MHT Airport – Ray Wieczorek Drive	28,105	77
Nashua – Crown Street	48,180	132
Total	172,645	473

Benefits of the Selected Alternative

The Build Alternative would leverage the existing transportation infrastructure to improve connectivity to and from Boston, the region's largest economic hub. It would diversify options and reduce single-mode reliance on roadways for the movement of people and goods, would support mobility options that match emerging demographic trends and preferences in the corridor, and would maintain the region's high quality of life through strategic infrastructure investment.

Environmental Consequences

Based upon the Tier 1 EA, included by reference with its appendices in this FONSI in its entirety, FRA has concluded that the Build Alternative, including any mitigation measures for unavoidable impacts, would have no foreseeable significant impact on the quality of the natural and human environment.

- FRA concurs with the preference of NHDOT, and finds the Build Alternative is best able to achieve the project purpose and need without significant environmental impacts and by minimizing project costs.
- This FONSI focuses only on those resources that have a reasonable likelihood to be affected by the proposed rail project.
- The potential of the rail project to result in an environmental impact is summarized in the following sections.

AFFECTED ENVIRONMENT AND ENVIRONMENAL IMPACTS

This section describes the potential impacts resulting from the Build Alternative for the following resources: Air Quality, Noise and Vibration, Hazardous Waste Sites, Water Quality, Wetlands, Threatened and Endangered Species, Floodplains, Energy Resources, Visual and Aesthetic Resources,

Accessibility, Property Acquisition, Land Use, Environmental Justice, Public Safety, Cultural Resources, Parks and Recreation, Socioeconomics, Transportation, Indirect Effects, Cumulative Impacts and Construction Period Impacts. The EA for the Study is a Tier 1, or "Service-Level," EA undertaken to identify and evaluate potential environmental impacts of service alternatives that meet the purpose and need. Because rail planning studies may include numerous alternatives and extend over long corridors, project implementation may ultimately be through a series of smaller projects at a later date that are reviewed in more detail at the project level ("Tier 2").[1] The Tier 1 EA identifies the potential impacts of the preferred service alternative, based on conceptual identification of infrastructure improvements and railroad operations. Impacts were identified and assessed with regard to the anticipated level of intensity based on a review of scientific literature, previously prepared documentation, data and information available on websites maintained by state and federal environmental agencies, and the professional judgment of environmental and transportation planners and resource specialists.

Air Quality

Mobile source dispersion models and hotspot analyses are not required for this Service-level NEPA analysis, as the results of the local scale emissions for the proposed project are below the federal general conformity *de minimis* levels for all applicable criteria pollutants in every nonattainment or maintenance area in New Hampshire and Massachusetts. Local impacts to air quality from implementation of the project are not expected to be significant.

For the regional context, the emission increases show the Build Alternative would not only be below the federal general conformity *de minimis* levels, but would create net emission reduction benefits by saving vehicle trips for some pollutants (CO and SO_2). Therefore, the project is presumed to conform to the applicable SIPs and would not require a full conformity analysis and conformity determination. The Build Alternative is expected to create fewer emissions in Greenhouse Gases (GHG) by saving vehicle trips and, therefore, it would have less environmental and global climate change impact and be more beneficial to the environment.

Because this is a Tier 1NEPA analysis, the details of project design, construction, and operation are not yet fully known. If the Study moves to the project level, potential measures to reduce the project's energy

[1] *FRA. 2009. High-Speed Intercity Passenger Rail (HSIPR) Program. Docket No. FRA-2009-0045, and Compliance with the National Environmental Policy Act in Implementing the High-Speed Intercity Passenger Rail Program. http://www.fra.dot.gov/eLib/Details/L02855*

and GHG footprint would be further investigated, and, if found to be practicable, incorporated in the project's design, construction, and operation.

Noise and Vibration

The Build Alternative was analyzed for impacts to noise and vibration related to operations, stations, traffic, and construction.

Operations Noise Impacts: The Build Alternative would have predicted unmitigated noise impacts due exclusively to the added warning horns. Hillsborough County, New Hampshire has the most parcels with severe noise impacts with 58 single-family residential units and 13 multi-family residential units impacted. Installation of stationary wayside horns at the 10 grade crossings where severe, unmitigated noise impacts exist for the Build Alternative would mitigate noise and result in no adverse noise impact on the surrounding communities.

Operations Vibrations Impacts: Due to the distance between the rail activities and the closest vibration-sensitive locations, no vibration-related impacts are anticipated with the Build Alternative. None of the residential buildings in the Study area would experience levels exceeding the FTA limits of 80 Vibration Velocity Level (VdB) for ground borne vibration and 43 decibels (dBA) for ground-borne noise. Likewise, no institutional buildings in the Study area would experience levels exceeding the FTA limits of 83 Vibration Velocity Level (VdB) and 48 dBA.

Station Noise Impacts: The dominant noise source near each station would be the train horn, if warning is needed. When a train slows down near a station, train pass-by noise would be reduced. There are no noise- or vibration-sensitive parcels within 500 feet of any of the proposed station sites to be impacted by the station noise, including horn soundings. Therefore, station noise is considered negligible and not included in the impact calculation.

Traffic Noise Impacts: While traffic conditions would change for the roadways around the proposed stations, there are no new major roadways or roadway expansions anticipated under the Build Alternative. Because the proposed stations are located in the developed areas of Nashua, Bedford, Manchester, and Concord, the existing traffic volumes around the proposed station sites are already high. Traffic noise produced by the Build alternative is not anticipated to cause significant impacts because of the already existing high-ambient noise environment and lack of sensitive receptors in the impact range of the Build Alternative.

Construction Noise Impacts: Four potential daytime impacts and up to 324 potential nighttime impacts have been identified as a result of the noise analysis. However, any such impacts would be addressed through mitigation measures implemented during construction.

Construction Vibration Impacts: The Build Alternative is not expected to result in impacts exceeding FTA limits for residential buildings or for institutional buildings in the Study area. Some equipment may cause perceptible ground-borne vibrations. For example, construction equipment can produce vibration levels at 25 feet that range from 58 VdB for a small bulldozer to 112 VdB for heavier equipment. Any potential impacts would be mitigated during construction.

Hazardous Waste Sites

The Build Alternative may have short term adverse impacts during rail and station construction activities due to the potential for disturbance or movement of contaminated soils or material. However, the Build Alternative would likely have a long term beneficial impact on the corridor as construction activities would provide final solutions for some contaminated sites, lowering potential exposure in the future.

During Tier 2, Phase I Environmental Site Assessments (ESAs) would be completed as necessary for each property acquired in order to be eligible for Landowner Liability Protections (LLPs). If Recognized Environmental Conditions (RECs) are identified during the Phase I ESA process, the RECs should be addressed through clean-up or further investigation through a Phase II assessment. Based on the development histories of the properties and surrounding areas, the Nashua – Crown Street, Manchester – Granite Street, and Concord – Stickney Avenue properties should be assessed for the presence of petroleum or hazardous substances that might require management or disposal, regardless of the findings of a Phase I ESA. Given the history and settings of these properties, assessment of subsurface conditions for the presence of Volatile Organic Compounds (VOCs), Polyaromatic Hydrocarbons (PAHs), Polychlorinated Biphenyls (PCBs), and Resource Conservation and Recovery Act (RCRA) 8 metals in soils is recommended. Assessment for asbestos should be considered for the Nashua – Crown Street property.

Water Quality

The Build Alternative would not adversely impact water quality within the corridor as it is an existing rail line and improvements to drainage and stormwater management would be part of the project. The upgrade to culverts and associated stormwater Best Management Practices (BMPs) along the entire length of the

corridor, as well as at potential station locations, would have a net beneficial impact to water quality. The site design for each station, including where new parking is being proposed, would be designed to meet applicable state stormwater standards and guidelines.

In addition, the existing corridor currently supports freight rail traffic, which does not contribute to the impairments of the Total Maximum Daily Loads (TMDLs) that have been developed for the impaired water bodies in the corridor. It is not anticipated, based on the operating characteristics of the proposed passenger rail service, that the four round trips per day would contribute to the existing impairments in the corridor. There would be, however, negligible to minor, short-term, localized impacts during construction activities in the corridor, including replacing or rehabilitating bridges or culverts. At this Tier 1 stage, a small bridge just north of the Tyngsborough bridge is the only known bridge in the corridor that would need replacement in implementation of the project. The relatively short and temporary duration of these activities, combined with appropriate stormwater and drainage management and, construction BMPs, would ensure that any impacts are negligible to minor.

Wetlands

The Build Alternative would have no impact in most areas of the corridor and minor temporary and permanent impacts to jurisdictional wetland resource areas in a few discrete areas of the corridor. Minor temporary impacts may occur during construction activities, such as replacing or rehabilitating bridges or culverts, relocating utilities for track work, and grading work associated with station construction. These impacts would be mitigated during design and restored after construction has been completed. Minor permanent impacts may occur during these same activities in cases where temporary impacts cannot be restored in-place. In these cases, the project sponsor at the Tier 2 level would identify and be responsible for compensatory mitigation at the appropriate ratio for replication. As more detail is developed in the project's next phase, these impacts will be defined in greater detail. Any wetland impacts would be subject to state and federal permitting requirements which would include compensatory mitigation for any unavoidable impacts.

The following station sites are located in previously developed areas and no wetlands or watercourses are located within or adjacent to the site: Concord – Stickney Avenue, Manchester – Granite Street, and Nashua – Crown Street. The Bedford/Manchester Airport station has several wetlands and watercourses located at the site. North of Ray Wieczorek Drive, the majority of the site is forested wetland. South of

Ray Wieczorek Drive, there are two small forested wetlands and one emergent/scrub-shrub wetland. These three wetlands drain to Sebbins Brook, which flows into the Merrimack River. As currently designed and sited, this station would impact less than 1,000 square feet of wetland.

Threatened and Endangered Species

The Build Alternative has the potential to disturb or destroy habitat in some locations along the corridor. However, as currently designed, the project would require limited vegetation removal as stations are located in previously developed areas, and the existing rail right-of-way has been maintained to control vegetation in the past. Impacts to wildlife corridors, compared to existing conditions, are not anticipated because no new rail lines or other structures that could further restrict wildlife movement are proposed. Although the speed of the proposed passenger trains would be faster than the speed of the existing freight trains, the frequency of the passenger service (four round trips per day) is not anticipated to be at a level that would have a substantial adverse effect on wildlife movement across the tracks.

During the next phase of the project, records of federal- or state- listed species would be confirmed with the US Fish and Wildlife Service (USFWS), New Hampshire Fish and Game Department (NHF&G), New Hampshire Natural Heritage Bureau (NHB), and Massachusetts Natural Heritage and Endangered Species Program (NHESP) to determine if listed species or designated critical habitat are actually present within the rail corridor. Field surveys may also be necessary. If protected species or habitat are present in areas where project activities would occur, coordination with the appropriate agencies would be required to identify potential impacts and mitigation measures.

Floodplains

The Build Alternative would have minor to negligible impacts to floodplains in the project corridor. As the existing rail right-of-way runs adjacent to the Merrimack River and in many cases is less than 250 feet from the river bank, impacts to floodplains would be unavoidable in certain discrete sections of the corridor. However, within the existing right-of-way, the project corridor historically carried two tracks along its entire length, and the Build Alternative calls for restoring that second track on the existing embankment in certain locations. To the extent practicable, the design team has located station elements outside of floodplains. In locations where floodplain elevations would be altered, the project would provide compensatory floodplain storage and station designs would be modified to protect structures

and equipment. This would be potentially necessary in Concord, Bedford, and Nashua. Through mitigation, adverse impacts to floodplains would be kept to a minimum.

Energy Resources

The Build Alternative would introduce passenger rail operations, which currently do not exist in the corridor. This service is expected to divert trips from vehicles to passenger rail, reducing the overall VMT and Greenhouse Gas (GHG) emissions. However, the Build Alternative could potentially have a minor adverse impact on traffic operations around certain station locations. As described in the Air Quality and Greenhouse Emissions section, emission increases related to traffic for the Build Alternative are below the minimum threshold for a conformity determination and would create a net emission reduction benefit from the saving of vehicle trips for some pollutants, carbon monoxide (CO) and sulfur dioxide (SO_2). During construction, the project would consume energy through the processing of materials and construction activities. All impacts during construction would be addressed in Tier 2.

Visual and Aesthetic Resources

Impacts to visual resources, including natural and cultural resources, were not fully assessed at the Tier 1 level. Visual impacts of the project would be better understood at the Tier 2 level when the project plans are more fully developed. However, based on current plans of work associated with the rail line, including infrastructure associated with upgrading the existing rail and adding double-track, it is expected that the Build Alternative would cause limited impacts on visual resources as the rail right-of-way historically accommodated double-tracking throughout corridor length. For the work associated with the stations and layover facility, it is also anticipated that the Build Alternative may cause limited impacts to visual resources as the stations would be built in underutilized, previously developed land and the stations would consist of high-level platforms, which are limited in scale and do not require building large pedestrian crossovers at each station.

Accessibility

The Build Alternative would have a beneficial impact on accessibility as it would meet all ADA design standards and applicable state and local codes. Station design would include level boarding between the platform and train. Ramps would be included from the parking lots to the raised station platforms. The proposed park-and-ride lots would provide handicap accessible parking spaces. All station facilities would be ADA accessible.

Property Acquisition

The Build Alternative would have minor impacts on privately held property in the corridor, as the station development would only require acquisition of two privately-held parcels. The remaining land for development is owned by the state or by the municipality. All private property acquisitions would comply with the Uniform Act. Public Law 91-646, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (Uniform Act) provides important protections and assistance for people affected by federally funded projects. These properties are generally underdeveloped/underutilized and would see substantial benefit with the development of stations at these locations (see Socioeconomics section). The one parcel with the most impact is located at the Bedford-Manchester Airport site, as it is currently developed and utilized as a natural gas storage location. This assessment of property impacts was based on conceptual design and impacts may change as more detailed design is completed in subsequent stages of the project.

Land Use

Based on a qualitative assessment, it is anticipated that the Build Alternative would have a moderate impact on the project's sustainable land use goals. The Build Alternative would have a low-to-medium impact on catalyzing more compact, infill transit-supported land use and development patterns around the stations, and would reduce reliance on vehicles for trips and errands[2]. The Build Alternative is compatible with the existing land use at all four of the proposed stations. In terms of the direct land use impacts of constructing and maintaining a rail station, the existing land use and proposed future land use plans support the development of a rail station. Indirect land use impacts, such as Transit Oriented Development (TOD) that may occur with the presence of a rail station, are also compatible with the existing and future land use plans from each of the municipalities. The overall land use plans and vision for the station areas and corridor are supportive of rail stations and many local plans directly call for the development of a rail station and associated development.

Environmental Justice

The Build Alternative would have a major beneficial impact for environmental justice populations in proximity to proposed stations in Concord, Manchester, and Nashua, as the project provides increased access to transportation options within the corridor. Potentially minor adverse impacts to certain

[2] Capitol Corridor Land Use & Economic Development Analysis, January 2014, available under separate cover

populations include the noise impacts of horns within certain communities. Noise impacts and mitigation are addressed under the Noise and Vibration section.

Public Safety

The Build Alternative would have a beneficial impact in the project corridor through mitigation and upgraded safety features. The existing NHML railroad has a fully functioning Centralized Traffic Control (CTC) signal system in place between Lowell and Manchester that would be renewed and upgraded for the new passenger service. Existing block signals were identified by reference to PAR documentation. New and renewed interlockings (signal apparatus that prevents conflicting movements at junctions or crossings) were identified in the track configuration planning process. In addition, the project includes installing all new equipment for the Automatic Highway Warning Devices (AHWD). It is also assumed that the rail line would operate with Positive Train Control (PTC), which is in the process of being incorporated in PAR, Amtrak, and MBTA facilities around New England, and would be in-place by the time the proposed Capitol Corridor passenger rail route is operational. Lastly, public safety benefits would be realized from the travelling public switching from road to rail.

Cultural Resources

The majority of work proposed for this project would be located in previously disturbed track bed or in highly developed areas. Therefore, it is anticipated that impacts to archaeological resources would be minor to negligible. However, given the overall archaeological sensitivity of the project area, efforts to identify archaeological resources and assess and resolve impacts will be necessary once specific locations of ground-disturbing activities are known at the Tier 2 level. Project work that would occur in the existing ROW and consist of replacing second track in selected locations where it existed historically is not anticipated to have direct impacts to historic architectural properties, except for impacts to historic properties directly associated with the railroad itself, such as bridges and stone culverts. Indirect effects of the project to nearby historic architectural properties may include visual, noise, and vibration impacts; these would be identified and analyzed at the Tier 2 level.

The background research conducted for the Tier 1 EA indicated there are previously identified National Register of Historic Places (NRHP)-listed and eligible properties present in the Study area, as well as resources that may require further evaluation to determine NRHP eligibility. However, no further identification of historic properties or evaluations of impacts to such properties occurred at this stage.

Such activities, as well as surveys, archaeological testing, any necessary mitigation, etc., would take place in the future at the Tier 2 level when project plans are more fully developed and when the nature and full extent of the project is known in order to be able to determine the Area of Potential Effect (APE); this future work would include appropriate Section 106 consultation with the Massachusetts and New Hampshire State Historic Preservation Offices (SHPOs), and other consulting parties as appropriate.

Parks and Recreation

Impacts of the Build Alternative on Section 4(f) resources in the corridor are not fully known at this Tier 1stage. Based upon a desktop review of potential 4(f) resources in the Study area and owing to the nature of the proposed activities, it is not anticipated that any publicly owned wildlife or waterfowl refuges, parks, or recreation areas would be impacted by the Build Alternative. At this stage, a preliminary identification of historic and potentially historic properties has occurred in the Study area, but project details are not developed enough to be able to evaluate effects to historic properties or determine whether or not there would be a use of a Section 4(f) property. Additional efforts to identify Section 4(f) resources, evaluate impacts to these resources, and identify feasible and prudent alternatives if necessary, will occur at the Tier 2 level, once project details are further developed, including specific locations of proposed work.

Socioeconomics

The Build Alternative would have a beneficial impact on the economy of the State of New Hampshire. This alternative, with four trains per day serving Nashua, Manchester, and Concord, could potentially generate about 1,600[3] new residential units and 819,000 square feet of commercial space supporting 2,500 new jobs by the year 2030. It has the potential to generate 350 new jobs over the construction period (2019-2022), 2,460 jobs related to new real estate development between 2021 and 2030, and 1,140 new jobs annually in 2030 and beyond (with benefits beginning to accrue after 2021) due to reinvested worker earnings. Real estate development would add $750 million to the state's output between 2021 and 2030, with reinvested earnings adding $140 million per year beyond 2030.

Transportation

The Build Alternative would have a beneficial impact on mobility by introducing passenger rail operations, which currently do not exist in the corridor. The Build Alternative could potentially have a

[3] Rounded to the nearest 100th

minor adverse impact on traffic operations around certain station locations. As more detail is developed for the station alternatives and designs, traffic operations will be modeled in and around the proposed stations. Due to the inherent nature of train schedules, traffic in and around stations usually does not coincide with local rush hour traffic. Development in and around the stations would likely have a beneficial impact on accessibility and walkability in and around those areas.

Indirect Effects

The Build Alternative has the potential to do the following:

- Enhance regional roadway transportation by reducing the number of vehicles on the regional highway network;
- Improve overall air quality through reduction in regional vehicle miles traveled;
- Improve accessibility and mobility by offering an alternative transportation option;
- Result in the potential for additional economic value from induced TOD associated with new passenger rail stations; and
- Result in an increase in property values and an increase in local and regional economic activity along the Capital Corridor through the generation of jobs, additional tax revenues, and associated direct and indirect spending.

Induced development related to the Build Alternative would have the potential for a variety of environmental impacts, including impacts on wetlands, water quality, air quality, vegetation, and wildlife habitat, and increased traffic and noise. These effects would be mainly due to the indirect development that could follow from proposed new passenger rail stations.

While there is a potential for environmental consequences from any potential change in planned land use, local land use controls are adequate to manage any potential development in the areas near stations. In addition, the station area communities would continue to participate in station area planning activities designed to ensure that station area development is carried out consistent with each community's master plan and zoning requirements. While the Bedford-Manchester Airport station is designed to specifically be a park-and-ride style station, the Town of Bedford has planning documents that include mixed use TOD-style development if a station were built at this location. The remaining stations are each designed with TOD in mind, which would likely foster denser development and more walkable communities. This type of growth is generally favored over sprawl-type growth, and helps to protect the natural resources of

the state. In addition, as described in the EA's Section 4.17 Socioeconomics, the Build Alternative is expected to increase gross regional productivity and jobs during construction and future operations. Indirect effects resulting from station development will be further addressed in the Tier 2 NEPA documentation to be prepared during project development.

Cumulative Impacts

Overall, the Build Alternative would have an incremental beneficial impact on the environment. The project would provide greater access to transportation options for people in the corridor and reduce VMT within the US Route 3 and I-93 travel corridors. Improved air quality could be expected as a result of improved multi-modal transportation options. In addition, the project is consistent with all local and regional plans and has been coordinated directly and transparently with the communities who would see the greatest impact from the addition of passenger rail service.

Other foreseeable future actions along the Build Alternative corridor include development in the downtown areas of Nashua, Manchester and Concord; expansion of passenger and commuter rail and bus service; and track improvements to serve additional freight customers. These actions, combined with the addition of passenger rail service, including new station construction and related TOD, have the potential to impact the variety of resources identified in this EA. However, land development is guided by community master plans and zoning regulations. Local land use controls and permitting are adequate to manage the impacts of any potential development in or near the project corridor, minimizing the potential for cumulative effects. The addition of passenger rail service when combined with freight rail has the potential for a cumulative effect on wildlife mortality and public safety. Increases in freight rail and/or passenger rail operations would bring additional noise and vibration and has the potential to impact public safety. However, potential impacts would be mitigated with safety and communications improvements at grade crossings and improved train control. Construction of the new Bedford-Manchester Airport Station in New Hampshire would directly impact wetlands, thereby potentially contributing to a cumulative effect on this resource when combined with other projects. Any wetland impacts would be subject to state and federal permitting requirements which would include compensatory mitigation for any unavoidable impacts. During the Tier 2 stage, cumulative impacts to wetlands, noise, vibration, public safety, as well as any other resources would be more clearly identified. Any necessary mitigation measures would also be determined during Tier 2 analyses.

Construction Impacts

Minor temporary impacts to wetlands and water quality may occur during construction activities, such as replacing or rehabilitating bridges or culverts, relocating utilities for track work, and grading work associated with station construction. These impacts would be mitigated during design and restored after construction has been completed. Minor permanent impacts may occur during these same activities in cases where temporary impacts cannot be mitigated. In these cases, compensatory mitigation would be identified at the appropriate ratio for replication. During construction, best management practices will be employed to control stormwater runoff, erosion, construction vehicle emissions and fugitive dust. Noise associated with the construction of the project is expected to have four potential daytime impacts and up to 324 potential nighttime impacts. As more detail is developed in the project's next phase, these impacts will be better defined and mitigation identified as necessary.

Public Involvement

Development of the Study included a robust public involvement program designed to solicit input from a broad and diverse range of stakeholders who have a stake in the future of passenger rail in New Hampshire. NHDOT conducted 91 stakeholder meetings, three Project Advisory Committee (PAC) meetings, and three public meetings (Concord, Manchester, and Nashua). The main objectives of the public and stakeholder outreach were as follows:

- Build support for the Study, including the NEPA process, among different stakeholder groups;
- Encourage stakeholders (appropriate Federal, State, and local authorities, and the public) to engage in the Study efforts at the earliest practicable time;
- Provide clear and understandable information at each step of the Study;
- Document and consider public and stakeholder opinion as part of the decision-making process concerning the consequences of the current and any future grant applications; and
- Create a high-level of transparency regarding how the Study is conducted.

The following is a compilation of the most frequent comments and concerns from stakeholders:

- New Hampshire would benefit from a transportation system that provides multiple transit options, is less focused on single occupancy vehicles, and provides an increase in options that have the potential to ease traffic congestion and save commuting time;
- The Manchester-Boston Regional Airport is an important cog in the New Hampshire economy and a rail connection to the airport should be part of the Study;

- The state needs to work to attract and retain young professionals, who are now leaving New Hampshire at a faster rate than they are moving to the state;
- It is important to demonstrate the impacts and benefits of passenger rail to the state (economic, social, and environmental);
- The project needs to have a solid financial plan;
- State demographics are changing (the population is getting older), and the transportation system needs to address the needs of this changing demographic;
- The location of potential rail stations is important to many of the communities, and they would like to be part of the discussion in identifying appropriate locations;
- System safety needs to be analyzed;
- The fare structure for any system needs to be competitive with other forms of transportation;
- The frequency of operation needs to be competitive with other forms of transportation;
- The Study has many implications for development in New Hampshire, which needs to be quantified;
- Freight rail along the corridor is important, and the Study needs to examine the benefits to freight that could be realized by a passenger rail project;
- The project needs to quantify environmental impacts, including emissions, air quality, noise/vibration, etc.;
- An increase in transit options has the potential to ease traffic congestion or slow the increase in traffic congestion in the state;
- Parking issues associated with potential rail stations is a concern in many communities.
- Any transportation study needs to include connections between rail/bus and other parts of the state, i.e., local transit systems;
- There is a concern among stakeholders that any proposed train service would negate the need for existing bus routes, which have been successful to date;
- A transparent process for the Study is important with a high-level of stakeholder and public engagement; and
- Many stakeholders are interested in how passenger rail would impact the state's economy. Stakeholders were given the opportunity to comment on the project at stakeholder and public meetings and through the project website.

A project website has been maintained for the Study (http://www.nhcapitolcorridor.com/). Comments and concerns raised at the public meetings were addressed at the meetings, meeting minutes were posted on the project website, comments received on the website were responded to and posted on the website, and public input was incorporated into the development of the Study alternatives.

Commitments and Mitigation Measures

Because this is a Tier 1 analysis, no mitigation commitments have been made other than the general statements made throughout this FONSI and the EA. Should the Build Alternative be advanced for implementation, additional analyses at the Tier 2 level may be required and NHDOT would be required to comply with all applicable federal, state, and local environmental planning and permitting requirements.

Conclusion

FRA finds that the New Hampshire Capitol Corridor Rail Planning Study as presented and assessed in the attached Tier 1 EA satisfies the requirements of NEPA (42 USC § 4321 et seq.), Council on Environmental Quality (CEQ) regulations (40 CFR parts 1500-1508), FRA's Procedures for Considering Environmental Impacts (64 FR 28545, May 26, 1999), and FRA's Update to NEPA Implementing Procedures (78 FR 2713, January 14, 2013), and would have no foreseeable significant impact on the quality of the human or natural environment provided it is implemented in accordance with the commitments identified in this FONSI. The Tier 1 EA provides sufficient evidence and analysis for FRA to determine that an environmental impact statement is not required for the Study as presented.

Sarah Feinberg
Acting Administrator
Federal Railroad Administration

7/23/2015
Date

This document has been prepared in accordance with NEPA and FRA's Procedures for Considering Environmental Impacts by the FRA's Office of Railroad Policy and Development, with assistance from FRA's Office of Chief Counsel. This document was prepared in April 2015. For further information regarding this document contact:

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The following organization assisted the Program Office in the preparation of the attached Environmental Assessment:

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