

S.1 Introduction

The New York State Department of Transportation (NYSDOT) is proposing to replace the Livingston Avenue Bridge (the Project), which spans the Hudson River between the cities of Albany and Rensselaer, providing a critical rail link on New York State's Empire Corridor (see **Figure S-1**). The bridge, which CSX Transportation Inc. (CSX) owns and the National Railroad Passenger Corporation (Amtrak) maintains and operates, was constructed in 1901-1903 on a substructure that dates to the 1860s and is nearing the end of its serviceable life. Amtrak uses the bridge for intercity passenger trains traveling on the Empire Corridor route and CSX and Canadian Pacific (CP) use the bridge for freight rail service.

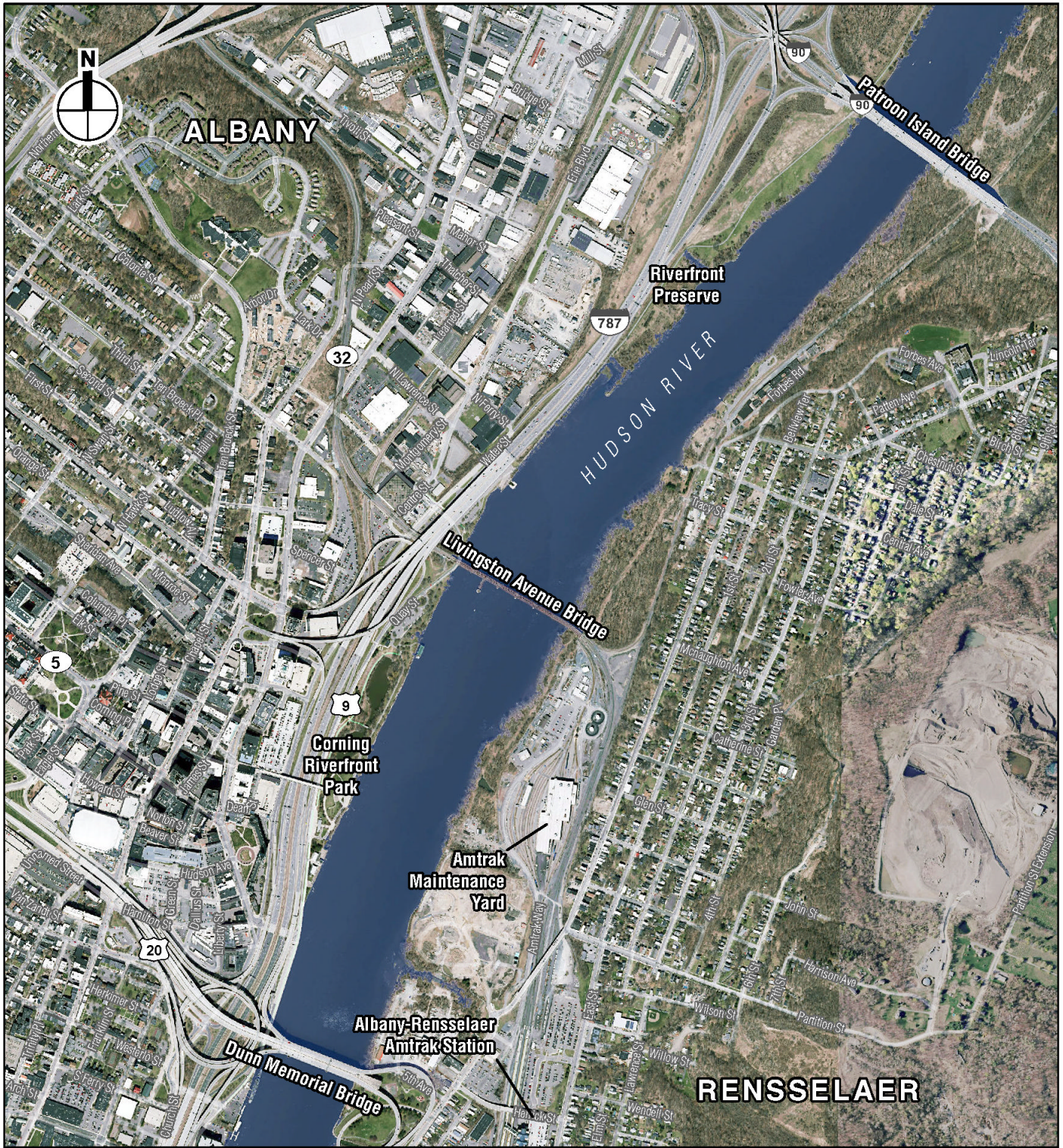
NYSDOT was selected to receive Fiscal Year 2010 grant funding for preliminary engineering and preparation of environmental review documentation for the Project under the High Speed Intercity Passenger Rail Program administered by the U.S. Department of Transportation's (USDOT) Federal Railroad Administration (FRA). Prior to issuing permits or approvals for a project, including approval of funding, Federal agencies must consider the potential impacts of their actions on the human and natural environment in accordance with the National Environmental Policy Act (NEPA). FRA and NYSDOT have prepared this Environmental Assessment (EA) to comply with the requirements of NEPA as well as the New York State Environmental Quality Review Act (SEQRA). The EA also documents compliance with other applicable Federal, New York State, and local environmental laws and regulations. FRA is the lead Federal agency for review under NEPA and NYSDOT is the lead state agency for review under SEQRA. This EA presents the results of the environmental analyses that FRA and NYSDOT conducted for the Project and the measures that will be implemented to avoid, reduce, and mitigate the Project's impacts on social, economic, and environmental resources.

The existing Livingston Avenue Bridge is a historic property that is eligible for listing on the National Register of Historic Places (NR-eligible). FRA and NYSDOT, in consultation with the New York State Historic Preservation Office (SHPO), have determined that the Project would result in an adverse effect on the bridge, which would be demolished as part of the Project. The Project would also require use of a Section 4(f) property, as defined by Section 4(f) of the USDOT Act of 1966. This EA includes a Draft Section 4(f) Evaluation that describes FRA's proposed determinations related to Section 4(f) and identifies measures to minimize harm that FRA and NYSDOT have developed in consultation with SHPO and other consulting parties under Section 106 of the National Historic Preservation Act (Section 106).

S.2 Purpose and Need

The purpose of the Project is to improve reliability and reduce passenger and freight train delays along this segment of the Empire Corridor; achieve (at a minimum) a long-term state-of-good-repair for the bridge; eliminate existing bridge and track deficiencies; and maintain or improve navigation near the bridge. This will ensure that the Livingston Avenue Bridge meets modern passenger and freight rail capacity and load (weight) standards, maintains acceptable levels of safety, and supports the long-term utility and vitality of the Empire Corridor.

The superstructure of the existing bridge was erected in 1901-1903 on a substructure that dates to the 1860s. Recent inspections have confirmed that the bridge has significant deterioration. The



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superstructure and substructure are in fair to poor condition, including some components with substantial corrosion and several piers that are in critical condition, including piers that have substantial undermining of the timber foundations that support the stone piers. The bridge was not designed for and does not meet modern seismic codes. The mechanical portions of the swing span are significantly worn and require near constant maintenance to remain operable. The swing span frequently malfunctions, resulting in delays to passenger trains, freight trains, and boat traffic using the Hudson River.

In addition, the bridge does not meet current design standards related to load, speed, and vertical clearance; therefore, passenger and freight trains operating over the bridge must comply with restrictions related to weight and speed. The bridge also has non-standard vertical and horizontal clearances that limit the types of carriages and freight that can traverse the span. In addition to the obsolete design of the bridge, its current deteriorated state further limits train weight and speed on the crossing. As a result, the two-track bridge can be used only by one train at a time and the maximum authorized speed is 15 miles per hour (mph).

The existing Livingston Avenue Bridge contributes to delays in the movement of freight and passengers throughout New York State. The Project is essential to implementing future rail plans and improving state-wide rail transportation.

To evaluate the Project Alternatives developed as part of the environmental review process, NYSDOT established Project goals. The Project goals, and related objectives that illustrate how those goals can be achieved, are listed in **Exhibit S-1**.

Exhibit S-1 Project Goals and Objectives

Project Goals	Related Objectives
Goal 1: Improve passenger rail operations, service reliability, and operational flexibility	<ul style="list-style-type: none"> • Improve the bridge such that it can support simultaneous two-track operation, thereby removing delays to rail traffic. • Increase operational speeds along the bridge to a minimum of 30 mph.* • Correct all identified track deficiencies on the bridge and its approaches to meet current design standards. • Improve operations by providing a signal system that meets current standards and is consistent with the signal systems recently completed on the two adjacent rail projects (Albany to Schenectady Double Track and Albany-Rensselaer 4th Track projects). • Ensure consistency with plans for the Empire Corridor and HSIPR program. • Accomplish Goal 1 in a cost-effective manner.
Goal 2: Improve the load capacity of the corridor and remove existing structural operational limitations	<ul style="list-style-type: none"> • Maintain or improve freight movement across the bridge. • Provide a river crossing capable of meeting current AREMA live-load standards (Cooper E-80). • Provide a river crossing with a design life of a minimum of 100 years. • Provide a river crossing that meets AREMA structural design criteria. • Provide a river crossing with a track vertical clearance of 23 feet and 14-foot track centers, which will comply with Amtrak standards. • Provide the geometric clearances required by AREMA, CSX, and Amtrak for dual-track operation. • Accomplish Goal 2 in a cost-effective manner.
Goal 3: Minimize conflicts with navigational traffic	<ul style="list-style-type: none"> • Provide a river crossing that meets or exceeds existing horizontal navigational clearances. • Avoid or minimize disruptions to river traffic during bridge construction. • Avoid or minimize delays to trains or river traffic during bridge operation. • Accomplish Goal 3 in a cost-effective manner.

Note: * 30 mph is the maximum feasible speed on the existing bridge, given the curve of the approach tracks.

S.3 Project Alternatives

FRA and NYSDOT considered a range of different alternatives for repairing, rehabilitating, or replacing the Livingston Avenue Bridge to identify alternatives that would meet the Project purpose and need and be feasible and reasonable.

In the alternatives evaluation, FRA and NYSDOT first assessed the alternatives to identify whether they would meet the Project purpose and need. All alternatives that met the Project purpose and need were then evaluated to identify whether they were feasible and reasonable, based on their ability to meet the established Project goals and, where relevant, preliminary information on the potential cost, engineering factors, and likely environmental and transportation impacts.

Using that approach, FRA and NYSDOT considered a number of different alternatives, including elimination of a bridge at this location, rehabilitation of the bridge, and replacement of the bridge on various alignments. FRA and NYSDOT also considered several different bridge types in the evaluation. In the alternatives evaluation, FRA and NYSDOT determined that discontinuation of a rail crossing between Albany and Rensselaer, repair and rehabilitation of the existing bridge, and replacement of the bridge within the existing bridge footprint would not be reasonable alternatives. FRA and NYSDOT concluded that two Build Alternatives that replace the existing bridge with a new lift bridge either just south or just north of the existing alignment would meet the purpose and need and be feasible and reasonable. The No Action Alternative was also retained for analysis in the EA to serve as a benchmark against which to compare the impacts of the Build Alternatives. These alternatives are described below.

S.3.1 No Action Alternative

In the No Action Alternative, the Livingston Avenue Bridge would remain in service as is, with continued routine maintenance and repairs. No major improvements to, or replacement of, the Livingston Avenue Bridge or its approach tracks would be undertaken with the No Action Alternative. The bridge's live load capacity would not be improved, existing geometric deficiencies and vertical and horizontal clearance deficiencies would not be corrected, and the wye (a triangle of tracks allowing connection to a spur track) at the east approach to the bridge would not be realigned. With these substandard conditions, operations across the bridge would remain limited to single-track operation at 15 mph. With the No Action Alternative, other rail improvements that are planned or programmed separately from the Project would occur. In addition, other improvements to the regional transportation system and development projects that are proposed by others in the vicinity of the Project site would occur.

The No Action Alternative would result in the continued deterioration of the structure, resulting in increased maintenance, and eventually could require the bridge to be closed to rail traffic. If the bridge were to close in the future, trains would have to cross the Hudson River via an inefficient, longer route. In that situation, passenger trains could be diverted to lower class track and across another Hudson River crossing, the Alfred H. Smith Memorial Bridge, on the CSX Castleton Subdivision, which spans the river between Castleton-on-Hudson and Selkirk. Routes would be longer and trains would either have to bypass the Albany-Rensselaer and Schenectady Stations completely or make circuitous routes to reach them that would add to the required detour.

In addition to operational limitations, the No Action Alternative would adversely affect river traffic. Existing horizontal clearance limitations would not be improved. The mechanical features of the swing span would continue to be subject to failure due to age and deterioration, limiting the reliability of the navigation channel.

The No Action Alternative would not meet the purpose and need for the Project or satisfy any of the Project goals and objectives or the programming goals of improving service reliability and operational flexibility, improving load capacity and reducing operational limitations, and minimizing conflicts with navigational traffic.

S.3.2 Build Alternative 1 – Replacement on an Adjacent North Alignment

Build Alternative 1 involves the complete replacement of the existing two-track Livingston Avenue Bridge with a new two-track movable bridge on a skewed alignment north of the existing bridge (see **Figure S-2**). The skewed alignment would be necessary to connect to the existing alignment prior to passing under the eight-lane I-787 viaduct in Albany, while also providing a straight alignment for the movable span. The alignment would be approximately 200 feet north of the existing bridge on the east side of the river and would abut the existing bridge on the west side. The skewed alignment would require the same number of piers as the existing bridge; however, the piers would be wider. The new bridge would be a truss bridge, the same type of superstructure as the existing bridge, although with a different design. The top of rail elevation would be two feet higher than with the existing bridge, to accommodate a deeper floor system while maintaining the same clearance above the water when the bridge is closed.

The new bridge would have a lift span instead of a swing span like the existing bridge. This would increase the width of the navigation channel from the current width of 100 feet to approximately 190 feet wide. The vertical clearance of the lift span when open would be 60 feet above Mean High Water, which is the same clearance as the nearest bridges upstream and downstream of the Livingston Avenue Bridge. When the bridge is closed, the vertical clearance above the water would be the same as with the existing bridge, 25 feet above Mean High Water. No changes to the regulated navigation channel, which is approximately 600 feet wide in this portion of the Hudson River, would be required. At the lift span, a fender system would protect the bridge piers.

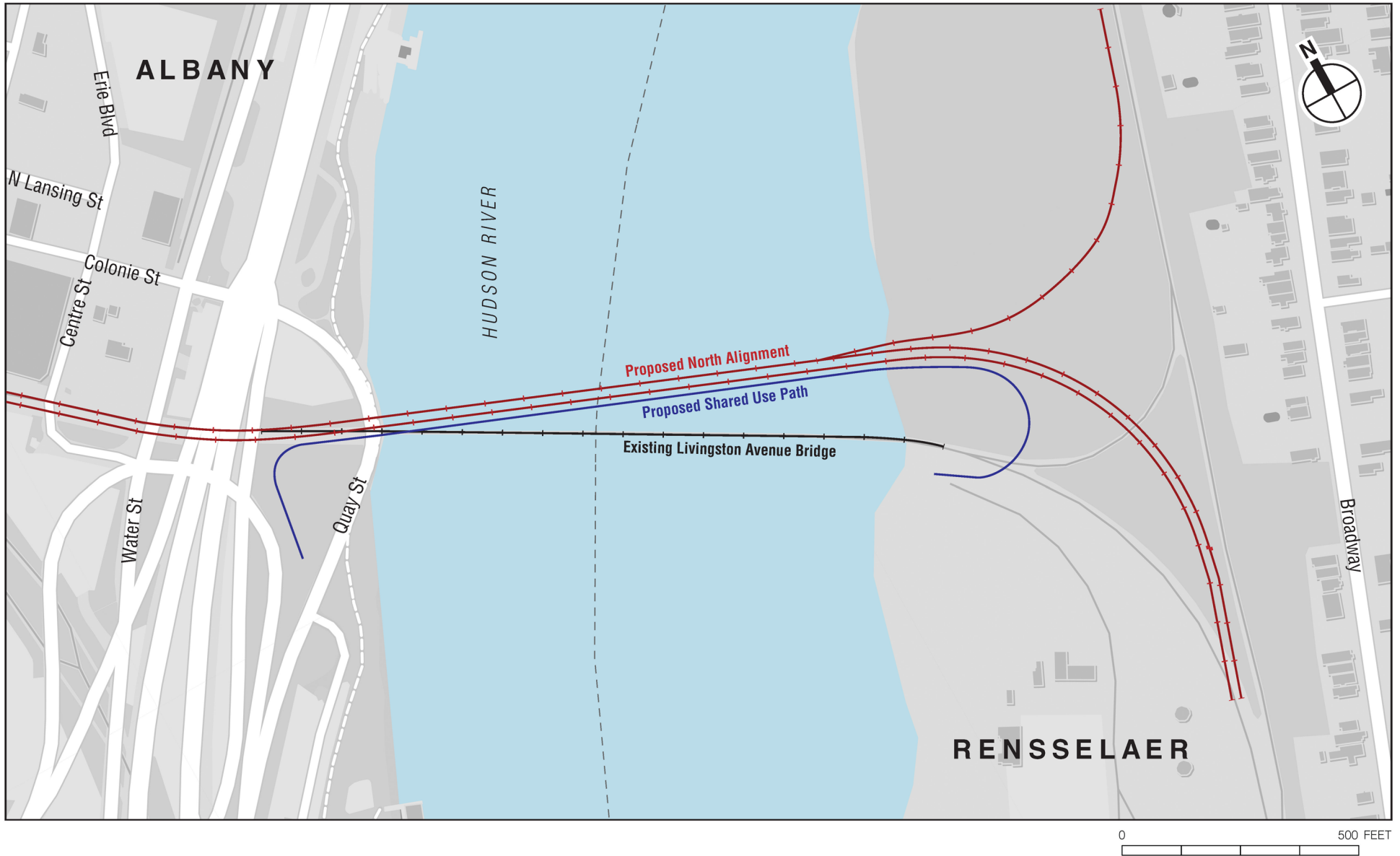
The two towers supporting the lift span would be approximately 145 feet tall above Mean High Water, slightly shorter than the towers on the existing bridge that carry power cables and catenary wires, which are 151.5 feet above Mean High Water. On the east and west, the bridge's approach girder spans would be ballasted deck girders. This would accommodate additional width for increased track spacing.

A shared use path would run along the south side of the new bridge on a cantilever extending from the bridge trusses and supported on an independent girder superstructure that shares piers and abutments with the deck girder approach spans of the rail bridge. The shared use path would have a bicycle-height railing on the outboard side and a pedestrian security fence and bicycle-height railing on the inboard side to prevent unauthorized access from the walkway onto the railroad tracks. The walkway would include scenic overlooks at each end of the movable span to provide an area for pedestrians to collect and bicyclists to dismount when the bridge is opening/closing and the walkway gates are closed. On the east side of the river, the shared use path would connect to the planned Rensselaer Riverfront Multi-Use Trail; on the west side of the river, it would connect to the Mohawk-Hudson Bike-Hike Trail and the Albany Skyway.

On the Rensselaer side of the river, new bridge approach tracks and reconfigured wye tracks would be installed so that the movement from the bridge south toward Albany-Rensselaer Station becomes the primary move, an improvement over the existing condition in which the primary move is to the north to the Troy Industrial Track.

On the Albany side of the river, the western abutment of the bridge would be shifted to the west from its current location, which would improve sightlines along Quay Street where it passes beneath the bridge adjacent to the abutment. The rail bridges over Water and Centre Streets would be rehabilitated and reconfigured to accommodate the shift in the track alignment. At each of those bridges, the beam seats of the bridge abutments that support the bridge girders would be modified or replaced and several pairs of the existing deck girders (i.e., bridge beams) would be repositioned to support the new alignment. At the Water Street bridge, a set of existing deck girders would be removed to accommodate this shift.

No change in the number of daily trains is planned as a result of the Project. With the new bridge, train operating speed on the bridge would be 40 mph for passenger trains and 35 mph for freight



trains (an increase from 15 mph currently). The new bridge would have two tracks and could accommodate two trains operating across the bridge at the same time. As the new lift would operate more reliably than the existing bridge, the delays related to bridge malfunction would be eliminated. Key characteristics of Build Alternative 1 are identified in **Exhibit S-2**.

S.3.3 Build Alternative 2 – Replacement on an Adjacent South Alignment

Build Alternative 2 involves the complete replacement of the existing two-track Livingston Avenue Bridge with a new two-track movable bridge located parallel to, and approximately 50 feet south of, the existing bridge (see **Figure S-3**). The design and operational characteristics of Build Alternative 2 would be similar to those described for Build Alternative 1 except that Build Alternative 2 would only have eight piers (one fewer than the existing bridge and Build Alternative 1). The truss bridge under Build Alternative 2 would also have a lift span and shared use path. The approach track work would include improvements to the wye tracks and require a similar effort for the rehabilitation and reconfiguration of the rail bridges over Water and Centre Streets in Albany. Key characteristics of Build Alternative 2 are identified in **Exhibit S-2**.

S.4 Construction Methods

The methods used to construct the new bridge would be similar for both Build Alternatives. The new replacement bridge would be constructed alongside the existing bridge. When it is complete and connecting tracks have been tied in to the existing Empire Corridor and Troy Industrial Track, train traffic would be shifted to the new bridge and the old bridge and its connecting tracks would be removed.

From the Rensselaer shoreline, a temporary in-water pier, about 20 feet wide, would be built either to the north or south of the existing bridge extending into the Hudson River approximately 100 to 150 feet. Most of the required staging and equipment storage would occur using the in-water pier and barges. Some limited land areas would also be needed for construction staging or contractor support space. Spud barges would be used as construction staging platforms in deeper parts of the river.

The new bridge's substructures would be supported on deep piles. NYSDOT will require the use of pile installation that limits vibration near the existing bridge, to avoid potential damage to that structure. The specific pile installation measure will be determined during final design after a detailed geotechnical study is performed to determine the susceptibility of the existing structure to vibration. Once the piers have been installed, the steel spans would be installed. The spans would be preassembled and then floated to the site and erected by cranes located on the temporary in-water pier or the spud barges for sections in deeper water.

The movable span of the new bridge would be assembled off-site and floated into place. Once in place, the lift would be left in the open position as construction continues and the existing bridge would continue to open and close as needed to accommodate river traffic.

After the approach spans are installed, ballast and tracks would be laid across the bridge. Once the landside approach tracks are realigned and the Water and Centre Street rail bridges are reconfigured, the tracks would be connected and rail operations would be shifted to the new bridge. The existing bridge superstructure would be removed span-by-span using a barge and crane and then transported to, and disassembled in, a staging area. An excavator would pull out the pier footings, and the timber piles would be cut off below the mud line, in accordance with United States Coast Guard (USCG) requirements. All work would be performed in accordance with USCG, Army Corps of Engineers (USACE), and New York State Department of Environmental Conservation (NYSDEC) permit conditions, which would require containment of debris through the use of turbidity barriers and sheet piling around the piers to minimize adverse impacts on the water quality of the Hudson River.

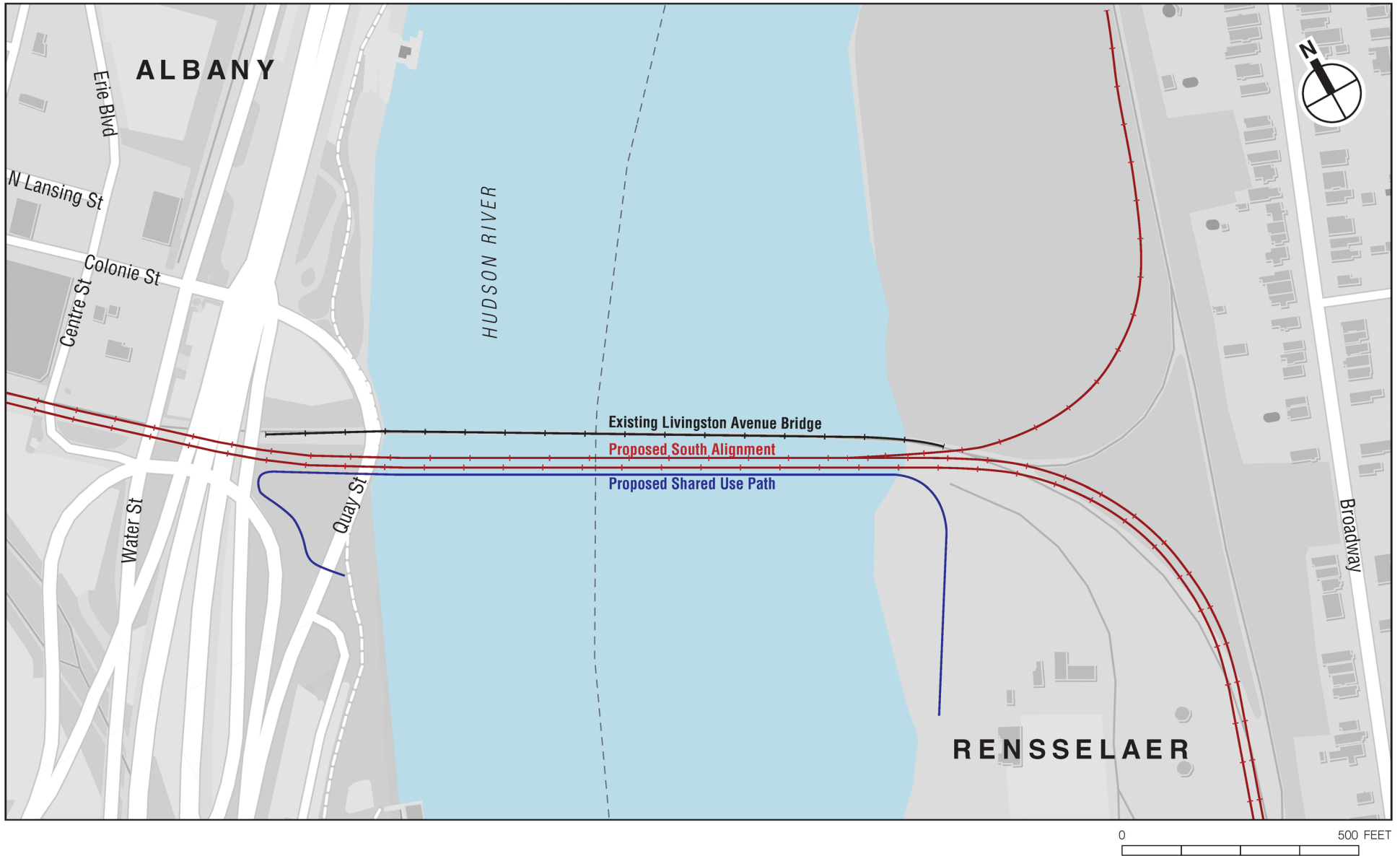


Exhibit S-2 Key Characteristics of the Build Alternatives

Bridge Feature	Build Alternative 1, North Alignment	Build Alternative 2, South Alignment
Geometry	<ul style="list-style-type: none"> • Would improve mainline and wye track geometry relative to No Action Alternative. • Mainline and wye track geometry would meet current design standards with two exceptions: the track centers would be narrower than the CSX standard of 15 feet, and the curve on the north leg of the wye would be sharper than the Amtrak standard. • Would remove all the existing deficiencies. • Track centerline spacing of 14 feet across the Livingston Avenue Bridge, which would match the existing track spacing at the Project limits that was recently installed by two other rail improvement projects. • 10 spans, with the following span arrangement from east to west: <ul style="list-style-type: none"> ○ Three 100-foot double-track deck girder spans for the mainline tracks; three adjacent 100-foot single-track deck girder spans for the wye track; a fourth 100-foot double-track deck girder span that is wider to allow for the wye track to merge with the north mainline track; and a fifth 100-foot double-track deck girder span for the mainline tracks west of the merge with the wye track ○ One 235-foot through-truss lift span with 30-foot tower spans on either side ○ One 235-foot through-truss fixed span ○ Three 75-foot double-track deck girder spans • To accommodate the new 14-foot track spacing, tracks over Water and Centre Streets (which has a track spacing of 12 feet) would be realigned and the bridge substructures and superstructures would be retrofitted. 	<ul style="list-style-type: none"> • Would improve mainline and wye track geometry relative to No Action Alternative. • Mainline and wye track geometry would meet current design standards with two exceptions: the track centers would be narrower than the CSX standard of 15 feet, and the curve on the north leg of the wye would be sharper than the Amtrak standard. • Would remove all the existing deficiencies. • Track centerline spacing of 14 feet across the Livingston Avenue Bridge, which would match the existing track spacing at the Project limits that was recently installed by two other rail improvement projects. • 9 spans, with the following span arrangement from east to west: <ul style="list-style-type: none"> ○ One 100-foot double-track deck girder span for the mainline; an adjacent 100-foot single-track deck girder span for the wye track ○ Two 80-foot double-track deck girder spans for the mainline tracks; one adjacent 80-foot single-track deck girder span for the wye track; the second 80-foot deck girder span would merge the wye track with the north mainline track ○ One 235-foot through-truss fixed span ○ One 235-foot through-truss lift span with 30-foot tower spans on either side ○ One 235-foot through-truss fixed span ○ Two 75-foot double-track deck girder spans ○ One 100-foot double-track deck girder span • To accommodate the new 14-foot track spacing, tracks over Water and Centre Streets (which has a track spacing of 12 feet) would be realigned and the bridge substructures and superstructures would be retrofitted.
Navigation	<ul style="list-style-type: none"> • 190-foot-wide navigational opening with 60-foot-high vertical clearance when the bridge is in the open position, the same as adjacent upstream and downstream structures. • Would maintain the existing vertical clearance of 25 feet within the navigation channel under the fixed spans. 	<ul style="list-style-type: none"> • 190-foot-wide navigational opening with 60-foot-high vertical clearance when the bridge is in the open position, the same as adjacent upstream and downstream structures. • Would maintain the existing vertical clearance of 25 feet within the navigation channel under the fixed spans.
Design Life	<ul style="list-style-type: none"> • 100-year design life 	<ul style="list-style-type: none"> • 100-year design life
Right-of-Way	<ul style="list-style-type: none"> • In addition to lands owned by New York State and Amtrak, acquisition (either fee acquisition or easements) of approximately 2.2 acres of vacant parcels (including 1.8 acres of the Kiliaen's Landing development site). • Temporary construction easements required to provide access for construction near both riverbanks. 	<ul style="list-style-type: none"> • In addition to lands owned by New York State and Amtrak, acquisition (either fee acquisition or easements) of approximately 2.1 acres of vacant parcels (including 1.4 acres of the Kiliaen's Landing development site). • Temporary construction easements required to provide access for construction near both riverbanks.

Exhibit S-2 (Cont'd)

Key Characteristics of the Build Alternatives

Bridge Feature	Build Alternative 1, North Alignment	Build Alternative 2, South Alignment
Construction Considerations	<ul style="list-style-type: none"> • Would require a 2-day navigational closure to reverse the operation of the existing swing span. • Would require two weekend closures of the wye track (32-36 hours) to rail traffic (both access to the Troy Industrial Track and turning train movements from Albany-Rensselaer Station). • Would require a 2-day closure to river traffic to install the final new bridge span and remove one of the existing spans adjacent to the new lift span. 	<ul style="list-style-type: none"> • Would require three overnight closures (8-16 hours) to rail traffic, the first to the wye track and north mainline track and the others to the south mainline track. • Would require two weekend closures of the wye track (32-36 hours) to rail traffic (both access to the Troy Industrial Track and turning train movements from Albany-Rensselaer Station). • Would require a 2-day closure to river traffic to install the final new bridge span and remove one of the existing spans adjacent to the new lift span.
Cost	• \$356.90 Million (2023 dollars)	• \$330.78 Million (2023 dollars)

Construction activities would be timed to minimize adverse impacts to aquatic resources, in accordance with permit requirements developed with the Federal and state permitting agencies. Construction activities would generally occur during daylight hours, although certain activities—including installation of the movable span—may need to occur overnight. Most work would occur on weekdays, but weekend work may be required for time-sensitive tasks and to avoid disruption to existing train operations. Limited disruption to river and train traffic would occur (see **Exhibit S-2**).

S.5 Identification of Preferred Alternative

Based on the environmental analysis in this EA as well as operational and engineering considerations, NYSDOT has identified Build Alternative 2, Replacement on an Adjacent South Alignment, as the Preferred Alternative.

The shared-use path planned as part of the Preferred Alternative along with planned trails and other recreational projects in Albany and Rensselaer would substantially improve non-motorized travel network in the study area and enhance waterfront access by providing a series of connected riverfront trails, scenic viewpoints, and waterfront uses. This would be a regional transportation and recreational benefit and fulfill long-time plans to better connect the east and west shoreline communities along the Hudson River.

S.6 Environmental Considerations

FRA and NYSDOT have evaluated the social, economic, and environmental consequences of the Build Alternatives in accordance with the requirements of NEPA and FRA rules and procedures. The No Action Alternative served as a benchmark against which to compare the impacts of the Build Alternatives. Based on the analyses contained in this EA, FRA concludes that the Build Alternatives, along with measures to mitigate potential Project-related adverse impacts, would not result in adverse impacts on the built or natural environment. **Exhibit S-3** summarizes the potential long-term impacts of the Build Alternatives and **Exhibit S-4** summarizes the temporary construction impacts of the Build Alternatives. Measures to mitigate the potential for adverse impacts are addressed in both tables, as warranted.

Exhibit S-3
Summary of Potential Long-Term Impacts and Mitigation

Analysis Area	Build Alternative 1	Build Alternative 2	Mitigation/Commitment
Transportation	Build Alternative 1 would eliminate an existing bottleneck on the Empire Corridor, improve reliability and reduce passenger and freight train delays by eliminating track deficiencies and providing a new bridge that would meet modern passenger and freight rail capacity and load standards. It would improve navigation by widening the navigation channel beneath the bridge to 190 feet from 100 feet and eliminating delays to river traffic resulting from bridge malfunctions. Pedestrians and bicyclists would benefit from the shared use path, which would connect to the planned Rensselaer Riverfront Multi-Use Trail and the Mohawk-Hudson Bike-Hike Trail in Albany. Build Alternative 1 would displace 11 parking spaces from NYSOGS Lot 11, beneath I-787 on the south side of Quay Street, which is used by New York State employees.	Same long-term impacts as Build Alternative 1, with the exception that Build Alternative 2 would not impact the 11 parking spaces displaced under Build Alternative 1.	NYSDOT will coordinate related to operation and maintenance of the shared use path on the bridge during final design with the Cities of Rensselaer and Albany as well as CSX and Amtrak.
Land Use and Community Character	Requires acquisition of 2.2 acres of land in Rensselaer by either fee acquisition or permanent easement, including approximately 1.8 acres programmed for residential use within the proposed 18-acre Kiliaen's Landing development. In Albany, Build Alternative 1 would be built entirely on railroad property and land owned by New York State. The shared use path would provide for greater cohesion between the communities on both sides of the Hudson River and support plans for improved waterfront access. The Project would enhance recreational resources in the study area by providing the shared use path on the bridge. Pedestrians and bicycles are currently not permitted on the bridge.	Requires acquisition of 2.1 acres of land in Rensselaer by either fee acquisition or permanent easement, including approximately 1.4 acres programmed for residential use within the proposed 18-acre Kiliaen's Landing development. In Albany, Build Alternative 2 would be built entirely on railroad property and land owned by New York State. The shared use path would provide for greater cohesion between the communities on both sides of the Hudson River and support future plans for improved waterfront access. The Project would enhance recreational resources in the study area by providing the shared use path on the bridge. Pedestrians and bicycles are currently not permitted on the bridge.	Property owners would be compensated under the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (the Uniform Act) and its established equitable land acquisition procedures. NYSDOT will coordinate with the City of Rensselaer regarding the Kiliaen's Landing development.

Exhibit S-3 (Cont'd)
Summary of Potential Long-Term Impacts and Mitigation

Analysis Area	Long-Term Impacts of Build Alternative 1	Long-Term Impacts of Build Alternative 2	Mitigation/Commitment
Social Conditions	The shared use path would comply with the Americans with Disabilities Act (ADA) and accessible to all social groups, thereby providing a benefit to the communities on both sides of the river.	The shared use path would comply with the Americans with Disabilities Act (ADA) and accessible to all social groups, thereby providing a benefit to the communities on both sides of the river.	N/A
Economic Conditions	By maintaining passenger and freight rail along existing, but improved, routes, the Project would positively affect the regional and local economies and employment in Albany and Rensselaer Counties.	By maintaining passenger and freight rail along existing, but improved, routes, the Project would positively affect the regional and local economies and employment in Albany and Rensselaer Counties.	N/A
Cultural Resources	FRA and NYSDOT have determined that the Project would have an adverse effect on the historic Livingston Avenue Bridge due to its demolition and replacement. FRA and NYSDOT have determined that no adverse effect would result from the modifications to the Water and Centre Street rail bridges, because the character-defining features of the Albany Railroad Viaduct would be unaffected. The Project would not result in adverse effects to archaeological resources.	FRA and NYSDOT have determined that the Project would have an adverse effect on the historic Livingston Avenue Bridge due to its demolition and replacement. FRA and NYSDOT have determined that no adverse effect would result from the modifications to the Water and Centre Street rail bridges, because the character-defining features of the Albany Railroad Viaduct would be unaffected. The Project would not result in adverse effects to archaeological resources.	As stated in the Draft Memorandum of Agreement among FRA, NYSDOT and SHPO (see Appendix B-5), NYSDOT will document the Livingston Avenue Bridge following Historic American Engineering Record standards, install interpretive signage on both sides of the river, and design the new bridge as a truss bridge incorporating key visual elements relating to the existing Livingston Avenue Bridge (the pulley housing and operator's building). NYSDOT will also actively seek new ownership of the existing Livingston Avenue Bridge for adaptive reuse, or, because of its overall size, partial reuse at a new location.
Visual and Aesthetic Considerations	The Project would enhance visual resources, creating more views of the Hudson River view corridor than exist today, and improving the experience of the viewers via the scenic overlooks on the shared use path.	The Project would enhance visual resources, creating more views of the Hudson River view corridor than exist today, and improving the experience of the viewers via the scenic overlooks on the shared use path.	N/A
Water Resources	Would require the placement of fill in the 100-year floodplain and waters of the U.S. under the jurisdiction of USCG and USACE. To accommodate the skewed alignment, Alternative 1 would have the same number of piers as the existing bridge but the piers would be wider and occupy approximately 0.74 acres, compared to 0.42 acres for the existing bridge.	Would require the placement of fill in the 100-year floodplain and waters of the U.S. under the jurisdiction of USCG and USACE. Build Alternative 2 would have eight piers (one fewer than the existing bridge and Build Alternative 1). The total pier footprint would be approximately 0.5 acres for this alternative, compared to 0.42 acres for the existing bridge.	NYSDOT will acquire and adhere to all requirements and conditions associated with the permits and approvals for the project, including the USCG Section 9 and USACE Section 10/404 and Section 408 permits. Other potential permits include SPDES and NYSDEC floodplain, water quality certification, and coastal zone consistency.

Exhibit S-3 (Cont'd)
Summary of Potential Long-Term Impacts and Mitigation

Analysis Area	Long-Term Impacts of Build Alternative 1	Long-Term Impacts of Build Alternative 2	Mitigation/Commitment
Water Resources (Cont'd)		Build Alternative 2 would place one support pier within an ephemeral stream that does not appear to meet the definition of Waters of the U.S; FRA and NYSDOT will consider this stream as jurisdictional Waters of the U.S. for permitting purposes.	NYSOGS permit for activities affecting the bed of the Hudson River may also be necessary. The NYSDOT Regional Hydraulics Engineer will perform a floodplain hydraulic analysis during the advance detail plan phase. FRA and NYSDOT will assess the need for stormwater treatment during final design.
Ecology	Build Alternative 1 would result in the loss of 3 acres of woodland of marginal value. No impacts to significant habitat or the disturbance-tolerant wildlife that are found in the City of Rensselaer would occur. The minimal loss of bottom habitat and benthic invertebrates in the river due to the larger pier footprint would not result in adverse impacts.	Build Alternative 2 would result in the loss of 2 acres of woodland of marginal value. No impacts to significant habitat or the disturbance-tolerant wildlife that are found in the City of Rensselaer would occur. The minimal loss of bottom habitat and benthic invertebrates in the river due to the larger pier footprint would not result in adverse impacts.	FRA and NYSDOT consulted with the National Marine Fisheries Service (NMFS) regarding Essential Fish Habitat (EFH) and threatened and endangered species and with the U.S. Fish and Wildlife Service (USFWS) regarding threatened and endangered species, birds protected under the Migratory Bird Treaty Act, and eagles protected under the Bald and Golden Eagle Protection Act. (See additional discussion regarding construction commitments in Exhibit S-4.)
Geology	None	None	NYSDOT will perform a geotechnical investigation prior to construction of the new bridge under either Build Alternative to identify design and construction requirements for the new bridge.
Air Quality	None	None	N/A
Energy and Greenhouse Gas Emissions	None	None	N/A
Noise and Vibration	None	None	N/A
Utilities and Infrastructure	None	None	N/A
Contaminated Materials	None	None	N/A

Exhibit S-3 (Cont'd)

Summary of Potential Long-Term Impacts and Mitigation

Analysis Area	Long-Term Impacts of Build Alternative 1	Long-Term Impacts of Build Alternative 2	Mitigation/Commitment
Safety and Security	The Project would improve the structural reliability of the bridge, which would increase the safety of the freight and passenger trains traveling over the bridge. It would provide navigation channel fenders and a dolphin system and reduce the potential for boat collisions with an improved design. Vehicular safety conditions would be improved by better visibility along Quay Street, due to the westward shift of the bridge abutment. Pedestrian and bicycle safety would be improved due to the provision of the shared use path on the bridge, which would eliminate the current safety concern regarding trespassing.	The Project would improve the structural reliability of the bridge, which would increase the safety of the freight and passenger trains traveling over the bridge. It would provide navigation channel fenders and a dolphin system and reduce the potential for boat collisions with an improved design. Vehicular safety conditions would be improved by better visibility along Quay Street, due to the westward shift of the bridge abutment. Pedestrian and bicycle safety would be improved due to the provision of the shared use path on the bridge, which would eliminate the current safety concern regarding trespassing.	N/A
Environmental Justice	None	None	N/A
Indirect and Cumulative Impacts	None	None	N/A

Exhibit S-4

Summary of Temporary Construction-Period Impacts and Mitigation

Analysis Area	Temporary Construction-Related Impacts of Build Alternatives 1 and 2	Mitigation/Commitment
Transportation	<p>Two weekend track outages and periodic nighttime track outages that would affect passenger and freight rail traffic. One or two 2-day closures (two for Build Alternative 1 and one for Build Alternative 2) of the navigation channel that will affect boat traffic.</p> <p>During a two-month construction period for the west bridge abutment and west end span: Quay Street would be closed; access to the Corning Riverfront Park parking lot south of the railroad crossing would be restricted due to a one-way (northbound) traffic pattern; access to the Jennings Landing (amphitheater) parking facilities would be restricted from Quay Street; pedestrian and cyclist access to the Mohawk-Hudson Hike-Bike Trail may be interrupted during heavy lift operations or other operations that may present a risk to the public.</p> <p>During two 2-week periods for work on the Water Street and Centre Street rail bridges: Water Street and Centre Street would each be closed from Quay Street to Livingston Avenue and traffic would be redirected for access to parking (NYSOGS Lots 12A and 12B) and the street network beyond; large truck traffic would be restricted from using the Colonie Street exit from southbound I-787; the pedestrian walkway along Water Street would be relocated to Centre Street for the duration of the Water Street bridge construction; and Water and Centre Streets would be closed concurrently for bridge resetting over the span of two weekends.</p> <p>Partial closure of NYSOGS Lot 11 under the I-787 overpass would be required and approximately 20 parking spaces in the parking lot just north of the existing bridge would be displaced during the construction period.</p>	<p>Use construction methods that minimize disruption to transportation services to the greatest extent practicable. Provide proper notice for closures. Implement NYSDOT Work Zone Traffic Control Program. Maintain pedestrian and cyclist access to the Mohawk-Hudson Hike-Bike Trail via erection of canopy through the work area.</p>
Land Use and Community Character	<p>Temporary access easement for construction laydown areas and access routes.</p> <p>Temporary access restrictions to certain parks and recreational resources as described above under "Transportation."</p>	<p>Compensate property owners under the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. NYSDOT would coordinate with the City of Rensselaer regarding the Kiliaen's Landing development.</p>
Social and Economic Conditions	<p>Construction activities would generate jobs, resulting in economic benefits to the local and regional economy.</p>	<p>N/A</p>

Exhibit S-4 (Cont'd)

Summary of Temporary Construction-Period Impacts and Mitigation

Analysis Area	Temporary Construction-Related Impacts of Build Alternatives 1 and 2	Mitigation/Commitment
Cultural Resources	None	To avoid accidental damage to adjacent resources, a Construction Protection Plan (CPP) would be developed in consultation with SHPO and the property owners to set forth the specific measures to be used to protect architectural resources during the construction period. It will set forth protocols and specifications to prevent inadvertent damage during construction.
Visual Resources and Aesthetic Considerations	None	N/A
Water Resources	None with implementation of mitigation measures	Perform all work in accordance with USCG, USACE, and NYSDEC permit conditions. Use turbidity barriers and other measures to protect water quality as warranted and as specified by permit conditions. Implement storm water pollution prevention plan (SWPPP) and comply with NYSDEC technical standards for erosion and sediment control.
Ecology	None with implementation of mitigation measures	<p>Prior to construction of the temporary pier, NYSDOT will undertake a survey of submerged aquatic vegetation and the pier would be installed so as to minimize the potential to affect submerged aquatic vegetation.</p> <p>Follow timing restrictions for construction work in the Hudson River to protect spawning shortnose and Atlantic sturgeon and their eggs and larvae: no in-water construction from March 1 through September 30 (work could still occur within the cofferdam cells). Avoidance of this time period would also minimize impacts to migratory and breeding anadromous fish. NYSDOT will implement other construction best management practices developed in consultation with NMFS to reduce turbidity and noise due to in-water construction activities to minimize adverse impacts to sturgeon and anadromous fish.</p> <p>Examples include use small-diameter piles that produce less underwater noise during installation. Use pre-drilling to install piles and vibratory hammering (if necessary after pre-drilling) to the greatest extent practicable to minimize underwater noise levels. Tap piles prior to the start of impact hammering in order to give fish an opportunity to relocate before underwater sound levels become increasingly greater.</p> <p>Tree clearing to occur only between October 31 to March 31 to avoid potential impacts to northern long-eared bats, if present.</p> <p>Osprey nest on existing bridge to be removed in winter when it is inactive.</p> <p>NYSDOT will implement best management practices (such as washing construction equipment) to avoid introducing new invasive species to the area.</p>

Exhibit S-4 (Cont'd)

Summary of Temporary Construction-Period Impacts and Mitigation

Analysis Area	Temporary Construction-Related Impacts of Build Alternatives 1 and 2	Mitigation/Commitment
Air Quality	None	Employ best management practices: utilize newer, less polluting equipment; dust control measures; clean fuel in diesel engines; and limit heavy duty vehicle idling to five minutes or less.
Noise and Vibration	None with implementation of mitigation measures	During track realignment construction for the wye tracks, use a portable noise barrier/curtain with a Sound Transmission Class (STC) rating of STC 30 or greater for work occurring within 56 feet of residences and no nighttime construction (10 PM – 7 AM) within this distance of residences.
Utilities and Infrastructure	The Project would require the relocation of a fiber optic cable beneath the western bridge abutment and may affect other utilities in the area.	Coordination with utility owners and advance notice of any short-term outages as utilities are switched over to relocated lines.
Contaminated Materials	None with implementation of mitigation measures	Dredged material would be collected onto a barge, dewatered, and disposed of to reduce the potential for resuspension of polychlorinated biphenyls (PCBs) or other sediment contaminants in the Hudson River during the installation of the bridge piers. Dewatering effluent would be treated in accordance with NYSDEC requirements prior to being discharged back to the river. Phase II subsurface investigations and asbestos and lead surveys would be conducted prior to construction in areas where excavation would occur. Materials would be tested, handled, stored, transported, and disposed of in accordance with all applicable regulations. A Construction Health and Safety Plan would be developed based on sampling results to protect workers, the community, and the environment during construction.

S.7 Section 106 of the National Historic Preservation Act

The Project is subject to Section 106 of the National Historic Preservation Act (36 CFR Part 800), which requires Federal agencies to: 1) take into account the effects of their undertakings on historic properties that are listed in, or meet the eligibility criteria for listing in, the National Register of Historic Places; and 2) afford the Advisory Council on Historic Preservation (ACHP) and SHPO a reasonable opportunity to comment. Section 106 also requires that agency officials work with SHPO to identify parties to participate in the Section 106 process (consulting parties). Consulting parties include, but are not limited to, local governments, Federally recognized Native American tribes, and individuals and organizations with a demonstrated interest in a project.

On behalf of FRA, NYSDOT sent information about the Project to Tribal Historic Preservation Officers (THPOs) for the Saint Regis Mohawk Tribe, the Stockbridge Munsee Community Band of Mohicans, and the Delaware Tribe. FRA, as lead Federal agency responsible for Section 106 compliance for the Project, extended invitations to local preservation groups, local planning agencies, neighborhood associations, and other organizations to participate in consultation. To date, the following organizations have agreed to be consulting parties for the Project's Section 106 consultation process: Capital District Transportation Committee, City of Rensselaer Historian, Historic Albany Foundation, Livingston Avenue Bridge Coalition, National Railway Historical Society Mohawk and Hudson Chapter, and New York Central Historical Society. Public involvement activities associated with review of this EA may identify additional consulting parties for the Project.

FRA and NYSDOT concluded that removal of the historic Livingston Avenue Bridge would constitute an adverse effect under Section 106. FRA determined that the rehabilitation and reconfiguration of the Water Street and Centre Street rail bridges, which are components of the NR-eligible Albany Railroad Viaduct, would not result in an adverse effect because character-defining features of the viaduct would not be affected and the change in its overall appearance would be minimal. As discussed in this EA, FRA and NYSDOT have developed measures to mitigate the adverse effect of the Project on the NR-eligible Livingston Avenue Bridge in consultation with SHPO, THPOs, and other consulting parties. These measures are included in the Draft Section 106 Memorandum of Agreement (MOA) included in **Appendix B-5**. The MOA will be executed among FRA, NYSDOT, and SHPO prior to completion of the NEPA process for the Project.

S.8 Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994), requires Federal agencies to identify and address disproportionately high and adverse effects of their actions on minority and low-income populations. Executive Order 12898 also requires Federal agencies to work to ensure greater public participation in the decision-making process. The communities adjacent to the Project site in Albany and Rensselaer include minority and low-income populations and are considered environmental justice communities. However, the Project would not result in disproportionately high and adverse impacts to these environmental justice communities as discussed in **Chapter 5, "Environmental Justice."**

S.9 Section 4(f) of the United States Department of Transportation Act

Section 4(f) of the United States Department of Transportation Act of 1966 prohibits an operating administration of the Department of Transportation, including FRA, from approving a project that uses public parks and recreational lands, wildlife refuges, and public or private historic properties eligible for listing in the National Register of Historic Places, unless it determines there is no feasible and prudent alternative to avoid the use and the project includes all possible planning to minimize harm to the resources, or the use meets the requirements for a *de minimis* impact.

FRA has determined that the Project would require the Section 4(f) use of the historic Livingston Avenue Bridge. For the reasons detailed in **Chapter 6, “Draft Section 4(f) Evaluation,”** there are no feasible and prudent alternatives to the Project’s use of the historic railroad bridge and, as documented in the Section 106 MOA included in **Appendix B-5**, all possible planning to minimize harm has been identified as mitigation measures. Section 4(f) regulations (23 CFR § 744.3(d)) provide the authority to develop programmatic Section 4(f) evaluations as a time-saving alternative to individual evaluations for certain types of uses. In January 2021, FRA adopted FHWA’s Nationwide Historic Bridges Programmatic Section 4(f) Evaluation. FRA has concluded that the Nationwide Historic Bridges Programmatic Section 4(f) Evaluation is applicable to the replacement of the Livingston Avenue Bridge. The Livingston Avenue Bridge Project qualifies for this evaluation because it would use a bridge that is eligible for the National Register of Historic Places (NR), there are no feasible and prudent alternatives to the use of the historic Livingston Avenue Bridge to be replaced as part of the Project, and the Project includes all possible planning to minimize harm resulting from such use.

FRA has concluded that the Project would have a Section 4(f) *de minimis* impact on the NR-eligible Albany Railroad Viaduct. This EA includes information on FRA’s proposed *de minimis* finding in the Draft Section 4(f) Evaluation in Chapter 6.

S.10 Public Review of this EA

Public comments are now being solicited on this EA. The EA is available on the Project’s website at <https://www.dot.ny.gov/livingstonavebridge> and at viewing locations listed on the website.

In accordance with NEPA and Section 106 requirements, FRA and NYSDOT will hold public information meetings for the Project to provide information about the Project and seek input from the public. Both virtual and in-person public information meetings will be held. Public notice of meeting dates, meeting locations, and instructions for participation in the virtual meeting will be provided in advance of the meetings. A recording of the virtual meeting will also be made available on the Project’s website.

In accordance with New York State Eminent Domain Procedure Law, public hearings will also be held for the Project. The public hearings will begin immediately following the public information meetings. During the public hearings, verbal comments will be recorded. In addition to the public hearings, written comments may also be submitted during the public comment period.

FRA and NYSDOT are accepting public comments related to this EA during a public comment period that will extend for a minimum of 30 days after publication of the EA.

You may offer your comments on this EA in a variety of ways:

HOW TO COMMENT

Email:
livingstonavebridge@dot.ny.gov
(Please include "Public Comment" in the subject line.)

Mailing Address:
Livingston Avenue Bridge Project
New York State Department of Transportation
Office of Design
50 Wolf Road POD 2-4
Albany, New York 12232

Please include the six-digit Project Identification Number (PIN)
1935.49 in your correspondence.

Visit the Project's website:
<https://www.dot.ny.gov/livingstonavebridge>

S.11 Contact Information

The following people may be contacted for more information on this EA:

**FEDERAL RAILROAD
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