

### **3.1 Introduction**

This chapter of the EA presents the analyses that FRA and NYSDOT conducted of the potential impacts of the Project Alternatives on transportation, including passenger and freight rail, boat transportation (navigable waters), vehicular traffic and parking, public transportation, and pedestrians and bicyclists. Temporary impacts that would occur during construction are presented in **Section 4.16, “Construction Impacts.”**

### **3.2 Methodology and Study Area**

FRA and NYSDOT conducted the analysis by considering the existing and future conditions related to transportation at and in the immediate vicinity of the existing Livingston Avenue Bridge, including existing conditions on the railroad routes that cross the bridge, and then evaluating the impacts of the Project Alternatives on those conditions.

### **3.3 Affected Environment**

#### **3.3.1 Rail**

The Livingston Avenue Bridge is part of the passenger rail and freight rail network in New York. Amtrak uses the bridge for intercity passenger trains traveling on the Empire Corridor route and CSX and CP use the bridge for freight rail service.

The bridge is just north and west of the Albany-Rensselaer Amtrak station on the Empire Corridor rail route. The Empire Corridor is the principal passenger and freight rail route through New York State, extending approximately 460 miles between New York City and the Canadian border at Niagara Falls. Amtrak operates its Empire Service, Maple Leaf, Lake Shore Limited, Adirondack, and Ethan Allen Express intercity rail routes over the Livingston Avenue Bridge between the Albany-Rensselaer Station and points to the west and north. An Amtrak Maintenance Facility is north of the Albany-Rensselaer Station along the Hudson River waterfront near the bridge.

The Livingston Avenue Bridge is also part of CSX’s Hudson Subdivision freight route, a 94-mile segment of the Empire Corridor between Poughkeepsie, NY, which is on the east side of the Hudson River about 70 miles south of Albany, and Scotia, NY, which is on the west side of the Hudson River near Schenectady. In addition, a number of freight rail lines converge and connect in the Capital District, and several Class II (regional) and Class III (short-line) freight railroads connect into the Empire Corridor as it traverses the state.

Improvements have been undertaken along the Empire Corridor and Adirondack routes and connecting railways to bring segments to a state of good repair and improve operations. This includes two recent projects just east and west of the Livingston Avenue Bridge that added tracks, modified the track alignments, and improved signals: the Albany to Schenectady Double Track project on the west, and the Albany-Rensselaer Station 4th Track project on the east.

USDOT designated the Empire Corridor as an HSIPR program corridor in 1998, based on its utility and its potential for future development. High-speed passenger rail service along the Empire Corridor is critical to New York State’s economic future and environmental sustainability. To improve intercity passenger rail service while strengthening the freight rail system, FRA and

NYSDOT are jointly preparing a Tier 1 EIS for HSIPR Service Development on the Empire Corridor. A Tier 1 Draft EIS was published in January 2014 that evaluates alternatives to introduce higher passenger train speeds on the Empire Corridor and improve reliability, travel times, service frequency, and passenger amenities.<sup>17</sup>

As shown in **Exhibit 1-1**, in 2019, before the COVID-19 pandemic temporarily reduced demand for rail travel, a weekday average of 12 passenger and 3 freight trains crossed the bridge between 7 AM and 10 PM and an additional 3 freight trains crossed between 10 PM and 7 AM. The maximum hourly volume was four trains per hour. FRA and NYSDOT anticipate that service will return to similar levels after the pandemic. In the future, the volume of passenger trains will increase, for a total of 14 passenger and 3 freight trains crossing the bridge between 7 AM and 10 PM and potentially 2 passenger and 3 freight trains crossing between 10 PM and 7 AM. If the Empire Corridor route is converted to a HSIPR route, the train frequency will increase further, with the number of trains dependent on which alternative advances. In addition, east of the bridge CSX is considering an increase in freight traffic on the Troy Industrial Track, which extends northward on the east side of the Hudson from the north wye track at the Livingston Avenue Bridge. The amount of additional traffic across the bridge being contemplated by CSX is unknown at this time. USDOT guidance suggests that a long-term growth rate for freight traffic is approximately 1.5 to 2 percent annually, which translates into 1 additional train per week.

### 3.3.2 Navigable Waters

The Hudson River is a navigable waterway of the United States within the jurisdiction of the U.S. Coast Guard under Section 9 of the Rivers and Harbors Act of 1899, which seeks to preserve the public right of navigation and prevent interference with interstate and foreign commerce. In addition, Section 10 of the Rivers and Harbors Act of 1899 requires authorization from the Secretary of the Army acting through USACE for: 1) the construction of any structure in or affecting any navigable waters of the United States; 2) the excavation from or deposition of material in these waters; or 3) any obstruction or alteration in these waters (33 USC § 403). The Hudson River is also a state-regulated navigable waterway under the jurisdiction of the NYSOGS.

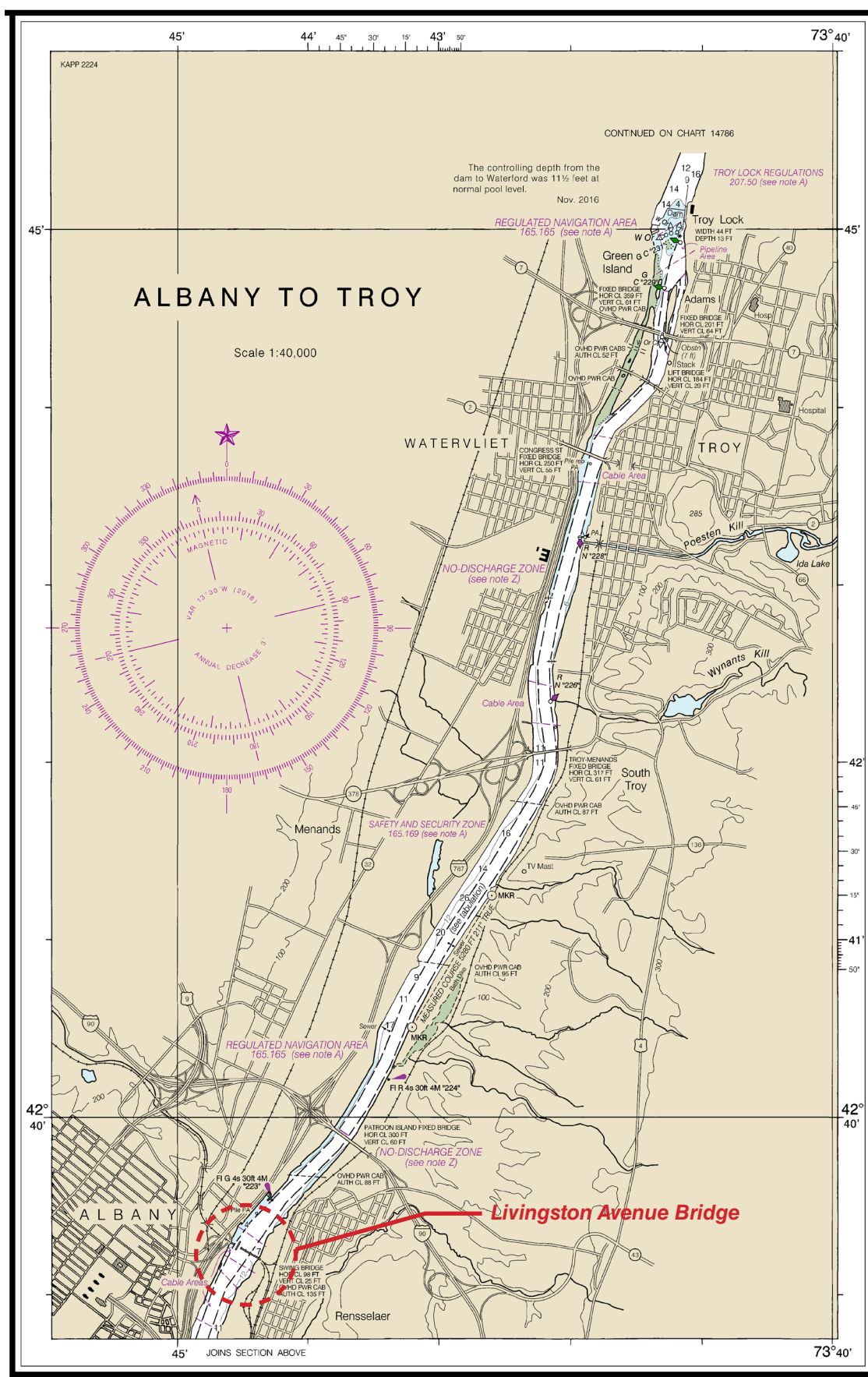
The Hudson River is a navigable waterway from the Battery in Manhattan (River Mile [RM] 0) to the Troy Dam north of Albany at RM 150. At the Troy Dam, the Troy Lock permits vessels to pass to and from the upper river and the New York State Canal System. The Livingston Avenue Bridge is located at RM 145. Although the Hudson is a freshwater river at this location, the river is tidally influenced as far north as the Troy Dam.

The regulated navigation channel under the jurisdiction of USACE in this portion of the Hudson River is approximately 600 feet wide, most of the width of the river, and 14 feet deep (see **Figure 3-1**). Boat traffic is primarily from two sources: barge traffic to and from industrial uses north of the Troy Lock, and the Captain JP Cruise Line, which offers passenger dinner cruises from Albany. Smaller boats access this portion of the river from boat launches in Rensselaer's Riverfront Park and Albany's Riverfront Preserve, the latter of which is also home to a boathouse operated by the Albany Rowing Center.

The Livingston Avenue Bridge is a movable bridge with a vertical clearance of 25 feet above Mean High Water. The swing span pivots open and provides a vertical clearance from Mean High Water to overhead catenary cables of 135 feet. Although there are two channels when the bridge is in the open position, only the east channel has a fender system and is used for navigation. When the bridge is in the open position, the east channel provides 100 feet horizontal clearance and the

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<sup>17</sup> Tier 1 Draft EIS for High Speed Rail Empire Corridor, January 2014. <https://www.dot.ny.gov/empire-corridor/deis>.



west channel provides 110 feet. The east channel is narrower as a result of the fender system. The bridge's movable span is at the western edge of the navigation channel.

A bridge operator housed on the bridge above the swing span pivot pier operates the movable span. In recent years, the bridge has opened as many as 474 times a year (in the peak year of 2005), with an average of 300 openings a year, generally during the boating season between April and November.

There is no record of damage to the bridge from barge or vessel strikes. In January 2019, chunks of river ice tore several boats from their moorings upriver of Albany. The unmoored boats traveled downstream, striking several bridges, and one boat, a passenger cruise ship (Captain JP III), became lodged against the Livingston Avenue Bridge.<sup>18</sup>

The two closest bridges to the Livingston Avenue Bridge are both fixed roadway bridges with a vertical clearance of 60 feet above Mean High Water—the Patroon Island Bridge about a mile to the north, which carries I-90 over the Hudson River; and the Dunn Memorial Bridge close to a mile to the south, which carries U.S. Routes 9 and 20 across the river.

As part of the design for the Project, NYSDOT conducted a Navigation Study of the Hudson River at the existing Livingston Avenue Bridge. To conduct this study, NYSDOT collected information from boating operators, including marinas, commercial users, and others, regarding navigational needs near the existing bridge. The Navigation Study is included in **Appendix D** of this EA. General findings of the study include:

- Openings of the bridge are most frequently requested by sightseeing tour boats and by tug boats transporting construction materials and equipment.
- Commercial users of the bridge noted that requesting and obtaining a bridge opening has been unreliable due to technical difficulties or due to the operator being unavailable.
- Multiple users noted that passage through the bridge can be difficult due to the bridge's limited horizontal clearance (of 100 feet), pier skew, and curvature of the river.

In addition, as discussed in **Chapter 1, "Project Purpose and Need,"** the swing span frequently malfunctions, resulting in delays to boat traffic.

### 3.3.3 Vehicular Traffic and Parking

In Albany, the Livingston Avenue Bridge passes above Quay Street, and the western approach crosses above Water Street, Centre Street-Erie Boulevard, Colonie Street, Broadway, and North Pearl Street. The western approach also passes below a viaduct carrying eight lanes of I-787, which runs north-south through Albany close to the Hudson River.

Quay Street begins at Broadway south of the Dunn Memorial Bridge, about one mile south of the Livingston Avenue Bridge. It serves as a frontage road parallel to the northbound lanes of I-787 and provides access to and from the highway. Quay Street also provides access to Corning Riverfront Park between the Dunn Memorial Bridge and the Livingston Avenue Bridge. After passing beneath the Livingston Avenue Bridge, one-way Quay Street curves sharply away from the river (westward) and becomes Colonie Street. As the road straightens, it passes beneath the I-787 viaduct and then intersects with Water Street. Quay Street/Colonie Street provides access to parking areas on both sides of the street that are under and close to the I-787 viaduct (discussed below).

On March 5, 2018, New York State Governor Cuomo announced \$3.1 million in state funding for the Albany Skyway project, a plan developed by Capitalize Albany, the city's economic

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<sup>18</sup> <https://www.timesunion.com/news/article/Breaking-Bridges-closed-after-boats-get-loose-in-13560816.php>.

development group, to convert the U.S. Route 9 ramp that extends from Quay Street to Broadway into a pedestrian promenade, closing it to traffic.<sup>19</sup> Governor Cuomo announced an additional \$5 million in funding for the Albany Skyway project in May 2019. At the time of publication of this EA, NYSDOT is nearing completion of construction on the project.

Near the western bridge abutment and Quay Street, four paved surface parking lots are under and close to the I-787 viaduct (see **Figure 3-2**):

- **City of Albany Lot:** This lot, on the north side of Quay Street beneath the I-787 viaduct, is accessible from Quay Street. It provides parking for the Riverfront Preserve and for events in Corning Riverfront Park; for joggers, walkers, and bicyclists using the Mohawk-Hudson Bike-Hike Trail that runs along the river; and provides vehicle access to a boat launch into the Hudson River. This lot also serves for daily parking for several New York State office buildings nearby. In addition, during inclement weather, outdoor concerts planned for the amphitheater in Corning Riverfront Park are moved to this parking lot. The City of Albany lot is accessible from westbound Quay Street and southbound Water Street.
- **NYSOGS Lot 11:** This lot, the Water Street Annex, is beneath the I-787 viaduct and extends from the south side of Quay Street to the Empire Corridor railroad right-of-way. It provides parking on a permit basis for New York State employees and serves as a staging area for buses that shuttle New York State employees to the State Office Plaza complex and other New York State government buildings in the vicinity. NYSOGS Lot 11 is accessible from westbound Quay Street and southbound Water Street.
- **NYSOGS Lot 12:** Lot 12, the Water Street Lot, consists of two sections (Lots 12A and 12B) and provides parking on a permit basis for New York State employees. The entrance to this lot is on Centre Street/Livingston Avenue and the exit is to Water Street.
- **Corning Riverfront Park Lot:** This surface parking lot in Corning Riverfront Park, south of the Livingston Avenue Bridge, is used by park visitors and is accessible from Quay Street.

### 3.3.4 Public Transportation

Near the Project site, Capital District Transportation Authority (CDTA) runs local and express bus routes on Interstate 787, Water Street, Quay Street, Colonie Street, Centre Street, Livingston Avenue, and Broadway. CDTA buses also pull through the New York State-owned parking lot located between Quay and Water Streets beneath Interstate 787. There is no public transportation service near the Project site on the east side of the Hudson River.

### 3.3.5 Pedestrians and Bicyclists

Public access on the Livingston Avenue Bridge is prohibited. The bridge originally included a pedestrian walkway, but this walkway was closed to the public in the late 1980s or early 1990s because of the bridge's condition, and is now limited to use by railroad maintenance personnel and bridge operators. However, there are limited opportunities for pedestrians or bicyclists to cross the Hudson River, and pedestrians trespass on the bridge, using the walkway and then walking on the tracks where the walkway has been closed. This is a safety and security concern for Amtrak and CSX and can also affect safe bridge opening for ships.

Near the Project site, pedestrian and bicycle paths run along the river near and beneath the Livingston Avenue Bridge (see **Section 4.2, "Land Use and Community Character"**). The Albany Skyway, a shared use path for pedestrians and bicycles, is also located close to the Livingston Avenue Bridge on the former U.S. Route 9 ramp that curves from Quay Street to

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<sup>19</sup> <https://www.timesunion.com/news/article/Cuomo-announces-3-1-million-for-Albany-Skyway-12729227.php>.



Broadway. The shared use path has an entrance at the Broadway end of the ramp and an access point from Quay Street via a crosswalk.

### **3.4 Impacts of the No Action Alternative**

In the No Action Alternative, no major improvements to or replacement of the Livingston Avenue Bridge would occur and operations across the bridge would remain limited to single-track operation at 15 mph. The No Action Alternative would result in the continued deterioration of the structure, resulting in increased maintenance, and eventually could require the structure 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 (see the discussion of the permanent detour alternative in **Section 2.3.1**). 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.

The No Action Alternative would also adversely affect river traffic because existing horizontal clearance limitations would not be improved and 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. Under the No Action Alternative, delays to boat traffic caused by the malfunctioning bridge would continue and could worsen.

The No Action Alternative would not affect vehicular traffic or public transportation, nor would it affect pedestrians or bicyclists. No new shared use path across the Hudson River would be created, and pedestrians would likely continue to trespass across the existing Livingston Avenue Bridge.

### **3.5 Impacts of the Build Alternatives**

#### **3.5.1 Rail**

With a new rail bridge across the Hudson River and improvements to the wye in Rensselaer and the approach bridges in Albany, the Build Alternatives would improve reliability and reduce passenger and freight train delays along this segment of the Empire Corridor; achieve a long-term state-of-good-repair for the bridge; and eliminate existing bridge and track deficiencies. The new bridge would meet modern passenger and freight rail capacity and load (weight) standards, maintain acceptable levels of safety, and support the long-term utility and vitality of the Empire Corridor.

The new bridge would eliminate an existing bottleneck on the Empire Corridor, which would be consistent with, and supportive of, plans to convert the Empire Corridor route to a HSIPR route.

#### **3.5.2 Navigable Waters**

The Build Alternatives would improve conditions for boat traffic by replacing a bridge that currently malfunctions and causes delays with a new modern structure.

The Build Alternatives would widen the navigable channel beneath the bridge from 100 feet to 190 feet by providing a lift span rather than a swing span (with a center pier). The Build Alternatives would provide a bridge with a vertical clearance of 60 feet when the bridge is open, which is less than the No Action Alternative (with a clearance of 135 feet) but the same as the adjacent upstream and downstream structures. Thus, no adverse impact on river traffic would occur with either Build Alternative as a result of the new structure. When the bridge is closed, the vertical clearance within the navigation channel would be the same as for the existing bridge—25 to 30 feet, depending on the tide. The Build Alternatives would require permits from the USCG and USACE for the new bridge in accordance with the requirements of Sections 9 and 10 of the Rivers and Harbors Act.

The Build Alternatives would also require the use of underwater land within the Hudson River that is under the jurisdiction of NYSOGS. NYSDOT is coordinating with NYSOGS about the need for an easement for the new bridge and will obtain an easement as part of the Project's permitting phase.

### **3.5.3 Vehicular Traffic and Parking**

In Albany, the Build Alternatives would involve modifications to rail bridges over Water and Centre Streets. After construction is complete, these changes would not alter vehicular operations on the streets below the rail bridges. In addition, the Build Alternatives would shift the western abutment of the rail bridge west of its existing location (and, with Build Alternative 2, farther south). This would improve sightlines along Quay Street, which passes close to the existing abutment and then curves sharply. For both Build Alternatives, the shift in the abutment location would improve the sight distance past the abutment for motorists and allow approaching drivers to see more of the parking lot on the left side of Quay Street after the bridge (NYSOGS Lot 11).

Build Alternative 1 would shift the rail alignment slightly northward, which would affect a sliver of OGS Lot 11. This would displace approximately 11 parking spaces in NYSOGS Lot 11. Build Alternative 2 would not result in the loss of any parking spaces.

### **3.5.4 Public Transportation**

The shift in the abutment near Quay Street and modifications to the rail bridges over Water and Centre Streets, which both currently serve as bus routes, would not result in permanent impacts to CDTA bus routes that use those roads. (For a discussion of potential impacts during construction of the Build Alternatives, see **Section 4.16.4.5** in **Section 4.16, "Construction Impacts."**)

### **3.5.5 Pedestrians and Bicyclists**

The Build Alternatives would have a shared use path for pedestrians and bicyclists, providing a crossing over the Hudson River where none has been available for decades. The approach ramps for the shared use path would connect to the planned Rensselaer Riverfront Multi-Use Trail on the east side of the river and the Mohawk-Hudson Bike-Hike Trail and Albany Skway on the west side.

## **3.6 Avoidance, Minimization, and Mitigation**

The Build Alternatives would improve railroad operations and boating conditions at the Hudson River crossing of the Empire Corridor and would not result in permanent changes to vehicular traffic or public transportation. The Build Alternatives would also improve pedestrian and bicycle facilities. No adverse impacts would occur to transportation and therefore no measures to avoid, minimize, or mitigate impacts are required. NYSDOT is coordinating with NYSOGS about the need for an easement in the Hudson River for the new bridge and will obtain an easement as part of the Project's permitting phase. (See **Section 4.16, "Construction Impacts,"** for discussion of the construction impacts of the Build Alternatives.)