

IMPROVING  **CONNECTIVITY**

**Route 79/Davol Street
Corridor Study**
Fall River, Massachusetts



Route 79 / Davol Street Corridor Study

Chapter 3

Alternatives Development

3.1 Development of Alternatives

The development of alternatives was guided by the identification of the issues, constraints, and opportunities within the Focus Area, along with the goals and objectives established in the early stages of the study. The Working Group also provided significant input into the process. As discussed in Chapter 2, the issues and constraints identified are generally related to vehicular and non-vehicular crashes, insufficient pedestrian and bicycle accommodations, limited multimodal connectivity, and low economic development potential within the corridor.

This chapter describes in more detail the alternatives developed to address existing issues, while Chapter 4 provides analyses and evaluation of the alternatives.

3.2 Improvement Alternatives – Location-by-Location

In order to identify immediate improvements within the Focus Area, alternatives were studied on a location-by-location basis. These alternatives address issues related to safety and access issues for pedestrians and bicyclists. By working to solve issues at individual locations, the alternatives developed would have a relatively low cost and could be done with existing resources, or would require only a minimal level of design and funding.

As identified in Chapter 2, there are six locations identified as part of the existing conditions analysis that experience statistically significant crash rates and exceed both the statewide and MassDOT District 5 averages. These locations are:

- Cedar Street U-turn (U-turn at Davol Street West)
- Cedar Street U-turn (U-turn at Davol Street East)
- Davol Street East at President Avenue
- President Avenue at Lindsey Street
- President Avenue at North Main Street
- Lindsey Street at Brownell Street

In the analysis of existing conditions, congestion and capacity were not found to be prominent issues. There are some operational deficiencies along U.S. Route 6 at Highland Avenue, Robeson Street and the President Avenue Rotary, but these locations are considered outside of the Focus Area and are primarily included in analysis for the purpose of determining whether any improvements within the Focus Area would have any detrimental effect on locations outside of the Focus Area but within the Regional Transportation Impact Area. The City of Fall River should consider monitoring these locations for potential future upgrades.

In addition to safety issues, it was also noted during the analyses of existing and No-Build Conditions that there is a gap in bicycle accommodations through the Focus Area. Currently, a shared-use path crosses the Veterans Memorial Bridge and travels south along Route 79 where the path dead-ends at Wellington Street. From here, bicyclists use an on-street bike route to reach President Avenue. Bicyclists are permitted to use Davol Street but there are no dedicated lanes present on these

roadways. Pedestrian access within the Focus Area is primarily limited by Route 79 with the only crossing locations at Central Street and at President Avenue, nearly one mile apart.

It should be noted that none of the intersections studied during the existing conditions analysis provided wheelchair ramps that met current design standards or were fully ADA compliant. In addition, at signalized intersections, while pedestrian signals were provided, no countdown timers were present to warn pedestrians if limited time was available for crossing.

3.2.1 Cedar Street U-Turn

The Cedar Street U-turn, which provides a connection between Davol Street West and Davol Street East, does not provide acceleration or deceleration lanes for northbound and southbound traffic on Davol Street. In addition, the sight distance for vehicles merging with the southbound traffic is somewhat constrained by the vegetation adjacent to the Route 79 embankment and signage to warn drivers of upcoming merging traffic is missing on the southbound side and does not provide adequate advance warning on the northbound side. Improvements at this location that would benefit safety through the U-turn and along Davol Street West and Davol Street East would include trimming back existing vegetation along the Route 79 berm to improve sight distance along Davol Street West. Also along Davol Street West, new pavement markings should be installed to better delineate the lanes of Davol Street West and the stop line along the U-turn, as shown in Figure 3.1.

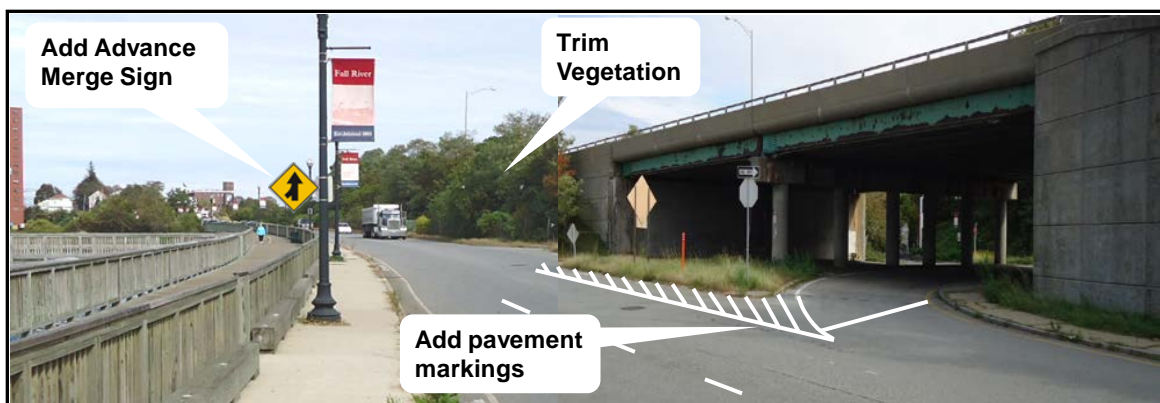


Figure 3.1: Short Term Improvement – Davol Street West at Cedar Street U-Turn

Along Davol Street East, the sign indicating an upcoming merge should be relocated from its current location to a point further upstream of the U-turn that would provide sufficient warning distance, as shown in Figure 3.2.



Figure 3.2: Short Term Improvement –Davol Street East at Cedar Street U-Turn

3.2.2 President Avenue at Davol Street East and Lindsey Street

As discussed in Chapter 2, President Avenue is a four-lane roadway with the intersections of Davol Street East and Lindsey Street roughly 150 feet apart. In order to cross President Avenue, pedestrians must use an unsignalized crosswalk across the westbound right-turn lane of westbound President Avenue. Seventy-three percent of crashes at the President Avenue intersections with Davol Street East and Lindsey Street are rear-end and angle collisions. Based on the proximity of the two intersections, these crashes are possibly caused by poor visibility of traffic traveling to and from Lindsey Street. This traffic must turn through the traffic queue of westbound President Avenue vehicles and across the westbound parking lane. Vehicles along westbound President Avenue may unexpectedly stop to allow Lindsey Street traffic to turn. Similarly, eastbound President Avenue traffic may be required to stop suddenly due to turning traffic. In addition, three collisions involving pedestrians were reported at these intersections, two of which were at the Lindsey Street intersection.

To improve safety for vehicles and pedestrians at these intersections, a “Do No Block Intersection” box should be painted at the intersection with signs placed in advance. An unsignalized crosswalk and ADA compliant ramps should also be added at this intersection with pedestrian signs placed at and in advance of the crosswalk. At the intersection of President Avenue and Davol Street East, accessible pedestrian signals and ramps should be installed across all legs of the intersection. Figure 3.3 shows the developed intersection improvements.

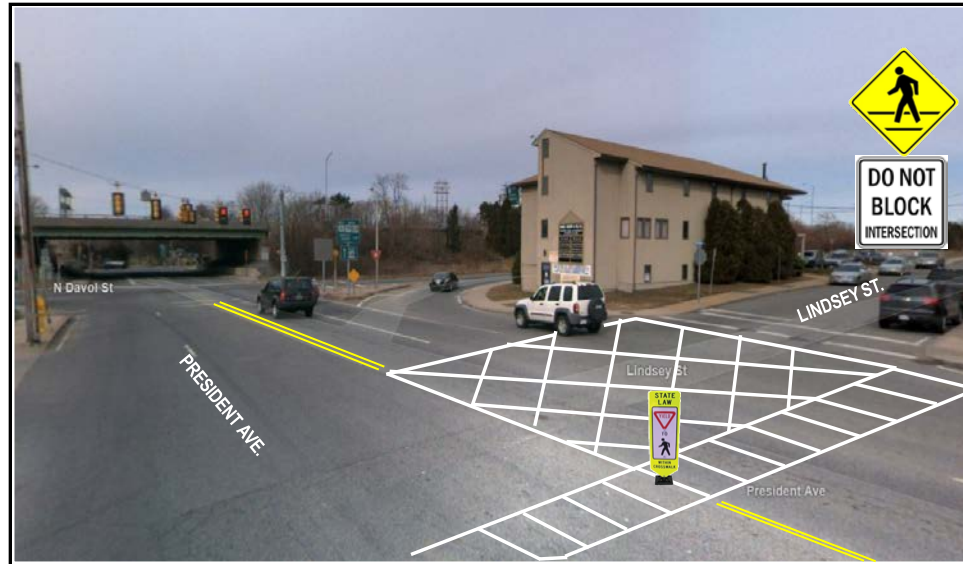


Figure 3.3: Short Term Improvement – President Avenue at Lindsey Street

3.2.3 President Avenue at North Main Street

At this intersection, exclusive left-turn lanes are provided on the eastbound and westbound President Avenue approaches, but not along North Main Street. The traffic signal phasing for this intersection provides permissive left-turn movement for all approaches, but does not provide any protected movements. This may have contributed to the occurrence of angular collisions at the intersection. A potential improvement at this intersection would be to restripe the intersection to add left-turn lanes to the northbound and southbound North Main Street approaches, and upgrade the traffic signal to allow for protected left-turn phasing along both President Avenue and North Main Street. An analysis of the impacts of these changes will be examined in the next chapter.

3.2.4 Lindsey Street at Brownell Street

At this intersection, Lindsey Street is stop-controlled while Brownell Street has a free-flowing movement traveling to and from Davol Street East. Approximately 70% of collisions at this location were angular crashes between vehicles traveling on Brownell Street and southbound Lindsey Street. On the east side of Lindsey Street, homes are built immediately behind the sidewalk limiting sight distance along Brownell Street. The very short distance between Lindsey Street and Davol Street East also creates safety issues at the intersection as Lindsey Street traffic may expect Brownell Street traffic to stop or to not be there at all. Pavement marking should be added at this intersection, emphasizing crosswalks at all approaches and stop lines along Lindsey Street. Additional signing could be placed at the Lindsey Street stop signs, alerting drivers that cross traffic does not stop. In addition, wheelchair ramps should be brought up to current MassDOT and ADA standards at this intersection to provide a safe crossing for pedestrians.

3.2.5 Bicycle Accommodations in the Focus Area

Currently, there is an exclusive bike lane that crosses the Veterans Memorial Bridge and follows Davol Street East for a short distance to its termination at Wellington Street. From here, the bike route connects to President Avenue via Fulton Street and Lindsey Street. No designated bicycle facilities are provided along President Avenue, Davol Street West or Davol Street East. Only sidewalks are present along these roadways. The Regional Transportation Plan proposes the construction of a Fall River Bike Path, but no other bicycle accommodations within the vicinity of the Focus Area exist or are proposed along the waterfront.

The bike route that travels along Fulton Street and Lindsey Street provides access to President Avenue and is currently delineated by green “Bike Route” signs. The City of Fall River has plans to add “sharrow” pavement markings (See Figure 3.4) to the bike routes, which will provide a better defined bike route for all users. The term ‘sharrow’ comes from the term shared-use arrow, and informs drivers and bicyclists that the roadway should be shared by all users.



Figure 3.4: Short Term Improvement – Sharrows along Bike Route

Bicycle accommodations along Davol Street East and Davol Street West could be improved using one or both of the approaches described below. Under both methods the continuous bicycle route would be comparable to the route identified with “sharrow” pavement markings, but would be more direct and would provided added safety benefit by introducing dedicated bicycle facilities and separating bicycles and motor vehicles. However, both methods would require that the I-195/Route 79 Interchange Project be completed prior to implementation, as the construction limits of the project extend to the Cedar Street U-turn and traffic impacts during construction are anticipated to extend to President Avenue.

3.2.5.1 *Bicycle Accommodations along Davol Street through Roadway Restriping*

Davol Street West south of President Avenue provides two 11-foot wide travel lanes and an 8-foot wide parking lane. In order to provide on-road bicycle accommodations, the configuration of the roadway would need to be modified within the existing curb-to-curb layout. This would require eliminating one of the travel lanes south of the intersection. However, Davol Street West approaching President Avenue from the north currently has two through lanes, and the westbound President Avenue approach currently has dual left-turn lanes onto Davol Street West. It would be possible to designate an exclusive left-turn lane and a through lane on the Davol Street West approach, but in order to maintain intersection capacity, it is expected that the dual left-turn lane along westbound President Avenue would need to be maintained. Therefore, on Davol Street West, exiting the intersection to the south, two through lanes would need to be extended for a short distance before tapering down to one through lane.

The existing 30-foot width of Davol Street West provides ample space for maintaining the parking lane and one lane for southbound traffic while introducing a minimum 5-foot wide bike lane. See Figure 3.5 for a visualization of this scenario. Pavement markings and signing would be installed along Davol Street West to clearly designate the bike lane. Additionally, near the President Avenue intersection, where bicycle travel would occur near the curb, all drainage grates should be replaced with bicycle-friendly cascade grates.



Figure 3.5: Short-Term Improvement – Davol Street West Bicycle Improvement

Additionally, due to roadway width limitations, 22 parking spaces on Davol Street West would need to be eliminated from President Avenue to shortly before Hathaway Street.

Along Davol Street East, there is currently a 5-foot wide shoulder which is wide enough to accommodate an exclusive bike lane. Northbound bicycle access from the waterfront and from the residential neighborhoods south of President Avenue is possible by restriping the shoulder as shown in Figure 3.6. This improvement could be

implemented between the Cedar Street U-turn and President Avenue. As this improvement would provide bicycle travel in the shoulder of the road, all drainage grates should be replaced with bicycle-friendly cascade grates.

These improvements along Davol Street West and Davol Street East would extend bicycle access from its current terminus at Wellington Street to the Cedar Street U-turn and Heritage State Park, and would also provide full access to the waterfront.



Figure 3.6: Short Term Improvement – Davol Street East Bicycle Lane

3.2.5.2 *Bicycle Accommodations along Davol Street through Partial Reconstruction*

Another improvement option for installing bicycle accommodations on Davol Street would provide a two-way shared-use path for bicycles and pedestrians. The path would be separated from the Davol Street West roadway by a grass buffer. Davol Street would be striped to maintain one lane of southbound traffic and a parking lane along the curb. Reconfiguration of the existing roadway and sidewalk of Davol Street West would be necessary for this improvement, requiring more substantial design and funding.

See Figures 3.7 and 3.8 for an illustration of this scenario, looking south along Davol Street West. The distance between the edge of curb on the left (east) side of the road and the back of sidewalk on the right (west) side along the existing roadway is approximately 37-38 feet. Depending on the exact roadway width which would be confirmed by a survey, Davol Street West could be reconfigured between President Avenue and Heritage State Park to provide a 14 or 15-foot wide travel way (including a 2-foot offset), 8-foot wide parking lane, a 5-foot wide grass strip and a 10-foot wide shared-use path.



Figure 3.7: Intermediate Improvement – Davol Street West Shared-Use Path

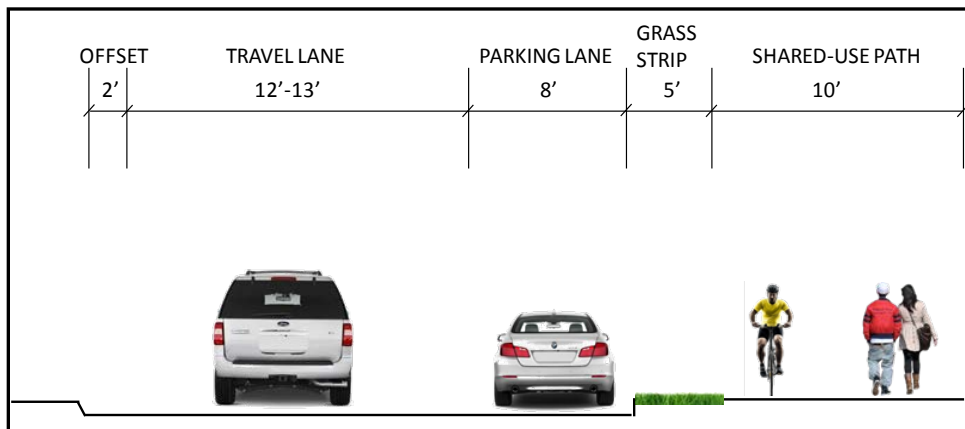


Figure 3.8: Intermediate Improvement – Davol Street West Shared-Use Path Cross-Section

3.3 Improvement Alternatives – A Corridor-Wide Approach

While the improvements discussed for individual locations will provide benefits in safety, local mobility and bicycle access, there remain many issues unaddressed within the Focus Area and Regional Transportation Impact Area. In order to address issues of local connectivity and economic development, it was required to develop alternatives within the Focus Area that reconfigure Route 79, Davol Street West and Davol Street East. By doing this, new east-west connections can be created to connect Fall River neighborhoods to the waterfront, Brightman Street access may be improved, full bicycle and pedestrian access can be constructed, and new parcels can be created for redevelopment.

The development of these improvements for conceptual planning studies is an iterative process that first looks at higher-level concepts in terms of general alignments, approximate number of lanes, new connections, and additional bicycle and pedestrian facilities in order to meet the following objectives:

- Enhance multimodal connectivity between Fall River neighborhoods and the waterfront
- Provide multimodal access to the future South Coast Rail station
- Balance local and regional mobility
- Improve and enhance safety conditions
- Increase opportunities for economic development and land use
- Minimize potential impacts to the environment and community

The alternatives developed can be defined as the following three primary categories:

- Elevated Route 79
- At-Grade Route 79
- At-Grade Route 79 with Frontage Roads.

Within these three categories, various alternatives were developed to be presented to the Working Group for input and feedback. Comments received from the Working Group were used to refine and modify the alternatives with the intent of developing a select number of alternatives to be carried forward and examined in more detail. This analysis enables the alternatives to be compared to each other as well as to the No-Build condition as part of the Alternatives Analysis task, which is presented in Chapter 4.

3.3.1 Alternatives Group 1 – Elevated Route 79 (Limited-Access Highway)

Alternatives Group I provides two alternatives that would maintain the existing character of Route 79 as an elevated, limited-access highway which would maintain existing levels of regional mobility. Route 79 would be realigned to the east in both of these alternatives to allow for parcel redevelopment along the waterfront side of Route 79. Additional east-west access and on-road bicycle accommodations would be provided to improve local connectivity between Fall River and the waterfront. East-west connections may also improve multimodal connectivity as direct access would be provided to Fall River Depot Station and SRTA Bus Route 2 service could be expanded to include an additional stop at the planned train station.

3.3.1.1 Alternative 1A – Elevated Route 79

For this alternative (see Figure 3.9), the alignment of Route 79 would be shifted to the east from just north of the Cedar Street U-turn to just south of President Avenue. A two-way east-west connection would be added for access to and from the Fall River Depot Station. On-road bicycle accommodations would be provided from the termination of the existing bike path at Wellington Street and follow Lindsey Street to President Avenue. It would then travel west along President Avenue to Davol Street

West to provide access to City Pier, and also continue south along Davol Street East to provide access to the South Coast Rail station.

3.3.1.2 Alternative 1B – Elevated Route 79 with Cross Connections

Alternative 1B (see Figure 3.10) alignment modifications would begin south of the Cedar Street U-turn and end just south of the Brightman Street U-turn. Two-way east-west connections would be provided at Turner Street Fall River Depot Station driveway, President Avenue, and Cory Street. The Turner Street and President Avenue east-west crossings provide local access to the waterfront along roadways that also have crossings under the railroad. Since Cory Street doesn't cross under the railroad, its access would be limited to neighborhoods west of the railroad. An off-ramp would be provided from northbound Route 79 to Davol Street East south of Cory Street for access to Brightman Street.

Bicycle accommodations would be provided on the same routes as in Alternative 1A. However, in this alternative a 15-foot wide shared-use path would also be provided along Lindsey Street, extending from Wellington Street to Cory Street. The path would then follow Cory Street to Davol Street West where the path would run from Cory Street to the Cedar Street U-turn. In accordance with the new MassDOT Healthy Transportation Policy Directive, sidewalks would be provided along both sides of all new roadways. Davol Street West would be maintained along the alignment of the current Davol Street West as a two-way street within the project limits for access to five new open parcels.



Figure 3.9: Alternative 1A – Elevated Route 79



Figure 3.10: Alternative 1B – Elevated Route 79 with Cross Connections

3.3.2 Alternatives Group 2 – At-Grade Route 79 (Urban Boulevard)

Alternatives Group 2 provides three alternatives that would convert Route 79 into an at-grade urban boulevard providing local access and connectivity via intersections along Route 79. The improvement limits of Alternatives 2A, 2B and 2C are similar, beginning south of the Cedar Street U-turn and ending just north of Cory Street. Alternatives 2A and 2B shift Route 79 while maintaining either Davol Street West or Davol Street East. Alternative 2C removes Davol Streets West and East and would rely on interior circulating roads for parcel access.

Each alternative shifts Route 79 to either the west or the east. This allows the creation of parcels focused on waterfront and transit-oriented development. By bringing Route 79 to the elevations of Davol Street West and Davol Street East, local connectivity is greatly improved as all east-west connecting roads have direct access to Route 79. In all alternatives, bicycle accommodations are provided on-road or by means of a 10-foot wide shared-use path.

3.3.2.1 Alternative 2A –Eastern Shift

In Alternative 2A (see Figure 3.11), Route 79 as an urban boulevard would be shifted to the east and aligned where Davol Street East is currently located. North of President Avenue, Route 79 would shift back to its existing alignment with an exit to the existing Davol Street East to maintain Brightman Street access. East-west connections would be provided at Turner Street and President Avenue, roadways that also have grade separated crossings of the railroad. These connections provide access between Fall River and the waterfront. A third east-west connection would be provided at the Fall River Depot Station driveway to provide full access to South Coast Rail.

In this alternative, four new parcels would be created between Route 79 and Davol Street (located along the same alignment as existing Davol Street West). Davol Street West would provide two-way access from Turner Street to Brownell Street. On-road bicycle accommodations would be provided on Lindsey Street from Suffolk Street to President Avenue. At President Avenue, the on-road bike accommodations would be provided along the southbound lanes of Route 79 from President Avenue to their termination at the Fall River Depot Station driveway. A 15-foot wide shared-use path would be provided along Davol Street from President Avenue to City Pier. In accordance with the new MassDOT Healthy Transportation Policy Directive, sidewalks would be provided along both sides of all roadways where shared-use paths would not be provided. SRTA Bus Route 2 is able to maintain its existing route via Route 79 and Davol Street West. A slight modification to this bus route extending it via Davol Street West to Taylor Street where they would be able to turn left onto the new connector roadway would add the Fall River Depot Station to the service of SRTA Bus Route 2.

3.3.2.2 Alternative 2B –Western Shift

In Alternative 2B (see Figure 3.12), Route 79 as an urban boulevard would be shifted to the west. Davol Street would be maintained, but as a two-way road from Turner Street to President Avenue. Davol Street East would be removed south of Brownell Street. An off-ramp from northbound Route 79 to Davol Street East would provide access to Brightman Street. East-west connections would be provided at Turner Street, Fall River Depot Station driveway and President Avenue. Turner Street and President Avenue have grade separated crossings with the railroad and can provide full access between Fall River neighborhoods and the waterfront. The Fall River Depot crossing will provide direct access to South Coast Rail.

A 15-foot wide shared-use path would be provided along the western side of Lindsey Street from Suffolk Street to the Fall River Depot Station driveway and along Davol Street West from President Avenue to City Pier, as well as on-road bicycle accommodations along President Avenue to connect the two paths east to west. In accordance with the new MassDOT Healthy Transportation Policy Directive, sidewalks would be provided along both sides of roadways where shared-use paths are not provided. In this alternative, three parcels would be created for redevelopment east of Route 79 and south of President Avenue. SRTA Bus Route 2 is able to maintain its existing route via Route 79 and Davol Street East. A slight modification to this bus route extending it via Davol Street West to Taylor Street where they would be able to turn left onto the new connector roadway would add the Fall River Depot Station to the service of SRTA Bus Route 2.

3.3.2.3 Alternative 2C –Eastern Shift with Davol Streets Removed

In Alternative 2C, (See Figure 3.13) Route 79 as an urban boulevard would be shifted to the east so that the northbound lanes are located where Davol Street East is currently located. North of President Avenue, Route 79 would shift back to its existing alignment with a northbound off-ramp to the existing Davol Street East to maintain access to Brightman Street. East-west connections would be provided at Turner Street, Fall River Depot Station driveway, and President Avenue. Turner Street and President Avenue have grade separated railroad crossings providing full access between Fall River and the waterfront. The Fall River Depot Station crossing will provide direct access to South Cost Rail and the waterfront.

The existing Davol Street West would end at President Avenue, which would elongate the existing parcels along the riverfront south of President Avenue. Access between these three elongated parcels would be maintained along Route 79 or through internal driveway circulation. On-road bicycle accommodations would be provided along the northbound lanes of Route 79 from the Fall River Depot Station driveway to President Avenue and along the southbound side of Lindsey Street. A 15-foot wide shared-use path would also be provided along the western side of Route 79 from President Avenue

to Cedar Street. In accordance with the new MassDOT Healthy Transportation Policy Directive, sidewalks would be provided along both sides of all roadways. SRTA Bus Route 2 would require some modifications in order to maintain its current route as this alternative does not maintain either Davol Street roadway. A slight modification to this bus route extending it via Davol Street West to Taylor Street where they would be able to turn left onto the new connector roadway would add the Fall River Depot Station to the service of SRTA Bus Route 2.



Figure 3.11: Alternative 2A – Urban Boulevard (East Shift)



Figure 3.12: Alternative 2B – Urban Boulevard (West Shift)



Figure 3.13: Alternative 2C – Urban Boulevard (East Shift)

3.3.3 Alternatives Group 3 – At-Grade Route 79 with Frontage Roads

Alternatives Group 3 provides seven alternatives that would configure Route 79 as an at-grade urban boulevard with intersections along Route 79 providing local access. The primary difference from the Alternatives Group 2 is that the Route 79 mainline would only process through and right-turn movements, and would prohibit left turns. Frontage roads would process local parcel access, as well as northbound and southbound left turns by requiring vehicles to take a right turn and then a left turn onto the frontage roads and then another left turn to cross Route 79. Frontage roads for these alternatives are referred to as Davol Street East or West and may be one-way or two-way depending on the alternative. These alternatives maintain Route 79 as the regional route while Davol Streets East and West are used for all local access and connectivity.

All alternatives would remove the existing Cedar Street U-turn and would be replaced by a new east-west access road in the same location. Bicycle accommodations would be provided as on-road facilities or by means of a 15-foot wide shared-use path.

Various layouts are shown regarding Brightman Street access, and each alternative description below provides more detailed information. Alternatives 3A through 3F maintain existing Brightman Street access. Alternative 3F provides a Brightman Street connection to Davol Streets and Route 79 via Lindsey Street. Alternative 3G converts Brightman Street to a two-way road with direct access to Davol Streets and Route 79.

3.3.3.1 Alternative 3A – Eastern Shift; Two-Way Local Streets

In this alternative, Route 79 would be shifted to the east (see Figure 3.14). Five parcels would be created for redevelopment between Route 79 and the western frontage road, Davol Street West. Davol Street West would be a two-way road along the developable areas, from south of Turner Street to north of Cory Street. Davol Street East would be a two-way frontage road from Turner Street to Cory Street. East-west two-way access would also be provided near Cedar Street, at Turner Street, the Fall River Depot Station driveway, President Avenue and Cory Street. Turner Street and President Avenue cross under the railroad, providing a direct connection between Fall River neighborhoods and the waterfront. The remaining three east-west connections would provide local connectivity between development parcels and the neighborhoods. This alternative maintains the existing Brightman Street access.

A 15-foot wide shared-use path would be provided along the following route: Lindsey Street from Brightman Street to Cory Street; Cory Street from Lindsey Street to Davol Street West; Davol Street West from Cory Street to City Pier. On-road bicycle accommodations would be provided along the remainder of Lindsey Street and along Davol Street East between the Fall River Depot Station driveway and President Avenue. In accordance with the new MassDOT Healthy Transportation Policy Directive, sidewalks would be provided on both sides of all roadways.

3.3.3.2 Alternative 3B –Eastern Shift; One-Way Local Streets

Alternative 3B follows the same alignment as Alternative 3A and would provide the same east-west connections, newly created parcels, and pedestrian and bicycle accommodations (see Figure 3.15). The primary difference with this alternative is that Davol Streets East and West would instead be one-way throughout the project limits similar to Davol Streets West and East are in the existing condition. The east-west roadway connections would also be one-way pairs, with the Cedar Street U-turn connection and Cory Street one-way eastbound while Turner Street and President Avenue would be one-way westbound. Access at the Fall River Depot Station driveway would be a two-way connection.

3.3.3.3 Alternative 3C –Western Shift; Two-Way Local Streets

In this alternative, Route 79 would be shifted to the west to be aligned along Davol Street West (See Figure 3.16). Four parcels would be created between Route 79 and Davol Street East. A fifth parcel would be created between Route 79 and Davol Street West. Davol Street East and West would be two-way roads from Turner Street to Cory Street. East-west two-way access would be provided near Cedar Street, at Turner Street, the Fall River Depot Station driveway, President Avenue and at Cory Street as in Alternative 3A. Bicycle and pedestrian accommodations provided for Alternative 3C would be the same as in Alternatives 3A and 3B.

3.3.3.4 Alternative 3D –Western Shift; One-Way Local Streets

Alternative 3D would follow the same alignment as Alternative 3C and provide the same east-west connections, newly created parcels, and bicycle accommodations (See Figure 3.17). The primary difference is that Davol Streets East and West would be one-way throughout the project limits. For the east-west roadway connections, the Cedar Street U-turn connection would be one-way eastbound and Turner Street would be one-way westbound. The east to west access at the Fall River Depot Station driveway, President Avenue, and Cory Street would be two-way.

3.3.3.5 Alternative 3E –Eastern Shift; One-Way Local Streets Adjacent to Route 79

Alternative 3E would maintain Davol Street East as a one-way road, realign Route 79 to the east along Davol Street East, and also realign Davol Street West (a one-way street) along Route 79. The ramps from southbound Route 79 and U.S. Route 6 to Davol Street West would be realigned to create a two-way east to west connection at Cory Street. Two-way east-west connections would also be provided near Cedar Street, at

Turner Street, Fall River Depot Station driveway, and President Avenue. A continuous 15-foot wide shared-use path would be provided from the termination of the existing bike path, north of the project limits, to City Pier. This alternative would create five parcels for redevelopment, one of them at the eastern end of the Old Brightman Street Bridge. By shifting both Davol Street West and the shared-use path to the east adjacent Route 79, this alternative would allow the parcels on the western side of the corridor to be elongated. See Figure 3.18 for Alternative 3E.

3.3.3.6 Alternative 3F –Brightman Street Connection via Lindsey Street

Alternative 3F is an interchangeable option that would provide access to Brightman Street and could be incorporated into Alternatives 3A through 3E. In this alternative, Davol Street East would end at Cory Street, which would be two-way and would have full access to Route 79. Access to and from Brightman Street could be via Cory Street and Lindsey Street for northbound or southbound access to Route 79. See Figure 3.19 for the Alternative 3F interchangeable option.

3.3.3.7 Alternative 3G –Brightman Street Connection to Northbound Route 79

Alternative 3G is an interchangeable option that provides Brightman Street access and can be used with Alternatives 3A through 3E. In this alternative, Brightman Street access to and from northbound Route 79 would be provided with a direct connection to northbound Route 79. A deceleration lane and acceleration lane would be provided along northbound Route 79 in this alternative. Brightman Street access to southbound Route 79 would make use of the existing U-turn ramp that would take traffic around to Davol Street West or Davol Street West where vehicles could use Cory Street for access to southbound Route 79. Brightman Street access from southbound Route 79 would be provided using the existing off-ramp to Davol Street West and then via Cory Street and Lindsey Street. See Figure 3.20 for the Alternative 3G interchangeable option.



Figure 3.14: Alternative 3A – Eastern Shift; Two-Way Local Streets



Figure 3.15: Alternative 3B – Eastern Shift; One-Way Local Streets

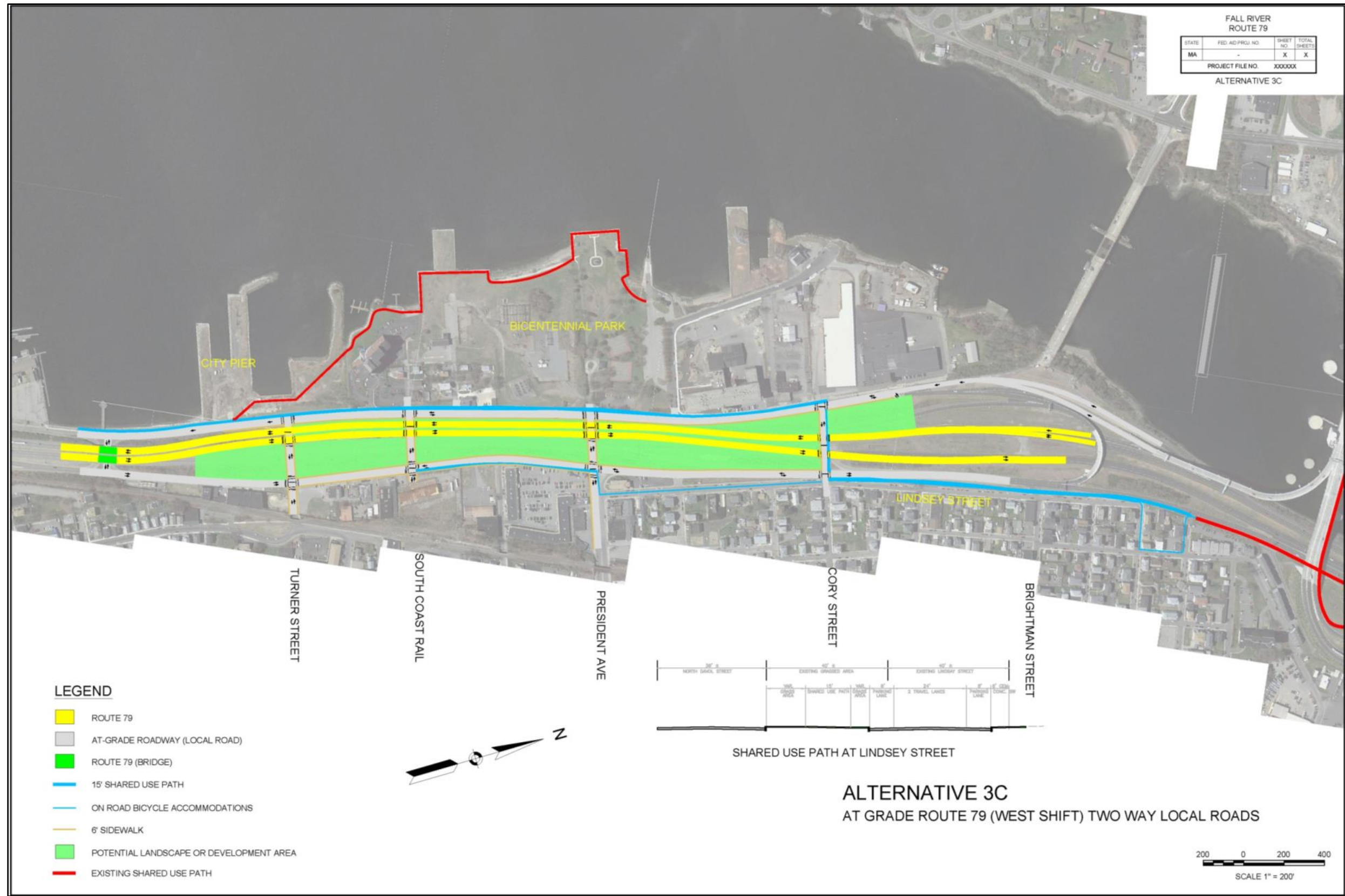


Figure 3.16: Alternative 3C – Western Shift; Two-Way Local Streets

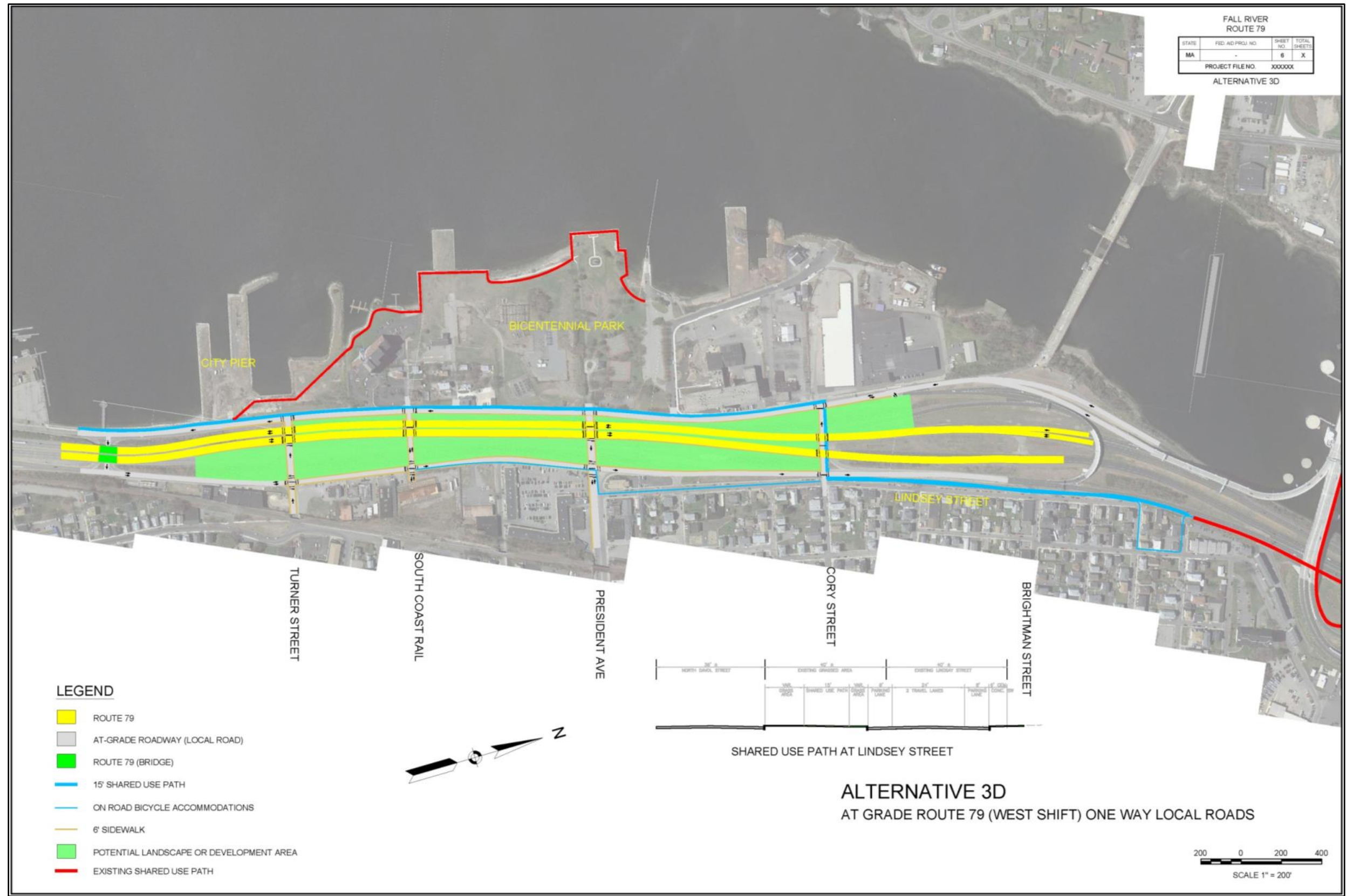


Figure 3.17: Alternative 3D – Western Shift; One-Way Local Streets

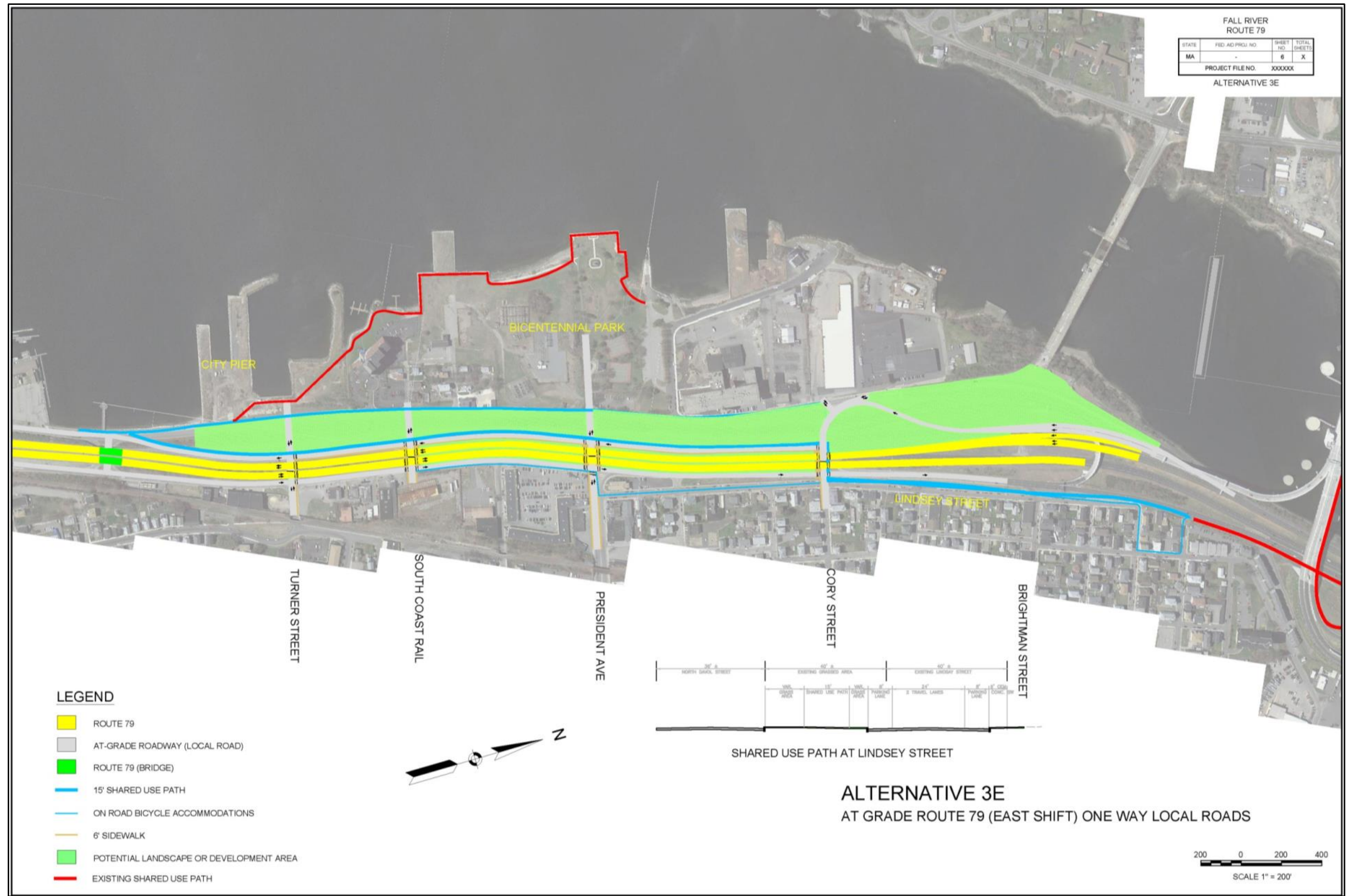


Figure 3.18: Alternative 3E – Eastern Shift; One-Way Local Streets Adjacent to Route 79

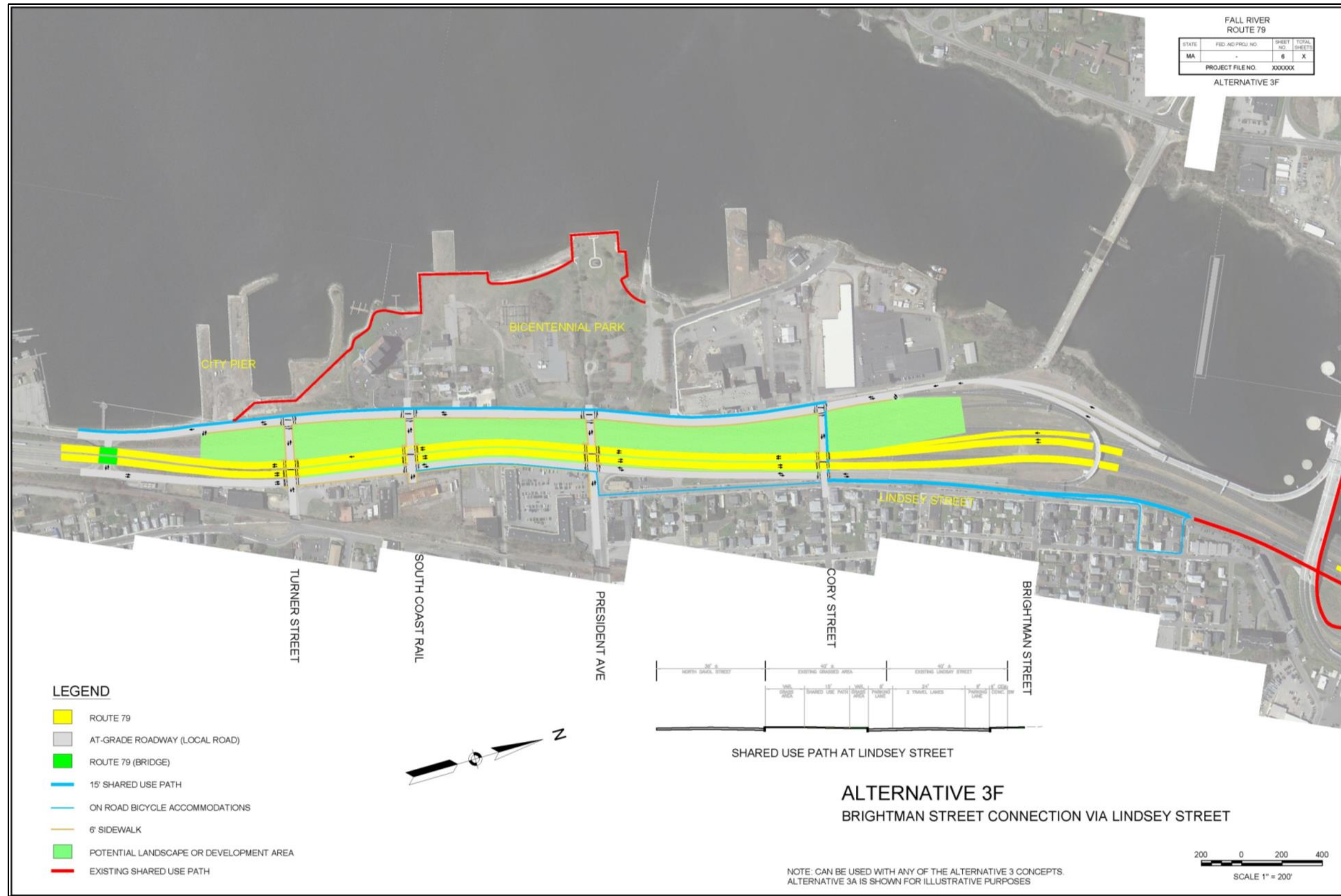


Figure 3.19: Alternative 3F – Brightman Street Connection via Lindsey Street

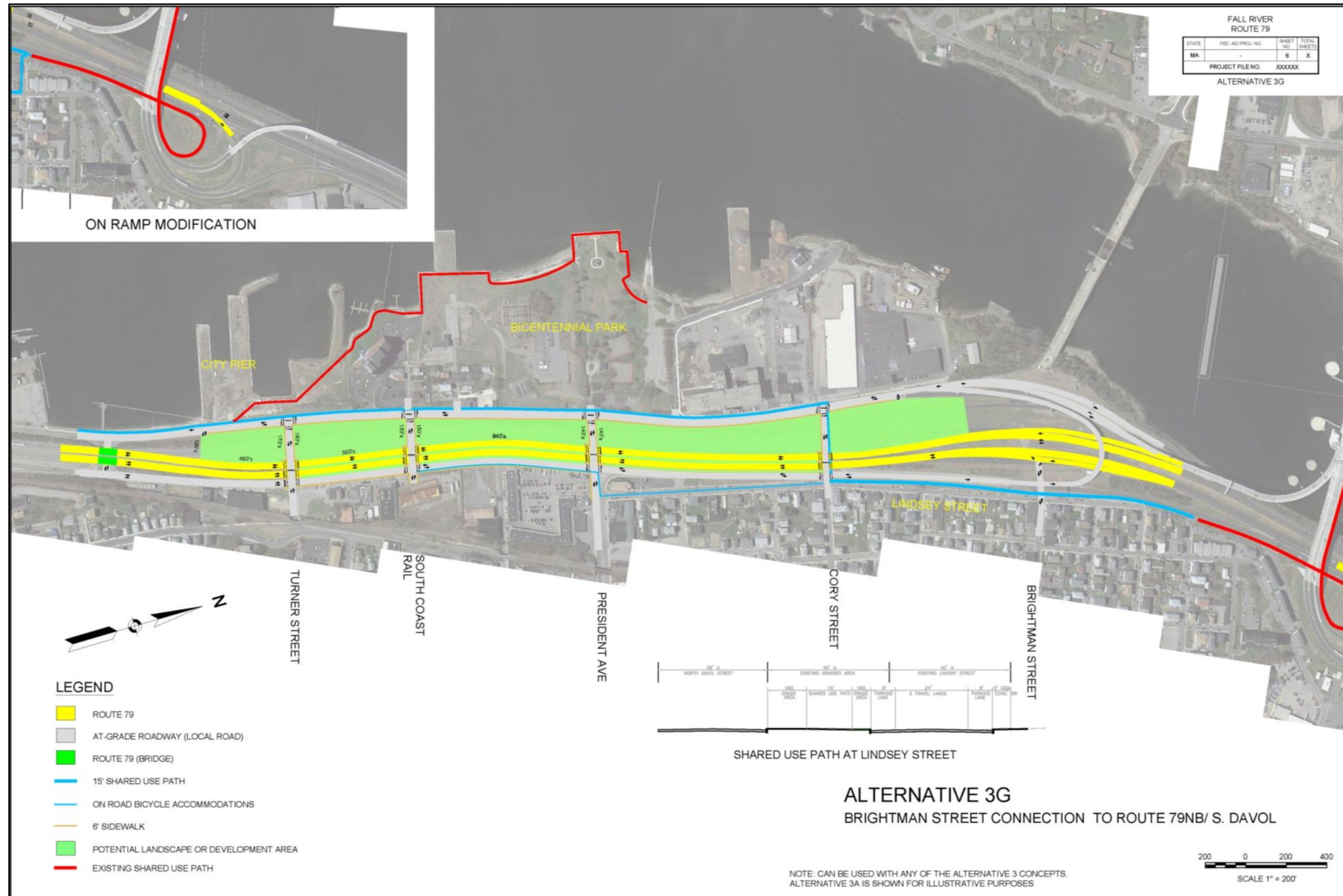


Figure 3.20: Alternative 3G – Brightman Street Connection to Northbound Route 79

3.4 Refinement of Alternatives

On May 29, 2013 a Working Group Meeting was held at the Boys and Girls Club of Fall River to present all improvement alternatives and to solicit input. The Working Group supported all improvements discussed in the location-by-location section as these improvement alternatives are able to provide benefits to safety and access in the near future.

For the corridor-wide alternatives, an eastern shift was preferred for all Alternative Groups. While shifting Route 79 to the west would better support existing businesses on Davol Street East and would provide closer proximity of future transit-oriented development to the Fall River Depot Station, the majority expressed that development of the waterfront properties was preferred, especially since there are already parcels along Davol Street East that could be redeveloped in the future. It was also voiced that east-west connections should be included where feasible, and bicycle accommodations should be expanded to provide extensive access between Fall River and the waterfront, the Fall River Depot Station, and to the old Brightman Street Bridge. Full two-way access should be provided along a western frontage road between the Fall River Depot Station driveway and Brownell Street, and parking should be maintained at all times. Any elimination of parking may limit the accessibility of the waterfront if it is perceived by visitors or patrons that there are reduced parking options.

Most of the working group vocalized a preference that the portion of land just east of the Brightman Street Bridge should be made available for redevelopment. Doing this would require removal of the existing ramps from Route 79 and U.S. Route 6 and demolition of the Brightman Street U-turn Bridge from Davol Street East to Davol Street West that was recently constructed. Other members of the working group felt that recently constructed bridges and roadways from the Veterans Memorial Bridge Project should be incorporated into the project and not removed.

Three alternatives were developed and refined for analysis from the alternative groups. These alternatives offer the best match with the project goals and objectives and respect the Working Group input. The three shortlisted alternatives were then presented to the Working Group on June 27, 2013 for additional input and feedback. The primary changes made to refine these alternatives involved additional provisions for Brightman Street access accommodations, approximating the number of lanes and presence of exclusive turning lanes, and determining the alignment of one-way and two-way roads. All alternatives also provide an east-west connection for pedestrians and motorists north of President Avenue.

3.4.1 Alternative 1 – Elevated Route 79 with Cross Connections

Alternative 1, which was primarily based on Alternative 1B, would maintain an elevated Route 79 but shift the roadway to the east, and also would add east-west underpass connections (See Figure 3.21). Route 79 would provide two lanes in each direction, and would be realigned adjacent to Davol Street East. The Cedar Street U-turn would be maintained, but the Route 79 Bridge over this U-turn would need to be reconstructed due to the roadway realignment. This alternative would provide a narrow median between northbound and southbound Route 79. It

would require construction of new retaining walls along each side of Route 79 to maintain Davol Street East, and to create five new parcels between Route 79 and Davol Street West.

Davol Street East would begin at the off-ramp from northbound Route 79 at the southern project limits and would provide two lanes in the northbound direction. An exclusive northbound left-turn lane would be provided at President Avenue, and a deceleration lane would be provided at the U-turn ramp near Brightman Street. As in the existing condition, an exit ramp to Davol Street East would be provided just north of President Avenue for access to Brightman Street. Brightman Street would be returned to a two-way roadway with a right-in right-out at its intersection with Davol Street East and would allow direct access to and from northbound Route 79 and Davol Street East. Brightman Street traffic traveling southbound would need to use Lindsey Street and Brownell Street to reach Davol Street West.

Davol Street West would carry two lanes in the southbound direction from its beginning near Brightman Street in the north to Turner Street in the south. South of Turner Street, Davol Street West would taper to one southbound lane connecting to the I-195/Route 79 Interchange Project. Parking would be provided along the west side of the roadway. No exclusive turning lanes would be provided along Davol Street West.

Two-way east-west connections would be provided at Turner Street, Fall River Depot Station driveway, President Avenue, and Brownell Street. The existing Cedar Street U-turn and Brightman Street U-turn would be maintained. The east-west access road north of President Avenue is shifted from Cory Street to Brownell Street in this alternative because an intersection at Cory Street and Davol Street East would interfere with the ramp from northbound Route 79. An added benefit of relocating this east-west cross street to Brownell Street is that Brownell Street has a crossing underneath the railroad to the east.

South Coast Rail's Fall River Depot Station would have direct access to both Davol Street East and to Pearce Street. At the station's intersection with Davol Street East, an exclusive through lane (with access to southbound Route 79) and exclusive right-turn lane (with access to northbound Route 79) would be provided. Pearce Street has a right-in right-out at Davol Street East. The intersection of Lindsey Street and President Avenue would be modified by making southbound Lindsey Street dead end prior to President Avenue. Full northbound access to Lindsey Street from President Avenue would be maintained.

A 15-foot wide shared-use path would be provided along the eastern side of Davol Street East from Turner Street to the existing bike path at Wellington Street, and along the western side of Davol Street West from the City Pier to the old Brightman Street Bridge. East-west connections for the shared-use path would be provided along Turner Street, the Fall River Depot Station driveway, and President Avenue. Sidewalks would be provided along the eastern side of Davol Street West and along the east-west connections where shared-use paths are not provided. These include the south sides of Turner Street, Fall River Depot Station, and President Avenue and both sides of Brownell Street.

Currently, the Southeastern Regional Transit Authority (SRTA) Bus Route 2 provides one bus stop within the corridor at Commonwealth Landing. The roadway network provided by

Alternative I does not require any changes to this bus route to maintain the single stop at Commonwealth Landing. A slight modification to this bus route extending it via Davol Street West to Taylor Street where they would be able to turn left onto the new connector roadway would add the Fall River Depot Station to the service of SRTA Bus Route 2.



Figure 3.21: Alternative 1

3.4.2 Alternative 2 – At-Grade Urban Boulevard

Alternative 2 is based primarily on Alternative 2A and would change the character of Route 79 to an urban boulevard lowered to an approximate level of Davol Street East and President Avenue. It would have a wide median for landscaping, and would provide local access to the waterfront and Route 79 via new intersections (See Figure 3.23). The infrastructural changes for this alternative would begin just south of Cedar Street and extend to the on-ramp from Davol Street East to U.S. Route 6. The Route 79 alignment would follow the current alignment of Davol Street East and would provide three lanes in each direction, with the exception of southbound direction south of Turner Street, which would be reduced to two lanes to meet interchange project alignment. The U-turn near Cedar Street would be eliminated since it is no longer needed: connection between Davol Street East and Davol Street West in this area would be accomplished via the newly introduced east-west cross streets, namely Turner Street and the Fall River Depot Station/Taylor Street connector. The added benefit of eliminating this U-turn would be ability to lower Route 79 profile. Figure 3.22 conceptually illustrates how this revised profile would tie into the I-195/Route 79 Interchange Project. The Brightman Street U-turn from northbound to southbound Davol Street would be maintained.

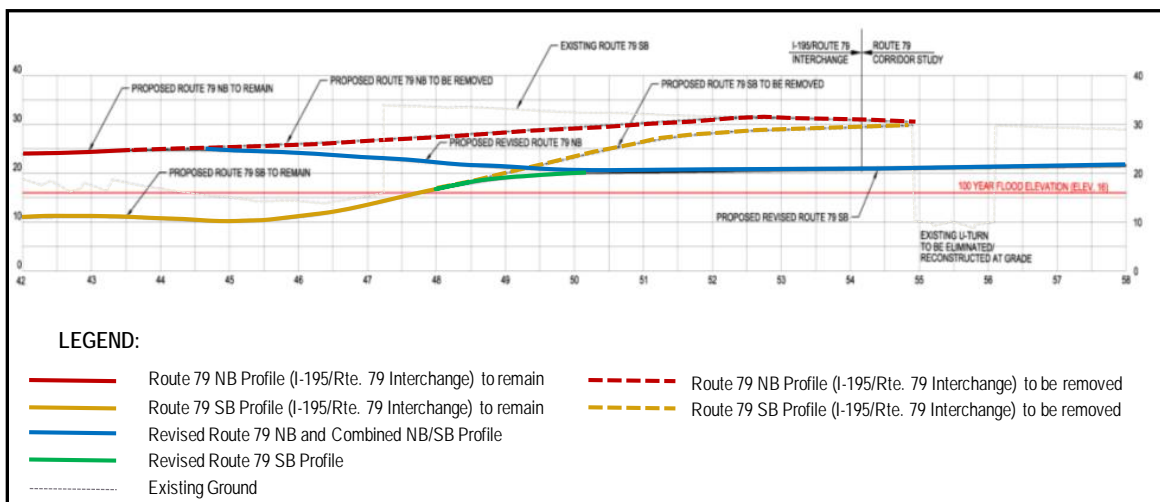


Figure 3.22: Alternative 2 Lowered Route 79 Profile

This alternative would remove Davol Street East but maintain Davol Street West as a two-way frontage road that would follow the alignment of the current Davol Street West. By eliminating Davol Street East, the off-ramp from northbound Route 79 to Davol Street East near Cedar Street would need to be removed. At the northern project limits near the interchange of U.S. Route 6 with Route 79, the ramp configuration to westbound U.S. Route 6 would need to be modified. Currently, the ramp to U.S. Route 6 comes from Davol Street East. In the proposed configuration, the ramp would need to be realigned to depart from northbound Route 79.

Exclusive turn lanes would be provided at all east-west cross streets (Turner Street, Fall River Depot Station driveway, President Avenue and Cory Street) and all cross streets would also be two-way roads. Turner Street and Cory Street would provide one lane in each direction, while the Fall River Depot Station driveway connection would provide one lane eastbound and two

lanes westbound. Fall River Depot's parking lot would also have right-in right-out access to northbound Route 79 via Pearce Street. President Avenue would provide two lanes in each direction. In the westbound direction, dual left-turn lanes would be provided along with an exclusive through lane and an exclusive right-turn lane. Southbound Lindsey Street would be dead-ended just before President Avenue. Elimination of the conflict between southbound Lindsey Avenue and President Avenue traffic would not only improve vehicular safety at this high crash location, but would also make it safer for pedestrians crossing President Avenue mid-block. Right turns from westbound President Avenue to northbound Lindsey Street would be maintained.

Access between Brightman Street and Route 79 would be reinstated. The existing constraint of the Brightman Street/Davol Street East intersection located in the immediate proximity to the U-turn ramp, created during construction of the Veterans Memorial Bridge, would be eliminated and this ramp would serve exclusively Brightman Street traffic. In the northbound direction, the right lane of Route 79 would become a right-turn only lane to Brightman Street. West of Lindsey Street, westbound Brightman Street would become an on-ramp to northbound Route 79, forming a third through lane that would become an exit-only lane to U.S. Route 6 at the Veterans Memorial Bridge. Westbound Brightman Street would also provide access to southbound Route 79 by using the U-turn ramp from Brightman Street to Davol Street West and then turning left onto Cory Street for right-turn access to Route 79. From southbound Route 79, vehicles destined for Brightman Street eastbound can turn left onto Cory Street and take Lindsey Street to Brightman Street.

Davol Street West would be formed by the three ramps from eastbound U.S. Route 6, southbound Route 79 and the Brightman Street U-turn Ramp. The U-turn Ramp and the Route 79 ramp would then merge to form one lane while the ramp from U.S. Route 6 would form a second lane. South of Cory Street, these two lanes merge to form one lane southbound to the southern limits of the Focus Area. Davol Street West would provide one lane in the northbound direction within the project limits. No exclusive turn lanes would be provided on the east-west connector roads. Parking would be provided on both sides of Davol Street West.

A 15-foot wide shared-use path would be provided along the eastern side of northbound Route 79 from Turner Street to the existing bike path at Wellington Street, and along the west side of Davol Street West from City Pier to the Brightman Street Bridge. East to west connections for the shared-use path would be provided along Turner Street, the Fall River Depot Station driveway, and along President Avenue. Sidewalks would be provided along the eastern side of Davol Street West, the western side of Route 79, and along the east to west connections where shared-use paths would not be provided.

Currently, the Southeastern Regional Transit Authority (SRTA) Bus Route 2 provides one bus stop within the corridor at Commonwealth Landing. The roadway network provided by Alternative 2 would slightly modify the bus route by detouring buses to Route 79 towards the intersection with Cory Street where they would turn left and head towards Davol Street West, where they would rejoin the current route. An additional stop at Fall River Depot could also be added to the Route's service by extending it to Taylor Street.



Figure 3.23: Alternative 2

3.4.3 Alternative 3 – At-Grade Route 79 with Frontage Roads

Alternative 3 is based on a combination of Alternatives 3B, 3E and 3G and would lower Route 79 to the same elevation as Davol Street East and President Avenue, and realign it adjacent to Davol Street East. It would also provide frontage roads on either side of Route 79 for local access and to process left-turn movements off of northbound and southbound Route 79 by requiring vehicles to take a right turn off Route 79, a left turn onto the frontage road and then a left turn onto a cross street to continue eastbound or westbound. This alternative would begin south of Cedar Street and extend to the ramp from Davol Street East to U.S. Route 6. See Figure 3.24 for a graphic of this alternative. This alternative would also create a sixth additional parcel by removing the existing Brightman Street U-turn and realigning the ramps to free up the land just east of the Brightman Street Bridge.

In this alternative, Route 79 would provide two lanes in each direction and would remove both the Brightman Street and Cedar Street U-turns. No exclusive turn lanes are provided along Route 79, Davol Street West or Davol Street East in this alternative. The east-west cross streets (Cedar Street, Turner Street, Fall River Depot Station driveway, President Avenue and Cory Street) provide only shared lanes at their intersections with Davol Street West, Route 79 and Davol Street East. The east-west cross street near Cedar Street, Turner Street and the Fall River Depot Station driveway are one-way roads. Turner Street is one-way westbound while Cedar Street and the Fall River Depot Station driveway are one-way eastbound. The Fall River Depot station driveway's westbound approach to the intersection with Davol Street East and Route 79 provides one eastbound lane for traffic traveling to Fall River Depot and two westbound lanes providing a left-turn only lane and a right-turn only lane. Fall River Depot has a second driveway onto Pearce Street which has a right-in right-out onto Davol Street East. The east-west cross streets at President Avenue and Cory Street will be two-way. Cory Street will provide one lane in each direction while President Avenue will provide two lanes in each direction.

South of Cedar Street, an off-ramp from northbound Route 79 would form Davol Street East, which would be a one lane frontage road providing local access to the waterfront and Fall River. Davol Street East would end just north of President Avenue where it would end as a right-turn only onto Brownell Street. Because Davol Street East does not extend beyond this point, the ramp to westbound U.S. Route 6 would need to be modified to exit from Route 79 as discussed previously in this section. As in Alternatives 1 and 2, southbound Lindsey Street would be dead-ended just north of President Avenue to remove the southbound to eastbound movements. However, right turns from westbound President Avenue to northbound Lindsey Street would be maintained.

Access between Brightman Street and Route 79 would be improved. In the northbound direction, a right-turn only lane would be added along the right lane of northbound Route 79 which would allow turns onto eastbound Brightman Street. West of Lindsey Street, westbound Brightman Street would become an on-ramp to northbound Route 79, forming a third through lane that would become an exit only lane to U.S. Route 6 at the Veterans Memorial Bridge. Brightman Street vehicles would be able to access southbound Route 79 by taking Lindsey

Street southbound to Cory Street, and then turn left onto Route 79. Brightman Street traffic traveling southbound on Route 79 would exit to Davol Street West, turn left onto Cory Street and take Lindsey Street northbound to Brightman Street.

The ramps from eastbound U.S. Route 6 and southbound Route 79 would be realigned to be as close to Route 79 as possible. Two of the ramps would merge to form one lane that has a T-intersection with Davol Street West. Realigning these ramps would create a parcel near the Brightman Street Bridge for redevelopment but would require that the recently constructed Brightman Street U-turn Bridge be removed.

A 15-foot wide shared-use path would be provided along the eastern side of Davol Street East from Turner Street to the existing bike path at Wellington Street, and along the western side of Davol Street West from City Pier to the Brightman Street Bridge. East-west connections for the shared-use path would be provided along Turner Street, the Fall River Depot Station driveway, and along Cory Street. Sidewalks would be provided along the eastern side of Davol Street West and along the east-west roadway connections where shared-use paths would not be provided.

Currently, the Southeastern Regional Transit Authority (SRTA) Bus Route 2 provides one bus stop within the corridor at Commonwealth Landing. The roadway network provided by Alternative 3 would slightly modify the bus route by detouring buses to Route 79 towards the intersection with Cory Street where they would turn left and head towards Davol Street West, where they would rejoin the current route. An additional stop at Fall River Depot could also be added to the Route's service by extending it to Taylor Street.



Figure 3.24: Alternative 3

3.4.4 Additional Community and Working Group Input

Through coordination with the Working Group and input received at the Public Informational Meetings, it was suggested that the following considerations be reviewed as part of alternatives development. All of these concepts are geographically located near the northern end of the Focus Area and were evaluated at a basic, feasibility level to determine whether they could be included in any of the analyzed alternatives.

3.4.4.1 Provide Sixth Parcel for Redevelopment in Alternative 2

It was discussed during Working Group meetings that it would be desirable to be able to redevelop the land immediately east of the Old Brightman Street Bridge. Alternative 3 would provide a roadway and ramp layout that makes this redevelopment possible. Alternative 3 removes the Brightman Street U-turn, which allows the ramps from Route 79 and U.S. Route 6 to be realigned along southbound Route 79 before tying into Davol Street West at a T-intersection. This realignment creates a sixth parcel for redevelopment immediately east of the Old Brightman Street Bridge.

North of Cory Street, the roadway layout of Alternatives 2 and 3 would be interchangeable. Alternative 2 would create a large parcel north of Cory Street and would maintain the existing ramp configurations from Route 79 and U.S. Route 6. This layout exists because the Brightman Street U-turn ramp would be maintained in this alternative. If this ramp is removed as is shown in Alternative 3, the Route 79 and U.S. Route 6 ramps are able to be realigned, creating a sixth parcel at the Old Brightman Street Bridge. The U-turn ramp is not able to be maintained while realigning the Route 79 and U.S. Route 6 ramps because the new ramp locations would conflict with the existing bridge abutment and pier. The Brightman Street U-turn ramp was recently constructed in 2010 as part of the Veterans Memorial Bridge Project. It would be possible to modify Alternative 2 to incorporate the Route 79 and U.S. Route 6 ramp realignment if removal of the Brightman Street U-turn ramp is determined to be feasible during the permitting process.

3.4.4.2 Provide a Pedestrian Bridge over Route 79

In the Working Group and Public Information Meetings, it was requested to consider feasibility of providing a pedestrian bridge over Route 79 as part of the project. A pedestrian bridge would connect the existing Fall River neighborhoods to the waterfront and would span Davol Street East, Route 79, and possibly Davol Street West. In order to be ADA accessible, the approaches to the pedestrian bridge must provide switchback ramps or elevators to the bridge. The ramps would have a total length of approximately 300 feet. Chapter 4 contains further discussion of feasibility of adding a pedestrian bridge.

3.4.4.3 Convert the Brightman Street U-Turn Ramp to a Pedestrian Bridge

In the Working Group and Public Informational Meetings, it was questioned whether it would be feasible to convert the existing Brightman Street U-turn ramp into a pedestrian bridge over Route 79. This would provide pedestrian and bicycle access from the Brightman Street area to the old Brightman Street Bridge and the waterfront. Chapter 4 contains further discussion of feasibility of this modification.

3.4.5 Federal Highway Administration Review

In December 2013, the Federal Highway Administration (FHWA) reviewed Alternatives 1, 2 and 3 in order to provide input on the alternatives development process. Through this review, it was recommended that Alternative 2 be modified to provide a narrower cross-section and smaller intersections along Route 79. It was also recommended that Davol Street West be removed or shortened. From this input, Alternative 2 – Modified was developed. See Figure 3.25 for a graphic of this alternative.

Alternative 2 – Modified was based on Alternative 2 with the following changes:

- The Route 79 mainline was reduced from three lanes to two lanes in each direction.
- Davol Street West would be a two-way road from President Avenue to the ramps from Route 79 and Route 6, and between Baylies Street and Hathaway Street. These sections of roadway would provide a continuation of Route 6 and would maintain full access to Commonwealth Landing, Bicentennial Park, the Point Gloria Condominiums, and properties off Hathaway Street.
- Through movement along Davol Street West was terminated south of President Avenue, with isolated segments of the former access road being maintained to provide access to existing parcels and businesses.

With a reduced cross-section, pedestrian and bicycle travel time across Route 79 will be reduced. The smaller intersections along Route 79 will improve the visibility of pedestrians and bicyclists and the reduced overall pavement width of Route 79 would aesthetically provide a more pedestrian friendly environment within the corridor. It is anticipated that the reduced cross-section of Route 79 will cause some degradation in traffic operations within the Focus Area.



Figure 3.25: Alternative 2 – Modified