



Urban Design and Universal Access

Prepared for:

Massachusetts Bay Transportation Authority 100 Summer Street Boston, Massachusetts

Prepared by: The VHB/HNTB Team – a Joint Venture 99 High Street, 10th Floor Boston, Massachusetts





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1.0 Executive Summary

Project Overview

Purpose of this Report

Methodology

Scales of Analysis



The South Coast Rail (SCR) project is a once in a generation opportunity to approach station area development and parking in a holistic manner. SCR will restore **52 miles of commuter rail** service between Boston and the South Coast Region; build **10 new stations**; and reconstruct **two existing stations**. SCR will reconnect this long underserved region to jobs while spurring economic vitality and attracting new business and investments.

This report provides recommendations for key outstanding issues at the 10 new stations and seeks authorization required for advancement of design and engineering of these stations toward the 30 percent Design Submission.

The recommendations of this report are presented in three categories:

- 1. Urban Context Recommendations
- 2. Site Context Recommendations
- 3. Platform Access / Egress Recommendations

A comprehensive process was developed to analyze the stations and provide recommendations with a focus on access/egress, connectivity, and safety. The first step looked at the **Urban Context** for the purpose of improving connectivity by analyzing existing conditions, potential future development, and station arrival and departure modes. Next, an analysis of the **Site Context** ensured adherence to specific project aspirations including: transition plazas as place-making, universal accessibility, separation of circulation, and connectivity. Finally, the **Platform** was analyzed for egress and checked for compliance with: NFPA 130, 521 CMR, 780 CMR, ADA, and BCIL agreement.



SOUTH COAST RAIL Executive Summary



Recommendations Summary

The following recommendations are the result of the analysis in this report. Consensus of these solutions from all applicable MBTA departments is critical to the advancement of the station designs.

- <u>North Easton</u>: Provide two pedestrian overpasses for egress code compliance; Apply ramps, stairs, and two elevators for vertical circulation; Locate platform to align with transition plaza and access elements.
- <u>Easton Village</u>: Shorten platform at south end of station to resolve egress conflicts with existing historic structure; Relocate pick-up/drop off from Historical Society parking lot to Mechanic and Oliver Streets and include streetscape design along both streets.
- <u>Raynham Place</u>: Provide two pedestrian overpasses for egress code compliance; Apply ramps, stairs, and two elevators for vertical circulation; Locate platform to align with transition plaza and access elements; Define the edge of new entrance drive bordering potential TOD parcel.
- <u>Taunton</u>: No significant changes made to this station because the FEIS/FEIR concepts already supported a good relationship between the platform and arrival/departure modes; Provide a crosswalk on Arlington Street near the station entrance.
- <u>Taunton Depot</u>: Provide two pedestrian overpasses for egress code compliance; Apply ramps, stairs, and one elevator for vertical circulation; Elevate west side of parking lot using retained fill system to achieve better relation to the station platform; Extend sidewalk from Erika Drive to station to enhance pedestrian experience.
- <u>Kings Highway</u>: Locate the platform and transition plaza to better align with station parking and the pick-up /drop-off area; Improve security and streetscape improvements with new sidewalk connection to Kings Highway.
- <u>Whale's Tooth</u>: Separate ferry and commuter rail parking functions; Locate the pick-up/drop-off for better relation with transition plaza; Provide two transition plazas for better connectivity; Enhanced streetscape along Aucshnet Avenue and Pearl Street; Replace pedestrian bridge to Clasky Common.
- <u>Freetown</u>: No significant changes made to this station because the FEIS/FEIR concepts already supported a good relationship between the platform and arrival/departure modes; Reallocate 1600 feet of sidewalk from Section 61 findings to connect with sidewalk that currently ends at the South Main Street bridge.
- <u>Fall River Depot</u>: Provide at-grade parking solution rather than structured parking; Sloped sidewalks at Pearce and Turner Streets; Create curbcuts that coordinate with Route 77 Boulevard plan.
- <u>Battleship Cove</u>: Provide two transition plazas; Sloped sidewalk from the Water Street Connector ramp; Enhance streetscape along Water Street.

South Coast Rail Corridor Map

2.0 Introduction

Project Overview

When complete, SCR will have restored over **52 miles of commuter rail** service between Boston and the South Coast Region; built **10 new stations** (North Easton, Easton Village, Raynham Place, Taunton, Taunton Depot, Kings Highway, Whale's Tooth, Freetown, Fall River Depot, and Battleship Cove); reconstructed **two existing stations** (Canton Center and Stoughton); and is anticipated to have catalyzed economic development for a long underserved region of the Commonwealth.

According to the *Corridor Plan*, the success of the SCR project will be measured by the economic development of the communities in which stations are located; the enhancement of citizen's quality of life; and the improvement of the environment at both the local and regional scales.

Accommodating multiple modes of arrival to the stations; enhancing connectivity to the broader community; and developing stations that are universally accessible and code compliant are all prime foci of SCR station design in an effort to optimize the outcomes of the project. As economic development is a key driver of the project, redevelopment of areas surrounding the stations is likely. Therefore urban design, another key dimension in the planning and design of stations, considers both the existing urban context and as well the Vision Plans for Transit Oriented Development (TOD) so that the stations continue to be an asset for the community.

Timeline

Purpose of this Report

This report provides recommendations for key outstanding issues at the 10 new stations and seeks authorization required for advancement of design and engineering of the stations toward the 30 percent Design Submission. This report is not intended to offer final detailed design solutions. Rather, it is a critical Preliminary Design Phase refinement step focused on access/egress, connectivity, and safety. The ultimate goal is to get all applicable MBTA departments to approve the recommendations in this report or come to a consensus on an alternate solution so that the PM/CM team can proceed with design development drawings.

The recommendations in this report are presented in three categories:

1. Urban Context Recommendations

All 10 new stations were evaluated and optimized. This macroscale analysis was aimed at access and connectivity by aligning station design with existing land uses and circulation; anticipating future TOD; and accommodating multiple modes of travel.

2. Site Context Recommendations

Site context is the interface between urban design and platform access/egress requirements. This scale of analysis is important in ensuring full connectivity to areas beyond the boundary of the station site. Creation of a "kit of parts" defined specific project aspiration, such as the "transition plaza", and made sure each part was applied across all stations. The result is a refinement of the FEIS/FEIR layouts and recommended solutions for each station.

3. Platform Access/Egress Recommendations

An accessibility and egress reviewed ensured code compliance and safety at all stations.

Three SCR stations have center island platforms: Taunton Depot, Raynham Place, and North Easton. A center island platform type creates a need for grade-separated crossings. Given the topography of the three SCR stations, these crossings will all be pedestrian bridges over the track. Vertical circulation must be provided for each bridge in the form of stairs, ramps, and elevators. There are multiple possible configurations of the vertical circulation elements. Four possible configurations were developed for the purposes of comparison. Regardless of the ultimate mix of components, it is crucial that a unified direction be reached among all department stakeholders.

Yawkey Commuter Rail Station

Basis of Analysis

Analysis and Recommendations

The FEIS/FEIR station layouts were appropriate for environmental and regulatory compliance, and provided a basis for general functionality and future design development. At this phase of the project, the PM/CM team is addressing in more depth urban design and egress design criteria. A three-step process analyzed the **Urban Context**, **Site Context**, and **Platform Access/Egress** at each station site. The resulting recommendations address code compliance, universal accessibility, connectivity, and maximizing a multi-mode, non-auto dependent site access.

The Urban Design and Access/Egress recommendations offered in this report resulted from the review of many documents including: the FEIS/FEIR, a draft Code Summary Report issued by AKF Group, Chapter 10 of the draft Design Criteria, municipal planning documents, and the Corridor Plan. Input from meetings with the departments of MBTA System-Wide Accessibility, Public Safety, and Railroad Operations, as well as coordination amongst the PM/CM team, also factored into the station design recommendations.

SOUTH COAST RAIL Introduction

3.0 Methodology

Step 1: Urban Context

Existing contexts, future considerations/ vision plan analysis, and ridership projections were examined at a macroscale to facilitate access and connectivity by aligning station access and egress with existing land uses and circulation patterns; anticipating future TOD projects; and designing stations that accommodate multiple modes of arrival and departure.

Providing for multiple modes of travel is a critical dimension of connectivity that helps to ensure a resilient, non automobile centric transit network. Conversations with the MBTA provided a basis for establishing mode hierarchy for commuter rail stations. The arrival and departure modes are listed in order of importance:

- Paratransit
- Pedestrian
- Bicycle
- Public Transportation
- Automobile

Recommendations include increasing security and safety; enhancing passenger experience; improving streetscape, wayfinding, and signage; and incorporating the natural environment into station design.

Sample Existing Context

Rearing Commons Rearing Rearing Commons Rearin

Sample Future Considerations

Sample Station Ridership Projection Diagram

Walking / Park and Ride Station

Step 2: Site Context

Site context is the interface between the urban context and platform access/egress requirements. This scale of analysis is important in ensuring full connectivity to areas adjacent to the station sites.

Adherence to specific project aspirations was a crucial part of developing station recommendations. These objectives were outlined in the draft Design Criteria and were used to measure the performance of the FEIS/FEIR layouts. The diagram to the right works as a 'kit of parts' for the analysis, highlighting areas of opportunity where optimization could occur. For the purpose of this report, the many elements that comprise the 'kit of parts' are grouped into four categories: transition plaza, universal accessibility, separation of circulation, and connectivity.

'Kit of Parts' Diagram for Site and Platform Analysis

Transition Plaza: The transition plaza is the primary driver for optimizations to the FEIS/FEIR layouts. The transition plaza is envisioned as a site hub where a number of station amenities are concentrated, and also acts as a transition zone between the multiple modes of arrival and the commuter rail platform. Therefore, strategically locating the transition plaza is a primary objective. The first order of consideration is proximity to the pick-up/drop-off zones for transit and accessible parking. The transition plaza must also serve as a visual threshold for the community, signifying an entrance to the platform. Given this importance, the transition plaza should be a contextually sensitive response by station in its final design.

Universal Accessibility: A fundamental component of universal accessibility is providing systemwide equitable access to all people, regardless of ability. Therefore, the PM/CM team analyzed points of access and egress in order to optimize the accessibility of both the site and the platform. Platform accessibility and emergency egress are the primary focus of this report, particularly as related to center island platforms. Passenger experience is greatly impacted depending on configuration of access/egress components.

Separation of Circulation: All modes of site circulation (pedestrian, bicycle, transit, and automobile) should be separately delineated to the greatest extent possible to insure maximum safety and circulation at the stations. The PM/CM team analyzed circulation paths to minimize conflicts and optimize pick-up/drop-off zones with relation to the transition plaza.

Connectivity: Urban design is the art and science of shaping a community's public realm. The public realm is not a series of discrete buildings, but rather a system of interconnected pathways and places. With that in mind, the PM/CM team analyzed vehicular and pedestrian connectivity on primary approaches to stations to optimize the safety and experience of passengers moving to and from the adjacent communities.

Step 3: Platform Access/Egress

An analysis for egress code compliance, accessibility, and alignment with transition plazas was conducted on platform layouts. This process yielded three side platform access types and one center island platform type, which were enhanced by recommendations that aim to highlight the specific character of each station type, while maximizing passenger experience.

Platform access/egress use NFPA 130, 521 CMR, 780 CMR, ADA and BCIL as a basis for code compliance analysis.

The following NFPA 130 sections apply to SCR stations¹:

Remote Means of Egress = 2 minimum (Section 5.5.3) Travel Distance to Point of Egress = 325 feet maximum (Section 5.5.6.1.1) Common Path of Travel² = 87.5 feet maximum (Section 5.5.1.4) Evacuation Time³ = 4 minutes to evacuate platform (Section 5.5.6.1) / 6 minutes to evacuate station to a point of safety (Section 5.5.6.2)

1. It is recommended that an advisory opinion be obtained from NFPA regarding egress elements prior to finalizing design approach.

2. The 87.5' common path of travel distance permitted is based on the assumed length of one train car. If train cars differ in size, the common path of travel will be impacted.

3. Evacuation time will vary by occupant load, width of station elements (stairs, ramps, elevators, etc.), and length of travel required of occupants. This report does not model evacuation times under various scenarios. Rather, the report provides potential configurations from which models can be developed once a final direction is decided upon.

Side Platform Access Types:

An analysis of site conditions and FEIS/FEIR drawings identified three typical access configurations for side platform stations. These stations were generally easier to optimize than center-island platforms stations, with only minor modifications needed to the FEIS/FEIR drawings at most stations. The diagrams below provide the basis for refining and strengthening site connectivity and code compliance.

Two End Access Platform

Step 3: Platform

Center-Island Configuration Options:

The center-island platforms at Taunton Depot, Raynham Place, and North Easton require additional attention compared to side platforms, due to the need for grade-separated crossings to access the platforms. These crossings will all be pedestrian bridges over the track, given the site conditions at the three stations. Vertical circulation must be provided for each bridge in the form of stairs, ramps, and elevators.

There are many possible configurations of the vertical circulation elements. Regardless of ultimate mix of components, it is crucial that a unified direction be reached among all department stakeholders. The PM/CM team developed four prospective configurations for comparison, including options with and without elevators. Pros and cons of each approach led to the recommendation of the Two Elevator Option as a basis for center-island platform access and egress.

Options with Elevators

Four Elevators:

This option maximizes the usable platform space and creates a layout that is largely free from visual obstructions. However, this option presents two primary challenges:

1) An inability to centralize access to the transition plaza, therefore, increasing remoteness to paratransit and accessible parking

2) It may not be egress code compliant. NFPA 130 allows elevators to be used as a means of egress, while 780 CMR does not. The AHJ should be consulted for approval/opinion prior to commencing final design work.

Two Elevators:

This option balances many of the competing requirements on the platform. A mix of ramps, stairs, and elevators provides universal accessibility, while reducing the visual and safety barriers created by the no elevator /no end of platform egress option. It also allows the transition plaza to be centralized, creating a user-friendly and accessible entrance to the platform. Finally, it reduces structural maintenance by having only one ramp, and reduces the cost of elevators from the option above.

Options without Elevators

No End of Platform Egress:

This option is undesirable for several reasons. First, having only ramps for accessible egress presents challenges for passengers with certain mobility limitations, and works against the goal of universal accessibility. Second, having two ramp structures occupies a large portion of the platform, creating visual barriers and potential safety concerns. Lastly, two ramp structures increase structural maintenance demands.

4.0 STATIONS

4.1 North Easton

Station Narrative:

North Easton Station is in a suburban area off of Washington Street (Route 138), right on the Stoughton/Easton town line. Situated at the rear of Roche Brothers Plaza, the station has ample parking to serve the commuters of this park and ride dominant station.

The Vision Plan suggests that over time the area surrounding the station may be redeveloped into a mixed-use neighborhood. In the near-term, the Vision Plans suggest that the area could support 125 new housing units. Over the longterm, structured parking could replace surface lots allowing for even more development of the existing shopping center, creating a pedestrianfriendly, mixed-use center. The addition of sidewalks on Washington Street, the primary pedestrian corridor, will better link the site with the wider community.

A center-island platform at this station creates a need for grade-separated crossings. Consensus on the configuration of access/egress components is crucial to advancing the station design. Of the four alternatives presented in Chapter 3 Methodology, the two elevator option is recommended for this station.

South Coast Rail Corridor Map

Urban Context

Station Type: Park and Ride Dominant

*The model showed no transit ridership. However, the Town of Easton currently has a paratransit program in place that serves elderly and disabled persons, which might easily be extended to provide service to this station. Provisions for this are addressed in the PM/CM recommended solution.

Vision Plan from the "Corridor Plan"

Existing Context

A. Roche Bros. Way provides sidewalks and street trees that will enhance the experience of passengers approaching on foot or bicycle.

B. Washington Street is the primary pedestrian approach and access point to the station site. The street currently lacks sidewalks.

C. The Vision Plan suggests that the area could support 125 new housing units to supplement current retail, medical, and office uses.

D. Over the long-term, structured parking could replace surface lots allowing for even more development of the existing shopping center, creating a pedestrian-friendly, mixed-use center.

Future Considerations

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Urban Context Recommendations for North Easton:

1. Strengthen pedestrian access and connectivity with new crosswalk, pedestrian phase and controls added to signal systems at Roche Bros. Way and Route 138 and Union Street at Route 138.

2. Provide sidewalk on Route 138 from Roche Bros. Way to Union Street to increase pedestrian connectivity.

Site Context

Context Diagram

Engineering Plan

Station Key

Site Context Recommendations for North Easton:

- 1. Shift platform north to centralize transition plaza and vertical circulation with primary parking and accessible parking.
- 2. Design for future connections to potential development north and east of the station.
- 3. Consider two way traffic on primary site entrance and split parking field to keep exiting traffic away from passing transition plaza.

Platform (Access / Egress)

Platform Recommendations for North Easton:

1. Provide two pedestrian overpasses for egress code compliance; apply ramps, stairs, and two elevators for vertical circulation. The two elevator layout offers a balanced solution for access/egress on the center platform, and the mix

- of vertical circulation elements provide universal accessibility, while reducing the visual and safety barriers.
- 2. Design for elevators that provide pass through circulation (2 doors).

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4.2 Easton Village

Station Narrative:

Located in Easton's Ames Historic District, Easton Village Station has the Ames Shovel Shop complex and H.H. Richardson's Old Colony Railroad Station as neighbors. This presents both challenges and opportunities for the new station, from both planning and design perspectives. For example, the presence of the historically significant train station which houses the Easton Historical Society, requires careful consideration in the layout of the new station, particularly when locating the canopy structures. This context, however, also presents a great design opportunity, that, if handled correctly, could result in a compelling asset for the town. Unlike many other stations along the SCR - where substantial redevelopment is anticipated - this station's context is largely in-place and is unlikely to change significantly.

From a planning perspective the most challenging issue is locating a full high level side platform on the site. The FEIS/FEIR drawings show a full-length 800-foot platform, but this presents egress code complications at the southern end of the platform where an Ames Shovel Shop building near the tracks allows no room for an egress route. The pick-up/dropoff area, located remotely from the platform in the lot currently used by the Easton Historical Society, presents another challenge. Separated from the transition plaza, the FEIS/FEIR configuration does not offer an adequate pick-up/drop-off area for those with mobility impairments. As a walking dominant station with a number of kiss and ride passengers, solving this issue is critical to the success of this station.

The recommended solution proposes a shorter 750-foot platform to solve the code compliance issue and centralizes a transit pick-up/drop-off location on Oliver Street, while locating the kiss and ride spots in the shoulder of Mechanic Street or other location to minimize congestion in the Historical Society's parking lot.

South Coast Rail Corridor Map

Urban Context

Station Type: Walking Dominant

*The model showed no transit ridership. However, the Town of Easton currently has a para-transit program in place that serves elderly and disabled persons, which might easily be extended to provide service to this station. Provisions for this are addressed in the PM/CM recommended solution.

Vision Plan from the "Corridor Plan"

Existing Context

A. Oliver Street serves as the primary access to the site for pedestrians from the north, and as the primary vehicle approach for the entire station.

B. The historic Old Colony Railroad Station occupies the northern end of the station site and houses the Easton Historical Society.

C. At-grade railroad crossing on Oliver Street.

D. Sullivan and Mechanic Streets serve as the primary access route for pedestrians from the south and east.

E. Ames Shovel Shop residential complex abuts station site.

Urban Context Recommendations for Easton Village:

1. Landscape elements should play a major role in framing views, highlighting historical assets, and minimizing impact of new station.

2. Connection to kiss and ride via Mechanic and Oliver Streets.

3. Enhanced streetscape design and traffic calming measures along Oliver Street and/or Mechanic Street should be included with any solutions for drop-off/pick-up involving these two streets.

Site Context

those with mobility impairments.3. Design modest transition plaza at Oliver Street.

Platform (Access / Egress)

Platform Recommendations for Easton Village: 1. Provide 750-foot platform to resolve egress conflict with existing historic structure, while still allowing for all train coaches to be accessed from the platform. 2. Provide an access ramp for easy access by residents of the Ames Shovel Shop complex.

4.3 Raynham Place

Station Narrative:

Located off of Route 138 at the site of the former Raynham-Taunton Greyhound Park, the Raynham Place Station site is a prime target for TOD. The Vision Plan shows that Raynham Place could be among the most densely redeveloped station sites along the SCR corridor. Ample parking and easy access to regional highways would enable park and ride commuters to take full advantage of this station. However, the site is removed from the main roadway resulting in poor visibility and access complexities, so wayfinding signage will be a very important element.

A large expanse of open pavement at this site creates the need for streetscape improvements to define the new driveway from Route 138 to the station. Establishing the route requires coordination with the property owner and landscape architects to set the appropriate border on the south side of the potential redevelopment.

A center-island platform at Raynham Place creates a need for grade-separated crossings. Consensus on the configuration of access/ egress components is crucial to advancing this station design. Of the four alternatives presented in Chapter 3 Methodology, the two elevator option is recommended for this station. Additionally, shifting the platform south by 200-feet is recommended to align better with the transition plaza.

Urban Context

Station Type: Park and Ride Dominant

Vision Plan from the "Corridor Plan"

South Coast Rail Corridor Map

Existing Context

A. Boundary of existing site is not well defined. Streetscape should be used to define the border of the entrance drive. Curb cuts should also be considered to create connection points to future TOD work.

B. The intersection of Broadway, Robinson Street, and the station site entrance will be the primary arrival point to the station. The driveway and intersection design must consider all modes.

C. Primary pedestrian and vehicle access to the site will be from Broadway (Route 138).

Urban Context Recommendations for Raynham Place:

1. Strengthen pedestrian access and connectivity by enhancing streetscape along station driveway to Route 138.

2. Intersection improvements at Route 138 to mitigate pedestrian-vehicle conflicts.

3. Station layout should anticipate future TOD by setting the tone for the edge of the site and providing a landscape buffer and pedestrian access.

Stations - Raynham Place SOUTH COAST RAIL 20

Site Context

Context Diagram

Engineering Plan

Station Key

Site Context Recommendations for Raynham Place:

1. Shift platform south to centralize transition plaza and vertical circulation with primary parking and accessible parking.

2. Consider making primary circulation path to transition plaza at end of parking field one way to prevent exiting vehicles from passing directly by plaza.

Platform (Access / Egress)

3D Diagram of Platform Access / Egress Elements

Platform Access/Egress Plan

Platform Recommendations for Raynham Place:

1. Provide two pedestrian overpasses for egress code compliance; Apply ramps, stairs, and two elevators for vertical circulation. The two elevator layout offers a balanced solution for access/egress on the center platform. The mix of vertical circulation elements provide universal accessibility, while reducing the visual and safety barriers.

2. Design for elevators that provide pass through circulation (2 doors).

4.4 Taunton

Station Narrative:

Taunton is a side platform station located on a 9-acre site just north of the historic Old Colony Railroad Station. Located just off Route 44, with good access to downtown Taunton and Route 24, the Taunton Station site was identified by the City of Taunton as having great redevelopment potential. The City has begun the process of remediating this brownfield site in anticipation of a future train station and successfully rezoned the site to encourage TOD projects. Located within walking distance of the downtown, the station and any redevelopment is anticipated to strengthen pedestrian linkages to nearby destinations.

The existing residential neighborhood to the west of the station and nearby downtown Taunton will support a large number of pedestrian passengers, making Taunton Station a walking/park and ride co-dominant station type. Adequate connections to the existing sidewalk network is crucial. Adding to the potential of the site, a developer is currently working on gaining approvals to build a residential project on parcels adjacent to the station site. Maintaining a dialogue with the developer will be important to ensure a successful integration of the two projects, especially as it is assumed the housing project will be completed prior to station construction.

A crosswalk is recommended on Arlington Street to connect the station to the existing sidewalk network. Otherwise, the PM/CM team believes no significant changes to the FEIS/FEIR layout are required at this time, as a good relationship between the platform and arrival departure modes was shown in the FEIS/FEIR. However, the separation between the pick-up/drop-off circulation and the parking remains an item under development.

South Coast Rail Corridor Map

Urban Context

Ridership Analysis

Station Type: Walking / Park and Ride

Vision Plan from the "Corridor Plan"

Existing Context

A. The Arlington Street corridor is the primary access route for pedestrians approaching the station site.

B. Arlington Street is the primary approach for vehicles.

C. A large portion of ridership is expected to reach the station on foot. A majority of that traffic would originate from the residential neighborhoods and downtown which are west of the station site. No crosswalks exist along Arlington Street near the station site.

D. A residential project is in development on parcels adjacent to the station site. It is expected to be built before the station.

<u>Urban Context</u> <u>Recommendations for</u> <u>Taunton:</u>

1. Pedestrian and entrance improvements from Route 44 along Arlington Street for better access and connectivity.

2. Use landscape features at southern end of site to frame view corridors along Arlington Street.

3. Coordinate with private developer to strengthen pedestrian access and connectivity, and enhance streetscape along Arlington Street.

4. Upgrade intersection at Arlington and Dean Street to include pedestrian phase and new pedestrian controls.

Site Context

Context Diagram

Engineering Plan

Station Key

Site Context Recommendations for Taunton:

1. Provide a pedestrian crosswalk on Arlington Street to help mitigate pedestrian-vehicle conflicts.

- 2. Grade site such that transition plaza, parking lot and platform are all flush.
- 3. Consider improving primary circulation path.

Platform (Access / Egress)

Platform Access/Egress Plan

Platform Recommendations for Taunton:

1. No significant changes made to this platform because the FEIS/FEIR concepts already support a good relationship between the platform and arrival/ departure modes.

4.5 Taunton Depot

Station Narrative:

Located in a suburban area off of County Street (Route 140), the Taunton Depot Station site is located behind an existing retail power center. Ample parking and easy access to regional highways would enable park and ride commuters to take full advantage of this station. However, the location of the site results in poor visibility and access complexities, for which wayfinding signage will be a very important element.

The Vision Plan for the surrounding area calls for the addition of multifamily housing units and enhancing connectivity by developing pedestrian and bicycle connections for those living nearby. The pedestrian and bicycle paths connecting to the proposed residential developments are not in the scope of this project. However, new sidewalk along Erika Drive and a walkway connection to the Taunton Gardens apartments will enhance pedestrian access to the station.

A center-island platform at Taunton Depot creates a need for grade-separated crossings. Consensus on the configuration of access/egress components is crucial to advancing this station design. Of the four alternatives presented in Chapter 3 Methodology, the two elevator option is recommended for this station type. Given the topography of the site, however, this station's recommended solution is a slight modification on that theme. It is recommended to elevate the westerly end of the parking lot by up to 8 feet from what is shown in the FEIS/FEIR, using a retaining wall system to support the sides and avoid wetland impacts. With the recommended grade change, minimal vertical circulation is needed on the parking side of the crossing and sloped walkways are able to eliminate the need for elevators on this side.

South Coast Rail Corridor Map

Urban Context

Ridership Analysis

Station Type: Park and Ride Dominant

Vision Plan from the "Corridor Plan"

Existing Context

A. Although adjacent to the site, Taunton Gardens Apartments have poor pedestrian access.

B. The intersection at County Street and Erika Drive is the primary vehicle and pedestrian access point to the station.

C. Sidewalk along Erika Drive does not connect to station site.

D. Although within the 5-minute walking radius, achieving connectivity with the adjacent neighborhood along Plain Street is not feasible due to the location of the track and platforms.

Future Considerations

Urban Context Recommendations for Taunton Depot:

1. Include pedestrian path to the Taunton Garden Apartments to enhance pedestrian connectivity.

2. Use wetlands to enhance ecological function and create buffers to natural environment.

3. Plan for pedestrian connections to future TOD.

4. Extend sidewalk along Erika Drive to connect to the station site.

Site Context

2. Elevate west side of parking lot using retained fill system to create a better relation to the station platform elevation and overpass elevation.

3. Pedestrian bridges should be designed with a longitudinal slope of less than 5 percent and with a minimal number of piers to limit wetland impacts.

Platform (Access / Egress)

Platform Access/Egress Plan

4.6 Kings Highway

Station Narrative:

Kings Highway is a side platform station located within a retail center in New Bedford. Great access to Route 140 makes this station a prime target for TOD and Vision Plan shows that Kings Highway could be among the most densely redeveloped station sites along the SCR corridor. With this redevelopment in mind, the FEIS/ FEIR layout located the platform strictly based on the future development potential of the site. However, this siting partially locates the platform behind an existing retail building, which results in zero visibility of the platform from the rest of the site and poses real safety concerns.

The ridership analysis indicates that this station will be a walking/park and ride co-dominant station type. No new parking would be built for the station, instead, parking would be shared with the movie theatre currently located on the site. While there is adequate parking, there is poor connectivity to the large residential neighborhood to the east of the tracks. The Vision Plan calls for a pedestrian bridge in the future, but it is not currently considered in the scope of this project.

The recommended solution is to slide the platform to the south to better align with the station parking. This would reduce safety concerns by providing more visibility of the platform and would create a better relation between the platform, transition plaza, and modes of arrival. The shift is not significant and is a well balanced approach to siting for existing and future conditions.

Urban Context

Ridership Analysis

Station Type: Park and Ride Dominant

*The model projected no transit ridership at King's Highway. However, the SRTA #8 bus already services the existing shopping center. Provisions for this are addressed in the PM/CM recommended solution.

Vision Plan from the "Corridor Plan"

South Coast Rail Corridor Map

Existing Context

A. The crossing at Tarkiln Hill Road provides the only pedestrian connection for neighborhoods east of the tracks.

B. The station site has excellent automobile access from Kings Highway and Route 140.

C. FEIS/FEIR layout proposed locating the platform behind existing retail.

D. Residential neighborhood with poor pedestrian connectivity to the station site.

E. The proposed station parking will be shared with an existing movie theatre.

F. Potential shuttle service between the airport and the station creates a connection to Martha's Vineyard and Nantucket.

Future Considerations

<u>Urban Context Recommendations</u> for Kings Highway:

1. Enhance pedestrian access and connectivity to site from Kings Highway by developing security and streetscape features between retail stores and track.

2. Provide wayfinding and signage from Kings Highway to help facilitate safe and efficient vehicular trips to the station.

3. Plan for future grade-separated pedestrian crossing as part of future TOD east of the tracks.

Site Context

Context Diagram

Engineering Plan

To Boston

6753+00

2753+00

Platform Access Platform Egress Transition Plaza

Station Key

Track

Platform

Ramp Stair

Elevator

Bike Storage Accessible Parking

Sloped Sidewalk

Park and Ride

Public Parking Route

Transit / Paratransit Route

Pedestrian/Bicycle Access

Section 61 Improvements

Common Path of Travel (87.5 feet Max. NFPA 130)

(Accessible) Path of Egress

Pick-up / Drop-off Area

Site Context Recommendations for Kings Highway: 1. Locate the platform and transition plaza to better align with station parking and the pick-up/drop-off area, and mitigate security concerns with locating the platform behind existing retail stores.

Platform (Access / Egress)

3D Diagram of Platform Access / Egress Elements

Platform Access / Egress Plan

4.7 Whale's Tooth

Station Narrative:

Whale's Tooth is a side platform station located in an urban setting in New Bedford. The site is on Acushnet Avenue at the existing Whale's Tooth parking lot. In anticipation of the commuter rail project, the City of New Bedford constructed the surface parking lot to be shared between commuter rail and intermodal connections, including ferry service. The site is currently designated as a mixed-use TOD and intermodal site, but has not seen significant movement on these initiatives.

Despite its central location, the station is relatively isolated from surrounding neighborhoods. The site is in close proximity to the Hick's-Logan-Sawyer redevelopment and the Clasky Common neighborhood to the west of Route 18, but is isolated from them because of an underdeveloped streetscape and a pedestrian bridge over Route 18 that does not meet accessibility codes. With a large number of projected riders arriving by walking, biking, or using transit, the pedestrian and transit connections take on heightened importance here. Reconstruction of the Route 18 pedestrian bridge via *Way Forward Legislation* would better link the station with the residential neighborhood around Clasky Common.

Reconfiguration of the existing Whale's Tooth parking lot is recommended to separate the ferry and commuter rail parking functions and to shift the pick-up/drop-off closer to the transition plaza. A second transition plaza is recommended at the north end of the site to better connect the Clasky and Hick's-Logan-Sawyer neighborhoods with the station.

Urban Context

Station Type: Walking / Park and Ride

Vision Plan from the "Corridor Plan"

Existing Context

Hick's-Logan-Sawyer project Α. is a 150-acre redevelopment of a historic mill district to the north of the site. With construction currently underway, future development will increase pedestrian traffic from the north.

B. The existing Route 18 pedestrian bridge planned to be removed would result in a loss of connectivity to the Clasky Common neighborhood.

C. The Whale's Tooth station site is located just outside of the downtown and is adjacent to residential neighborhoods and the working waterfront. The site is relatively isolated and is not well connected to the surrounding context.

Future Considerations

Urban Context Recommendations for Whale's Tooth:

1. Queue Route 18 pedestrian bridge rebuilding for better pedestrian connectivity.

2. Use streetscape enhancements along Pearl Street to strengthen sense of safety and arrival.

3. Streetscape enhancement along Acushnet Avenue from Wamsutta Street to southern end of ferry parking to enhance pedestrian experience.

4. Set the stage for future TOD.

Site Context

Context Diagram

Engineering Plan

Station Key

Site Context Recommendations for Whale's Tooth:

- 1. Provide a pedestrian focused transition plaza to the north for passengers arriving from the Clasky Common and Hick's-Logan-Sawyer neighborhoods.
- 2. Separate commuter rail parking from ferry parking to provide flexibility in fare collection.
- 3. Consider shifting the bus stop and shelter on Acushnet Avenue into the site.
- 4. New sidewalk on the east side of the lot to provide better pedestrian connectivity from platform to locations south of the station.

Platform (Access / Egress)

4.8 Freetown

Station Narrative:

Freetown is a side platform station in the Assonet section of Freetown. The site is located on South Main Street, behind an existing self-storage business. The recently completed Exit 8B Project provides nearby access from Route 24. The surrounding area, which already includes the Stop and Shop Distribution Center, is filled with development potential. Since the FEIS/FEIR was issued, Freetown has passed zoning changes to parcels of land in the immediate vicinity of the station that aim to turn what is now a semi-rural context for this station into a mixed use village district.

Initially envisioned as a park and ride dominant station, the primary impact of the village district development would likely be an influx of pedestrian traffic that is not currently captured in the FEIS/FEIR ridership analysis. While it is expected that the developers or local government would be responsible for any upgrades to infrastructure resulting from the development of the village district, the SCR project could support connectivity to that development.

It is recommended to reallot 1,600 feet of sidewalk from the Section 61 findings to connect with sidewalk that currently ends at the South Main Street bridge over the railroad ROW. The optimized station layout remains largely as shown in the FEIS/FEIR, with the addition of sloped sidewalks to meet egress code requirements.

South Coast Rail Corridor Map

Urban Context

Ridership Analysis

Station Type: Park and Ride Dominant

*The model projected no transit ridership at Freetown. However, the SRTA #2 bus in Fall River runs in close proximity to the station. Extending this line offers possibility of including transit connections at Freetown. Provisions for this are addressed in the PM/CM recommended solution.

Vision Plan from the "Corridor Plan"

Existing Context

A. South Main Street is currently a two-lane road that narrows in width north of the site, which connects to Route 24, both north and south of the station site.

B. Wetlands to the north of the site illustrates potential constraints to the station design.

C. There is a 20-foot grade change from the station entrance on South Main Street to the Transition Plaza with an additional 10-foot change to the platform.

D. The alternative truck route in the Vision Plan would help balance increased vehicular traffic.

E. The proposed TOD would increase pedestrian traffic from/to future mixed use village center development.

Future Considerations

Urban Context **Recommendations for** Freetown:

1. Install sidewalks along South Main Street from the station entrance south to join with recently installed sidewalks ending at the railroad bridge.

2. Use wetlands as an opportunity to enhance ecological function and showcase sustainable design solutions.

Site Context

Context Diagram

Engineering Plan

To Boston

Platform (Access / Egress)

Platform Recommendations for Freetown:

1. No significant changes made to this station because the FEIS/FEIR concepts already support a good relationship between the platform and arrival/ departure modes.

4.9 Fall River Depot

Station Narrative:

Fall River Depot is an urban station located at the site of the former train station, one mile north of downtown Fall River at Route 79 and Davol Street. The site presents a challenging context that features a nearly 20-foot difference in elevation from the station's side platform to the adjacent Pearce and Turner Streets.

At the time of the FEIS/FEIR submission, the City of Fall River envisioned a multimodal transportation center with a commuter parking structure and mixed-use TOD redevelopment at this site. While the city has built a new transportation facility in another area of the city since the submission of environmental drawings, the station will retain a robust transit presence that needs to be addressed. Moreover, due to the parking structure concept, the station layout in the FEIS/FEIR fragments many of the access and egress elements across the site, limiting accessibility and connectivity. While ostensibly a center access type station, the station lacks true cohesion of its parts. The goals and ambitions of the project in terms of accessibility, accommodating multiple modes of arrival, and connectivity necessitate a rethinking of the organization of station elements.

The recommended design modifications at Fall River Depot includes an at-grade parking solution in place of structured parking. Sloped sidewalks are proposed to Pearce and Turner Streets to improve connections to the neighborhood and meet egress code requirements.

South Coast Rail Corridor Map

Urban Context

Station Type: Walking / Park and Ride

Vision Plan from the "Corridor Plan"

Existing Context

A. A large elevation change presents a difficult and complex context for connectivity and accessibility from Pearce Street.

B. The residential neighborhood to the east of the station site will act as the primary approach for pedestrians.

C. The configuration of Route 79 as a limited access road currently presents a physical barrier for accessing the waterfront.

D. A large elevation change presents a challenge for connectivity and accessibility from Turner Street.

E. Primary vehicular access to the station is from Davol Street, which runs one-way south to north.

F. The realignment of Route 79/Davol Street as a boulevard would enhance pedestrian connections between the station, waterfront redevelopment, and recreation area. Pedestrian traffic is expected to increase.

G. Route 79/Davol Street Boulevard realignment would offer improved direct vehicular access to the station site.

Future Considerations

Urban Context Recommendations for Fall River Depot:

1. Design edges of station site with landscape improvements that support future TOD framework.

2. Locate parking entrance to align with the future boulevard intersection.

3. Improve existing street pedestrian crossings.

Site Context

Context Diagram

Engineering Plan

Station Key

Provide surface parking rather than structured parking. This configuration preserves flexibility for future TOD, reduces the transit entrance and site slope, and centralizes access/egress elements around a transition plaza.
Provide walkway from North Davol Street with landscape enhancements to align with future boulevard plans.
Provide sloped walkways from Pearce Street and Turner Street to sidewalk at parking lot adjacent to platform.
Provide one way entrance at south end of the site for circulation of transit vehicles.

45 South coast rail Stations - Fall River Depot

Platform (Access / Egress)

Platform Recommendations for Fall River Depot:

 Layout accessible parking, transition plaza, and transit pick-up / drop-off to be centralized with platform and parking.
Revise access and egress points to align with transition plaza and site layout.

4.10 Battleship Cove

Station Narrative:

Battleship Cove Station is located behind the Ponta Delgada monument along Water Street in Fall River. At the time of the FEIS/FEIR submission, the station was envisioned as a platform-only station that would not operate year-round. The station would operate in the warm months of the year only, serving tourists to the downtown area and the Battleship Cove museum.

Given its urban context and the lack of parking, Battleship Cove will be a walking dominant station, with 75 percent of passengers expected to arrive on foot. The site's proximity to the waterfront, downtown Fall River, and a dense residential neighborhood to the south provides the potential to support year-round operation and creates the need for better linkages between these land uses and the station. The recent construction of the Water Street Connector ramp provides additional access to the station, but also requires some design changes to the FEIS/FEIR layout.

Recommended design modifications at Battleship Cove are relatively minor. They include shifting the platform access from the Ponta Delgada plaza to align with the Water Street Connector overpass, and creating a new access from Eagle Street that includes a second transition plaza at the south end of the platform.

Urban Context

Station Type: Walking Dominant

Rt 79 Improvement Project

South Coast Rail Corridor Map

Existing Context

A. Battleship Cove Museum is seen as a draw for riders to Fall River.

B. Water Street is the primary pedestrian access point to and from Battleship Cove and other areas north of the station via Anawan Street.

C. Water Street is the primary vehicular access road, collecting traffic from Interstate 195, Broadway, and Eagle Street.

D. Residential areas to the south of the proposed station are seen as a prime source for riders.

E. Eagle Street is the primary pedestrian access point from the south of the station.

F. Water Street will see increased pedestrian traffic due to growing waterfront and cultural tourism activities.

G. Improved vehicular access to the waterfront from Interstate 195 and Route 79 via the Water Street Connector strengthens potential for future growth and higher demand at the site.

H. New sidewalk along Water Street Connector will improve pedestrian connections to the station from residential neighborhood.

Urban Context Recommendations for Battleship Cove:

1. Enhance streetscape along Water Street from Eagle Street to limit of Route 79 improvement near Battleship Cove.

2. Use wetlands as an opportunity to enhance ecological function and showcase sustainable design solutions.

3. Coordinate platform entrance at northern end of the site with recent work at Ponta Delgada.

Site Context

Context Diagram

Engineering Plan

To Boston

Station Key

Site Context Recommendations for Battleship Cove:

 Two transition plazas to capture pedestrians from Battleship Cove and the south and mitigate the presence of the new Water Street Connector ramp.
Sloped sidewalk to capture pedestrians from Water Street Connector Ramp.

3. Accessible ramp from Water Street at Eagle Street to southern transition plaza.

Platform (Access / Egress)

3D Diagram of Platform Access / Egress Elements

Platform Recommendations for Fall River Depot: 1. Transition plaza at the southern end of the site should be flush with the platform to allow for easy compliance with egress code.

5.0 Endnotes

Abbreviations

- NFPA 130 National Fire Protection Association
- 780 CMR Massachusetts State Building Code
- 521 CMR Massachusetts Architectural Access Board Regulations
- BCIL Boston Center for Independent Living Agreement
- ADA Americans with Disabilities Act
- FEIS/FEIR Final Environmental Impact Statement/Final Environmental Impact Report
- PM/CM Program Management/Construction Management
- SRTA Southeastern Regional Transit Authority
- TOD Transit-Oriented Development
- AHJ Authority Having Jurisdiction
- ROW Right of Way

References

Design Criteria – Contains general architectural and engineering criteria for the MBTA SCR project. These criteria govern the design of the platforms and canopies, site circulation, parking layout, landscaping, and connectivity to the neighborhoods adjacent to the stations. Discussion of sustainability, accessibility, materials and maintenance, level of service (LOS) determination, and egress are intended to ensure an efficient design of passenger circulation and safety, while providing aspirational guidance for the system as a whole.

The Corridor Plan – South Coast Rail Economic Development and Land Use Corridor Plan is the blueprint for maximizing the economic benefit of the rail investment, minimizing sprawl development, and preserving natural resources such as farms, fields, and forests of the South Coast.

Way Forward Legislation – A ten-year financing plan proposed by MassDOT to fund transportation projects.

