

### **3.0 INTRODUCTION**

The long list of alternatives included 10 options to improve transit service between the Hudson-Bergen Light Rail (HBLR) West Side Avenue Station and the western waterfront of Jersey City. The options considered were a Transportation System Management (TSM) Alternative and nine light rail alternatives that extend HBLR service from West Side Avenue to a new terminal station.

For these alternatives, NJ TRANSIT and its consultant team developed conceptual engineering plans. The goal of this effort was to provide enough information and context to allow for refinement and then subsequent screening of the list of alternatives for the project. Using the conceptual planning, the screening evaluated, on a qualitative basis, the comparative benefits and detriments of each alternative to determine the ones that should be considered in more detail and the ones that should be discarded. The alternatives that passed this screening, also known as the short list of alternatives, were then subjected to additional design and evaluation, as discussed in later chapters of this report.

This chapter describes the long list of alternatives, based on the conceptual engineering prepared for the alternatives, and the screening of these alternatives. The screening of the long list of alternatives was undertaken in the summer of 2010 and the results were presented to the public in September and October 2010. The screening resulted in the elimination of six light rail alternatives from further consideration.

### **3.1 DESCRIPTION OF ALTERNATIVES**

#### **3.1.1 TSM ALTERNATIVE**

A TSM Alternative was developed in accordance with the requirements of the Federal Transit Administration's (FTA's) alternatives evaluation process. According to FTA guidance, the TSM Alternative should consist of "the best that can be done for mobility without constructing a new transit guideway."<sup>1</sup> TSM Alternatives are often characterized as low-cost solutions to improve mobility. During the evaluation, the TSM Alternative serves as a baseline condition to evaluate the potential ridership growth from the build alternatives (light rail extension alternatives) as well as to identify the comparative benefits and deficiencies of the build alternatives in terms of engineering, operational, cost, and environmental considerations.

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<sup>1</sup> Federal Transit Administration, [www.fta.dot.gov: http://www.fta.dot.gov/planning/newstarts/planning\\_environment\\_9717.html#21\\_Introduction](http://www.fta.dot.gov/planning/newstarts/planning_environment_9717.html#21_Introduction); accessed January 28, 2011.

Three options for a TSM Alternative were identified.

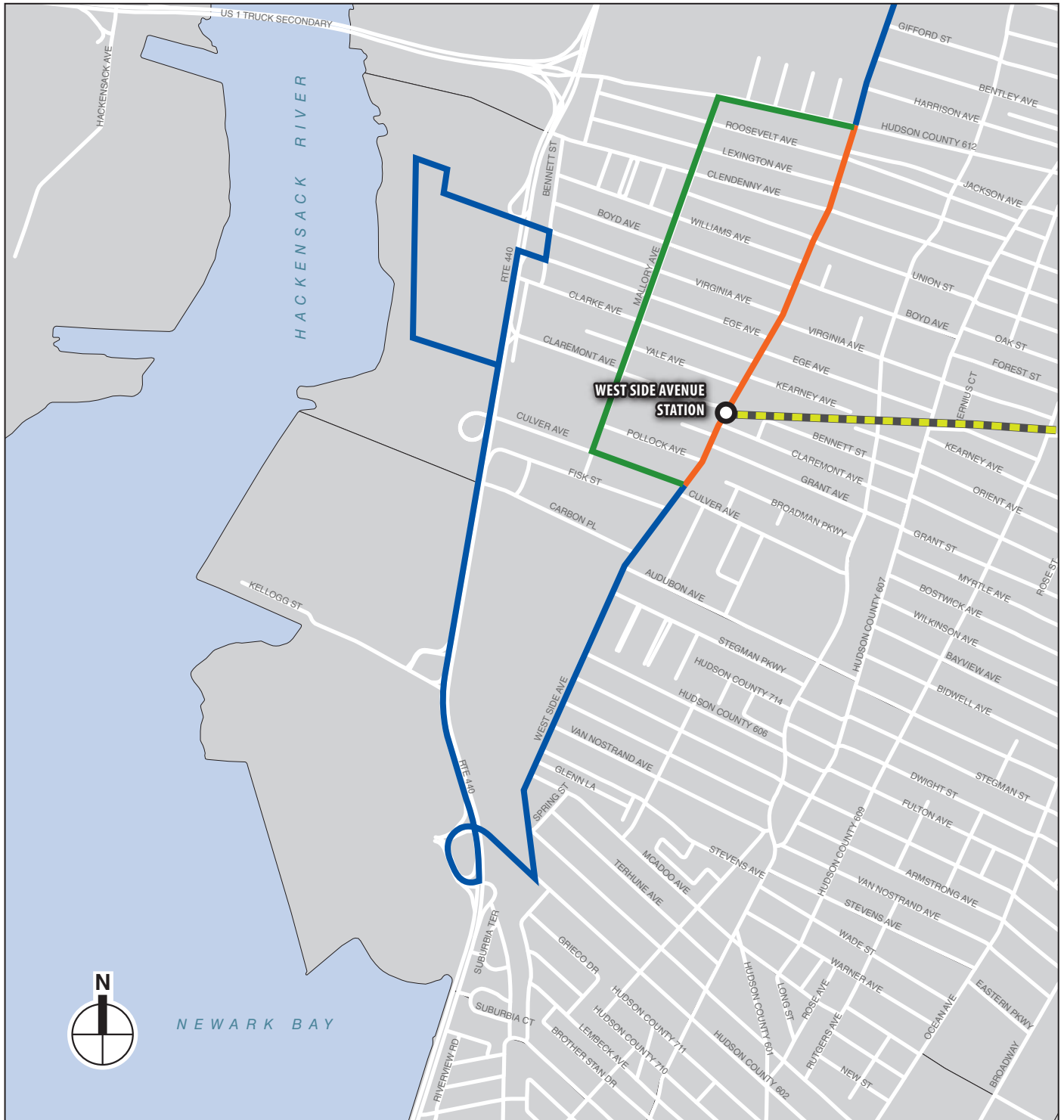
- **TSM Alternative 1: Realigned 440 Shopper Bus Service:** TSM Alternative 1 involves a slight realignment of A&C Bus Corporation's Montgomery and Westside (M&W) 440 Shopper route to serve the HBLR West Side Avenue Station (see **Figure 3-1**). The 440 Shopper provides service between the Journal Square Transportation Center (at Kennedy Boulevard and Sip Avenue) and the Hudson Mall (at Route 440 and Claremont Avenue). Between Communipaw Avenue and Culver Avenue, the route operates on Mallory Avenue. North of Communipaw Avenue and south of Culver Avenue, the 440 Shopper operates on West Side Avenue. The realignment in this alternative would shift service from Mallory Avenue to West Side Avenue between Communipaw and Culver Avenues.
- **TSM Alternative 2: Enhanced Society Hill–Journal Square Bus Service:** TSM Alternative 2 would be an extension of the current Society Hill–Journal Square route, operated by the A&C Bus Corporation. This route currently terminates in front of the Society Hill complex's front gate but would instead be extended to operate through Bayfront (see **Figure 3-2**).
- **TSM Alternative 3: Circulator Bus Service:** TSM Alternative 3 would offer circulator bus service between the West Side Avenue Station and Society Hill by way of Bayfront and New Jersey City University (NJCU) West Campus (see **Figure 3-3**). It is assumed that this new bus service would be implemented and operated by New Jersey Transit (NJ TRANSIT).





Characteristics of the three TSM Alternatives are summarized in **Table 3-1**.

**Table 3-1**  
**TSM Alternatives**

Characteristic	TSM Alternative 1 Realigned 440 Shopper Bus Service	TSM Alternative 2 Enhanced Society Hill– Journal Square Bus Service	TSM Alternative 3 Circulator Bus Service
Current Peak Fleet Required	2 / 4 / 2*	6	N/A
Future Peak Fleet Required	9 / 4 / 4*	10	5
Additional Fleet (including Spares)	8	5	6
Capital Cost	\$2.88 million	\$1.8 million	\$2.16 million
Current Annual Operating Expense	\$0.73 million	\$1.94 million	N/A
Future Annual Operating Expense	\$2.96 million	\$3.24 million	\$1.94 million
Incremental Increase in Annual Operating Expense	\$2.23 million	\$1.3 million	\$1.94 million
* Weekday / Saturday / Sunday and holiday fleet requirements			


Each of the TSM Alternatives would provide for enhanced transit connections between the Bayfront development and the West Side Avenue Station as compared to the No Action Alternative. TSM Alternatives 1 and 2 would modify existing bus routes to serve both Bayfront and the West Side Avenue Station. These alternatives would also link Bayfront with Journal Square and other destinations in Jersey City. TSM Alternative 3 would more closely mirror a potential light rail connection to Bayfront by providing a direct circulator service between the development and the West Side Avenue Station.

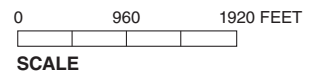


-  Hudson-Bergen Light Rail
-  Current 440 Shopper
-  Realigned Section of 440 Shopper
-  Removed Portion of 440 Shopper




0 960 1920 FEET  
SCALE



-  Hudson-Bergen Light Rail
-  Current Society Hill
-  Realigned Section of Society Hill
-  Bus Stop Location





-  Hudson-Bergen Light Rail
-  Proposed Circulator Alignment
-  Bus Stop Location

0 960 1920 FEET  
SCALE

TSM Alternatives 1 and 2 would require the modification or extension of privately operated bus routes and would increase capital and operating costs for these private bus companies. TSM Alternative 3 would also require a capital investment and annual operating and maintenance costs, but this new service could be implemented and operated by NJ TRANSIT.

While TSM Alternatives 1 and 2 would be viable options to improve transit access to the western waterfront area, TSM Alternative 3 mirrors the light rail alternatives for providing HBLR service to Bayfront and is a service that could be implemented and operated by NJ TRANSIT. Therefore, TSM Alternative 3 has been advanced for ridership forecasting, costing, and other evaluations as the baseline for evaluating the potential benefits and impacts of a potential HBLR extension.

### **3.1.2 LIGHT RAIL ALTERNATIVES**

#### **3.1.2.1 BAYFRONT ALTERNATIVES**

Alternatives 1A, 1C, and 1D would extend HBLR service west toward Route 440 via the former Central Railroad of New Jersey (CNJ) right-of-way. Alternatives 1A and 1C would cross Route 440 to a new terminal within the Bayfront development. Alternative 1D would end at a terminal east of Route 440, with a pedestrian overpass to Bayfront. **Figure 3-4** shows conceptual alignments for Alternatives 1A, 1C, and 1D. More detailed drawings are provided in **Appendix A**.

##### *3.1.2.1.1 Alternative 1A: Elevated Extension to Bayfront with One Station*

Alternative 1A would extend HBLR service from West Side Avenue Station to Bayfront via an elevated rail structure. It would consist of an elevated structure beginning at the existing West Side Avenue Station and extending approximately 2,200 feet to Route 440. When crossing Route 440, the alignment would have two 500-foot reverse curves that bring the right-of-way to within the Bayfront site, and would then continue another 1,360 feet to a new Bayfront Station. In total, Alternative 1A would result in 3,560 linear feet of new alignment.

Alternative 1A would require an interest in property within the block bounded by Claremont Avenue, Mallory Avenue, Culver Avenue, and Route 440 on the former site of Cookson Electronics as well as a small portion of a parking lot associated with an automobile dealership on the west side of Route 440. Alternative 1A would also require an interest in property owned by the City of Jersey City and/or within the northern extent of the Bayfront development. The City-owned property is currently occupied by a Department of Public Works facility, and the Bayfront property is vacant. (It should be noted that the Bayfront and City of Jersey City Master Plans contemplate an HBLR alignment in this area.)

With Alternative 1A, the HBLR tracks would be located on an elevated structure and would pass over Route 440 and local roads. Thus, Alternative 1A would not operate within city streets nor would it impact existing driveways.

##### *3.1.2.1.2 Alternative 1C: Elevated Extension to Bayfront with Two Stations*

Alternate 1C would follow the same alignment as described above for Alternative 1A. However, it would include two stations rather than one. Like Alternative 1A, it would provide a new station within the northern extent of the Bayfront development. It would also provide a station immediately east of Route 440 (Route 440 East Station).

Alternative 1C would require an interest in the same properties as noted above for Alternative 1A. Also, like Alternative 1A, Alternative 1C would not operate within city streets or impact existing driveways.

### *3.1.2.1.3 Alternative 1D: Elevated Extension to Bayfront with Station at Route 440*

Alternate 1D would follow the same alignment from the West Side Avenue Station as Alternatives 1A and 1C, but it would terminate at a new station on the east side of Route 440 (Route 440 East Station). A pedestrian bridge would be constructed as part of this alternative to provide grade-separated access across Route 440 between the new HBLR Route 440 East Station and Bayfront. Alternative 1D would result in approximately 2,200 linear feet of new alignment.

Alternative 1D would require an interest in the same areas of the Cookson Electronics site as Alternatives 1A and 1C. Alternative 1D could also require an interest in small pieces of land and/or air rights within the Bayfront development, the City of Jersey City Department of Public Works property, and/or the adjacent automobile dealership for the pedestrian overpass of Route 440.

As the HBLR tracks and pedestrian overpass would be located on an elevated structure, Alternative 1D would not operate within city streets nor would it impact existing driveways.

### **3.1.2.2 SOCIETY HILL ALTERNATIVES**

Alternatives 2A, 2B, and 2D would extend HBLR service west of its existing terminal to Route 440 and then southward to end near Society Hill. Alternative 2A would travel along the western side of Route 440 while Alternatives 2B and 2D would travel along its eastern side. All alignments assume the future width of Route 440, as anticipated in the planning study currently under way for Route 440 (the Route 440 Study, discussed in Chapter 1). **Figure 3-5** shows conceptual alignments for Alternatives 2A, 2B, and 2D. More detailed drawings are provided in **Appendix A**.

#### *3.1.2.2.1 Alternative 2A: Elevated Extension to Society Hill, West Side of Route 440*

Alternative 2A would extend HBLR service from West Side Avenue Station to Society Hill via an elevated rail structure. Alternative 2A would result in approximately 6,200 linear feet of new alignment. It would consist of new structure beginning at the existing West Side Avenue Station and proceeding west, crossing the widened future Route 440 corridor on a curved viaduct (500-foot minimum radius). A station with an island platform would be located just south of the curved viaduct on the west side of Route 440 (Bayfront Station). The alignment would then continue southward toward Society Hill, crossing over Kellogg Street and the parking area of the Pathmark Shopping Center, and terminating in a new Society Hill Station.

There are two options for the terminal of Alternative 2A. One option would be to turn westward within the Pathmark Shopping Center parking lot and end at the front gate of Society Hill (Option 1). The second option would be to continue southward through the parking lot, staying parallel to Route 440 and ending at Society Hill Drive (Option 2).

Alternative 2A would require an interest in properties both east and west of Route 440. East of Route 440, it would require property within the former Cookson Electronics site. West of Route 440, Alternative 2A would require right-of-way through the City of Jersey City and Bayfront





   Proposed Light Rail Stations

Alternative 1A

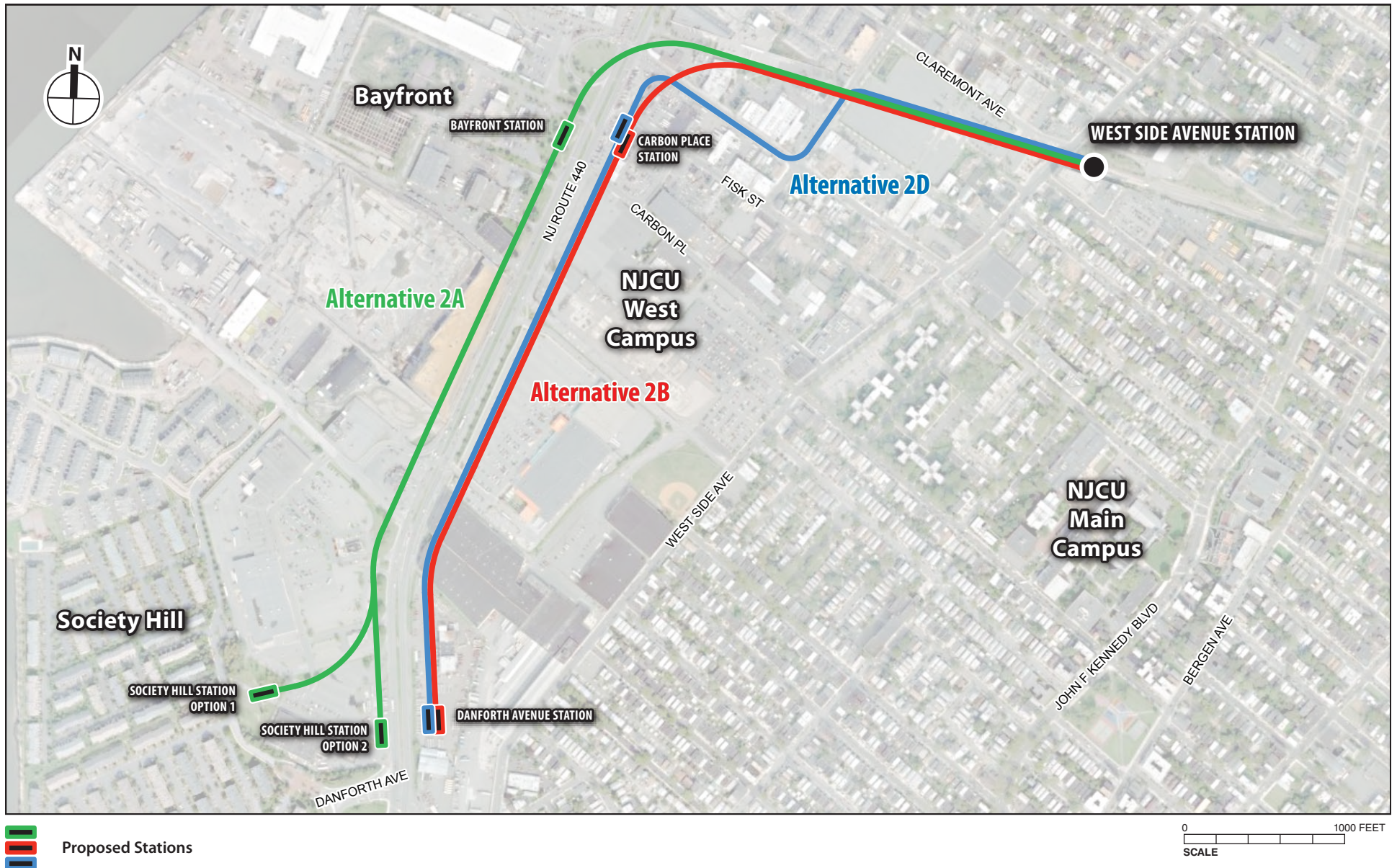


Alternative 1C



Alternative 1D





property, an operating diner immediately south of the Bayfront property, and within the Pathmark Shopping Center parking lot. (It should be noted that the Bayfront and City of Jersey City Master Plans do not contemplate an HBLR alignment at this location.)

With Alternative 2A, the HBLR tracks would be located on an elevated structure and would not operate within city streets or impact existing driveways.

#### *3.1.2.2.2 Alternative 2B: Elevated Extension to Society Hill, East Side of Route 440*

Alternative 2B would extend HBLR service from West Side Avenue Station to Society Hill via an elevated rail structure on the east side of Route 440. From West Side Avenue Station, Alternative 2B would proceed on an elevated structure through the West Side Avenue Station's parking lot and the former Cookson Electronics site. It would then turn south on a 500-foot minimum radius curve to a new station located near Carbon Place on the east side of Route 440 (Carbon Place Station). This new station would be within property planned for redevelopment by New Jersey City University (NJCU) as its West Campus. The alignment would continue southward along the east side of Route 440 from the Carbon Place Station through the Home Depot parking lot and an industrial site. It would terminate at a second station located just north of Danforth Avenue. Alternative 2B would result in 5,700 linear feet of new alignment.

Alternative 2B would require an interest in private properties for most of the new alignment. It would require property within the former Cookson Electronics site as well as approximately 30 feet of right-of-way within the parcels along the eastern frontage of Route 440. This would include the western edge of the NJCU West Campus, of commercial property (including part of the Home Depot parking lot), and of industrial property. (It should be noted that the NJCU West Campus plan does not contemplate an HBLR alignment or station within its property.)

With Alternative 2B, the HBLR tracks would be located on an elevated structure and would pass over local roads and parking lots. Thus, Alternative 2B would not operate within city streets nor would it impact existing driveways.

#### *3.1.2.2.3 Alternative 2D: At-Grade Extension to Society Hill, East Side of Route 440*

Alternate 2D is similar to Alternative 2B as it would run along the east side of Route 440 to a new terminal north of Danforth Avenue. However, Alternative 2D would be at grade, and would operate in local streets between the West Side Avenue Station's parking lot and Route 440, and therefore, would have a less direct route than Alternative 2B. Alternative 2D would result in approximately 5,900 linear feet of new HBLR alignment.

Alternative 2D would extend HBLR service across West Side Avenue on an elevated structure and would then descend at a 2.5 percent grade through the West Side Avenue Station's parking lot to Mallory Avenue. When the alignment reaches Mallory Avenue, it would turn south on a 100-foot minimum radius curve for a street-running alignment. It would proceed in the right-of-way of Mallory Avenue to Culver Avenue, turn west and continue in Culver Avenue to Route 440. East of Route 440, it would turn south through another 100-foot minimum radius curve before straightening out and providing an at-grade station on the east side of Route 440 at Carbon Place. Continuing south, the alignment would pass through the location of the future NJCU West Campus, the Home Depot parking lot, and industrial property. It would terminate at a new station just north of Danforth Avenue.

Alternative 2D would require property interests for the new alignment south of Culver Avenue. This would include 30 feet of right-of-way through the proposed NJCU West Campus, commercial property (including part of the Home Depot parking lot), and industrial property.

The proposed right-of-way would be 30 feet wide through city streets and along the eastern frontage of Route 440. The alignment would be dedicated only to light rail vehicles, meaning that Culver Avenue and Mallory Avenue would be narrowed. Where light rail vehicles would intersect with automobile and truck traffic, safety gates and signals would be provided. It could also be necessary to restrict certain traffic movements or traffic flow patterns to allow for the safe operation of the HBLR extension.

### 3.1.2.3 LINCOLN PARK ALTERNATIVES

Alternatives 3A, 3B, and 3D would extend HBLR service westward to Route 440 and then northward to Lincoln Park. In all cases, the alignments would end south of Communipaw Avenue. All alignments assume the future width of Route 440, as anticipated in the planning study currently under way for Route 440 (the Route 440 Study, discussed in Chapter 1). **Figure 3-6** shows conceptual alignments for Alternatives 3A, 3B, and 3D. More detailed drawings are provided in **Appendix A**.

#### 3.1.2.3.1 *Alternative 3A: Elevated Extension to Lincoln Park, West Side of Route 440*

Alternate 3A would provide an alignment on an elevated structure between West Side Avenue Station and Lincoln Park on the west side of Route 440. The elevated structure would extend west from the West Side Avenue Station across the parking lot and former Cookson Electronics site. It would cross Route 440 on a curved viaduct, bending northward on a 500-foot radius curve. It would reach the west side of Route 440 at the approximate location of Claremont Avenue, and a station (Bayfront Station) would be located just north of the Hudson Mall driveway. The alignment would continue north through the Hudson Mall site to a terminal station (Lincoln Park Station) south of the Route 440 ramps to Routes 1 and 9. Alternative 3A would result in 4,450 linear feet of new alignment.

Alternative 3A would require property interests both east and west of Route 440. East of Route 440, it would require property within the former Cookson Electronics site. West of Route 440, Alternative 3A would require a 30-foot right-of-way through the Hudson Mall property, including multiple buildings that front Route 440. It would also require a right-of-way through commercial parcels to the north and south of the Hudson Mall.

With Alternative 3A, the new HBLR tracks would be located on an elevated structure and would pass over Route 440, local streets, and parking lots. Thus, Alternative 3A would not operate within streets or impact existing driveways.

#### 3.1.2.3.2 *Alternative 3B: At-Grade Extension to Lincoln Park, East Side of Route 440*

Alternative 3B would be an at-grade alignment on the east side of Route 440 using the Cookson Electronics property to avoid effects to local streets near the West Side Avenue Station. Beginning at West Side Avenue Station, Alternative 3B would descend through the West Side Avenue Station's parking lot to Mallory Avenue and travel at grade through the former Cookson Electronics site. East of Route 440, it would turn northward on a 100-foot radius curve and continue at grade along the east side of Route 440. A new station (Bayfront Station) would





be located near Claremont Avenue. Alternative 3B would continue northward at grade, intersecting several city streets in route to its new terminal station at Clendenny Avenue. Alternative 3B would result in approximately 4,800 linear feet of new alignment.

Alternative 3B would require an interest in several properties east of Route 440. In addition to a portion of the Cookson Electronics site, it would require 30 feet of right-of-way through each of the blocks that front the east side of Route 440 between Claremont and Clendenny Avenues. Most of these parcels are occupied by structures.

The alignment would cross Mallory Avenue at midblock between Culver and Claremont Avenues. It would also cross city streets between Claremont and Clendenny Avenues immediately east of Route 440. Where light rail vehicles could intersect with automobile and truck traffic, safety gates and signals would be provided. It could also be necessary to restrict traffic movements or traffic flow patterns to allow for safe HBLR operations.

#### *3.1.2.3.3 Alternative 3D: At-Grade Extension to Lincoln Park using Local Roadways, East Side of Route 440*

Alternative 3D would be an at-grade alignment on the east side of Route 440 using local streets rather than the Cookson Electronics property. Thus, this alternative would have a less direct route than Alternative 3B. Beginning at West Side Avenue Station, Alternative 3D would descend through the parking lot to Mallory Avenue. It would turn north onto Mallory Avenue through a 100-foot radius curve and then turn west onto Claremont Avenue via another 100-foot radius curve. Just east of Route 440, Alternative 3D would turn north on a third 100-foot radius curve to continue at grade along the east side of Route 440. A new station would be located immediately north of Claremont Avenue (Bayfront Station). The second station, which would serve as the terminal, would be located at Clendenny Avenue. Alternative 3D would result in approximately 4,500 linear feet of new alignment.

Alternative 3D would require 30 feet of right-of-way through each of the blocks that front the east side of Route 440 between Claremont and Clendenny Avenues. Most of these parcels are occupied by structures.

The right-of-way would be 30 feet wide through the parking lot, along Mallory Avenue and Claremont Avenue, and along the eastern frontage of Route 440. The alignment would be in the street along Mallory Avenue and Claremont Avenue, where the right-of-way would be dedicated only to light rail vehicles. Therefore, the vehicular right-of-way of these streets would be narrowed by 30 feet, which could in effect close Claremont Avenue to automobile and truck traffic. The alignment would also intersect city streets between Claremont and Clendenny Avenues. Where light rail vehicles could intersect with automobile and truck traffic, safety gates and signals would be provided. It could also be necessary to restrict traffic movements or traffic flow patterns to allow for safe HBLR operations.

## **3.2 EVALUATION OF LONG LIST ALTERNATIVES**

As described in Chapter 1, “Background and Planning Context,” three goals were identified for the HBLR Route 440 Extension Alternatives Analysis:

- Project Goal #1: Support existing and proposed development in the West Side community;
- Project Goal #2: Minimize effects on existing and proposed HBLR operations; and

- Project Goal #3: Minimize adverse effects on the built and natural environment.

A screening was undertaken to evaluate the light rail alternatives on the refined long list of alternatives for their ability to meet project goals. The purpose of this screening was to identify any alternatives that are inconsistent with project goals and should not be carried forward for more detailed review.

### **3.2.1 PROJECT GOAL #1—SUPPORT EXISTING AND PROPOSED DEVELOPMENT IN THE WEST SIDE COMMUNITY**

Presently, most residential development in the western waterfront area of Jersey City is located east of Route 440 and, in general, these areas are served by HBLR's existing stations and local bus routes. However, there is a large residential development—Society Hill—located west of Route 440. Society Hill has bus service to Journal Square and the Jersey City "Gold Coast."

Development in the western waterfront of Jersey City is expected to change dramatically over the next decade with implementation of the Bayfront and the NJCU West Campus plans. Both Bayfront and NJCU have undertaken extensive planning, and both have received formal approval from the City of Jersey City.

Alternatives 1A and 1C would be consistent with the approved plans for both Bayfront and NJCU West Campus, as they would not substantially alter those developments' planned layout of sites and streets. Both alternatives would also directly serve Bayfront. Alternative 1D would terminate HBLR service east of Route 440 with a pedestrian overpass to Bayfront, which is not consistent with the approved Bayfront plan.

Alternatives 1C and 1D would serve the NJCU West Campus with a station stop on the east side of Route 440 approximately two blocks to its north. Alternatives 1A, 1C, and 1D would not provide direct light rail service to Society Hill, but it may be possible to enhance transit access to that area with a shuttle service to the new HBLR station or stations.

Alternatives 2A, 2B, and 2D would require modification of the approved plans for either Bayfront or the NJCU West Campus. Alternative 2A would occupy 30 feet of right-of-way through the Bayfront property, requiring that Bayfront's approved street grid and building placements be modified. Alternatives 2B and 2D would traverse the western portion of the NJCU West Campus property, occupying portions of the area slated for commercial and non-university residential development. Therefore, Alternatives 2A, 2B, and 2D would not be consistent with the future plans for Bayfront or the NJCU West Campus.

Alternative 2A would directly serve Bayfront and Society Hill; however, the Bayfront Station would not be at the location contemplated in its approved plan. Alternatives 2B and 2D would not directly serve Bayfront or Society Hill, since stations would be located east of Route 440; however, these alternatives would stop within the NJCU West Campus property.

Alternatives 3A, 3B, and 3D would not require modification of the approved Bayfront or NJCU West Campus plans. However, these alternatives would also not provide service to either Bayfront or the NJCU West Campus. These alternatives would also not serve Society Hill.

As Alternatives 1A and 1C are generally consistent with local plans, provide light rail service to Bayfront, and potentially have a station stop in the vicinity of the NJCU West Campus, these



alternatives meet Project Goal #1. Alternative 1D partially meets this goal by extending light rail service closer to the Bayfront development and providing a pedestrian overpass to connect Bayfront to the new station, but it would not directly serve the area. Alternative 2A, which extends HBLR service to Society Hill and Bayfront, partially meets Project Goal #1 since it serves many existing and new residents of the western waterfront; but it is not consistent with future plans for the area. Alternatives 2B and 2D also partially meet Project Goal #1, since they directly serve the NJCU West Campus but require modification of its approved plan. Alternatives 3A, 3B, and 3D do not serve any of the proposed new development or Society Hill and, therefore, are inconsistent with Project Goal #1.

### **3.2.2 PROJECT GOAL #2—MINIMIZE EFFECTS ON EXISTING AND PROPOSED HBLR OPERATIONS**

All of the light rail alternatives would provide for a two-track extension of HBLR service from West Side Avenue Station to their new terminals. HBLR trains currently operate with 2 cars, but 3-car train sets could be implemented in the future. The new stations for each of the alternatives would have the capacity to support 3-car-long station platforms. All of the alternatives would also meet HBLR design requirements for structures, including minimum standards for curves.

Alternatives 1A, 1C, 1D, 2A, 2B, and 3A would be elevated and would pass over local streets and parking lots. Therefore, these alternatives would not require changes in traffic operations or additional traffic safety measures to accommodate the HBLR extension.

Alternatives 1A, 1C, 1D are not anticipated to have substantial impacts on HBLR operations in terms of increased running times, slower running speeds, and associated requirements for additional fleet. This is due to their relatively short length and straight alignment. Alternatives 2A, 2B, and 3A would have minimal potential impacts on HBLR operations, as they would operate on viaduct. However, the length of the alignments and their track curvature would increase running times, result in slower running speeds, and may require additional fleet.

Alternatives 2D, 3B, and 3D would be at grade. These alternatives would operate partly within city streets and partly on a dedicated right-of-way that crosses city streets. Where the right-of-way would be within city streets, it would be necessary to remove travel lanes. Where light rail tracks would cross city streets, safety gates and signals would be provided, and it may also be necessary to restrict traffic movements or traffic flow patterns to allow for safe HBLR operations. Given at-grade operations and the curvature of the alignments, these alternatives would result in increased running times, slower operating speeds, and the potential need for additional fleet.

Alternatives 1A, 1C, and 1D meet Project Goal #2 as they would not impede existing operations and could allow for future 3-car HBLR trains. Alternatives 2A, 2B, and 3A partially meet Project Goal #2, as operating HBLR on viaduct structure would avoid interacting with street traffic and the resulting impacts on HBLR operations, but they would increase running times, operate at slower running speeds, and may require additional fleet. Alternatives 2D, 3B, and 3D would allow for future 3-car HBLR trains, but they may require substantial traffic operation changes and safety measures to support at-grade operations. Therefore, Alternatives 2D, 3B, and 3D are inconsistent with Project Goal #2.

### **3.2.3 PROJECT GOAL #3—MINIMIZE ADVERSE EFFECTS ON THE BUILT AND NATURAL ENVIRONMENT**

The comparison of benefits or detriments of the long list of alternatives on the built and natural environment is focused on critical issues such as direct effects on designated natural areas and parklands and the need to acquire occupied residential or commercial properties. A more detailed analysis of the potential environmental benefits and impacts for a broader range of environmental topics was undertaken for the short list of alternatives in Chapter 4, “Short List of Alternatives.”

None of the light rail alternatives would directly impact existing parkland or designated natural features (i.e., significant or critical habitat areas, mapped wetlands, waterfowl refuges, etc.). All of the alternatives, however, would require an interest in private property, but by varying degrees.

Alternatives 1A, 1C, 1D, 2A, 2B, 3A, and 3B would require property for the new right-of-way through the parcel bounded by Claremont Avenue, Mallory Avenue, Culver Avenue, and Route 440. This property cuts diagonally through the block along the path of the former Central Railroad of New Jersey right-of-way. A now-vacant industrial building, service drive, and parking lot occupy the areas that would be needed (former Cookson Electronics site). Since this property is not actively used (and is currently for sale), it is not considered adverse to use it for an HBLR extension.

Alternatives 1A and 1C would locate a viaduct through property owned by the City of Jersey City and/or at the northern boundary of the Bayfront development on the west side of Route 440. The approved local plans (Bayfront and Jersey City master plan) contemplate an extension of light rail through this area; therefore, the use of these properties for Alternatives 1A and 1C would not be adverse. Alternatives 1A and 1C would also require land or air rights through a small piece of the parking lot for an automobile dealership located immediately north of the City of Jersey City and Bayfront properties. Alternative 1D may also require small pieces of land and/or air rights within the City of Jersey City property, the Bayfront development, and/or the adjacent automobile dealership for the pedestrian overpass of Route 440.

Alternatives 2A and 3A would place light rail right-of-way through private property on the west side of Route 440. Much of these alignments would be within now-vacant property or areas used for parking, but both would require the demolition of one or more occupied buildings. These buildings and parking areas are actively used for commercial purposes.

Alternatives 2B, 2D, 3B, and 3D would require right-of-way on the east side of Route 440, including occupied structures and areas planned for redevelopment. Alternatives 2B and 2D would require right-of-way through NJCU West Campus as well as through buildings and parking areas in use for commercial purposes. Alternatives 3B and 3D would demolish multiple structures between Claremont and Clendenny Avenues. Most of these buildings are occupied with active commercial uses. Furthermore, these alignments would intersect with many city streets potentially resulting in traffic conflicts.































In summary, all of the alignment alternatives would require an interest in private property. Alternatives 1A, 1C, and 1D would require right-of-way within vacant property and a very small portion of a parking lot associated with an automobile dealership on the west side of Route

440. These alternatives would also not directly impact significant natural features. Therefore, Alternatives 1A, 1C, and 1D would meet Project Goal #3. Alternatives 2A, 2B, 2D, 3A, 3B, and 3D would not directly impact significant natural features, but would each require substantial property interests, including occupied commercial buildings. Thus, Alternatives 2A, 2B, 2D, 3A, 3B, and 3D are inconsistent with Project Goal #3.

### 3.3 CONCLUSION

The screening results are shown in **Table 3-2** and are described below. Alternatives that could not fully or partially meet all three of the project goals are not considered prudent options for the extension of HBLR service. Alternatives 3B and 3D meet none of the project goals; Alternatives 2D and 3A do not meet two of the three project goals; and Alternatives 2A and 2B do not meet one of the three project goals. Therefore, Alternatives 2A, 2B, 2D, 3A, 3B, and 3D are not advanced for further study. Alternatives 1A, 1C, and 1D would fully or partially meet the three project goals; therefore, these alternatives are moved forward for more detailed analysis and comparison, which is described in Chapter 4, "Short List of Alternatives."

**Table 3-2**  
**Screening of Long List of Light Rail Alternatives**

	Bayfront			Society Hill			Lincoln Park		
	1A	1C	1D	2A	2B	2D	3A	3B	3D
Alternative	West Side 1 Station	West Side 2 Stations	East Side	West Side	East Side Elevated	East Side At Grade	West Side	East Side At Grade Off-Street	East Side At Grade in Street
<b>GOAL #1:</b> Support existing and proposed development in the West Side community									
<b>GOAL #2:</b> Minimize effects on existing and proposed HBLR operations									
<b>GOAL #3:</b> Minimize adverse effects on the built and natural environment									
<b>Recommended for further study?</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>
<b>KEY</b>	 Meets goal			 Partially meets goal			 Does not meet goal		