

Executive Summary

ES.1. Introduction

The Northern Branch Corridor Project calls for transit improvements in northeastern Hudson and southeastern Bergen Counties through the restoration of passenger rail service on an existing freight rail line. The electric light rail service would operate on West Side Avenue in North Bergen, and then on existing railroad right-of-way owned by CSX Transportation (CSX) between 91st Street in North Bergen and the northern border of Englewood and would introduce new station stops in North Bergen, Ridgefield, Palisades Park, Leonia, and Englewood (refer to Figure ES-1).

The Northern Branch Corridor Project described in this Supplemental Draft Environmental Impact Statement (SDEIS) is the result of extensive planning and study to restore rail service along this corridor. In October 2007 a Notice of Intent was published in the *Federal Register* describing four Build Alternatives to be considered for this corridor: an electric light rail that would extend from Tonnelle Avenue in North Bergen to either Englewood Route 4 or the Tenafly/Cresskill border and a diesel multiple unit (DMU) that would extend from Tonnelle Avenue in North Bergen to either Englewood Route 4 or the Tenafly/Cresskill border. After the publication of the Final Scoping Document in March 2008, the manufacturer of the DMU vehicle declared bankruptcy and the decision was made to eliminate the DMU alternatives from further study. Accordingly, the Draft Environmental Impact Statement (DEIS) published in December 2011 included only the two light rail Build Alternatives.

Opposition to the project in Tenafly and the desire to serve the Englewood Hospital and Medical Center resulted in the development of a single Build Alternative for further analysis – light rail service between Tonnelle Avenue in North Bergen and the Englewood Hospital and Medical Center. Other project components, including the alignment through the CSX North Bergen Rail Yard and several station locations, have also been revised in response to continuing discussions with municipal officials and the freight railroads. As a result, this Supplemental Draft Environmental Impact Statement (SDEIS) has been prepared by NJ TRANSIT in cooperation with the Federal Transit Administration (FTA) to document the environmental impacts of the modified Preferred Alternative.

This SDEIS updates the assessment of benefits, costs, and social, economic, and environmental impacts of constructing and operating passenger rail service between North Bergen in Hudson County and Englewood in Bergen County. The SDEIS was prepared in accordance with Section 102 of the National Environmental Policy Act (NEPA) of 1969, codified at 42 U.S.C. § 4332; the Council on Environmental Quality's regulations implementing NEPA at 40 C.F.R. Part 1500; the environmental provisions of 23 U.S.C. § 139 and 49 U.S.C. § 5323(c); the joint Federal Transit Administration and Federal Highway Administration Environmental Impact and Related Procedures Rule at 23 C.F.R. Part 771; and related laws, regulations, and guidance as amended by the Fixing America's Surface Transportation (FAST) Act. This Executive Summary is intended as a summation of the SDEIS's findings and as a stand-alone synopsis of the project to date and potential impacts of the overall revised Preferred Alternative.

ES.2. Project Background

The history of the West Shore Region Study, initiated in 1996, and its evolution into the Northern Branch Corridor project are fully described in Chapter 1 of the DEIS. Following is a brief description of the DEIS and the changes and decisions that occurred since the DEIS was published in December 2011, leading to the reassessment of the project in this SDEIS. Since issuance of the DEIS, NJ TRANSIT analyzed comments from 380 respondents consisting of more than 1000 references to issues of concern and statements of support. The majority of concerns expressed in the comments pertained to the proposed

northern terminus in Tenafly. Residents and local leaders representing Tenafly staunchly opposed the terminal station in Tenafly, although many expressed support, generally, for light rail transit in the region. Several additional comments from respondents in Englewood expressed support for the Northern Branch Corridor project and requested that if the project were to terminate in Englewood that it should be extended to the border of Englewood and Tenafly with a terminal station at Englewood Hospital and Medical Center. Accommodation of these concerns and requests led to the revisions to the DEIS Preferred Alternative, necessitating this Supplemental Draft Environmental Impact Statement.

ES.2.1. Northern Branch Corridor DEIS

The FTA and NJ TRANSIT issued the Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) for the Northern Branch Corridor in October 2007 and a Final Scoping Document in March 2008. FTA and NJ TRANSIT published a DEIS in December 2011 that analyzed two alternatives. The Preferred Alternative would extend light rail service from North Bergen to the north border of Tenafly. The second alternative would extend service only to Route 4 in Englewood. The Notice of Availability (NOA) of the DEIS was published in the Federal Register on December 23, 2011, with the comment period ending on February 6, 2012. An amended notice was published on January 13, 2012, extending the deadline for comments to February 21, 2012. Public hearings to solicit public comment were held on January 24, 2012, in Tenafly and January 26, 2012, in Englewood. A total of 380 comments were received by public and private testimony, comment card, letter, and email. Major issues requiring further analysis were identified and were included in the reassessment described in this SDEIS.

While many comments expressed support for the Northern Branch Corridor project, residents and community leaders in Tenafly were strongly opposed to the extension of service into their community, leading the Borough Council to pass a resolution against the project. In addition, both the City of Englewood and Englewood Hospital and Medical Center, strongly supportive of the project, recommended that rather than ending the line at the Route 4 station, the line be extended further north to terminate at Englewood Hospital and Medical Center. The Preferred Alternative has thus been revised to terminate service at Englewood Hospital and Medical Center.

The new alignment results in changes to the service plan and potential environmental and social impacts not analyzed in the DEIS. As a result, this new alignment and associated changes have been analyzed in this SDEIS and recirculated for public comment and agency feedback.

ES.2.2. Northern Branch Corridor SDEIS

In addition to the change in terminus, several other issues were identified by the freight railroads and the municipalities through which the alignment traveled. In follow-up to the public comment period, NJ TRANSIT met with the municipalities and the freight railroads to discuss revisions to the Preferred Alternative. The Preferred Alternative for the SDEIS was developed to reflect a greater understanding of the needs and desires of the study area communities and project stakeholders, including the freight railroads. Following are the changes that were made to the revised Preferred Alternate (described from south to north).

West Side Avenue

To minimize impact to existing and future freight services, CSX and NYS&W requested that the light rail alignment be moved outside of the rail yard. To accomplish this, a viaduct over the CSX North Bergen Yard would be constructed. The alignment would then travel along the west side of West Side Avenue, removing a travel lane from the roadway. While on West Side Avenue, in the vicinity of 79th Street, the light rail tracks would begin to grade separate on a second viaduct. This 85th Street Viaduct would carry the new Northern Branch alignment over the NYS&W tracks and the CSX River Line elevated alignment.

Once crossing the CSX River Line, the 85th Street Viaduct and alignment would descend to connect with the existing Northern Branch running track at grade near 90th Street. As described in the DEIS, 83rd Street would be closed and would no longer connect to West Side Avenue, eliminating a dangerous dog-leg curve under the CSX River Line. To mitigate this change, a new underpass below the CSX River Line (essentially a short tunnel) would be constructed to connect 85th Street to West Side Avenue. Given the shift in alignment, the proposed North Bergen Vehicle Base Facility (VBF) was eliminated from consideration.

Leonía Station

Based on the comments received from Leonia on the DEIS and in the subsequent meetings, NJ TRANSIT has identified a new location for a four-story parking deck to be located within the Leonia South area of Overpeck County Park on the site of an abandoned basketball court and abandoned comfort building. This relocation of the parking deck has also resulted in the relocation of the station to the south side of Fort Lee Road.

Englewood Route 4 Station and Vehicle Base Facility

The proposed VBF would be located at Englewood Route 4 to be closer to the terminus, and to minimize impact to the operations of the freight railroads in North Bergen. To minimize acquisitions and changes to land use in the surrounding area, NJ TRANSIT would co-locate the parking deck with the VBF. The parking deck would be designed as the second, third, and fourth story above the VBF.

Englewood Town Center Station

The City of Englewood requested that there be limited loss of parking in the town center area as a result of the project. Although parking displacement associated with traffic mitigation has been reduced, displacement would occur east of the alignment between Palisade Avenue and Demarest Avenue to provide for two tracks through the town center area. In coordination with the City, NJ TRANSIT has designed a reconfigured surface parking area between the rail right-of-way and the buildings along North Dean Street. The reconfigured parking would maintain the current number of parking spaces while improving circulation, though the reconfiguration would require the acquisition of two commercial properties that front Depot Square. There would be no additional parking spaces for commuters as the downtown station is anticipated to be used by walk-up users and intermodal passengers. Also in coordination with the City, the station platforms have been moved to be near the proposed parking area, between Palisade Avenue and Demarest Avenue.

Englewood Hospital and Medical Center Station

The City of Englewood and Englewood Hospital and Medical Center requested that the project provide parking at the northern terminus. Englewood Hospital and Medical Center offered the use of up to 600 spaces in an existing parking garage that is currently operated by the hospital. The Preferred Alternative would also include a pedestrian overpass over North Dean Street to connect the station with the parking facility.








Ridership and Operations

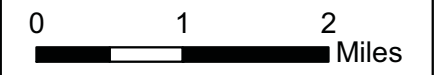
The light rail service plans were modified to better suit the needs of the projected riders. As requested by many commenters and the municipalities, NJ TRANSIT has been coordinating with CSX to determine if a smaller window could be provided on certain days to allow the light rail service to extend later in the evenings. These negotiations are ongoing. For the purpose of this analysis, the service hours were extended from the previously proposed hours of 5:30 a.m. to 10:30 p.m. to the newly proposed hours of 5:00 a.m. to 1:00 a.m. The ridership model was revised to incorporate this change of service hours, as well as to incorporate the updated US Census data from 2010.

Northern Branch Project Corridor

Figure ES-1



-  Proposed Stations
-  Proposed Alignment
-  HBLR Stations
-  Hudson Bergen Light Rail
-  Interstate/Highway
-  Local Roadway
-  Municipality



ES.3. Purpose and Need

The current transportation system within the densely-settled Northern Branch Corridor is characterized as a substantial roadway-based transportation system. This system includes limited-access highways as well as a variety of local and commuter bus routes, all of which contribute to the recurring traffic congestion prevalent within the corridor and on the region's roadways and crossings.

Rail transit, once a fundamental travel option for corridor residents, is now only available to the west and south of the corridor. Growing roadway congestion is creating saturated conditions on corridor roadways during peak commuting hours, increasing travel times for both private automobiles and buses. The most overwhelmed roadways and transit routes are those providing access south to Hudson and Essex Counties and east to New York City. Trends involving increasing population, a rise in the number of workers per household, and increasing use of single occupant automobiles, among others, are expected to exacerbate congestion.

The purpose and need of the proposed project is to improve mobility within Hudson and Bergen Counties, alleviate some traffic congestion, and support continued economic growth. Provision of new transportation service in the Northern Branch corridor would address the following goals and objectives:

Goal 1: Meet the needs of travelers in the project area

Objectives:

- Attract riders to transit.
- Improve travel time and reliability for travelers in the region.
- Improve convenience by providing frequent service, adequate parking at stations, competitive travel times, and convenient connections to other transit services, such as ferries, PATH, and feeder services.
- Provide more options for travelers.
- Improve services for low-income/minority/transit-dependent travelers.

Goal 2: Advance Cost-Effective Transit Solutions

Objectives:

- Support favorable farebox recovery to help ensure that the provision of transit service in the corridor is financially sustainable.
- Advance cost-effective transit solutions by advancing a project that, from a cost-benefit perspective, provides the greatest overall benefit at the lowest capital cost.
- Support future expansion, scalability, and affordability.

Goal 3: Attract growth and support development in Bergen and Hudson Counties, including the Hudson River Waterfront

Objectives:

- Provide transportation capacity to support future population and employment growth.
- Help attract new businesses by introducing new transportation choices that improve access to New York and the rest of the region, which would help Bergen and Hudson Counties to maintain their competitive advantage in the region.

Goal 4: Improve regional mobility and access

Objective:

- Provide connections to a variety of locations within the region including the growing Hudson River Waterfront area, Newark, Trenton, and major recreational attractions like the Meadowlands and the New Jersey Shore.

Goal 5: Reduce roadway congestion

Objective:

- Provide more travel options for travelers trying to avoid highway congestion.

Goal 6: Enhance the transit network

Objectives:

- Eliminate gaps in the rail network.
- Eliminate gaps in the bus network.

Additional detail on the purpose and need and goals and objectives is presented in Chapter 2 of the Northern Branch Corridor SDEIS, Purpose and Need for Action.

ES.4. Alternatives

This SDEIS examines two alternatives: the No Build Alternative and the SDEIS Preferred Alternative. The No Build Alternative assumes that the proposed project would not be implemented and provides a basis of comparison with the SDEIS Preferred Alternative. The No Build Alternative is required under NEPA. The SDEIS Preferred Alternative is a light rail system with a terminus in Englewood near the border with Tenafly. Following is a brief description of the alternatives. Refer to Chapter 3: Alternatives Considered for more detail.

ES.4.1. No Build Alternative

The No Build Alternative represents the current transportation network plus other reasonably foreseeable transportation improvements that would be implemented by the year 2030. Specifically, the elements of the No Build Alternative consist of NJ TRANSIT Bus Service, private bus service, NJ TRANSIT Hudson Bergen Light Rail (HBLR) service terminating at Tonnelle Avenue Station in Hudson County, NJ TRANSIT Commuter Rail Service, PATH Service, and ferry service. It is assumed that the basic attributes of the bus system in eastern Bergen County would remain relatively unchanged in 2030. Committed transportation elements of the No Build Alternative include US Route 1/9 widening, a new grade separation at 69th Street in North Bergen over the railroad corridor (currently under construction), and improvements to the ramps at Route 4 and Grand Avenue.

ES.4.2. SDEIS Preferred Alternative

The SDEIS Preferred Alternative would provide service from North Bergen through Fairview, Ridgefield, Palisades Park, Leonia, and Englewood, terminating at a station and shared parking deck at Englewood Hospital and Medical Center (refer to Figure ES-1). This terminal station was selected because it allows for access to Englewood Hospital and Medical Center, a major employer and destination for the study area communities. Providing a station and shared parking at Englewood Hospital and Medical Center would capture commuters from the north before they enter the town center of Englewood, helping the project achieve its goals of improving mobility and reducing roadway congestion. Additionally,

extending the line through Englewood allows for service through the business district of Englewood, providing job access and supporting economic development.

The Preferred Alternative proposes to use light rail vehicles, which are powered by electricity and are lighter in weight than traditional commuter rail vehicles; however these light rail vehicles are not certified by the Federal Railroad Administration (FRA) to run in mixed rail traffic with heavy rail and freight rail. This means that the Preferred Alternative would require freight service to operate at night, when light rail service is not operating, thereby affecting nighttime sound levels. Additionally, to provide the necessary electricity, small substations would be placed approximately one mile apart along the alignment.

The Preferred Alternative would provide service to municipalities along the corridor between North Bergen and Englewood, linking to the Hudson River Waterfront, providing access to Manhattan via transfer at Weehawken (ferry) or Hoboken (ferry and PATH). This service would be time-separated from the freight operations. For this SDEIS, the span of service was analyzed with extended hours beginning at 5:00 a.m. and ending at 1:00 a.m. Freight providers would be assumed to use the alignment from 1:30 a.m. to 4:30 a.m. This would be a best case scenario for passenger service and it has not yet been determined whether freight customers along the alignment would be able to accommodate a 3-hour window for loading and unloading product. The exact schedule would be developed during negotiations with the freight railroads during Final Engineering and Design.

The Preferred Alternative would run on headways of approximately 6.5 minutes during the peak hours and 15 minutes during the off-peak period between North Bergen and the Englewood Hospital and Medical Center Station. The proposed service would offer a one-seat ride from Englewood directly onto the HBLR service. One-seat ride service is considered more desirable than service that requires transfers, as transfers create delay and enter an element of uncertainty into a passenger's commute.

Project Element General Descriptions

The Preferred Alternative would include seven stations in North Bergen, Ridgefield, Palisades Park, Leonia, and Englewood. The proposed VBF would be co-located with the Englewood Route 4 Station parking deck. Project elements are summarized in Table ES-1.

Between Tonnelle Avenue and 85th Street the tracks would be new alignment, crossing on viaduct over the CSX North Bergen Yard, then traveling along West Side Avenue until 85th Street. While on West Side Avenue, in the vicinity of 79th Street, the proposed alignment would begin to grade separate on a second viaduct, known as the 85th Street Viaduct. This viaduct would take the Northern Branch over the freight facilities including the at-grade NYS&W tracks and the elevated CSX River Line alignment and return to grade in North Bergen near 90th Street. New roadway would also be constructed, extending 85th Street to West Side Avenue via an underpass through the CSX River Line embankment. This railroad underpass and grade crossing of the extended 85th Street is referred to as the 85th Street Extension.

North of 90th Street to Englewood Hospital and Medical Center, the Northern Branch right-of-way would be restored to a two-track alignment, including double-tracks through the town center of Englewood.

Along the length of the project, existing ties and rail would be removed, and new ballast, ties, and rails would be installed. Tail tracks would be installed between the end of the service route by Englewood Hospital and Medical Center and the Englewood-Tenaflly border to enable the light rail vehicles to pull through the station and await the return trip south.

Table ES-1: Project Element Summary

Feature	Preferred Alternative
Track	10 miles of double track
Stations	7
New Viaducts (Viaduct over CSX North Bergen Yard and 85 th Street Viaduct)	2
Culvert Improvements	4
Bridge Improvements	6
Substations	9
Grade Crossing Improvements	33
Grade Crossing Closures (83 rd Street for Northern Branch and NYS&W, North Bergen)	2
New Underpass (85 th Street Extension, North Bergen)	1
New At-Grade Crossings (85 th Street Extension at CSX Northern running track and NYS&W, North Bergen)	2
New Pedestrian Overhead Crossing (Leonia High School and Englewood Hospital and Medical Center)	2
Vehicle Base Facility	1
Surface parking lots (including shared use)	3
Parking Garages (including shared use)	3
Land Acquisition	20 private properties (14 acres) and 9 public properties (3 acres)

Source: Jacobs, 2015

ES.4.2.1. Stations

Following are descriptions of each of the stations. Ridership for the Preferred Alternative was projected to the year 2030 using the North Jersey Transit Demand Forecasting Model (NJTDFM, the model). The model was used to estimate total light rail riders by zone to each station. NJ TRANSIT then used data from the model (such as percentage of people that would walk, drive, carpool, be dropped off, or take the bus based upon distance from each station and the type and density of development) to estimate how riders would travel to each station. This produced an initial parking demand at each station. The station locations were then reviewed to determine the maximum amount of parking spaces that could reasonably be provided at each location, without overwhelming the communities. The model was then constrained with these maximum parking numbers, and a second iteration of the forecasting model was run. This resulted in adjustments to individual access modes to each station and a final, revised parking demand at each station.

The proposed project is anticipated to generate demand for parking at each study area station location (refer to Table ES-2). Six of the seven proposed station sites are proposed to include on-site parking designed to accommodate the demand for parking at the station. No parking would be provided at the Englewood Town Center Station. The parking demand generated by the proposed project would not affect the availability of parking in the vicinity of the project station study areas for other users.

Table ES-2: Parking Demand and Spaces to be Provided by the Preferred Alternative, 2030

Station	Parking Demand	Parking Spaces to be Provided
91 st Street	123	123
Ridgefield	258	269
Palisades Park	219	219
Leonia	571	583
Englewood Rt. 4	943	945
Englewood Town Center	N/A	0
Englewood Hospital	552	600
TOTAL	2,666	2,739

Source: NJ TRANSIT, 2015

91st Street Station

A new station would be constructed at 91st Street comprised of side platforms and an at-grade pedestrian track crossing. A portion of a property located on the south side of 91st Street and just east of the Northern Branch right-of-way would be utilized for a surface parking lot accommodating 123 vehicles. Use of the portion of the property would be negotiated through a shared use agreement between the property owner and NJ TRANSIT. The portion of the property that would be sought for shared parking is already developed as surface parking and is vacant of structures.

Ridgefield Station

A new station consisting of side platforms would be constructed immediately south of Hendricks Causeway, west of Broad Street. A parking facility with capacity for approximately 269 vehicles and a passenger drop-off area would be constructed on the east side of the right-of-way. Vehicle access would be provided from Remsen Place and bus pullouts would be provided on Broad Avenue. The surface parking area site is currently occupied by a commercial/retail development catering to the Korean community and would require the acquisition of four properties (one privately-owned, three publicly-owned) of approximately 3.09 acres. The acquisition of the Korean market was analyzed using the principles put forth in FTA Circular FTA C 4703.1, regarding the assessment of impacts to minority and low income communities and those with limited English proficiency (LEP). The analysis determined that the loss of the commercial uses does not represent a high and disproportionately adverse impact on the Korean community; further, public notices of the DEIS hearing were prepared in Korean, and Korean translators were available at the hearings to provide accommodation per FTA's guidelines on including LEP communities. No comments in opposition to the acquisition were received.

Palisades Park Station

The proposed station site is located north of Ruby Avenue, south of Fairview Avenue and west of Grand Avenue. The station would consist of side platforms, a surface parking facility with capacity for approximately 219 vehicles, and a passenger drop-off area. Vehicular access would be provided via West Ruby Avenue. Industrial and commercial buildings currently occupy the 2.64-acre site, requiring the acquisition of eight privately-owned properties.

Leonia Station

The Leonia Station, composed of side platforms, would be located south of Fort Lee Road. Station parking for approximately 583 vehicles would be accommodated in a four-story parking deck located in Overpeck County Park. The parking deck would be large enough to accommodate the project's need, as well as parking for shared use by park users during non-commuter hours. Vehicular and pedestrian access would be provided via the park access road and Fort Lee Road. Bus pullouts would be provided on Fort Lee Road to accommodate transfers between buses and the station. It is anticipated that NJ TRANSIT and Bergen County would establish a shared use agreement instead of land acquisition. NJ

TRANSIT would develop agreements with Bergen County with compensation of open space through the New Jersey Department of Environmental Protection (NJDEP) Green Acres Program.

Englewood Route 4 Station

The Englewood Route 4 Station, located under Route 4 at West Nordhoff Place, would consist of a center-island platform. A three-story parking deck above the proposed VBF with capacity for approximately 945 vehicles would be located south of Route 4 to the east of the right-of-way. A passenger drop-off area and pedestrian improvements would be provided. This station site would require the acquisition of six privately-owned properties of approximately 5.50 acres and one publicly-owned property of approximately 0.08 acres.

Englewood Town Center Station

This station would be located between Palisade Avenue and Depot Square, east of North Van Brunt Street and west of South Dean Street. The widening of the rail right-of-way to accommodate the platforms and a second track in Englewood Town Center, the reconfiguration of the adjacent parking area, and the development of the new park would require the partial acquisition of three publicly-owned properties, the full acquisition of one publicly-owned property, and the full acquisition of three private properties, totaling 1.84 acres.

Englewood Hospital and Medical Center Station

The Englewood Hospital and Medical Center Station would have side platforms located across from the hospital along North Dean Street between Durie Avenue and Cambridge Avenue. Commuter parking would be provided by an existing parking deck on North Dean Street across from the station platforms. The parking deck is owned by the hospital and would be leased to NJ TRANSIT for use by light rail passengers. Proposed pedestrian improvements at this station include pathways from Durie Avenue and Cambridge Avenue to North Dean Street and a pedestrian overpass over North Dean Street connecting the station and the hospital shared parking facility. No acquisition is anticipated at this location.

Although not included in this analysis, the project has been designed so as not to preclude the construction of a station in Fairview, should anticipated development in the area warrant its construction.

ES.4.2.2. Vehicles and Operations

The light rail vehicle is the same as those currently in operation on the HBLR System. These HBLR vehicles are powered by electricity conveyed to the vehicle by an overhead catenary system. The Preferred Alternative would use a combination of two- and three-car trains to accommodate projected ridership.

Current FRA regulations require that vehicles not meeting specific structural requirements must operate with either a physical or temporal (time) separation from freight operations. The light rail vehicles do not meet the specific structural requirements to travel within the railroad right-of-way at the same time as freight trains. As a result, temporal separation is a baseline assumption for the proposed Northern Branch light rail service. Without it, the project cannot operate and would not advance to construction.

For this SDEIS, the span of service was analyzed with hours beginning at 5:00 a.m. and ending at 1:00 a.m. Freight providers would be assumed to use the alignment from 1:30 a.m. to 4:30 a.m. This would be a best case scenario for passenger service (and worst case for the noise analysis). Service hours must accommodate late night travel for both working commuters and those returning from New York City attractions, such as shows, theater, sporting events, etc. It has not yet been determined whether freight customers along the alignment would be able to accommodate a 3-hour window for loading and unloading product; however, NJ TRANSIT has involved the freight railroads in an ongoing dialogue to

assure their support. A mutually acceptable Operating Agreement that covers service hours, dispatch, liability, customers, infrastructure, etc., would be discussed with the freight railroads during Final Engineering and Design. The addition of freight service to the overnight hours also increases noise impacts to the communities along the alignment as currently there is no rail service in the overnight hours.

ES.5. Operating Plan

The service for the Northern Branch is assumed to operate daily from 5:00 a.m. to 1:00 a.m. Three-car trains (maximum consist size) are assumed from Englewood to Hoboken with a total capacity of approximately 450 passengers; service between Englewood Hospital and Medical Center and Jersey City would consist of one standard car and one extended car, with a total capacity of approximately 400 passengers. In the peak period, the Hoboken service would operate on 10-minute headways and the Jersey City/West Side Avenue service would operate on 20-minute headways. In the off-peak period the Hoboken service would operate on 30-minute headways and the Jersey City/West Side Avenue service would operate on 30-minute headways. Travel times for the Northern Branch light rail service are presented in Table ES-3.

Table ES-3: Northern Branch Corridor Light Rail Travel Times (Minutes)

Station Stop	Incremental Time	Cumulative Time	Travel Time to Port Imperial, Weehawken	Travel Time to Hoboken
Englewood Hospital	--	--	0:21:19	0:33:19
Englewood Center	0:01:55	0:01:55	0:19:24	0:31:24
Englewood Rt. 4	0:02:20	0:04:15	0:17:04	0:29:04
Leonia	0:02:17	0:06:32	0:14:47	0:26:47
Palisades Park	0:02:28	0:09:00	0:12:19	0:24:19
Ridgefield	0:02:10	0:11:10	0:10:09	0:22:09
91st Street	0:02:18	0:13:28	0:07:51	0:19:51
Tonnelle Avenue	0:03:51	0:17:19	0:04:00	0:16:00

Source: Jacobs, 2015

ES.5.1. Ridership

Ridership for the Preferred Alternative was projected to the year 2030 using the model described above in ES.4.2.1. The model is designed to forecast the demand for travel within northern New Jersey between northern New Jersey and adjacent portions of New York and Pennsylvania. The 2030 total daily trips are summarized in Table ES-4. The relatively high project ridership is primarily the result of the availability of one-seat rides, which offer a seamless connection between the proposed Northern Branch service and existing HBLR service. The total daily trips are comprised of those diverted from other transit modes (e.g., bus and commuter rail) as well as commuters who currently drive.

Table ES-4: Projected Northern Branch Daily Passengers and Trips (2030)

Station	Boardings and Alightings
Englewood Hospital and Medical Center	1,640
Englewood Town Center	3,190
Englewood Route 4	2,160
Leonia	1,670
Palisades Park	660
Ridgefield	1,650
91st Street	1,400
TOTAL Passengers	12,370
TOTAL Daily Trips	24,740

Source: NJ TRANSIT, 2014

ES.5.2. Capacity Analysis

The capacity analysis assumes a “worst case scenario”, which considers the Preferred Alternative with the greatest projected ridership to determine whether capacity would be available on the HBLR to accommodate projected HBLR riders as well as new Northern Branch passengers. In this case, the Preferred Alternative is anticipated to attract 24,740 daily trips (12,370 passengers).

During the peak hour under the Preferred Alternative, 12 HBLR trains would pass through Tonnelle Avenue. Of these 12 trains, nine would continue onto the Northern Branch, and three would start their service at Tonnelle Avenue without crossing onto the Northern Branch. The proposed 91st Street Station would be the southernmost station on the Northern Branch before the service transitioned onto the HBLR. A passenger count of 3,062 would be on board the trains at 91st Street Station during the peak hour, leaving capacity for 838 passengers to board from the existing HBLR Tonnelle Avenue Station and south to Weehawken. The three HBLR trains departing from the existing Tonnelle Avenue Station in the peak hour would have capacity for 1,200 passengers.

Together, the Northern Branch-originating HBLR trains and the Tonnelle Avenue Station-originating HBLR trains would have capacity for 2,038 passengers after all Northern Branch passengers are accommodated. Existing ridership on the HBLR adds 689 passengers from Tonnelle Avenue to Weehawken, which would be the segment with the highest number of passengers. In 2030, the total non-Northern Branch ridership is expected to total 735 passengers. This number is below the projected capacity of the HBLR during the peak hour. Consequently, the Preferred Alternative would not have an adverse effect on the capacity of the HBLR.

ES.6. Cost Analysis

ES.6.1. Capital Costs

A capital cost model was developed for the Northern Branch Corridor project following the guidance contained in FTA’s *Standard Cost Categories for Capital Projects*, revised May 2007. Unit costs included in the model have been developed based on recent experience with the design and cost estimating of capital cost elements on other projects. Costs have been developed based on NJ TRANSIT experience and are reported in 2014 dollars escalated to year of expenditure (refer to Table ES-5). The right-of-way costs reflect the estimated cost for property associated with stations and parking facilities. The costs for the CSX and NYS&W rights-of-way are not included in these estimates.

Table ES-5: Capital Costs (costs in 2014 dollars, in millions)

Cost Item	Capital Cost
Guideway and Track Elements	\$193
Stations, Stops, Terminals, Intermodals	\$119
Support Facilities: Yards, Shops, Admin Buildings	\$44
Sitework & Special Conditions	\$129
Systems	\$143
ROW, Land, Existing Improvements	\$49
Professional Services	\$139
Unallocated Contingency	\$139
Finance Charges	\$14
SUBTOTAL (2014 \$)	\$970
Escalation	\$155
CONSTRUCTION TOTAL	\$1,125
Vehicles	\$155
PROJECT TOTAL	\$1,281
Total Project Miles	10 miles
Capital Cost / Mile	\$128.1

Source: Jacobs and NJ TRANSIT, 2015

As shown in Table ES-5, the total project cost to construct the SDEIS Preferred Alternative is approximately \$1.281 billion, with a cost per project mile of \$128.1 million.

ES.6.2. Operating Costs

An operating and maintenance cost (O&M) model was developed following the guidance contained in *Procedures and Technical Methods for Transit Project Planning*, Section 2.4, Operating and Maintenance Cost, Federal Transit Administration, September 1990, as revised and based on NJ TRANSIT experience.

Annual revenue for the Preferred Alternative was developed based on the ridership forecasts and assumptions for fares and parking rates. The annual revenue includes revenue loss from Commuter Rail and HBLR but does not consider revenue loss from bus. Revenue recovery is the total revenue (fares and parking fees) divided by the total operating and maintenance costs, expressed as a percentage. The operating subsidy is the total operating and maintenance costs minus the revenue. Table ES-6 summarizes each of these items for the Preferred Alternative, which is predicted to operate at revenue recovery rates of 54 percent. The source of funding for construction and annual operating and maintenance costs has not been identified at this time.

Table ES-6: Annual Costs and Revenue

Cost Item	Annual Costs and Revenue (in 2014 dollars, in millions)
Annual Operating and Maintenance Costs	\$30.9
Annual Revenue	\$16.7
Annual Revenue Recovery	54%
Annual Operating Subsidy	\$14.2
Total Project Miles	10 miles
Annual Operating Subsidy / Mile	\$1.42

Source: Jacobs, 2014.

ES.7. Summary of Environmental Consequences

The No Build Alternative avoids all potential adverse impacts typically associated with new development or reinstatement of rail service in urbanized locations. While the No Build does not introduce significant change to the study area, it fails to provide any benefit in terms of improved mobility and would not meet the project's goals and objectives. Public transit would continue to remain less available to portions of the study area, and over time, roadway congestion on the area's arterials and highways would worsen, which would lead to worsening air quality and a compromised quality of life in the study area.

The Preferred Alternative provides for improved mobility, but results in some changes to the character of the study area. The Preferred Alternative would provide transit service where service is presently lacking. The Preferred Alternative terminates this service north of the proposed Englewood Hospital and Medical Center Station near the border with Tenafly, an extension of service of 10 miles. As a result of the Preferred Alternative, a larger geographic area would receive direct access to transit service. These new trips represent transit users who would switch from driving personal cars to using the light rail service, reducing auto emissions and roadway congestion.

The Preferred Alternative would provide more neighborhoods and businesses with the benefits of passenger rail service, but also expose these same neighborhoods and businesses to the impacts associated with the new service, such as increased noise and traffic. For the most part, the impacts associated with the new service are mitigatable impacts. Table ES-7 summarizes and compares these environmental consequences for the No Build Alternative and the Preferred Alternative.

Table ES-7: Summary of Environmental Consequences

Category	No Build	Preferred Alternative
LAND USE AND ZONING		
Compatibility with Local Zoning and Land Use	No Impact	Compliant with local zoning and land use
LAND ACQUISITION AND DISPLACEMENT		
Property Acquisition ¹	No acquisitions	20 private properties (13.62 acres) and 9 public properties (2.84 acres)
Business Displacements	0 businesses	23 businesses
Estimated Employee Displacements	0 jobs	225 jobs
Residential Displacements	0 residences	0 residences
CONSISTENCY WITH LOCAL PLANS		
State and Regional Plans	Does not support the desire for increased rail transportation.	No conflicts with existing state and regional plans as these plans are generally supportive of the reintroduction of passenger rail transit.
Local Plans	Does not support the municipal plans' goals of improved transportation circulation.	Supported by local plans adopted by North Bergen, Ridgefield, Leonia, and Englewood. Although light rail is not specifically referenced in plans adopted by Fairview and Palisades Park, the plans support reductions in traffic congestion and improved transportation.
PARKLANDS		
Physical Acquisition	None	The Preferred Alternative would result in partial acquisition or easements of the following three parkland resources: - North Bergen Municipal Pool, North Bergen (vacant parkland south of pool) - Overpeck County Park, Leonia - Depot Square Park (east and west), Englewood
Visual Impact	None	None
Noise Impact	None	None
Access	No changes	Provides an additional mode of transit to the large, regional Overpeck County Park.
COMMUNITY FACILITIES		
Changes in Access to Community Facilities and Movement of Emergency Service Providers	No Impact	- Potential for access issues to community facilities resulting from frequent rail vehicle grade crossings in Englewood since the rail alignment bisects the municipality. - South of Route 4 developed land uses are concentrated on the east side of the ROW minimizing access issues associated with grade crossing closures. - NJ TRANSIT would coordinate mitigation measures with municipalities, such as grade crossing pre-emption, dispatch protocols and information campaigns.

¹ All private properties or portions of properties that would be acquired under this proposed project would be purchased at fair market value pursuant to the Uniform Relocation Assistance and Real Property Acquisition Policy Act of 1970.

Table ES-7: Summary of Environmental Consequences (Continued)

Category	No Build	Preferred Alternative
TRAFFIC AND PARKING		
Number of Intersections Anticipated to Operate with a Failing LOS in 2030	2	- 0 with Mitigation ²
Station Parking Capacity	N/A	- The parking lots have been sized to accommodate the anticipated number of parking commuters.
Loss of On-Street Parking	None	- Ridgefield – 5 - Palisades Park – 17 - Englewood Route 4 – 6
TRANSIT AND FREIGHT		
Transit and Freight Service	No Impact	- Shift in freight service to overnight hours may affect freight customers along the entire Northern Branch corridor, regardless of whether they are in a community served by light rail. - No significant impact to existing transit service. - NJ TRANSIT would coordinate with the bus providers to identify changes in the bus routes that would improve access to the stations and/or reduce duplications in service.
AIR QUALITY		
Air Quality Impacts	The No Build Alternative would not reduce regional emissions.	- The project is anticipated to cause an increase in localized traffic near proposed stations; however, air quality modeling indicates that even with the increase in localized traffic, the carbon monoxide (CO) levels would be below the National Ambient Air Quality Standards (NAAQS). - The Preferred Alternative would reduce regional emissions of CO, particulate matter (PM _{2.5} and PM ₁₀), hydrocarbons (HC), and nitrogen oxides (NO _x) due to a reduction in vehicle miles traveled (VMT).
Conformity Compliance	N/A	- The Northern Branch Rail Corridor Project is listed within the FY2014-2023 Statewide Transportation Improvement Program under Transit Rail Initiatives and in Plan 2040, the NJTPA's Regional Transportation Plan. - The regional analysis shows a reduction in PM _{2.5} and PM ₁₀ . Therefore, it is anticipated that this project would comply with the conformity requirements established by the Clean Air Act Amendments of 1990.
NOISE³		
Moderate Impacts	No impacts	- Without Quiet Zones, 700 residences would be moderately impacted. - Impacts could be mitigated by Quiet Zones, reducing the moderate impacts to between 211 and 697, depending upon the number of Quiet Zones that are requested and implemented.
Severe Impacts	No impacts	- Without Quiet Zones, 725 residences would be severely impacted. - Impacts could be mitigated by Quiet Zones, reducing the severe impacts to between 1 and 716 residences, depending upon the number of Quiet Zones that are requested and implemented. Additional mitigation, such as building insulation/acoustic windows, is recommended for the one severe impact that could not be mitigated by Quiet Zones. NJ TRANSIT would confer with the owner of this property to explore potential mitigation strategies.

² NJ TRANSIT would meet with each municipality to discuss the feasibility of implementing the improvements proposed in their respective municipality. Improvements that are deemed acceptable to the municipalities, and would be implemented as measures to mitigate potential traffic impacts resulting from the project, would be discussed as commitments in the FEIS.

³ Noise impacts related to the shift in freight train movement to the overnight hours affect the entire corridor, regardless of the terminal location of the Build Alternative. If light rail service terminates in Englewood, Tenafly would still be affected by a freight delivery to Northvale in the overnight hours.

Table ES-7: Summary of Environmental Consequences (Continued)

Category	No Build	Preferred Alternative
VIBRATION		
Number of Vibration Impacts	No Impact	<ul style="list-style-type: none"> - 1 residence in Englewood and the Bergen PAC Performing Arts School in Englewood. - Potential impacts to these resources can be mitigated during design such that the resources would not be impacted by the project, such as incorporating the use of high resilience fasteners and resiliently supported ties.
WATER QUALITY		
Potential for Adverse Impact at Stream Crossings	N/A	<ul style="list-style-type: none"> - Minor rehabilitation work at stream crossings would likely have no impact. - For new crossings, in-stream construction may be required. Sheet piling and small cofferdams may be used to prevent fill materials and excavated solids from entering the water column during this construction. - During the operation of rail service, NJ TRANSIT's inspection and maintenance program would mitigate potential non-point source pollution from rail vehicles traveling on the right-of-way.
Potential for Impact due to Stormwater	N/A	<ul style="list-style-type: none"> - Station parking facilities would require stormwater management facilities, including bio-retention systems, stormwater infiltration systems, sand filters, and other measures intended to return the overland flow of stormwater to pre-construction rates and remove pollutants from the stormwater runoff. - The VBF would include separate systems for handling stormwater runoff and wastewater from maintenance activities.
WETLANDS		
Type of Impact	N/A	Wetlands identified and delineated within and in close proximity to the existing right-of-way generally function as drainage swales of ordinary resource value collecting adjacent runoff from surrounding impervious surfaces.
Wetland Area to be Disturbed	No Impact	<ul style="list-style-type: none"> - 3.92 acres to be disturbed. - Mitigation for construction impacts are similar to those used to maintain water quality and focus on preventing siltation of existing wetland resources. - Mitigation for permanent impacts would require agreement between NJDEP, USACE, and NJ TRANSIT, and is proposed to consist of the purchase of wetland mitigation within the Kane Tract from the Meadowlands Conservation Trust Organization or the MRI-3 Wetland Mitigation Bank operated by Evergreen Environmental.

Table ES-7: Summary of Environmental Consequences (Continued)

Category	No Build	Preferred Alternative
FLOODPLAINS		
Project Elements within Floodplains	N/A	<ul style="list-style-type: none"> - West Side Avenue alignment, Northern Branch Railroad/CSX alignment, 91st Street Station, Palisades Park Station, Leonia Station, and Englewood Route 4 Station are located within floodplains. - NJDEP Stream Encroachment Permit required. - Although rail projects may be granted an exemption from the zero percent net fill provision of the NJ Flood Hazard Control Act, the project would be designed with the intent to meet this rule by not filling more than 20 percent of the existing floodplain storage on a site. - As compensation, flood storage areas would be provided off-site within the same flood hazard area and watershed as the proposed fill and would not be separated from the proposed fill by a water control structure such as a road or dam. - Excess runoff associated with the project would be mitigated through the use of wet ponds, stormwater infiltration or detention facilities, and bio-retention best management practices as outlined by the NJDEP Land Use Regulation Program.
NAVIGABLE WATERWAYS AND COASTAL ZONES		
Impact to Navigable Waterways	No Impact	<ul style="list-style-type: none"> - The construction of the bridges over Wolf Creek and one of its tributaries are not expected to result in impacts to the navigability of the waterways as the bridges would be constructed in accordance with USCG parameters and as stipulated by the Section 10 Permit from the US Army Corps of Engineers (USACE). - Construction activities are anticipated to include widening and excavation, as well as the placement of materials in and around the structure over the waterways. The navigability of the waterways is expected to remain the same as prior to construction.
ENDANGERED SPECIES		
Threatened, Endangered, and Species of Concern Potentially Located within the Study Area	The United States Fish and Wildlife Service (USFWS) and NJDEP Natural Heritage Program (NJDEP NHP) identified the potential for the habitats of Indiana bat, cattle egret, snowy egret, bald eagle, black crowned night heron, black-crowned night heron, brown thrasher, glossy ibis, little blue heron, Henslow's sparrow, northern harrier, peregrine falcon, and eastern box turtle to occur along the project corridor. In addition, an occurrence of the wood turtle was documented approximately three-quarters of a mile from the project corridor.	
Potential Impacts	No Impact	<ul style="list-style-type: none"> - No Impact. - Habitat proximate to the railroad right-of-way is not suitable to support the noted species. Additionally, minimal forest habitat was identified for the Indiana bat adjacent to the right-of-way due to its presence in a highly-developed urban area.

Table ES-7: Summary of Environmental Consequences (Continued)

Category	No Build	Preferred Alternative
HAZARDOUS MATERIALS		
Number of Stations with Potential Contamination (On-Site/Close Proximity)	No Impact	<ul style="list-style-type: none"> - Palisades Park Station and Englewood Route 4 Station are within close proximity to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites. Complete Phase I and Phase II studies are likely to be required at these locations to determine if contamination has migrated to the station sites. Phase II studies would be performed prior to property acquisition unless the property can be classified accurately by other means or methods. - The remaining station sites would require Phase I studies, to verify that the station sites are not contaminated with previously undocumented hazardous materials. This would potentially be followed up by Phase II, testing, where necessary, to confirm the presence or absence of hazardous materials. - Based on the records research, it is unlikely that any of the proposed station or VBF sites would be found to be contaminated to the point that an alternate location would need to be identified. - Additionally, active and previously active rail rights-of-way are typically considered to be contaminated as a result of the leakage of fluids (oil, diesel, brake fluid, and lubricants) from rail vehicles. Industry best management practices would be followed to prevent or limit exposure to hazardous materials.
ENERGY		
Energy Availability	No Impact	The operation of light rail vehicles would require the right-of-way to be electrified via the installation of overhead electric catenary along the alignment. The existing power grid has a sufficient energy supply to support the Preferred Alternative.
Net Change in Direct Energy Expenditure	No change	Reduction of 164.3 billion BTU annually.
Indirect Energy Expenditure	No change	One-time construction energy expenditure of 271.9 billion BTU.
Payback Potential ⁴	N/A	1.7 years
ELECTRIC AND MAGNETIC FIELDS		
EMF Impacts	N/A	The project is not anticipated to exceed suggested acceptable exposure thresholds within rail vehicles or at wayside and platform locations. EMF exposure levels from the proposed project would pose no additional health risk for Northern Branch passenger rail users or study area residents living proximate to the rail alignment.

⁴ Payback Potential is the measure of the number of years it would take for the energy savings of a transit project to repay the energy cost associated with construction.

Table ES-7: Summary of Environmental Consequences (Continued)

Category	No Build	Preferred Alternative
HISTORIC PROPERTIES AND RESOURCES		
Number of Historic Resources within Areas of Potential Effect (APEs)	N/A	10 resources are within the APEs – Dutch Reformed Church, Ridgefield; US Route 46 Corridor, Ridgefield and Palisades Park; Barrett’s, Palmer & Heal Dyeing & Cleaning Establishment, Englewood; DeMott House, Englewood; Palisades Trust and Guaranty Building, Englewood; Englewood Municipal Building, Englewood; Professional Building, Englewood; Adriance Van Brunt & Moses E. Springer Office and First Englewood Women’s Exchange Building, Englewood; Depot Square Building, Englewood; and Brookside Cemetery, Englewood.
Potential Adverse Effects	None	<ul style="list-style-type: none"> - No adverse effects. - Mitigation measures for construction activities are aimed at buffering historic resources from noise, vibration, and dust, and include relatively simple measures such as establishing staging areas away from the resources and establishing truck routes that do not pass by the resources. - Construction of the catenary may change the visual context of the resource; however, these impacts can be mitigated through the application of context-sensitive design elements that respect the local development patterns and historic resources in the area. These elements would be reviewed by the State Historic Preservation Office (SHPO) through a design review process, as documented in the Draft Programmatic Agreement (refer to Appendix K).
ARCHAEOLOGY		
Archaeological Impacts	N/A	<ul style="list-style-type: none"> - No impacts are expected to known archaeological resources. No remains of structures or evidence of prehistoric occupation were found during the Phase I and Phase 1B Analyses. - The potential exists for buried portions of known resources and previously undocumented resources to be discovered during the development of stations and the VBF. If resources are identified, a Phase II Analysis, which requires soil borings, would be performed. - Mitigation for any resources discovered during the Phase II Analysis would be determined in consultation with the SHPO, as documented in the Draft Programmatic Agreement (refer to Appendix K).
SECTION 4(F) RESOURCES		
Number of Section 4(f) Resources Affected	N/A	The Preferred Alternative would result in partial acquisition or easements of the following three parkland resources: North Bergen Municipal Pool, North Bergen; Overpeck County Park, Leonia; Depot Square Park (east and west), Englewood. FTA is proposing a <i>de minimis</i> use determination for the Preferred Alternative at all three of these resources, as the proposed project would not adversely affect the features, attributes, or activities that qualify each of these resources for Section 4(f) protection.

Table ES-7: Summary of Environmental Consequences (Continued)

Category	No Build	Preferred Alternative
ENVIRONMENTAL JUSTICE		
Environmental Justice Impact	N/A	<ul style="list-style-type: none"> - No Environmental Justice impact - Though impacts may result under the Preferred Alternative in low-income and/or minority communities throughout the corridor, these impacts are not disproportionate among race, origin, or low-income populations. - The introduction of passenger rail service along the Northern Branch would generate substantial benefits to the general population as well as low-income and/or minority communities within northeastern Hudson County and southeastern Bergen County. - The Preferred Alternative would not have any adverse impacts to any social, religious, or cultural facilities that support an Environmental Justice community. - During the public hearing process, specific outreach would be made to predominantly minority and low-income communities via newspaper advertisements and outreach to community representatives.
CONSTRUCTION IMPACTS		
Emergency Medical Provider Response Time	N/A	Potential increase in response time in Englewood. Mitigation as described above in community facilities.
Freight and Traffic	N/A	Freight service would be affected during construction along the 10-mile alignment, as well as construction at the 18 grade crossings. Construction at these locations would result in the temporary closure of the crossing and necessitate short-term traffic and pedestrian detours. Coordination between NJ TRANSIT and the local municipalities, NJDOT, NYS&W, and CSX would help minimize disruptions to freight, bus, and automobile traffic. The reconfiguration of parking at the Englewood Town Center Station would temporarily eliminate off-street parking presently accommodated between Palisade and Demarest Avenues east of the rail line. Temporary parking may be accommodated using the proposed Green Acres mitigation property south of Palisade Avenue to help ease the temporary parking reduction.
Air Quality	N/A	Impacts may occur from emissions from construction vehicles and fugitive dust. The application of moisture can mitigate fugitive dust while operational controls and machinery specifications can control emissions from construction vehicles.
Noise and Vibration	N/A	Impacts are likely to occur in the vicinity of all proposed station sites as well as the rail right-of-way, potentially affecting historic buildings and adjacent parklands. Noise impacts would be limited to approximately 7 a.m. to 6 p.m. Additionally, noise barriers and vibration-reduction construction methods (pre-auguring pavement, use of dampeners on vehicles) can be employed to reduce impacts. Special consideration and coordination would be undertaken to minimize impacts to the Bergen Equestrian Center in Overpeck County Park.
Utilities	N/A	The oilostatic line would need to be relocated during construction.

Table ES-7: Summary of Environmental Consequences (Continued)

Category	No Build	Preferred Alternative
Water Quality, Wetlands, and Floodplains	N/A	- Potentially affected by ground-disturbing and in-water construction activity. - BMP's would be implemented to minimize water quality degradation and erosion and control sediment. All wetlands impacted by construction staging would be restored to pre-construction conditions and structures would be used to cross floodplains and wetlands. Two project improvements would be located within 100-year floodplains, but in both instances, the construction activity would affect previously disturbed and developed land. Mitigation measures would include using structures to cross floodplains instead of filling them, providing adequate flow circulation, reducing grading requirements, and preserving natural drainage when possible.
Community Safety and Awareness	N/A	A construction impact mitigation plan would be developed prior to the start of any construction. The plan would incorporate measures such as the implementation of public outreach efforts to inform local communities of the proposed construction program, the establishment of community construction coordination activities, and custom tailoring of mitigation plans for community specific needs.
INDIRECT AND CUMULATIVE EFFECTS		
Potential Indirect and Cumulative Effects	N/A	- Regionally, the Preferred Alternative would divert private vehicle trips to rail, helping to alleviate traffic congestion. - Overnight freight wayside noise produced by the project is a by-product of the rail service and cannot be mitigated. In the future, other noise-generating uses may become established in the study area, contributing to the noise generated by the Northern Branch Corridor project. - Water quality, wetlands, and floodplains may be affected by the combined effect of the Northern Branch Corridor project and other improvement projects/private development. The cumulative effects are the result of finite resources and their potential conversion to other uses during the course of additional development in the study area. - As a result of Englewood Hospital and Medical Center sharing their existing parking deck with commuters, they have stated that they would need to develop a new parking facility, possibly combined with office space, on the northeast portion of their property.
IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES		
Irreversible and Irretrievable Commitments of Resources	N/A	- The Preferred Alternative would require a number of partial and total property takings for the construction of the passenger rail system. Although the Uniform Relocation Assistance Act provides assistance, their loss in the study area represents an irreversible change. - The Preferred Alternative is expected to require the acquisition of 3.92 acres of wetlands. These wetland areas represent an irretrievable commitment of resources to the project.
ADVERSE IMPACTS THAT CANNOT BE AVOIDED		
Wetland Impacts	None	The Preferred Alternative is expected to require the acquisition of 3.92 acres of wetlands.
Noise Impacts	None	Noise impacts are associated with both the proposed passenger rail service and overnight freight service. Although the application for Quiet Zones must be initiated by the municipality, the implementation of Quiet Zones would effectively eliminate all horn noise impacts. However some noise would remain due to nighttime passbys of freight trains. These impacts cannot be avoided.

Source: Jacobs, 2015

ES.8. Public Outreach

This SDEIS document is a direct result of the outreach plan, conducted pursuant to Section 102 of the National Environmental Policy Act (NEPA) of 1969, codified at 42 U.S.C. § 4332; the Council on Environmental Quality's regulations implementing NEPA at 40 C.F.R. Part 1500; the environmental provisions of 23 U.S.C. § 139 and 49 U.S.C. § 5323(c); the joint Federal Transit Administration and Federal Highway Administration Environmental Impact and Related Procedures Rule at 23 C.F.R. Part 771; and related laws, regulations, and guidance as amended by the Fixing America's Surface Transportation (FAST) Act.

ES.8.1. DEIS Public Hearings and Comments

NJ TRANSIT held two public hearings in January 2012. The first hearing on January 24, 2012, was held in the Borough of Tenafly and attended by more than 550 residents and elected officials. The second hearing was held in the City of Englewood on January 26, 2012, and attended by 120 residents and elected officials. Hearings included both an informational display area and a formal presentation and hearing period. At both hearings, comments were provided through testimony given before an audience, privately to a stenographer, through the submission of hand-written comment cards, and in some cases, pre-prepared notes submitted by concerned members of the community.

In addition to public hearing comments, NJ TRANSIT received comments through the website and via emails, letters, and phone calls. A total of 1,321 comments were received during the comment period, which ran from December 23, 2011, to February 21, 2012. While many comments were supportive of the project and found it to be a positive enhancement to the study area, residents and local leaders in Tenafly were opposed to the extension of service through Tenafly to the Cresskill border. The opposition led to the revision of the Preferred Alternative, necessitating the reanalysis in this SDEIS document.

Similar to a DEIS, an SDEIS requires a public hearing and public comment period. The comments on the SDEIS and DEIS will be addressed together in the Final Environmental Impact Statement (FEIS). A 60-day public comment period will follow the notice of availability (NOA) of the SDEIS, during which time NJ TRANSIT will hold a public hearing. Comments will be collected and reviewed in the same manner as conducted for the DEIS. Provided that the SDEIS comments do not present compelling arguments for substantial revision to the SDEIS Preferred Alternative, an FEIS will be prepared, incorporating the SDEIS findings and unchanged elements from the DEIS. A response to comments chapter will be included in the FEIS, addressing all comments received during the prior two comment periods.

ES.8.2. Local Official Meetings

Since the publication of the DEIS NJ TRANSIT and the study team have met repeatedly with representatives from the study area municipalities, Bergen County, and NJDEP's Green Acres Program. Specifically, meetings were held with the following agencies or administrations and addressed the described project elements:

- **North Bergen:** West Side Avenue realignment, the closure of 83rd Street, and compensation options for the parkland acquisition.
- **Leonia:** Development of the parking deck in Overpeck County Park and the pedestrian overpass connecting Leonia High School to the athletic fields west of the Northern Branch alignment, traffic impacts and mitigation throughout the corridor, and compensation options for the parkland easement.
- **Englewood:** Englewood Town Center Station relocation and parking reconfiguration; Englewood Route 4 co-location of VBF and parking deck; parking and access issues at the Englewood

Hospital and Medical Center Station; traffic impacts and mitigation throughout the corridor; and compensation options for the parkland acquisition.

- **Englewood Hospital and Medical Center:** Shared use of the existing Englewood Hospital and Medical Center parking deck.
- **Bergen County:** Development of the proposed Leonia Station parking deck and parkland compensation options for the Leonia parkland acquisition.
- **NJDEP Green Acres Program:** Parkland easements/acquisitions in North Bergen, Leonia, and Englewood, as well as compensation options.

ES.8.3. Next Steps

A 60-day public comment period will follow the NOA of the SDEIS, during which time NJ TRANSIT will hold a public hearing. The Notice of Availability of the SDEIS will be published in the Federal Register and in newspapers circulated in the study area. Additionally all those on the mailing list and all that have provided comments will be sent an email or letter notifying them of the availability of the SDEIS. Copies of the SDEIS will be made available in local libraries and/or at municipal buildings, as well as at the project website at <http://NorthernBranchCorridor.com>.

Comments will be collected and reviewed in the same manner as conducted for the DEIS. Provided that the SDEIS comments do not present compelling arguments for substantial revision to the SDEIS Preferred Alternative, an FEIS will be prepared, incorporating the SDEIS findings and unchanged elements from the DEIS. A response to comments chapter will be included in the FEIS, addressing all comments received during the prior two comment periods.