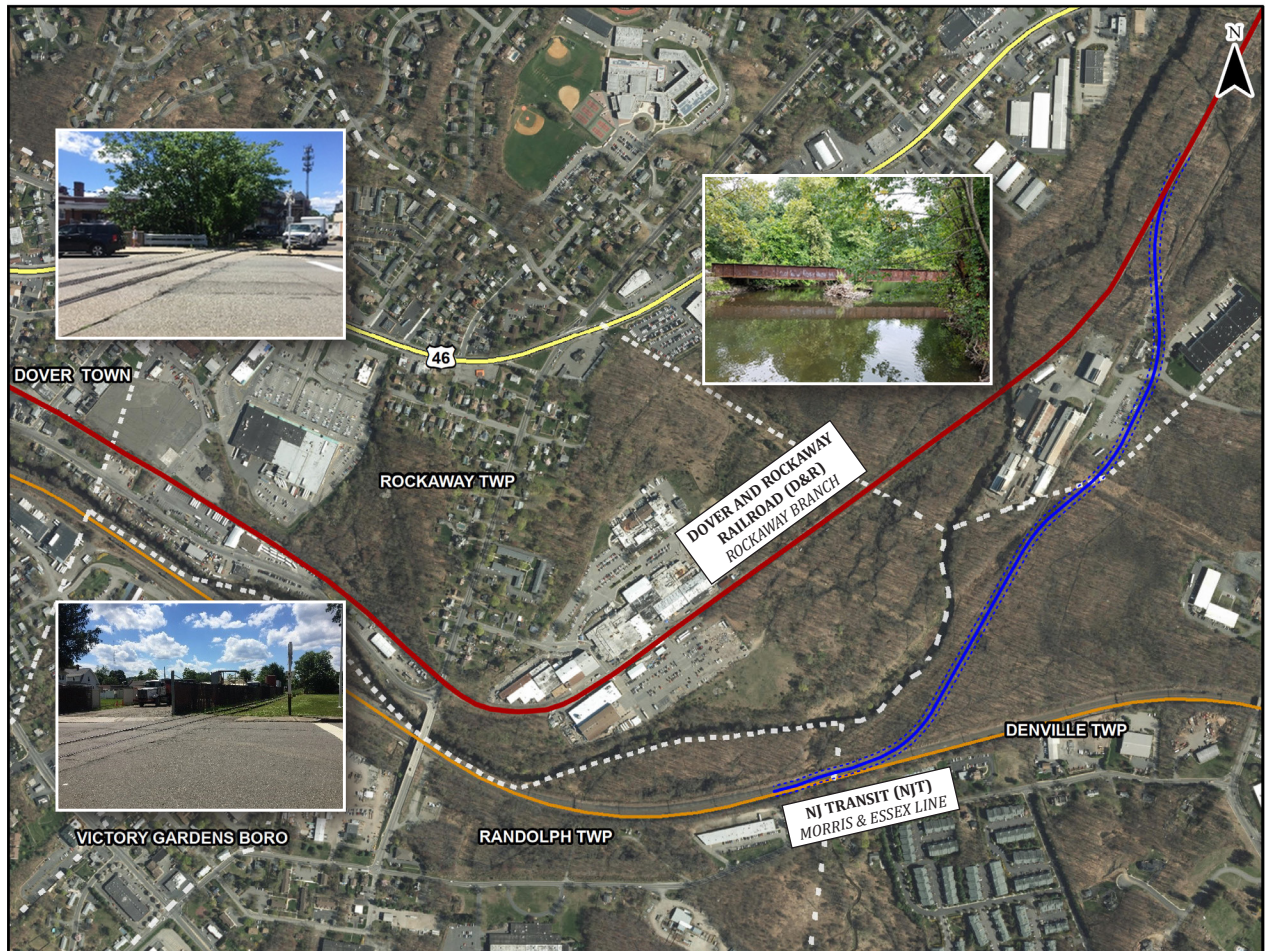


North Jersey Transportation Planning Authority

Concept Development Report

Dover & Rockaway Railroad Realignment Project



December 2020



Jacobs



Disclaimer

This report has been prepared as part of the North Jersey Transportation Planning Authority (NJTPA) Freight Concept Development Program with financing by the Federal Transit Administration and the Federal Highway Administration of the U.S. Department of Transportation. This document is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The NJTPA is solely responsible for its contents.

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The North Jersey Transportation Planning Authority (NJTPA) is the federally authorized Metropolitan Planning Organization (MPO) for the 13-county northern New Jersey region, home to 6.7 million people. It evaluates and approves transportation improvement projects, provides a forum for cooperative transportation planning, sponsors and conducts studies, assists county and city planning agencies and monitors compliance with air quality goals. The NJTPA Board includes 15 local elected officials representing 13 counties—Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union and Warren—and the cities of Newark and Jersey City. The Board also includes a Governor's Representative, the Commissioner of the New Jersey Department of Transportation (NJDOT), the Executive Director of NJ TRANSIT, the Chairman of the Port Authority of New York & New Jersey and a Citizen's Representative appointed by the Governor.

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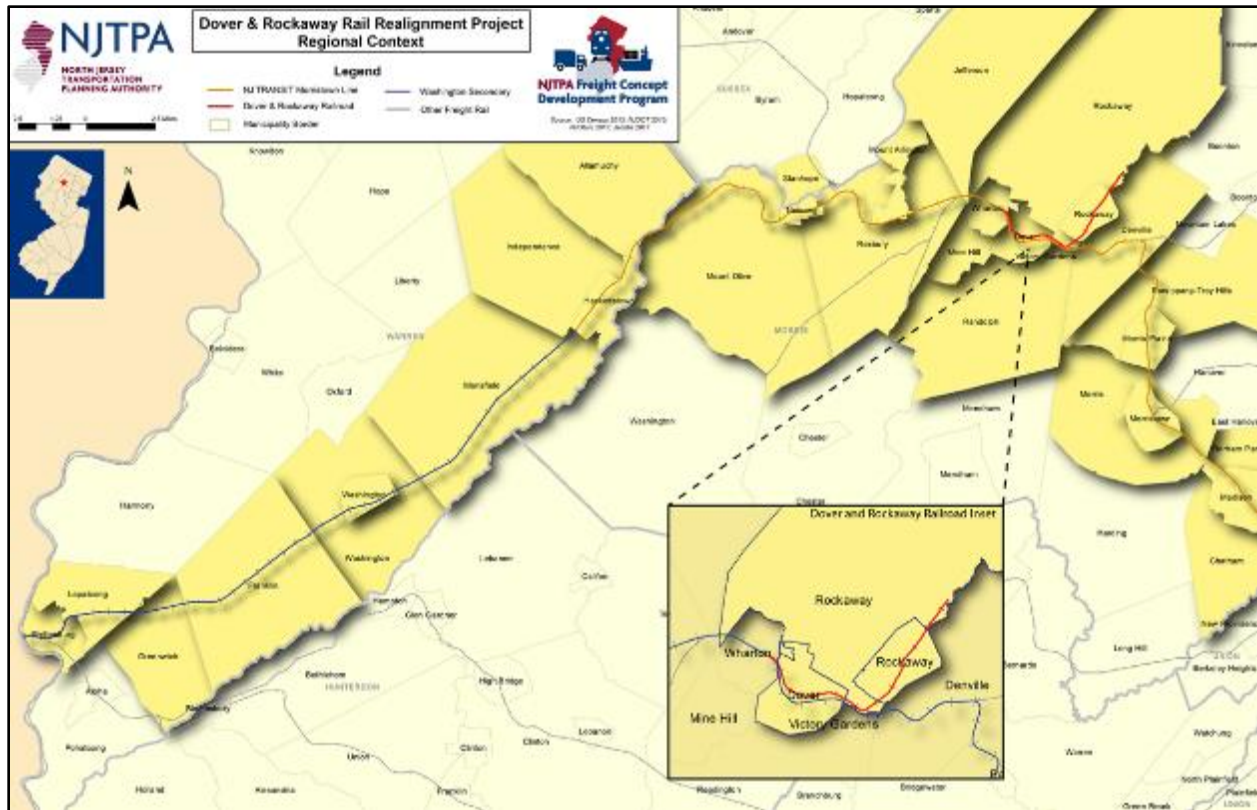
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1. Introduction

The North Jersey Transportation Planning Authority (NJTPA) in partnership with Morris and Warren counties retained Jacobs Engineering Group Inc. (Jacobs) for the preparation of a Freight Concept Development Study to identify a preferred alternative to eliminate active freight rail service on the section of the Dover & Rockaway Railroad's Rockaway Branch (D&R Line) through downtown Dover while maintaining service to the multiple industrial businesses in Rockaway Township that are served via the D&R. The D&R's sole point of access is via Norfolk Southern's Washington Secondary/NJ TRANSIT's Morristown Line (Washington Secondary) at a switch located west of the NJ TRANSIT Dover passenger station. The approximately 52-mile-long Washington Secondary corridor extends from Phillipsburg to Morristown and serves as the primary rail corridor for freight service to Warren and Morris counties. The Washington Secondary and the D&R are depicted on Figure 1.1.

Figure 1.1: Washington Secondary/Morristown Line – D&R Line Regional Context

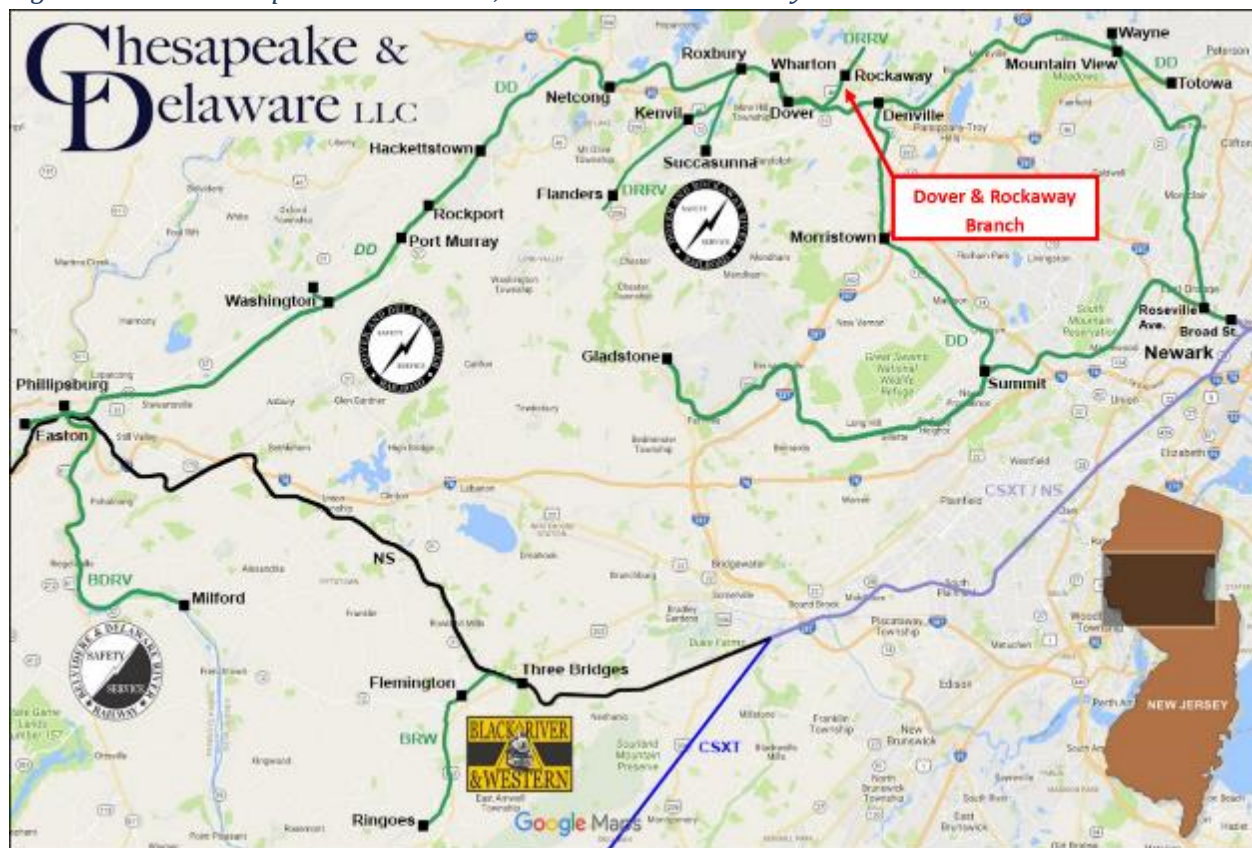


This report documents the study process, alternatives considered, public and stakeholder outreach and coordination, and recommendation of a preferred alternative that best meets the project purpose and need for advancement into design and construction of the realignment of the D&R Line.

1.1 Existing Freight Rail Activity on the Washington Secondary / D&R

Freight service on the Washington Secondary is operated by the Dover & Rockaway River Railroad Company, LLC (DRRV), a wholly owned subsidiary of the Chesapeake & Delaware, LLC. The DRRV was formed in 2017 to operate and service customers along the three rail lines owned by Morris County—the Chester Branch, High Bridge Branch, and D&R Line. In 2019, the DRRV leased the Washington Secondary from Phillipsburg to Hackettstown from Norfolk Southern. The DRRV maintains operating rights on NJ TRANSIT's Morristown Line from Hackettstown to Morristown, from which they provide last mile switching service to businesses located on connecting branch lines.

Figure 1.2: Chesapeake & Delaware, LLC - Dover & Rockaway River Railroad



Source: http://www.chesapeakeanddelaware.com/Railroads_DRRV.html

The DRRV serves over 20 active industrial customers along the Washington Secondary and the connecting branch lines, delivering over 2,300 rail cars annually. Five of these customers are located along the D&R Line. While elimination of active rail service through downtown Dover has long been envisioned, maintaining efficient, industry standard rail service to the existing customers that rely upon the D&R Line for service is vital for maintaining these businesses.

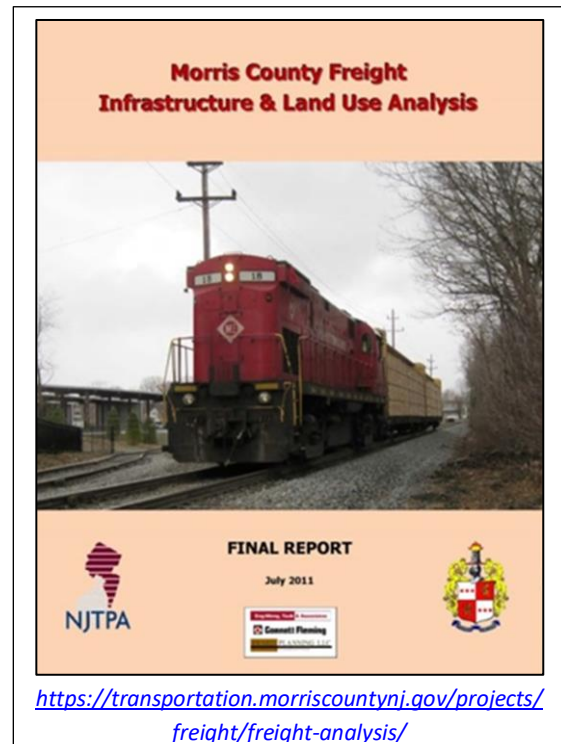
1.2 Predecessor Projects and Studies

Upgrading key rail corridors to accommodate industry standard 286,000-pound (286K), Plate F railcars is fully consistent with the goals and priorities set forth in the NJTPA's long-range transportation plan, New Jersey Department of Transportation's (NJDOT's) Statewide Freight Plan, as well as the additional plans listed below, which support investments in the rail infrastructure and eliminating weight and overhead clearance restrictions throughout the NJTPA region and New Jersey. Improvements to the rail service within the corridor would create opportunities for growing the existing rail-served businesses and attracting new rail-served developments which would, as a result, increase the number of jobs and economic vitality of the region. The need for and benefits of eliminating the existing weight restrictions were evaluated and documented in the following studies:

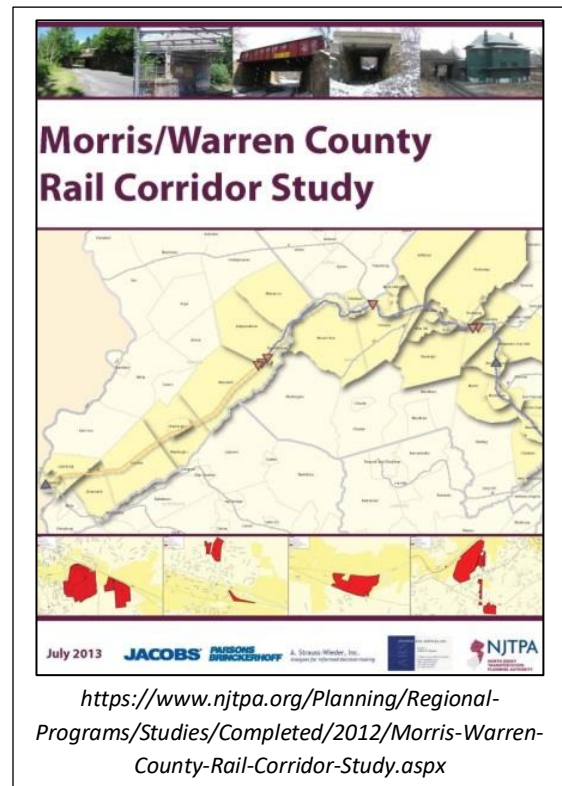
- Morris County Freight Infrastructure & Land Use Analysis, July 2011
- NJTPA Rail Freight Capacity and Needs Assessment to Year 2040, June 2013
- Morris and Warren County Rail Corridor Study, July 2013
- NJDOT Freight Rail Strategic Plan, June 2014

Morris County, with funding from the NJTPA, completed the ***Morris County Freight Infrastructure & Land Use Analysis*** in 2011. This study examined the impact and role of the goods movement industry on the county's transportation network, land use, and economy. The study recommended physical infrastructure improvements, identified potential freight-related development locations, and analyzed the economic impact of the value of the goods movement industry in the county. It also included a guide to freight planning for municipalities and a marketing plan to promote economic development and transportation in the county.

While focusing on infrastructure and land uses within Morris County, the study also identified a series of constraints within Warren County that effect the potential of freight rail to support and foster growth in Morris County industrial businesses, the jobs they create and the associated economic value they bring to the county and New Jersey as a whole.



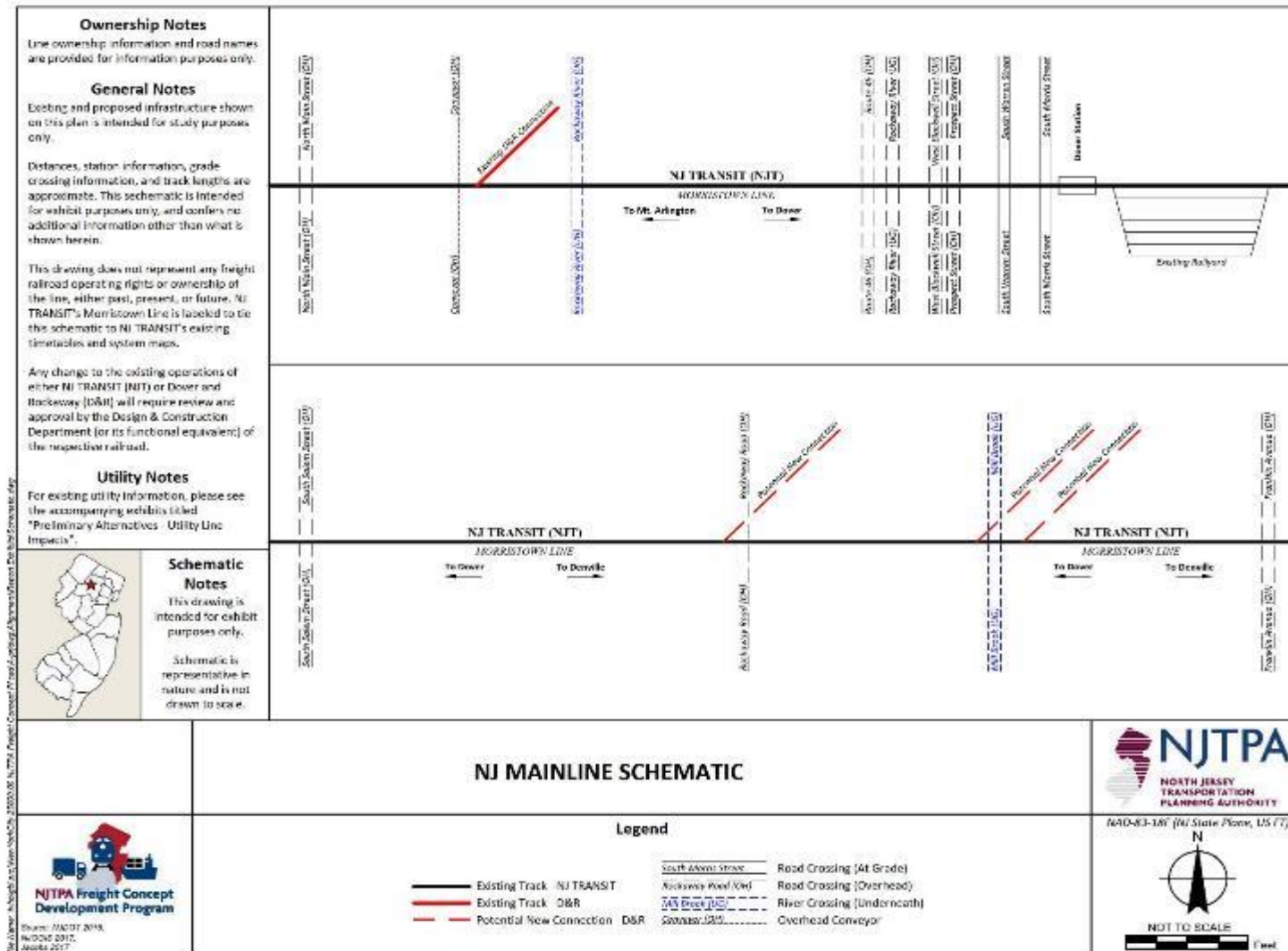
In response to the additional constraints identified, the NJTPA, in collaboration with Morris and Warren counties undertook the ***Morris/Warren County Rail Corridor Study***. Completed in 2013, this study built upon the findings of the *Morris County Freight Infrastructure and Land Use Analysis* study and more closely examined the infrastructure and operational improvements necessary to accommodate industry standard 286K, Plate F rail services along the Washington Secondary. The study documented impediments such as low overpasses that limit the height of rail cars and aging bridges that cannot accommodate the 286K railcars, minimizing the competitive advantage of industries served by the corridor and its branch lines and hampering the region's ability to retain and attract rail-served industries.



1.3 Existing Conditions

The D&R Line is an approximately 6-mile-long single-track rail line that runs at grade level through the older neighborhood of mixed residential, commercial, and industrial uses in downtown Dover. The D&R Line connects to the NJ TRANSIT Morristown Line at the D&R Junction west of Dover in the Town of Wharton. The D&R Line runs parallel to the NJ TRANSIT alignment on the north side of the Rockaway River in downtown Dover. East of downtown Dover, the D&R Line turns north and runs along the Rockaway River through the center of Rockaway Borough before terminating at a point north of Interstate 80 (I-80). Though owned by Morris County, the DRRV operates the D&R Line and services five active customers along the line. Four customers are located in an industrial park just north of I-80 on the east side of Green Pond Road (County Route 513) and one customer is located in the Town of Dover off Richards Avenue. Figure 1.3 depicts the schematic arrangement of the D&R Line and its connection to the Morristown Line.

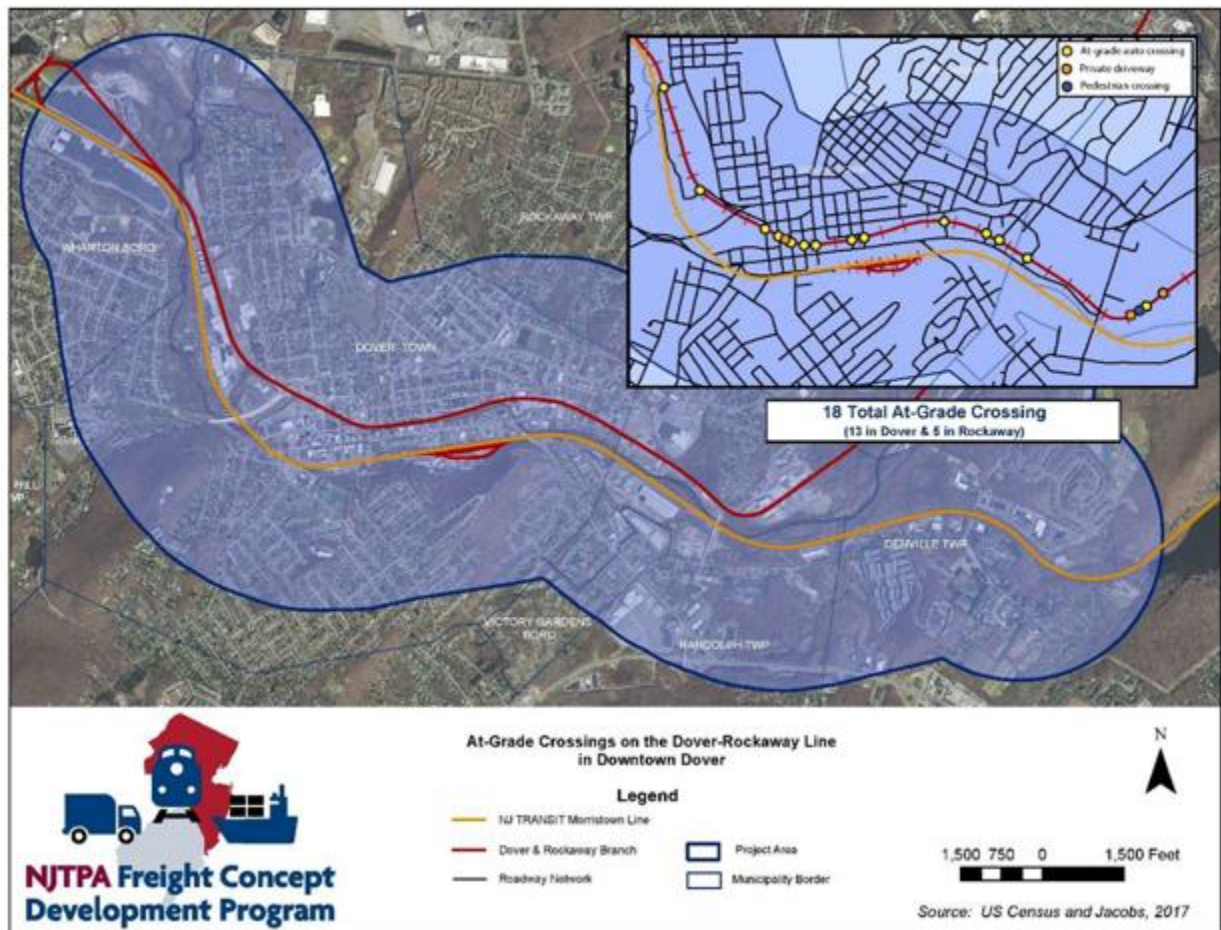
Figure 1.3: Dover & Rockaway River Railroad Alignment and Grade Crossings



As depicted on Figure 1.4, the D&R Line has 18 ungated at-grade road crossings, of which 13 are within the Town of Dover and 5 are within the Township of Rockaway. Many are in proximity to one another. The close spacing of grade crossing and lack of gates poses safety issues, especially for vehicular traffic. Drivers along the street do not expect to stop for a train due to the relative low frequency of railcar movement along the D&R Line, resulting in driver uncertainty and confusion.

The ungated at-grade crossings also pose a safety issue for the walking public. Although technically trespassing, pedestrians routinely use the existing rail alignment as a walking path between neighborhoods and between downtown businesses. The same low frequency and unpredictable service schedule that impacts traffic movement also therefore present a serious safety risk to pedestrians.

Figure 1.4: *Dover & Rockaway River Railroad Alignment and Grade Crossings*



2. Purpose and Need

The purpose of this project is to optimize freight movement and improve safety by reducing conflicts between the D&R Line and vehicular and pedestrian traffic, especially in downtown Dover.

The primary goals of this project are as follows:

1. Enhance operational efficiency along the D&R Line.
2. Support future freight-related development.
3. Address traffic safety concerns through downtown Dover along the existing D&R Line.
4. Support quality of life within Dover.
5. Balance economic transportation benefits with local historic preservation and redevelopment benefits.

Within each of these overarching goals, the following specific objectives have been identified:

1. Enhance operational efficiency along the D&R Line.
 - A. **Reduce** freight travel time associated with substantially reduced speeds through the 18 non-signalized at-grade crossings, for approximately 3 miles, in the Town of Dover and Rockaway Township.
2. Support future freight-related development.
 - A. **Potentially** reduce the operational cost of rail movement along the D&R Line for customers.
 - B. **Attract** investment to vacant industrial parcels along the D&R Line.
 - C. **Improve** access to the DRRV Transload Facility in Rockaway Borough for freight customers.
3. Address traffic safety concerns through downtown Dover along the existing D&R Line.
 - A. **Reduce** the number of potential pedestrian, bicycle and vehicular conflicts with freight rail at 18 ungated at-grade rail crossings.
4. Support quality of life within Dover.
 - A. **Encourage** walking and bicycling within downtown Dover by reducing traffic safety conflicts with freight rail and converting the D&R Line in downtown Dover from an active freight line to a linear park or bicycle path.
 - B. **Support** reinvestment in a downtown neighborhood that has a pedestrian-friendly main street with retail, restaurants, and residential properties in walking distance of a NJ TRANSIT commuter rail station.
 - C. **Reduce** noise and air quality impacts for residents that abut the D&R Line in downtown Dover.
5. Balance freight rail transportation benefits with local historic preservation and redevelopment benefits.
 - A. **Coordinate** alternative development with affected stakeholders, including local leadership and freight-dependent businesses.

The full Purpose and Need Statement is presented in Appendix A.

3. Environmental Screening

Concept Development is essentially a fatal flaws analysis performed early in the project delivery process to eliminate impractical and inefficient options and advance those alternatives that are more likely to be constructible. One critical aspect of the fatal flaws analysis is assessing potential environmental impacts. Most impacts exist on a continuum, ranging from no effect to significant impact. While permits may be obtained and mitigation plans developed to address significant impacts, these permissions and ameliorative actions add substantial cost to the project budget, extend the project schedule, and can result in negative public perception and local government opposition, which can jeopardize funding. As a result, an environmental screening to identify environmental obstacles to consider in design is an essential step in the development of viable project alternatives.

The study area defined for the environmental screening considered the alternatives proposed in the previous *Morris County Freight Infrastructure & Land Use Analysis* in the context of existing topography and land development patterns. To allow for the potential for some deviation from the previous alternatives and still provide useful screening data, each of the previous project alternatives was buffered 0.5 mile in all directions. The area between the most northern, southern, and eastern and western edges of the buffers composed the project area. The NJDOT Division of Environmental Resources reviewed and approved the project study area geographic description and rationale for the boundaries.

The following sections describe the purpose, data, methodology, and results of each category considered under the environmental screening conducted for the Concept Development phase of project delivery.

3.1 Land Use

3.1.1 Purpose

Land use analysis considers whether a project alternative is compatible with existing, adjacent uses. Impacts and incompatibilities with particular land use features, such as wetlands, cultural resources, and environmental justice communities, are each discussed in their own sections later in this screening. The land use discussion in this specific section provides an overview of the land use character of the project area.

3.1.2 Methodology and Scope of Screening

Data Sources

This screening uses the New Jersey Department of Environmental Protection (NJDEP) 2012 Land Use/Land Cover Update (2/17/2015) (LU/LC 2012). Some field verification was conducted as part of study area site visits.

Analysis Methodology

The geographic information system (GIS) data obtained from NJDEP were displayed on a GIS basemap of the project area and clipped to the study area buffer to reduce the total dataset to one that contained only the data pertinent to the study area.

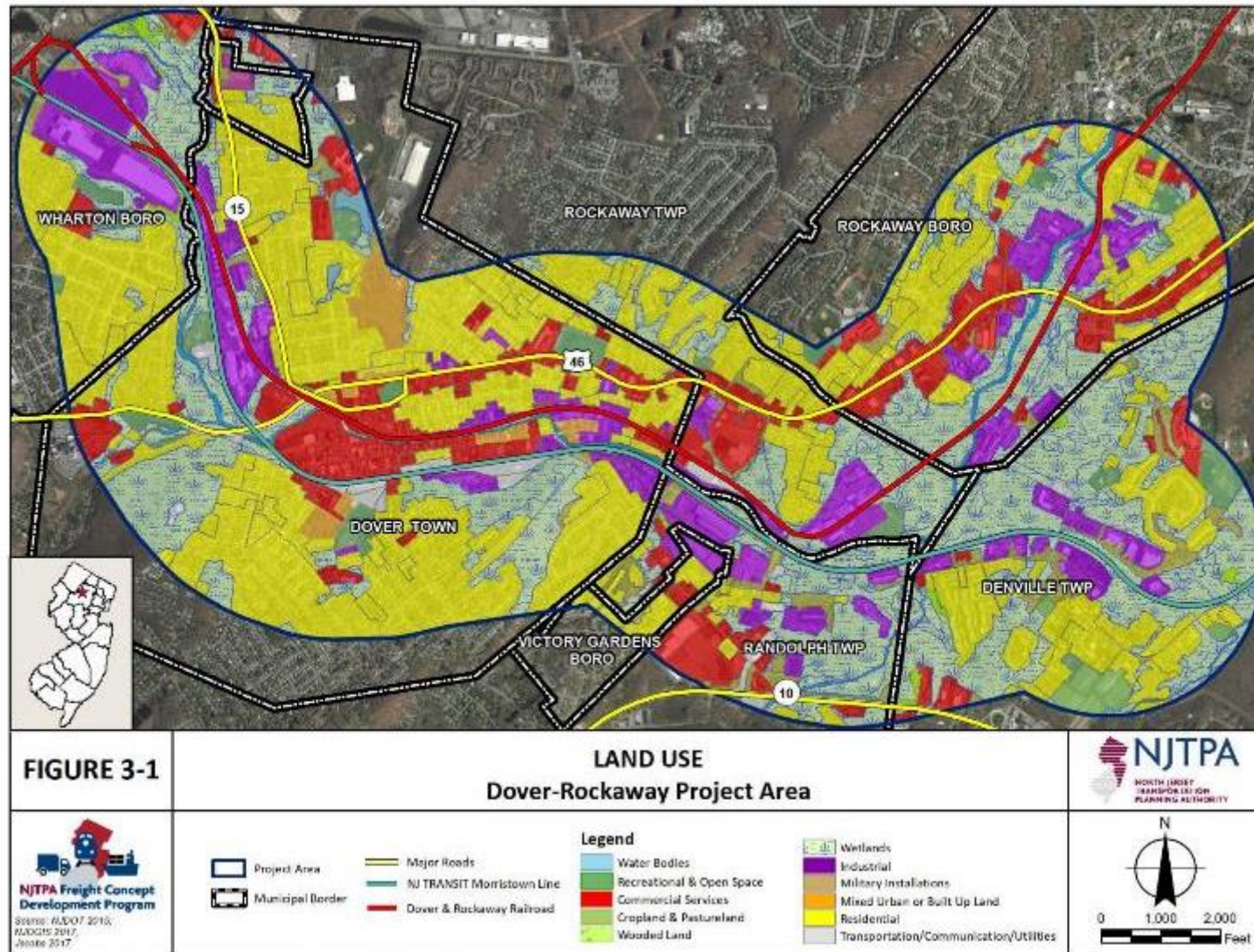
The screening involved desktop analysis with limited field reconnaissance undertaken in the course of field assessments for alternatives development. Once a preliminary preferred alternative (PPA) is selected and advanced to preliminary engineering, site reconnaissance for a more detailed assessment of land use types may be performed, although all pertinent issues will likely be addressed as part of the field reconnaissance for the discipline areas discussed in the following sections.

3.1.3 Results of Screening

The project area is approximately 1 mile long and incorporates land within eight municipalities. From west to east, the land uses adjacent to the D&R Line are industrial, central business district/mixed-use commercial, industrial, and then undeveloped open space interspersed with industrial uses (refer to Figure 3.1). As described in the Purpose and Need Statement (Appendix A), the existing alignment through Dover's central business district presents a conflict with existing adjacent uses and poses a safety hazard for drivers and pedestrians. East of downtown Dover, in Rockaway Township, the D&R Line turns north and runs through the Alcoa Howmet plant, then traverses undeveloped wooded land, crosses the Rockaway River in Rockaway Borough, and then roughly parallels it. At the point where the D&R Line turns north, it diverges from its alignment parallel to the NJ TRANSIT Morristown Line, which continues roughly east-west.

There are numerous public recreational resources within the project area, but these are not located adjacent to the D&R Line, the NJ TRANSIT Morristown Line, or between the two existing rail alignments. The eastern portion of the project area contains sensitive habitats, wetlands, and floodplains associated with the Rockaway River, which is a Category 1 (C-1) water (refer to Sections 3.8 and 3.9). The demographic character of the adjacent residential uses (refer to Section 3.2) will be of concern should an alternative require new right-of-way or realign the project such that noise-generating uses are closer to sensitive receptors. The acquisition of commercial properties in the downtown area would also require careful analysis to determine whether such an acquisition could constitute an environmental justice impact.

Figure 3.1: Land Use



3.2 Community Profile and Environmental Justice/Title VI

3.2.1 Community Demographics

The goal of identifying the project's community composition is to identify protected communities identified by Environmental Justice and Title VI non-discrimination statutes and policies, to ensure impacts associated with the project are not disproportionately distributed and the public outreach plan is fair and inclusive.

3.2.2 Methodology and Scope of Screening

Data Sources

Community facilities were determined through review of resources provided online by the municipality, county, and state. The location of resources was verified through mapping tools such as Google Maps and Google Earth.

Data were obtained from the US Census American Community Survey 2015 (US Census Bureau 2015) and updated US Census tracts made available through the NJ GIS data clearinghouse. Datasets obtained from the US Census and used in this analysis included the following:

- S0501: Selected Characteristics of the Native and Foreign-Born Populations
- DP03: Selected Economic Characteristics
- S0501: Populations
- S0103: Population 65 Years and Over in the United States
- S1601: Language Spoken at Home
- S1701: Poverty Status in the Past 12 Months
- B01003: Total Population
- B02001: Race
- B03003: Hispanic or Latino Origin
- B01001H: Sex by Age (White Alone, not Hispanic or Latino)
- S0101: Age and Sex
- B18102: Sex by Age by Hearing Difficulty
- B18103: Sex by Age by Vision Difficulty
- B18104: Sex by Age by Cognitive Difficulty
- B18105: Sex by Age by Ambulatory Difficulty
- B08141: Means of Transportation to Work by Vehicles Available

Analysis Methodology

For this assessment, minority constitutes the population that self-identifies as any of the US Census racial groups or combination of racial groups and/or Hispanic or Latino. In other words, an individual who self-identifies as one race and white but also Latino would be considered a minority. Non-minority is restricted to those who self-identify as being of one race, white, and neither Hispanic nor Latino.

The screening-level review of the community demographics considered the socioeconomic composition of the community in comparison to state, county, and municipality statistics and then examined the project area Census tracts in more detail. The project tracts are the Census tracts located within the 0.5-mile radius of the D&R Line, which includes Denville Township, Town of Dover, Mine Hill Township, Randolph Township, Rockaway Borough, Rockaway Township, Victory Gardens Borough, and Wharton Borough. This analysis did not use smaller geographic area data, such as block groups, because certain datasets were not available at that level of detail.

3.2.3 Results of Screening

Table 3.1 summarizes the comparative socioeconomic data. This section describes the numerical data in more detail and summarizes some of the implications of these findings.

Community Facilities & Resources

The project area is located entirely in Morris County and encompasses the previously mentioned eight municipalities. Within 0.5 mile of the project area, there are a number of community facilities and resources including schools, houses of worship, and active use recreational facilities.

As the D&R Line traverses downtown Dover, there is little separation between the adjacent uses and the railroad right-of-way. Many commercial properties, from small local business to large industrial buildings, are directly adjacent to the railroad right-of-way and the Rockaway River. Dover and the surrounding towns also have densely populated residential neighborhoods that are similarly located adjacent to the railroad.

There are approximately 10 schools within the project area. The East Dover Elementary School and Dover Middle School, located along Route 46, are nearest to the D&R Line. There are also multiple houses of worship throughout the project area, notably the Iglesia Adventista De Dover Church on River Street in downtown Dover and the Calvary Chapel Morris Hills Church adjacent to the D&R Line west of downtown Dover. There are many parks and recreational facilities throughout the project area, including the Waterworks Park east of downtown Dover, and Mountain Park, south of downtown Dover. Both of these facilities are directly adjacent to the Morristown Line.

There are also multiple local bus services, including two NJ TRANSIT bus routes, the 875 and 880, within the project area that serve Dover and adjacent towns. Both routes have a stop along East Blackwell Street near Bergen Street. The 880 also intersects the D&R railroad at an at-grade railroad crossing along Dover Rockaway Road. In addition, Lakeland Bus Lines, a private company, provides service to the surrounding area, New York City, and various casinos. Within the project area, Lakeland Bus Lines operates the 46 and 80 routes, which provide commuter service from its Dover terminal on East Blackwell Street to the New York Port Authority Bus Terminal. Lakeland Bus Line also provides additional service from Dover to the Mount Airy Casino Resort as well as the Wind Creek Casino Resort in Bethlehem, PA.



Table 3.1: Project Area Demographic Data

State of NJ										
Percentage of Population Self-Identifying as a Minority	42.8%									
Percentage of Population Living at or Below the Federal Poverty Line	10.8%									
Project Area	Morris County	Denville Township	Town of Dover	Mine Hill Township	Randolph Township	Rockaway Borough	Rockaway Township	Victory Gardens Borough	Wharton Borough	Census Tracks
Racial and Ethnic Composition										
White	81.6%	88.8%	49.1%	85.3%	82.4%	86.5%	81.8%	53.2%	51.7%	68.7%
Black or African-American	3.2%	2.3%	5.1%	1.4%	3.4%	5.8%	2.8%	13.2%	3.5%	4.4%
Native American/Alaskan Native	0.1%	0.0%	0.3%	0.0%	0.0%	0.0%	0.1%	0.5%	0.0%	0.1%
Asian	9.7%	7.0%	3.5%	7.1%	10.7%	6.4%	8.1%	3.0%	5.6%	6.6%
Pacific Islander	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Other Race Not Specified	3.4%	0.4%	37.6%	5.3%	1.4%	1.4%	3.5%	28.5%	34.8%	16.9%
Two or More Races	2.0%	1.5%	4.4%	0.9%	1.9%	0.0%	3.8%	1.7%	4.4%	3.3%
Hispanic/Latino of Any Race	12.4%	6.2%	67.4%	19.6%	9.9%	19.6%	12.2%	62.6%	44.8%	33.6%
Once Race, White, Not Hispanic/Latino	72.9%	83.1%	20.5%	71.3%	74.6%	68.2%	74.7%	16.8%	39.9%	52.5%
Total Minority Percentage	27.1%	16.9%	79.5%	28.7%	25.4%	31.8%	25.3%	83.2%	60.1%	47.5%
Percentage of Population Living at or Below the Federal Poverty Line	4.5%	1.8%	7.6%	5.0%	2.6%	2.3%	2.8%	25.2%	7.8%	5.3%
Percentage of Households with No Vehicle	2.7%	1.0%	0.1%	0.4%	2.5%	2.3%	0.7%	7.3%	6.5%	5.5%
Language Proficiency										
Speak only English	75.5%	86.9%	28.0%	73.6%	76.2%	71.7%	78.2%	32.7%	51.3%	58.3%
Speak Spanish	10.5%	4.1%	67.6%	18.7%	8.8%	18.0%	9.7%	63.4%	43.1%	32.7%
Speak other Indo-European languages	8.2%	3.3%	2.1%	3.5%	8.6%	7.3%	9.1%	0.8%	1.4%	5.0%
Speak Asian and Pacific Island languages	4.9%	4.8%	2.0%	4.2%	5.6%	0.8%	2.5%	2.2%	4.1%	3.4%
Speak other languages	0.8%	0.8%	0.3%	0.0%	0.8%	2.1%	0.5%	0.8%	0.0%	0.7%
Percentage of Population 65 and Older	15.0%	16.1%	10.0%	11.1%	11.0%	13.7%	15.5%	5.7%	12.6%	12.9%

Race and Ethnicity

As illustrated in Table 3.1, the total percentage of minorities within the project area is higher than Morris County's average in all of the project area municipalities except Denville and Rockaway Township. Dover has an especially high percentage of minorities (79.5 percent), which is nearly twice that of the overall average percentage of minorities in New Jersey. Census tracks for the overall project area also report a significantly high percentage of minorities at 47.5 percent, which is nearly double that of Morris County, as well as higher than the State average of 42.8 percent. A significant percentage within Dover (67.4 percent) and the project area census tracks (33.6 percent) identify as "Hispanic/Latino of Any Race." Other minorities are also represented, though in smaller percentages, throughout the project area.

Limited English Proficiency

The percentage of English proficiency varies in each community and in the project area census tracks. Morris County, Denville, Mine Hill, Rockaway Borough, and Rockaway Township have a high percentage of English proficiency. Dover and Victory Gardens have the lowest percentage at 28 percent and 32.7 percent, respectively (refer to Figure 3.2). The project area census tracks also have a lower percentage of English proficiency than Morris County overall, 58.3 percent compared to 75.5 percent. Those who do not speak English exclusively speak Spanish and to a lesser extent Indo-European languages, Asian languages, and other languages. Dover, Victory Gardens, Wharton and the project area census tracks report a high percentage of Spanish speakers. Dover has the highest percentage of Spanish speakers at 67.6 percent. Study materials were translated into Spanish and an interpreter was available at public meetings to engage Spanish-speaking participants. However, the interpreter's services were not needed. Assistance from local Spanish-speaking organizations, such as the Iglesia Adventista De Dover Church, may be advantageous to engage this community in future phases of project development.

Poverty

The poverty rate within the project area is slightly above that of Morris County and approximately half that of the State. Most of the eight municipalities within the project area have a poverty rate that is less than the State with the exception of Victory Gardens, where 25.2 percent of residents are living at or below the federal poverty level (refer to Figure 3.3). Overall, the poverty rate within the project area and neighboring communities are comparatively low.

Figure 3.2: Limited English Proficiency

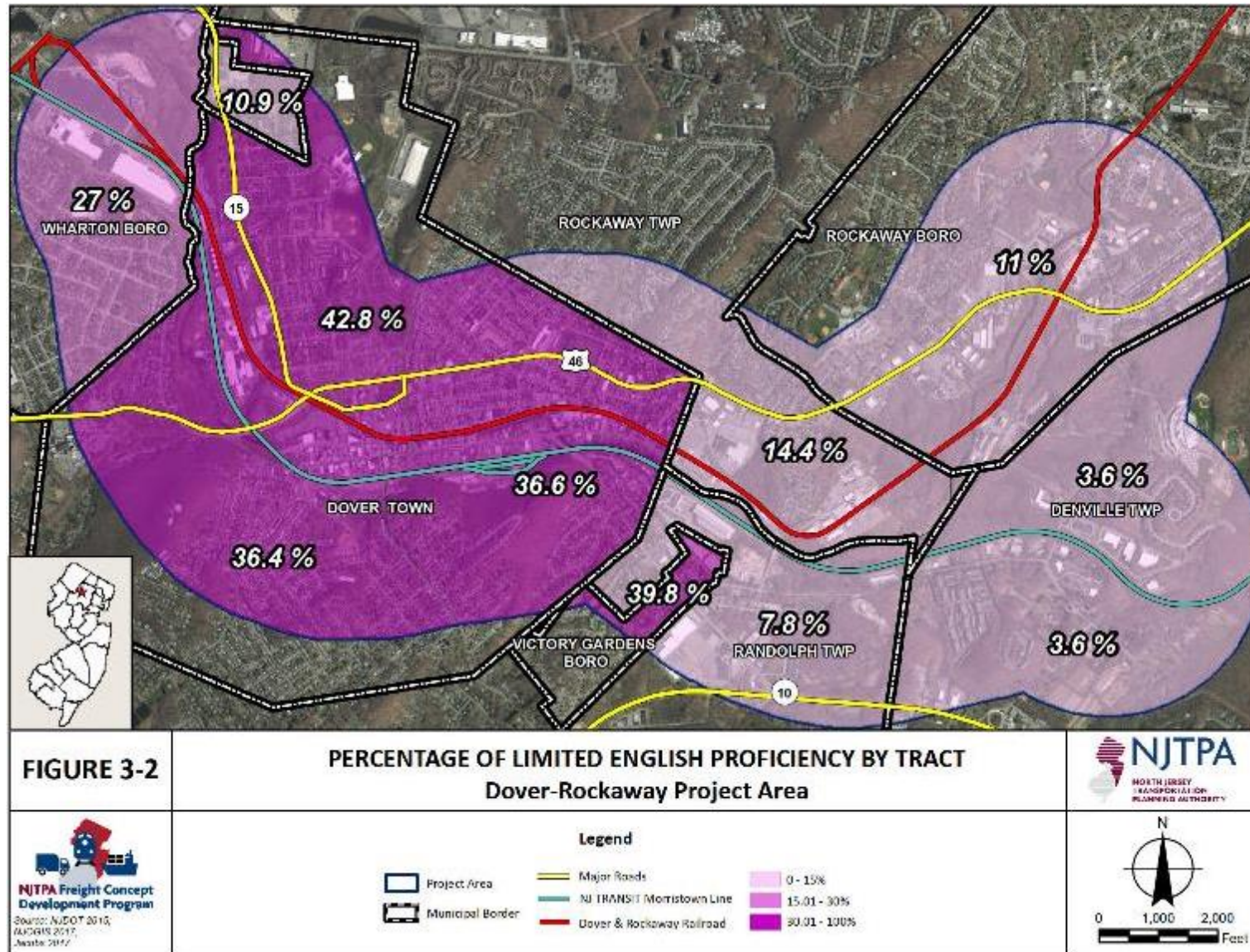
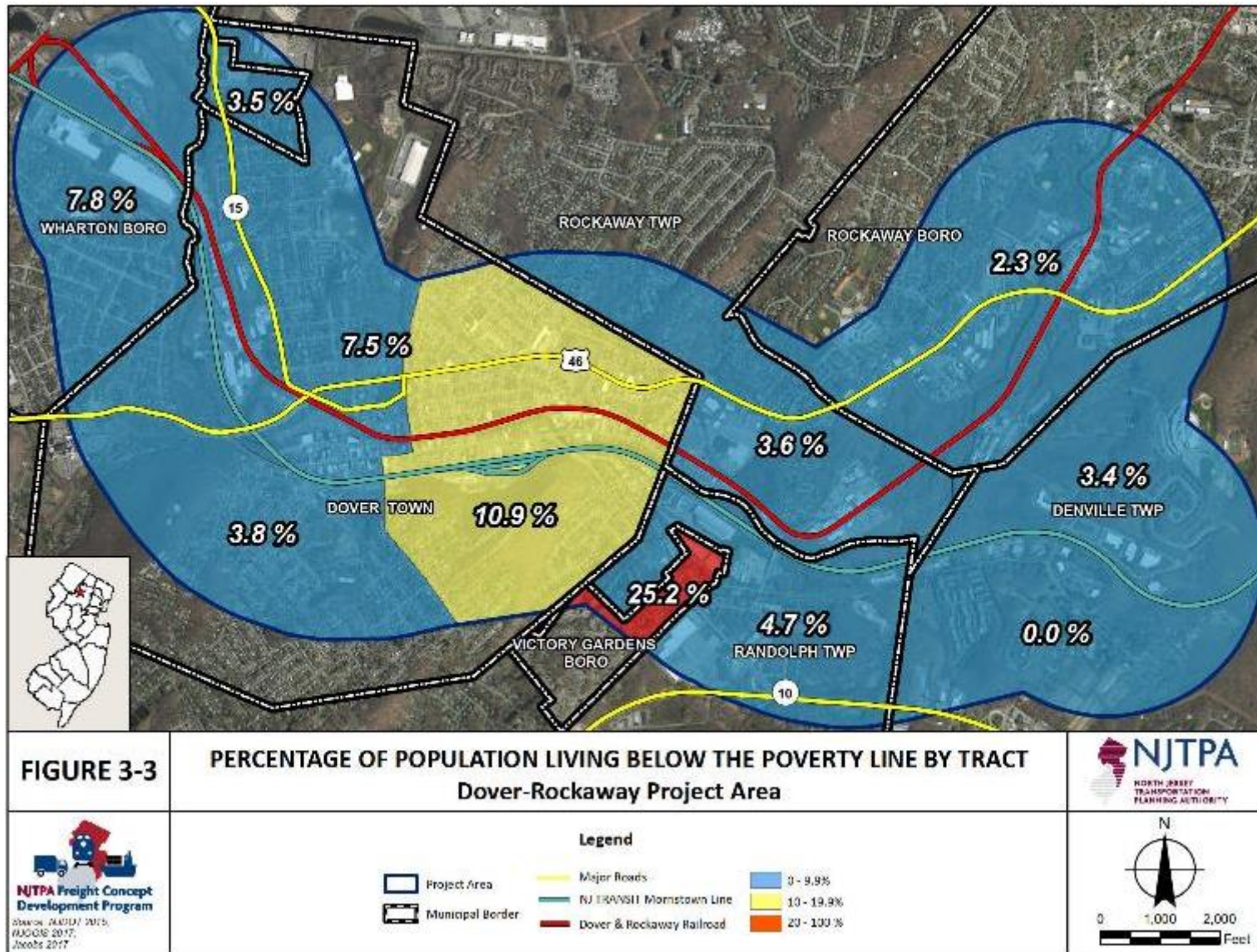


Figure 3.3: Poverty



Auto Ownership

Within the project area census tracts, the percentage of households with no vehicle is more than twice the Morris County average, but even at 5.5 percent, is relatively low. Victory Gardens and Wharton have the highest percentages of zero-auto households. Although these municipalities are on the periphery of the project area, outreach efforts were still sensitive to mobility limitations when selecting the location for public information events. The first public information center was held at the Salvation Army center in downtown Dover, which is proximate to the project, Americans with Disabilities Act (ADA) accessible, and accessible by public transit.

Senior Population

The project area's population over the age of 65 is similar to Morris County overall—12.9 percent compared to the county's 15 percent (refer to Figure 3.4). Consideration for the senior population was also a factor in outreach, public meeting locations, meeting times, and methods for providing feedback, allowing for the capabilities and comfort level of this population.

Disability Status

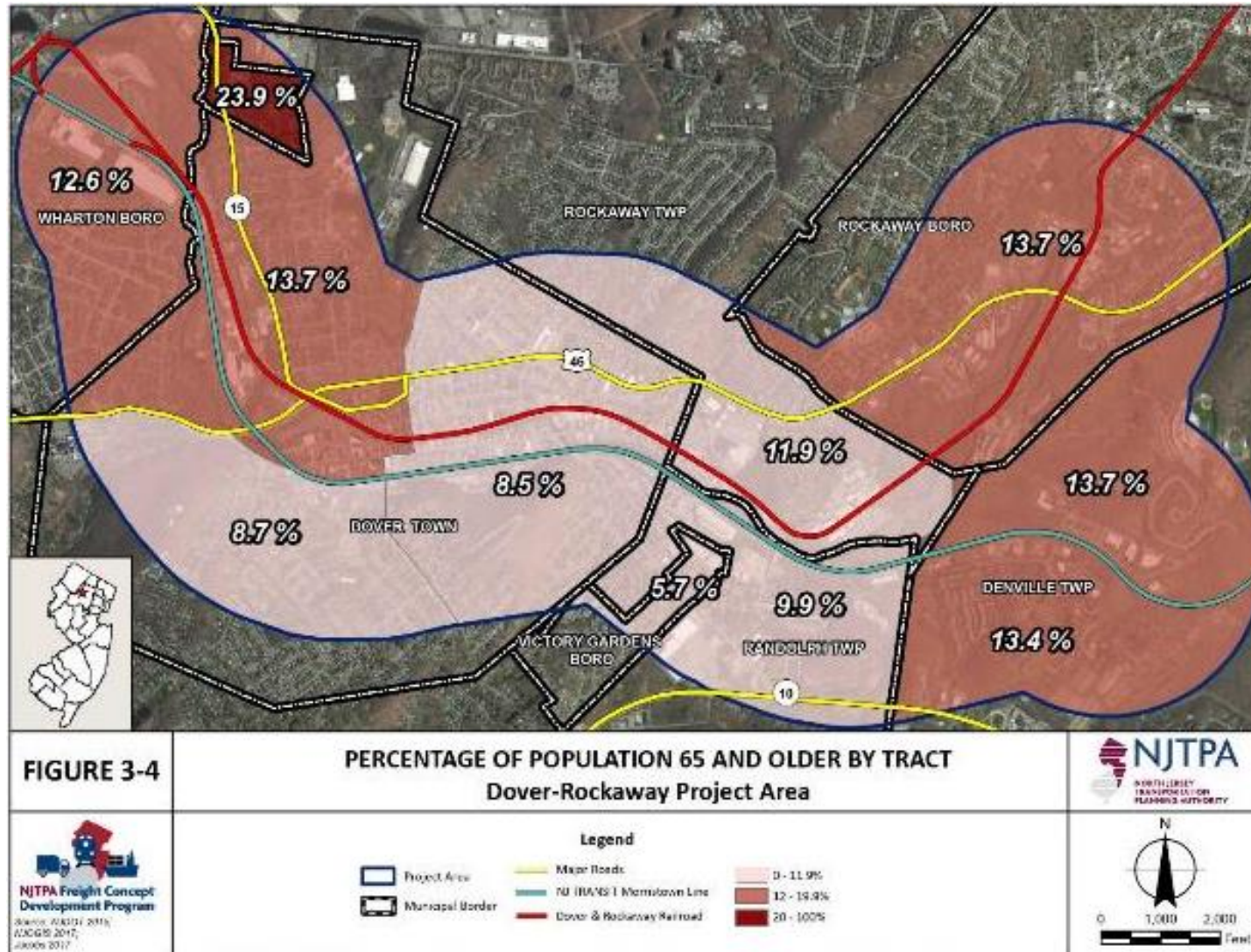
Disability status was also examined as part of the demographic analysis to ensure public outreach was inclusive and accessible to residents with mobility and sensory limitations. Disability status data are summarized in Table 3.2. Overall disability percentages within the study area are fairly comparable to that of Morris County with most below 5 percent, with a few exceptions.

There was a higher percentage of people with mobility impairments than other disabilities. Census track 450 in Dover reports the highest percentage overall for mobility impairment at 7 percent, compared to the county average of 4 percent. The average mobility impairment percentage for all census tracks within the project area is approximately 4.2 percent. However, the remaining disability percentages for each individual census track are less than 5 percent. Regardless, a fully ADA accessible location, the Salvation Army Store and Donation Center in Dover, was chosen as the location for the public information center.

Table 3.2: *Disability Status in the Project Area*

		Hearing Impaired		Visually Impaired			Cognitively Impaired		Mobility Impaired	
	Population	Total	%	Total	%	Population	Total	%	Total	%
Morris County	494,204	11,839	2.40%	4,653	0.94%	468,318	12,428	2.65%	18,970	4.05%
Project Area Census Tracts										
414	6,094	113	1.85%	167	2.74%	5,712	49	0.86%	191	3.34%
415	6,137	161	2.62%	90	1.47%	5,779	128	2.21%	158	2.73%
443	6,490	86	1.33%	117	1.80%	6,264	325	5.19%	188	3.00%
445.01	6,566	257	3.91%	103	1.57%	6,096	215	3.53%	325	5.33%
445.02	4,531	85	1.88%	22	0.49%	4,225	122	2.89%	155	3.67%
448	7,217	119	1.65%	48	0.67%	6,938	190	2.74%	282	4.06%
449	6,132	66	1.08%	50	0.82%	5,679	133	2.34%	253	4.46%
450	4,766	60	1.26%	68	1.43%	4,514	237	5.25%	316	7.00%
451	6,607	135	2.04%	80	1.21%	6,246	125	2.00%	353	5.65%
456.02	1,593	21	1.32%	21	1.32%	1,458	43	2.95%	37	2.54%
463	5,404	188	3.48%	94	1.74%	5,097	177	3.47%	226	4.43%

Figure 3.4: Senior Population



3.3 Cultural Resources

3.3.1 Purpose

Federal regulations (36 CFR 800—Protection of Historic Properties and the National Historic Preservation Act, Section 106) require federally funded projects to consult with the State Historic Preservation Offices (SHPO), Tribal Historic Preservation Offices, Native American tribes, Native Hawaiian Organizations (NHO), and other interested parties, identify historic properties, determine whether and how such properties may be affected, and resolve adverse effects.

36 CFR 800, Section 106 requires federal agencies to consider how projects affect historic properties. Historic properties are defined as any prehistoric or historic districts, sites, buildings, structures, or objects that are eligible for or already listed in the National Register of Historic Places (NRHP). Also included are any artifacts, records, and remains (surface or subsurface) that are related to and located within historic properties and any properties of traditional religious and cultural importance to Native American tribes or NHOs.

In accordance with these applicable regulations, a Cultural Resource Screening analysis was undertaken in the area surrounding the drain bridge. The goal of the screening was to identify known cultural resources in or near the project area. This includes known archaeological resources in the project area and historic architectural resources that are listed in, eligible, or potentially eligible for the New Jersey Register of Historic Places (NJR) and NRHP. The project area delineated for this screening used the maximum possible extent of proposed improvements at this location. The Cultural Resources Screening Report is presented in Appendix B with key findings summarized in the following sections.

3.3.2 Methodology and Scope of Screening

Data Sources

A range of data sources were reviewed for this screening. This review was supplemented by extensive field observations to validate the information assembled from the data review and identify any additional features that may not have been included in previous investigations.

Analysis Methodology

Tasks completed for the historic architectural component of the cultural resources screening included background research at the New Jersey Historic Preservation Office (NJHPO) to identify properties within approximately 0.5 mile of the project area that are listed in the NJR and/or listed in or eligible for the NRHP. Previously conducted historic site inventories and regulatory surveys on file at the NJHPO were reviewed. The archaeological portion of this cultural resources screening consisted of background research at the NJHPO and the New Jersey State Museum to identify any registered archaeological sites as well as prior cultural resources surveys completed in or near the project area. The results of this screening were used in the environmental screening document.

3.3.3 Results of Screening

Environmental Setting

This section summarizes the Cultural Resource Screening and findings.

The project alternatives are located largely within a floodplain topographic setting at elevations ranging from approximately 550 feet to 575 feet above mean sea level. The project alternatives area is drained by the Rockaway River and associated wetlands. The Rockaway River empties into the Boonton Reservoir and drains into the Passaic River approximately 12 miles southeast of the project alternatives area. The Passaic River empties into the Newark Bay and then into the Atlantic Ocean via the Kill Van Kull, Upper and Lower New York Bay, and the Raritan Bay. Vegetation is varied and includes manicured grass, secondary growth deciduous trees, undergrowth, and brambles.

The project alternative area is located within the New Jersey Highlands Physiographic Province, bordered by the Kittatinny Valley to the west and the Piedmont Lowlands to the east. In general, the Highlands consist of northeast-southwest trending broad, rounded, or flat-topped mountain ranges separated by deep, narrow valleys (Wolfe 1977). A few river valleys, including the Pequannock, the Delaware, and the Rockaway, are transverse to the general trend and the transverse valleys have afforded pathways across the Highlands for railroads and roads. The project alternatives are underlain by Middle Proterozoic Albite-Oligoclase granite, hornblend, and diorite (Drake et al. 1996; NJDEP 2019a). Surficial sediments in the project alternatives are mapped as Late Wisconsinan Glaciofluvial Terrace Deposits, Holocene and Pleistocene alluvium, and Pleistocene weathered gneiss (Stone et al. 2002; NJDEP 2019a). Bedrock outcroppings are located to the east and west of the project alternatives. Soil types vary throughout the five project alternatives and include soils classified as urban land near the Alcoa Howmet Castings Facility and portions of Dover as well as well-drained Pompton sandy loam and Netcong gravelly sandy loam on uplands and poorly drained or frequently flooded Fluvaquents and Preakness sandy loam (NRCS 2019). Historic fill was mapped by the NJDEP along existing railroad lines and near the Alcoa Howmet Castings Facility and McWilliams Forge (NJDEP 2019b).

Summary of Findings

The Cultural Resources Screening for the Dover and Rockaway Rail Realignment Project in Denville, Rockaway, and Randolph townships, and Rockaway Borough, Morris County identified known cultural resources constraints within or proximate to all of the alternatives considered. The screening included background research to identify historic properties that are listed in the NJR and/or eligible for listing in the NRHP and previously identified archaeological and historic architectural resources within 0.5 mile and archaeological sites within 1 mile of the identified project alternatives.

No registered archaeological sites are located within or adjacent to the identified project alternatives. However, numerous prehistoric sites have been identified within the drainage basin of the Rockaway River and its tributaries. Four registered archaeological sites are located within 1 mile of the project alternatives area. These include two historic and two prehistoric sites. The closest archaeological site is the late eighteenth-to mid-nineteenth-century Ross Dickerson House site (28-Mr-290), possibly associated with the Morris Canal. Well-drained upland portions of the project alternatives within 500 feet of the Rockaway

River are generally sensitive for the presence of prehistoric archaeological resources. Portions of the project alternatives proximate to known historic resources such as the Old Main Delaware Lackawanna & Western Railroad (DL&WRR) Historic District are generally sensitive for the presence of historic archaeological resources.

One known historic property, the NRHP-eligible Old Main DL&WRR Historic District (SHPO Opinion: 6/7/2004; Prior SHPO Opinion: 9/24/1996), is situated within all identified alternatives. The NJR- and NRHP-listed Morris Canal (NJR: 11/26/1973; NRHP: 10/1/1974) falls within 0.5 mile of all identified alternatives. All alternatives also fall within 0.5 mile of the Rockaway Road Bridge over NJ TRANSIT Morristown Line, a previously identified contributing element to the Old Main DL&WRR historic district. However, based on preliminary background research, including using Google Earth, it appears that the bridge has been replaced since having been identified as a contributing resource.

A cultural resources survey will be necessary during the Preliminary Engineering Phase under Section 106 of the National Historic Preservation Act of 1966, as amended, to identify and evaluate historical and archaeology resources and assess effects.

3.4 Section 4(f) and Green Acres

3.4.1 Purpose

Section 4(f) of the Department of Transportation Act of 1966 prohibits the use of federal transportation funding for a project that impacts public open space, recreational resources, cultural resources, or waterfowl refuges unless it can be proven that no prudent and feasible alternative exists. The complexity of Section 4(f) analyses depends on the degree of impact to the resource. The most complex analyses are associated with physical taking of a protected resource and require an advertised public comment period, even if the project otherwise qualifies for a Categorical Exclusion under the National Environmental Policy Act.

In New Jersey, all projects, regardless of funding source, are potentially subject to NJDEP's Green Acres rules. Green Acres applies to a parcel of open or recreational space if its jurisdictional agency accepted Green Acres funding for *any* park, open space, or recreational project within their jurisdiction. Consequently, a ball field may be a municipal property and not preserved specifically, but if the township accepted Green Acres funding for the development of a nature center somewhere else within the municipal boundaries, the ball field becomes encumbered by Green Acres, as if it were itself deed-restricted.

The Green Acres process takes approximately 1 year to complete, requires public hearings and NJ State House Approval. Additionally, mitigation for parkland takes (known as "diversions" or "disposals" of Green Acres property) requires, at a minimum, acre-for-acre compensation in the form of a suitable parcel to develop as parkland or open space. In some instances, payment can be made to the county, but this approach requires an appraisal and the ratio for payment is always greater than the one-to-one acre replacement value. It can also be the case that Green Acres compensation ratio and requirements were established by the mechanism that funded the preservation of the parkland, which may be more

restrictive than the Green Acres regulations, generally. This information is not always readily apparent and requires research and consultation with Green Acres.

Impacts to parks and open space resources can also be considered an environmental justice impact when viewed in the context of the project area's socioeconomic character and the occurrence of similar impacts elsewhere in the project area. It can be the case that operationally and from a design perspective, the use of a 4(f) resource is feasible and prudent, but it fails the environmental justice test. Consequently, it is best to avoid the taking of parkland whenever possible.

3.4.2 Methodology and Scope of Screening

Data Sources

Preserved open space for both the county and the state was obtained from the NJDEP's Bureau of GIS. Data are recent as of 2016. The NJDEP data did not include parcels that are municipally owned and subject to Green Acres. Consequently, a review of the NJDEP Recreational and Open Space Inventory (ROSI) was undertaken to determine whether the municipalities participated in Green Acres. As described previously, if Morris County or a municipality participated in Green Acres, all public open space owned and maintained by the participating jurisdiction is considered encumbered by Green Acres. The ROSI database provides block and lot numbers only; therefore, Google Earth imagery and NJDEP aeriels were used to identify parkland resources within the project area that would be encumbered by Green Acres and also likely subject to 4(f).

Analysis Methodology

The constraints map presents desktop-level reconnaissance using data made available by the resource agencies with jurisdiction over the resource. Field reconnaissance has not been performed to verify the spatial analysis findings. Field reconnaissance is recommended during preliminary engineering.

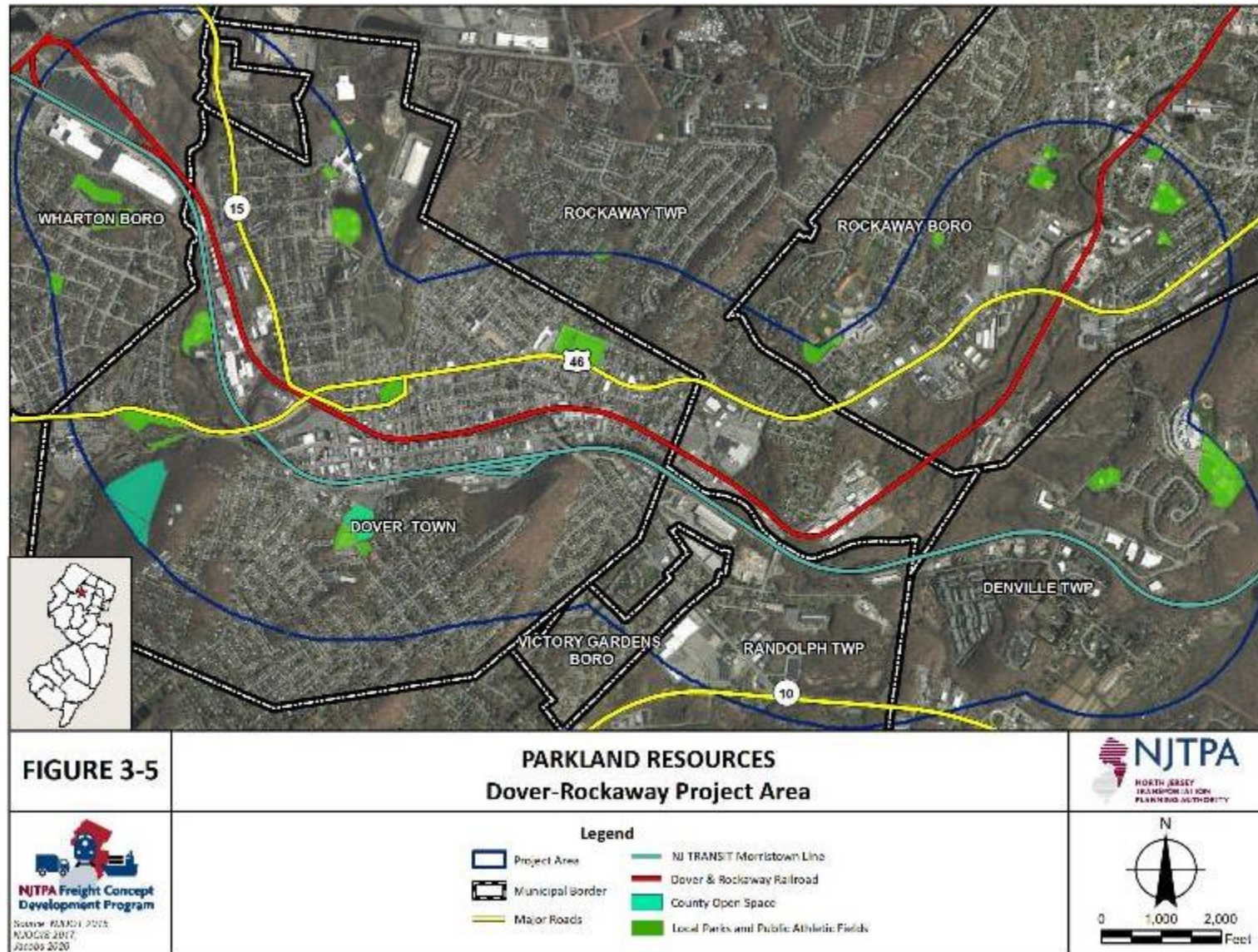
NJDEP data was displayed on an aerial basemap of the project area to determine if deed-restricted open space areas are located within the project area boundary. The ROSI database was used to indicate whether all potential parkland in a community should be considered encumbered by Green Acres and whether natural preserves were found in the project area. Google Earth was then used to identify parkland and recreational resources that were not deed-restricted. These were determined through identification of visual features, such as baseball diamonds, and with the assistance of the "Places" feature on Google Earth, which identified passive use parks that are lacking obvious recreational amenities. As Section 4(f) and Green Acres applies only to public resources, ball fields attached to public schools were considered constrained resources, but private resources, such as ball fields associated with private religious schools were not considered in the analysis.

Additionally, while cemeteries provide some amenities similar to passive use parks, they are typically owned privately and not subject to Section 4(f) or Green Acres, and therefore not included in this screening. Cemeteries are often considered cultural resources and, if applicable, are addressed in the Cultural Resources section of the screening.

3.4.3 Results of Screening

All municipalities in the project area, with the exception of Victory Gardens, have preserved open space at the municipal level through the Green Acres program. The project area also includes two preserved county facilities (refer to Figure 3.5). As a result, any impact to parkland/open space areas would be subject to the Green Acres process, and if the project is federally funded, Section 4(f). Note that impacts can include the acquisition of easements and any shared-use agreements where a new transportation use would involve parkland (including parking lots and other hardscape areas.)

Figure 3.5: Parkland



3.5 Air and Noise

3.5.1 Purpose

The purpose of an air quality screening is to determine whether the project is likely to contribute criteria pollutants to the project area and affect regional air quality. Air quality impacts are typically a concern for projects that increase the use of non-point sources of pollution, such as engines, through the addition of infrastructure capacity or through secondary impacts that adversely affect the efficiency of existing operations (i.e., causing additional traffic congestion).

Noise impact screening is directly associated with adjacent land uses and the potential for the project to adversely affect the use and enjoyment of certain categories of use. The purpose of the noise screening is therefore to identify sensitive receptors in the project area so that mitigation, whether through avoidance or physical noise abatement measures, can be factored into the design process.

3.5.2 Methodology and Scope of Screening

Data Sources

Air quality matters are under the jurisdiction of the United States Environmental Protection Agency, which publishes its Green Book on air quality conformance. The Green Book identifies states, counties, and regions within the United States where the levels of criteria air pollutants exceed the National Ambient Air Quality Standards levels. These areas, known as non-attainment areas, are required to implement plans to reduce the levels of criteria pollutants. Projects that could potentially contribute additional criteria pollutants are closely scrutinized and required to adopt control measures to help reduce the generation of these pollutants.

Noise standards are established by the Federal Highway Administration (FHWA), a unit of the United States Department of Transportation. Projects funded with federal dollars are required to comply with noise abatement measures if a project will increase ambient noise levels above FHWA's standards, which vary depending on the affected use and the time of day.

Not all projects require noise analysis. Projects that change the elevation of a roadway or railroad (grade separation), move an alignment closer to sensitive noise receptors, add lanes, and result in similar substantial changes require noise studies. Projects that do not result in substantial physical alteration of a railroad do not require study.

Analysis Methodology

At the Concept Development stage of project delivery, air and noise analysis consists primarily of the awareness of impact triggers and prevailing regulations combined with a review of adjacent land uses and operational goals of the project. The analysis is therefore qualitative, not quantitative.

3.5.3 Results of Screening

The purpose of the project is to eliminate a safety issue by relocating the D&R Line from the center of downtown Dover. This goal may see an improvement of freight rail efficiency, but not an increase in the

number of trains using the D&R Line. As a result, the project in its final, build scenario is not anticipated to generate more criteria pollutants than in the existing condition. An improvement in efficiency may help reduce the generation of criteria pollutants.

Noise impacts will depend on the alignment of the alternatives. Land uses between the D&R Line and the Morristown Line are mostly industrial and commercial, which are not sensitive receptors. Residential development is found north of the D&R Line and south of the Morristown Line.

3.6 Wetlands

3.6.1 Purpose

Wetland resources are an environmental constraint regulated by the NJDEP, and in some instances, the US Army Corps of Engineers. Wetlands provide a critical role in the maintenance of water quality for both surface and groundwater and provide habitat for multiple plant and animal species, many of which are migratory and may also be threatened or endangered. Consequently, environmental stewardship and ethical design require that impact to wetland resources be avoided whenever possible. In addition, NJDEP's freshwater wetlands regulations can be onerous and impose substantial mitigation requirements for permanent impacts to wetlands areas. Project schedule and budget are therefore also better served by limiting impacts to wetlands. As a result, the identification of known (mapped) freshwater wetlands in the project area is an important component of overall constraints mapping and necessary in the development of project alternatives.

3.6.2 Methodology and Scope of Screening

Data Sources

The environmental screening for wetlands relied on the most recent updates of NJDEP's wetlands data. Data were downloaded directly from NJDEP's Bureau of GIS website. Although NJDEP provides county-specific wetlands data for each county in the state, the data are based on aerial photography analysis from 1986. To provide more accurate assessment of wetland resources, wetland data were derived from NJDEP's 2012 Land Use/Land Cover Update (2/17/2015) (LU/LC 2012).

Analysis Methodology

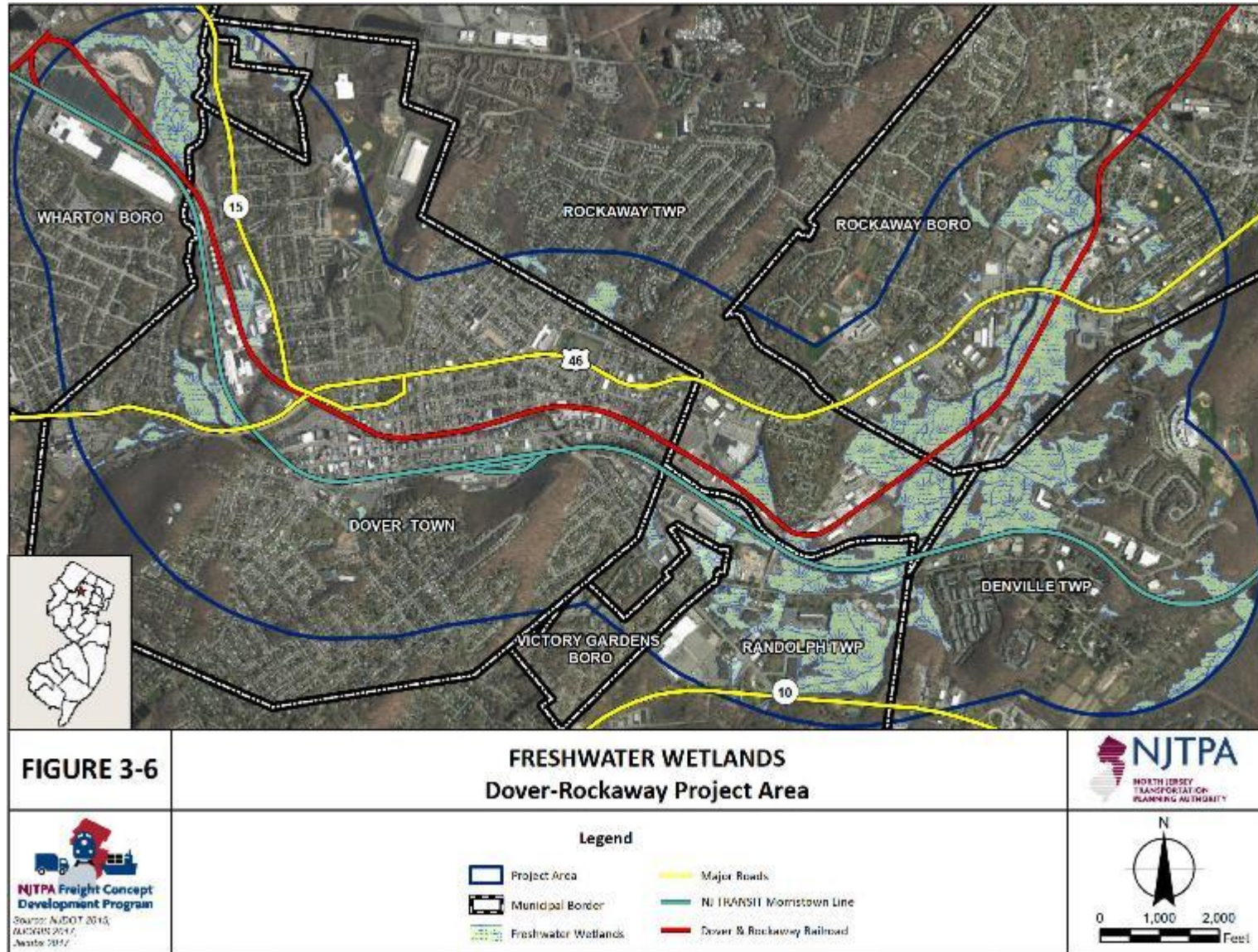
The GIS data obtained from NJDEP were displayed on a GIS basemap of the project area and clipped to the study area buffer to reduce the total watershed dataset to one that contained only the data pertinent to the study area.

The screening involved only this desktop analysis and is therefore limited to wetland areas made known to NJDEP as part of their development of the LU/LC 2012 update. Field reconnaissance to identify new or previously undocumented wetland areas was not performed as this level of assessment is not typically required during the concept stage of project development. Once a PPA is selected and advanced to preliminary engineering, site reconnaissance for undocumented resources may be performed.

3.6.3 Results of Screening

A large, contiguous area of wetlands was found in the eastern portion of the project area in the vicinity of the Rockaway River, and a smaller area of wetlands was found on the western end of the project area between Route 15 and the existing D&R alignment (refer to Figure 3.6). The larger eastern area of wetlands is associated with the Rockaway River, which is a C-1 water. As a result, the transition area for the eastern wetlands extends 300 feet from the delineated boundary of the wetland areas. It is important to note that the eastern wetland area is interspersed with some industrial development; however, the transition area buffer extends 300 feet from the delineated boundary, regardless of the land use type contained within that 300-foot buffer. Consequently, realignment of the D&R Line using existing hardscape (roadways and parking lots) may avoid direct impact to wetlands themselves but may not avoid transition area impacts and the need for transition area waivers.

Figure 3.6: Wetlands



3.7 Floodplains and Aquifers

3.7.1 Purpose

The goal of screening for flood hazard areas (FHAs) is to identify those sections of the study area that would be subject to design flood elevations (DFEs) that could consequently affect the overall design and cost of project alternatives.

FHAs are locations that are within the Federal Emergency Management Agency's (FEMA) 100-year flood zone, or Flood Zone A. Improvements constructed in FHAs are subject to NJDEP's FHA rules and design flood standards, which require that all improvements be constructed at the elevation equal to FEMA's DFE plus 1 foot. The DFE varies based on topography, and for a large project area, there may be multiple DFEs.

Sole-source aquifers are critical drinking water resources and also supply surface bodies of water. Identification of sole-source aquifers is important if a project is likely to involve excavation that would encounter groundwater.

3.7.2 Methodology and Scope of Screening

Data Sources

Flood hazard data were obtained from FEMA and represent 2012 data (post-Superstorm Sandy). NJDEP data made available through the NJ GIS clearinghouse provided the aquifer data.

Analysis Methodology

It is important to note that FEMA and NJDEP frequently update FHA data and design standards; consequently, during preliminary engineering, FHA data should be confirmed.

FEMA FHA data were displayed on an aerial basemap of the project area. The FHA dataset was clipped to the project area buffer and then displayed so as to differentiate between the flood zone types (refer to Figure 3.7). The 100-year FHA is the area most likely to be inundated in a flooding event. The 500-year flood zone area has a 0.2 percent annual chance of flood hazard. Flood Zone X represents areas unlikely to flood.

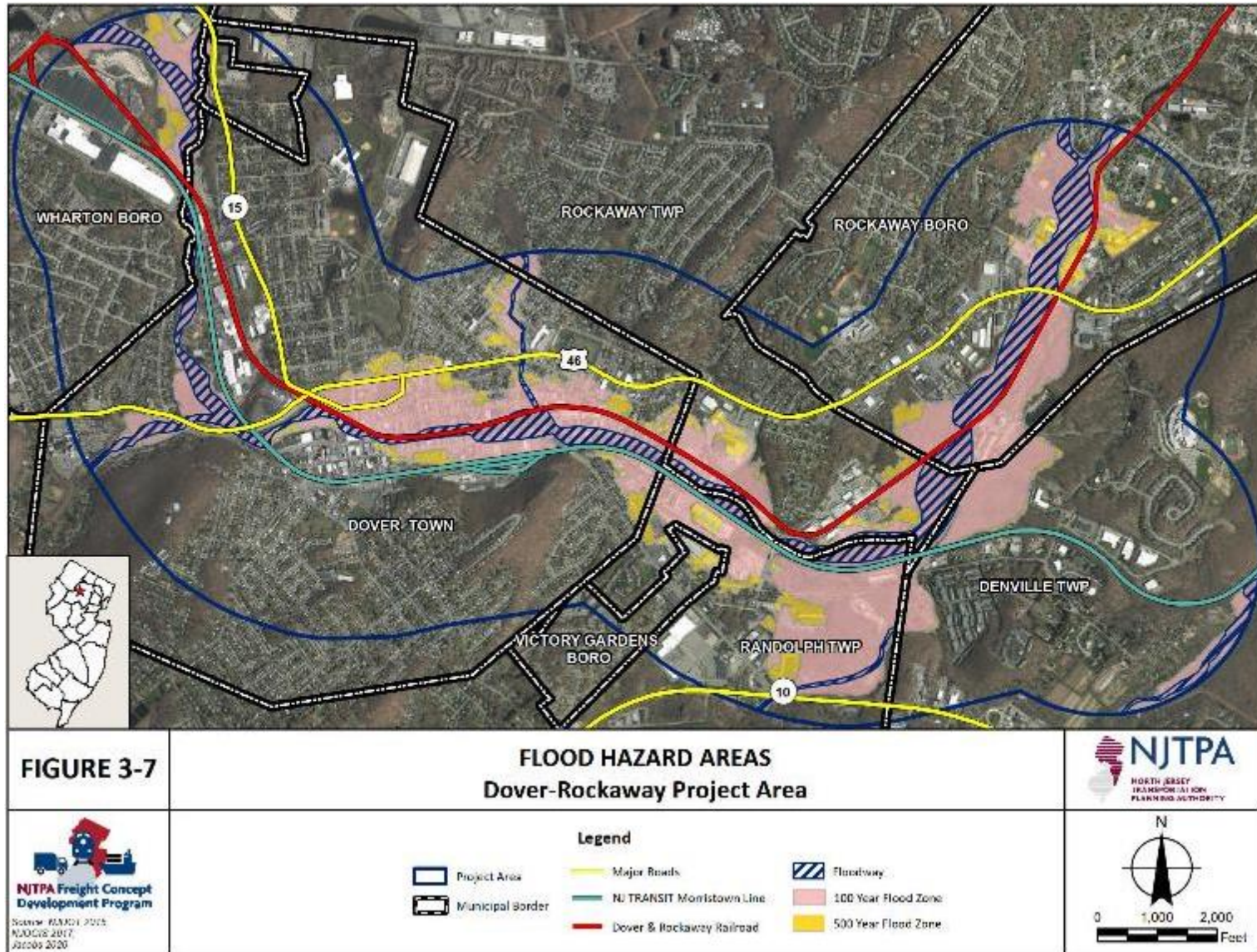
Aquifer analysis involved overlaying the project area with the NJDEP aquifer data.

3.7.3 Results of Screening

Flood hazard in the study area follows the Rockaway River, which parallels the alignment of the D&R through most of the study area. As a consequence, the D&R and much of downtown Dover is within the 100-year flood zone (Figure 3.7). The 100-year flood zone also affects the existing NJ TRANSIT Morristown Line through the center of the project area (through Dover and into Denville). Consideration of DFEs was required in the development of project alternatives. Additionally, any work within the 100-year flood zone will require NJDEP FHA permits.

The project area is located within the Northwest New Jersey and Rockaway Sole-Source Aquifers. Additional geotechnical analysis is required during preliminary engineering to determine whether measures to protect the aquifer would be necessary during construction.

Figure 3.7: Flood Hazard Area



3.8 Threatened and Endangered Species

3.8.1 Purpose

The purpose of screening for threatened and endangered species is to identify a constraint that can affect the footprint of the project, both during and after construction, and impact the construction schedule. Threatened and endangered species are regulated by the NJDEP and the United States Fish and Wildlife Service. Disturbing, harassing, or taking threatened and endangered species is prohibited without a permit, and in the instance of takings, approval to permanently remove individual specimens requires extensive review and documentation proving there is no alternative to the destructive action. In addition to physical alteration of habitats and harm to individuals, impacts to threatened and endangered species also involve disruptive construction activity during those times of the year coinciding with critical lifecycle activity of the species, such as mating and nesting.

3.8.2 Methodology and Scope of Screening

Data Sources

The environmental screening for threatened and endangered species used NJDEP's latest update to its Landscape Project, Landscape 3.3, new as of May 2017. Landscape Project data are grouped by physiographic province. The project area is located in the Skylands province. The Landscape data provide information on the presence of habitat types known to support threatened and endangered species as well as reported sightings of individual specimens of protected species. The species data are important and useful in more accurately assessing the potential for impact to species, as not all habitat areas are inhabited by listed species.

Analysis Methodology

The GIS data obtained from NJDEP were displayed on a GIS basemap of the project area and clipped to the study area buffer to reduce the total dataset to one that contained only the data pertinent to the study area.

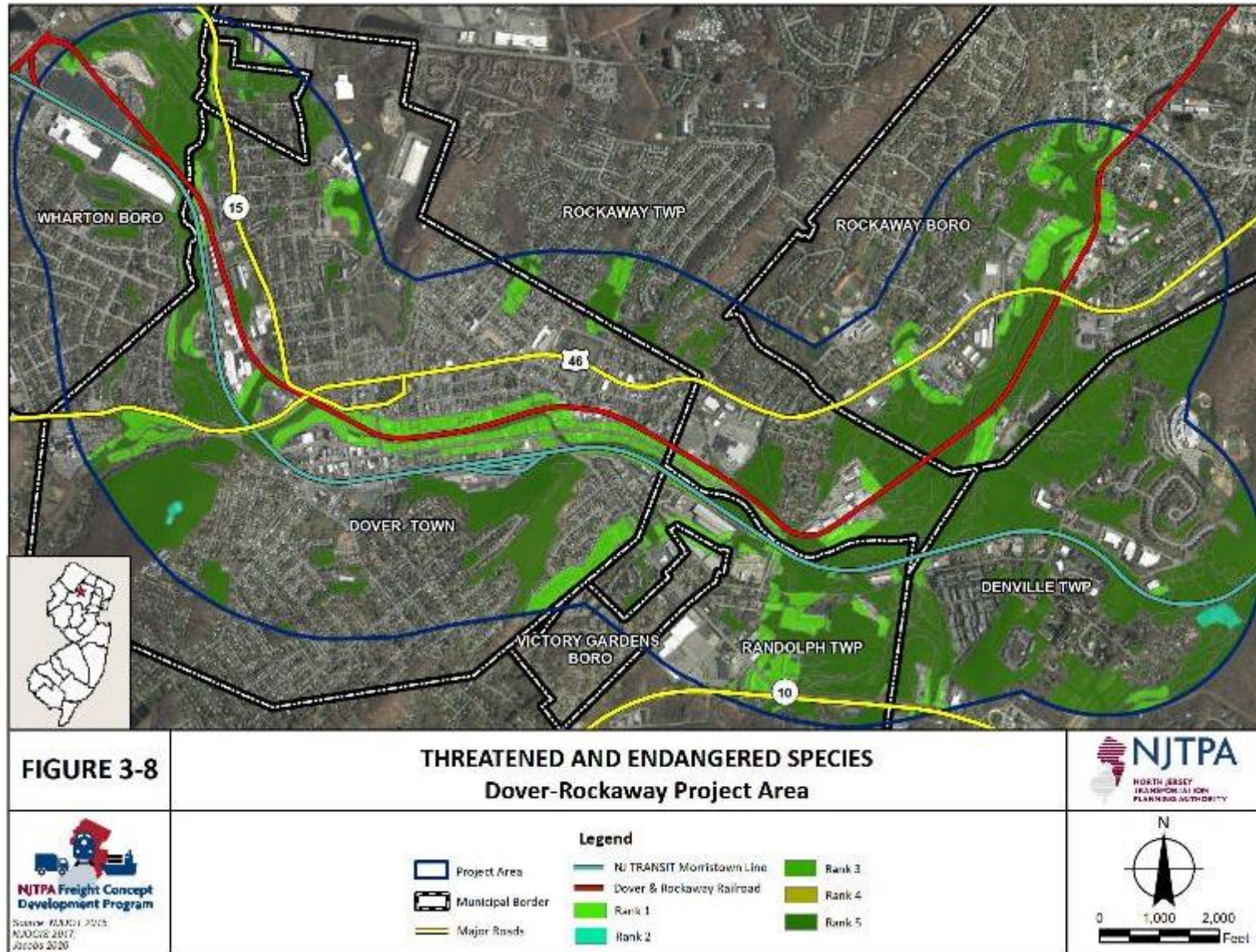
The screening involved only this desktop analysis and is therefore limited to habitats and sightings made known to NJDEP as part of the development of Landscape 3.3. Field reconnaissance to identify undocumented habitat areas and the presence of listed species was not performed as this level of assessment is not typically required during the concept stage of project development. Once a PPA is selected and advanced to preliminary engineering, site reconnaissance for undocumented resources may be performed.

3.8.3 Results of Screening

As is typical, Landscape 3.3 data indicated that threatened and endangered species are most likely to be found along the Rockaway River and in adjacent habitat areas, including the wetlands in the eastern portion of the study area (Figure 3.8). Species reported in the study area are state endangered species and include waterfowl, reptiles, and some species of plants. As the habitat areas abut the existing D&R Line and Morristown Line, it is unlikely that any project alternative would completely avoid impact to habitats and species. As a result, a habitat and species survey would be prudent during preliminary

engineering to field-verify the Landscape 3.3 data and determine whether sensitive species and habitats would actually be affected by the project alternatives.

Figure 3.8: Threatened and Endangered Species



3.9 Stormwater (Surface Water Quality)

3.9.1 Purpose

NJDEP regulates surface water bodies and the types of activities permitted within the stream channel and the transitional area (buffer.) Surface waters of the highest quality that feed drinking water sources are designated C-1 waters. To protect these resources, NJDEP established a 300-foot buffer around all C-1 waters. Disturbance within the 300-foot buffer is prohibited without permits issued by NJDEP, and only after proving that an avoidance alternative is not feasible. Consequently, screening for surface waters identifies important environmental constraints that can have a substantial effect on alternative design.

3.9.2 Methodology and Scope of Screening

Data Sources

The environmental screening for stormwater/surface water quality used NJDEP's Stormwater Quality Streams data, updated in 2017.

Analysis Methodology

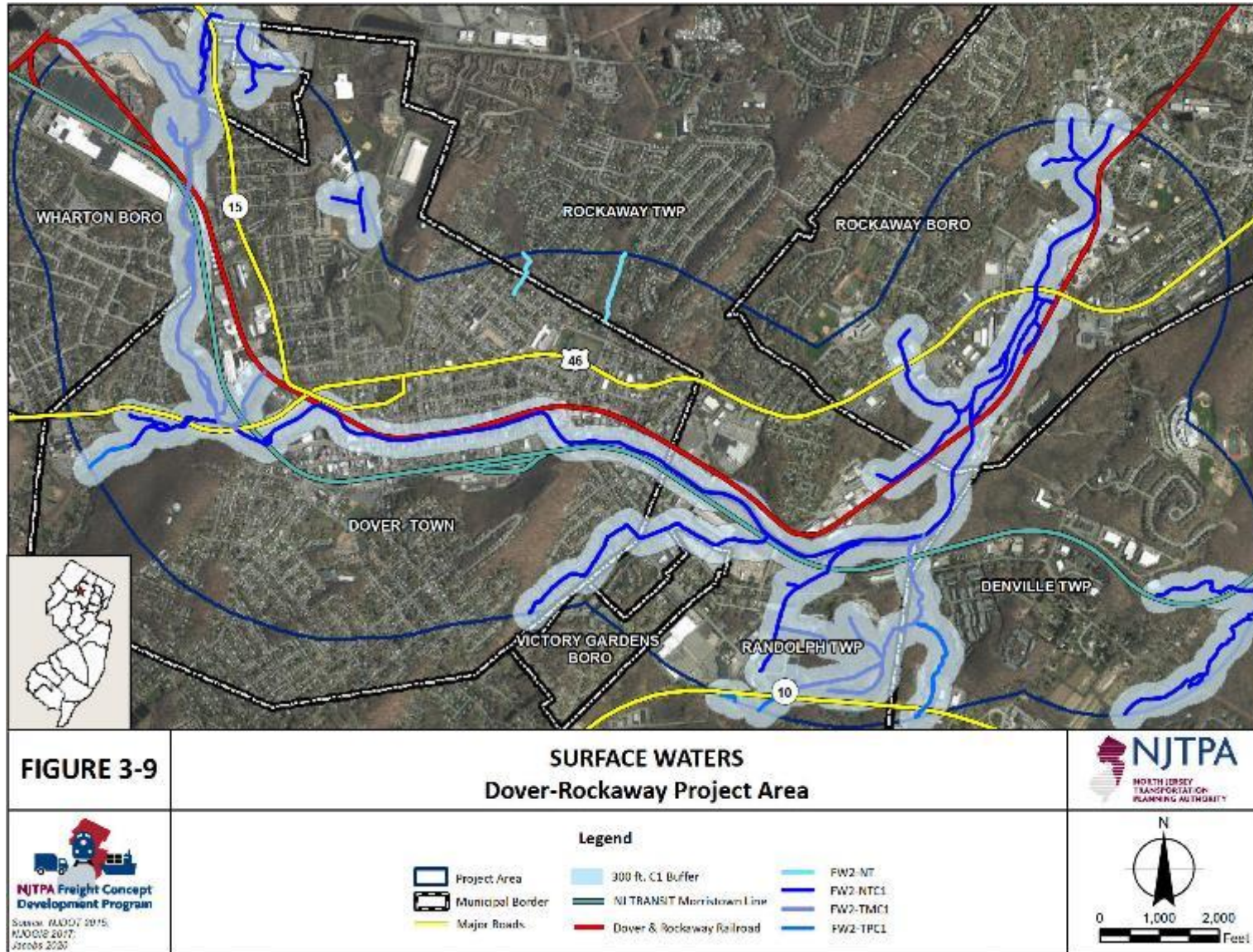
The GIS data obtained from NJDEP were displayed on a GIS basemap of the project area and clipped to the study area buffer to reduce the total dataset to one that contained only the data pertinent to the study area. Jacobs generated 300-foot buffers around all C-1 streams.

The screening involved only this desktop analysis. Field reconnaissance to delineate the streambanks is necessary to verify the buffer areas and channel. Once a PPA is selected and advanced to preliminary engineering, site reconnaissance may be performed.

3.9.3 Results of Screening

As described in Section 3.6.3, the Rockaway River is a C-1 water, requiring a 300-foot buffer. Reflecting early industrial infrastructure development, the D&R Line and the Morristown Line both parallel the Rockaway River through the center of the project area. The D&R continues to mirror the river's course as it turns north and exits the study area on the eastern side. As a result, the present alignment of the D&R is within the 300-foot buffer of the Rockaway River through much of the study area (Figure 3-9). Avoidance of impact to the 300-foot buffer may not be possible, requiring permits and waivers from NJDEP.

Figure 3.9: Stormwater



3.10 Hazardous Materials

3.10.1 Purpose

The intent of the hazardous materials screening is to identify documented areas of hazardous materials contamination within the project area for the purposes of alternatives development constraint analysis. Known hazardous materials locations are those that have been reported to the NJDEP and are undergoing classification and study, undergoing remediation, or have been remediated but remain in the NJDEP database for real estate risk analysis and deed-restriction purposes.

It is important to identify known hazardous materials contamination sites when planning construction-phase activities to protect worker and community health and safety. It is also important to identify these sites before developing alignment alternatives when new right-of-way will be acquired. Environmental regulations assign responsibility for remediation to the owner of a contaminated property, regardless of when the contamination occurred. Consequently, an alternative which would require the acquisition of multiple contaminated parcels would necessitate complex negotiations with the existing owners regarding remediation or would cause the future owner of the infrastructure to bear the cost of remediation.

Remediation activities can take years to complete, as well, particularly when contamination involves groundwater resources. While reuse of brownfield sites for infrastructure rights-of-way typically requires less complex remediation than required for other civic, institutional, or recreational uses, the time required to mitigate, document, and achieve the Response Action Outcome (RAO) still adversely affects the construction schedule for a project when compared to the development of properties that are not encumbered by existing contamination.

At the same time, it is important to note that some RAO restrictions limit the potential reuse of remediated land, presenting an opportunity for infrastructure development. Use as infrastructure rights-of-way, where environmental capping would not be disturbed or where access to contaminated groundwater is not a consideration, can be adaptive reuse and is a benefit to the community, returning brownfields to active use. Consequently, the identification of known contaminated sites can present a project benefit, not only an adverse constraint.

3.10.2 Methodology and Scope of Screening

Data Sources

The environmental screening for hazardous materials relied on the most recent updates of NJDEP's Site Remediation Program GIS data. Data were downloaded directly from NJDEP's Bureau of GIS website and included the following datasets:

- **Known Contaminated Sites List (KCSL).** Updated 2014. This dataset presents all known contaminated sites in New Jersey geographically as point data and provides the Program Interest (PI) number for further investigation using the NJDEP Data Miner.

- **Groundwater Contamination Areas (CEA).** Updated 2016. This dataset uses polygons to delineate areas where groundwater has been determined to be contaminated and unsafe for use as a source of potable water. Drinking water wells are prohibited within CEAs.
- **Deed Notice Extent Polygons.** Updated 2016. This dataset uses polygons to identify parcels that have received a deed notice to inform prospective owners that contamination exists on the property, the use of the property may be restricted as a result, and mitigation measures put in place on the property must be maintained.
- **Historic Fill.** Updated 2016. This dataset uses polygons to identify areas of historic fill covering more than approximately 5 acres. Historic fill is non-indigenous landform material intentionally deposited in an area at some point in the past. The composition of the fill material is generally unknown, and in many areas, fill contains contaminants from manufacturing processes, urban demolition, and mining.

Analysis Methodology

The study area for the purposes of GIS analysis was determined to be a 0.5-mile buffer area around the concept alternatives explored in the *Morris County Freight Infrastructure & Land Use Analysis* report. This buffer area was determined to be appropriate based on existing topography, infrastructure, and development patterns, it is unlikely that a practical alternative would be developed further than 0.5 mile from the alternatives initially explored in the earlier study. The result was a polygon that contained all previously described alternatives and extended 0.5 mile beyond these alternatives in all directions.

The GIS data obtained from NJDEP was displayed on a GIS basemap of the project area and clipped to the study area buffer to reduce the total statewide dataset to one that contained only the data pertinent to the study area. The attribute data included with the GIS dataset was used to identify the PI identifiers for each site within the study area buffer. The PI data were entered into the NJDEP Data Miner (<https://www13.state.nj.us/DataMiner>) to obtain a report of site remediation status. Site remediation status and case management or licensed site remediation professional (LSRP) contact information was recorded in a data table.

The screening involved only this desktop analysis and is therefore limited to known contamination sites as reported to NJDEP. Field reconnaissance to identify new or previously undocumented contamination was not performed as this level of assessment is not typically required during the Concept Development phase. Once a PPA is selected and advanced to preliminary engineering, site reconnaissance for undocumented sites of contamination may be performed.

Additionally, the data presented in this section were derived directly from the NJDEP Data Miner and presented as retrieved from NJDEP. Follow-up interviews with the listed LSRP or case manager were not performed. Some data were missing from the NJDEP records for some sites. In these instances, a search through multiple site documents was performed to determine whether LSRP names or contact information existed elsewhere in the project record. In some instances, the data were not found in any of the records available on the Data Miner. Such data are identified as “not provided” in Table 3.3.

Contaminated locations may appear in more than one dataset. For example, a location undergoing remediation involving contaminated groundwater where a groundwater exception area has been determined may be included in both the KCSL dataset and the CEA dataset. Deed-restricted properties that received a RAO may be included in both the deed-restriction dataset and the KCSL dataset. Each site is counted only once in the assessment. The GIS mapping and data table indicate those situations where one location is included in more than one program.

3.10.3 Results of Screening

Inclusion in the NJDEP's database indicates that the regulatory agencies are aware of the contamination and a plan is in place or will be in place to remediate the site. A total of 53 known contaminated sites were identified within the project area. Eight of the locations have received RAO or No Further Action (NFA) letters, indicating that remediation has been complete, but there may be restrictions on the type of development allowable on the site. (Note that NFAs were the precursors to RAOs, which were instituted with a rule change at NJDEP in 2012.) Additional detail on sites that received NFA or RAOs may be obtained through the Open Public Records Act (OPRA). Table 3.3 lists the sites, their PI number, contamination type, and contact information for the LSRP or NJDEP case manager assigned to the site. Figure 3.10 illustrates the location of KCSL.

Groundwater contamination was the most common contaminated media, often the result of fuel oil spills or leaking underground storage tanks. Given that railroad rights-of-way are not uses that typically admit the public, disturb the soil, or draw groundwater, the presence of active remediation or NFA/RAO determinations should not be perceived universally as a fatal flaw in the development of project alternatives. Site-specific details pertaining to the nature of the contamination, remediation plan, and responsible parties will be critical in determining whether a KCSL site presents a significant enough obstacle to warrant avoidance in the development of alternatives. This more detailed level of investigation will occur during preliminary engineering.

The study area contains relatively large areas of historic fill, also illustrated on Figure 3.10, but the areas affected are not atypical or unique for sites affected by fill. The historic fill is found along the existing railroad corridors, at railroad facilities, and beneath Dover's central business district. This use of fill is congruent with the use of fill to even topography for land use development and to create or stabilize embankments for railroad corridors. Given the history of mining in the study area, it is more likely that the fill may include contaminants associated with mine wastes than from dredge material or urban demolition. The suitability of the fill will be determined during preliminary engineering.

Table 3.3: Known Contaminated Sites in the Dover Realignment Project Area

Site Name	Address	PI Number	Status	Manager/LRSP	Contact
Dime Savings Bank Dover	6 To 8 Guy St	G000010248	Administratively closed on 9/6/16. No LSRP. Bureau CAS.	Not provided	Not provided
119 Clark Street	119 Clark St	G000011199	Groundwater contamination.	Not provided	Not provided
Lusardi Cleaners	2 Wall St	G000031804	BIDC Program. Received CERCLA grant in 1997. Case reported closed by NJDEP.	OPRA	Not provided
Hilltop Exxon	61 Rt 46 & Lincoln Ave	015128	BUST with groundwater contamination.	Paul McGaha	908-285-1207
Vey Cadillac Co Inc	388-392 Rt 46	002662	Deed Notice Only.	John Ferrante	973-299-5200
Dover Crafts	158 West Clinton St	011146	Deed Notice Only.	Carla Nascimento	732-326-1010
Grecco Lincoln Mercury Mazda	Rte 10	004508	Groundwater contamination.	David Carlson	Not provided
Englewood Petroleum Inc	59 Rte 46 W	007334	Groundwater contamination.	Gary Landis	973-294-1771
Lakeland Bus Lines Inc	425 Blackwell St East	014159	Groundwater contamination.	Roy Rittman	732-548-9050
Salem Street Service Center - Rpc #04	258 S Salem St	016270	Groundwater contamination.	Eric Schlauch	732-326-1010
Delta	13 W Clinton St	025975	groundwater contamination.	Mark Herzberg	609-633-1369
Zimmerman Brothers AAMCO Transmission	246 to 248 Rte 46	G000005144	Groundwater contamination.	Gary Charyak	973-656-4441
NJ TRANSIT Dover Rail Yard	East Blackwell St & South Morris Ave	G000007214	Groundwater contamination.	Charles Stebbins, Jr.	973-576-9641
267 Rte 46 Assoc	267 Route 46	031837	Groundwater contamination from BUST. CEA.	Dawn DeFreitas	732-223-2225
NJ Department Military & Veteran Affairs	479 Clinton St	000661	Groundwater contamination from BUST. No CEA.	Thomas Waldron	973-407-1413
Dover Gas Station	12 W Clinton St	017226	Groundwater contamination.	Paul McGaha	908-285-1207
D&M Mobil	18 Rt 46	025070	Groundwater contamination.	Andrew Robinson	973-857-5033

Table 3.3: Known Contaminated Sites in the Dover Realignment Project Area

Site Name	Address	PI Number	Status	Manager/LRSP	Contact
Consolidated Metals Corporation	100 Dickerson St E	026518	Groundwater contamination.	Ronald Dooney	Not provided
Precision Automotive	164 West Clinton St	023218	Groundwater contamination.	Keith Savel	Not provided
Mcfarlan St NJ 0242	88 Rte 46 (E Mcfarland St)	001474	Groundwater contamination. CEA.	Gregory Carr	856-793-9786
Mountain Inn of Rockaway	156 Rte 46	022938	Groundwater contamination. CEA.	Matthew Ayers	201-818-0700
Dover Shopping Center	63 To 105 Bassett Hy	271110	Groundwater contamination. MOA on file 2012.	Neil Rivers	609-282-8013
Hess Station 30213	Rte 46 & Franklin Ave	006690	Groundwater contamination. CEA.	Philip Kunkle	609-387-5553
John Dusenberry Co Inc	220 Franklin Rd	018170	History of groundwater contamination. Ongoing remedial activity.	John Hernandez and John Brennan	908-918-1702
Denville Township Water Department Well 3	Palmer Rd	G000008981	Multi-phased remedial action involving soil or groundwater.	Frank Sorce	609-584-4287
Able Energy	344 Rte 46	005609	Multiple source release to multi-media including groundwater.	Eric Raes	908-238-0544
Howmet Turb Comp Corp Alloy Div	39 Roy St	007462	Multiple source release to multi-media including groundwater.	William Kraft III	609-243-9844
New Jersey Natural Gas Dover Opr	Carrell St & E Blackwell St	010630	Multiple source release to multi-media including groundwater.	Marion Craig	973-883-8689
Electrospec	24 Clinton St E	619798	Newly assigned groundwater contamination.	not assigned yet/ No LSRP	Not provided
Rockaway Shell	300 Franklin Ave	003471	NFA-A (Limited Restricted Use). CEA.	OPRA	
BP Service Station 4340	277 Rt 46 W	001453	NFA-A (Limited Restricted Use) CEA Lifted.	Kevin J. Toth	908-757-1900

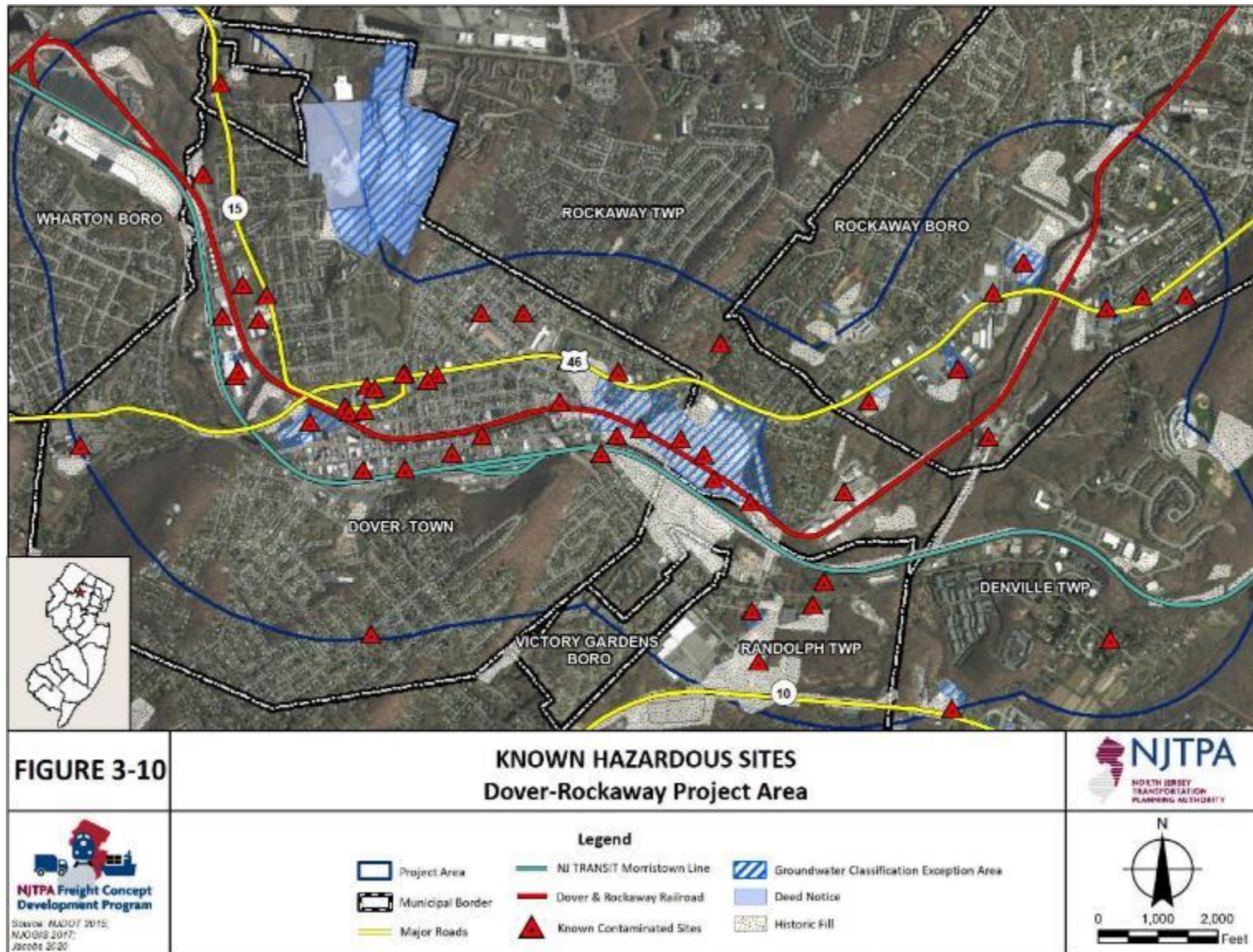
Table 3.3: Known Contaminated Sites in the Dover Realignment Project Area

Site Name	Address	PI Number	Status	Manager/LRSP	Contact
Dover Town Water Department Well 4	Rutan Dr (Formerly Hooey St)	020496	NFA-A (Unrestricted). CEA.	OPRA	
Omega Plumbing & Heating Supply	Lee & Richard Aves	023955	NFA-A (Unrestricted).	OPRA	
427 E Blackwell Street	427 E Blackwell St	G000023489	NFA-A (Unrestricted).	OPRA	
American Modern Metals	15 22 Richboynton Rd	003688	NFA-A and NFA-E for historical contamination.	OPRA	
Silvertech Industries	46 Richboynton Rd	156666	NFA-E (Restricted Use). CEA.	OPRA	
Dover Town Sanitary Landfill	N Sussex St	G000010514	NFA-E (Restricted Use) and CEA.	OPRA	
388 392 Route 46	388 392 Rt 46	441462	No data available.	Not provided	Not provided
Johnson Oil	265 Rt 46	003192	Potential groundwater contamination.	Rakesh Ganta	Not provided
Wheel O Way	303 West Clinton Ave	024151	Potential groundwater contamination.	Not provided	Not provided
Rutan Coal & Oil Company Inc	311 E Blackwell St	000874	RAO-A (Restricted Use).	OPRA	
Frito-Lay Sales Distribution Ctr	245 West Clinton St	009201	RAO-A (Unrestricted Use).	OPRA	
77 Richards Avenue	77 Richards Ave	218888	RAO-A (Unrestricted Use).	Rakesh Ganta	Not provided
E A Porter Site	42 Bennett Ave	G000030833	Release to multi-media including groundwater. CEA.	Michael Schweitzer	973-366-9500
Morris Knolls High School	48 Knoll Dr	013089	Soil contamination.	Richard Lake	732-271-9301
Lincoln & Mcfarlane Ave Gasoline Dumping	Mcfarlane Ave	300326	soil contamination.	Gary Pearson	973-669-3997
Precision Screw Machine Products Co Inc	52 Richboynton Rd	G000002113	Soil contamination.	Michael Moore	609-890-7277
American Weldery & Steel Company	2 South Salem St	G000024908	Soil contamination.	Rakesh Ganta	Not provided

Table 3.3: Known Contaminated Sites in the Dover Realignment Project Area

Site Name	Address	PI Number	Status	Manager/LRSP	Contact
Garden State Asphalt Materials	311 Main St W	030135	Soil or groundwater contamination.	Jeffrey Fehr	609-683-4848
Dover Tubular Alloys Inc	200 W Clinton St	570303	Soil or groundwater contamination.	Wahid Khan	609-243-9821
McWilliams Forge Company Inc	Franklin Ave	003066	Soil or groundwater contamination.	Andrew Sites	609-777-0724
272 East Blackwell Street	272 E Blackwell St	222741	Unknown source of contamination to soil or groundwater.	Not provided	Not provided
365 Franklin Road	365 Franklin Rd	G000031918	Waiting report 11/3/14. Potential groundwater contamination. Homeowner.	Not provided	Not provided

Figure 3.10: Known Contaminated Sites List



3.11 Existing Utilities

3.11.1 Purpose

The intent of the screening for utilities is twofold: to determine the quantity and nature of any existing onsite utilities, and define the extent to which those utilities would need to be relocated and/or protected to ensure safe rail operations and uninterrupted service to the utilities' end users, both during and after construction. Railroads have stringent clearance requirements between their equipment and any existing (or proposed) utility lines, stemming from:

- The risk of electrical arcing between metal rail equipment and voltage-carrying wires
- The varying height of locomotives, railcars, and other types of on-track equipment
- The heavy loads that rail equipment places on the ground beneath the track structure

3.11.2 Methodology and Scope of Screening

Typically, railroads will not permit the construction of track that introduces substandard utility clearances.

For horizontal clearances between track and utility poles, the distance required is measured from the center of track to the nearest conflicting surface (e.g. the clear distance between the track centerline and a 1-foot diameter pole located 15 feet away would be 14 feet, 6 inches).

For overhead utility crossings, the distance required between the top of rail and the lowest overhead line will vary depending on the type of line (guy, messenger, communication, supply, etc.) and any voltage carried. To account for normal thermal expansion/contraction of the lines due to ambient temperature fluctuations, these distances are measured from the top of rail to the final unloaded sag height of the line at 60 degrees Fahrenheit.

For underground utility crossings, railroads typically require the line to be built beneath a certain depth/influence zone and be designed to withstand the American Railway Engineering and Maintenance-of-Way Association (AREMA) Cooper E-80 Load Case. This is a historic metric used in rail design that simulates the effect of two 2-8-0 Consolidation-Type steam locomotives traveling over the structure. For more information, refer to the latest version of the AREMA manual. This AREMA specification is in addition to any underground casing pipe that may be required by the railroad or utility, as well as provisions to ensure that rail service is not interrupted while utility line maintenance is performed.

As a complement to the railway standards, each utility provider typically has their own set of standards for clearances above or below their lines, as well as any protection or encasement that may be required. Typically, the entity that was in place first (in this case the utility) retains the right to require the second entity (in this case the railroad) to fund any changes to ensure that the proposed utility crossing meets each company's standards. This is normally done on a Force Account basis, where the utility performs the work and then bills the railroad for said work, including any design fees, insurance, or other expenses incurred as a result of the project.

Where two entities' standards conflict, the more stringent standard will typically govern.

Data Sources

The screening process employed multiple data sources to capture as many existing utilities as possible. Initially, the survey team identified several existing overhead wires/support poles, manhole covers, and other utility evidence during their initial site visits. The study team then reached out to known utility providers in the area (refer to Table 3.4) to obtain any readily available as-built information. The study team performed multiple follow-up site visits to detect the presence of any additional utilities (e.g. drainage structures and ditches) and to verify the information supplied by the aforementioned utility providers. Finally, the study team performed a desktop analysis via Google Earth Pro© 2020 and Bing Maps© 2020 to identify any additional lines and poles that may not have been detected by the efforts outlined above.

Analysis Methodology

The data obtained from each external source were digitized and placed into a CAD basemap, which was also used to corroborate the survey data. The proposed alignments were then overlaid onto said basemap, and the resulting conflicts noted and recorded. At this level, the screening involved only this desktop analysis. Once a PPA is selected and advanced to preliminary engineering, additional site reconnaissance (to include aerial shots and test pits) may be performed.

Table 3.4: Known Utility Providers Within the Project Area

Utility Type	Owner	Data Provided	Contact Name	Contact Email	Notes
Water	Denville Water & Sewer	NTS Record Drawings	Tom M. Andes	tmandes@denvillenj.org	N/A
	Town of Dover Water Department	NTS Record Drawings	Robert A. Kinsey	rkinsey@doover.nj.us	Water Lines are Located Outside Study Area
	Rockaway Borough	General Location Information	Paul Ferriero	paul.ferriero@ferrieroengineering.com	Unable to Provide a Map, But Did Provide a Description
Sanitary Sewer	Town of Dover Department of Public Works	Scaled Record Drawings	Frank E. Dann	fdann@doover.nj.us	Sanitary Lines are Located Outside Study Area
	Rockaway Borough	N/A – See Notes	Susan Best	boroughclerk@rockawayborough.org	Directed to Refer to RVRSA Sewer Maps
	Rockaway Township	Scaled Record Drawings	Gene Garabrant	ggarabrant@rockawaytownship.org	N/A
	Rockaway Valley Regional Sewerage Authority (RVRSA)	Scaled Record Drawings	JoAnn Mondsini	JMondsini@rvrsa.org	N/A

Table 3.4: Known Utility Providers Within the Project Area

Utility Type	Owner	Data Provided	Contact Name	Contact Email	Notes
Storm Sewer	Town of Dover Engineering Department	Scaled Record Drawings	William Isselin	wisselin@doover.nj.us	Storm Lines are Located Outside Study Area
Electric	Jersey Central Power & Light	NTS Record Drawings	Michael Espinoza	mmespinoza@firstenergycorp.com	First Energy also Provided Information on Pole Ownership
Natural Gas	NJ Natural Gas	NTS Record Drawings	Wesley Lukridge	wlukridge@njng.com	N/A
Telecom	Optimum	NTS Record Drawings	Peter Mann	Peter.Mann@AlticeTechServicesUSA.com	Also Known as "Cablevision"
	Verizon	NTS Record Drawings	Thomas Grabowski	thomas.j.grabowski@verizon.com	N/A

3.11.3 Results of Screening

There are numerous existing utilities present within the study area, both above- and below-ground. This is consistent with the industrial development in the area; large facilities such as Alcoa Howmet and McWilliams Forge are typically heavy utility users.

By their very nature, industrial facilities are often unable to continue operating during cessations in utility service. As such, it is incumbent upon the railroad to ensure that they remain operational during track construction/maintenance and rail operations. This can range from requiring utility work to be performed during off-hours to running a secondary "bypass line" that ensures continued service to the industry. In addition to the various utility types, there are multiple utility providers in the area, as well. Each provider typically has their own design standard that need to be met.

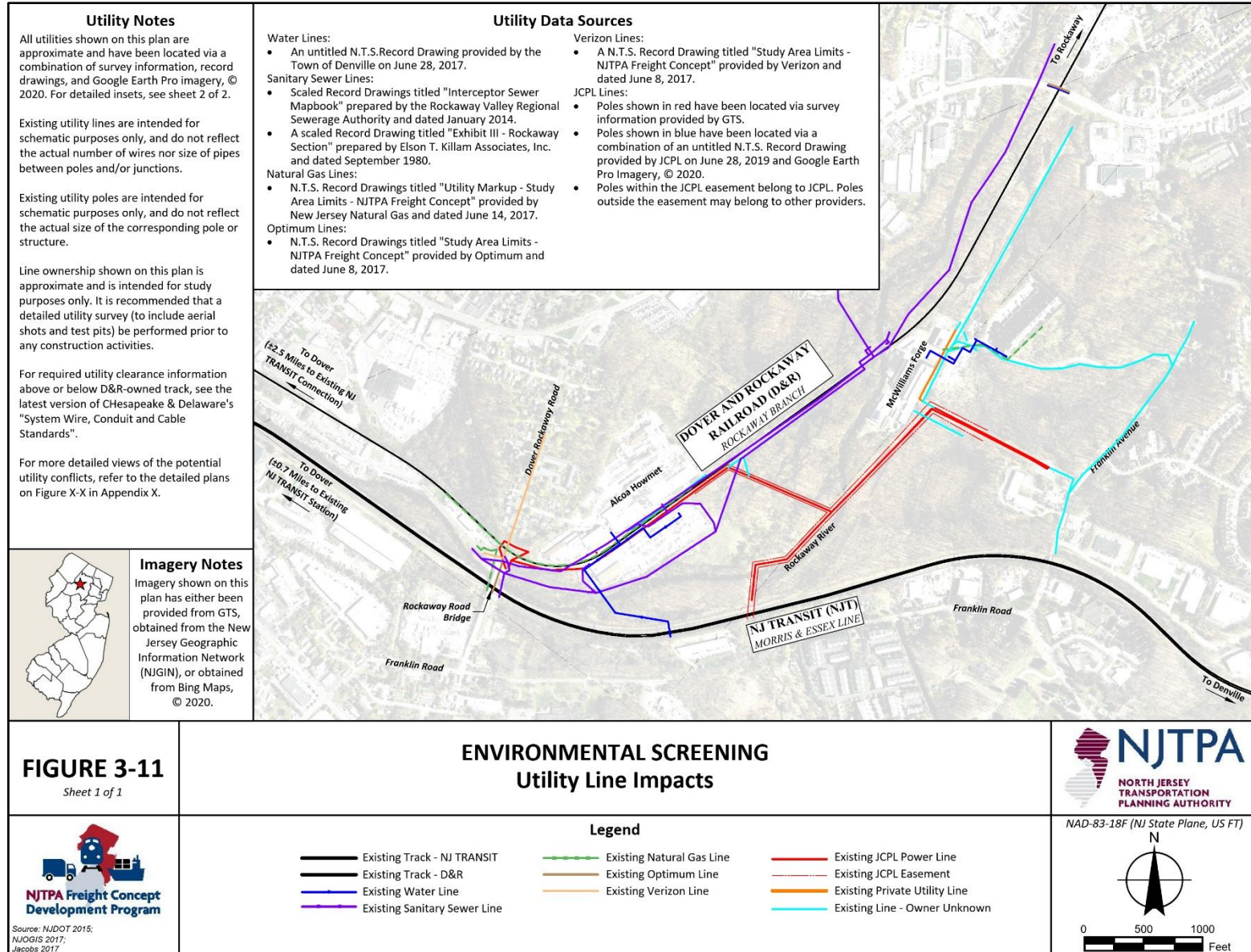
In addition to the many types of existing utilities within the study area, there are also multiple utility providers. Each provider has their own design standards and construction procedures that will need to be met and/or followed.

This is intended to be a preliminary screening, and as such may not include each and every utility present within the study area (particularly where smaller/private service lines are concerned). However, this screening is intended to give an order-of-magnitude estimate of the utility work required for each alignment option. As discussed in Section 6, no proposed alignment is without utility conflict; more specifically, each alignment will require the engagement of multiple utility providers and the implementation of multiple sets of design standards.

Each option will require the engagement of multiple providers and the implementation of multiple sets of design standards. Existing utilities are depicted on Figure 3.11.

This is intended to be a preliminary screening, and thus may not include each and every utility present onsite, particularly where smaller, private service lines are concerned. However, the study is intended to give an order-of-magnitude estimate of the extent of utility work required for each alignment.

Figure 3.11: Existing Utilities

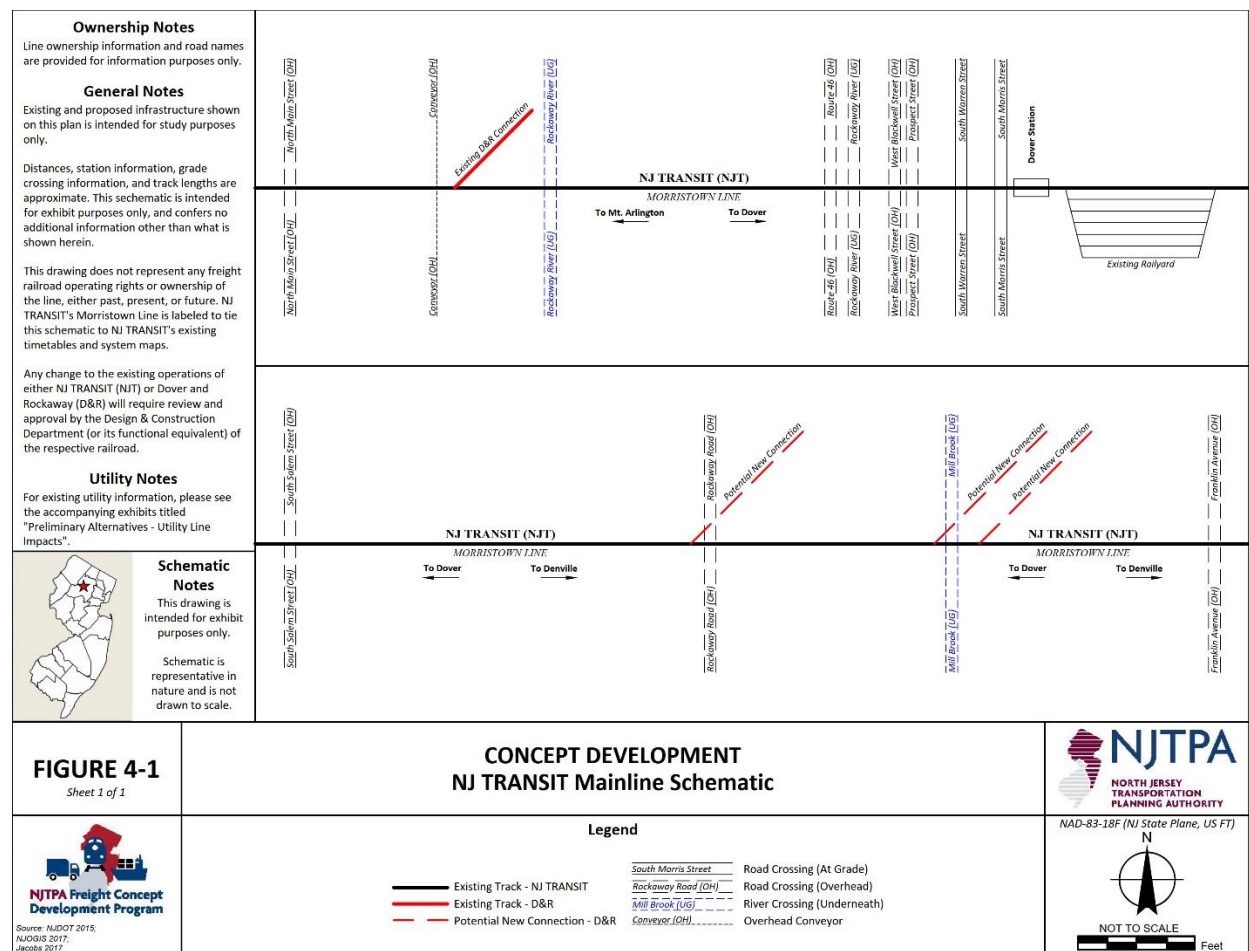


4. Infrastructure Analysis

4.1 NJ TRANSIT Morristown Line

NJ TRANSIT's Morristown Line originates in Hackettstown, NJ, and passes through Dover, Morristown, Summit, Newark – Broad Street before terminating at Hoboken. NJ TRANSIT owns the vast majority of the line, with the exception of the 10-mile-long stretch between Hackettstown and Netcong, which is owned by Norfolk Southern and leased to NJ TRANSIT. Norfolk Southern, the D&R Line, and a third railroad – the Morristown & Erie – all have freight rights over NJ TRANSIT's Morristown Line. A schematic of this portion of NJ TRANSIT's Morristown Line is depicted on Figure 4.1.

Figure 4.1: Schematic of NJ TRANSIT Morristown Line



Historically, this segment of the Morristown Line was a three-track railroad, as evidenced by the presence of extra-wide catenary structures on either side of the tracks. While the mainline has been realigned/smoothed out over the years to allow for smoother operation and higher speeds, there remains adequate space to install a new connection without needing to relocate any catenary structures.

Dover Station represents the western limit of NJ TRANSIT's electrified territory – all trains are powered via diesel between Dover and Hackettstown. NJ TRANSIT operates many more electrified trains than diesel; on any particular day, there are approximately 25 daily revenue trains west of Dover Station, compared to 90 to 95 daily revenue trains east of the station.

East of Dover, the Morristown Line passes beneath three existing overhead bridges in the Study Area. These bridges carry Salem Street, Rockaway Road, and Franklin Avenue, respectively, over the railroad.

The Morristown Line has an average maintenance speed of 55 miles per hour for passenger trains and 35 miles per hour for freight trains.

4.2 Dover & Rockaway Branch

The D&R's Rockaway Branch Line diverges from NJ TRANSIT's Morristown Line at Milepost 39.7 (approximately 1.4 track-miles west of Dover Station) via a #10 Left-Hand turnout. The adjacent image shows the approach curve, looking west towards the NJ TRANSIT mainline. This image was taken west of the Rockaway River.



Approach to D&R Switch with NJ TRANSIT Morristown Line



Rockaway River Bridge #1 / Richboynton Road Crossing

Immediately following its divergence from the Morristown Line, the D&R Line spans the Rockaway River via a single-track bridge. The first major road crossings traverses Richboynton Road, a two-lane access road that is primarily used by industrial traffic. The adjacent image shows the first (western) Richboynton Road grade crossing. The Rockaway Branch then passes beneath two highway overpasses carrying West Clinton Street and West McFarlan Street (SR-46) as it enters downtown Dover.

After passing beneath Route 46, the D&R Line crosses several roads within downtown Dover. These grade crossings (listed from west to east) include:

- N Warren Street
- N Sussex Street
- Private Driveway
- N Morris Street
- Essex Street
- N Bergen Street
- Union Street
- Mercer Street



N. Morris Street Crossing

Union Street Crossing

Except for N Bergen Street and Union Street, each road crossing is spaced approximately 250 feet to 300 feet apart. These streets carry a relatively medium to high volume of traffic due to their proximity to downtown Dover. In addition, these roads serve as one of the main tributary routes for traffic heading towards/leaving from Dover Station just south of the D&R Rockaway Branch.



Don Jon Recycling / C&M Metals

East of the Mercer Street crossing, the D&R Line passes directly south of Don Jon Recycling/C&M Metals, a local scrap metal recycling business. Rail service to C&M Metals will need to be maintained subsequent to the realignment of the D&R Line.

East of C&M Metals, the D&R Line crosses several additional roads beyond C&M Metals:

- N. Salem Street
- Rutan Drive
- Sammis Avenue
- Carrol Street

The D&R Line then passes beneath Dover Rockaway Road before turning north and bisecting Alcoa Howmet's facility crossing two pedestrian paths, one internal site driveway, and one roadway. Once beyond Alcoa Howmet's property, the Line spans the Rockaway River a final time before passing immediately north of McWilliams Forge. The line traverses some existing wetlands before passing underneath the Route 46 bridge a final time. With the exception of C&M Metals, all existing customers served from the D&R Line are located between this Route 46 overpass and the line's terminus just north of I-80.



D&R Bridge over Rockaway River

4.3 Design Standard Compliance/ Substandard Features

4.3.1 Utility Standards

There are several utility providers within the study area, ranging from public entities (e.g. Denville Water & Sewer) to for-profit companies (e.g. Optimum and Verizon). Each provider has its own requirements for clearances above or below their lines, as well as any protection or encasement that is required. Typically, the entity that was in place first (in this case the utility) retains the right to require the second entity (in this case the railroad) to fund any necessary changes to ensure that the proposed utility crossing meets each company's standards. Often the utility will perform the work and bill the railroad for said work, as well as any design fees, insurance, or other expenses incurred as a result of the project.

Where two entities' standards conflict, the more stringent standard will normally apply.

4.3.2 D&R Standards

In addition to each utility's design standards, the DRRV (and their parent company, Chesapeake & Delaware, LLC) has its own set of design guidelines. These can be found in Chesapeake & Delaware, LLC's latest versions of the following standards:

- System Track Standards
- System Pipeline Standards
- System Wire, Conduit and Cable Standards

These documents are subject to change without notice and can be downloaded from the D&R's website.

For horizontal clearance to utility poles, the distance required is measured from the center of track to the nearest conflicting surface (e.g. the clear distance between the track centerline and a 1-foot-diameter pole located 15 feet away would be 14 feet, 6 inches).

For overhead utility crossings, the distance required between the top of rail and the lowest overhead line will vary depending on the type of line (guy, messenger, communication, supply, etc.) and any voltage carried. To account for normal thermal expansion/contraction of the lines due to ambient temperature

fluctuations, these distances are measured from the top of rail to the final unloaded sag height of the line at 60 degrees Fahrenheit.

For underground utility crossings, railroads typically require the line to be built below a certain depth/influence zone and designed to withstand the AREMA Cooper E-80 Load Case. This is a historic metric used in rail design that simulates the effect of two 2-8-0 Consolidation-Type steam locomotives traveling over the structure. For more information, refer to the latest version of the AREMA manual.

This is in addition to any underground casing pipe that may be required by the railroad or utility, as well as provisions to ensure that rail service is not interrupted while utility line maintenance is performed.

4.3.3 Substandard Features

Typically, railroads will not permit the construction of track with substandard utility clearances. Each proposed alignment will likely require the relocation or alteration of at least one existing utility line. For more information on the specific changes required by each alignment, refer to Section 6.

5. Public and Stakeholder Involvement

Public involvement in the transportation planning process is an effort to ensure that citizens have a direct voice in public decision-making. Public involvement is a key component of the transportation planning process and is critical in successfully developing a transportation project that serves a true purpose and need and generates strong stakeholder support. It is important for planners to understand the perspectives of the public, elected officials, stakeholders, advocates and opponents throughout the project development process. The NJTPA has long recognized the importance of proactively engaging the public. This section details the public involvement process employed in this study.

5.1 Public Involvement Action Plan Summary

A Public Involvement Action Plan (PIAP) was prepared to serve as a blueprint for integrating comprehensive public and stakeholder engagement into the study. The PIAP defined the key elements of the public involvement element of the study and included a targeted schedule for key public involvement activities. The PIAP is presented in Appendix C.

5.2 Technical Advisory Committee and Stakeholder Working Group

At the initiation of the study, a Technical Advisory Committee (TAC) was convened to provide technical support and agency/stakeholder perspective to the study. The TAC members provided a broad range of technical expertise and represented the following organizations:

- NJ TRANSIT
- NJDOT
- Morris County Division of Engineering and Transportation
- Warren County Department of Planning
- Dover & Rockaway River Railroad

The TAC met at key points during the study to review findings and offer input. During these meetings, the project team provided progress updates and preliminary study products for TAC review and comment. The TAC members served as a valuable resource in assuring that the analysis and the development of study products were based upon the latest available data, and that all considerations that could potentially affect the study process were considered. Many of these participating agencies provided staff support, with many more technical experts providing assistance beyond those who attended the meetings.

A subset of the TAC formed the Program Compliance Review (PCR) Committee. The PCR Committee was comprised of representatives from NJDOT—Division of Local Aid, NJDOT—Bureau of Environmental Program Resources, NJDOT—Bureau of Multimodal Services, and NJ TRANSIT—Rail Operations. The PCR Committee completed interim reviews throughout the Concept Development process to confirm that the project's development complied with program requirements. The first PCR review was conducted after the initial Local Officials Briefings and the second PCR review conducted after the PPA was identified, but prior to its presentation to the local officials or the public. At the completion of each stage of review, the

PCR Committee members provided a formal written signoff attesting to the study's compliance with the NJTPA program requirements.

The PCR Committee member signoffs are presented in Appendix D. It is important to note that their signoff does not constitute approval and acceptance of the study recommendations, nor does it commit their respective agencies to actively participate in the advancement of subsequent project development phases.

5.3 Local Officials Coordination

Key to a successful transportation project is coordination with and the support of the local elected officials representing the municipality where the project is located. This is particularly important if subsequent design and construction funding may be sought from a variety of grant programs like the NJDOT Rail Freight Assistance Program (RFAP), which requires any project receiving RFAP funds to have municipal support. While not a codified requirement in all grant programs, local support enhances the attractiveness and potential success of any grant application, particularly if the program from which funding is sought is competitive.

Local official coordination for the relocation of the D&R Line involved officials from five municipalities:

- Town of Dover
- Rockaway Township
- Rockaway Borough
- Denville Township
- Randolph Township

Coordination with elected officials and other municipal representatives centered around two formal local officials' briefings. The first briefing was held on October 5, 2017 to introduce the local officials from all five potentially affected municipalities to the project and identify any concerns they may have. In addition, the briefing provided a forum to gather their insights and information to better inform the study process.

Rather than one single meeting, the second round of local officials' briefings consisted of four individual meetings to allow more focused discussions on the differing implications that the preferred alternative would have on each municipality. These meetings included:

- Town of Dover and Rockaway Township – January 30, 2020
- Randolph Township – February 7, 2020
- Denville Township – February 13, 2020
- Rockaway Borough – February 19, 2020

Each meeting presented the study findings, alternatives considered and preliminary recommendations for a preferred alternative to be advanced into design and construction. The findings and recommendations of the study were favorably received by the elected officials. Based upon the outcome of the briefings, the project team requested formal resolutions of support from each municipality. The governing bodies

for each municipality all approved formal resolutions of support. Copies of the local officials briefing meeting materials and the adopted resolutions of support are presented in Appendix E.

5.4 Property Owner Stakeholder Coordination

A search of local parcel data was conducted to identify the properties and their owners who could potentially be affected by the realignment of the D&R Line. The pertinent parcels are depicted on Figure 5.1 and listed in Table 5.1.

Figure 5.1: Potentially Affected Parcels



A majority of these parcels are undeveloped lands. However, existing industrial and commercial development of several of the parcels was deemed to be potentially affected by one or more of the considered alternatives. Individual meetings were held with the owners of the properties identified in light blue shading in Table 5.1 to discuss their potential concerns. Issues raised by the owners were considered when developing and evaluating the realignment alternatives.

Table 5.1: Potentially Affected Parcels and Parcel

Municipality	BLOCK	LOT	LOCATION	OWNER	OWNER ADDRESS	CITY/STATE/ZIP
Denville Township	40101	1	NO INFORMATION	J & J REALTY		
Denville Township	40101	5	PALMER ROAD REAR	ERIE-LACKAWANNA-% J SUPR	2 BERGEN ST	HARRISON, NJ 07029
Denville Township	40201	1	NO INFORMATION	J & J REALTY		
Randolph Township	194	2	ROCKAWAY RD	ERIE-LACKAWANNA-% J SUPR	2 BERGEN ST	HARRISON, NJ 07029
Rockaway Borough	84	35.04	NO INFORMATION	PETER, CHRISTIAN N	850 BURBANK CT	MARCO ISLAND,FLA 33937
Rockaway Borough	84	10	395 FRANKLIN AVE	MC WILLIAMS FORGE COMPANY	FRANKLIN AVE	ROCKAWAY, NJ 07866
Rockaway Borough	84	7.01	395 FRANKLIN AVE	MC WILLIAMS FORGE COMPANY	387 FRANKLIN AVE	ROCKAWAY, NJ 07866
Rockaway Borough	84	20	SE SIDE OF ROCKRIVER	ROCKAWAY BOROUGH	1 E MAIN ST	ROCKAWAY, NJ 07866
Rockaway Borough	84	12	400 ROUTE 46	HOWMET AEROSPACE INC, PROP TAX DEPT	201 ISABELLA ST, 3RD FL	PITTSBURGH, PA 15212
Rockaway Borough	84	6.01	389 FRANKLIN AVE	FORGE VIEW PARTNERS INC	70 BAYVIEW DR	LOVELADIES, NJ 08008
Rockaway Borough	84	17	350 ROUTE 46	HIGHWAY ENTERPRISE INC	350 ROUTE 46	ROCKAWAY, NJ 07866
Rockaway Borough	84	35.01	NO INFORMATION	MORRIS COUNTY		
Rockaway Borough	84	35.02	RR ROW	PETER, CHRISTIAN N	850 BURBANK CT	MARCO ISLAND,FLA 33937
Rockaway Borough	84	35	RR ROW	PETER, CHRISTIAN N	850 BURBANK CT	MARCO ISLAND,FLA 33937
Rockaway Borough	84	5.01	385 FRANKLIN AVE	385 FRANKLIN AVE LLC	PO BOX 704	HARRIMAN NY 10926
Rockaway Township	10202	1	433 ROCKAWAY RD	MARTINEZ, JOSE & MARIE	433 ROCKAWAY RD	DOVER, NJ 07801
Rockaway Township	10101	31	ROCKAWAY RD	HOWMET CAST & SERV INC % ALOCA INC	201 ISABELLA ST, 3RD FL	PITTSBURGH, PA 15212
Rockaway Township	10101	33	VACANT LAND	METZ, THEODORE D & RUTH J		
Rockaway Township	10202	46	E BLACKWELL ST	EAST BLACKWELL STREET LLC	12 ORBEN DR #2	LANDING, NJ 07850
Rockaway Township	10202	45	E BLACKWELL ST	EAST BLACKWELL STREET LLC	12 ORBEN DR #2	LANDING, NJ 07850
Rockaway Township	10202	47	BLACKWELL ST	COUNTY OF MORRIS TRANSPORTATION	PO BOX 900	MORRISTOWN, NJ 07963
Rockaway Township	10101	34	VACANT LAND	METZ, THEODORE D & RUTH J		
Rockaway Township	10201	3	E BLACKWELL ST	C & C SALVAGE, INC	333 W MILL RD	LONG VALLEY, NJ 07853
Rockaway Township	10101	30	10 ROY ST	HOWMET CAST & SERV INC % ALOCA INC	201 ISABELLA ST, 3RD FL	PITTSBURGH, PA 15212
Rockaway Township	10101	36	BLACKWELL ST	COUNTY OF MORRIS TRANSPORTATION	PO BOX 900	MORRISTOWN, NJ 07963
Rockaway Township	10101	32	ROCKAWAY RD - REAR	HOWMET CAST & SERV INC % ALOCA INC	201 ISABELLA ST, 3RD FL	PITTSBURGH, PA 15212
Rockaway Township	10101	29	10 ROY ST	HOWMET CAST & SERV INC % ALOCA INC	201 ISABELLA ST, 3RD FL	PITTSBURGH, PA 15212

5.5 Public Information Centers

As defined in the PIAP, the study hosted two Public Information Centers (PICs). The first PIC was held on October 13, 2018 from 4 to 8 p.m. to introduce the interested members of the public to the project and identify any concerns they may have. The PIC featured a range of printed displays and a formal presentation given twice during the course of the meeting – at 4:30 and 6:30 p.m. The meeting was advertised in The Star-Ledger and the Daily Record in both English and Spanish. Notifications were posted on the Morris County and Dover websites. Flyers advertising the meetings were also posted in the Dover municipal building and in a range of other publicly accessible spaces.

The second briefing was initially scheduled for Tuesday, March 17, 2020, but had to be postponed due to the COVID-19 pandemic response and limitations on public gatherings. The meeting was rescheduled and held in a virtual format on Thursday May 18, 2020, from 6:30 to 8:30 p.m. This meeting presented the study findings, alternatives considered, and preliminary recommendations for a preferred alternative to be advanced into design and construction. As with the first PIC, this meeting was extensively advertised in print media, on websites and through posting of meeting notices in the municipal building and around the local area.

Feedback and comments from the meeting participants was overwhelmingly supportive of the project with only one participant expressing the opinion that he had grown up in downtown Dover and had learned to live with the rail activity, and he thought that spending money on this project was a waste as others should learn to live with it also.

Copies of the PIC presentation materials are presented in Appendix F.

6. Concept Development

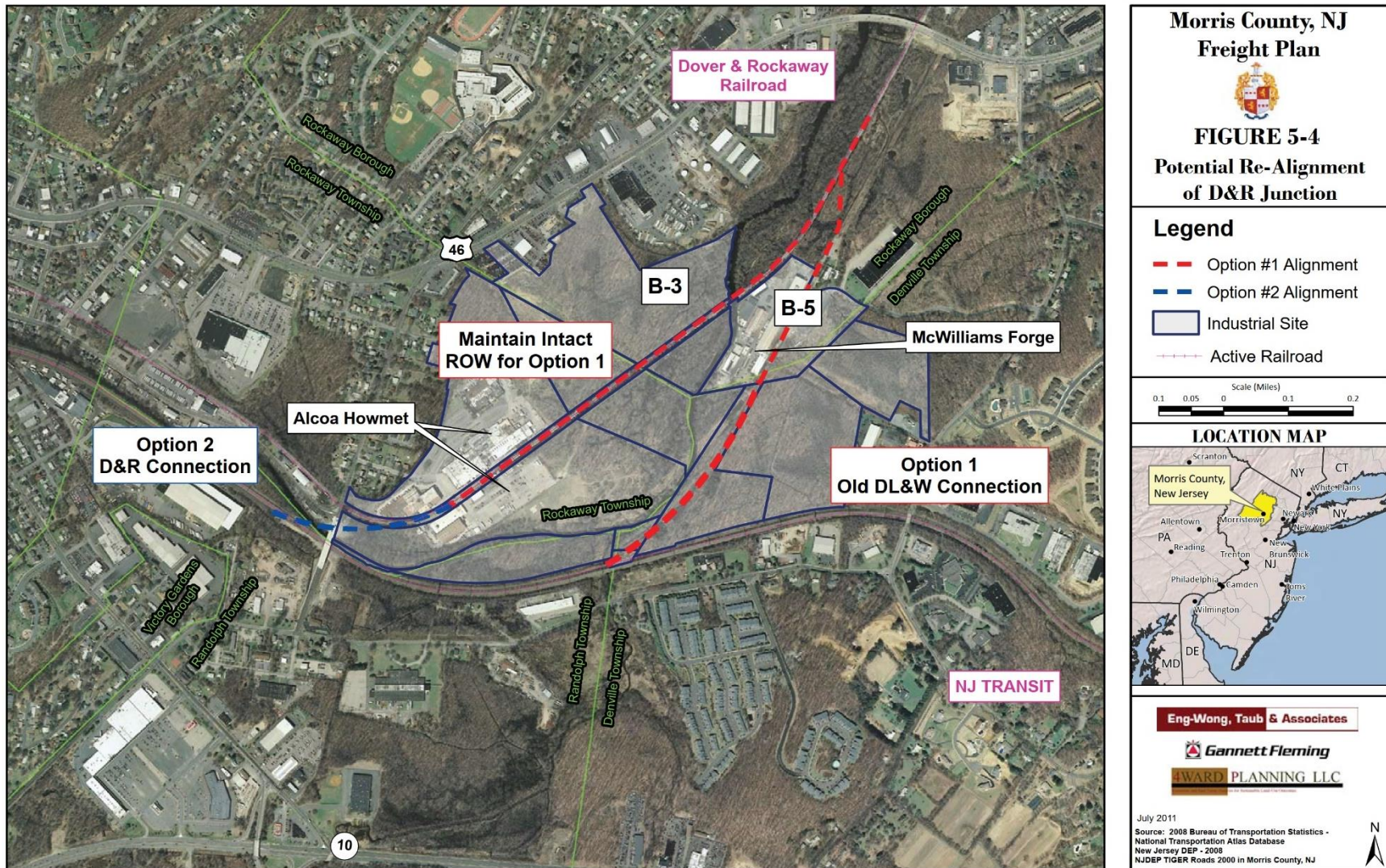
6.1 Previously Developed Alternatives

In 2011, NJTPA published the *Morris County Freight Infrastructure and Land Use Analysis*, which examined, “the impact and role of the goods movement industry on the county's transportation network, land use, and economy.” A key recommendation of this study was to relocate the point where the D&R Line connects with the NJ TRANSIT Morristown Line, as the D&R Line currently travels at grade through downtown Dover. The crossings do not have gates and freight trains must stop prior to each crossing. Railroad personnel must then manually flag-stop roadway traffic to allow the train to pass. The existing connection occurs west of Dover, but there are opportunities to relocate this connection east of Dover. This would improve the efficiency and safety of freight rail transport on the D&R Line by eliminating the need to travel through downtown Dover and avoid the 18 ungated at-grade crossings and the impacts associated with said crossings (refer to Section 1, Figure 1.4).

The *Morris County Freight Infrastructure and Land Use Analysis* outlined two alternatives to address these concerns, both of which have been carried forward into the Concept Development phase. The first alternative is to realign the D&R Line along the former DL&WRR right-of-way, connecting to the Morristown Line south of the McWilliams Forge facility. The DL&WRR was formally abandoned in 1948 with the right of way currently owned by a number of entities including McWilliams Forge, Forge View Partners, J&J Realty and Christian Peter. While the grade and general alignment of this former rail right of way remains suitable for reconstruction of an active rail line, in the years since it's abandonment the right of way has effectively been reclaimed by nature and is included in the NJDEP data as a wetland.

This alternative does not require a new crossing over the Rockaway River, though it would result in wetlands disturbance further north along the line. Approximately 3,500 linear feet of new track on the former DL&WRR Rockaway Loop would have to be constructed for this alternative. The second alternative would maintain the current D&R Line alignment through the Alcoa Howmet site in Dover and extend the line south to a new connection on the Morristown Line. This alternative would require a new crossing of the Rockaway River. Figure 6.1 depicts both alternatives.

Figure 6.1: Preliminary Alignment Concepts from Prior Study



Source: Morris County Freight Infrastructure and Land Use Analysis

6.2 Fatal Flaw Screening Process

The purpose of the fatal flaw screening was to identify any alternatives that were deemed to be infeasible, based on a comparison of the alternatives against a set of fatal flaw screening criteria developed from the study's stated goals and objectives. The screening evaluation was qualitative in nature and considered alternatives in terms of their alignments and basic attributes. The criteria used to evaluate each alternative are described in more detail below.

Freight Rail Operations Impacts / Benefits

Freight rail operational impacts are those impacts which would significantly increase running times/cause delays on the freight route or disrupt existing operations. Benefits may include enhanced operational efficiency through reduced freight travel times (due to trains no longer needing to stop at each non-signalized at-grade crossing in downtown Dover). This criterion supports the study's goal to "Enhance operational efficiency along the D&R Line."

Passenger Rail Operations Impacts / Benefits

Passenger rail operational impacts are those impacts which would significantly reduce the level of service on the passenger route or disrupt existing operations. Benefits may include avoiding or limiting any potential impacts of freight rail service on existing or planned passenger operations (particularly where tracks are shared). This criterion supports the study's goal to "Support quality of life within Dover."

Floodplains & Aquifers Impacts / Benefits

This criterion examines the potential impacts to floodplains, wetlands, and aquifers resulting from the implementation of an alternative alignment (both during and after construction).

Floodplains are low-lying lands adjacent to rivers and streams. When left in their natural state, floodplain systems store and dissipate floods without adverse impacts to humans, buildings, roads, and other infrastructure. Construction within floodplains decreases the land's natural ability to store and absorb water; this exacerbates storm impacts and increases the risk of flooding.

Wetlands are protected areas of land that are often saturated or inundated with water. Construction within a wetland is typically discouraged and requires the interested party to obtain a wetland permit. Permit requirements can include wetland mitigation or the purchase of credits to offset the proposed impact.

Aquifers can be a source of water for residents, businesses, and industries; impacts due to construction can include groundwater table decline, subsidence, attenuation/drying of springs, decreased river flow, and increased vulnerability to pollutants.

A benefit for this criterion would be to avoid or limit impacts to the existing floodplains, wetlands, and aquifers (both during and after construction). This criterion supports the study's goal to "Support quality of life within Dover."

Stormwater and Drainage Impacts / Benefits

Stormwater runoff can include contaminants and pollutants that impact the quality of the receiving waters. In addition, increased stormwater runoff can overwhelm existing drainage systems, resulting in backups and flooding downstream of the project site. A benefit for this criterion would be to avoid or limit any adverse stormwater or drainage impacts (both during and after construction). This criterion supports the study's goal to "Support quality of life within Dover."

Safety Impacts / Benefits

The D&R Line has 13 unprotected at-grade road crossings in the Town of Dover and 5 unprotected crossings in Rockaway Township. The lack of active warning equipment at these crossings creates an unsafe condition and risks conflicts between trains and vehicles, bikes and pedestrians. A benefit for this criterion would be to remove these unprotected crossings, which would increase public safety and benefit all involved parties. This criterion supports the study's goal to "Address traffic safety concerns through downtown Dover along the existing D&R Line."

Utility Impacts / Relocation Requirements

This criterion examines potential impacts to existing above- and below-ground utilities (e.g., power lines, gas lines, and sanitary sewers) and evaluates the need to relocate them to accommodate the new alignment. This criterion supports the study's goal to "Support future freight-related development."

6.2 Alternatives Considered

As a starting point in the development of realignment alternatives, an assessment of the horizontal alignment of the existing D&R Line and the Morristown Line was conducted. To adhere to rail design standards, a switch must be positioned along a straight, tangent section of track. This consideration limits the potential locations for positioning the two new switches required to create a new alignment and connection between the two rail lines – one on the D&R Line and one on the Morristown Line. Figure 6.2 depicts the feasible locations for these two new switches. Regardless of the location of the new switch, the design must preserve the ability for NJ Transit to construct a third track along the Morristown Line in the future, as well as provide an access roadway along the corridor providing access for maintenance vehicles.

Eight discrete alternatives, two of which included sub-alternatives, were developed to consider realigning the D&R connection with the Morristown Line east of Dover. One of these alternatives – Alternative 8 – was developed in the course of the Value Engineering (VE) assessment. During the VE assessment, an independent team evaluates the alternatives and considers additional options, which may have been overlooked. These alignments are depicted on Figure 6.3, with a brief summary of each alternative provided in Table 6.1.

Figure 6.2: Preliminary Alignment Concepts from Prior Study

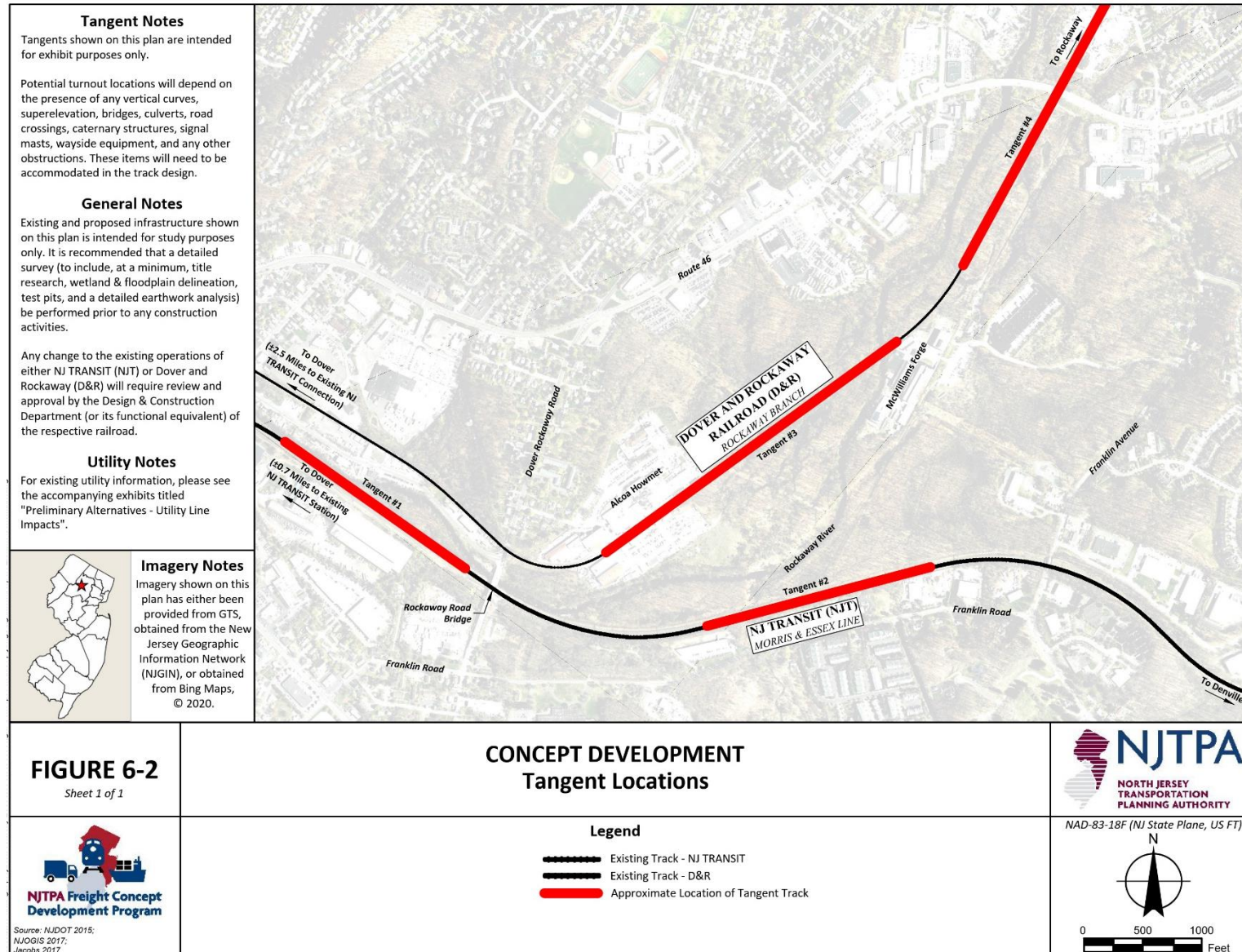


Figure 6.3: Preliminary Alternatives: Alternative s 1 through 8

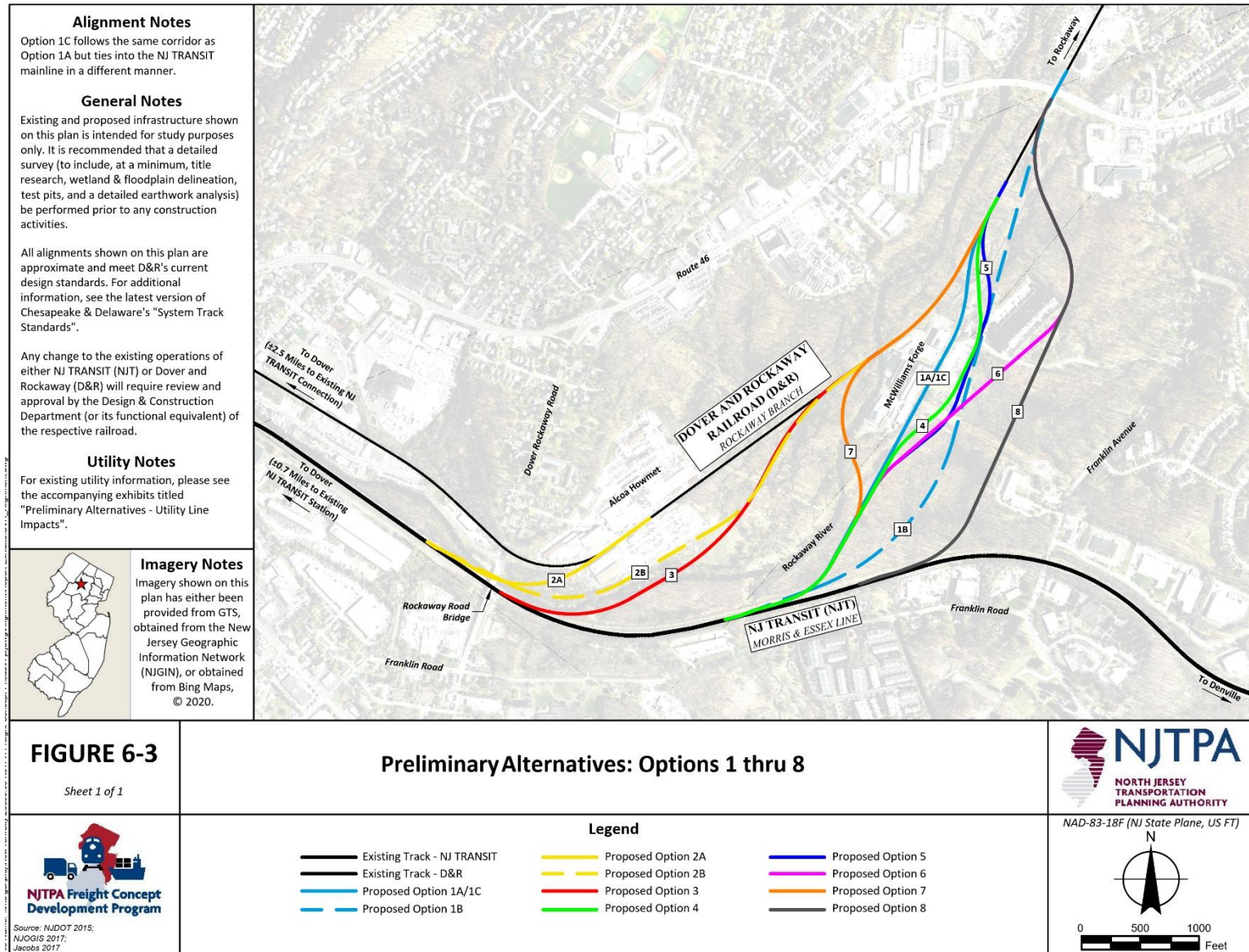


Table 6.1: Summary of Alignment Alternatives

Alternative	General Description	New Bridge Needed
1A	Connects the D&R Line to the Morristown Line via the former DL&WRR right-of-way and travels through the McWilliams Forge property.	No
1B	Connects the D&R Line to the NJ TRANSIT Morristown Line by running south of the former DL&WRR right-of-way and avoids the McWilliams Forge property entirely.	No
1C	Connects the D&R Line to the Morristown Line via the former DL&WRR right-of-way and travels through the McWilliams Forge property.	No
2A	Connects the D&R Line to the Morristown Line north of the existing Rockaway Road Bridge (via a new railroad bridge over the Rockaway River) and maintains the existing D&R alignment through the Alcoa Howmet property.	Yes
2B	Connects the D&R Line to the Morristown Line north of the existing Rockaway Road Bridge (via a new railroad bridge over the Rockaway River) and runs along the eastern edge of the Alcoa Howmet property.	Yes
3	Connects the D&R Line to the Morristown Line south of the existing Rockaway Road Bridge (via a new railroad bridge over the Rockaway River) and avoids the Alcoa Howmet property entirely.	Yes
4	Connects the D&R Line to the Morristown Line via the former DL&WRR right-of-way and runs east of the existing McWilliams Forge property, impacting the existing Wide Band Systems, Inc. (Wide Band Systems) building and parking before tying into the existing D&R Line south of the Route 46 underpass.	No
5	Connects the D&R Line to the Morristown Line via the former DL&WRR right-of-way and runs east of the existing McWilliams Forge property, impacting Tri-State Stone & Tile's/Twister Gymnastics' parking before tying into the existing D&R Line south of the Route 46 underpass.	No
6	Connects the D&R Line to the Morristown Line via the former DL&WRR right-of-way and runs east of Tri-State Stone & Tile's/Twister Gymnastics' property before tying into the existing D&R Line south of the Route 46 underpass.	No
7	Connects the D&R Line to the Morristown Line via the former DL&WRR right-of-way by turning north prior to McWilliams Forge and crossing the Rockaway River via a new railroad bridge before tying into the existing D&R Line south of the existing rail bridge.	Yes
8	Identified through the VE assessment, connects the D&R Line to the Morristown Line at a location east of the former DL&WRR right-of-way and runs east of Tri-State Stone & Tile's/Twister Gymnastics' property before tying into the existing D&R Line south of the Route 46 underpass.	

While the project's Purpose and Need Statement includes the objective of eliminating activity at all 18 at-grade crossings along the D&R Line, the need to maintain service to C&M Metals – located at 160 Richards Ave in Dover – requires maintaining activity at the eight crossings from N. Salem Street eastward. While these eight crossings would remain active, service to C&M Metals would occur approximately once per week, effectively reducing the activity at the crossings east of C&M Metals to approximately 25 percent of the existing level.

6.2.1 Alternative 1A

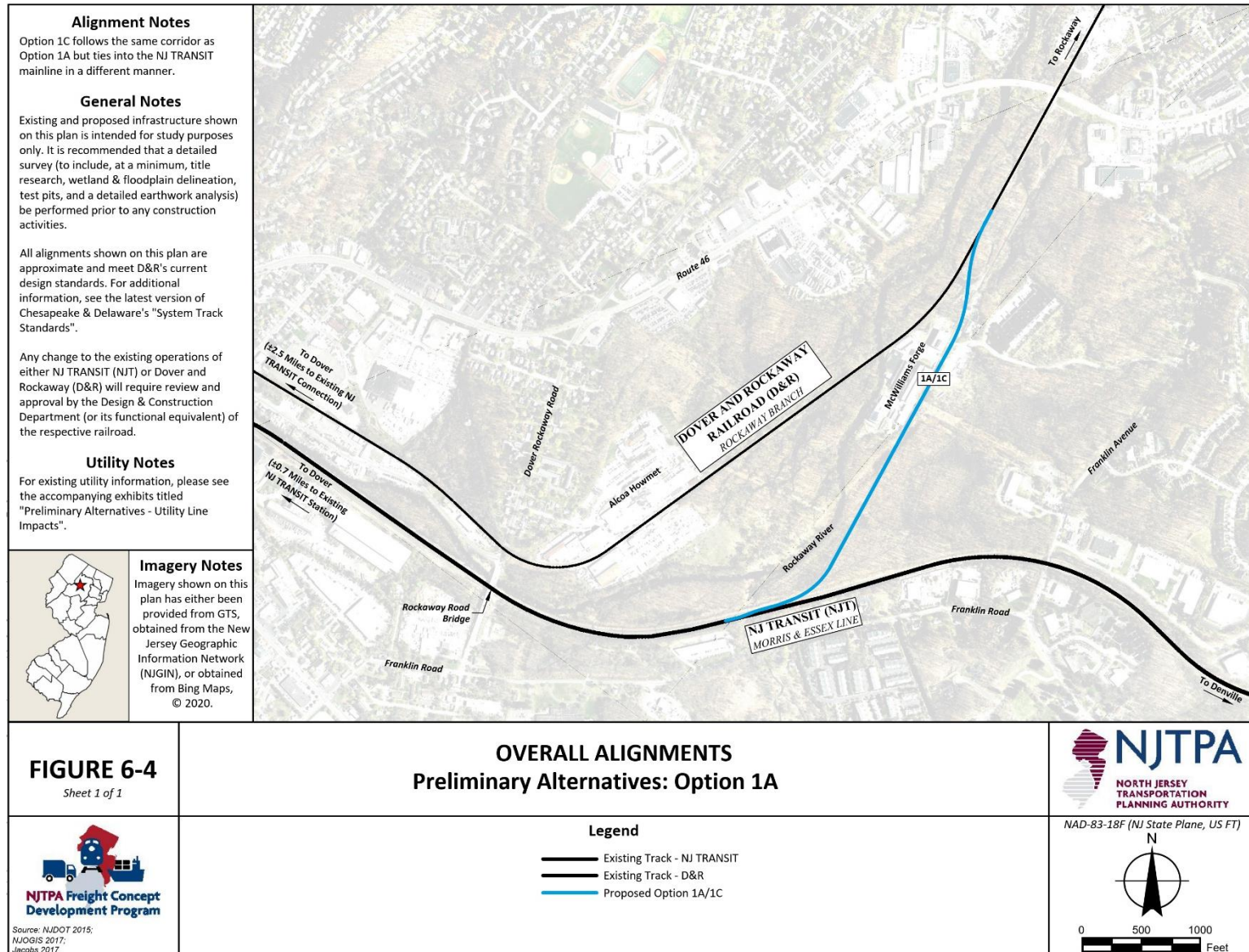
Overview

Alternative 1A is the aforementioned first option described in Section 6.1. This alternative connects the D&R Line to the Morristown Line via the former DL&WRR right-of-way east of Dover and travels through the McWilliams Forge facility.

Alignment

The alignment begins at a spur from NJ TRANSIT's Morristown Line located approximately 2,500 feet east of the Rockaway Road Bridge. It follows the former DL&WRR right-of-way north through the McWilliams Forge facility before connecting to the existing D&R Line approximately 1,200 feet south of the Route 46 underpass. The total alignment has a length of approximately 4,200 feet. Alternative 1A is shown on Figures 6.4.

Figure 6.4: Alternative 1A



Operations

The proposed connection to the Morristown Line would consist of a new left-hand No. 10 turnout, to be built on a section of tangent track at approximately Milepost 36.3 on Track 1. This connection could also be made with a left-hand No. 15 turnout, thereby increasing freight speed and reducing maintenance requirements. Track 1 is typically used by westbound NJ TRANSIT trains. Portal-type catenary structures support NJ TRANSIT's overhead electrification system; the portal structures' cross-spans at the proposed turnout location are very long and would not need to be modified to accommodate the new turnout connection.

Track 1 on the Morristown Line is currently signaled for bi-directional operation. Therefore, freight trains moving to/from the D&R Line via the new connection could operate over Track 1 with signal protection. The nearest signal portals are Signal M360/M361 at Milepost 36.1 (east of the proposed connection) and Signal M366/M367 at Milepost 36.6 (west of the proposed connection). The nearest power-operated crossover between Tracks 1 and 2 is located at Milepost 37.9, approximately 1.6 miles west of the proposed connection. It is assumed that a new left-handed crossover from Track 2 to Track 1 would not be required due to the proximity of this existing powered crossover in Dover. The new D&R turnout on Track 1 would be a powered switch having the appropriate lock and derail protection. The NJ TRANSIT signal system would need to be updated to account for this new mainline turnout operation.

Including both revenue service and non-revenue equipment moves, NJ TRANSIT operates 25 to 30 daily trains west of Dover and 95 to 100 trains east of Dover. Under this alternative, the juncture between the Morristown Line and the D&R Line will be moved from the unelectrified section of the Morristown Line (west of Dover) to the electrified section (east of Dover).

Features & Considerations

Freight Rail Operations

- Connects the D&R Line to the Morristown Line without crossing the Rockaway River.
- Reuses a portion of the former DL&WRR right-of-way.
- The DL&WRR roadbed and embankment are in poor condition and would need to be rebuilt to accommodate contemporary railroad loading and current engineering standards.
- Impacts McWilliams Forge and Wide Band Systems properties. Horizontal and vertical clearance constraints between the proposed rail alignment and the existing facilities would need to be identified and accommodated during the design phase.

Passenger Rail Operations

- Increases the potential for conflicts between freight and commuter trains, particularly if either one of the operations is delayed and trains are running behind schedule.
- Minimal impact to the Morristown Line's track geometry at the connection point.

Floodplains & Aquifers

- Located in special flood area subject to inundation by the 1 percent annual chance (100-year) flood event; track and substructure would likely be below the Base Flood Elevation (BFE).

Stormwater and Drainage

- Requires relocation of an existing drainage ditch between McWilliams Forge and the parking lot.

Safety

- Eliminates activity at 10 of the 18 unprotected at-grade crossings and reduces the level of activity at the remaining 8 crossings.
- Requires a new at-grade road crossing for vehicles and pedestrians to access McWilliams Forge.
- Requires the relocation of the parking lot and access road east of McWilliams Forge.

Utilities

- NJ TRANSIT catenary structures along this segment appear to be wide enough to accommodate the connection.
- Six overhead lines and one underground line (belonging to at least four separate providers) will need to be analyzed, modified, and/or protected.
- At least eight utility poles may require relocation.

Fatal Flaws

There are no fatal flaws for this alternative.

6.2.2 Alternative 1B

Overview

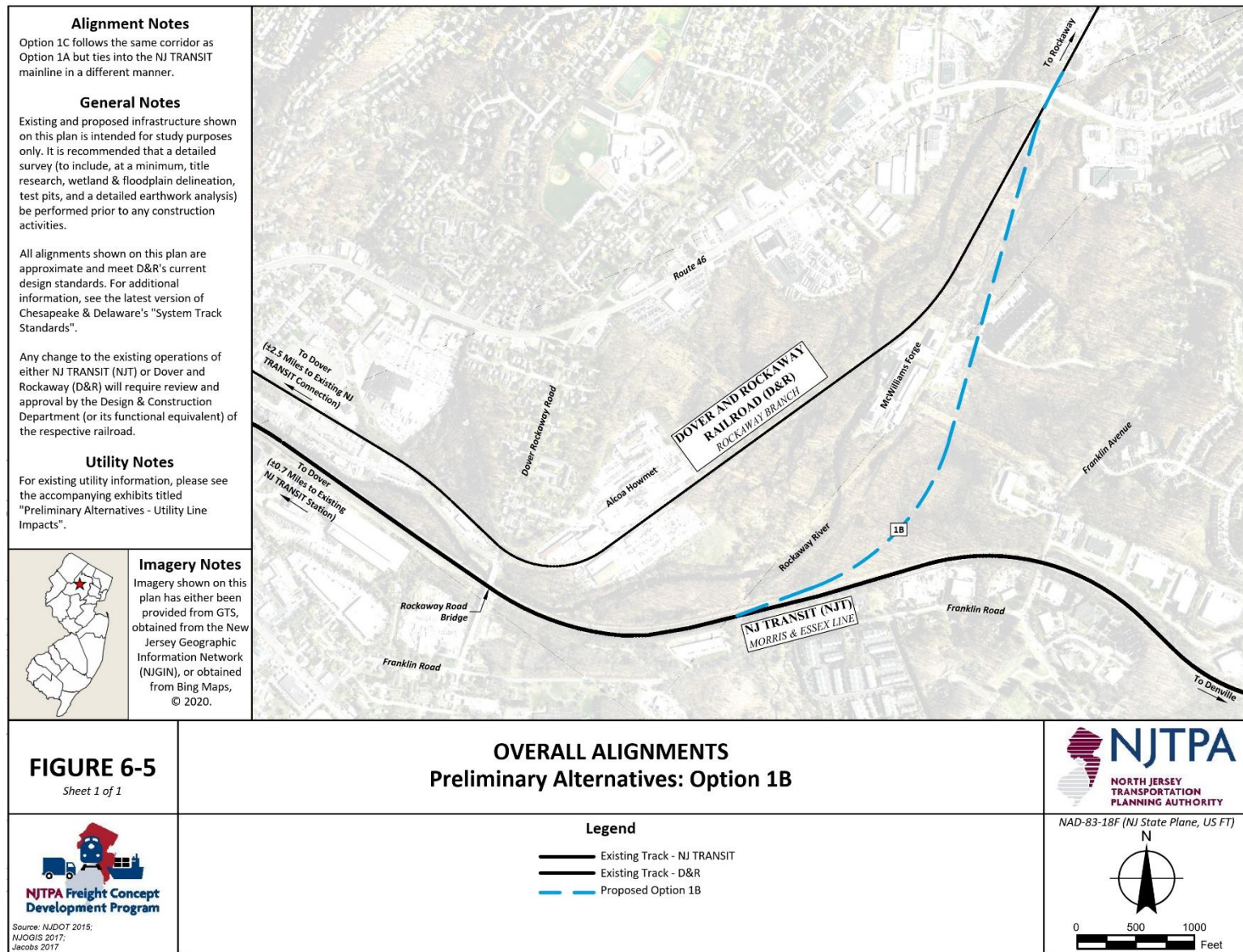
Similar to Alternative 1A, Alternative 1B connects the D&R Line to the Morristown Line via the former DL&WRR right-of-way east of Dover; however, this alternative runs further east, avoiding the McWilliams Forge facility entirely.

Alignment

The alignment begins at a spur from NJ TRANSIT's Morristown Line located approximately 2,200 feet east of the Rockaway Road Bridge. It continues north along a new alignment east of the former DL&WRR right-of-way, avoiding the McWilliams Forge facility entirely before connecting to the existing D&R line immediately south of the Route 46 underpass.

The total alignment has a length of approximately 5,500 feet. A map of Alternative 1B is shown on Figure 6.5.

Figure 6.5: Alternative 1B Alignment



Operations

Operations would be similar to Alternative 1A (refer to Section 6.2.1).

Features & Considerations

Freight Rail Operations

- Connects the D&R Line to the Morristown Line without crossing the Rockaway River.
- Longer (and likely more costly) than most of the other alternatives.
- Impacts the Wide Band Systems property. Horizontal and vertical clearance constraints between the proposed rail alignment and the existing facilities would need to be identified and accommodated during the design phase.

Passenger Rail Operations

- Increases the potential for conflicts between freight and commuter trains, particularly if either one of the operations is delayed and trains are running behind schedule.
- Minimal impact to the Morristown Line's track geometry at the connection point.

Floodplains & Aquifers

- Located in special flood area subject to inundation by a 100-year flood event; track and substructure would likely be below the BFE.

Stormwater and Drainage

- Impacts a drainage culvert underneath McWilliams Forge's parking lot; a new culvert would be required.

Safety

- Eliminates activity at 10 of the 18 unprotected at-grade crossings and reduces the level of activity at the remaining eight crossings.
- Requires a new at-grade road crossing for vehicles and pedestrians to access McWilliams Forge and Wide Band Systems.
- Requires the relocation of an existing access road to Tri-State Stone & Tile and Twister Gymnastics.

Utilities

- NJ TRANSIT catenary structures along this segment may need to be modified to accommodate the connection.
- Five overhead lines and two underground lines (belonging to at least four separate providers) will need to be analyzed, modified, and/or protected.
- At least two utility poles may require relocation.

Fatal Flaws

There are no fatal flaws for this alternative.

6.2.3 Alternative 1C

Overview

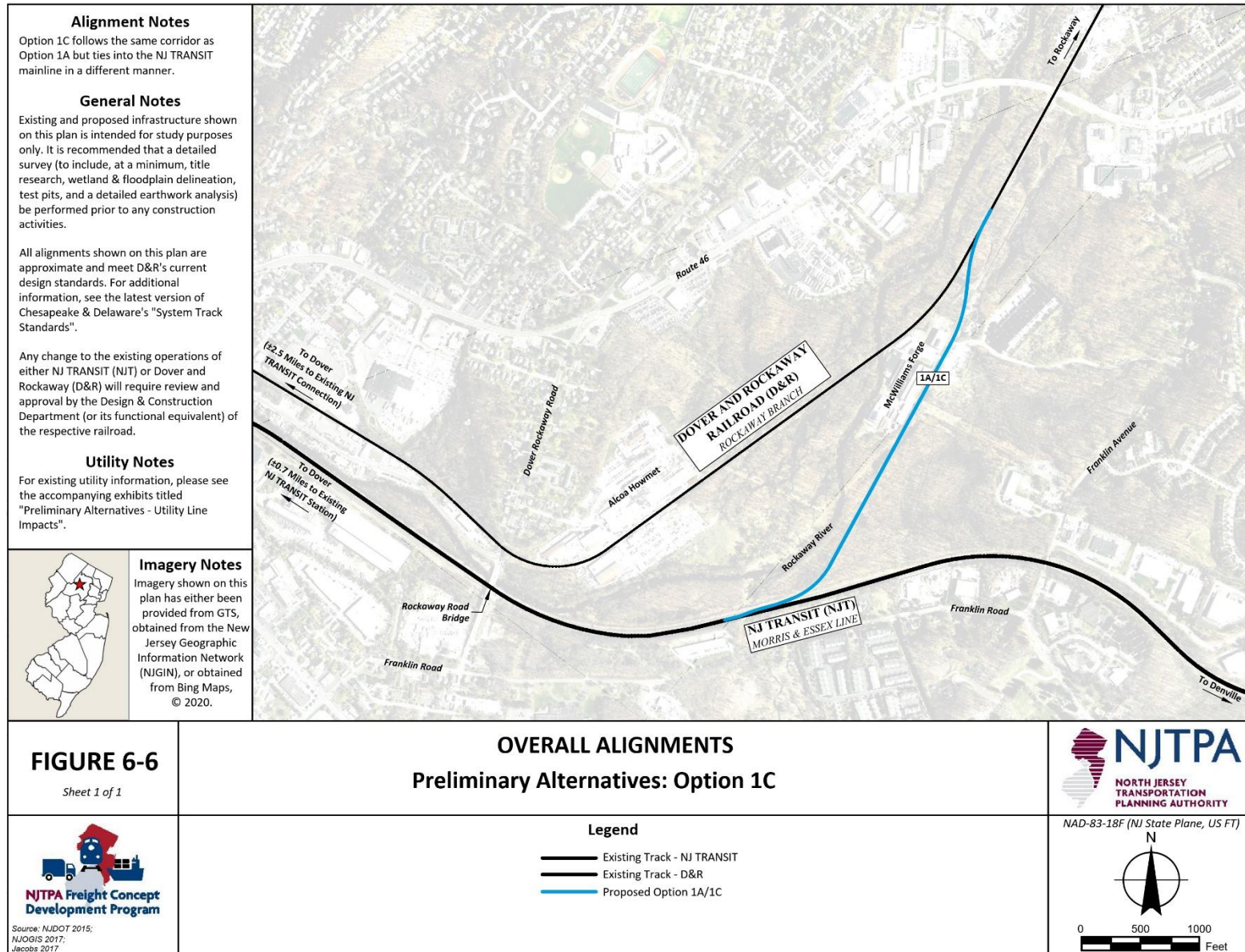
Alternative 1C is largely identical to Alternative 1A but differs in its connection to the Morristown Line by providing a length of tangent track parallel to Track 1. This track could be used to accommodate a future siding.

Alignment

The alignment begins at a spur from NJ TRANSIT's Morristown Line located approximately 2,200 feet east of the Rockaway Road Bridge. It follows the former DL&WRR right-of-way north through the McWilliams Forge facility before connecting to the existing D&R line approximately 1,200 feet south of the Route 46 underpass.

The total alignment has a length of approximately 3,900 feet. A detailed map of Alternative 1C is shown on Figure 6.6.

Figure 6.6: Alternative 1C Alignment



Operations

Operations would be similar to Alternative 1A (refer to Section 6.2.1).

Features & Considerations

Freight Rail Operations

- Connects the D&R Line to the Morristown Line without crossing the Rockaway River.
- Reuses a portion of the former DL&WRR right-of-way
- The current DL&WRR roadbed and embankment are in poor condition and may need to be rebuilt to accommodate contemporary railroad loading and current engineering standards. Allows for a future siding parallel to Track 1.
- Impacts McWilliams Forge and Wide Band Systems properties. Horizontal and vertical clearance constraints between the proposed rail alignment and the existing facilities would need to be identified and accommodated during design

Passenger Rail Operations

- Increases the potential for conflicts between freight and commuter trains, particularly if either one of the operations is delayed and trains are running behind schedule.
- Minimal impact to the Morristown Line's track geometry at the connection point.

Floodplains & Aquifers

- Located in special flood area subject to inundation by a 100-year flood event; track and substructure would likely be below the BFE.

Stormwater and Drainage

- Requires relocation of an existing drainage ditch between McWilliams Forge and parking lot.

Safety

- Eliminates activity at 10 of the 18 unprotected at-grade crossings and reduces the level of activity at the remaining eight crossings.
- Requires a new at-grade road crossing for vehicles and pedestrians to access McWilliams Forge.
- Requires the relocation of the existing parking lot and access road east of McWilliams Forge.

Utilities

- NJ TRANSIT catenary structures along this segment of the line appear to be wide enough to accommodate the connection.
- Six overhead lines and one underground line (belonging to at least four separate providers) will need to be analyzed, modified, and/or protected.
- At least eight utility poles may require relocation. Located in Zone AE Floodway Area.

Fatal Flaws

There are no fatal flaws for this alternative.

6.2.4 Alternative 2A

Overview

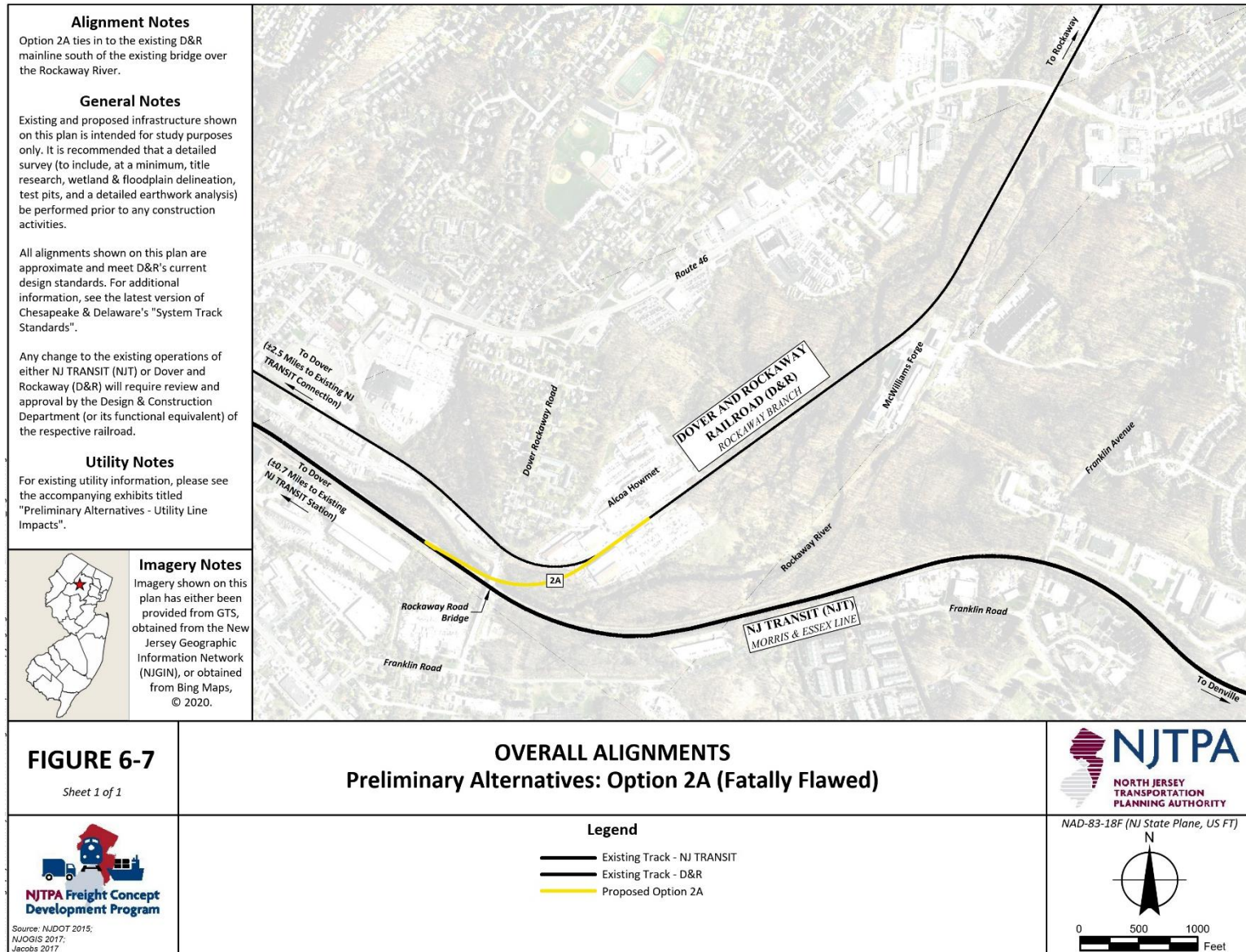
Alternative 2A is derived from the original second option developed under the 2011 *Morris County Freight Infrastructure and Land Use Analysis Study* described in Section 6.1. This alternative maintains the current D&R Line through the Alcoa Howmet property and extends said alignment south across the Rockaway River/underneath the existing Rockaway Road Bridge before connecting to the Morristown Line west of the existing Rockaway Road Bridge.

Alignment

The alignment begins at a spur from NJ TRANSIT's Morristown Line located approximately 600 feet west of the Rockaway Road Bridge. It continues east underneath the Rockaway Road Bridge (requiring the construction of a new, separate rail bridge) before connecting to the existing D&R Line just south of the Alcoa Howmet facility.

The total alignment has a length of approximately 1,600 feet. Alternative 2A is shown on Figure 6.7.

Figure 6.7: Alternative 2A Alignment



Operations

The proposed connection to the Morristown Line would consist of a new left-hand No. 10 turnout to be built on a section of tangent track at approximately Milepost 36.8 on Track 1. NJ TRANSIT westbound trains typically use Track 1. Portal-type catenary structures support NJ TRANSIT's overhead electrification system.

Track 1 on the Morristown Line is signaled for bi-directional operation. Therefore, freight trains moving to/from the D&R via the new connection could operate over Track 1 with signal protection. The nearest signal portals are Signal M366/M367 at Milepost 36.6 (east of the proposed connection (and Signal M374/M375 (west of the proposed connection). The nearest power-operated crossover between Tracks 1 and 2 is located at Milepost 37.9, approximately 1.1 miles west of the proposed connection. It is assumed that a new left-handed crossover from Track 2 to Track 1 would not be required due to the proximity of this existing powered crossover in Dover. The new D&R turnout would be powered and dispatch-controlled, with appropriate and derail lock protection.

The NJ TRANSIT signal system would have to be updated to account for this new mainline turnout operation. It is possible that this alignment would require extensive changes to NJ TRANSIT's interlocking structure (due to the proximity to Dover Station).

Like Alternative 1A, the juncture between the Morristown Line and the D&R would be moved to an electrified section of the Morristown Line east of Dover.

Features & Considerations

Freight Rail Operations

- Uses a significant portion of the D&R Line's existing infrastructure.
- Requires a new bridge spanning the Rockaway River (at a skewed rather than perpendicular angle).
- The lateral spacing between the abutments for the overhead Rockaway Road Bridge may be insufficient to accommodate a third track.
- Additional property acquisition may be required from Alcoa Howmet.

Passenger Rail Operations

- Increases the potential for conflicts between freight and commuter trains, particularly if either one of the operations is delayed and trains are running behind schedule.
- Minimal impact to the Morristown Line's track geometry at the connection point.
- May require altering NJ TRANSIT's interlocking (on a curved portion of the Morristown Line).

Floodplains & Aquifers

- Construction of the railroad embankment and bridge underneath the Rockaway Road Bridge would alter the Rockaway River floodway and 100-year floodplain.

- Located in special flood area subject to inundation by a 100-year flood event; track and structure would likely be below the BFE.

Stormwater and Drainage

- Impacts existing drainage culvert located just west of the existing Rockaway Road Bridge.
- Construction of the new bridge over the Rockaway River may reduce the river's ability to absorb additional stormwater discharge from further upstream.

Safety

- Eliminates activity at 10 of the 18 unprotected at-grade crossings and reduces the level of activity at the remaining 8 crossings.
- Does not require the construction of any new at-grade road crossings.

Utilities

- May require relocating NJ TRANSIT catenary structures to accommodate the connection.
- Two overhead lines and six underground lines (belonging to at least five separate providers) will need to be analyzed, modified, and/or protected.
- At least two utility poles may require relocation.

Fatal Flaws

The alternative has two fatal flaws:

1. The Rockaway River crossing would need to be built as a curved alignment; this will require a wider structure compared to a bridge that supports a tangent alignment. The wider structure would pose lateral spacing constraints to the existing Rockaway Road Bridge abutments and NJ TRANSIT wayside structures, such as catenary poles.
2. The track alignment and bridge structure would be located within an area designated as a Zone AE Floodway. As a natural conduit for flood waters, the floodway must remain free of obstructions such as buildings, structures, or debris which could cause floodwaters to back up and increase the potential for additional flooding upstream. Therefore, all development within a floodway should be limited whenever possible.

6.2.5 Alternative 2B

Overview

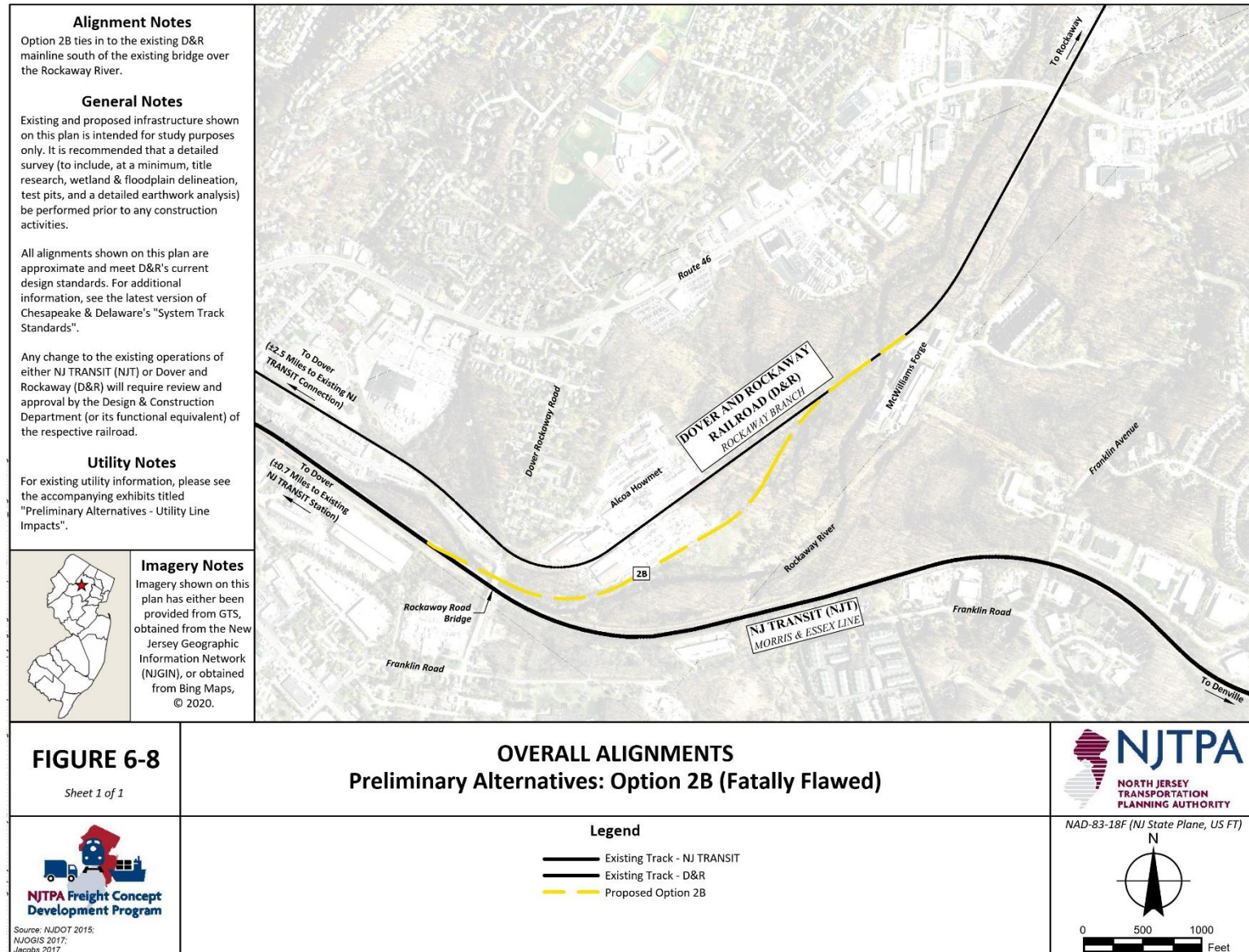
Similar to Alternative 2A, this alternative connects the D&R Line to the Morristown Line via a new railroad bridge over the Rockaway River. However, Alternative 2B diverges further east and skirts the eastern edge of the Alcoa Howmet facility.

Alignment

The alignment begins at a spur from NJ TRANSIT's Morristown Line located approximately 600 feet west of the Rockaway Road Bridge. It continues east underneath the Rockaway Road Bridge (requiring the construction of a new, separate rail bridge). After crossing the river, the alignment curves to the north to skirt the eastern edge of the Alcoa Howmet facility before connecting to the existing D&R Line just south of the D&R's rail bridge spanning the Rockaway River.

The total alignment has a length of approximately 4,700 feet. A detailed map of Alternative 2B is shown on Figure 6.8.

Figure 6.8: Alternative 2B Alignment



Operations

Operations would be similar to Alternative 2A (refer to Section 6.2.4).

Features & Considerations

Freight Rail Operations

- Uses a significant portion of the D&R's existing infrastructure.
- Requires a new bridge spanning the Rockaway River (at a skewed angle).
- The lateral spacing between the abutments for the overhead Rockaway Road Bridge may be insufficient to accommodate a third track
- Additional property acquisition may be required from Alcoa Howmet.

Passenger Rail Operations

- Increases the potential for conflicts between freight and commuter trains, particularly if either one of the operations is delayed and trains are running behind schedule.
- Minimal impact to the Morristown Line's track geometry at the connection point.
- May require altering NJ TRANSIT's interlocking (on a curved portion of the Morristown Line).

Floodplains & Aquifers

- Construction of the railroad embankment and bridge underneath the Rockaway Road Bridge would alter the Rockaway River floodway and 100-year floodplain.
- Located in special flood area subject to inundation by the a 100-year flood event; track and structure would likely be below the BFE.

Stormwater and Drainage

- Impacts existing drainage culvert located just west of the existing Rockaway Road Bridge.
- Requires partially filling Rockaway River to accommodate the proposed roadbed and constructing a new bridge, both of which could reduce the river's ability to absorb stormwater.

Safety

- Eliminates activity at 10 of the 18 unprotected at-grade crossings and reduces the level of activity at the remaining eight crossings.
- Does not require the construction of any new at-grade crossings.

Utilities

- May require the relocation of NJ TRANSIT catenary structures to accommodate the connection.
- Three overhead lines and seven underground lines (belonging to at least five separate providers) will need to be analyzed, modified, and/or protected.

- At least two utility poles may require relocation.

Fatal Flaws

The alternative has two fatal flaws:

1. The Rockaway River crossing would need to be built as a curved alignment; this will require a wider structure compared to a bridge that supports a tangent alignment. The wider structure would pose lateral spacing constraints to the Rockaway Road Bridge abutments and NJ TRANSIT wayside structures such as catenary poles.
2. The track alignment and bridge structure would be located within an area designated as a Zone AE Floodway. As a natural conduit for flood waters, the floodway must remain free of obstructions such as buildings, structures, or debris which could cause floodwaters to back up and increase the potential for additional flooding upstream. Therefore, all development within a floodway should be limited whenever possible.

6.2.6 Alternative 3

Overview

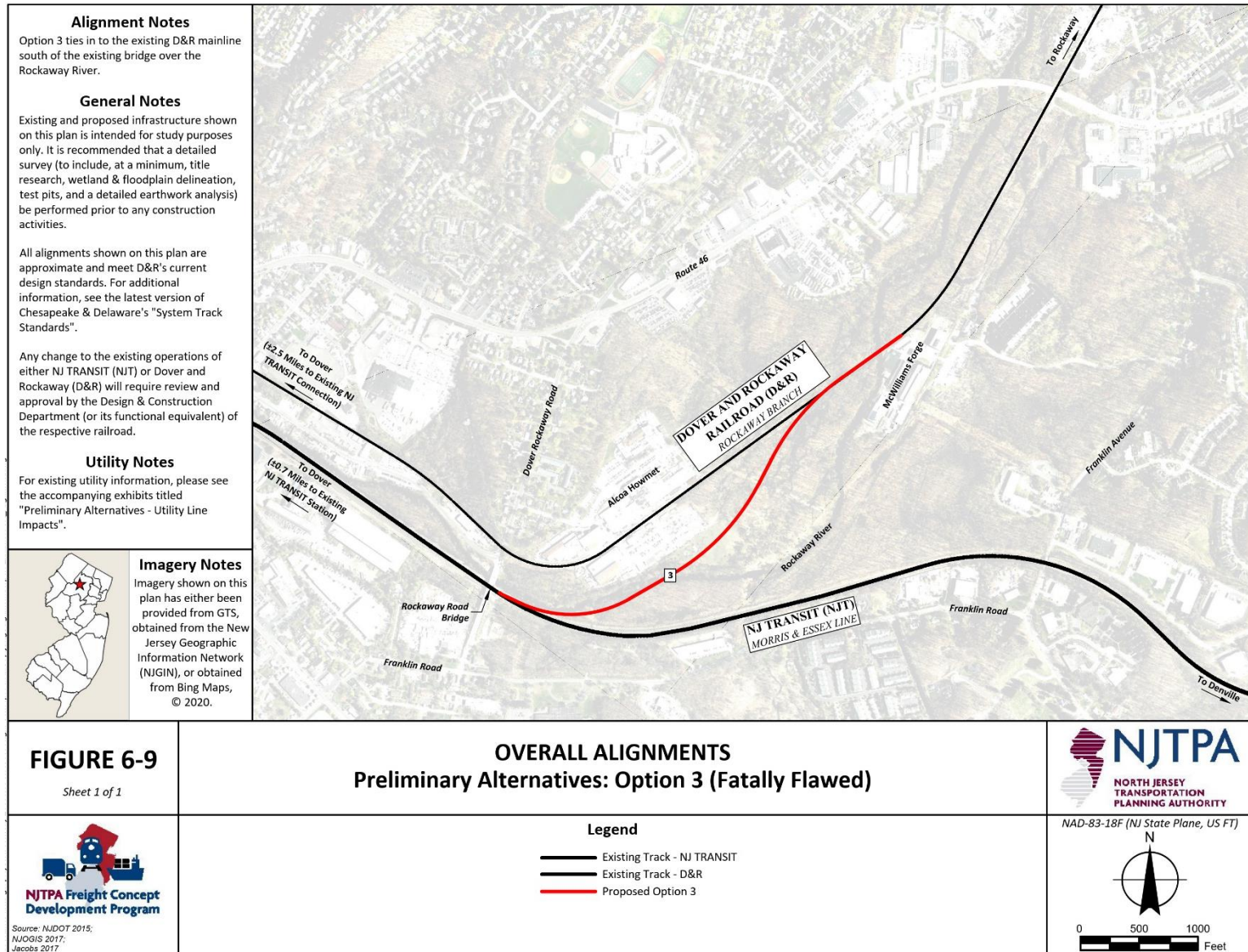
Alternative 3 connects the D&R Line to the Morristown Line via a new railroad bridge over the Rockaway River. This bridge is located east of the Rockaway Road Bridge, and the alignment diverges further east when compared to Alternative 2B, avoiding the Alcoa Howmet facility entirely.

Alignment

The alignment begins at a spur from NJ TRANSIT's Morristown Line located approximately 60 feet east of the Rockaway Road Bridge. The alignment continues along the Rockaway River's eastern edge, curving northwest before spanning the river, requiring the construction of a new rail bridge. After crossing the river, the alignment ties into the existing D&R Line approximately 300 feet south of the D&R's rail bridge spanning the Rockaway River.

The total alignment has a length of approximately 3,900 feet. Alternative 3 is shown on Figure 6.9.

Figure 6.9: Alternative 3 Alignment



Operations

Operations would be similar to Alternative 2A (refer to Section 6.2.4).

Features & Considerations

Freight Rail Operations

- Uses a portion of the D&R Line's existing infrastructure.
- Requires a new bridge spanning the Rockaway River (at a skewed angle).

Passenger Rail Operations

- Increases the potential for conflicts between freight and commuter trains, particularly if either one of the operations is delayed and trains are running behind schedule.
- Minimal impact to the Morristown Line's track geometry at the connection point.
- May require alterations to NJ TRANSIT's interlocking (on a curved portion of the Morristown Line).

Floodplains & Aquifers

- Construction of the rail bridge across the Rockaway River would potentially alter the floodway and 100-year floodplain.
- Located in special flood area subject to inundation by a 100-year flood event; track and structure would likely be below the BFE.

Stormwater and Drainage

- Requires partially filling Rockaway River to accommodate the proposed roadbed, reducing the river's ability to absorb additional stormwater drainage.
- Construction of the new bridge over the Rockaway River may reduce the river's ability to absorb additional stormwater discharge from further upstream.

Safety

- Eliminates activity at 10 of the 18 unprotected at-grade crossings and reduces the level of activity at the remaining eight crossings.
- Does not require the construction of any new at-grade crossings.

Utilities

- May require the relocation of NJ TRANSIT catenary structures to accommodate the connection.
- Three overhead lines and four underground lines (belonging to at least three separate providers) will need to be analyzed, modified, and/or protected.
- At least two utility poles may require relocation.

Fatal Flaws

The alternative has two fatal flaws:

1. The Rockaway River crossing would need to be built as a curved alignment; this will require a wider structure compared to a bridge that supports a tangent alignment.
2. The track alignment and bridge structure would be located within an area designated as a Zone AE Floodway. As a natural conduit for flood waters, the floodway must remain free of obstructions such as buildings, structures, or debris, which could cause floodwaters to back up and increase the potential for additional flooding upstream. Therefore, all development within a floodway should be limited whenever possible.

6.2.7 Alternative 4

Overview

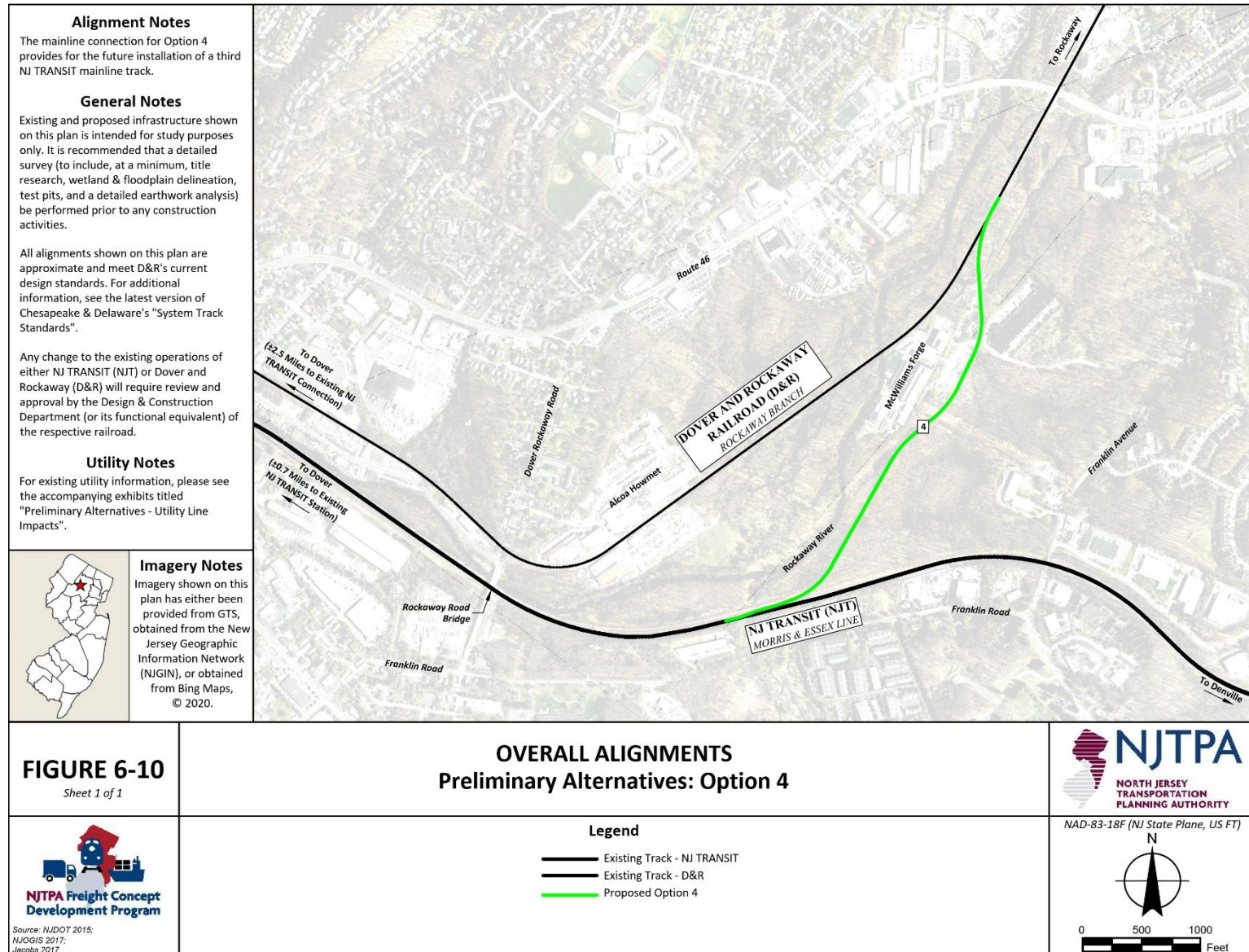
Alternative 4 connects the D&R Line to the Morristown Line via the former DL&WRR right-of-way east of Dover and travels south of the McWilliams Forge facility. This alignment impacts the Wide Band Systems building and adjacent parking lot.

Alignment

The alignment begins at a spur from NJ TRANSIT's Morristown Line located approximately 2,200 feet east of the Rockaway Road Bridge. It follows the former DL&WRR right-of-way north before curving to the east to avoid the McWilliams Forge facility. The alignment continues northbound between several buildings (currently occupied by Wide Band Systems, Tri-State Stone & Tile, and Twister Gymnastics) before connecting to the D&R Line approximately 850 feet south of the Route 46 underpass.

The total alignment has a length of approximately 4,100 feet. Alternative 4 is shown on Figure 6.10.

Figure 6.10: Alternative 4 Alignment



Operations

Operations would be similar to Alternative 1A (refer to Section 6.2.1).

Features & Considerations

Freight Rail Operations

- Connects the D&R Line to the Morristown Line without crossing the Rockaway River.
- Reuses a portion of the former DL&WRR right-of-way.
- The DL&WRR roadbed and embankment are in poor condition and will need to be rebuilt to accommodate contemporary railroad loading and current engineering standards.
- Avoids impacting the McWilliams Forge site.
- Impacts the Wide Band Systems property.
- Horizontal and vertical clearance constraints between the proposed rail alignment and the existing facilities would need to be identified and accommodated during the design phase.

Passenger Rail Operations

- Increases potential for conflicts between freight and commuter trains, particularly if either one of the operations is delayed and trains are running behind schedule.
- Minimal impact to the Morristown Line's track geometry at the connection point.

Floodplains & Aquifers

- Located in special flood area subject to inundation by a 100-year flood event; track and substructure would likely be below the BFE.

Stormwater and Drainage

- Impacts an existing drainage culvert underneath McWilliams Forge's parking lot; a new culvert would be required.

Safety

- Eliminates activity at 10 of the 18 unprotected at-grade crossings and reduces the level of activity at the remaining eight crossings.
- Requires a new at-grade road crossing for vehicles and pedestrians to access McWilliams Forge and Wide Band Systems.
- Requires the relocation of the parking lot north of Wide Band Systems.
- Requires partial demolition of the Wide Band Systems building.

Utilities

- NJ TRANSIT catenary structures along this segment appear to be wide enough to accommodate the connection.

- Seven overhead lines and two underground lines (belonging to at least four separate providers) will need to be analyzed, modified, and/or protected.
- At least two utility poles may require relocation.

Fatal Flaws

There are no fatal flaws for this alternative.

6.2.8 Alternative 5

Overview

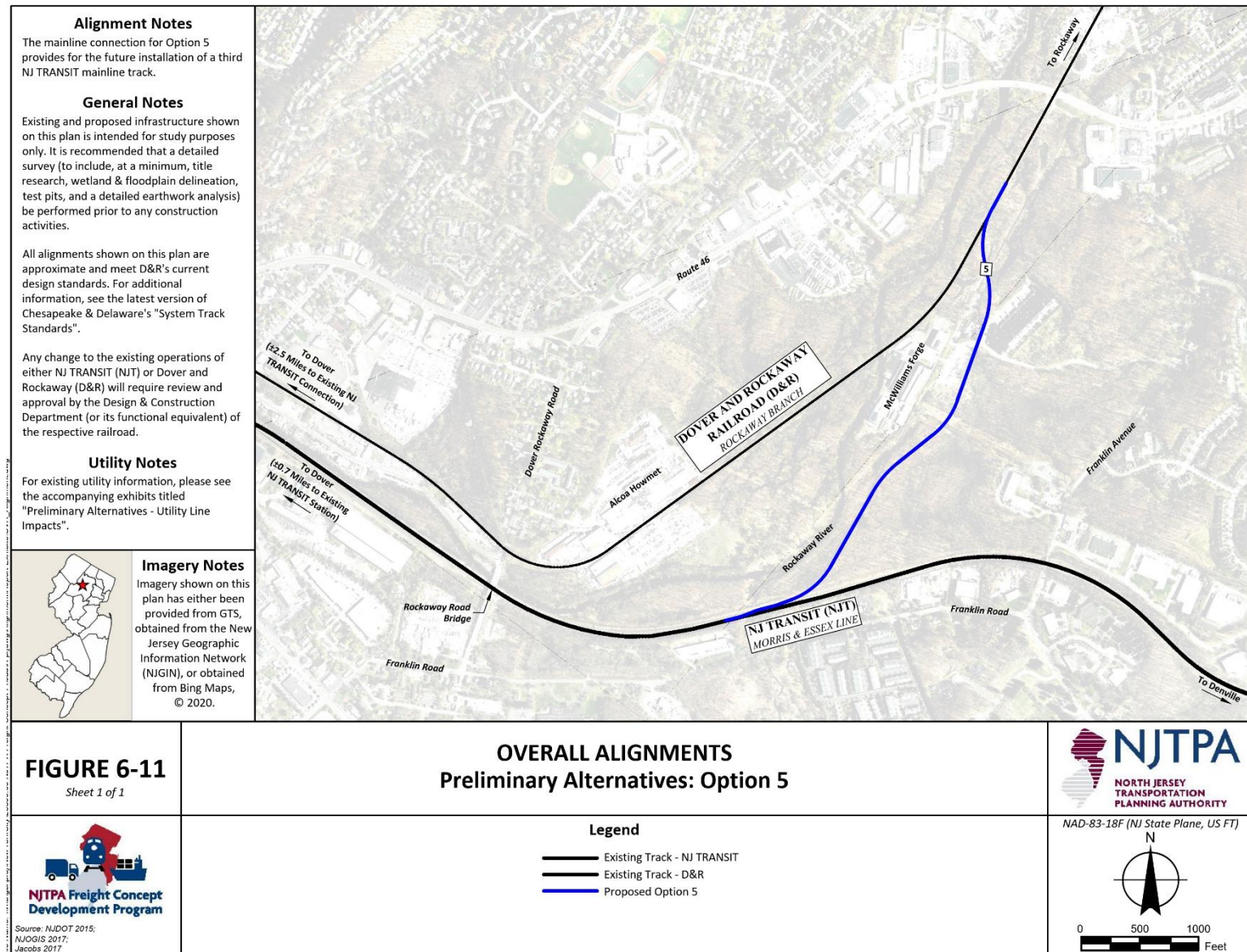
Alternative 5 follows a similar path as Alternative 4 but avoids impacting the Wide Band Systems building and parking lot. This alignment impacts the property housing Tri-State Stone & Tile and Twister Gymnastics; it would affect the access road, parking lot, and loading dock.

Alignment

The alignment begins at a spur from NJ TRANSIT's Morristown Line located approximately 2,200 feet east of the Rockaway Road Bridge. It follows the former DL&WRR right-of-way north before curving to the east to avoid the McWilliams Forge facility. The alignment continues northbound between several existing buildings (occupied by Wide Band Systems, Tri-State Stone & Tile, and Twister Gymnastics) before connecting to the D&R Line approximately 1,000 feet south of the Route 46 underpass.

The total alignment has a length of approximately 4,500 feet. Alternative 5 is shown on Figure 6.11.

Figure 6.11: Alternative 5 Alignment



Operations

Operations would be similar to Alternative 1A (refer to Section 6.2.1).

Features & Considerations

Freight Rail Operations

- Connects the D&R Line to the Morristown Line without crossing the Rockaway River.
- Reuses a portion of the former DL&WRR right-of-way.
- The current DL&WRR roadbed and embankment are in poor condition and will need to be rebuilt to accommodate contemporary railroad loading and current engineering standards.
- Avoids impacting the McWilliams Forge and Wide Band Systems properties.
- Impacts the Tri-State Stone & Tile and Twister Gymnastics property. Horizontal and vertical clearance constraints between the proposed rail alignment and the existing facilities would need to be identified and accommodated during the design phase.

Passenger Rail Operations

- Increases potential for conflicts between freight and commuter trains, particularly if either one of the operations is delayed and trains are running behind schedule.
- Minimal impact to the Morristown Line's track geometry at the connection point.

Floodplains & Aquifers

- Located in special flood area subject to inundation by a 100-year flood event; track and substructure would likely be below the BFE.

Stormwater and Drainage

- Impacts an existing drainage culvert underneath McWilliams Forge's parking lot; a new culvert would be required.

Safety

- Eliminates activity at 10 of the 18 unprotected at-grade crossings and reduces the level of activity at the remaining eight crossings.
- Requires a new at-grade road crossing for vehicles and pedestrians to access McWilliams Forge, Wide Band Systems, Tri-State Stone & Tile, and Twister Gymnastics.
- Requires the relocation of an existing access road to the Tri-State Stone & Tile and Twister Gymnastics property.

Utilities

- NJ TRANSIT catenary structures along this segment appear to be wide enough to accommodate the connection.

- Six overhead lines and two underground lines (belonging to at least four separate providers) will need to be analyzed, modified, and/or protected.
- At least four utility poles may require relocation.

Fatal Flaws

There are no fatal flaws for this alternative.

6.2.9 Alternative 6

Overview

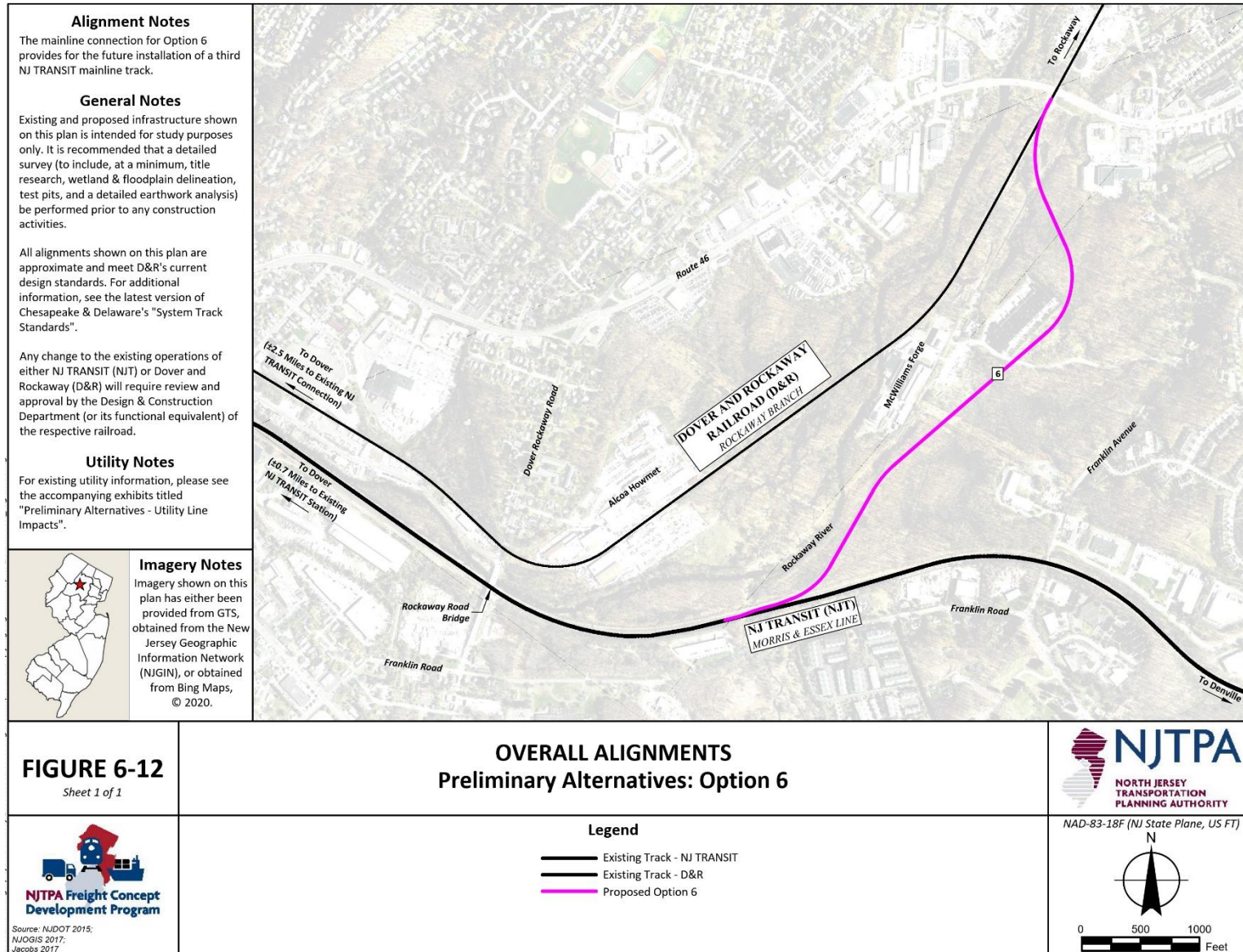
Alternative 6 connects the D&R Line to the Morristown Line via the former DL&WRR right-of-way and avoids the Tri-State Stone & Tile and Twister Gymnastics property entirely.

Alignment

The alignment begins at a spur from NJ TRANSIT's Morristown Line located approximately 2,200 feet east of the Rockaway Road Bridge. It follows the former DL&WRR right-of-way north before curving to the east to avoid the Tri-State Stone & Tile and Twister Gymnastics property. The alignment then curves northbound and connects to the existing D&R Line approximately 50 feet south of the Route 46 underpass.

The total alignment has a length of approximately 5,900 feet. Alternative 6 is shown on Figure 6.12.

Figure 6.12: Alternative 6 Alignment



Operations

Operations would be similar to Alternative 1A (refer to Section 6.2.1).

Features & Considerations

Freight Rail Operations

- Connects the D&R Line to the NJ TRANSIT Morristown Line without crossing the Rockaway River
- Reuses the former DL&WRR right-of-way
- The current DL&WRR roadbed and embankment are in poor condition and will need to be rebuilt to accommodate contemporary railroad loading and current engineering standards.
- Avoids impacting McWilliams Forge, Wide Band Systems, Tri-State Stone & Tile, and Twister Gymnastics.

Passenger Rail Operations

- Increases the potential for conflicts between freight and commuter trains, particularly if either one of the operations is delayed and trains are running behind schedule.
- Minimal impact to the Morristown Line's track geometry at the connection point.

Floodplains & Aquifers

- Located in special flood area subject to inundation by a 100-year flood event; track and substructure would likely be below the BFE.

Stormwater and Drainage

- No apparent issues as proposed.

Safety

- Eliminates activity at 10 of the 18 unprotected at-grade crossings and reduces the level of activity at the remaining eight crossings.
- Requires a new at-grade road crossing for vehicles and pedestrians to access McWilliams Forge, Wide Band Systems, Tri-State Stone & Tile, Twister Gymnastics, and Franklin Avenue.

Utilities

- NJ TRANSIT catenary structures along this segment appear to be wide enough to accommodate the connection.
- Five overhead lines (belonging to at least two separate providers) will need to be analyzed, modified, and/or protected.
- At least two utility poles may require relocation.

Fatal Flaws

There are no fatal flaws for this alternative.

6.2.10 Alternative 7

Overview

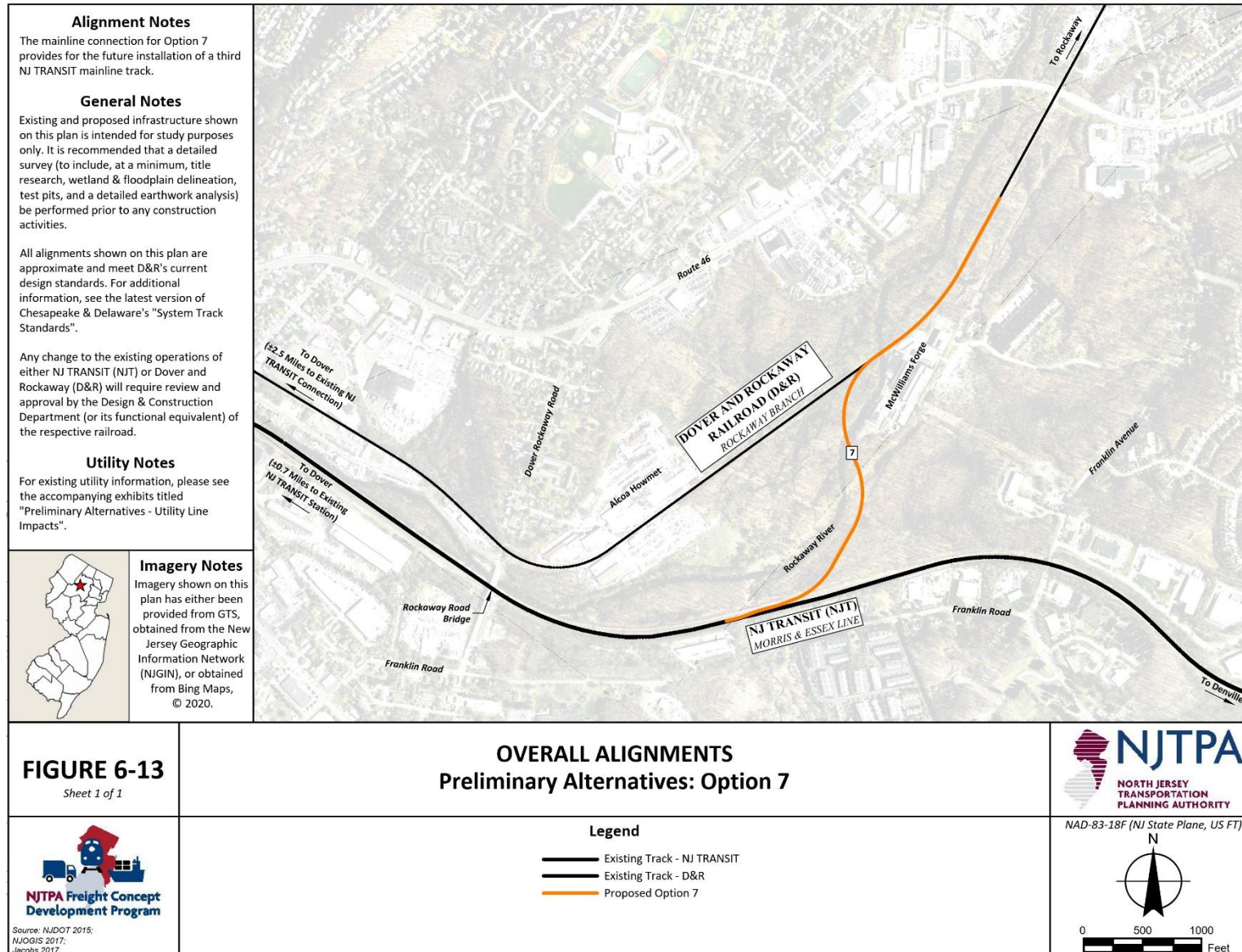
Alternative 7 connects the D&R Line to the Morristown Line via the former DL&WRR right-of-way before crossing the Rockaway River south of McWilliams Forge, avoiding the facility entirely.

Alignment

The alignment begins at a spur from NJ TRANSIT's Morristown Line located approximately 2,200 feet east of the Rockaway Road Bridge. It follows the former DL&WRR right-of-way before turning west and spanning the Rockaway River (via a new rail bridge) south of the McWilliams Forge facility. The alignment connects to the existing D&R line approximately 50 feet south of the existing D&R rail bridge.

The total alignment has a length of approximately 4,000 feet. Alternative 7 is shown on Figure 6.13.

Figure 6.13: Alternative 7 Alignment



Operations

Operations would be similar to Alternative 1A (refer to Section 6.2.1).

Features & Considerations

Freight Rail Operations

- Avoids impacting any of the existing industrial properties (McWilliams Forge, Alcoa Howmet, Wide Band Systems, Tri-State Stone & Tile, and Twister Gymnastics).
- Reuses the former DL&WRR right-of-way.
- The DL&WRR roadbed and embankment are in poor condition and will need to be rebuilt to accommodate contemporary railroad loading and current engineering standards.
- Requires a new bridge spanning the Rockaway River (at a skewed angle).
- New railroad bridge would be located in the floodway and away from other existing improvements; as such, construction would be complicated by the need for an access path, potentially deep foundations, etc.
- Existing rail bridge spanning the Rockaway River may need to be raised to avoid inundation.

Passenger Rail Operations

- Increased potential for conflicts between freight and commuter trains, particularly if operation is delayed and trains are running behind schedule.
- Minimal impact to the Morristown Line's track geometry at the connection point.

Floodplains & Aquifers

- Construction of the rail bridge across the Rockaway River would potentially alter the floodway and 100-year floodplain.
- Located in special flood area subject to inundation by a 100-year flood event; track and structure would likely be below the BFE.

Stormwater and Drainage

- Construction of the new bridge over the Rockaway River may reduce the river's ability to absorb additional stormwater discharge from further upstream.

Safety

- Eliminates activity at 10 of the 18 unprotected at-grade crossings and reduces the level of activity at the remaining eight crossings.
- Does not require the construction of any new at-grade road crossings.

Utilities

- NJ TRANSIT catenary structures along this segment appear to be wide enough to accommodate the connection.
- Two overhead lines and two underground lines (belonging to at least two separate providers) will need to be analyzed, modified, and/or protected.

Fatal Flaws

There are no fatal flaws for this alternative.

6.2.11 Alternative 8

Overview

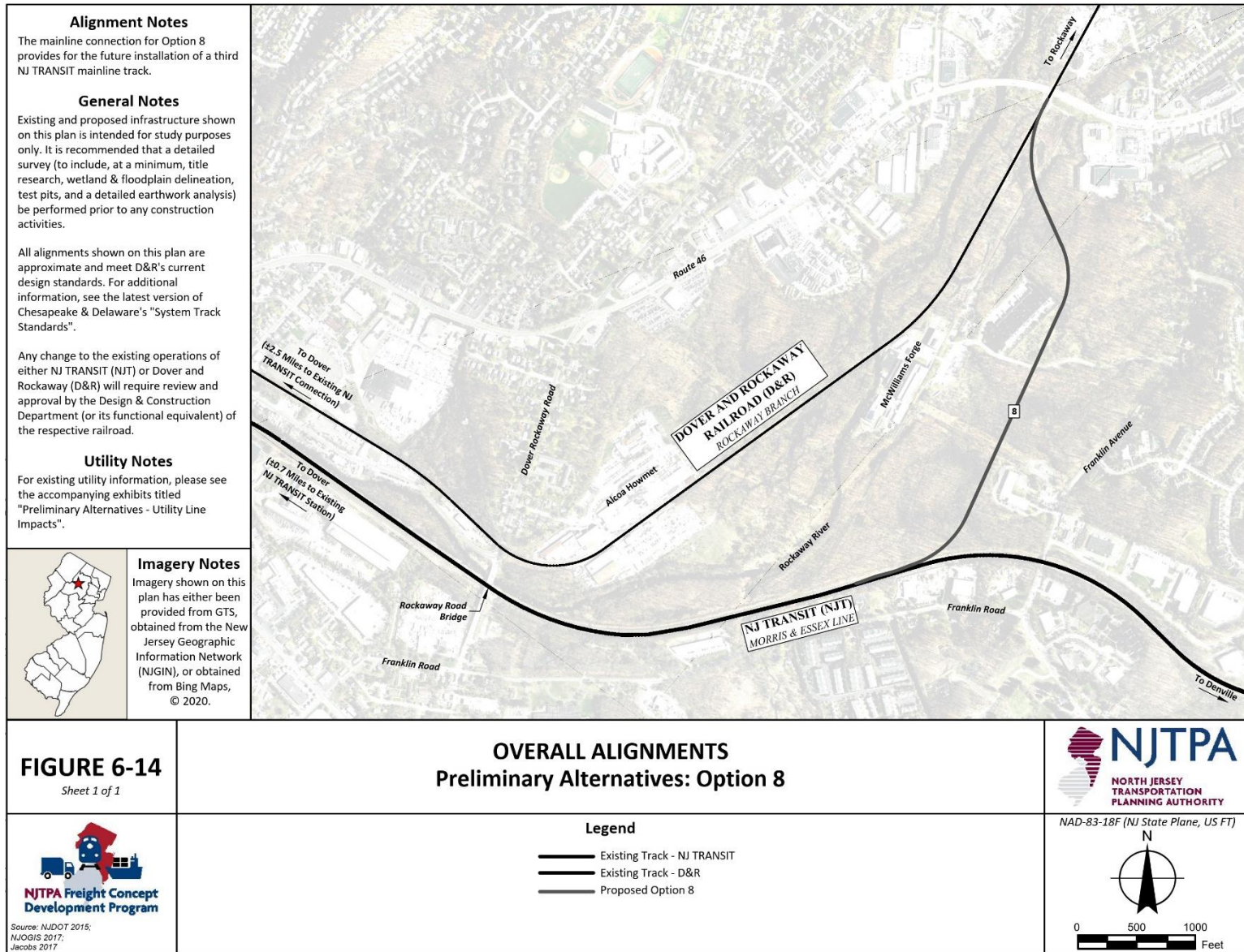
Alternative 8 connects the D&R Line to the Morristown Line via the former DL&WRR right-of-way east of Dover and travels south of the McWilliams Forge facility. This alignment impacts the Wide Band Systems building and adjacent parking lot.

Alignment

The alignment begins at a spur from NJ TRANSIT's Morristown Line located approximately 2,200 feet east of the Rockaway Road Bridge. It follows the former DL&WRR right-of-way north before curving to the east to avoid the McWilliams Forge facility. The alignment continues northbound between several existing buildings (occupied by Wide Band Systems, Tri-State Stone & Tile, and Twister Gymnastics) before connecting to the existing D&R Line approximately 850 feet south of the Route 46 underpass.

The total alignment has a length of approximately 4,700 feet. Alternative 8 is shown on Figure 6.14.

Figure 6.14: Alternative 8 Alignment



Operations

Operations would be similar to Alternative 1A (refer to Section 6.2.1).

Features & Considerations

Freight Rail Operations

- Connects the D&R Line to the Morristown Line without crossing the Rockaway River.
- Reuses a portion of the former DL&WRR right-of-way.
- The current DL&WRR roadbed and embankment are in poor condition and will need to be rebuilt to accommodate contemporary railroad loading and current engineering standards.
- Avoids impacting the McWilliams Forge site.
- Impacts the Wide Band Systems property.
- Horizontal and vertical clearance constraints between the proposed rail alignment and the existing facilities would need to be identified and accommodated during the design phase.

Passenger Rail Operations

- Increases potential for conflicts between freight and commuter trains, particularly if either one of the operations is delayed and trains are running behind schedule.
- Minimal impact to the Morristown Line's track geometry at the connection point.

Floodplains & Aquifers

- Located in special flood area subject to inundation by a 100-year flood event; track and substructure would likely be below the BFE.

Stormwater and Drainage

- Impacts an existing drainage culvert underneath McWilliams Forge's parking lot; a new culvert would be required.

Safety

- Eliminates activity at 10 of the 18 unprotected at-grade crossings and reduces the level of activity at the remaining eight crossings.
- Requires a new at-grade road crossing for vehicles and pedestrians to access McWilliams Forge and Wide Band Systems.
- Requires the relocation of the existing parking lot north of Wide Band Systems.
- Requires partial demolition of the Wide Band Systems building.

Utilities

- NJ TRANSIT catenary structures along this segment appear to be wide enough to accommodate the connection.

- Seven overhead lines and two underground lines (belonging to at least four separate providers) will need to be analyzed, modified, and/or protected.
- At least two utility poles may require relocation.

Fatal Flaws

There are no fatal flaws for this alternative.

6.3 Alternatives Evaluation and Comparison

The fatal flaw screening was qualitative in nature and performed via a desktop analysis. This section describes the fatal flaw screening scores and the justifications for ratings each alternative received in terms of the evaluation criterion.

6.3.1 Justifications for Scoring

Freight Rail Operations Impacts / Benefits

Each alternative received a score of 3 (Moderately Beneficial) because they all provide a connection from the D&R to NJ TRANSIT's Morristown Line east of Dover. This connection benefits freight rail operations by avoiding the need to travel through downtown Dover, eliminating passing through 18 unprotected at-grade crossings for service to the four customers north of Route 46 (and the associated risks and delays due to D&R crews needing to stop and manually flag each crossing). This results in greater efficiency and a reduction in freight travel time. While activity at a total of 10 at-grade crossing would be permanently eliminated, continuing service to C&M Metals in downtown Dover would continue to require trains traveling through the crossings from N. Salem Street eastward. While these eight crossing would remain active, service to C&M Metals occurs approximately once per week, effectively reducing the activity at the crossings east of C&M Metals to approximately 25 percent of the existing level.

Passenger Rail Operations Impacts / Benefits

Each alternative received a score of -1 (Minorly Detrimental). For each alternative, the connection to the Morristown Line would occur near Milepost 36.2 on Track 1 (east of Dover), which is typically used by westbound NJ TRANSIT trains. NJ TRANSIT operates 25 to 30 trains west of Dover and 95 to 100 trains east of Dover daily. Due to the increased traffic level, there is potential for increased conflicts between freight and passenger trains, particularly if one or more trains are running behind schedule.

Floodplains & Aquifers Impacts / Benefits

In order to evaluate the impact to the existing floodplain for each alternative, a request to FEMA will be required to obtain an effective model and determine whether there are any Letter of Map Changes involved. In addition, significant coordination with at least the Borough of Rockaway and Towns of Rockaway, Randolph, and Denville will be required to determine whether any of these communities have higher modeling and mapping standards than FEMA, in addition to their approval process (additional approvals may be required depending on how far upstream the impacts extend). If an alternative results in an increase in BFE or other change to the floodway, a Conditional Letter of Map Revision will be required in order to build within the floodplain.

Any alternative in a floodway must be reviewed to determine whether it will increase flood heights. An engineering analysis must be conducted before a permit can be issued. The community's permit file must have a record of the analysis results, which can be in the form of a no-rise certification. This no-rise certification must be supported by technical data and signed by a registered professional engineer. The supporting technical data should be based on the standard step-backwater computer model used to develop the 100-year floodway shown on the corresponding FEMA Flood Insurance Rate Map or Flood Boundary and Floodway Map.

Alternatives 1A, 1B, 1C, 4, 5, and 6 received a score of -1 (Minorly Detrimental) because each alignment is located in a Zone AE Floodplain area that is subject to inundation by a 100-year storm. Since existing buildings (e.g., McWilliams Forge) are already present in the floodplain, a flood study resulting in a no-rise certification will be mandatory unless all impacts to existing facilities are mitigated through buy-out (removal) or floodproofing.

Alternatives 2A and 2B are fatally flawed due to the proposed railroad span over the Rockaway River. For each alternative, this span would be located on a curve (requiring a wider structure) and would pose lateral spacing constraints due to the Rockaway Road Bridge abutments and NJ TRANSIT wayside structures (such as catenary poles). In addition, both alternatives are located in a Zone AE Floodway.

Alternative 3 is fatally flawed because the centerline of track where the alignment curves to connect to Morristown Line is located on the riverbank and the limits of the right-of-way would extend into the river.

Alternative 7 received an initial score of -5 (Highly Detrimental) because it is located within a Zone AE Floodway. A floodway analysis (as described at the beginning of this section) is required to determine whether this alternative will increase flood heights. The existing rail bridge spanning the Rockaway River may need to be lifted to avoid inundation.

Stormwater and Drainage Impacts / Benefits

Alternatives 1A, 1B, 1C, 4, 5, and 7 each received a score of -1 (Minorly Detrimental) for the following reasons:

- Alternative 1A and 1C would require the relocation of an existing drainage ditch between McWilliams Forge and the surface parking lot.
- Alternatives 1B, 4, and 5 would require the construction of a new culvert (to replace the existing structure) under the surface parking lot.
- Under Alternative 7, the existing railroad bridge over the Rockaway River may limit the ability of the river to absorb additional stormwater.

Alternatives 2A and 2B received a score of -3 (Moderately Detrimental); the new span over the Rockaway River (beneath the existing Rockaway Road Bridge) would likely limit the ability of the river to absorb additional stormwater.

Alternative 3 received a score of -5 (Highly Detrimental) because it would require partially filling the Rockaway River to accommodate the roadbed. This would reduce the ability of the river to absorb additional stormwater.

Alternative 6 received a score of 0 (Neutral); it has no associated stormwater or drainage impacts.

Safety Impacts / Benefits

Alternatives 1A and 1C received a score of 3 (Moderately Beneficial). While they avoid the 10 unprotected at-grade road crossings, they would require a new grade crossing between McWilliams Forge and the existing surface parking lot.

Alternatives 1B, 4, 5, and 6 received a score of 3 (Moderately Beneficial). While they avoid the 10 unprotected at-grade road crossings, they would require a new grade crossing at the access road connecting McWilliams Forge with Franklin Avenue.

Alternative 2A received a score of 3 (Moderately Beneficial). While it would avoid 10 unprotected at-grade crossings and would not require the construction of any new crossings, it would continue to use the four private grade crossings near the Alcoa Howmet property for all trips.

Alternatives 2B, 3, and 7 received a score of 5 (Highly Beneficial); these alignments all avoid 10 unprotected at-grade crossings and do not require the construction of any additional grade crossings.

Utility Impacts / Relocation Requirements

Due to the preliminary nature of the utility screening, it was not possible to determine which utility crossings will require protection or relocation; this will be determined once an alignment is advanced to preliminary engineering. That said, the number of potential conflicts/utility providers was recorded for each alignment (refer to Section 6.2).

Each alignment studied involved numerous utility conflicts. Alternatives 1A, 1B, 1C, 2A, 3, 4, 5, 6, and 7 each received a score of -1 (Minimally Detrimental). These alignments had an average of seven utility conflicts, involving an average of four providers.

Alternative 2B received a score of -3 (Moderately Detrimental); this alignment had the most utility crossings of all the alternatives, with 10 potential conflicts involving at least five providers.

6.4 Preliminary Preferred Alternative – Alternative 4

Due to the modification of the switch location along the Morristown Line, regardless of the alternative selected for advancement into design and construction, an operating agreement between Morris County – owner of the line - and the operator of the switching service along the D&R line with NJ TRANSIT will be required. This agreement will define the rights and responsibilities of the operator of the switching service for the movement of railcars along the NJ TRANSIT right of way. Through the fatal flaw analysis described above, the study team identified Alternative 4 as the PPA. The alignment, profile, and switch configuration are presented in Appendix G. The conceptual design of the proposed switch with the Morristown Line was

coordinated with NJ TRANSIT and preserved the ability of NJ TRANSIT to install a third track along the northern side of the right of way, as well as construction of a maintenance roadway for maintenance vehicles along the corridor.

The primary considerations leading to the identification of Alternative 4 as the PPA include:

- Avoids the need for a new bridge spanning the Rockaway River.
- Avoids the McWilliams Forge facility (thereby preserving that company's ability to expand their operations in the future).
- Avoids the objections posed by McWilliams Forge related to the adverse effects of Alternative 1-C on their property and operations (exacerbation of flooding, need to relocate their security shed and truck check-in area, safety concerns for employees and visitors walking across an active rail line, etc.)
- Preserves the access road to the rear of the Tri-State Stone & Tile and Twister Gymnastics property.
- Configuration of the new switch with the Morristown Line to preserve the ability to install a third track along the Morristown Line in the future without reconstruction of the switch.

The contributing factors to this determination are described in more detail as follows and in Table 6.2.

Table 6.2: *Alternative Scoring*

Criteria	East Switch			West Switch			Alignment				
							Thru Bldg & Lot	Between Bldgs	Easterly Swing 1	Westerly Swing	Easterly Swing 2
	1-A	1-B	1-C	2-A	2-B	3	4	5	6	7	8
Freight Rail Operations Impacts / Benefits	3	3	3	3	3	3	3	3	3	3	3
Passenger Rail Operations Impacts / Benefits	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Adjacent and Proximate Land Use Impacts / Benefits	-5	-5	-5	-5	-5	-5	-3	-3	0	0	0
Historic and Cultural Resources Impacts / Benefits	-1	-1	-1	-3	-3	-3	-1	-1	-3	-5	-3
Community Profile & Environmental Justice/Title VI Impacts / Benefits	0	0	0	0	0	0	0	0	0	0	0
Wetlands Impacts / Benefits	-3	-3	-1	-1	-1	-5	-1	-3	-5	-5	-5
Floodplains & Aquifers Impacts / Benefits	-1	-1	-1	-100	-100	-100	-1	-1	-1	-5	-1
Threatened & Endangered Species Impacts / Benefits	-1	-1	-1	-1	-1	-3	-1	-3	-5	-5	-5
Stormwater and Drainage Impacts / Benefits	-1	-1	-1	-3	-3	-5	-1	-1	0	0	0
Hazardous Materials Impacts / Benefits	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Air Quality & Noise Impacts / Benefits	3	3	3	3	3	3	3	3	3	3	3
Community Impacts / Benefits	5	5	5	5	5	5	5	5	5	5	5
Safety Impacts / Benefits	3	3	3	3	5	5	3	3	3	5	3
Utility Impacts / Relocation Requirements	-1	-1	-1	-1	-3	-1	-1	-1	-1	-1	-1
Summary Score	-1	-1	1	-102	-102	-108	3	-1	-3	-7	-3

As detailed in Table 6.2, two of the alternatives evaluated received a positive score in the evaluation and ranking process. Alternative 1-C received a cumulative score of +1 while Alternative 4 received a cumulative score of +3. As illustrated in Appendix H, the estimated cost for design and construction of these two alternatives was calculated to be approximately \$21.6M for Alternative 1-C and \$22.2M for Alternative 4. The higher positive score, combined with a number of issues support the selection of the slightly more (less than \$0.6M difference) costly Alternative 4 as the Preliminary Preferred Alternative (PPA). The cost savings associated with Alternative 1-C were primarily attributable to a reduction of approximately 200 feet of new track construction and a reduction of approximately 0.25 acres of wetlands disturbance. These cost reductions were partially off-set by additional costs associated with increased on-site structures to reconfigure the McWilliams Forge site.

During stakeholder meetings to present the alternatives to affected property owners, Alternative 1-C was met with strong objections by McWilliams Forge, citing a number of issues that were of critical concern to them:

- Located along the Rockaway River, the McWilliams Forge site experiences flooding during heavy precipitation events that result in the temporary closure of the site and operations. Construction of the rail line along the eastern side of the complex would create a bathtub effect exacerbating the on-site flooding conditions, increasing the duration of facility shut down.
- Construction of the rail line along the eastern edge of the buildings would separate the plant from the employee parking lot. This would require their employees and visitors to walk across an active rail line to access the facility. This was viewed as a potential safety concern.
- The existing facility is constrained along the western side by the Rockaway River. McWilliams Forge indicated that they are planning future expansions of their operations that may include extending the active facility eastward. Construction of the Alternative 1-C alignment would significantly restrict their potential to expand the physical footprint of their facilities.
- As part of their future expansion plans, McWilliams Forge indicated that they may have a need for additional employee and visitor parking. Construction of Alternative 1-C would restrict their ability to expand their parking facility.
- The facility security office is located on the eastern edge of the facility to screen trucks as they arrive to make deliveries or remove finished products. The position of the security office requires trucks to temporarily park across the Alternative 1-C alignment creating a safety concern. Relocation of the security office to a position east of the Alternative 1-C alignment would not only physically separate the security office from the rest of the facility but would require reconfiguration of the employee parking lot.

McWilliams Forge viewed Alternative 4 favorably noting that Alternative 4 would address their concerns related to Alternative 1-C and expressed their willingness to cooperate with the advancement of the project. If Alternative 1-C were to be advanced, due to their stated objection, their cooperation would not likely be offered, with acquisition of the necessary property to construct the project expected to be contested. Based upon their stated concerns with Alternative 1-C and the existence of a viable, constructible Alternative 4, it is uncertain that a contested property acquisition process to advance

Alternative 1-C would ultimately be successful. Further, a contentious property acquisition process would likely increase overall project costs and delay the project advancement. While not factored into the cost estimates, these potential additional costs would erode any overall cost savings related to the construction of Alternative 1-C as opposed to Alternative 4.

Floodplain & Aquifer Impacts / Benefits

Alternative 4 avoids the need for an additional bridge spanning the Rockaway River. While construction would need to occur within the floodplain, the limits would be largely outside the Zone AE floodway. According to FEMA, this floodway “must be kept free of encroachment so that the 1 percent annual chance flood can be carried without substantial increases in flood heights.” As preliminary engineering is advanced, a detailed flood study will need to be performed and submitted to the US Army Corps of Engineers for their review and approval.

Stormwater & Drainage Impacts / Benefits

Alternative 4 crosses an existing drainage culvert underneath McWilliams Forge’s parking lot. Because this culvert was likely not built to support railroad loading, a new culvert will potentially be required.

As preliminary engineering is advanced, additional impacts to the existing overland drainage divides will need to be evaluated.

Safety Impacts / Benefits

Alternative 4 achieves the study’s goal to “Address traffic safety concerns through downtown Dover along the eastern D&R Line” by removing all 18 of the unprotected at-grade road crossings in Dover.

This alternative will require the construction of a new at-grade road crossing at the access road between McWilliams Forge and the Tri-State Stone & Tile and Twister Gymnastics property. To protect both vehicular and pedestrian traffic, installation of three-way signalization (to include lights and gates) is recommended.

Utility Impacts / Relocation Requirements

Alternative 4 will require a certain amount of utility line modifications (similar to the other alternatives examined). Potential conflicts include seven overhead lines, two underground lines, and two utility poles, with at least four separate providers. As preliminary engineering is advanced, each of these locations will need to be analyzed to determine any necessary modification and/or protection.

New Track Length

Alternative 4 has a total length of approximately 4,100 track-feet. While not the shortest alternative, this new connection would permit the decommissioning and removal of approximately 10,000 feet of track through Wharton and downtown Dover. Approximately 7,000 feet of track from the C&M Metals site (as well as the rail bridge spanning the Rockaway River) would remain in place to serve C&M Metals as well as preserve the potential for Alcoa Howmet to receive rail service in the future.

By comparing the fatal flaw analysis results outlined in Section 6.3 with the study goals from Section 2, the study team determined that Alternative 4 either meets or exceeds each of the five goals:

1. Enhance Operational Efficiency Along the D&R Line

By providing this new alignment, DRRV freight crews would have the ability to perform a progressive move from the NJ TRANSIT mainline to beyond the Route 46 underpass. Freight crews will no longer need to stop at and flag each crossing and can instead focus on serving customers more safely, quickly, and efficiently.

However, it is important to note that only 10 of the 18 at-grade crossings would be eliminated. C&M Metals operates a scrap metal recycling business at 160 Richards Avenue in Dover. Subsequent to the commencement of this study, C&M Metals began using rail service to transport materials collected at the site. Maintaining service to this customer requires maintaining the existing D&R line west of N. Salem Street eastward to the newly created switch connecting the existing alignment to the proposed alignment. Of the 18 existing crossings, eight crossings from N. Salem Street eastward would remain in place and active. This condition would exist with any of the considered alternatives and was not deemed a factor in selection of the preferred alternative.

2. Support Future Freight-Related Development

The progressive move outlined above results in significant time savings for freight crews moving to/from the NJ TRANSIT connection point. Not only does this lead to decreased personnel, fuel, and equipment costs, but it potentially allows a single D&R crew to serve more industries before their reach the hours-of-service time limit.

3. Address Traffic Safety Concerns Through Downtown Dover Along the Existing D&R Line

By removing all 10 of the 18 existing non-signalized at-grade crossings, the current potential pedestrian, bicycle, and vehicular conflicts with freight trains along the D&R Line are significantly reduced. This extends to any traffic backups that occur due to a freight train's need to stop and flag each crossing (potentially blocking multiple roads in the process). Activity at the eight at-grade crossings that would remain active to provide service to C&M Metals would be reduced to approximately 25 percent of the current activity levels, improving safety at these locations as well.

4. Support Quality of Life within Dover

Relocating the D&R Line outside of Dover would have an immediate effect on the quality of life in the town (due to the reduced noise levels). Longer-term benefits include improved air quality and a potential increase in property values along the former railroad right-of-way. The Town of Dover could encourage additional public health benefits by repurposing all or part of the former track alignment into a linear park or biking/walking trail.

5. *Balance Economic Transportation Benefits with Local Historic Preservation and Redevelopment Efforts*

In addition to the quality of life benefits outlined above, avoiding the McWilliams Forge and Tri-State Stone & Tile and Twister Gymnastics facilities allows each business to continually prosper and thrive.

6.5 Preliminary Construction Cost Estimate

A detailed construction cost estimate for the PPA was prepared, concluding that the total cost for advancing this alternative from Concept Development through construction and commencement of operation would be approximately \$22.2 million. This cost includes actual construction costs as well as right-of-way acquisition, environmental permitting and remediation, construction engineering services, and construction management activities. The detailed cost estimate is presented in Appendix H.

Table 6.3: PPA Preliminary Construction Cost Estimate

COST CATEGORY	COST
GUIDEWAY & TRACK ELEMENTS	\$ 2,643,850
SITework & SPECIAL CONDITIONS	\$ 2,603,646
ENVIRONMENTAL MITIGATION	\$ 4,704,000
SYSTEMS - SIGNALS & PROTECTION	\$ 568,500
ROW, LAND, EXISTING IMPROVEMENTS	\$ 1,942,650
PROFESSIONAL SERVICES	\$ 4,218,414
UNALLOCATED CONTINGENCY	\$ 4,170,265
FINANCE CHARGES	\$ 327,500
TOTAL	\$ 21,178,825

6.6 Value Engineering Assessment

As part of the alternative development and evaluation process, an independent team of engineers and planners from a firm not involved in the development of the alternatives described above convened and conducted a VE Assessment workshop. As an introductory step in the VE process, the VE team was provided with an overview presentation of the D&R Realignment Project, followed by a visit to the project site. Data assembled in the alternative development process were provided to the VE team with a summary of the alternatives considered and the initial recommendation of the preferred alternative.

The VE team subsequently met in a workshop forum — the creative ideas phase of the VE Assessment — to identify alternatives that the project team may not have initially considered and evaluate possible modifications of the alternatives already developed. The creative idea phases focused on alternatives that might leave a lesser impact on the project area resources, while meeting the stated purpose and need. These ideas could include:

- An intuitively lower cost alternative
- An alternative with a smaller impact on identified cultural and natural resource

- An alternative that has a smaller real estate impact

The VE team reviewed the existing alternatives studied including the identified preferred alternative and conducted a facilitated brainstorming session to identify additional new alternatives. The review identified one additional alignment for consideration (Alternative 8). This alternative was evaluated as shown in Table 6.2, and while feasible, it did not provide additional benefits beyond those provided by the preferred alternative. The full VE report is presented in Appendix I.

7. Next Steps

7.1 Project Design and Construction Funding Opportunities

The NJTPA Freight Concept Development Program (FCDP) was developed as a pathway to fund the advancement of freight-supporting infrastructure projects that otherwise would not have a viable funding program to advance from an idea or expressed need defined in a local, regional or statewide planning study into design and construction. Adoption of the PPA developed through this study represents the final stage of the FCDP's ability to advance a project through to construction. As such, alternative funding programs and project advancement pipelines must be identified to move the PPA into design. This is particularly important when addressing issues on non-publicly owned and operated infrastructure such as much of the freight rail infrastructure serving the needs of New Jersey industries.

To address this, existing publicly supported funding programs were identified as potential pathways for advancing projects from concept through design. Funding programs are managed and funded by a wide variety of federal, state, and other agencies, each having its own unique funding levels and cost-sharing requirements as well as requirements for eligible project types and project sponsors/applicants. Tables detailing the funding programs applicable to freight infrastructure design and construction projects are presented in Appendix J.

7.1.1 New Jersey Rail Freight Assistance Program

The New Jersey Statewide Freight Rail Strategic Plan was developed for the purpose of maintaining and supporting an efficient freight rail system in the State. The Plan assesses the state and efficiency of the existing system; projects future freight rail demands; analyzes infrastructure improvements that are in progress and determines what needs to be done in order to complete those projects; and prioritizes a series of improvements and actions to ensure the efficiency and effectiveness of New Jersey's freight rail system.

The RFAP was developed as a tool for the State to provide financial partnering and support for projects that address the *Statewide Freight Rail Strategic Plan's* goals and objectives. Financial assistance under the RFAP is available to Class I, Class II, and Class III railroads. Projects that would improve and support the existing freight rail system and acquisition of property needed for these projects are eligible as well. Funds can be used for final design and construction.

Owners of rail projects, operators of rail freight service, and public agencies or authorities can seek financial assistance through RFAP, if the projects are included in the program's annual list of eligible projects. The RFAP distributes \$25 million annually to eligible capital improvement projects that result in the continuation or improvement of economically viable rail freight services.

7.1.2 Eligibility of the PPA under RFAP

Design and construction of the PPA is considered eligible for funding under the RFAP based upon the following:

- Realignment of the D&R Line would improve and support the existing freight rail system, making design and construction of the PPA eligible for financial support under the RFAP. The RFAP also supports the acquisition of right-of-way necessary to construct the project.
- The RFAP provides financial assistance to a Class I railroad at 50 percent of the total eligible cost. Class II railroads are eligible for assistance at 70 percent of the total eligible cost. While the Dover & Rockaway Branch is owned by Morris County, the operator of the freight rail service on the Washington Secondary and the Dover & Rockaway Branch is a Class III railroad. Financial assistance to a Class III railroad through the RFAP may be provided at 90 percent of the total eligible cost with the remaining 10 percent to be paid by the sponsor.

It is recommended that the PPA be advanced through an application to the NJDOT for support under the RFAP, with Morris County as the application sponsor. The 10 percent local funding match would be a combination of funding to be provide by Morris County and the freight rail operator, the DRRV.

7.2 Risk Assessment – Preliminary and Final Design Issues

Following is an assessment and summary of the impacts to existing infrastructure, systems and environmental resources potentially associated with the construction of the PPA. These potential design and construction considerations to be addressed during preliminary engineering and permitting are based on advancement of the Alternative 4 alignment and the current project data.

7.2.1 Surface Transportation Board Coordination

Regardless of the final alignment constructed, opening of the new alignment will require a formal filing with the Surface Transportation Board. While not anticipated, objections to the STB filing presented by any individual or party could delay the formal acceptance of the new alignment for construction or active rail operations. Further, while not required for construction and operation of the new line, an additional filing with the STB would be required should the Town of Dover or Morris County seek to pursue formal abandonment of the existing line through downtown Dover.

7.2.2 Switch Connection with NJ TRANSIT's Morristown Line

NJ TRANSIT's capital plan could involve improvements at Dover Yard and the Morristown Line. Although conceptual design of the proposed switch with the Morristown Line was coordinated with NJ TRANSIT, review and potential refinement of the final switch design in coordination with NJ TRANSIT should be undertaken in preliminary engineering to ensure that connection to the Morristown Line does not conflict with future improvement plans. The conceptual design recommended for advancement would maintain the ability of NJ TRANSIT to construct a third track along the northern side of the right of way, as well as provide a modified access path for maintenance vehicles along the corridor.

An agreement will be required between Morris County and NJ Transit establishing what work will be done by NJ Transit and what will be done by a contractor, along with provisions for reimbursement of costs incurred by NJ Transit. Responsibility for maintenance of the new switch as well as the recurring maintenance cost will also need to be established in the agreement.

7.2.3 Privately Owned Right-of-Way and Property Impacts

Alternative 4 requires acquisition and demolition of the Wide Band Systems building within an industrial area. A hazmat study should be conducted to address any potential issues requiring remediation as part of the demolition.

Alternative 4 also requires acquisition of a portion of the McWilliams Forge employee parking lot, eliminating approximately 31 parking spaces. These spaces are expected to be replaced on the remaining lands left available subsequent to the demolition of the Wide Band Systems building, which is expected to be deeded over to McWilliams Forge. The preliminary engineering phase will need to consider reconfiguring the parking and installation of a gate at the new crossing at the access road to McWilliams Forge.

7.2.4 Stormwater Drainage

Because this area is located within the 100-year flood plain, design should also consider the need for installation of a stormwater conveyance system meant to direct stormwater beneath the rail line. Proper design of a stormwater conveyance system will require a stormwater analysis be conducted during preliminary engineering.

7.2.5 Utilities

The proposed alignment will require relocation of several utility poles supporting overhead electrical transmission lines. Coordination of the pole relocation will require coordination with Jersey Central Power & Light and securing of rights of access to the utility easement.

7.2.6 Maintenance of Traffic During Construction

Construction staging in this area may be complicated due to wetlands, crossing of the access roadway serving McWilliams Forge, and the potential need for temporary use of the parking lot and adjacent areas for material laydown and storage. This will require coordination with all property owners along the driveway, especially McWilliams Forge, with Maintenance of Traffic controls put in place during construction to maintain mobility and safety for the movement of vehicles or pedestrians.

7.2.7 Potential Environmental Permits / Approvals and Interagency Coordination

The PPA alignment crosses through and will disturb up to approximately 5 acres of wetlands, assuming NJDEP classifies the entire length of the new alignment as wetlands. The potential exists for portions of the alignment to run along a former rail line to be considered uplands, lessening the volume of defined wetlands impact. A detailed wetlands delineation and flagging program should be undertaken in the early stages of preliminary engineering and permitting to quantify the amount of anticipated wetlands disturbance.

Regardless of the final area of wetlands disturbance, a significant portion of the alignment crosses through marshy areas with questionable subsurface conditions. Preliminary engineering should include an in-depth geotechnical investigation to properly design rail line to handle Cooper E-80 loading.

7.2.8 National Environmental Policy Act Compliance

Enacted on January 1, 1970, the National Environmental Policy Act (NEPA) is a federal environmental law that established the President's Council on Environmental Quality and promotes the enhancement of the environment. Compliance with NEPA will be required in the advancement of the preferred alternative through design and into construction. There are three levels of environmental documentation required for any infrastructure project: a Categorical Exclusion (CatEx), an Environmental Assessment (EA), and an Environmental Impact Statement (EIS). The applicable level of documentation is determined by the nature and extent of environmental impacts associated with construction and operation of the project.

A CatEx is applicable to a project where the project actions will not individually or cumulatively significantly affect the quality of the human environment. These effects generally include adverse effects on endangered species, protected cultural sites, and wetlands. Due primarily to the extent of the wetland disturbance anticipated in the construction of the preferred alternative, a CatEx is not expected to be applicable. As such, at a minimum an EA will be required.

The purpose of an EA is to determine the significance of the project's environmental outcomes and to look at alternatives of achieving the project objectives with a minimum impact to the quality of the environment. An EA provides sufficient evidence and analysis for determining whether preparation of a full EIS is required.

Most agency procedures do not require public involvement prior to finalizing an EA document; however, agencies advise that a public comment period is considered at the draft EA stage. EAs need to be of sufficient length to ensure that the underlying decision to prepare an EIS is legitimate, but they should not attempt to substitute an EIS. If no substantial effects on the environment are found after investigation and the drafting of an EA, the sponsoring agency produces a Finding of No Significant Impact, explaining why construction and operation of the proposed project will not have a significant effect on the human environment.

Close coordination with NJDEP will be required as part of preliminary engineering to prepare an EA and determine if preparation of a full EIS is required.

Appendix A

Purpose and Need Statement



Purpose & Need Statement

The purpose of this project is to optimize freight movement and improve safety by reducing conflicts between the Dover & Rockaway Railroad (“D&R”) freight line and vehicular and pedestrian traffic especially in downtown Dover.

Existing Conditions & Issues

The project area is located primarily in the Town of Dover and Rockaway Borough in addition to Denville Township, Mine Hill Township, Randolph Township, Rockaway Township, Victory Gardens Borough, and Wharton Borough in Morris County. Established along the Rockaway River, the Town of Dover, in its past, had extensive industry especially mining within the project area as a result of its various transportation modes including rail and water. In 1986, with the collapse of the railroad industry, Morris County stepped in to buy the D&R in order to retain existing businesses and to attract future businesses on the line.

As described in the preceding study, Morris County Freight Infrastructure & Land Use Analysis, the D&R is an approximately six mile long rail line that runs at grade level through the older neighborhood of mixed residential, commercial, and industrial uses in downtown Dover. The D&R currently connects to the NJ TRANSIT Morristown Line at the D&R Junction west of Dover. The D&R also runs parallel to the NJ TRANSIT alignment on the north side of the Rockaway River in downtown Dover. East of downtown Dover, the D&R turns north and runs along the Rockaway River through the center of Rockaway Borough before terminating to north of Interstate 80 (I-80). Though owned by Morris County, the D&R is operated by the Dover & Rockaway River Railroad (“DRRV”), which services five active customers along the D&R. Four customers are located in an industrial park just north of I-80 on the east side of Green Pond Road (County Route 513) and one customer located in the Town of Dover off Richards Avenue.

As depicted on Figure 1, the D&R has 18 un-gated at-grade road crossings, of which 13 are within the Town of Dover and 5 are within the Township of Rockaway, many of which are in close proximity to one another. The close spacing of grade crossing and lack of gates poses safety issues especially for vehicular traffic. Drivers along the street do not expect to stop for a train due to the relative low frequency of railcar movement along the D&R, resulting in driver uncertainty and confusion.

The un-gated at-grade crossings also pose a safety issue for the walking public. The Town of Dover Transit Oriented Development Plan and Town Master Plan have identified the need for better pedestrian connections between neighborhoods and between those neighborhoods and the downtown business district. Although it is trespassing, residents use the existing rail alignment as a walking path between neighborhoods and between home and downtown. The same low frequency and unpredictable service schedule that impacts traffic movement also therefore presents a serious safety risk to pedestrians.

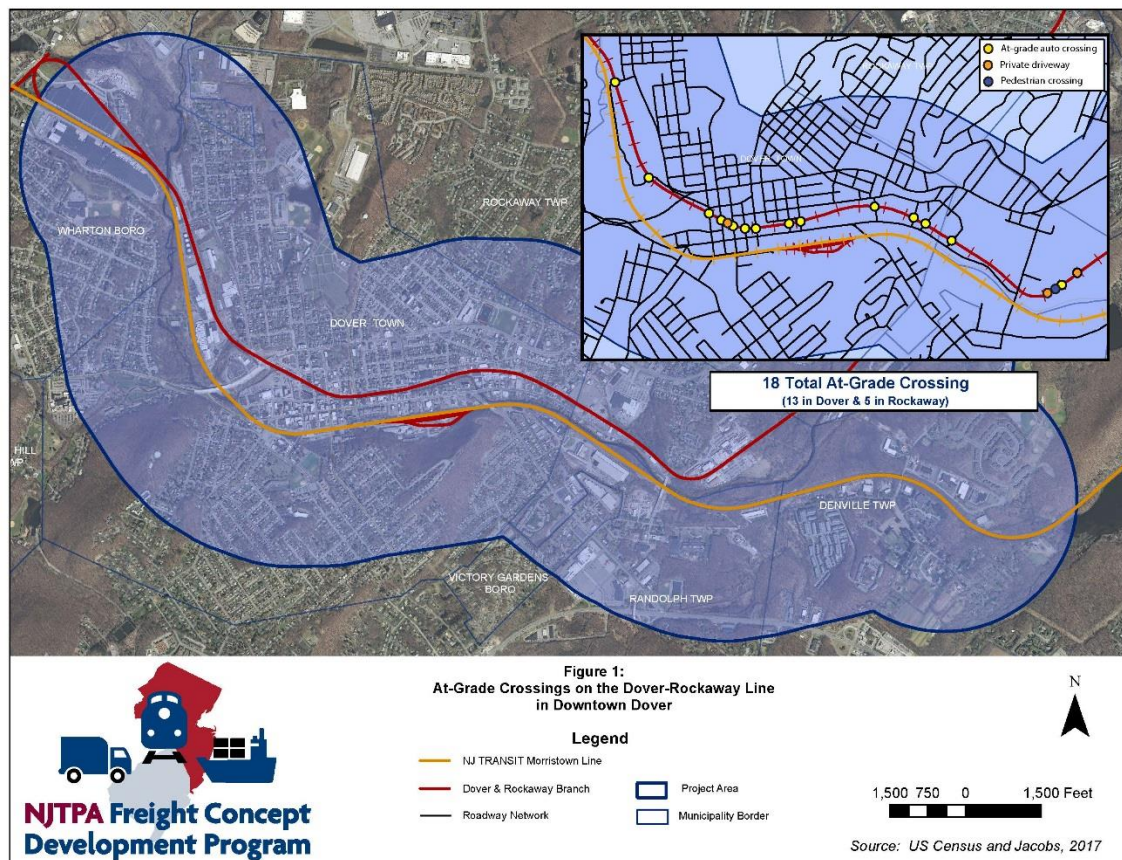
The existing alignment and freight movement along the D&R also affect the sense of place of the town by segmenting it into a northern section and a southern section. The Town of Dover’s goals are to

enhance the cohesive sense of community within the town, which will improve the overall quality of life for residents and facilitate the delivery of services.

Eliminating grade crossings to improve safety as well as upgrading key rail corridors to accommodate 286K Plate F railcars is fully consistent with the goals and priorities set forth in the plans listed below which supports investments in the rail infrastructure within the NJTPA region and throughout New Jersey. Improvements to the rail service within the corridor would create opportunities for growing the existing rail served businesses and attracting new developments which would, as a result, increase the number of jobs as well as economic vitality of the region. Removing the rail freight traffic from downtown Dover would also promote freight as a good neighbor, reduce community impacts, and improve safety within the project area. The project is also expressly supported by the Town of Dover's locally-adopted plans.

- Morris County Freight Infrastructure & Land Use Analysis, July 2011
- NJTPA Rail Freight Capacity and Needs Assessment to Year 2040, June 2013
- NJDOT Freight Rail Strategic Plan, June 2014
- Town of Dover Transit Oriented Development Plan, June 2006
- Town of Dover Master Plan, January 2007

Figure 1 – At-Grade Rail Crossings



GOALS AND OBJECTIVES

The primary goals of this project are to:

1. Enhance operational efficiency along the D&R Branch
2. Support future freight-related development
3. Address traffic safety concerns through downtown Dover along the existing D&R Branch
4. Support quality of life within Dover
5. Balance economic transportation benefits with local historic preservation and redevelopment benefits.

Within each of these overarching goals, specific objectives have been identified as noted below.

1. Enhance operational efficiency along the D&R
 - A. **Reduce** freight travel time associated with substantially-reduced speeds through the 18 non-signalized at-grade crossings, for approximately 3 miles, in the Town of Dover and Rockaway Township
2. Support future freight-related development
 - A. **Potentially** reduce the operational cost of rail movement along the D&R Branch for customers
 - B. **Attract** investment to vacant industrial parcels along the D&R Branch
 - C. **Improve** access to the DRRV Transload Facility in Rockaway Borough for freight customers
3. Address traffic safety concerns through downtown Dover along the existing D&R Branch
 - A. **Reduce** the number of potential pedestrian, bicycle, and vehicular conflicts with freight rail at 18 un-gated at-grade rail crossings
4. Support quality of life within Dover
 - A. **Encourage** walking and bicycling within downtown Dover by reducing traffic safety conflicts with freight rail and converting the D&R Branch in downtown Dover from an active freight line to a linear park or bicycle path. Eight-teen percent (18%) of Dover households have no vehicle¹ and Dover is a “communities of concern”² municipality.
 - B. **Support** reinvestment in a downtown neighborhood that has a pedestrian-friendly “main street” retail, restaurants, and residential properties that are in walking distance of a NJ TRANSIT commuter rail station
 - C. **Reduce** noise and air quality impacts for residents that abut the D&R Branch in downtown Dover
5. Balance freight rail transportation benefits with local historic preservation and redevelopment benefits.

¹ 2015 U.S. Census Bureau

² 2015 Together North Jersey Plan

- A. **Coordinate** alternative development with affected stakeholders, including local leadership and freight-dependent businesses.

Appendix B

Cultural Resources Screening





**Cultural Resources Screening (Revised)
Local Concept Development Study
Pilot Freight Concept Development Program
Dover and Rockaway Rail Realignment Project
Denville, Rockaway, and Randolph Townships and Rockaway Borough
Morris County, New Jersey**

January 15, 2020

The North Jersey Transportation Planning Authority (NJTPA), using funds provided by the United States Department of Transportation (USDOT)-Federal Highway Administration (FHWA), is preparing a Local Concept Development (LCD) Study for the Dover and Rockaway Rail Realignment Project in Denville, Rockaway and Randolph townships and Rockaway Borough in Morris County, New Jersey. The NJTPA has undertaken this project in close cooperation with the New Jersey Department of Transportation (NJDOT), Bureau of Local Aid, Multimodal Services and Environmental Program Resources. Currently, the Morris County-owned Dover and Rockaway Branch connects to the NJ TRANSIT Morristown Line west of the Town of Dover and continues eastward through Dover, before proceeding north into Rockaway Borough. The segment of the Dover and Rockaway Branch through Dover presents safety concerns, due to 13 at-grade crossings that must be traversed by the Morristown and Erie Railway freight trains. The Dover and Rockaway Rail Realignment Project proposes to eliminate the 13 aforementioned at-grade crossings by relocating the connection between the Dover and Rockaway Branch and the NJ TRANSIT Morristown Line from its current location west of the Town of Dover to a location east of Dover (Figure 1).

Figure 1 shows the Dover and Rockaway Rail Realignment Project proposed alignments in relation to the Town of Dover (see Figure 1). For reference, previously identified historic districts in Dover and adjacent municipalities are also indicated on Figure 1, including two within the boundaries of Dover: the Blackwell Street Historic District (NJR: 3/24/1982; NR: 5/21/1982) and the Guenther Hosiery Mill Historic District (SHPO Opinion: 9/9/1993). As currently proposed, the Dover and Rockaway Rail Realignment Project alignments are located more than one-half mile from the two historic districts and will not directly impact either district.

The goal of this revised Cultural Resources Screening is to identify known cultural resource constraints within or proximate to the five proposed project alternatives (Table 1; Figures 2 and 3). Cultural resource constraints include known archaeological resources and historic architectural properties that are listed in the New Jersey Register of Historic Places (NJR) and the National Register of Historic Places (NRHP), or are eligible or potentially eligible for the NRHP. The project alternatives delineated for the purposes of this Cultural Resources Screening take into account the maximum, possible extent of the proposed improvements. The project limits may be refined as the project goes through the LCD phase. Tasks completed for the historic architectural component of the screening included background research at the New Jersey Historic Preservation Office (NJHPO) to identify properties within approximately one-half mile of the five project alternatives that are listed in the NJR and/or listed in or eligible for the NRHP. Previously conducted historic sites inventories and regulatory surveys on file at the NJHPO were also reviewed. The archaeological portion of this screening consisted of background research at the NJHPO and the New Jersey State Museum (NJSN) to identify any registered archaeological sites within one mile as well as prior cultural resources surveys completed in the five currently proposed project alternatives (Alternatives 1C, 4, 5, 6, and 7).

The results of this screening may be utilized in the Environmental Screening document. Previously, Richard Grubb & Associates, Inc. (RGA) completed a cultural resources screening for six previously identified alternatives (Alternatives 1A, 1B, 1C, 2A, 2B, and 3) (Richard Grubb & Associates, Inc. 2019). This revised Cultural Resources Screening reflects new information about currently proposed project alternatives identified as part of the LCD phase and incorporates guidance resulting from an October 9, 2019 meeting with the NJTPA, NJDOT, and NJHPO.

Overall Project Environmental Setting

The five currently proposed project alternatives are located largely within a floodplain topographic setting at elevations ranging from approximately 550 feet to 575 feet above mean sea level (see Figure 3). The project alternatives are drained by the Rockaway River and associated wetlands. Representative views of the project environs are presented in Plates 1-7. Alignment 7 crosses the Rockaway River (see Figures 2 and 3). The Rockaway River empties into the Boonton Reservoir and drains into the Passaic River approximately 12 miles southeast of the project alternatives. The Passaic River empties into the Newark Bay and then into the Atlantic Ocean via the Kill Van Kull, Upper and Lower New York Bay, and the Raritan Bay. Vegetation is varied and includes manicured grass, secondary growth deciduous trees, undergrowth, and brambles.

The project alternatives are located within the New Jersey Highlands Physiographic Province, bordered by the Kittatinny Valley to the west and the Piedmont Lowlands to the east. In general, the Highlands consist of northeast-southwest trending broad, rounded, or flat-topped mountain ranges separated by deep, narrow valleys (Wolfe 1977). A few river valleys, including the Pequannock, the Delaware, and the Rockaway, are transverse to the general trend and the transverse valleys have afforded pathways across the Highlands for railroads and roads. The project alternatives are underlain by Middle Proterozoic Albite-Oligoclase granite, hornblend, and diorite (Drake et al. 1996; NJDEP 2019a). Surficial sediments in the project alternatives are mapped as Late Wisconsinan Glaciofluvial Terrace Deposits, Holocene and Pleistocene alluvium, and Pleistocene weathered gneiss (Stone et al. 2002; NJDEP 2019a). Bedrock outcroppings are located to the east and west of the project alternatives. Soil types vary throughout the five project alternatives and include soils classified as urban land near the Alcoa Howmet Castings Facility and portions of Dover as well as well-drained Pompton sandy loam and Netcong gravelly sandy loam on uplands and poorly drained or frequently flooded Fluvaquents and Preakness sandy loam (NRCS 2019). Historic fill was mapped by the NJDEP along existing railroad lines and near the Alcoa Howmet Castings Facility and McWilliams Forge (NJDEP 2019b).

Project Brief Historic Context/Map Review

A preliminary review of historic maps and aerial photographs was undertaken and selected maps and aerial photographs are included in this Cultural Resources Screening (see Figures 4-7). By 1853, the Town of Dover was well developed and urbanized, and the Morris Canal had been built west of the project alignments (see Figure 4; Lightfoot and Geil 1953). The alignment of the Morris and Essex (M&E) Railroad (later the Delaware, Lackawanna and Western Railroad [DL&WRR]) extended through Dover and generally ran parallel to the Rockaway River. East of Dover near the proposed project alternatives, the alignment curved to the northeast and continued toward Rockaway and Denville. With the exception of the railroad, no development is present in or adjacent to the currently defined project alignments. A similar level of development can be seen in 1868 (see Figure 5; Beers 1868).

By 1905, the DL&WRR built a new branch line to the south and east of the project alignments, which provided a straighter, more direct connection between Dover and Denville (see Figure 6; U.S.G.S 1905). The Morris Canal remained extant at this time (see Figure 6; U.S.G.S. 1905). Between 1905 and 1930, two elongated industrial buildings and smaller sheds, were constructed near the project alignments and

DL&WRR lines (see Figures 6 and 7; U.S.G.S 1905; NJDEP 2019c). These buildings operated as part of a bearing plant by the federal government during World War I, and later became part of the McWilliams Forge in 1941 (*Daily Record*, 8 March 2005:15).

The McWilliams Forge began as a blacksmith shop known as John McWilliams & Sons and founded in New York in 1880 (McWilliams Forge 2019). During ensuing years, the McWilliams Forge expanded its line of forged iron products to include other metals and meet the needs of varied industries including aerospace, medical manufacturing, power generation, and the military. The McWilliams Forge relocated to Rockaway Township in 1941, where it remains to the present day (*Daily Record*, 8 March 2005:15; McWilliams Forge 2019).

By 1930, the Morris Canal was abandoned and later was filled in (see Figure 7). The United States Highway 46 (Route 46) had been built to the north of the project alignments by 1930 (see Figure 7). The McWilliams Forge complex and nearby commercial/industrial development continued to expand during the twentieth century (NETR 1931, 1957, 1963, 1970, 1979, 1987, 1991, 1995). The original early twentieth-century forge buildings appear to have remained extant during this time. A building east of the McWilliams Forge was built circa 1965 and is currently occupied by Wide Band Systems, Inc. (NETR 1963, 1970). In 1991, a large commercial or industrial building was added to the northeast of McWilliams Forge (NETR 1991). This building is currently occupied by Tri-State Stone and Tile and Twister Gymnastics. The Alcoa Howmet Castings Facility was built by 1970 to the southwest of the project alignments (NETR 1970). The Alcoa Howmet Castings Facility in Dover manufactures castings and other components for the aircraft engine and industrial gas turbine industries, among others. The Austernal Company opened the Dover facility for production in 1949 (*Daily Record*, 14 October 2009:10). The facility later operated under Howmet International, Inc. until 2000, when the company was purchased by Alcoa, Inc. (*Daily Advocate*, 3 June 2000:18). The former DL&WRR passenger service became part of NJ TRANSIT in 1983 and operates on much of the former M&E Railroad in the vicinity of the project alignments (Long Hill Township 2000).

ALTERNATIVES

Seven alternative alignments (i.e. Alternatives 1, 2, 3, 4, 5, 6, and 7) for the Dover and Rockaway Rail Realignment Project are being investigated as part of the LCD phase to improve connections with the NJ TRANSIT Morristown Line. Alternatives under consideration will relocate the connection to the east of Dover, thereby eliminating several uncontrolled at-grade crossings. Several alternative Dover and Rockaway Branch line/NJ TRANSIT connection points have been investigated. Alternative 1 included three sub-options (1A, 1B, and 1C) and Alternative 2 included sub-options 2A and 2B. Alternatives 3 through 7 each include one option.

Due to fatal flaws revealed as part of the current LCD Study, Alternatives 1A, 1B, 2A, 2B, and 3 identified in the previous Cultural Resources Screening (Richard Grubb & Associates, Inc. 2019) are no longer under consideration. Described fatal flaws for these alternatives included falling within an active floodway, requiring the construction of a new railroad bridge over the Rockaway River, impacts to the river or riverbank, and severe impacts to utilities or sanitary sewers.

Currently, the LCD Study is considering five alternatives: Alternatives 1C, 4, 5, 6, and 7 (see Figures 1 and 2). Each alternative is currently defined as approximately 50 feet in width or to a maximum width of 25 feet on each side from the center line of the proposed track (see Figures 2 and 3). Each of the currently considered alternative alignments are discussed below.

Alternative 1C

Alternative 1C Description

Alternative 1C begins approximately 2,500 feet east of the Rockaway Road Bridge over the NJ TRANSIT Morristown Line, a bridge at the border of Dover and Rockaway townships. Alternative 1C uses the former DL&WRR right-of-way (ROW) (see Plate 1) to continue northbound through the McWilliams Forge property and turns west to connect to the existing Dover and Rockaway Branch line approximately 1,200 feet south of Route 46. Alternative 1C is approximately 4,200 feet in length and 50 feet in width. Alternative 1C does not cross the Rockaway River. A portion of Alternative 1C bisects the McWilliams Forge property, which will necessitate a new at-grade railroad crossing at the access road into the forge (see Plates 4-6). The McWilliams Forge was founded in 1880 and moved to its current location in Rockaway Township in 1941, although forge or industrial facilities were extant in this location by 1930 (McWilliams Forge 2019; see Figures 2, 3, and 7). According to the current project description, Alternative 1C will result in minimal impacts to the NJ TRANSIT Morristown Line at the connection point (see Figures 2 and 3).

Known Historic Properties

Background research conducted at the NJHPO indicated that there is one previously identified historic property eligible for listing in the NRHP within a portion of Alternative 1C: the Old Main DL&WRR Historic District (SHPO Opinion: 6/7/2004; Prior SHPO Opinion: 9/24/1996) (see Figures 2 and 3). The Old Main DL&WRR Historic District is eligible for the NRHP under Criteria A and C for its association with suburbanization, commuter and passenger traffic, freight traffic, engineering, and architecture. The Old Main DL&WRR Historic District extends from its eastern terminus at the Hoboken Terminal to a western terminus at the Delaware River. Its period of significance extends from the mid-1850s to circa 1930 (Guzzo 1996).

One previously identified historic property listed in the NJR and NRHP falls within one-half mile of Alternative 1C: the Morris Canal (NJR: 11/26/1973; NR: 10/1/1974). The Morris Canal is approximately 1,600 feet from Alternative 1C (see Figures 1 and 2). The Morris Canal is listed under Criteria A, B, C, and D. The Morris Canal meets Criterion A for its association with critical transportation, industrial, and economic themes; Criterion B for its association with noted engineers and inventors; Criterion C for its technological innovations; and Criterion D for its information potential relating to canal engineering and construction, as well as the culture and lifeways of nineteenth-century canal workers and travelers. The Morris Canal was completed in 1836 and extended across northern New Jersey, from Phillipsburg in Warren County at its western terminus to Newark in Essex County at its eastern terminus. The period of significance of the Morris Canal is 1824-1923 (Kalata 1983; Richard Grubb & Associates, Inc. 2014).

Registered Archaeological Sites

A review of the NJSM site files indicated that there are no registered archaeological sites falling within or adjacent to Alternative 1C. Alternative 1C does not fall within an archaeological site grid (NJDEP 2019d). Four registered archaeological sites are within one mile of Alternative 1C. The closest archaeological site is the late eighteenth- to mid-nineteenth-century Ross Dickerson House site (28-Mr-290) situated approximately 2,000 feet southwest of the southern terminus of Alternative 1C. The site includes a house foundation and well. The site was identified north of the Rockaway River and is possibly associated with the Morris Canal. Two prehistoric sites, a rock shelter and a lithic reduction site, are approximately 4,000 feet to the south near Mill Brook, a tributary of the Rockaway River. Due to proximity to the Rockaway River, the area has a general sensitivity for prehistoric (i.e. Native American) archaeological resources. A nineteenth- to twentieth-century historic archaeological site (28-Mr-356) was identified approximately one mile to the north of Alternative 1C.

New Jersey Historic Bridge Survey

The New Jersey Historic Bridge Survey did not identify any structures within Alternative 1C; however, the survey identified two bridges located within one-half mile (A.G. Lichtenstein & Associates, Inc. 1994). In Denville Township lies the Rockaway Road Bridge over NJ TRANSIT Morristown Line (Structure No. 1464154). When surveyed in 1994, the bridge was described as an early twentieth-century, seven-span structure consisting of a through girder main span with encased deck girders on concrete bents for the approach spans (A.G. Lichtenstein & Associates, Inc. 1994). A concrete balustrade used to enclose the cantilevered sidewalks. The survey recommended the bridge as not eligible for listing in the NRHP due to its lack of historical or technological significance (A.G. Lichtenstein & Associates, Inc. 1994). In 1999, the bridge was formally assessed as a contributing element to the Old Main DL&WRR Historic District; however, according to a plaque on the bridge's superstructure, the structure may have been replaced in 2005 (Guzzo 1999; Google 2019).

In Rockaway Township, the survey identified the Rockaway Road (CR 513) Bridge over the Dover & Rockaway Railroad (Structure No. 1450160). The bridge is an early twentieth-century skewed encased stringer structure carried on rusticated stone abutments with concrete extensions (A.G. Lichtenstein & Associates, Inc. 1994). The survey did not recommend the bridge eligible for listing in the NRHP because it was not found to be technologically or historically significant (A.G. Lichtenstein & Associates, Inc. 1994).

Planning Surveys

The 1987 Historic Sites Survey for Morris County did not identify any historic architectural resources within or adjacent to Alternative 1C (Acroterion 1986, 1987a, 1987b, 1987c). However, the survey identified six resources within one-half mile of Alternative 1C in Denville and Randolph townships: the Hathaway House (321 Palmer Road, Denville; now demolished), C. Hopler House (374 Franklin Avenue, Denville), S.S. Palmer House (365 Franklin Avenue, Denville), Keeler House (304 Palmer Road, Denville), the dwelling at 379 Franklin Avenue (Denville), and the Franklin Road Streetscape (from Salem Road to Palmer Road in Randolph Township). All five resources identified in Denville Township are examples of mid- to late nineteenth-century vernacular dwellings and none were recommended eligible for listing in the NRHP. In 2011, KSK Architects Planners Historians, Inc. (2011a) completed an updated historic sites inventory for Denville Township. The authors concurred with the findings of the 1987 survey, with the exception of the C. Hopler House, located approximately 2,000 feet east of Alternative 1C. For the C. Hopler House, KSK Architects Planners Historians, Inc. found that the building was a good example of a Queen Anne-style dwelling and recommended it as potentially eligible for the NRHP under Criterion C (KSK Architects Planners Historians Inc., 2011a). The property has not been formally evaluated by the NJHPO.

The Franklin Road Streetscape was identified in Randolph Township as a working-class neighborhood that developed in the early twentieth century and contains housing types representative of the period, including bungalows, four-square, and small Craftsman-style cottages (Acroterion 1987b). The streetscape was not recommended eligible for listing in the NRHP.

The 1987 Historic Sites Survey did not identify any resources in Rockaway Township within one-half mile of Alternative 1C (Acroterion 1987c). For Rockaway Borough, the survey documented four resources within one-half mile of Alternative 1C: a bungalow at 310 Route 46, a Tudor Revival cottage at 490 West Main Street, a late nineteenth-century vernacular house at 474 Main Street, and the Elycroft Avenue and Meadowview Avenue Streetscape (Acroterion 1986). With the exception of the bungalow at 310 Route 46, none of the resources were recommended eligible for listing in the NRHP. The dwelling at 310 Route 46 was recommended potentially eligible as part of a thematic nomination of bungalows within Morris County (Acroterion 1986). When KSK Architects Planners Historians, Inc. re-evaluated the Rockaway Borough

Historic Sites Survey in 2011, only the Tudor Revival cottage at 490 West Main Street was recommended as potentially eligible under NRHP Criterion C as a good example of its type (KSK Architects Planners Historians, Inc., 2011b).

Cultural Resources Surveys

A review of the NJHPO files indicated that six prior cultural resources surveys have included portions of Alternative 1C (Cultural Resource Management Services 1978a and 1978b; Environmental Assessment Council, Inc. 1977, 1980; McCormick Taylor, Inc. 2005; USACE 2004). A county-wide survey of cemeteries and burials did not list any known interments in the vicinity of Alternative 1C (Morris County Department of Planning and Development Preservation Trust 2014). The surveys were conducted in advance of railroad, road, sewerage, and flood control projects. Surveys that identified archaeological, historic architectural, or historical resources within Alternative 1C or provide notable information are discussed further below.

Cultural Resource Management Services (CRMS) conducted an archaeological survey (1978a) and an historic architectural survey (1978b) for Erie-Lackawanna Improvements for multiple counties, including Dover in Morris County. CRMS identified a portion of the mapped location of the former Morris Canal bed in Dover where the installation of transmission poles was proposed. CRMS recommended avoidance of the Morris Canal location (1978a). The historic architectural survey identified historic structures related to the Old Main DL&WRR Historic District and M&E in Dover including the Passenger Station, Freight House, Signal Tower, Storage Shed, Dover Yard Substation Site, and Crew Building (CRMS 1978b). Project impacts were proposed to the Dover Yard Crew Building, which was not considered individually NRHP eligible. No archaeological or historic architectural resources were documented in Alternative 1C.

McCormick Taylor, Inc. (2005) conducted a pedestrian survey of portions of the Rockaway Loop (former DL&WRR) in the Township of Denville and Borough of Rockaway that identified railroad-related features that may coincide with portions of Alternative 1C. Sections 9, 10, and 11 of the survey included portions of Alternative 1C from Route 46 to the south through McWilliams Forge to the DL&WRR/NJ TRANSIT Morristown Line and included portions of the former M&E. Observed rail-related features included the former original railroad bed of the M&E, surface cinders, ash, and slag on the surface of the rail bed, a concrete culvert under the railroad bed 976 feet south of Route 46, a concrete signal base near a tributary of the Rockaway River, and stone bridge abutments in the southern section of the M&E (McCormick Taylor, Inc. 2005: Table 1; 9 and 10). Portions of the Rockaway Loop through the McWilliams Forge and to the south have been disturbed by parking lots and landscaping (McCormick Taylor, Inc. 2005: 9).

Summary

One known historic property, the Old Main DL&WRR Historic District (SHPO Opinion: 6/7/2004; Prior SHPO Opinion: 9/24/1996) is situated within Alternative 1C (see Figure 1). A portion of Alternative 1C bisects the McWilliams Forge property (see Figures 2 and 3). The McWilliams Forge is a previously unidentified resource at least 50 years in age that has not been formally evaluated for NRHP eligibility. Alternative 1C may directly impact a circa 1965 building occupied by Wide Band Systems, Inc. located east of the McWilliams Forge. This building is approximately 50 years in age and has not been evaluated for NRHP eligibility.

Alternative 4

Alternative 4 Description

Alternative 4 begins approximately 2,500 feet east of the Rockaway Road Bridge over the NJ TRANSIT Morristown Line, a bridge at the border of Dover and Rockaway townships in the same location as Alternative 1C. Alternative 4 uses the former DL&WRR ROW to continue northbound east of the McWilliams Forge property between existing industrial/commercial buildings (Wide Band Systems, Inc. and Tri-State Stone and Tile/Twister Gymnastics) and turns west to connect to the existing Dover and Rockaway Branch line approximately 1,000 feet south of Route 46. Alternative 4 is approximately 4,500 feet in length and 50 feet in width. Alternative 4 does not cross the Rockaway River. Alternative 4 requires a new at-grade crossing at the access road connecting McWilliams Forge with Franklin Avenue. According to the current project description, Alternative 4 will result in minimal impacts to the NJ TRANSIT Morristown Line at the connection point (see Figures 2 and 3).

Known Historic Properties

Background research conducted at the NJHPO indicated that there is one previously identified historic property eligible for listing in the NRHP within a portion of Alternative 4: the Old Main DL&WRR Historic District (SHPO Opinion: 6/7/2004; Prior SHPO Opinion: 9/24/1996) (see Figures 2 and 3). This historic property was previously described in the Alternative 1C section of this screening.

One previously identified historic property listed in the NJR and NRHP falls within one-half mile of Alternative 4: the Morris Canal (NJR: 11/26/1973; NR: 10/1/1974). The Morris Canal is approximately 1,600 feet from Alternative 4 (see Figures 1 and 2). The Morris Canal is described in the Alternative 1C section of this screening.

Registered Archaeological Sites

A review of the NJSM site files indicated that there are no registered archaeological sites falling within or adjacent to Alternative 4. Alternative 4 does not fall within an archaeological site grid (NJDEP 2019d). Four registered archaeological sites are within one mile of Alternative 4 (see discussion under Alternative 1C). The closest archaeological site (28-Mr-290) is situated 2,000 feet southwest of the southern terminus of Alternative 4.

New Jersey Historic Bridge Survey

The New Jersey Historic Bridge Survey did not identify any structures within Alternative 4; however, the survey identified the Rockaway Road Bridge over NJ TRANSIT Morristown Line (Structure No. 1464154) and the Rockaway Road (CR 513) Bridge over the Dover & Rockaway Railroad (Structure No. 1450160) within one-half mile. These bridges were previously discussed in detail in the section pertaining to Alternative 1C.

Planning Surveys

The 1987 Historic Sites Survey for Morris County did not identify any historic architectural resources within or adjacent to Alternative 4 (Acroterion 1986, 1987a, 1987b, 1987c). However, the survey identified 10 resources within one-half mile of Alternative 4 in Rockaway Borough, Denville Township, and Randolph Township. These resources were previously discussed in the section pertaining to Alternative 1C. The Historic Sites Survey did not identify any resources within one-half mile of Alternative 4 in Rockaway Township (Acroterion 1987c).

Cultural Resources Surveys

A review of the NJHPO files indicated that six prior cultural resources surveys have included portions of Alternative 4 (Cultural Resource Management Services 1978a and 1978b; Environmental Assessment Council, Inc. 1977, 1980; McCormick Taylor, Inc. 2005; USACE 2004). A county-wide survey of cemeteries and burials listed no known interments in the vicinity of Alternative 4 (Morris County Department of Planning and Development Preservation Trust 2014). The surveys were conducted in advance of railroad, road, sewerage, and flood control projects. Surveys that identified archaeological, historic architectural, or historical resources within Alternative 4 or that provided notable information are discussed further below.

Cultural Resource Management Services (CRMS) conducted an archaeological survey (1978a) and an historic architectural survey (1978b) for Erie-Lackawanna Improvements for multiple counties, including Dover in Morris County (see discussion in Alternative 1C for details). No archaeological or historic architectural resources were documented in Alternative 4.

McCormick Taylor, Inc. (2005) conducted a pedestrian survey of portions of the Rockaway Loop (former DL&WRR) in the Township of Denville and Borough of Rockaway that identified railroad-related features that may coincide with portions of Alternative 4. Sections 9, 10, and 11 of the survey included portions of Alternative 4 from Route 46 to the south to the DL&WRR/NJ TRANSIT main line and included portions of the former M&E. Observed rail-related features included the former original railroad bed of the M&E, surface cinders, ash, and slag on the surface of the rail bed, a concrete culvert under the railroad bed 976 feet south of Route 46, a concrete signal base near a tributary of the Rockaway River, and stone bridge abutments in the southern section of the M&E (McCormick Taylor, Inc. 2005: Table 1; 9 and 10).

Summary

One known historic property, the Old Main DL&WRR Historic District (SHPO Opinion: 6/7/2004; Prior SHPO Opinion: 9/24/1996) is situated within Alternative 4 (see Figure 1).

Alternative 5

Alternative 5 Description

Alternative 5 begins approximately 2,500 feet east of the Rockaway Road Bridge over the NJ TRANSIT Morristown Line, a bridge at the border of Dover and Rockaway townships in the same location as Alternatives 1C and 4. Alternative 5 uses the former DL&WRR ROW to continue northbound, east of the McWilliams Forge property between existing industrial/commercial buildings (Wide Band Systems, Inc. and Tri-State Stone and Tile/Twister Gymnastics) and turns west to connect to the existing Dover and Rockaway Branch line approximately 1,000 feet south of Route 46. Alternative 5 is approximately 4,500 feet in length and 50 feet in width. Alternative 5 does not cross the Rockaway River. Alternative 5 requires a new at-grade crossing at the access road connecting McWilliams Forge with Franklin Avenue. According to the current project description, Alternative 5 will result in minimal impacts to the Morristown Line at the connection point (see Figure 1).

Known Historic Properties

Background research conducted at the NJHPO indicated that there is one previously identified historic property eligible for listing in the NRHP within a portion of Alternative 5: the Old Main DL&WRR Historic District (SHPO Opinion: 6/7/2004; Prior SHPO Opinion: 9/24/1996) (see Figures 1 and 2). This historic property was previously described in the Alternative 1C section of this screening.

One previously identified historic property listed in the NJR and NRHP falls within one-half mile of Alternative 5: the Morris Canal (NJR: 11/26/1973; NR: 10/1/1974). The Morris Canal is approximately 1,600 feet from Alternative 5 (see Figures 1 and 2). The Morris Canal is described in the Alternative 1C section of this screening.

Registered Archaeological Sites

A review of the NJSM site files indicated that there are no registered archaeological sites falling within or adjacent to Alternative 5. Alternative 5 does not fall within an archaeological site grid (NJDEP 2019d). Four registered archaeological sites are within one mile of Alternative 5 (see discussion under Alternative 1C). The closest archaeological site (28-Mr-290) is situated 2,000 feet southwest of the southern terminus of Alternative 5.

New Jersey Historic Bridge Survey

The New Jersey Historic Bridge Survey did not identify any structures within Alternative 5; however, the survey identified two bridges located within one-half mile. These bridges were previously discussed in the section pertaining to Alternative 1C.

Planning Surveys

The 1987 Historic Sites Survey for Morris County did not identify any historic architectural resources within or adjacent to Alternative 5 (Acroterion 1986, 1987a, 1987b, 1987c). However, the survey identified 10 resources within one-half mile of Alternative 5 in Rockaway Borough, Denville Township, and Randolph Township. These resources were previously discussed in the section pertaining to Alternative 1C. The Historic Sites Survey did not identify any resources within one-half mile of Alternative 5 in Rockaway Township (Acroterion 1987c).

Cultural Resources Surveys

A review of the NJHPO files indicated that six prior cultural resources surveys have included portions of Alternative 5 (Cultural Resource Management Services 1978a and 1978b; Environmental Assessment Council, Inc. 1977, 1980; McCormick Taylor, Inc. 2005; USACE 2004). A county-wide survey of cemeteries did not identify any known interments in the vicinity of Alternative 5 (Morris County Department of Planning and Development Preservation Trust 2014). The surveys were conducted in advance of railroad, road, sewerage, and flood control projects. Surveys that identified archaeological, historic architectural, or historical resources within Alternative 5 or provided notable information are discussed further below.

Cultural Resource Management Services (CRMS) conducted an archaeological survey (1978a) and an historic architectural survey (1978b) for Erie-Lackawanna Improvements for multiple counties, including Dover in Morris County (see discussion in Alternative 1C for details). No archaeological or architectural resources were documented in Alternative 5.

McCormick Taylor, Inc. (2005) conducted a pedestrian survey of portions of the Rockaway Loop (former DL&WRR) in the Township of Denville and Borough of Rockaway that identified railroad-related features that may coincide with portions of Alternative 5. Sections 9, 10, and 11 of the survey included portions of Alternative 5 from Route 46 to the south to the DL&WRR/NJ TRANSIT main line and included portions of the former M&E. Observed rail-related features included the former original railroad bed of the M&E, surface cinders, ash, and slag on the surface of the rail bed, a concrete culvert under the railroad bed 976 feet south of Route 46, a concrete signal base near a tributary of the Rockaway River, and stone bridge abutments in the southern section of the M&E (McCormick Taylor, Inc. 2005: Table 1; 9 and 10).

Summary

One known historic property, the Old Main DL&WRR Historic District (SHPO Opinion: 6/7/2004; Prior SHPO Opinion: 9/24/1996) is situated within Alternative 5 (see Figure 1).

Alternative 6

Alternative 6 Description

Alternative 6 begins approximately 2,500 feet east of the Rockaway Road Bridge over the NJ TRANSIT Morristown Line, a bridge at the border of Dover and Rockaway townships. Alternative 6 uses the former DL&WRR ROW to continue northbound and then extends to the east to avoid both the McWilliams Forge property and existing industrial/commercial buildings (Wide Band Systems, Inc. and Tri-State Stone and Tile/Twister Gymnastics). Alternative 6 turns west to connect to the existing Dover and Rockaway Branch line approximately 50 feet south of Route 46. Alternative 6 is approximately 5,900 feet in length and 50 feet in width. Alternative 6 does not cross the Rockaway River. Alternative 6 requires a new at-grade crossing at the access road connecting McWilliams Forge, Wide Band Systems, Inc., and Tri-State Stone and Tile/Twister Gymnastics with Franklin Avenue. According to the current project description, Alternative 6 will result in minimal impacts to the Morristown Line at the connection point (see Figures 2 and 3).

Known Historic Properties

Background research conducted at the NJHPO indicated that there is one previously identified historic resource eligible for listing in the NRHP within a portion of Alternative 6: the Old Main DLWRRHD (SHPO Opinion: 6/7/2004; Prior SHPO Opinion: 9/24/1996) (see Figures 1 and 2). The Old Main DLWRRHD is described in the Alternative 1C section of this screening.

One previously identified historic resource listed in the NJR and NRHP falls within one-half mile of Alternative 6: the Morris Canal (NJR: 11/26/1973; NR: 10/1/1974). The Morris Canal is approximately 1,600 feet from Alternative 6 (see Figures 1 and 2). The Morris Canal is described in the Alternative 1C section of this screening.

Registered Archaeological Sites

A review of the NJSM site files indicated that there are no registered archaeological sites falling within or adjacent to Alternative 6. Alternative 6 does not fall within an archaeological site grid (NJDEP 2019d). Four registered archaeological sites are within one mile of Alternative 6 (see discussion under Alternative 1C). The closest archaeological site (28-Mr-290) is situated 2,000 feet southwest of the southern terminus of Alternative 6.

New Jersey Historic Bridge Survey

The New Jersey Historic Bridge Survey did not identify any structures within Alternative 6; however, the survey identified two bridges located within one-half mile. These bridges were previously discussed in the section pertaining to Alternative 1C.

Planning Surveys

The 1987 Historic Sites Survey for Morris County did not identify any historic architectural resources within or adjacent to Alternative 6 (Acroterion 1986, 1987a, 1987b, 1987c). However, the survey identified 10 resources within one-half mile of Alternative 6 in Rockaway Borough, Denville Township, and Randolph Township. These resources were previously discussed in the section pertaining to Alternative 1C. The Historic Sites Survey did not identify any resources within one-half mile of Alternative 6 in Rockaway Township (Acroterion 1987c).

Cultural Resources Surveys

A review of the NJHPO files indicated that six prior cultural resources surveys have included portions of Alternative 6 (Cultural Resource Management Services 1978a and 1978b; Environmental Assessment Council, Inc. 1977, 1980; McCormick Taylor, Inc. 2005; USACE 2004). A county-wide survey of cemeteries and burials did not list any known interments in the vicinity of Alternative 6 (Morris County Department of Planning and Development Preservation Trust 2014). The surveys were conducted in advance of railroad, road, sewerage, and flood control projects. Surveys that identified archaeological, historic architectural, or historical resources within Alternative 6 or provided notable information are discussed further below.

Cultural Resource Management Services (CRMS) conducted an archaeological survey (1978a) and an historic architectural survey (1978b) for Erie-Lackawanna Improvements for multiple counties, including Dover in Morris County (see discussion in Alternative 1C for details). No archaeological or architectural resources were documented in Alternative 6.

McCormick Taylor, Inc. (2005) conducted a pedestrian survey of portions of the Rockaway Loop (former DL&WRR) in the Township of Denville and Borough of Rockaway that identified railroad-related features that may coincide with portions of Alternative 6. Sections 8, 9, 10, and 11 of the survey included portions of Alternative 6 from Route 46 and vicinity to the south to the DL&WRR/NJ TRANSIT main line and included portions of the former M&E. Observed rail-related features included the former original railroad bed of the M&E, surface cinders, ash, and slag on the surface of the rail bed, a concrete culvert under the railroad bed 976 feet south of Route 46, a concrete signal base near a tributary of the Rockaway River, and stone bridge abutments in the southern section of the M&E (McCormick Taylor, Inc. 2005: Table 1; 9 and 10).

Summary

One known historic property, the Old Main DL&WRR Historic District (SHPO Opinion: 6/7/2004; Prior SHPO Opinion: 9/24/1996) is situated within Alternative 6 (see Figure 1).

Alternative 7

Alternative 7 Description

Alternative 7 begins approximately 2,500 feet east of the Rockaway Road Bridge over the NJ TRANSIT Morristown Line, a bridge at the border of Dover and Rockaway townships. Alternative 7 uses the former DL&WRR ROW northbound. It then extends to the west, crossing the Rockaway River south of the McWilliams Forge property. Alternative 7 then turns back to the east to connect to the existing Dover and Rockaway Branch line crossing the Rockaway River again on an existing bridge. Alternative 7 is approximately 4,000 feet in length and 50 feet in width. According to the current project description, Alternative 7 will result in minimal impacts to the Morristown Line at the connection point (see Figures 2 and 3). However, it will require the construction of a new bridge crossing the Rockaway River.

Known Historic Properties

Background research conducted at the NJHPO indicated that there is one previously identified historic property eligible for listing in the NRHP within a portion of Alternative 7: the Old Main DL&WRR Historic District (SHPO Opinion: 6/7/2004; Prior SHPO Opinion: 9/24/1996) (see Figures 1 and 2). This historic property is described in the Alternative 1C section of this screening.

One previously identified historic property listed in the NJR and NRHP falls within one-half mile of Alternative 7: the Morris Canal (NJR: 11/26/1973; NR: 10/1/1974). The Morris Canal is approximately 1,600 feet from Alternative 7 (see Figures 1 and 2). The Morris Canal is described in Alternative 1C section of this screening.

Registered Archaeological Sites

A review of the NJSM site files indicated that there are no registered archaeological sites falling within or adjacent to Alternative 7. Alternative 7 does not fall within an archaeological site grid (NJDEP 2019d). Four registered archaeological sites are within one mile of Alternative 7 (see discussion under Alternative 1C). The closest archaeological site (28-Mr-290) is situated 2,000 feet southwest of the southern terminus of Alternative 7.

New Jersey Historic Bridge Survey

The New Jersey Historic Bridge Survey did not identify any structures within Alternative 6; however, the survey identified two bridges located within one-half mile. These bridges were previously discussed in the section pertaining to Alternative 1C.

Planning Surveys

The 1987 Historic Sites Survey for Morris County did not identify any historic architectural resources within or adjacent to Alternative 7 (Acroterion 1986, 1987a, 1987b, 1987c). However, the survey identified six resources within one-half mile of Alternative 6 in Denville and Randolph townships. These resources were previously discussed in the section pertaining to Alternative 1C. The Historic Sites Survey did not identify any resources within one-half mile of Alternative 6 in Rockaway Township (Acroterion 1987c).

For Rockaway Borough, the Historic Sites Survey documented six resources within one-half mile of Alternative 7. Four of these resources in Rockaway Borough were previously mentioned in the Alternative 1C section of this screening. The Lindberg Lane and Overbrook Streetscape and the Eshle Farm (560 West Main Street) are the only additional resources that fell within one-half mile of Alternative 7. The survey identified the Eshle Farm as a mid-nineteenth century vernacular farmhouse and did not recommend the building eligible for listing in the NRHP. The Lindberg Lane and Overbrook Drive Streetscape is an early twentieth-century residential neighborhood containing small frame dwellings designed in various revival styles of the period (Acroterion 1986). The streetscape was not recommended eligible for listing in the NRHP. When KSK Architects Planners Historians, Inc. re-evaluated the Rockaway Borough Historic Sites Survey in 2011, neither resource was recommended eligible for listing in the NRHP (KSK Architects Planners Historians Inc., 2011b).

Cultural Resources Surveys

A review of the NJHPO files indicated that six prior cultural resources surveys included portions of Alternative 7 (Cultural Resource Management Services 1978a and 1978b; Environmental Assessment Council, Inc. 1977, 1980; McCormick Taylor, Inc. 2005; USACE 2004). A county-wide survey of cemeteries and burials did not list any known interments in the vicinity of Alternative 7 (Morris County Department of Planning and Development Preservation Trust 2014). The surveys were conducted in advance of railroad, road, sewerage, and flood control projects. Surveys that identified archaeological, historic architectural, or historical resources within Alternative 7 or provided notable information are discussed further below.

Cultural Resource Management Services (CRMS) conducted an archaeological survey (1978a) and an historic architectural survey (1978b) for Erie-Lackawanna Improvements for multiple counties, including Dover in Morris County (see discussion in Alternative 1C for details). No archaeological or architectural resources were documented in Alternative 7.

McCormick Taylor, Inc. (2005) conducted a pedestrian survey of portions of the Rockaway Loop (former DLWRR) in the Township of Denville and Borough of Rockaway that identified railroad-related features that may coincide with portions of Alternative 5. Sections 9, 10, and 11 of the survey included portions of Alternative 7 from Route 46 to the south through McWilliams Forge to the DL&WRR/NJ TRANSIT main line and included portions of the former M&E. Observed rail-related features included the former original railroad bed of the M&E, surface cinders, ash, and slag on the surface of the rail bed, a concrete culvert under the railroad bed 976 feet south of Route 46, a concrete signal base near a tributary of the Rockaway River, and stone bridge abutments in the southern section of the M&E (McCormick Taylor, Inc. 2005: Table 1; 9 and 10). Portions of the Rockaway Loop through the McWilliams Forge and to the south have been disturbed by parking lots and landscaping (McCormick Taylor, Inc. 2005: 9).

Summary

One known historic property, the Old Main DLWRRHD (SHPO Opinion: 6/7/2004; Prior SHPO Opinion: 9/24/1996) is situated within Alternative 7 (see Figure 1).

CONCLUSIONS

This revised Cultural Resources Screening for the Dover and Rockaway Rail Realignment Project in Denville, Rockaway, and Randolph townships, and Rockaway Borough, Morris County identified known cultural resources constraints within or proximate to Alternatives 1C, 4, 5, 6, and 7. The screening included background research to identify historic properties that are listed in the NJR and/or eligible for listing in the NRHP and previously identified archaeological and historic architectural resources within one-half mile and archaeological sites within one mile of the five identified project alternatives (see Table 1).

No registered archaeological sites are located within or adjacent to the five current project alternatives. However, numerous prehistoric sites have been identified within the drainage basin of the Rockaway River and its tributaries. Four registered archaeological sites are located within one mile of the project alternatives. These include two historic and two prehistoric sites. The closest archaeological site is the late eighteenth-to mid-nineteenth-century Ross Dickerson House site (28-Mr-290), possibly associated with the Morris Canal. Well-drained upland portions of the project alternatives within 500 feet of the Rockaway River are generally sensitive for the presence of prehistoric archaeological resources. Portions of the project alternatives proximate to known historic resources such as the Old Main DL&WRR Historic District are generally sensitive for the presence of historic archaeological resources.

One known historic property, the NRHP-eligible Old Main DL&WRR Historic District (SHPO Opinion: 6/7/2004; Prior SHPO Opinion: 9/24/1996), is situated within all five alternatives. The NJR- and NRHP-listed Morris Canal (NJR: 11/26/1973; NR: 10/1/1974) falls within one-half mile of all five alternatives. All five alternatives also fall within one-half mile of the Rockaway Road Bridge over NJ TRANSIT Morristown Line, a previously identified contributing element to the Old Main DL&WRR historic district. However, based on preliminary background research, it appears that the bridge has been replaced since having been identified as a contributing resource (Google 2019).

A cultural resources survey will be necessary during the Local Preliminary Engineering (LPE) Phase under Section 106 of the National Historic Preservation Act of 1966, as amended, to identify and evaluate historical and archaeology resources and assess effects.

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Table 1: Summary of cultural resources located within the Dover and Rockaway Rail Realignment Project Alternatives.

Alignment Alternative	Historic Properties*	Registered Archaeological Sites
Alignment 1C	1: Old Main Delaware, Lackawanna and Western Railroad Historic District (SHPO Opinion: 6/7/2004; Prior SHPO Opinion: 9/24/1996)	None
Alignment 4	1: Old Main Delaware, Lackawanna and Western Railroad Historic District (SHPO Opinion: 6/7/2004; Prior SHPO Opinion: 9/24/1996)	None
Alignment 5	1: Old Main Delaware, Lackawanna and Western Railroad Historic District (SHPO Opinion: 6/7/2004; Prior SHPO Opinion: 9/24/1996)	None
Alignment 6	1: Old Main Delaware, Lackawanna and Western Railroad Historic District (SHPO Opinion: 6/7/2004; Prior SHPO Opinion: 9/24/1996)	None
Alignment 7	1: Old Main Delaware, Lackawanna and Western Railroad Historic District (SHPO Opinion: 6/7/2004; Prior SHPO Opinion: 9/24/1996)	None

*National Register of Historic Places or New Jersey Register eligible or listed

ATTACHMENT
FIGURES AND PLATES

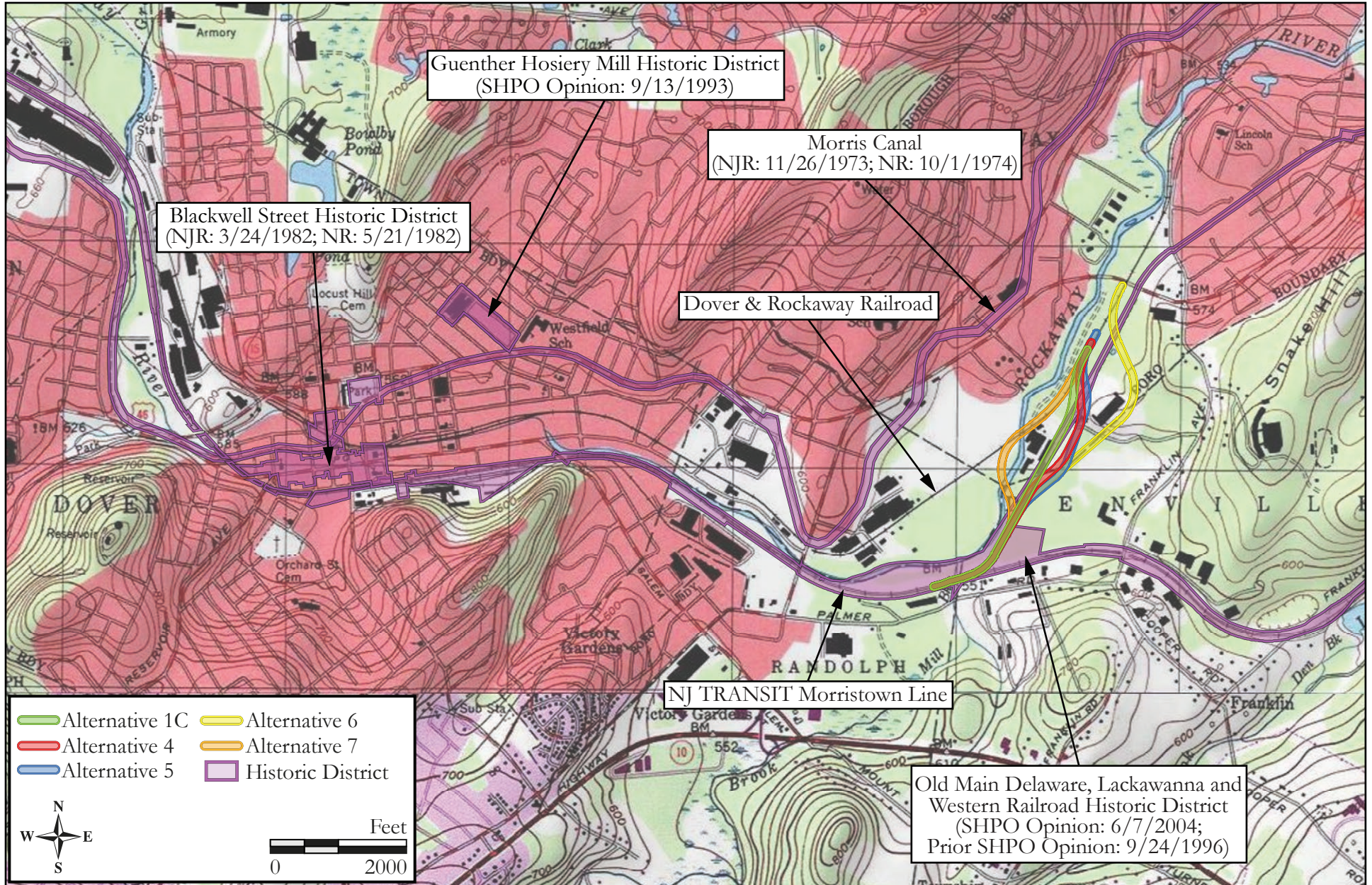


Figure 1: U.S.G.S. map showing the NJTPA Pilot Freight CD Program Dover-Rockaway Railroad Alternative Alignments 1C, 4, 5, 6, and 7, and selected previously identified historic properties in relationship to the Town of Dover (from 1997 U.S.G.S. 7.5' Quadrangle: Dover, NJ).

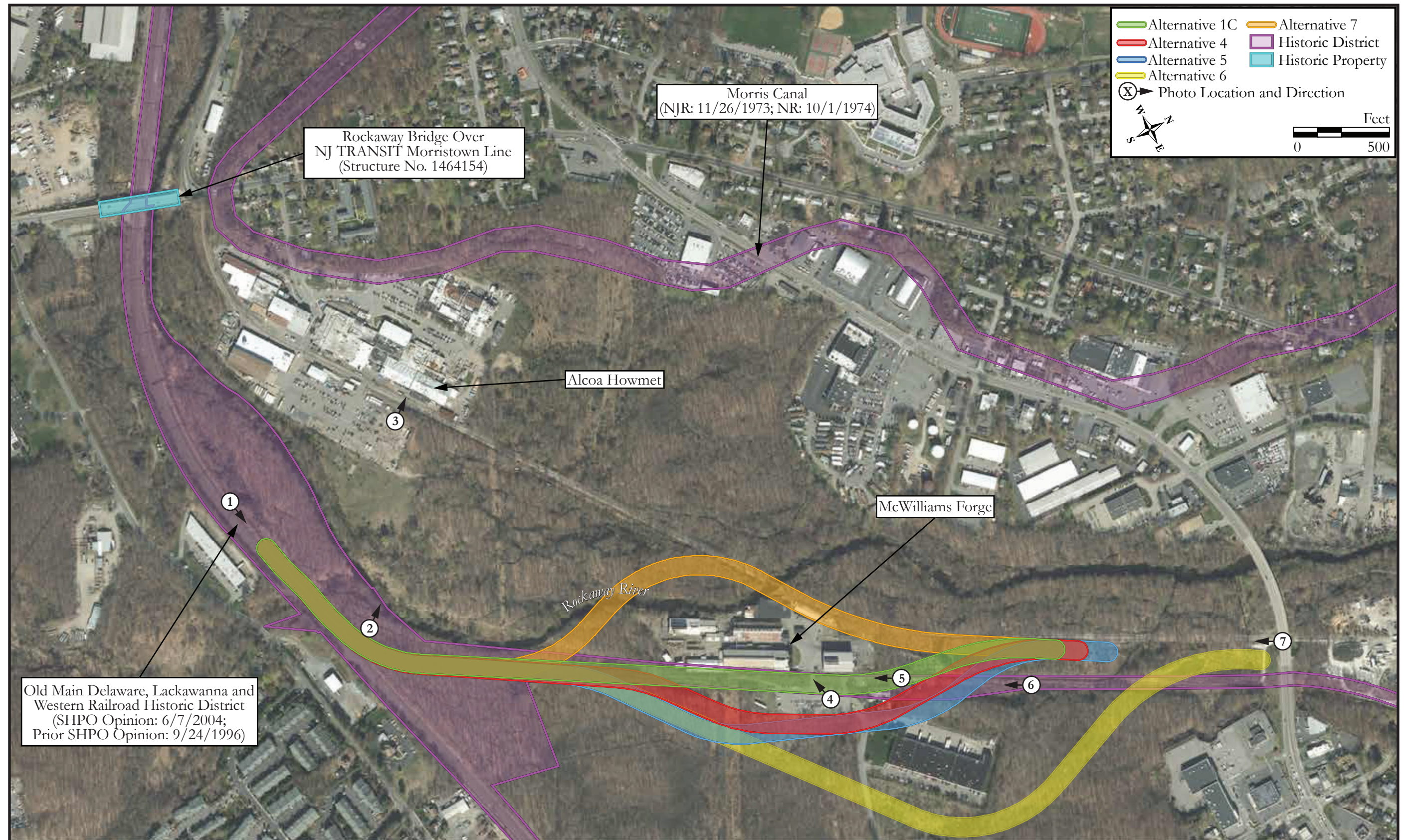


Figure 2: Aerial photograph showing the locations of NJTPA Pilot Freight CD Program Dover-Rockaway Railroad Alternative Alignments 1C, 4, 5, 6, and 7, representative photographs, McWilliams Forge, Alcoa Howmet, and previously identified historic properties (NJGIS Digital Orthographic Imagery, 2015).

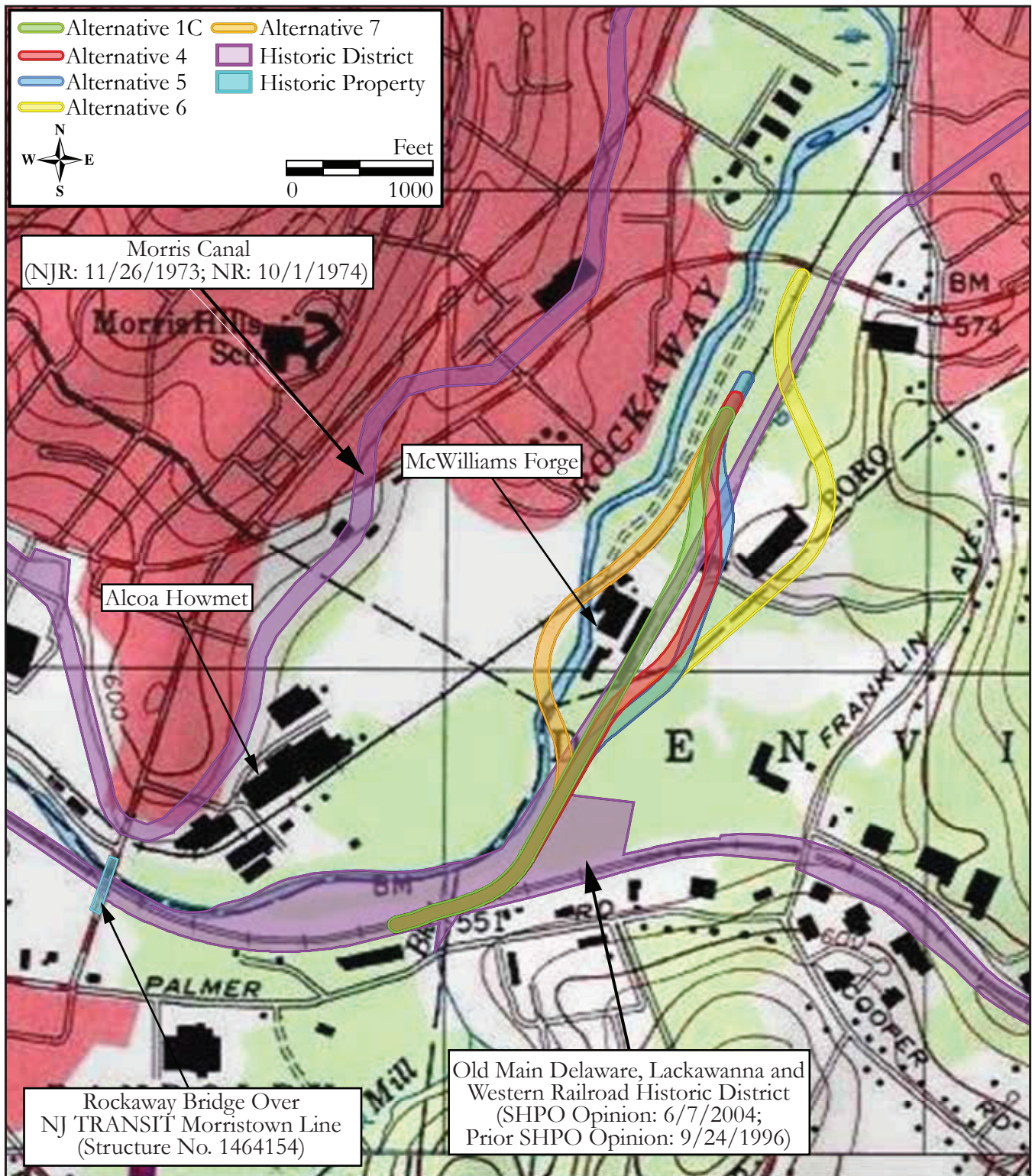


Figure 3: U.S.G.S. map showing the NJTPA Pilot Freight CD Program Dover-Rockaway Railroad Alternative Alignments 1C, 4, 5, 6, and 7 McWilliams Forge, Alcoa Howmet, and previously identified historic properties (from 1997 U.S.G.S. 7.5' Quadrangle: Dover, NJ).

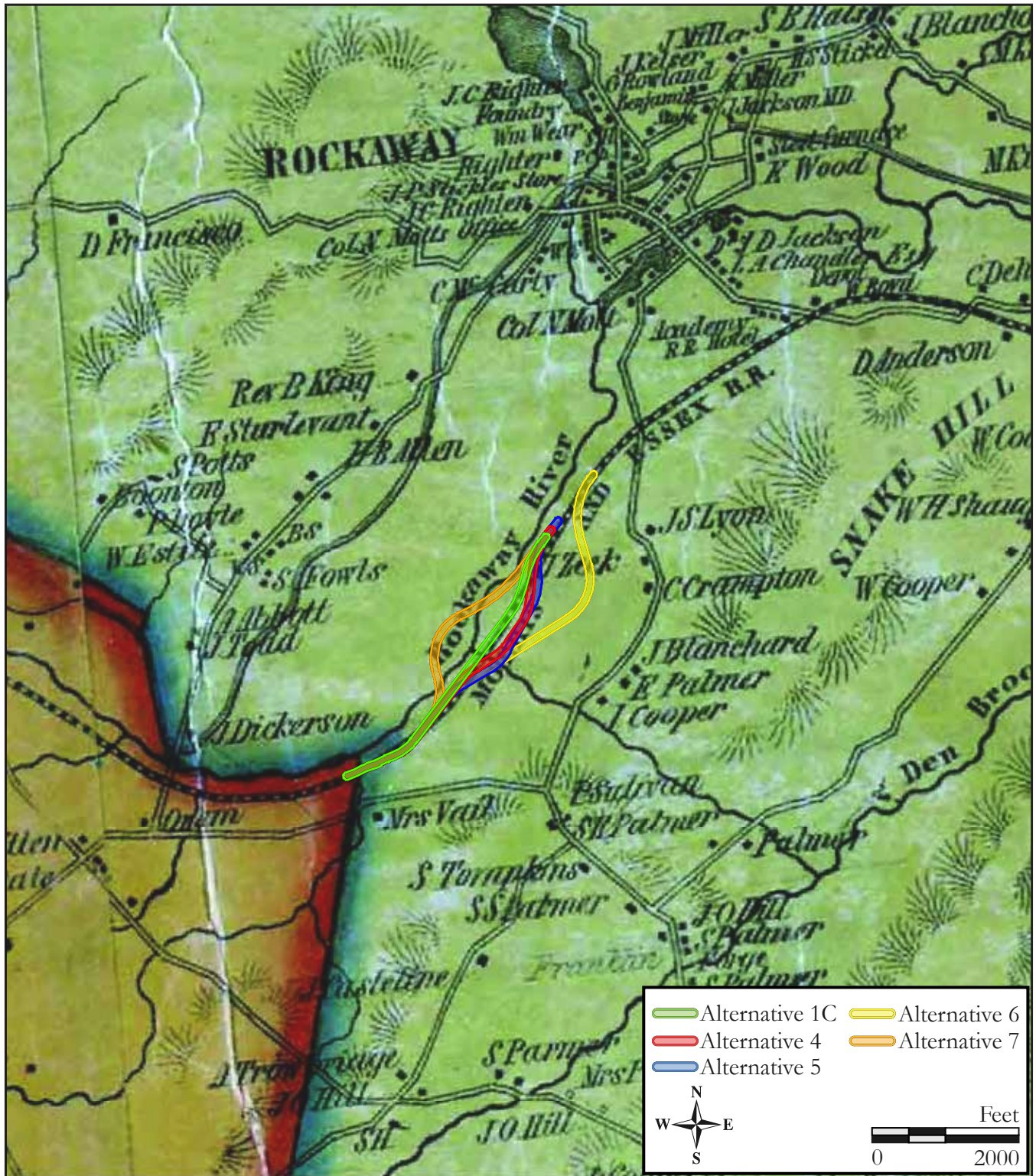


Figure 4: 1853 J. Lightfoot and Samuel Geil, *Map of Morris County, New Jersey*.

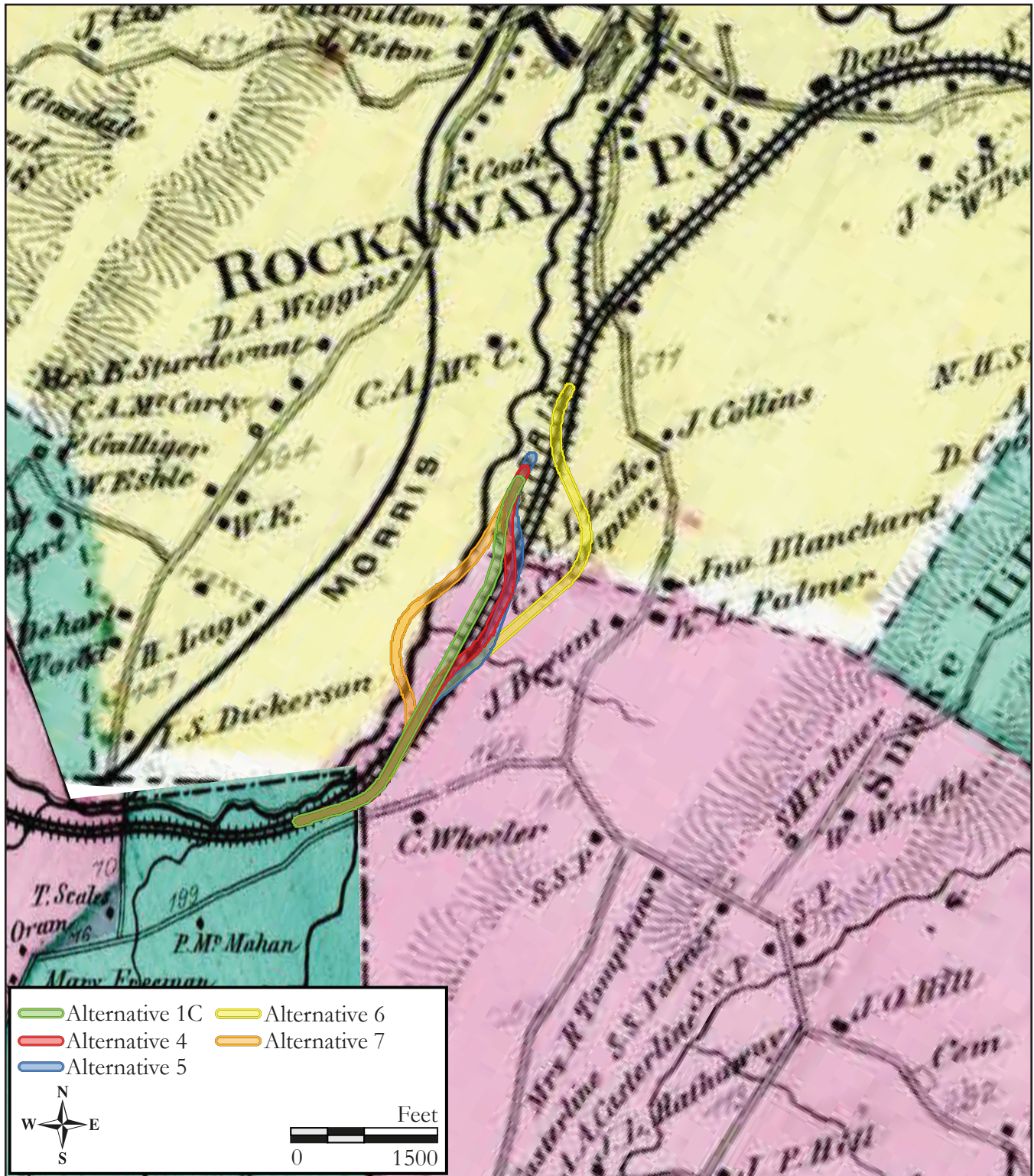


Figure 5: 1868 F.W. Beers, *Atlas of Morris County, New Jersey*.

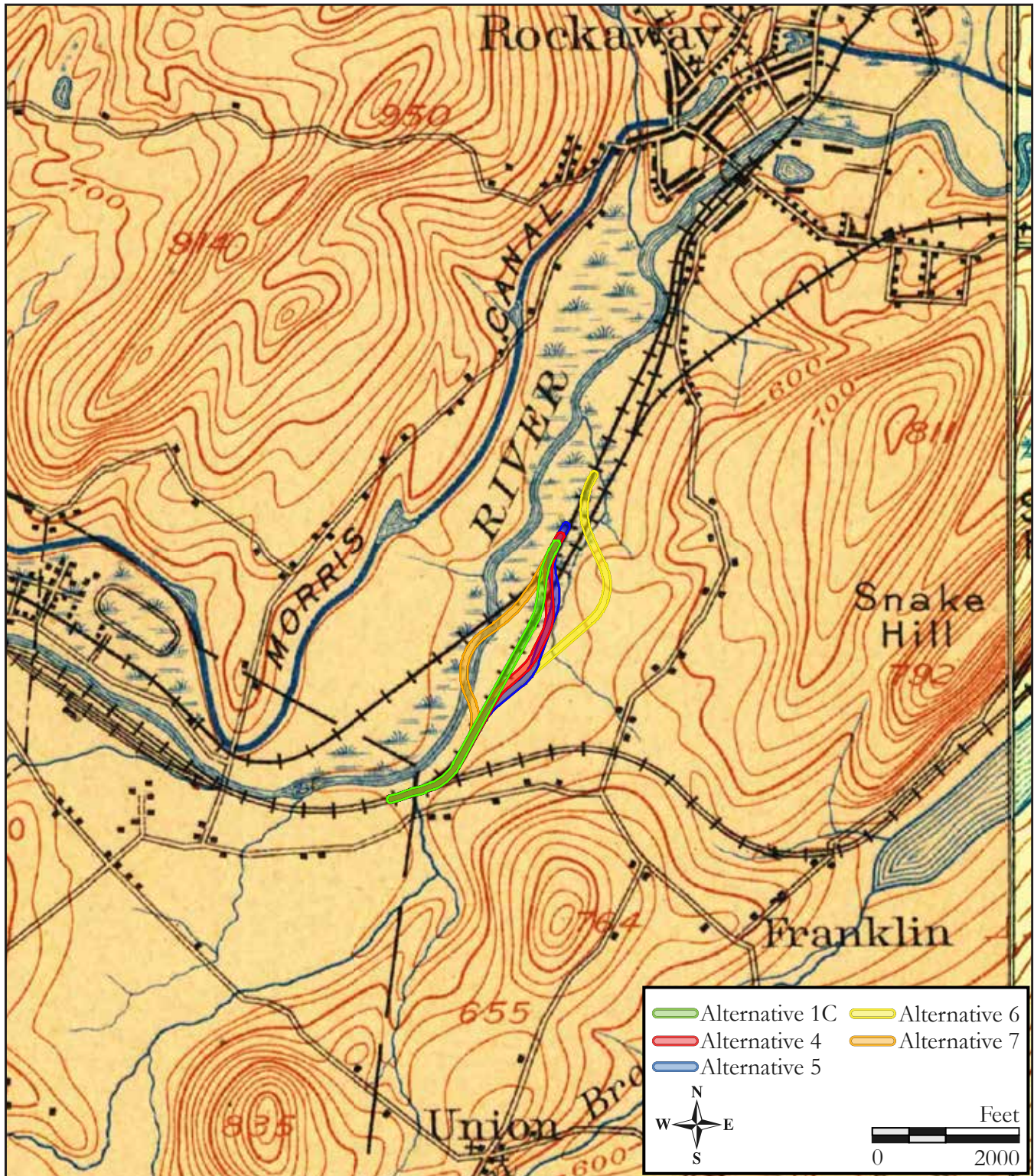


Figure 6: 1905 U.S.G.S. 15' Quadrangle: Lake Hopatcong, NJ and 1906 U.S.G.S. 15' Quadrangle: Morristown, NJ.

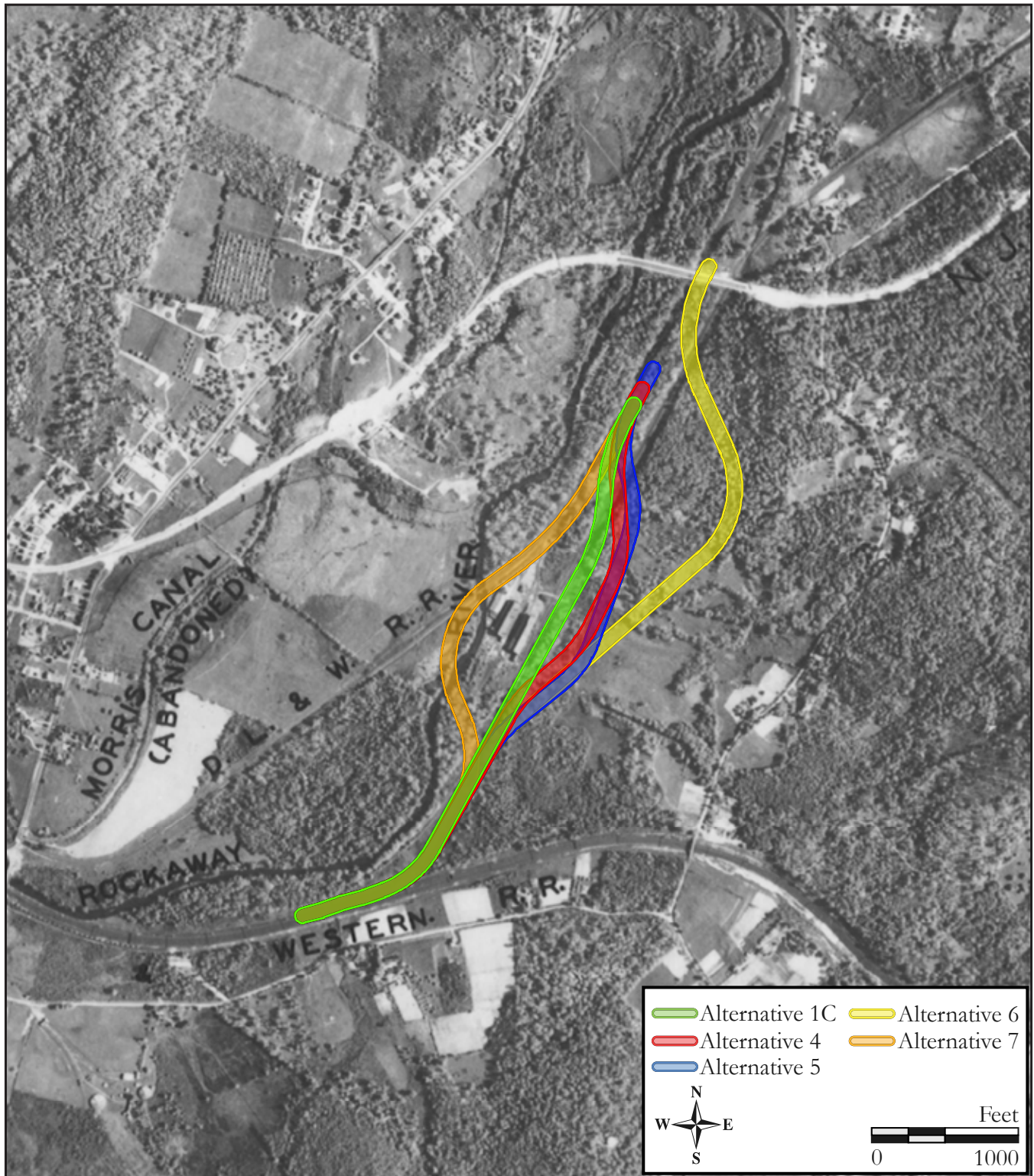


Figure 7: 1930 black and white historic aerial photograph (NJDEP 2019c).



Plate 1: Overview of a portion of the project along the NJ TRANSIT Railroad (Morris & Essex/Montclair-Boonton Line) also the Old Main Delaware, Lackawanna, and Western Railroad Historic District.

Photo view: Northeast

Photographer: Lauren Szeber

Date: November 29, 2017



Plate 2: Overview of a portion of the Rockaway River near the NJ TRANSIT Railroad and the project alignments.

Photo view: Northwest

Photographer: Ilene Grossman-Bailey

Date: November 29, 2017



Plate 3: Overview of the Alcoa Howmet facility.

Photo view: Northwest

Photographer: Lauren Szeber

Date: November 29, 2017



Plate 4: View of the McWilliams Forge warehouse and industrial building.

Photo view: Southwest

Photographer: Lauren Szeber

Date: November 29, 2017



Plate 5: View of the McWilliams Forge modern office building.

Photo view: Southwest

Photographer: Lauren Szeber

Date: November 29, 2017



Plate 6: View of a wooded area north of the McWilliams Forge.

Photo view: Southwest

Photographer: Ilene Grossman-Bailey

Date: November 29, 2017



Plate 7: Overview of the
Dover and Rockaway River
Railroad from the State
Route 46 Bridge.

Photo view: Southwest

Photographer: Lauren Szeber

Date: November 29, 2017

Appendix C

Public Involvement Action Plan



North Jersey Transportation Planning Authority

**Morris County
Dover & Rockaway Railroad Realignment**

Freight Concept Development Program



NJTPA Freight Concept Development Program

PUBLIC INVOLVEMENT ACTION PLAN

A. Purpose

The purpose of the Public Involvement Action Plan (PIAP) is to provide a transparent and understandable process in which the concept development study will provide information to the public and opportunities for meaningful feedback during the study. This document describes the study and its purpose, the project team's approach and objectives related to public outreach, the planned schedule for engagement, and expected outcomes. The PIAP also includes a list of identified stakeholders at the outset of the project (which will be updated throughout the course of the project), and potential community challenges with strategies to address them.

B. Project Description

The Dover and Rockaway Railroad (D&R) is an approximately six-mile long rail line that runs at grade level through the older neighborhood of mixed residential, commercial, and industrial uses in downtown Dover. The D&R currently connects to the NJ TRANSIT Morristown Line at the D&R Junction west of Dover. The D&R also runs parallel to the NJ TRANSIT alignment on the north side of the Rockaway River in downtown Dover. East of downtown Dover, the D&R turns north and runs along the Rockaway River through the center of Rockaway Borough before terminating to north of Interstate 80 (I-80). Though owned by Morris County, the D&R is operated by the Morristown & Erie (M&E) Railway which services four active customers along the D&R located in an industrial park just north of I-80 on the east side of Green Pond Road (County Route 513).

The Dover and Rockaway Railroad Realignment Study examines the potential for relocating the railroad's junction with the NJ TRANSIT Morristown Line to east of Dover station, thereby eliminating sixteen (16) at-grade railroad crossings through the Town of Dover, including multiple private crossings that bifurcate Howmet Castings, located at Roy Street. The public crossings throughout the study area are un-gated with passive safety devices. As a result, railroad personnel from the Morristown & Erie Railway manually flag-stop vehicular traffic at the crossings as the train passes through the area. This method is highly inefficient, dangerous, and the train's passage through the downtown area results in a number of quality of life issues for the Town and its residents. These include vehicular and pedestrian safety at the grade crossings, increased congestion, and environmental impacts related to noise and air quality. In addition, the Dover & Rockaway Railroad runs directly adjacent to the Rockaway River, a Category One (C-1) waterway, which has exceptional ecological, recreational, and water supply, or fisheries significance.

C. Public Involvement Process Overview

The public outreach approach to the Dover & Rockaway Railroad Realignment Concept Development Study will consist of both traditional methods of communication in the form of press releases and in-person engagement, as well as the use of technology via a website and social media. This approach will provide flexibility in reaching the public and stakeholders early in the process of project development. By engaging the public early, it provides the Project Team an opportunity to clearly explain the project, its goals, properly educate the public on the extent of the study, and address questions and/or misconceptions. The following sections provide specific details related to actions, schedule, considerations related to ensuring the community is effectively engaged, and deliverables.

D. Public Involvement Process

The following describes the expected actions to encourage public involvement during the concept development program schedule.

1. Stakeholder List and Database

A project stakeholder list will be developed and maintained throughout the duration of the project. This list will include local, county, and state officials, and other key stakeholders from municipal, county, state, and other governmental agencies. Community stakeholders from local advocacy, cultural, historical, environmental, business, neighborhood, and other organizations will be included and updated as needed. This list will be provided at the Local Officials Briefings for further input and refinement. Two tiers of stakeholders will be developed with the list, described as follows:

- Tier One: Critical stakeholders who will be invited to Local Officials Briefings, consulted at critical junctures, and whose support through letters or resolutions will be requested
- Tier Two: Stakeholders who will be kept apprised of the project via notifications, email, and phone calls as needed

The stakeholder list include representation from the following governmental agencies, businesses, or organizations. A stakeholder list with contact information will be maintained separately to the below list:

County and Municipal Officials and Organizations

- Morris County Officials, Engineer, Planner, Park Commission, Utilities Authority
- Legislative Representatives, State Senate and Assembly
- Town of Dover Mayor, Administrator, Clerk, Engineer
- Township of Denville Mayor, Administrator, Clerk, Engineer
- Business chambers of commerce
- Historic societies
- Private residential and commercial property owners
- Adjacent community – Township of Rockaway Mayor, Administrator, Clerk, Engineer
- Adjacent community – Borough of Rockaway Mayor, Administrator, Clerk, Engineer

Federal, State, and Regional Agencies

- North Jersey Transportation Planning Authority
- NJDOT
- NJDEP
- NJ TRANSIT

Businesses and Business Organizations

- Morristown & Erie Railway
- Norfolk Southern Railway
- Howmet Castings
- McWilliams Forge
- 84 Lumber
- EnDot Industries
- TriPak

Community and Business Organizations

- Morris County Organization for Hispanic Affairs
- Morris County Economic Development Corporation
- Upper Rockaway River Watershed Cabinet
- Dover Area Historical Society

In addition to the contact list, a database will be maintained that will track key issues raised by them for consideration during alternatives development.

2. Project Website

A project website will be developed and maintained throughout the course of the project, with the URL, www.DoverRailStudy.org. The website will be act as a will be a clearinghouse for project materials that will keep the public informed of the study. In addition to providing materials for view and download, the website will provide the following information:

- Project timeline
- Meeting dates/locations
- Technical materials and deliverables
- Meeting summaries
- Articles to communicate specific topics/issues

The site will be translatable to other languages with a Google Translate add-on. It will also contain links to related social media accounts and the various agencies and organizations involved in the project. There will be the ability for the public to sign-up for future notifications of meetings or when new project materials are added.

3. Twitter Account

A Twitter account will be developed and maintained throughout the course of the project, using the Twitter handle - **@DoverRailStudy**, to actively inform and engage with the public on the study. The account will be used to:

- Notify followers of changes to promote project and website
- Alert follows when new documents are posted
- Update on study progress
- Promote upcoming meetings
- Expand network of informed stakeholders

Use of Twitter will include the following anticipated schedule:

- All Tweets to be drafted and provided for approval to the NJTPA prior to publishing
- Meeting notifications scheduled in regular intervals starting 3 weeks prior to public information centers
 - 3 weeks prior
 - 2 weeks prior
 - 1 week prior
 - 1 day prior
 - Day of PIC
- When new documents are uploaded to the website
- Occasional posting historic photos or general information about area and study

The following strategies will be used to engage the public and maintain interest in the project:

- Build a base - Identify and follow similar themed accounts (Transportation agencies, Dover, etc.)
- Engage on regular intervals
- Respond (even if you don't say anything)
- Work with partners to expand network
- Talk about it even off social media
- Integrate into other materials
- Reciprocity – *if you share, they will too*
- Include popular hashtags - #njtransportation #dovernj

4. Local Official Briefings

It is anticipated two Local Officials Briefings will be held during the course of the project. The first briefing will introduce the project to the Local Officials, to obtain information on the concerns/comments, potential problems and/or additional issues from their perspective, and to identify potential stakeholders and local interest groups to further refine the stakeholder database. The project team will arrange for a location to hold a meeting at a location convenient to the local stakeholders, likely the Town of Dover's Municipal Building. Key local officials, identified in the stakeholder database, will be invited in addition to Project Team members and key regional stakeholders such as Morris County. For all Local Officials Briefings, meeting logistics, including email notification, will be provided and telephone follow-up calls will be made as necessary. The Project Team will provide an agenda,

meeting facilitation, meeting minutes, and action items. A list of potential invitees will be provided to the NJTPA no later than one month prior to the date of the Local Officials Briefing.

Meeting materials will be designed to clearly define the project and the official's role in the public involvement process. Each official will be provided with hard copies of project information including:

- Project Fact Sheet
- Purpose and need statement
- Community profile
- Results of environmental screening
- Public Involvement Action Plan
- Project schedule

A second Local Officials Briefing will also be held in for input and concurrence to the Preliminary Preferred Alternative (PPA) and to provide a Resolution of Support for the PPA. At this briefing, the Project Team will provide information on the development of the alternatives, public feedback gathered through the Public Information Center, website, Twitter, and other means, and why the PPA was selected. The Project Team will provide an agenda, meeting facilitation, meeting minutes, and action items. A list of potential invitees will be provided to the NJTPA no later than one month prior to the date of the Local Officials Briefing.

5. Public Information Centers

The Project Team will plan, organize, and facilitate two Public Information Centers (PIC) over the course of the project. It is anticipated that the information centers will have an “open house” style format with a short presentation at the beginning of the session. This will allow individuals to attend the session at their convenience and have questions answered by members of the project team. For the first Public Information Center, posters will be prepared to display information about the study which will include:

- Purpose of the study
- Map of the study area
- Conditions maps
 - Zoning and land use
 - Transportation network
 - Demographics
 - Hazardous materials
 - Environmental conditions
 - Environmental constraints
 - Utilities
 - Cultural resources

The second Public Information Center will follow the same general format as the first one. The posters developed will focus on the studied alternatives, and the PPA. In addition, the alternatives matrix and the stormwater management matrix will be displayed. The posters from the first PIC will also be set up, to provide a “complete picture” of the study, especially for attendees who did not attend the first PIC.

The Project Team will arrange for facilities to host the Public Information Center, coordinating with key stakeholders to ensure they will properly accommodate the public. The goal of selecting the facility will be to procure a space that is accessible to affected populations within the study area, and ensuring accessibility by people with limited mobility and transit dependent populations will be important considerations. Centers will be adequately staffed by members of the Project Team to ensure attendees can have their immediate questions and concerns addressed. In addition, a station will be set up, where members of the public can separately submit questions and comments, and sign up for project updates.

Following the public information sessions, the Project Team will review any comments and questions submitted, and develop responses. Once approved, these responses will be posted on the project website for public availability. We will develop and maintain mailing lists, meeting notifications, press releases, handouts, and presentation materials for the Public Information Centers. All materials will be reviewed and approved by the NJTPA prior to public distribution. All presentation materials will be submitted to the NJTPA for their approval no later than two weeks prior to any Public Information Center. Within two weeks following each Public Information Center, a meeting summary will be prepared. This summary will be used for documentation as part of the Public Outreach Summary to be included in the final Concept Development Report.

As required by the Project Manager, materials will be translated to Spanish (the predominant language other than English in the Town of Dover) to ensure that local residents, where English is not their first language, have equal accessibility to the Public Information Centers. In addition, notifications, such as flyers, will include the ability to request assistance for Limited English Proficiency Speakers. The Project Team will seek to coordinate with the Morris County Organization for Hispanic Affairs for facilitation at meetings, if requested.

E. Schedule of Public Involvement Initiatives

The following presents a list of major public outreach activities for the duration of the projects. Dates are approximate and may be change according to stakeholder or facility availability.

Action #	Action	Scheduled Completion
1	Draft Stakeholder List	April 12, 2017
2	Draft Project Website	June 30, 2017
3	Contact Local Officials for Briefing	August 14, 2017
4	Coordinate for Local Officials Briefing 1	September 1, 2017
5	Conduct Local Officials Briefing 1	October 5, 2017
6	Coordinate for Public Information Center 1	September 22, 2017
7	Local Officials Briefing Summary	November 2, 2017
8	Develop Public Information Center 1 materials	December 13, 2017
9	Live Twitter Account	December 15, 2017
10	Live Project Website	December 15, 2017
11	Advertise Public Information Center 1	December 18, 2017
12	Conduct Public Information Center 1	January 23, 2018
13	Public Information Center 1 Summary	February 7, 2018
14	Coordinate for Local Officials Briefing 2	August 15, 2018

Action #	Action	Scheduled Completion
15	Conduct Local Officials Briefing 2	September 19, 2018
16	Local Officials Briefing Summary	October 5, 2018
17	Coordinate for Public Information Center 2	February 15, 2019
18	Develop Public Information Center 2 materials	March 1, 2019
19	Advertise Public Information Center 2	March 20, 2019
20	Conduct Public Information Center 2	April 17, 2019
21	Public Information Center 2 Summary	May 3, 2019
22	Public Outreach Summary for CD Report	May 30, 2019

F. Special Considerations for Public Involvement

The following section identifies special considerations for engaging Environmental Justice (EJ) populations as identified by the Dover Community Profile.

1. Limited English Proficiency (LEP) populations

More than two-thirds (67.4%) of Dover's estimated population of 17,340 identify themselves as Hispanic/Latino of any race, and about the same percentage (67.6%) of the Town's population speak Spanish. In terms of language proficiency, more than half (54.2%) of the population where Spanish is spoken at home speak English less than "very well" indicating a potential need for Spanish language services throughout the public outreach process. This population also represents 36.7 of the Town's total population. Strategies to provide opportunities for this population to participate in the study include providing a Google Translate widget onto the project website, providing public study materials in English and Spanish, and partnering with local organizations to provide translation services at Public Information Centers.

2. Income and Mobility

Income and personal mobility may influence an individual's or household's ability to participate in the outreach process with respect to attendance at the Public Information Centers. This can be measured in two key ways. This can be measured in two key ways. First, the percentage of population living at or below the Federal Poverty Line provides an indication of the financial ability to own an automobile or have discretionary incomes for other than non-elastic (i.e. work, school, food shopping, etc.) trips. The second is the availability of an automobile, measured at the household level. According to the 2011-2015 American Community Survey (ACS) 5-year Estimates, 7.6% of the Town's population lives below the Federal Poverty Level and 18.1% of all households within the Town of Dover have no vehicle available. In addition, Victory Gardens Borough, whose municipality is near the project area has 25.2% of its population living below the poverty level, which amounts to 401 people of its total population. Strategies to help encourage people with limited incomes and mobility options to participate in the public outreach process include distributing flyers to areas which provide assistance to lower income individuals, such as the Morris County Office of Temporary Assistance. In addition, Public Information Centers could be held within close proximity of NJ TRANSIT bus routes to accommodate transit-dependent populations.

3. Senior Population

The percentage of population 65 and over living within the Town of Dover, is 10.0%, lower than the Morris County's total 65 and over population of 15.0%. Dover's senior population is also lower than most of the surrounding municipalities, with the exception of Victory Gardens Borough. Considerations for engaging with an older population include distributing flyers to senior/civic centers, libraries, and hosting Public Information Centers at locations with good accessibility at a time of day of which they might be more likely to attend.

4. Disability Status

According to the Community Profile, the percentage of populations with hearing, visual, cognitive, or mobility impairments within the Project Area Census Tracts are generally consistent with the rest of Morris County's population, with some exceptions. As the Community Profile notes, the percentages of these populations do not require any particular need for concern. Meeting locations should meet ADA accessibility requirements, at a minimum.

G. Public Involvement Deliverables

The following lists the expected deliverables of the public outreach process for the Dover & Rockaway Railroad Realignment Concept Development Program.

1. Website and web traffic reports
2. Twitter Account
3. Project Fact Sheet
4. Public Information Center Publicity Materials
5. Display Posters
6. Comment/Question Forms
7. Meeting Summaries
8. Public Outreach Summary Report

Appendix D

Program Compliance Review





Program Compliance Review Meeting No. 01

August 1, 2018 – 1:30 AM

AGENDA

- I. Project History and Overview**
- II. Program Compliance Review - Purpose and Outcomes**
- III. Stakeholder Outreach**
- IV. Community Profiles and Environmental Investigations**
- V. Purpose and Need Statements**
- VI. PCR No. 1 Sign-Off**

Program Compliance Review (PCR) Summary of Process and Participants

Thank you all for your participation as part of the Program Compliance Review (PCR) committee for the NJTPA's Pilot Freight Concept Development Program (FCDP). In general, the FCDP program and administrative procedures are patterned after the NJTPA's Local Capital Project Delivery (LCPD) Program which is consistent with the revised NJDOT Project Delivery Process approved by the Federal Highway Administration (FHWA) in February, 2015.

The Program Compliance Review (PCR) committee is comprised of representatives from NJTPA, NJDOT-Division of Local Aid, NJDOT-Bureau of Environmental Program Resources, NJDOT-Bureau of Multimodal Services. Additional agencies may be added to the PCR committee depending upon the specific concept development project being advanced under the FCDP. The role of the PCR is to perform interim reviews throughout the concept development phase to confirm that the project's development is in compliance with the program's requirements. The first PCR review is conducted once the draft purpose and need is finalized, with the second PCR review conducted once the Preliminary Preferred Alternative (PPA) is finalized but before it is presented to the local officials or the public.

The involved NJDOT divisions and bureaus have identified their representatives to the committee who will be participating in the first PCR review. These representatives include:

Nazhat Aboobaker – Division of Local Aid
James Sweet – Bureau of Environmental Program Resources
Andrew Ludasi – Bureau of Multimodal Services

An on-line scheduling poll has been created (<https://doodle.com/poll/bqsarer2g2yv5w6y>) to identify a collectively available date and time for the PCR review meeting. Only the meeting participants need to respond to the poll.

The objective of the meeting will be to:

1. Provide an overview of the project,
2. Present the draft project Purpose and Need Statement,
3. Summarize the initial stakeholder and local officials outreach efforts to date, and
4. Obtain sign-off from the participants on behalf of their respective divisions and bureaus that the project's development is in compliance with the program's requirements. ***This sign-off is required before the development of alternative solutions to meet the project purpose and need can be advanced.***

Parker, Scott

From: Rowinski, Jakub <jrowinski@njtpa.org>
Sent: Tuesday, May 15, 2018 2:52 PM
To: Parker, Scott
Subject: [EXTERNAL] FW: NJTPA Freight CD PCR

From: JColangelo-bryan@njtransit.com [mailto:JColangelo-bryan@njtransit.com]
Sent: Tuesday, May 15, 2018 2:49 PM
To: Fields, Zenobia <zfields@njtpa.org>
Cc: Rowinski, Jakub <jrowinski@njtpa.org>; Strauss-Wieder, Anne <Strauss-Wieder@njtpa.org>; LMillan@njtransit.com; LFanning@njtransit.com; RWisneski@njtransit.com; AKearns@njtransit.com
Subject: RE: NJTPA Freight CD PCR

Zenobia,

Per my understanding from Alan, we can provide “sign off” regarding the public outreach process. Regarding Warren, Lisa Fanning will be your POC. Regarding Morris, Rich Wisneski will be your POC. Both are copied here.

I trust this meets your requirements at this time; of course please advise if you require additional information.
Jeremy

From: Fields, Zenobia [mailto:zfields@njtpa.org]
Sent: Monday, May 14, 2018 5:29 PM
To: Colangelo-Bryan, Jeremy C. (CPLNJCB) <JColangelo-bryan@njtransit.com>; Millan, Louis (CPLNLXM) <LMillan@njtransit.com>
Cc: Rowinski, Jakub <jrowinski@njtpa.org>; Strauss-Wieder, Anne <Strauss-Wieder@njtpa.org>
Subject: NJTPA Freight CD PCR
Importance: High

Hi Jeremy,

As a follow-up to our conversation this afternoon, attached are the draft “Purpose & Need Statements” for the two projects – *the Dover & Rockaway Rail Realignment* and *the Phillipsburg South Main Street Bridge Rail Clearance Project*.

To date, a public outreach process has been conducted and existing conditions data has been collected. Stakeholders have been coordinated including local officials, railroads, industry developers and town councils. All feedback and input on existing conditions have been noted in the attached documents. This process is at the stage where it needs sign-off from a “Program Compliance Review Committee.” Representatives comprising the committee are NJTPA, NJDOT (Bureaus of Local Aid, Multimodal Services and Environmental Program Resources) and NJ TRANSIT. At this point, the committee is being asked to review the attached documents for program requirements in terms of stakeholder engagement and documentation of the process. This is the first sign-off request (In lieu of meeting, we will require written concurrence.)

Development and selection of a “Preliminary Preferred Alternative” has not yet begun. In order to make progress in this direction, subject matter experts must be engaged to ensure the purpose and needs have been fully justified. It is my understand that the SME from NJ TRANSIT will be represented by the Rail Operations group – specifically, Lisa Fanning. Once the Preliminary Preferred Alternative is finalized and before it is presented to the local officials or the public, we will request another compliance review. This stage of the process will reflect a complete Alternative Analysis –

minimizing environmental harm, identifying fatal engineering flaws and not comprising operations. It is my understanding we should attempt to coordinate with Planning and Operations for this request.

Please let us know if you would like to discuss further. We appreciate your time and input.

Zenobia L. Fields | Department Director of Planning

North Jersey Transportation Planning Authority

One Newark Center, 17th Floor | Newark, NJ 07102

Tel: 973.639.8426 | Fax: 973.639.1953

Email: zfields@njtpa.org | Web: www.njtpa.org



From: Rowinski, Jakub

Sent: Monday, May 14, 2018 12:41 PM

To: Fields, Zenobia <zfields@njtpa.org>

Cc: Strauss-Wieder, Anne <Strauss-Wieder@njtpa.org>

Subject: Freight CD PCR

Hi Zenobia,

Here are the latest versions of the Purpose and Need Statements for both studies. These are draft pending the PCR meeting.

Thanks,

Jakub



**North Jersey Transportation Planning Authority
Freight Concept Development Program**

**Program Compliance Review (PCR) No. 1 for:
Phillipsburg South Main Street Bridge Rail Clearance Project and
Dover & Rockaway Rail Realignment Project**

The role of the PCR is to perform interim reviews throughout the concept development phase to confirm that the project's development is in compliance with the program's requirements. The first PCR review is conducted once the draft purpose and need is finalized, with the second PCR review conducted once the Preliminary Preferred Alternative (PPA) is finalized but before it is presented to the local officials or the public.

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2. Present the draft project Purpose and Need Statements,
3. Summarize the initial stakeholder and local officials outreach efforts to date
4. Obtain sign-off from the members of the PCR Committee on behalf of their respective divisions and bureaus that the project's development is in compliance with the program's requirements.
This sign-off is required before the development of alternative solutions to meet the project purpose and need can be advanced.

Program Compliance Review Approval

Based upon review of the project materials provided and discussions during the August 1, 2018 Program Compliance Review Meeting No. 1, it has been determined that the project development to date has been conducted in compliance with the program requirements.

Nazhat Aboobaker
NJDOT - Division of Local Aid

Date:

A handwritten signature in black ink that reads "James Sweet". The signature is written in a cursive, flowing style.

James Sweet
NJDOT – Bureau of Environmental Program Resources

8-1-18

Date:

Andrew Ludasi
NJDOT - Bureau of Multimodal Services

Date:



**North Jersey Transportation Planning Authority
Freight Concept Development Program**

**Program Compliance Review (PCR) No. 1 for:
Phillipsburg South Main Street Bridge Rail Clearance Project and
Dover & Rockaway Rail Realignment Project**

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Nazhat Aboobaker
NJDOT - Division of Local Aid

Date:

James Sweet
NJDOT – Bureau of Environmental Program Resources

Date:


Andrew Ludasi
NJDOT - Bureau of Multimodal Services

Date:

8/1/2018



North Jersey Transportation Planning Authority Freight Concept Development Program

Program Compliance Review (PCR) No. 1 for: Phillipsburg South Main Street Bridge Rail Clearance Project and Dover & Rockaway Rail Realignment Project

The role of the PCR is to perform interim reviews throughout the concept development phase to confirm that the project's development is in compliance with the program's requirements. The first PCR review is conducted once the draft purpose and need is finalized, with the second PCR review conducted once the Preliminary Preferred Alternative (PPA) is finalized but before it is presented to the local officials or the public.

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Program Compliance Review Approval

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Nazhat Aboobaker

Nazhat Aboobaker

NJDOT - Division of Local Aid

8/13/2018

Date:

James Sweet

NJDOT – Bureau of Environmental Program Resources

Date:

Andrew Ludasi

NJDOT - Bureau of Multimodal Services

Date:

NJTPA Pilot Freight Concept Development Program

Program Compliance Review No. 2

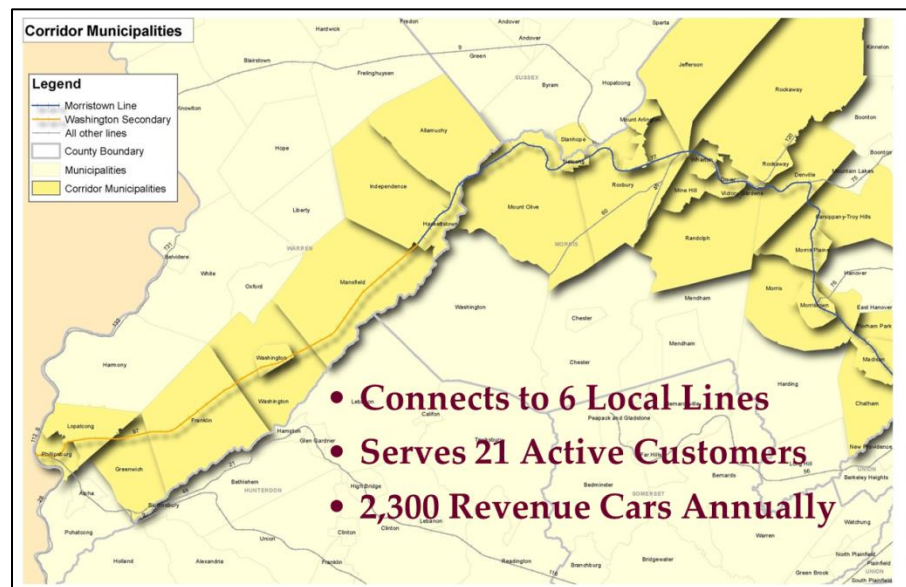
Dover & Rockaway Rail Realignment Project

Project Summary

The Corridor

The Washington Secondary Corridor is an active and vital line serving industries in Morris and Warren counties and beyond. For the most part, deliveries (loaded moves) are made from west to east, with empty rail cars delivered east to west. Between Phillipsburg and Morristown, local freight service is provided by Norfolk Southern (NS) from Allentown Yard in Pennsylvania, handing off to the Dover & Rockaway River railroad for local delivery and switching service to customers on a number of branch lines accessed via the Corridor. Branch lines served include the following:

- High Bridge Branch
- Chester Branch
- Dover and Rockaway Branch (D&R Branch)
- Montclair Line
- Whippany Line
- Lackawanna Line (no current customers)



The Project

While the Pilot Freight Concept Development Program is currently advancing two specific Concept Development efforts, this summary focuses on one of the projects – “Dover & Rockaway Rail Realignment Project”. The stated Purpose and Need of this study is:

The purpose of this project is to optimize freight movement and improve safety by reducing conflicts between the Dover & Rockaway Railroad (“D&R”) freight line and vehicular and pedestrian traffic especially in downtown Dover.

The project area is located within five (5) municipalities: Town of Dover; Rockaway Borough; Denville Township; Randolph Township and Rockaway Township. The D&R is an approximately six mile long rail line that runs at grade level through the older neighborhood of mixed residential, commercial, and industrial uses in downtown Dover. The D&R currently connects to the NJ TRANSIT Morristown Line at the D&R Junction west of Dover. The D&R also runs parallel to the NJ TRANSIT alignment on the north side of the Rockaway River in downtown Dover. East of downtown Dover, the D&R turns north and runs along the Rockaway River through the center of Rockaway Borough before terminating to north of Interstate 80 (I-80). Though owned by Morris County, the D&R is operated by the Dover & Rockaway River Railroad (“DRRV”), which services five active customers along the D&R.

The D&R has 18 un-gated at-grade road crossings, of which 13 are within the Town of Dover and 5 are within the Township of Rockaway, many of which are in close proximity to one another. The close spacing of grade crossing and lack of gates poses safety issues especially for vehicular traffic. Drivers along the street do not expect to stop for a train due to the relative low frequency of railcar movement along the D&R, resulting in driver uncertainty and confusion.

The un-gated at-grade crossings also pose a safety issue for the walking public. The Town of Dover Transit Oriented Development Plan and Town Master Plan have identified the need for better pedestrian connections between neighborhoods and between those neighborhoods and the downtown business district. Although it is trespassing, residents use the existing rail alignment as a walking path between neighborhoods and between home and downtown. The same low frequency and unpredictable service schedule that impacts traffic movement also therefore presents a serious safety risk to pedestrians.

This project and its objectives are consistent with the goals and priorities set forth in the NJTPA’s current Regional Transportation Plan (RTP) and the NJDOT’s Statewide Freight Plan. Eliminating grade crossings to improve safety as well as upgrading key rail corridors to accommodate 286K Plate F railcars along the corridor would create opportunities for growing the existing rail served businesses and attracting new developments which would, as a result, increase the number of jobs as well as economic vitality of the region. Removing the rail freight traffic from downtown Dover would also promote freight as a good neighbor, reduce community impacts, and improve safety within the project area.

Completed and Pending Project Tasks

The attached matrix summarizes the primary project tasks and key milestones for the project.

Key project components completed to date include:

1. Project Kickoff
2. Develop Community Profile
3. Prepare Public Involvement Action Plan
4. Perform Data Collection
5. Local Officials Briefing No. 1
6. Stakeholder Outreach Meetings
7. Prepare Draft Purpose & Need Statement
8. Program Compliance Review No. 1
9. Finalize Purpose and Need Statement
10. Launch Social Media Sites
11. Public Information Session No. 1
12. Develop Alternatives
13. Prepare Alternatives Scoring Matrix
14. Coordinate with Permitting Agencies
15. Revise Alternatives Scoring Matrix
16. Recommend PPA
17. Local Officials Briefing No. 2
18. Stakeholder Outreach Meetings - Developed Alternatives

Key project critical path item currently in process:

1. Program Compliance Review (PCR) No. 2

Key project components to be advanced subsequent to this Second Program Compliance Review include:

1. Finalize PPA
2. Draft CD Report
3. Prepare Project Fact Sheet
4. Public Information Session (2)
5. Interagency Review Meeting
6. Finalize CD Report

Parker, Scott

From: Fanning, Lisa L. (CROPLLF) <LFanning@njtransit.com>
Sent: Tuesday, April 14, 2020 4:55 PM
To: Parker, Scott
Subject: [EXTERNAL] RE: NJTPA Pilto freight CD Study - Program Compliance review No. 2 - Dover & Rockaway

Scott,

Please accept this email as acceptance of the PCR sign off for the D&R Realignment project.

Lisa

Lisa L. Fanning, P.E.

Deputy General Manager Infrastructure Engineering
Rail Infrastructure Engineering

NJ Transit 
One Penn Plaza East
Newark, NJ 07105

Telephone: (973) 491-7227
Cell: (973) 943-6877
Fax: (973) 609-1775
E-mail: lfanning@njtransit.com





North Jersey Transportation Planning Authority Freight Concept Development Program

Program Compliance Review (PCR) No. 2 for: Dover & Rockaway Rail Realignment Project

The role of the PCR is to perform interim reviews throughout the concept development phase to confirm that the project's development is in compliance with the program's requirements. The first PCR review was conducted once the draft purpose and need is finalized, with the second PCR review conducted once the recommendation for the Preliminary Preferred Alternative (PPA) is finalized but before it is presented to the public.

Sign-off from the members of the PCR Committee on behalf of their respective divisions and bureaus that the project's development is in compliance with the program's requirements is required before the second Public Information Center may be held, selection of the Preferred Alternative finalized and preparation of the Concept Development report.

Program Compliance Review Approval

Based upon involvement in the project process to date and review of the Project Summary Memo provided, it has been determined that the project development to date has been conducted in compliance with the program requirements.

Nazhat Aboobaker
Nazhat Aboobaker
NJDOT - Division of Local Aid

3/23/2020
Date:

James Sweet
NJDOT – Bureau of Environmental Program Resources

Date:

Andrew Ludasi
NJDOT - Bureau of Multimodal Services

Date:

Lisa Fanning
NJ TRANSIT – Rail Infrastructure Engineering

Date:



North Jersey Transportation Planning Authority
Freight Concept Development Program

**Program Compliance Review (PCR) No. 2 for:
Dover & Rockaway Rail Realignment Project**

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Program Compliance Review Approval

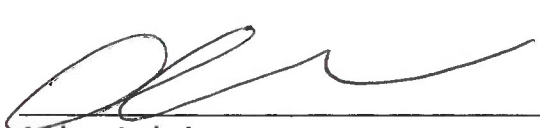
Based upon involvement in the project process to date and review of the Project Summary Memo provided, it has been determined that the project development to date has been conducted in compliance with the program requirements.

Nazhat Aboobaker
NJDOT - Division of Local Aid

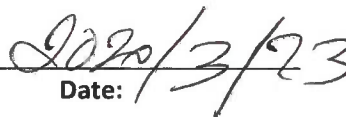
Date:

James Sweet
NJDOT – Bureau of Environmental Program Resources

Date:


Andrew Ludasi
NJDOT - Bureau of Multimodal Services

Date:



Lisa Fanning
NJ TRANSIT – Rail Infrastructure Engineering

Date:



North Jersey Transportation Planning Authority Freight Concept Development Program

Program Compliance Review (PCR) No. 2 for: Dover & Rockaway Rail Realignment Project

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Nazhat Aboobaker
NJDOT - Division of Local Aid

Date:


James Sweet
NJDOT - Bureau of Environmental Program Resources

Date:

2-28-2020

Andrew Ludasi
NJDOT - Bureau of Multimodal Services

Date:

Lisa Fanning
NJ TRANSIT - Rail Infrastructure Engineering

Date:

Appendix E

Local Officials Briefing



Dover & Rockaway Rail Realignment Project

Local Officials Briefing



Jakub Rowinski, NJTPA Project Manager

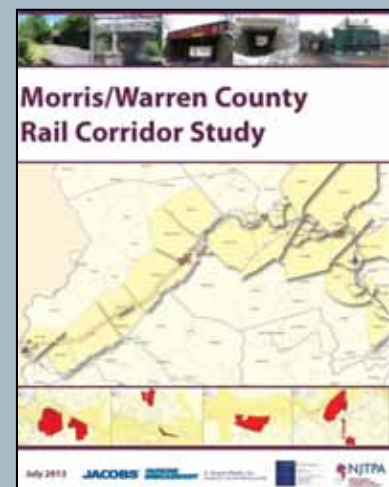
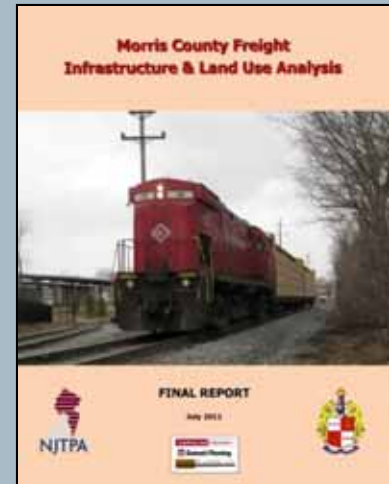
Scott Parker, Jacobs Engineering Project Manager

Meeting Agenda

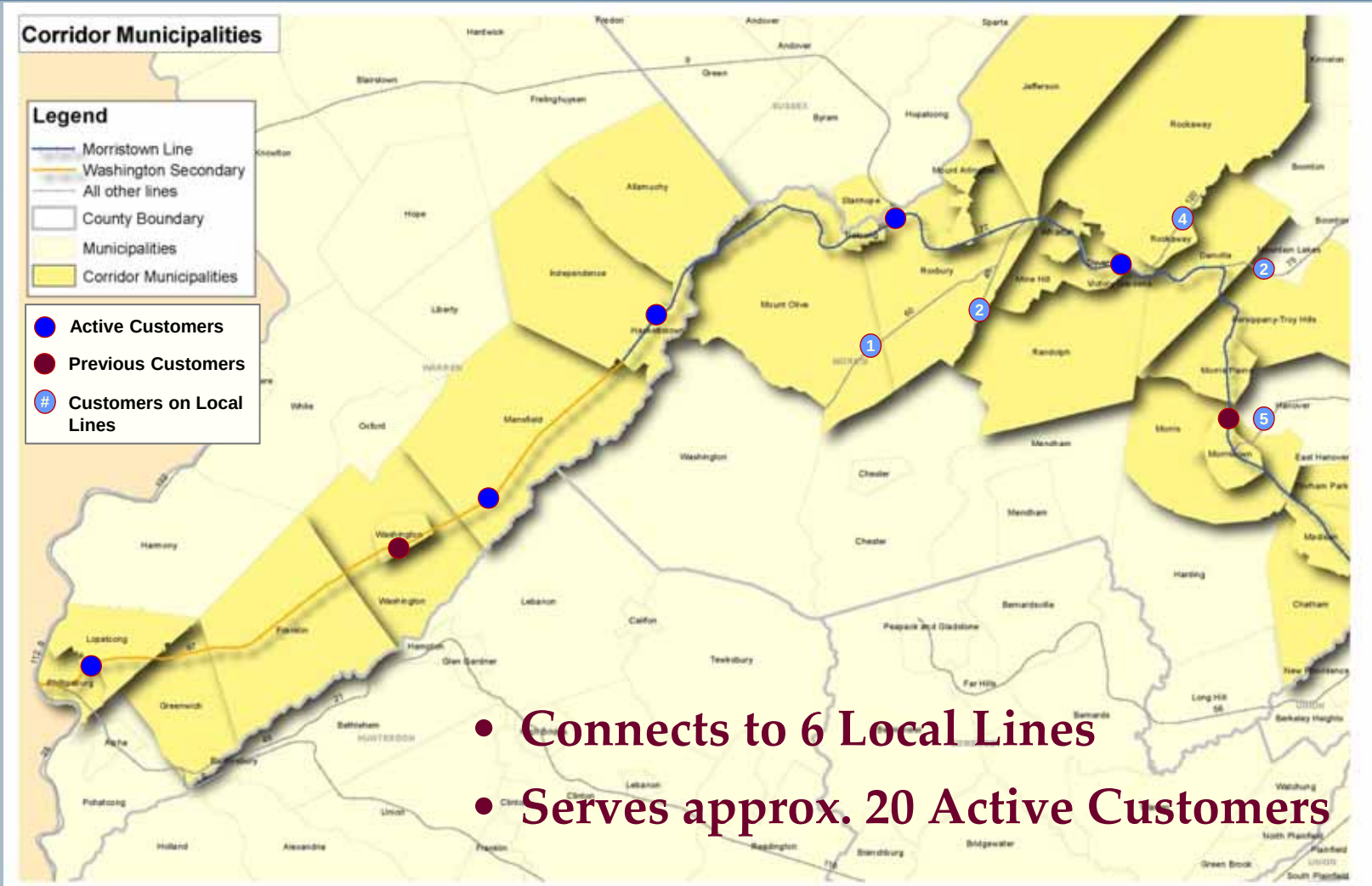
- Introductions
- Project Background
- Project Overview
- Stakeholder Involvement
- Ongoing and Future Activities

Project Background

- Two previous studies identified a range of issues constraining state-of-the-industry freight rail operations on the Washington Secondary
- Pilot Freight Concept Development Program Study investigating potential improvements to eliminate constraints
 - Phillipsburg South Main Street Bridge Rail Clearance Project
 - Dover & Rockaway Rail Realignment Project



The Washington Secondary Regional Context

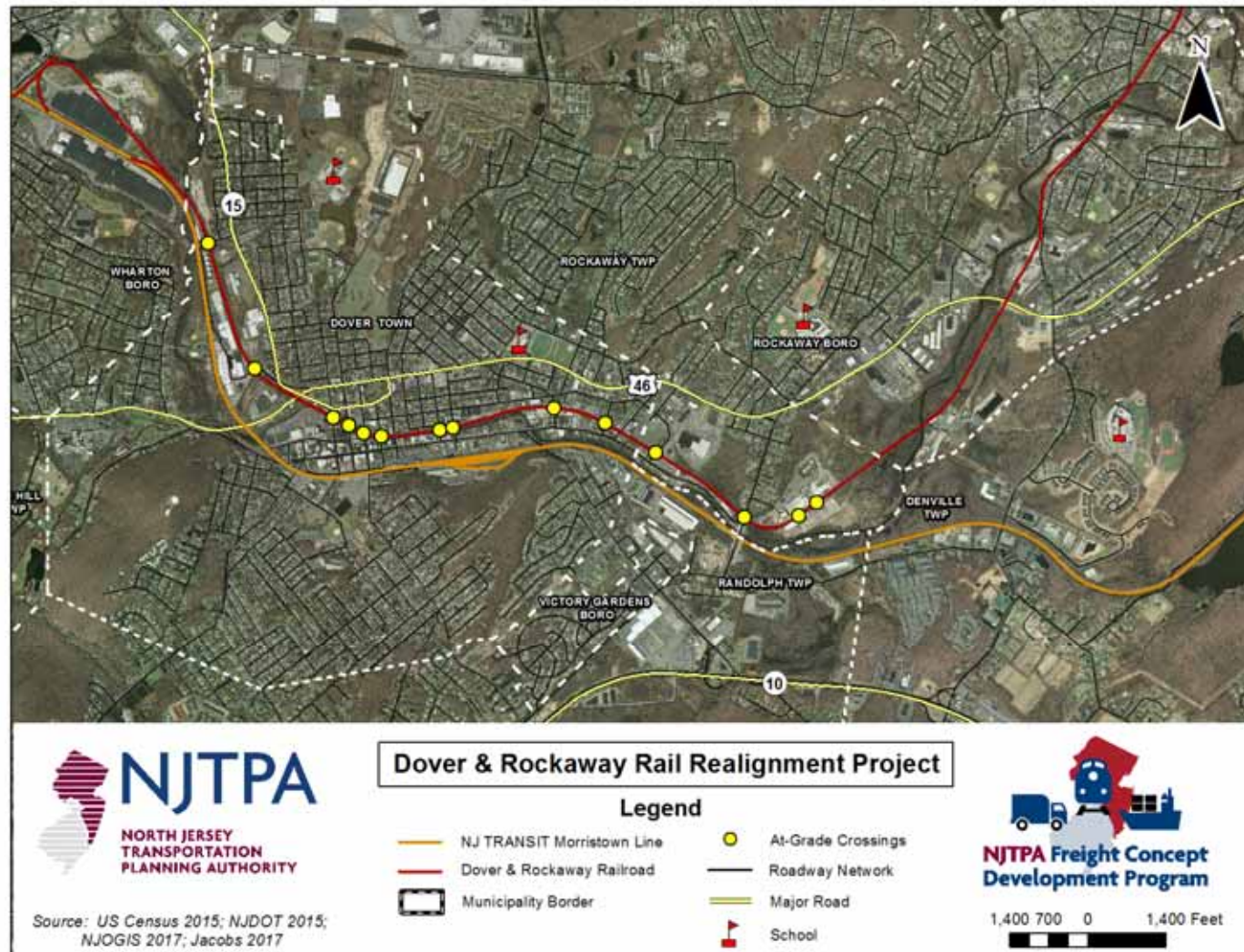


Dover & Rockaway Railroad Realignment

Existing conditions:

- 12 un-gated at-grade road crossings in the Town of Dover and 4 in the Township of Rockaway
- Inefficient rail operations; pedestrian and roadway safety concerns
- Noise and air quality impacts

Dover & Rockaway Railroad Realignment



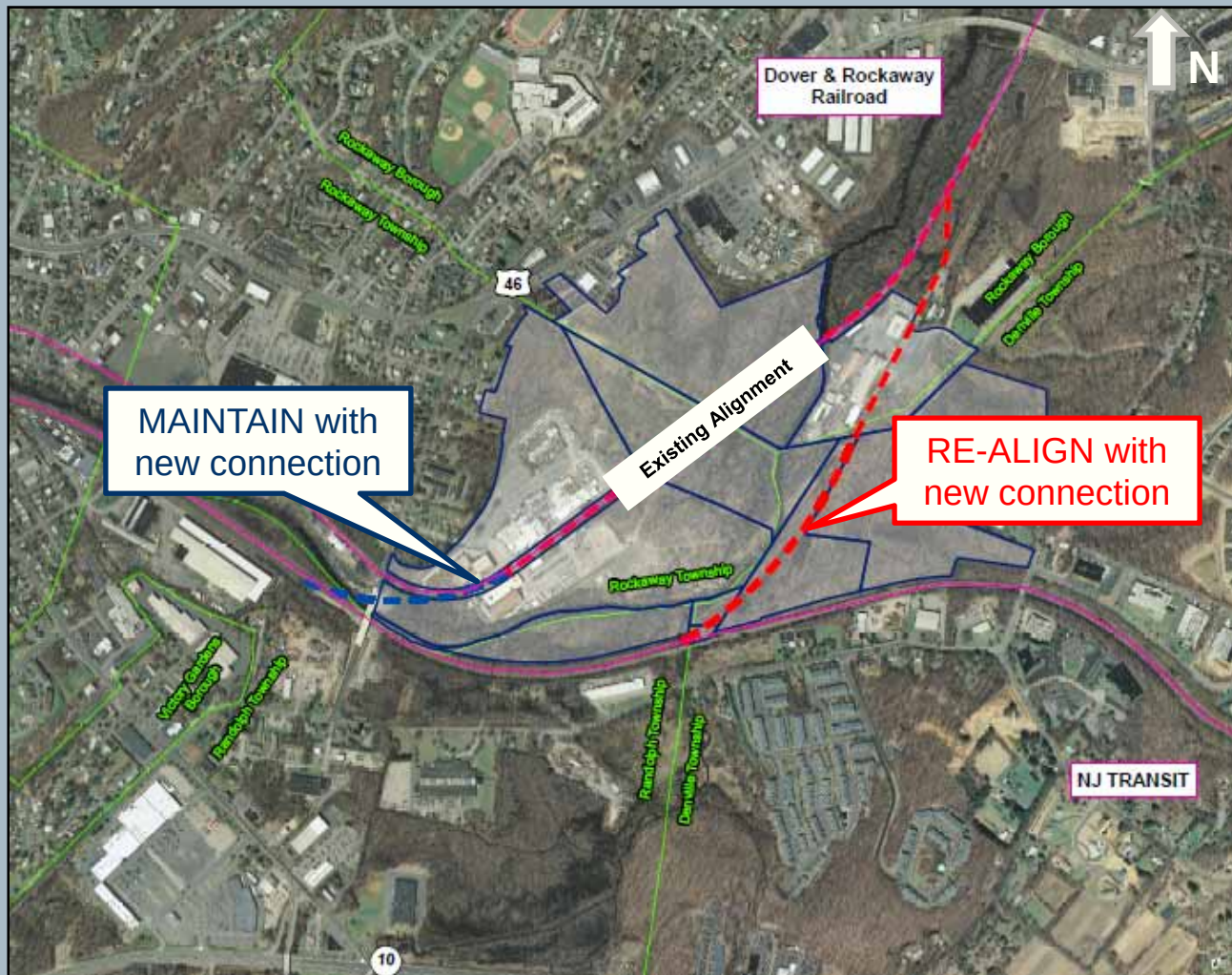
Dover & Rockaway Railroad Realignment



Dover & Rockaway Railroad Realignment

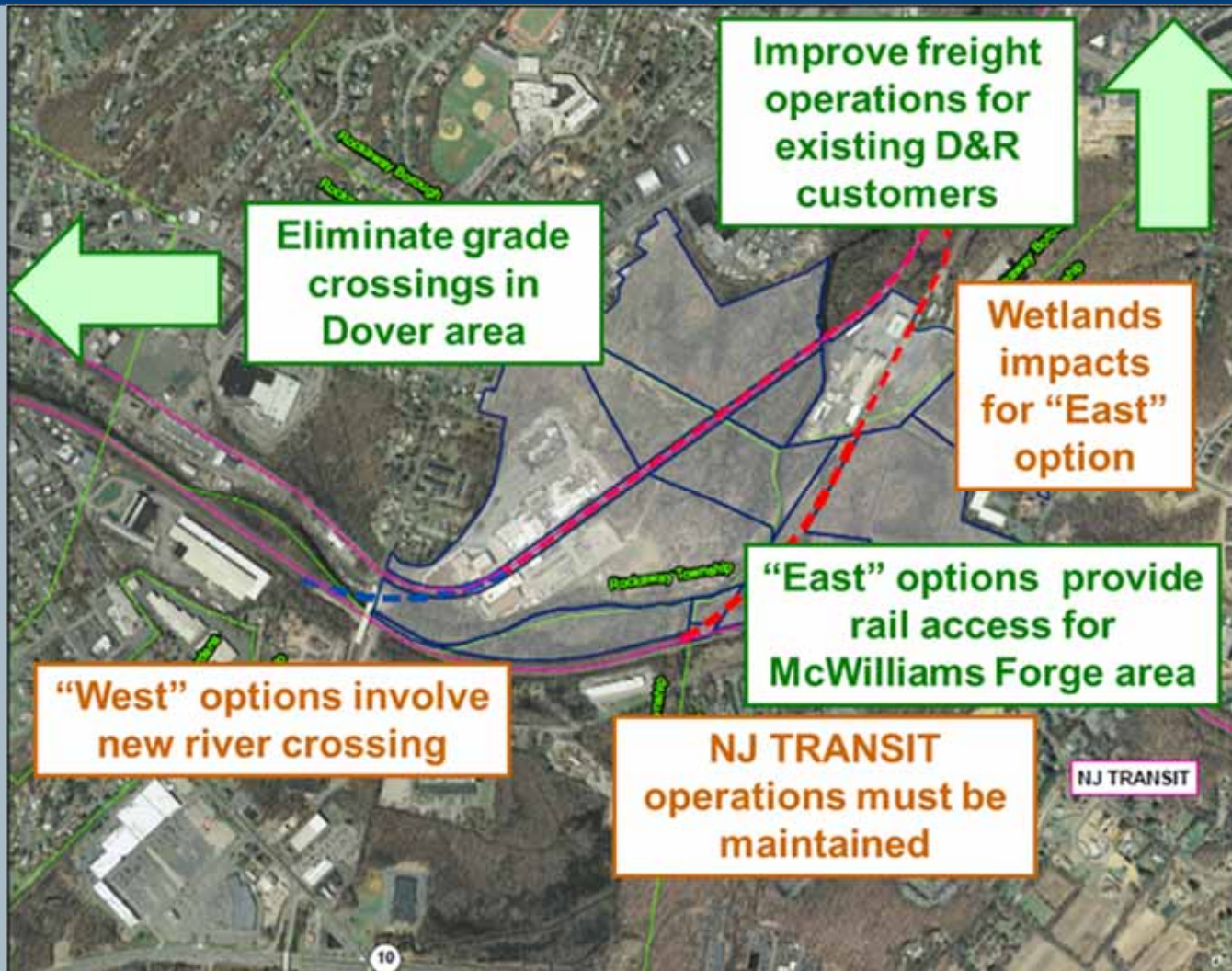


Potential Categories of Options



- **RE-ALIGN** further north and utilize old Delaware, Lackawanna, & Western (DL&W) ROW for connection to Morristown Line
- **MAINTAIN** existing alignment and create new Dover & Rockaway (D&R) connection to the Morristown Line
- **NO-BUILD** and continue existing operations as is

Potential Categories of Options



Potential Issues and Constraints

- NJ TRANSIT Operations
- Adjacent and Proximate Land Uses
- Historic and Cultural Resources
- Community Profile & Environmental Justice/Title VI
- Section 4(f)
- Wetlands
- Floodplains & Aquifers
- Threatened & Endangered Species
- Stormwater
- Hazardous Materials

Get Involved

Stakeholder involvement is critical

- Help develop a comprehensive Purpose and Need Statement
- Consider local issues in the development and screening of improvement concepts
- Identify the preferred alternative

Get Involved

- Public Officials Briefings
- Stakeholder Outreach Meetings (2)
- Public Information Centers (2)
- Project Website
- Social Media (Twitter, Facebook)

Ongoing Data Collection

- Assemble available existing data from the project stakeholders and other sources
- Perform environmental screening – foundation for constraints mapping
- Identify existing design deficiencies
- Formulate location specific purpose and need statement

Future Activities

- Finalize the purpose and need statement
- Develop engineering alternatives
- Alternatives assessment
- Construction cost estimates
- Selection of preliminary preferred alternative
- Alternative analysis documentation
- Value engineering/constructability review
- Risk management review and documentations

Thank You / Questions?

Defining the Vision. Shaping the Future.



NJTPA

**NORTH JERSEY
TRANSPORTATION
PLANNING AUTHORITY**

Jakub Rowinski
jrowinski@njtpa.org
(973) 639-8443



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**NJTPA Freight Concept
Development Program**

NJTPA Pilot Freight CD Project

Local Officials Briefing – Township of Rockaway / TOWN OF DOVER

Jacobs Project No: E6X90400
3:00 PM Thursday January 30, 2020
Township of Rockaway Municipal Building
65 Mt. Hope Road
Rockaway, NJ 07866

NAME	ORGANIZATION	PHONE (OFFICE / CELL)	E-MAIL
Scott Parker	Jacobs Engineering	(862) 242-7326	SCOTT.PARKER@JACOBS.COM
CARLOS N. SANCHEZ	DOVER	(908) 973 366 - 2200 x1112	CNSANCHEZ@DOVER.NJ.US
Carolyn Blackman	DOVER		C.Blackman@dover.nj.us
BILL ISSELEN	DOVER ENGINEERING	CELL 973-703-3353 973-366-2200 x2152	WISSELEN@DOVER.NJ.US
Daniela Garcia	Dover engineering	973-366-2200 x2119	dgarcia@dover.nj.us
Gerald Robster	Morris County	973-829-8101	grobster@morris.nj.us
JAKUB ROWINSKI	NJTPA	973-639-8443	JROWINSKI@NJTPA.ORG
Al Knott	Rockaway Twp DPW	973-627-1700	AKnott@RockawayTwp.nj.us
Gat Seger	Rockaway Township	973 983 2868	pseger@rockawaytwp.nj.us
Gene Garbano	Rockaway Township	973 983 2825	ggarbano@rockawaytwp.nj.us
Dave Dyer	Rockaway Township	973-627-1700	ddyer@rockawaytwp.nj.us
Mark D. McParland	" " PD	973-625-4000	chief@rctpd.org
Wilson Ribadeneira	VHB/	917 981 5725	

NJTPA Pilot Freight CD Project Local Officials Briefing –Rockaway Borough

Jacobs Project No: E6X90400
9:00 AM Wednesday February 19, 2020
Rockaway Borough
21-25 Union St
Rockaway, New Jersey 07866, United States

[illegible]



NJTPA Freight Concept Development Program

Jacobs Project No: E6X90400

2:00 PM Friday February 07, 2020

Township of Denville

1 Saint Mary's Place

Denville, NJ 07834

Page 1 of 1



NJTPA Pilot Freight CD Project Local Officials Briefing – Township of Randolph

Jacobs Project No: E6X90400
2:00 PM Friday February 07, 2020
Township of Randolph Municipal Building
502 Millbrook Avenue
Randolph, NJ 07869

NAME	ORGANIZATION	PHONE (OFFICE / CELL)	E-MAIL
Carol Foster	Morris County	973-829-8101	gromskreco.morris.nj.us
JAKUB ROWINSKI	NJTPA	973-639-8443	ROWINSKI@NJTPA.ORG
STEVE MOUNTAIN	RANDOLPH TWP	973-989-7060	Smountain@randolphnj.org
Darren Carney	Randolph	973-537-7113	dcarney@randolphnj.org
Scott Parker	Jacobs Engineering	862-242-7326	SCOTT.PARKER@JACOBS.COM
WAYNE CORSEY	RANDOLPH TWP	973 989-7069	wcorsey@randolphnj.org
CHRISTINE CAREY	Randolph Twp	973-985-2623	CCAREY@randolphnj.org

Dover & Rockaway Rail Realignment Project

Local Officials Briefing



Jakub Rowinski, NJTPA Project Manager

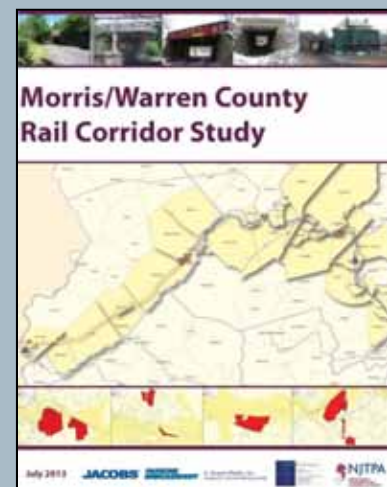
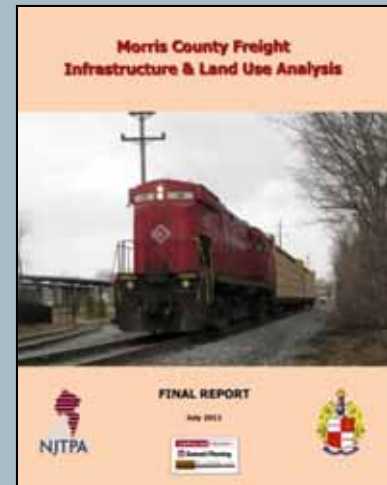
Scott Parker, Jacobs Engineering Project Manager

Meeting Agenda

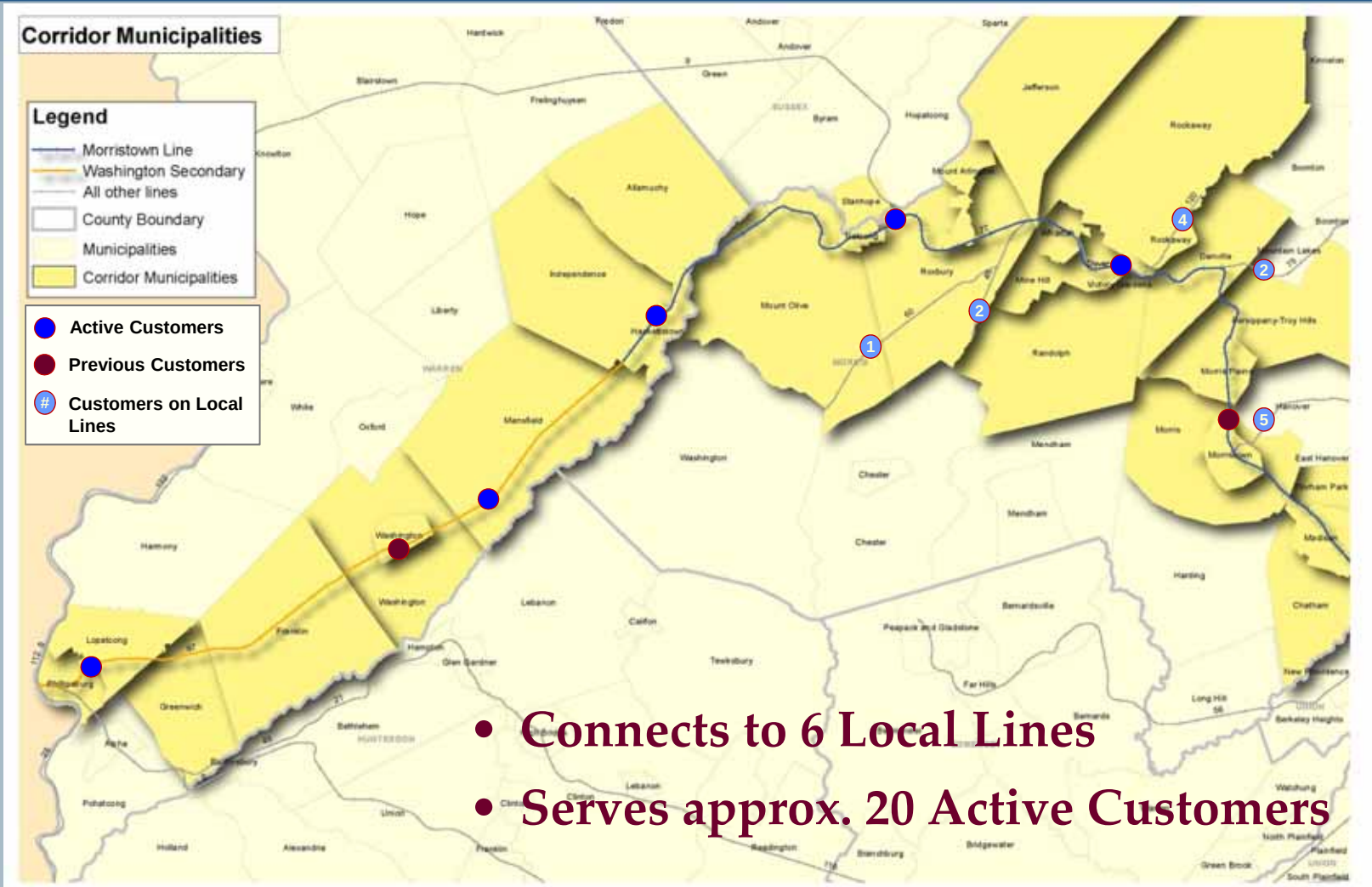
- Introductions
- Project Background
- Project Overview
- Stakeholder Involvement
- Ongoing and Future Activities

Project Background

- Two previous studies identified a range of issues constraining state-of-the-industry freight rail operations on the Washington Secondary
- Pilot Freight Concept Development Program Study investigating potential improvements to eliminate constraints
 - Phillipsburg South Main Street Bridge Rail Clearance Project
 - Dover & Rockaway Rail Realignment Project



The Washington Secondary Regional Context

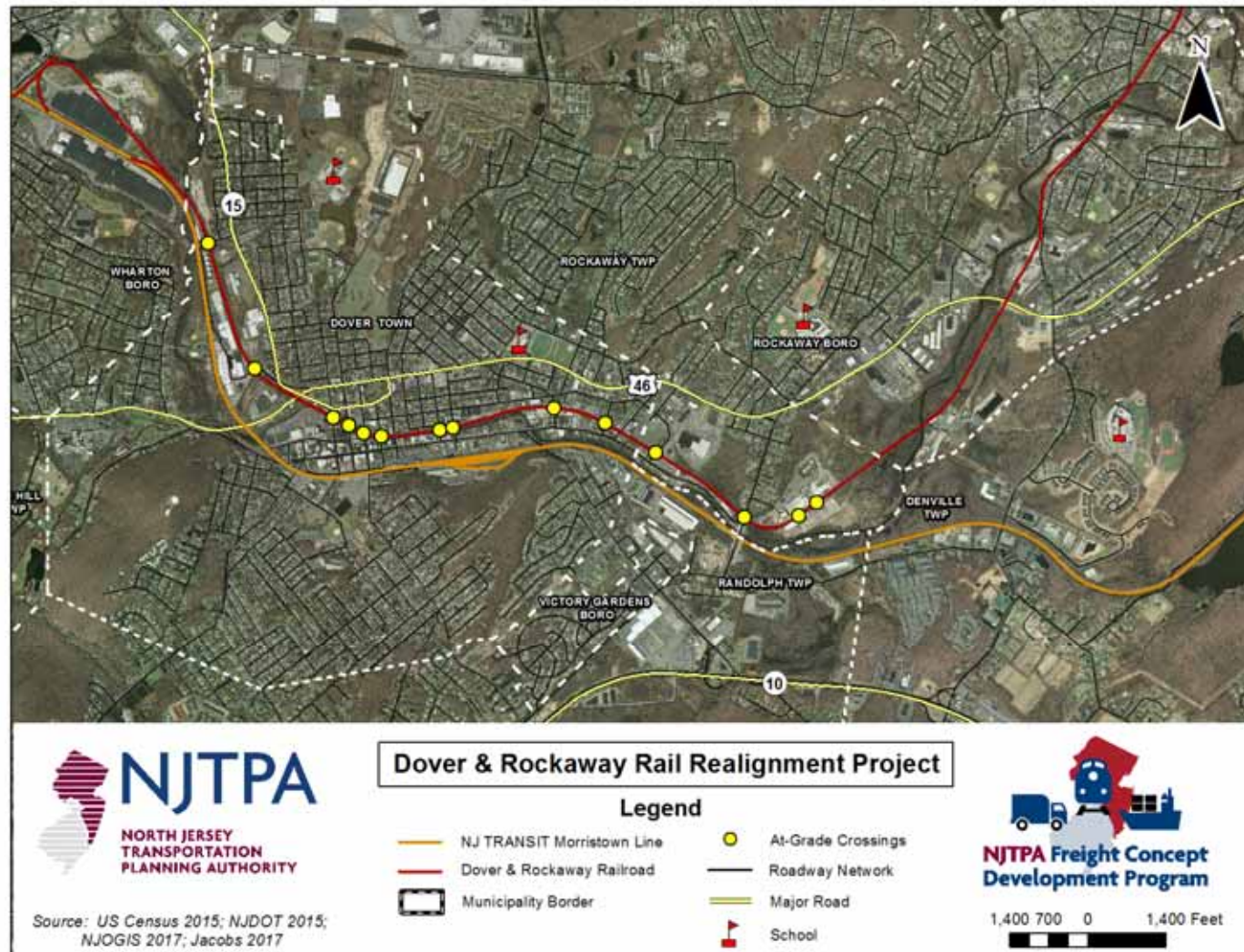


Dover & Rockaway Railroad Realignment

Existing conditions:

- 12 un-gated at-grade road crossings in the Town of Dover and 4 in the Township of Rockaway
- Inefficient rail operations; pedestrian and roadway safety concerns
- Noise and air quality impacts

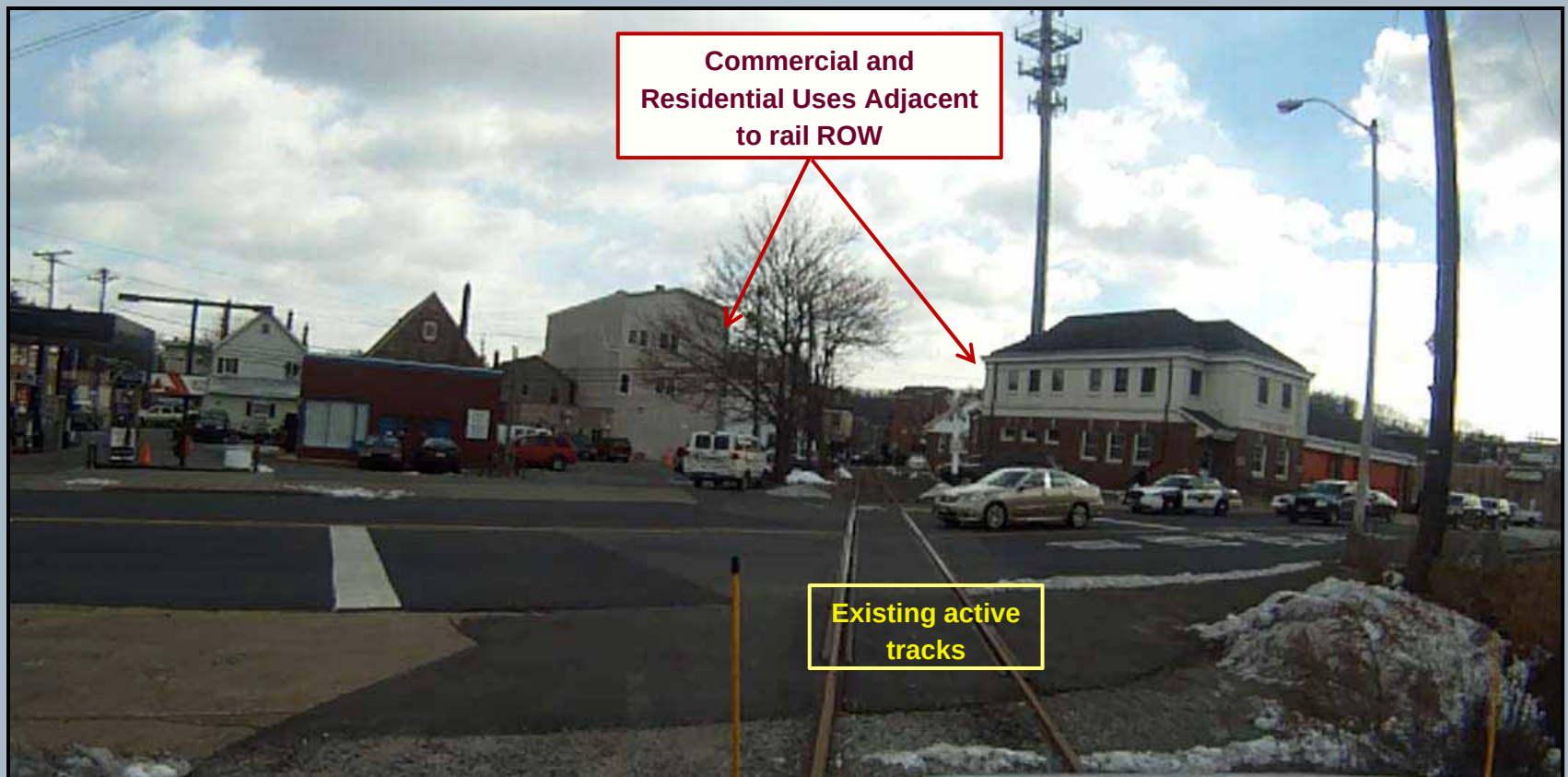
Dover & Rockaway Railroad Realignment



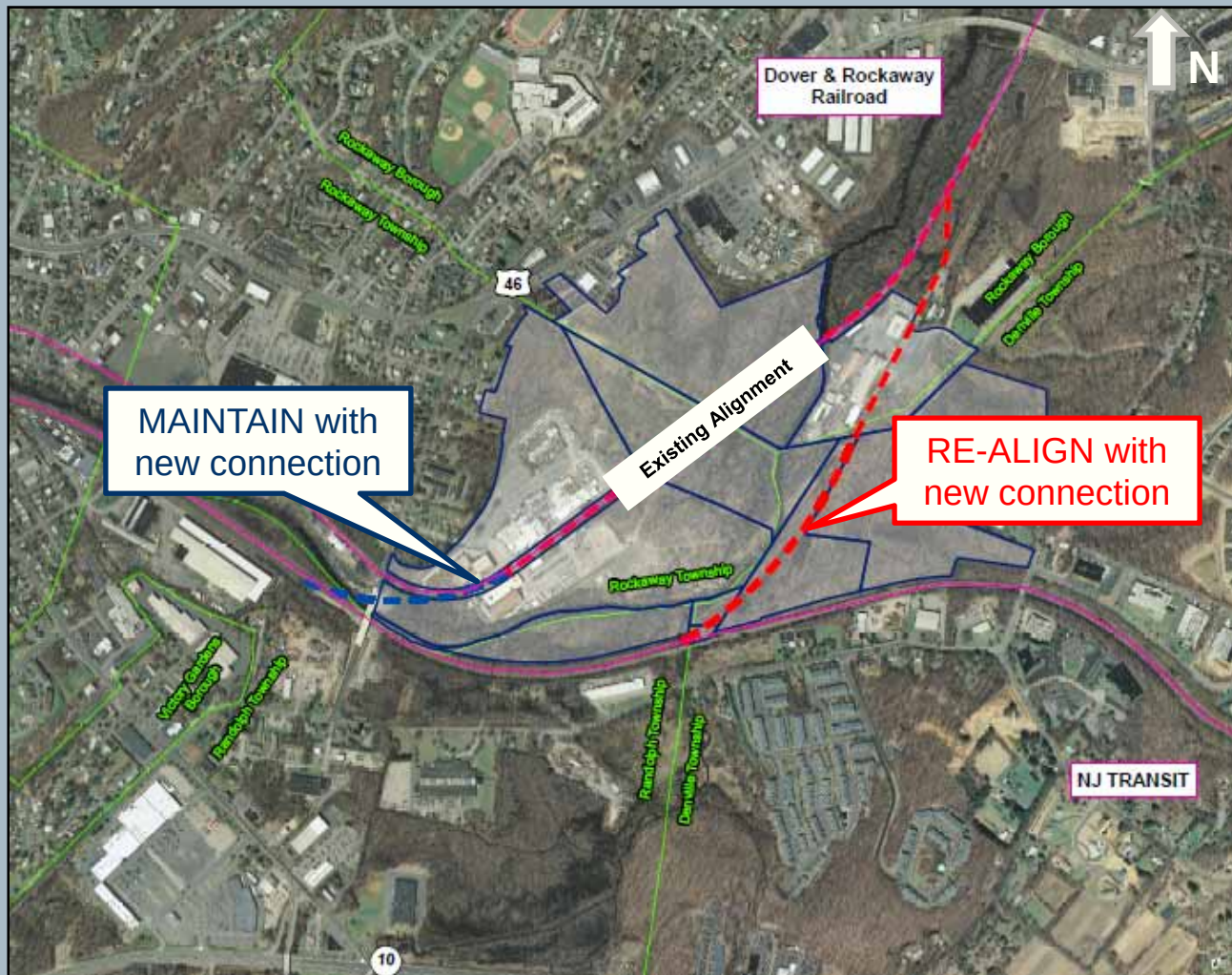
Dover & Rockaway Railroad Realignment



Dover & Rockaway Railroad Realignment

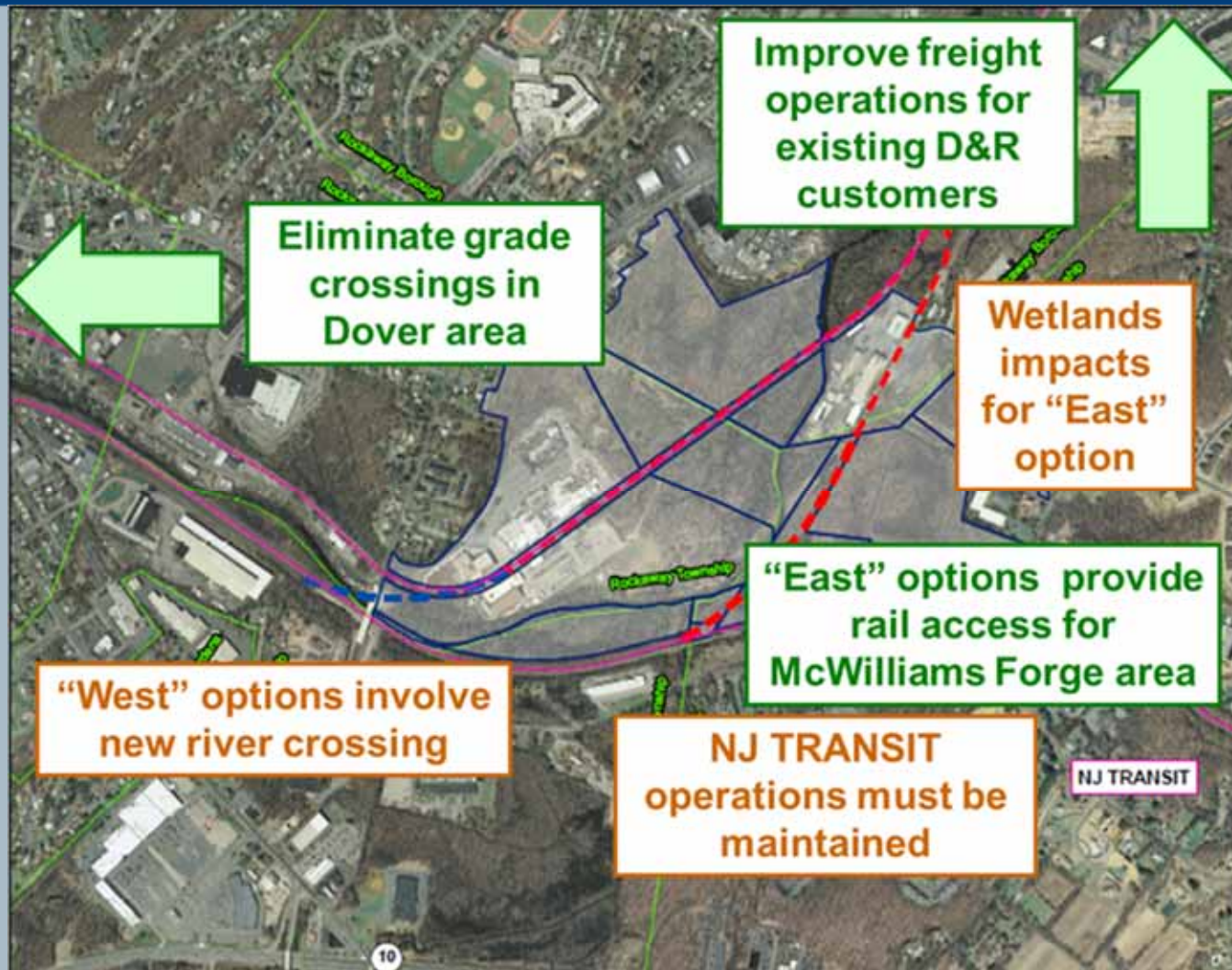


Potential Categories of Options



- **RE-ALIGN** further north and utilize old Delaware, Lackawanna, & Western (DL&W) ROW for connection to Morristown Line
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Thank You / Questions?

Defining the Vision. Shaping the Future.



NJTPA

**NORTH JERSEY
TRANSPORTATION
PLANNING AUTHORITY**

Jakub Rowinski
jrowinski@njtpa.org
(973) 639-8443



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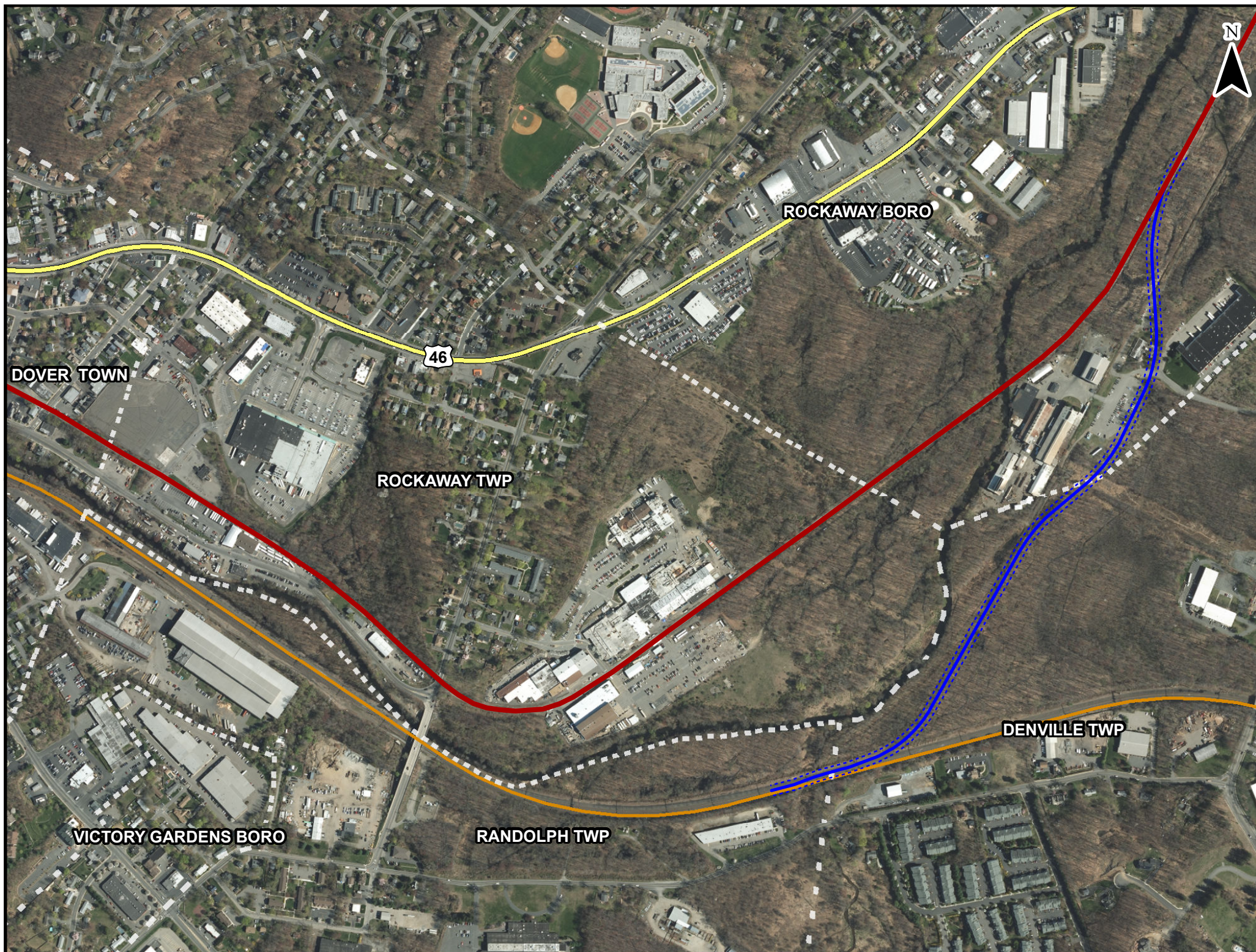
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DOVER TOWN

46

ROCKAWAY BORO

ROCKAWAY TWP

VICTORY GARDENS BORO

RANDOLPH TWP

DENVILLE TWP

**Board of Chosen Freeholders
Morris County, New Jersey**

RES-2020-671

Adopted: September 23, 2020

WHEREAS, the North Jersey Transportation Planning Authority (NJTPA) has developed the Freight Concept Development Program to identify and study freight needs throughout the northern New Jersey region; and

WHEREAS, the NJTPA, in coordination with Morris County, has identified reducing conflicts between the Dover & Rockaway Railroad (D&R) freight line and vehicular and pedestrian traffic at ungated at-grade rail crossings in downtown Dover as a need to optimize freight movement and improve safety; and

WHEREAS, there are active freight rail customers at the end of the D&R in Rockaway Township that must continue to receive rail service eliminating the option to take the entire D&R out of service to address the study purpose and need; and

WHEREAS, the project area includes Borough of Rockaway, Town of Dover, Township of Denville, Rockaway Township and Township of Randolph; and

WHEREAS, the NJTPA and Morris County met with local officials to discuss the issue, held public meetings, and hosted a website to gain public input from residents and stakeholders; and

WHEREAS, after extensive study and development of multiple realignment alternatives to address the study purpose and need, the alignment that connects to the NJ TRANSIT Morristown Line east of Rockaway Road, using the former rail right of way moving north, and looping east around the edge of the McWilliams Forge property before connecting back to the D&R (referred to as Alternative 4) was identified as the most effective solution and was selected as the Preliminary Preferred Alternative; and

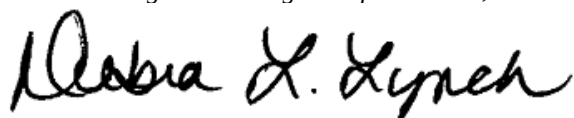
WHEREAS, the study team held individual meetings with local officials from Borough of Rockaway (February 19, 2020), Town of Dover (January 30, 2020), Township of Denville (February 13, 2020), Rockaway Township (January 30, 2020) and Township of Randolph (February 7, 2020) to inform them of the Preliminary Preferred Alternative; and

WHEREAS, the Borough of Rockaway (August 13, 2020), Town of Dover (March 10, 2020), Township of Denville (March 17, 2020), Rockaway Township (May 11, 2020) and Township of Randolph (July 7, 2020) adopted a resolutions of support for the Preliminary Preferred Alternative.

NOW, THEREFORE, BE IT RESOLVED, that Morris County Board of Chosen Freeholders hereby declares and affirms support of their Preliminary Preferred Alternative in the Dover and Rockaway Railroad Realignment Project study, and the pursuit of public funding to complete this project.

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Kathryn A. DeFillippo, Freeholder
SECONDER:	Stephen H. Shaw, Freeholder Deputy Director
AYES:	Smith, Shaw, Cabana, DeFillippo, Krickus, Mastrangelo, Selen

I hereby certify the above to be a true copy of a resolution adopted by the Board of Chosen Freeholders of the County of Morris at a regular meeting on September 23, 2020.



Debra L. Lynch, Clerk of the Board
ID# 7237

RESOLUTION R-20-91

RESOLUTION OF SUPPORT FOR THE NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY FREIGHT CONCEPT DEVELOPMENT STUDY DOVER AND ROCKAWAY RAILROAD REALIGNMENT PROJECT MORRIS COUNTY, NEW JERSEY

WHEREAS, the North Jersey Transportation Planning Authority (NJTPA) has developed the Freight Concept Development Program to identify and study freight needs throughout the northern New Jersey region; and

WHEREAS, the NJTPA, in coordination with Morris County, has identified reducing conflicts between the Dover & Rockaway Railroad (D&R) freight line and vehicular and pedestrian traffic at ungated at-grade rail crossings in downtown Dover as a need to optimize freight movement and improve safety; and

WHEREAS, there are active freight rail customers at the end of the D&R in Rockaway Township that must continue to receive rail service eliminating the option to take the entire D&R out of service to address the study purpose and need; and

WHEREAS, the project area includes Rockaway Township, Town of Dover, Township of Denville, Borough of Rockaway and Township of Randolph; and

WHEREAS, the NJTPA and Morris County met with local officials to discuss the issue, held public meetings, and hosted a website to gain public input from residents and stakeholders; and

WHEREAS, at a meeting held between the NJTPA, Morris County and local officials on January 30, 2020, a document entitled "Dover and Rockaway Rail Realignment Project" study, which is submitted herewith and made a part hereof by reference, was reviewed ; and

WHEREAS, the "Dover and Rockaway Rail Realignment Project" plan aforesaid contained four (4) suggested alternative realignment drawings for consideration; and, also provided an assessment of the impact that each of the four (4) possible realignment alternatives would have on important issues for consideration, including but not limited to the anticipated impact on the environment and public safety; and

WHEREAS, after the extensive study and development of multiple realignment alternatives to address the study purpose and need was reviewed by all concerned, the alignment that connects to the NJ TRANSIT Morristown Line east of Rockaway Road, using the former rail right of way moving north, and looping east around the edge of the McWilliams Forge property before connecting back to the D&R (The 4th listed alternative drawing included in the "Dover Rockaway Rail Realignment Project" plan) was identified as the most effective solution and was selected as the Preliminary Preferred Alternative; and

WHEREAS, the participating members of the administration recommend that the council support the acceptance of Realignment Alternative #4 set forth in the "Dover and Rockaway Rail Realignment Project" study drawings,

NOW, THEREFORE, BE IT RESOLVED, that Rockaway Township formally supports the Preliminary Preferred Alternative #4 set forth in the Dover and Rockaway Railroad Realignment Project study, and the pursuit of public funding to complete this project.

CERTIFICATION

I, Christina Clipperton, Township Clerk of the Township of Rockaway hereby certify the foregoing to be a true copy of a Resolution adopted by the Township Council of the Township of Rockaway at a duly convened meeting held on May 11, 2020.


Christina Clipperton, Township Clerk

**RESOLUTION OF SUPPORT FOR THE NORTH JERSEY TRANSPORTATION
PLANNING AUTHORITY FREIGHT CONCEPT DEVELOPMENT STUDY
DOVER AND ROCKAWAY RAILROAD REALIGNMENT PROJECT, MORRIS
COUNTY**

WHEREAS, the North Jersey Transportation Planning Authority (NJTPA) has developed the Freight Concept Development Program to identify and study freight needs throughout the northern New Jersey region; and

WHEREAS, the NJTPA, in coordination with Morris County, has identified reducing conflicts between the Dover & Rockaway Railroad (D&R) freight line and vehicular and pedestrian traffic at ungated at-grade rail crossings in downtown Dover as a need to optimize freight movement and improve safety; and

WHEREAS, there are active freight rail customers at the end of the D&R in Rockaway Township that must continue to receive rail service eliminating the option to take the entire D&R out of service to address the study purpose and need; and

WHEREAS, the project area includes Township of Denville, Town of Dover, Borough of Rockaway, Rockaway Township and Township of Randolph; and

WHEREAS, the NJTPA and Morris County met with local officials to discuss the issue, held public meetings, and hosted a website to gain public input from residents and stakeholders; and

WHEREAS, after extensive study and development of multiple realignment alternatives to address the study purpose and need, the alignment that connects to the NJ TRANSIT Morristown Line east of Rockaway Road, using the former rail right of way moving north, and looping east around the edge of the McWilliams Forge property before connecting back to the D&R (referred to as Alternative 4) was identified as the most effective solution and was selected as the Preliminary Preferred Alternative; and

WHEREAS, the study team informed Township of Denville local officials of the Preliminary Preferred Alternative on Thursday, February 13, 2020;

NOW, THEREFORE, BE IT RESOLVED, that the Township of Denville formally supports the Preliminary Preferred Alternative in the Dover and Rockaway Railroad Realignment Project study, and the pursuit of public funding to complete this project.

BY ORDER OF THE MUNICIPAL COUNCIL
OF THE TOWNSHIP OF DENVILLE

I, Tara M. Pettoni, Municipal Clerk for the Township of Denville do hereby certify the above to be a true and exact copy of the resolution adopted by the Municipal Council of the Township of Denville at their regular Council meeting held on March 17, 2020.

3/18/2020
Certification Date:

Tara M. Pettoni
Tara M. Pettoni, RMC
Municipal Clerk



TOWN OF DOVER MAYOR & BOARD OF ALDERMEN

RESOLUTION NO. 108-2020

**RESOLUTION OF SUPPORT FOR
THE NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY
FREIGHT CONCEPT DEVELOPMENT STUDY
DOVER AND ROCKAWAY RAILROAD REALIGNMENT PROJECT
MORRIS COUNTY, NEW JERSEY**

WHEREAS, the North Jersey Transportation Planning Authority (NJTPA) has developed the Freight Concept Development Program to identify and study freight needs throughout the northern New Jersey region; and

WHEREAS, the NJTPA, in coordination with Morris County, has identified reducing conflicts between the Dover & Rockaway Railroad (D&R) freight line and vehicular and pedestrian traffic at ungated at-grade rail crossings in downtown Dover as a need to optimize freight movement and improve safety; and

WHEREAS, there are active freight rail customers at the end of the D&R in Rockaway Township that must continue to receive rail service eliminating the option to take the entire D&R out of service to address the study purpose and need; and

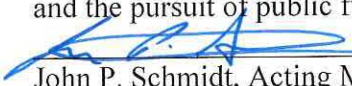
WHEREAS, the project area includes Town of Dover, Township of Denville, Borough of Rockaway, Rockaway Township and Township of Randolph; and

WHEREAS, the NJTPA and Morris County met with local officials to discuss the issue, held public meetings, and hosted a website to gain public input from residents and stakeholders; and

WHEREAS, after extensive study and development of multiple realignment alternatives to address the study purpose and need, the alignment that connects to the NJ TRANSIT Morristown Line east of Rockaway Road, using the former rail right of way moving north, and looping east around the edge of the McWilliams Forge property before connecting back to the D&R (referred to as Alternative 4) was identified as the most effective solution and was selected as the Preliminary Preferred Alternative; and

WHEREAS, the study team informed Town of Dover local officials of the Preliminary Preferred Alternative on Thursday, January 30, 2020;

NOW, THEREFORE, BE IT RESOLVED, that the Town of Dover formally supports the Preliminary Preferred Alternative in the Dover and Rockaway Railroad Realignment Project study, and the pursuit of public funding to complete this project.


John P. Schmidt, Acting Municipal Clerk


Carolyn Blackman, Mayor

ADOPTED: 3-10-20

RESOLUTION NO. 190-20

**RESOLUTION OF SUPPORT FOR
THE NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY
FREIGHT CONCEPT DEVELOPMENT STUDY
DOVER AND ROCKAWAY RAILROAD REALIGNMENT PROJECT
MORRIS COUNTY, NEW JERSEY**

WHEREAS, the North Jersey Transportation Planning Authority (NJTPA) has developed the Freight Concept Development Program to identify and study freight needs throughout the northern New Jersey region; and

WHEREAS, the NJTPA, in coordination with Morris County, has identified reducing conflicts between the Dover & Rockaway Railroad (D&R) freight line and vehicular and pedestrian traffic at ungated at-grade rail crossings in downtown Dover as a need to optimize freight movement and improve safety; and

WHEREAS, there are active freight rail customers at the end of the D&R in Rockaway Township that must continue to receive rail service eliminating the option to take the entire D&R out of service to address the study purpose and need; and

WHEREAS, the project area includes Township of Randolph, Town of Dover, Township of Denville, Borough of Rockaway and Rockaway Township; and

WHEREAS, the NJTPA and Morris County met with local officials to discuss the issue, held public meetings, and hosted a website to gain public input from residents and stakeholders; and

WHEREAS, after extensive study and development of multiple realignment alternatives to address the study purpose and need, the alignment that connects to the NJ TRANSIT Morristown Line east of Rockaway Road, using the former rail right of way moving north, and looping east around the edge of the McWilliams Forge property before connecting back to the D&R (referred to as Alternative 4) was identified as the most effective solution and was selected as the Preliminary Preferred Alternative; and

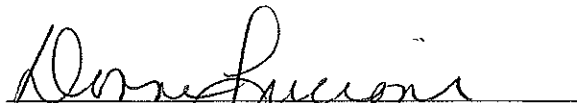
WHEREAS, the study team informed Township of Randolph local officials of the Preliminary Preferred Alternative on Friday, February 7, 2020;

NOW, THEREFORE, BE IT RESOLVED, that the Township of Randolph formally supports the Preliminary Preferred Alternative in the Dover and Rockaway Railroad Realignment Project study, and the pursuit of public funding to complete this project.

CERTIFICATION

I, Donna Luciani, Municipal Clerk of the Township of Randolph in the County of Morris in the State of New Jersey, do hereby certify that the foregoing is a correct and true copy of a resolution adopted by the Randolph Township Council at a meeting held on July 7, 2020.

Date: July 7, 2020


Donna Luciani, Municipal Clerk

**RESOLUTION 120-20: REQUEST APPROVAL FOR SUPPORT OF THE NORTH JERSEY
TRANSPORTATION PLANNING AUTHORITY FREIGHT CONCEPT DEVELOPMENT STUDY DOVER
AND ROCKAWAY RAILROAD REALIGNMENT PROJECT MORRIS COUNTY, NEW JERSEY**

WHEREAS, the North Jersey Transportation Planning Authority (NJTPA) has developed the Freight Concept Development Program to identify and study freight needs throughout the northern New Jersey region; and

WHEREAS, the NJTPA, in coordination with Morris County, has identified reducing conflicts between the Dover & Rockaway Railroad (D&R) freight line and vehicular and pedestrian traffic at ungated at-grade rail crossings in downtown Dover as a need to optimize freight movement and improve safety; and

WHEREAS, there are active freight rail customers at the end of the D&R in Rockaway Township that must continue to receive rail service eliminating the option to take the entire D&R out of service to address the study purpose and need; and

WHEREAS, the project area includes Borough of Rockaway, Town of Dover, Township of Denville, Rockaway Township and Township of Randolph; and

WHEREAS, the NJTPA and Morris County met with local officials to discuss the issue, held public meetings, and hosted a website to gain public input from residents and stakeholders; and

WHEREAS, after extensive study and development of multiple realignment alternatives to address the study purpose and need, the alignment that connects to the NJ TRANSIT Morristown Line east of Rockaway Road, using the former rail right of way moving north, and looping east around the edge of the McWilliams Forge property before connecting back to the D&R (referred to as Alternative 4) was identified as the most effective solution and was selected as the Preliminary Preferred Alternative; and

WHEREAS, the study team informed Borough of Rockaway local officials of the Preliminary Preferred Alternative on Wednesday, February 19, 2020;

NOW, THEREFORE, BE IT RESOLVED, that the Borough of Rockaway formally supports the Preliminary Preferred Alternative in the Dover and Rockaway Railroad Realignment Project study, and the pursuit of public funding to complete this project.

DATE: August 13, 2020

BOROUGH OF ROCKAWAY

ATTEST: Kimberly Cuspilich, Acting Borough Clerk

BY: Thomas Mulligan, Mayor

CERTIFICATION

I, KIMBERLY CUSPILICH, Borough Clerk of the Borough of Rockaway, in the County of Morris, do hereby certify that the foregoing is a true and correct copy of a resolution duly adopted by the Mayor and Council at a meeting held on August 13, 2020.


Kimberly Cuspilich
Acting Borough Clerk

RESOLUTION R-20-91

RESOLUTION OF SUPPORT FOR THE NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY FREIGHT CONCEPT DEVELOPMENT STUDY DOVER AND ROCKAWAY RAILROAD REALIGNMENT PROJECT MORRIS COUNTY, NEW JERSEY

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WHEREAS, the NJTPA and Morris County met with local officials to discuss the issue, held public meetings, and hosted a website to gain public input from residents and stakeholders; and

WHEREAS, at a meeting held between the NJTPA, Morris County and local officials on January 30, 2020, a document entitled "Dover and Rockaway Rail Realignment Project" study, which is submitted herewith and made a part hereof by reference, was reviewed ; and

WHEREAS, the "Dover and Rockaway Rail Realignment Project" plan aforesaid contained four (4) suggested alternative realignment drawings for consideration; and, also provided an assessment of the impact that each of the four (4) possible realignment alternatives would have on important issues for consideration, including but not limited to the anticipated impact on the environment and public safety; and

WHEREAS, after the extensive study and development of multiple realignment alternatives to address the study purpose and need was reviewed by all concerned, the alignment that connects to the NJ TRANSIT Morristown Line east of Rockaway Road, using the former rail right of way moving north, and looping east around the edge of the McWilliams Forge property before connecting back to the D&R (The 4th listed alternative drawing included in the "Dover Rockaway Rail Realignment Project" plan) was identified as the most effective solution and was selected as the Preliminary Preferred Alternative; and

WHEREAS, the participating members of the administration recommend that the council support the acceptance of Realignment Alternative #4 set forth in the "Dover and Rockaway Rail Realignment Project" study drawings,

NOW, THEREFORE, BE IT RESOLVED, that Rockaway Township formally supports the Preliminary Preferred Alternative #4 set forth in the Dover and Rockaway Railroad Realignment Project study, and the pursuit of public funding to complete this project.

CERTIFICATION

I, Christina Clipperton, Township Clerk of the Township of Rockaway hereby certify the foregoing to be a true copy of a Resolution adopted by the Township Council of the Township of Rockaway at a duly convened meeting held on May 11, 2020.


Christina Clipperton, Township Clerk

**RESOLUTION 120-20: REQUEST APPROVAL FOR SUPPORT OF THE NORTH JERSEY
TRANSPORTATION PLANNING AUTHORITY FREIGHT CONCEPT DEVELOPMENT STUDY DOVER
AND ROCKAWAY RAILROAD REALIGNMENT PROJECT MORRIS COUNTY, NEW JERSEY**

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WHEREAS, after extensive study and development of multiple realignment alternatives to address the study purpose and need, the alignment that connects to the NJ TRANSIT Morristown Line east of Rockaway Road, using the former rail right of way moving north, and looping east around the edge of the McWilliams Forge property before connecting back to the D&R (referred to as Alternative 4) was identified as the most effective solution and was selected as the Preliminary Preferred Alternative; and

WHEREAS, the study team informed Borough of Rockaway local officials of the Preliminary Preferred Alternative on Wednesday, February 19, 2020;

NOW, THEREFORE, BE IT RESOLVED, that the Borough of Rockaway formally supports the Preliminary Preferred Alternative in the Dover and Rockaway Railroad Realignment Project study, and the pursuit of public funding to complete this project.

DATE: August 13, 2020

BOROUGH OF ROCKAWAY

ATTEST: Kimberly Cuspilich, Acting Borough Clerk

BY: Thomas Mulligan, Mayor

CERTIFICATION

I, KIMBERLY CUSPILICH, Borough Clerk of the Borough of Rockaway, in the County of Morris, do hereby certify that the foregoing is a true and correct copy of a resolution duly adopted by the Mayor and Council at a meeting held on August 13, 2020.


Kimberly Cuspilich
Acting Borough Clerk

RESOLUTION NO. 190-20

**RESOLUTION OF SUPPORT FOR
THE NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY
FREIGHT CONCEPT DEVELOPMENT STUDY
DOVER AND ROCKAWAY RAILROAD REALIGNMENT PROJECT
MORRIS COUNTY, NEW JERSEY**

WHEREAS, the North Jersey Transportation Planning Authority (NJTPA) has developed the Freight Concept Development Program to identify and study freight needs throughout the northern New Jersey region; and

WHEREAS, the NJTPA, in coordination with Morris County, has identified reducing conflicts between the Dover & Rockaway Railroad (D&R) freight line and vehicular and pedestrian traffic at ungated at-grade rail crossings in downtown Dover as a need to optimize freight movement and improve safety; and

WHEREAS, there are active freight rail customers at the end of the D&R in Rockaway Township that must continue to receive rail service eliminating the option to take the entire D&R out of service to address the study purpose and need; and

WHEREAS, the project area includes Township of Randolph, Town of Dover, Township of Denville, Borough of Rockaway and Rockaway Township; and

WHEREAS, the NJTPA and Morris County met with local officials to discuss the issue, held public meetings, and hosted a website to gain public input from residents and stakeholders; and

WHEREAS, after extensive study and development of multiple realignment alternatives to address the study purpose and need, the alignment that connects to the NJ TRANSIT Morristown Line east of Rockaway Road, using the former rail right of way moving north, and looping east around the edge of the McWilliams Forge property before connecting back to the D&R (referred to as Alternative 4) was identified as the most effective solution and was selected as the Preliminary Preferred Alternative; and

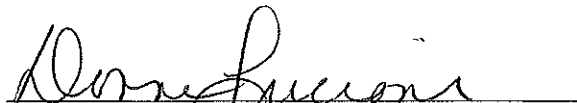
WHEREAS, the study team informed Township of Randolph local officials of the Preliminary Preferred Alternative on Friday, February 7, 2020;

NOW, THEREFORE, BE IT RESOLVED, that the Township of Randolph formally supports the Preliminary Preferred Alternative in the Dover and Rockaway Railroad Realignment Project study, and the pursuit of public funding to complete this project.

CERTIFICATION

I, Donna Luciani, Municipal Clerk of the Township of Randolph in the County of Morris in the State of New Jersey, do hereby certify that the foregoing is a correct and true copy of a resolution adopted by the Randolph Township Council at a meeting held on July 7, 2020.

Date: July 7, 2020


Donna Luciani, Municipal Clerk

**RESOLUTION OF SUPPORT FOR THE NORTH JERSEY TRANSPORTATION
PLANNING AUTHORITY FREIGHT CONCEPT DEVELOPMENT STUDY
DOVER AND ROCKAWAY RAILROAD REALIGNMENT PROJECT, MORRIS
COUNTY**

WHEREAS, the North Jersey Transportation Planning Authority (NJTPA) has developed the Freight Concept Development Program to identify and study freight needs throughout the northern New Jersey region; and

WHEREAS, the NJTPA, in coordination with Morris County, has identified reducing conflicts between the Dover & Rockaway Railroad (D&R) freight line and vehicular and pedestrian traffic at ungated at-grade rail crossings in downtown Dover as a need to optimize freight movement and improve safety; and

WHEREAS, there are active freight rail customers at the end of the D&R in Rockaway Township that must continue to receive rail service eliminating the option to take the entire D&R out of service to address the study purpose and need; and

WHEREAS, the project area includes Township of Denville, Town of Dover, Borough of Rockaway, Rockaway Township and Township of Randolph; and

WHEREAS, the NJTPA and Morris County met with local officials to discuss the issue, held public meetings, and hosted a website to gain public input from residents and stakeholders; and

WHEREAS, after extensive study and development of multiple realignment alternatives to address the study purpose and need, the alignment that connects to the NJ TRANSIT Morristown Line east of Rockaway Road, using the former rail right of way moving north, and looping east around the edge of the McWilliams Forge property before connecting back to the D&R (referred to as Alternative 4) was identified as the most effective solution and was selected as the Preliminary Preferred Alternative; and

WHEREAS, the study team informed Township of Denville local officials of the Preliminary Preferred Alternative on Thursday, February 13, 2020;

NOW, THEREFORE, BE IT RESOLVED, that the Township of Denville formally supports the Preliminary Preferred Alternative in the Dover and Rockaway Railroad Realignment Project study, and the pursuit of public funding to complete this project.

BY ORDER OF THE MUNICIPAL COUNCIL
OF THE TOWNSHIP OF DENVILLE

I, Tara M. Pettoni, Municipal Clerk for the Township of Denville do hereby certify the above to be a true and exact copy of the resolution adopted by the Municipal Council of the Township of Denville at their regular Council meeting held on March 17, 2020.

3/18/2020
Certification Date:

Tara M. Pettoni
Tara M. Pettoni, RMC
Municipal Clerk

Appendix F

Public Information Centers



Come Learn about the Dover & Rockaway Railroad Project

Join us on

Tuesday, October 16th

Come at any time 4:00 - 8:00pm

(Brief presentations at 4:30 & 6:30)

Salvation Army Community Center

76 N. Bergen St., Dover, NJ



This public meeting is being held to share information and gather input for a study that aims to identify ways to eliminate several at-grade crossings on the Dover & Rockaway freight rail line in the Town of Dover. This study is being conducted by the North Jersey Transportation Planning Authority (NJTPA) in partnership with Morris County.

Visit www.DoverRailStudy.org for more information

Ven aprender sobre el Proyecto del Ferrocarril de Dover y Rockaway

Únete a nosotros

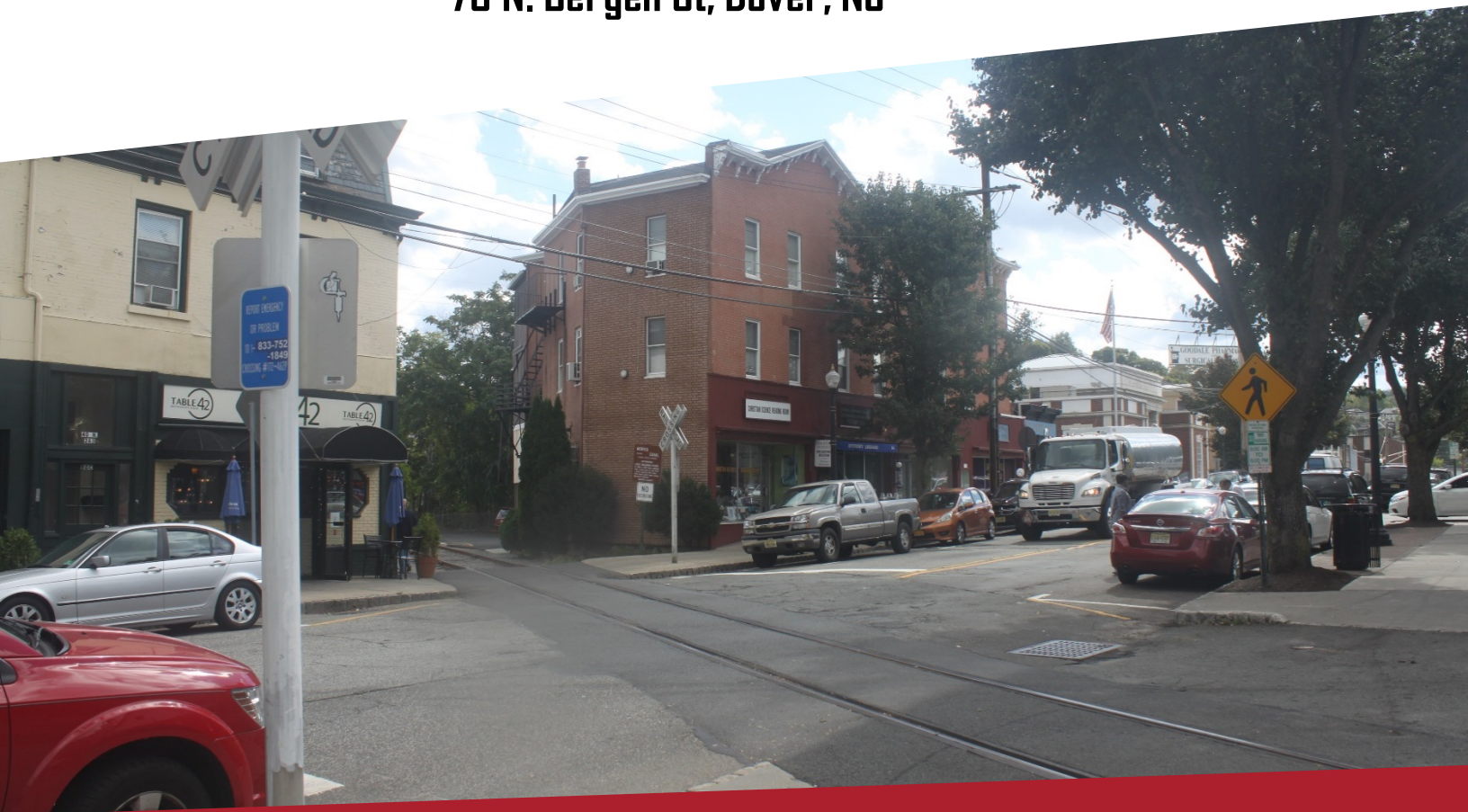
Martes, Diez y seis de Octubre

Ven cuando quiera 4:00 - 8:00pm

(Presentación breve en 4:30 y 6:30)

Salvación del Ejército (Salvation Army)

76 N. Bergen St, Dover, NJ



Esta reunión se llevará a cabo para compartir información y recibir comentarios para un estudio de desarrollo de conceptos para posiblemente realinear el Ferrocarril de Dover y Rockaway para eliminar varios cruces ferroviarios a través del pueblo de Dover. Este estudio está siendo realizado por la NJTPA en asociación con el Condado de Morris.

Visita www.DoverRailStudy.org para mas informacion

NJTPA Pilot Freight Concept Development Program

Dover & Rockaway Rail Realignment Project



Draft Project Purpose and Need

The purpose of this project is to optimize freight movement and improve safety by reducing conflicts between the Dover & Rockaway Railroad (D&R) freight line and vehicular and pedestrian traffic especially in downtown Dover.

The Project

Develop and assess potential alternatives to relocate the existing junction between the D&R and the NJ TRANSIT Morristown Line to east of Dover. Moving the connection would eliminate the un-gated street crossings in downtown Dover, improving the efficiency and safety of freight rail transport on the D&R.

Background

The D&R is an approximately six-mile-long rail line that runs at grade level through the older neighborhood of mixed residential, commercial and industrial in downtown Dover. The D&R currently connects to the NJ TRANSIT Morristown Line at the D&R Junction west of Dover. The project area is primarily located in the Town of Dover and Rockaway Borough, but includes small areas of Denville Township, Mine Hill Township, Randolph Township, Rockaway Township, Victory Gardens Borough, and Wharton Borough in Morris County.

The D&R has 13 at-grade road crossings in Dover and 5 in Rockaway Township. None of these crossings are controlled by gates, and many are located in close proximity to each other. As a result, trains move very slowly through this area of the D&R so as to avoid vehicular and pedestrian conflicts. This circumstance is highly inefficient and still presents safety risks to drivers and pedestrians traversing the downtown.

Further Information

Jakub Rowinski, Project Manager, NJTPA

Email: jrowinski@njtpa.org

www.doverrailstudy.org

Follow @doverrailstudy on Twitter

Schedule

- This three-year effort began in December 2016
- Final Purpose & Need Statement, November 2018
- Selection of Preliminary Preferred Alternative, June 2019
- Concept Development Report Complete, December 2019



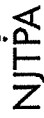
Freight Concept Development Study for the Dover & Rockaway Realignment Project
Public Information Center – October 16, 2018



Sign-in Sheet

If you are representing an organization, please let us know. Otherwise, just let us know what town you live in.
Enter your email if you would like to keep up to date with the Study's progress.

Name	Organization or Town	Email Address
Robert Belz	Denville	cibenz727@gmail.com
Zelma Caruso	fec	ZelmaCaruso@gmail.net
FRANK JECKELL	Rockaway	FRANK.JECKELL@GMAIL.COM
Helen Toner	Frost News	htoner@frostnews.com
MICHAEL HANUSON	Dover	MHANUSON@DOVER.NJ.US
Ben Peacock	Morris	bpeacock@morris.nj.us
John Murphy	Denville	Musto@optonline.net
Jim Hunt	Morris Plains	freeshedline@gmail.com
Joseph Russo	Morris County	jrusso@co.morris.nj.us
Robert Sperry	Dover	Ficechiet@dover.nj.us
Alan Clark	Dover	45 Bassett HWY
LES KELEM	Rockaway	LKELEM@AOL.COM
HARRIET KELEM	↓	



Sign-in Sheet

If you are representing an organization, please let us know. Otherwise, just let us know what town you live in.

Enter your email if you would like to keep up to date with the Study's progress.

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NJTPA Pilot Freight CD Study
Public Information Center – Comments and Feedback received
Dover PIC No. 1 – October 16, 2018

No.	Commenter	Received	Via	Comment
1	Linda Kilcrease 31 King Street Dover, NJ 07801 973-607-1843	9/28/2018	e-mail	1. This is a comment for the public hearing on the Dover & Rockaway Railroad. It is essential to eliminate this track with multiple at-grade and gateless crossings. This old track runs through the town of Dover at multiple roads with high car and high pedestrian traffic. The NJ Transit tracks are already in use and can be expanded for use to by-pass the congested town. This would ensure safety and convenience for Dover and also continue transportation for small businesses that need this service. I have experience with such at-grade tracks in Florida. As a then-resident, I joined protests when the powerful Canaveral Port Authority planned for an at-grade crossing on the congested Route 1-A in a residential area. The state transportation department agreed with us. Prior to this, Florida had a process in place to remove such dangerous crossings and were not going to add another one. There is plenty on the internet. Here is Florida's Action Plan, August 2011. http://www.fdot.gov/rail/FCSAP0811.pdf EXCERPT: Page 19, V. Action Plan Strategies, A. Grade Crossing Closures / Consolidations includes this: The first alternative that should always be considered ... is elimination ... The risk of collision is reduced ... Since 2002, the Department has fostered the closure of 85 public at-grade crossings and significantly decreased the percentage of remaining crossings that are equipped with passive warning devices.
2	Seth Taylor Rockaway Twp	10/10/2018	e-mail	1. Put back what used to be the Rockaway Loop turnout off NJ Transit east of Rockaway Rd. Connect through Mc Williams Forge property to existing Hibernia Mine / CNJ line to Green Pond Rd. This idea first surfaced 20 years ago. Makes sense. Make line through Dover hiking / bike trail. Maybe leave

Dover & Rockaway Rail Realignment Project

Public Information Center



Jakub Rowinski, NJTPA Project Manager

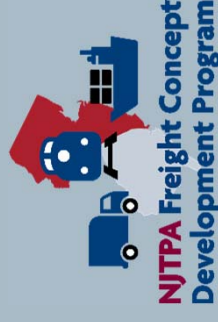
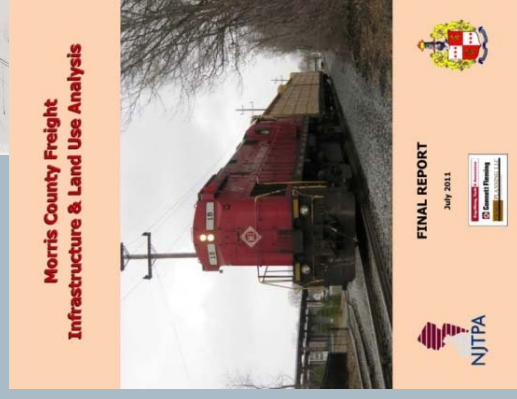
Scott Parker, Jacobs Engineering Project Manager



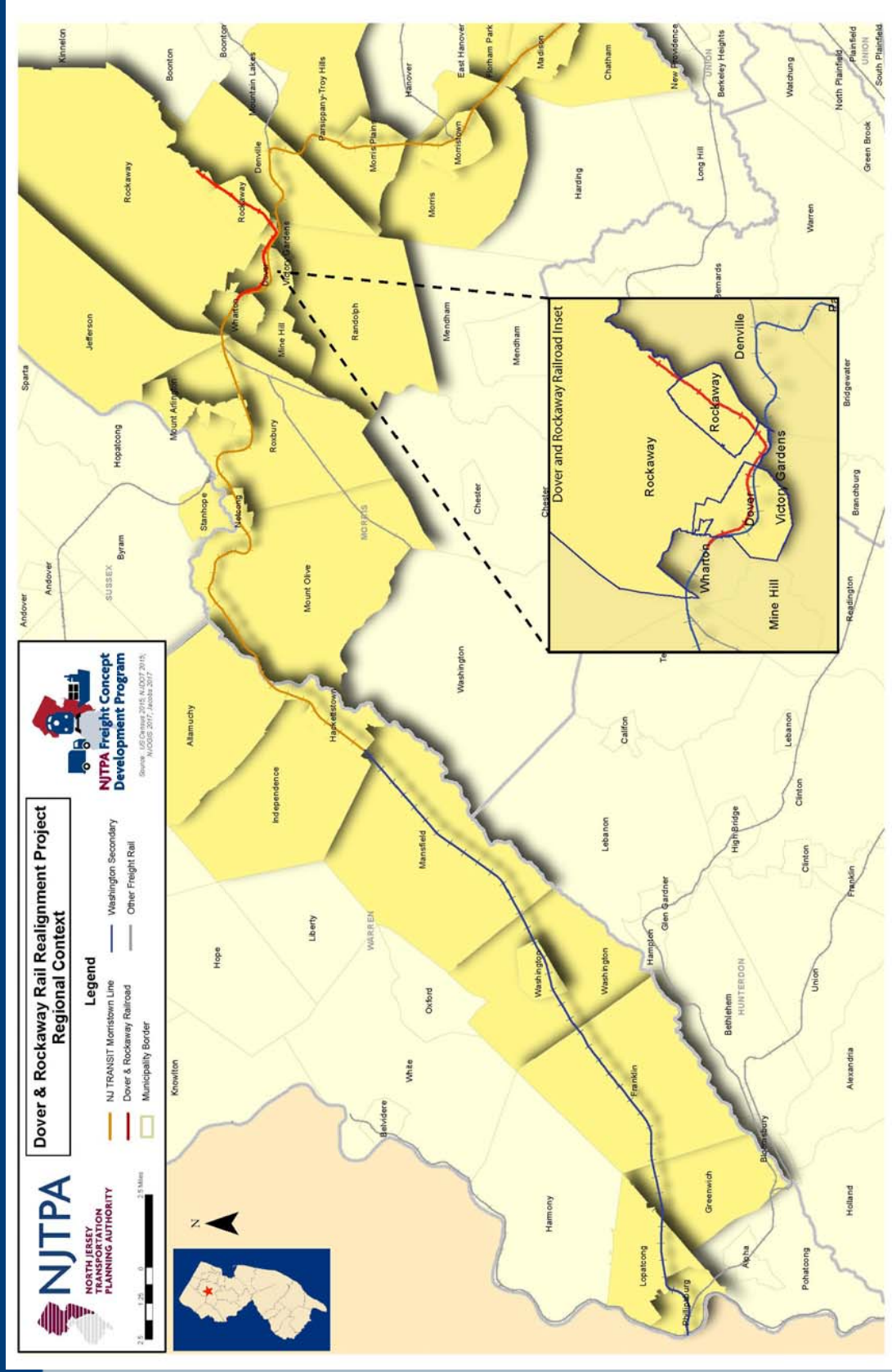
Project Background

Need Identified in:

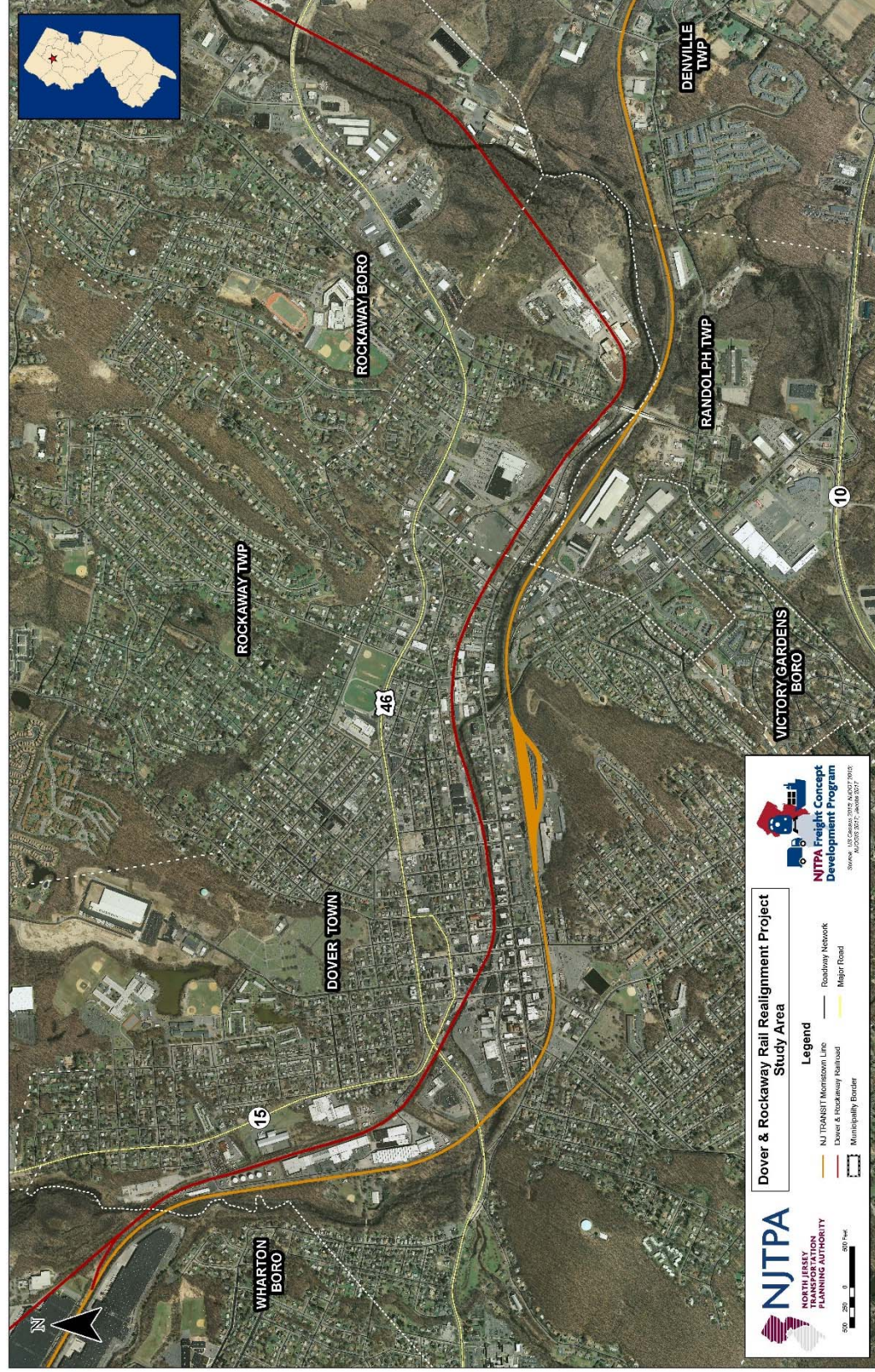
- Morris County Freight Infrastructure and Land Use Study (2011)
- Town of Dover Master Plan (2007)
- Town of Dover Transit Oriented Development Plan (2006)



Regional Context



Dover & Rockaway Railroad Realignment



Dover & Rockaway Railroad Realignment

Existing Conditions:

- 13 at-grade road crossings in Dover and 5 in Rockaway Township
- Trains move very slowly to avoid vehicular and pedestrian conflicts
- Highly inefficient and presents safety risks to drivers and pedestrians
- Noise and air quality impacts



Dover & Rockaway Railroad Realignment



Dover & Rockaway Railroad Realignment



Draft Project Purpose and Need Statement

*Optimize Freight Movement and
Improve Safety by Reducing Conflicts
Between the Dover & Rockaway
Railroad (“D&R”) Freight Line and
Vehicular and Pedestrian Traffic
Especially in Downtown Dover.*



1) No-Build

2) Maintain Existing

3) Re-Align

ROCKAWAY BORO

DOVER & ROCKAWAY RR

DOVER TWP

VICTORY GARDENS BORO

RANDOLPH TWP

DENVILLE TWP

NJ TRANSIT

10

Legend

NJTPA
NORTH JERSEY
TRANSPORTATION
PLANNING AUTHORITY

Concept Categories for Investigation

- Maintain Alignment with New User Capacity & Connection
- New Alignment Maintaining Existing River Crossing
- NJ TRANSIT Mountain Line
- Dover & Rockaway Railroad
- Municipality Border
- Roadway Network
- Major Road

Scale: 0 250 500 Feet

Source: NJTPA 2017, Google 2017, Aerial 2017

- 1.NO-BUILD** and continue existing operations as is
- 2.MAINTAIN EXISTING ALIGNMENT** and create new D&R connection to the Morristown Line
- 3.RE-ALIGN** further north and use old Delaware, Lackawanna, & Western right-of-way to connect to Morristown Line

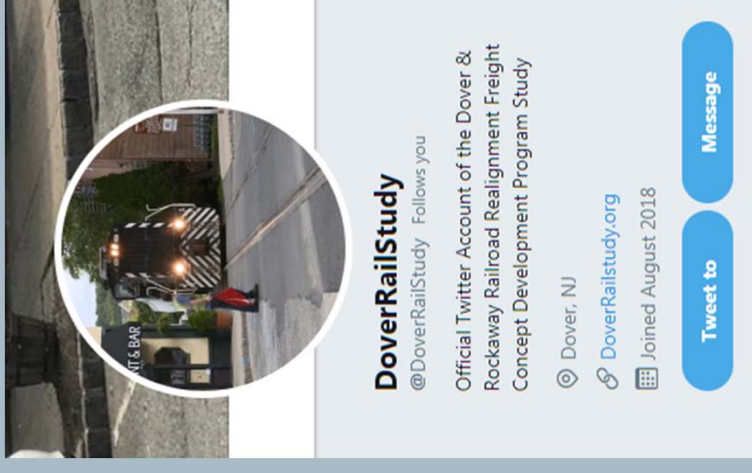
Get Involved

Stakeholder involvement is critical

- Help develop a comprehensive Purpose and Need Statement
- Consider local issues in the development and screening of improvement concepts
- Identify the preferred alternative

Stay Informed

- Future public meetings
- Website: www.doverrailstudy.org
- Twitter: [@doverrailstudy](https://twitter.com/doverrailstudy)



What's Next

- Finalize Purpose & Need Statement (Nov. 2018)
- Develop and Evaluate Alternatives
- Public Information Center (May 2019)
- Select Preliminary Preferred Alternative (June 2019)
- Complete Concept Development Report (Dec. 2019)

Thank You/Questions?

Jakub Rowinski – NJTPA

jrowinski@njtpa.org

Scott Parker – Jacobs Engineering

scott.parker@jacobs.com

Website – www.doverrailstudy.org

Twitter – @doverrailstudy



Come learn about proposals to realign the Dover & Rockaway Railroad

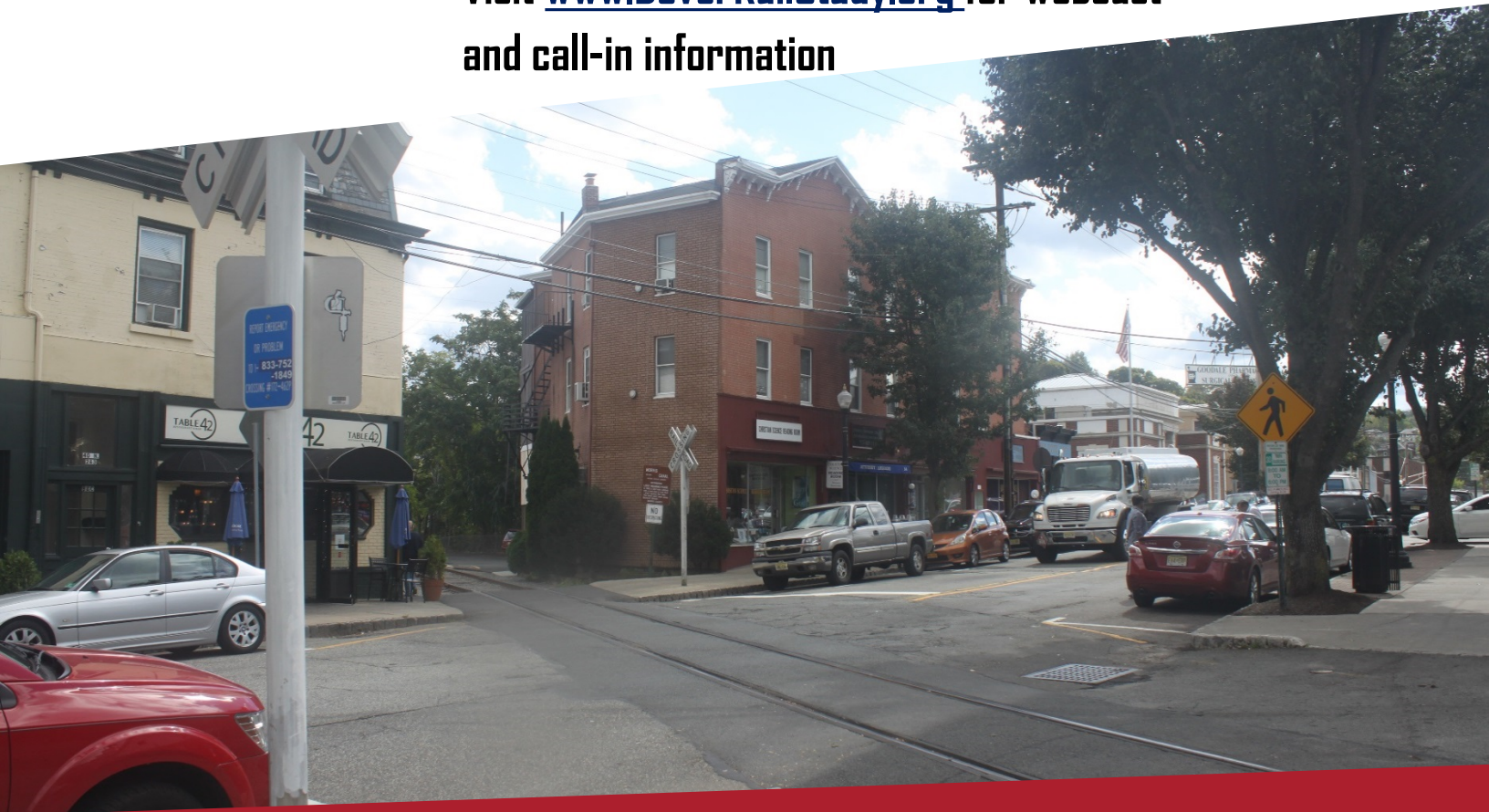
Join us on

Thursday, May 28, 2020



Virtual Meeting: 6:30 - 8:00pm
(Presentation at 6:30pm)

Visit www.DoverRailStudy.org for webcast
and call-in information



This virtual meeting is being held to present the preliminary preferred alternative to eliminate several at-grade crossings on the Dover & Rockaway freight rail line in the Town of Dover, and to receive feedback for the proposed solution. This study is being conducted by the North Jersey Transportation Planning Authority (NJTPA) in partnership with Morris County.

Visit www.DoverRailStudy.org for more information

Ven aprender sobre las propuestas a para realinear el ferrocarril de Dover y Rockaway

Únete a nosotros

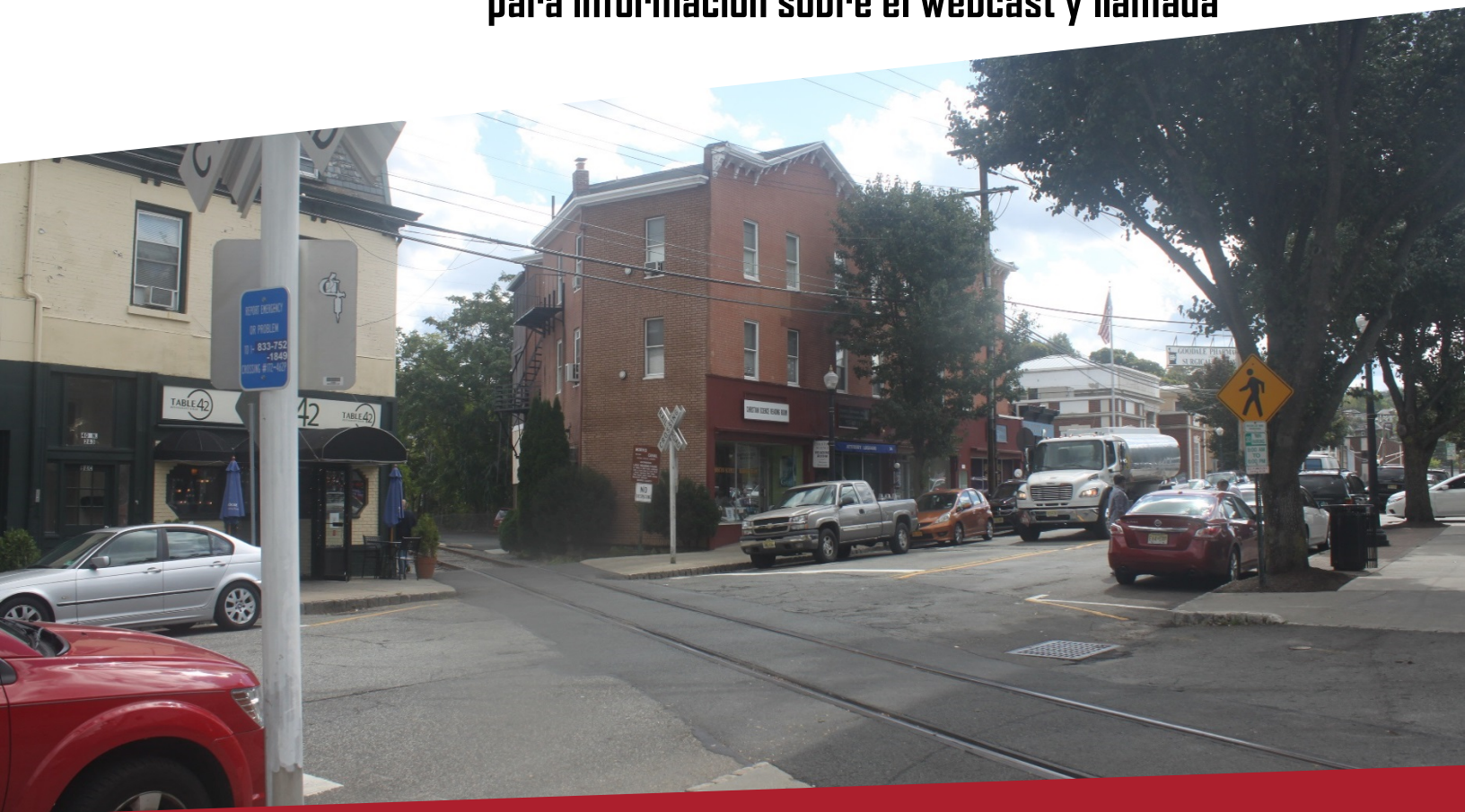
Jueves, Veintiocho de Mayo

Reunión virtual: 6:30 - 8:00pm

(Presentación a 6:30pm)

Visita www.DoverRailStudy.org

para informacion sobre el webcast y llamada

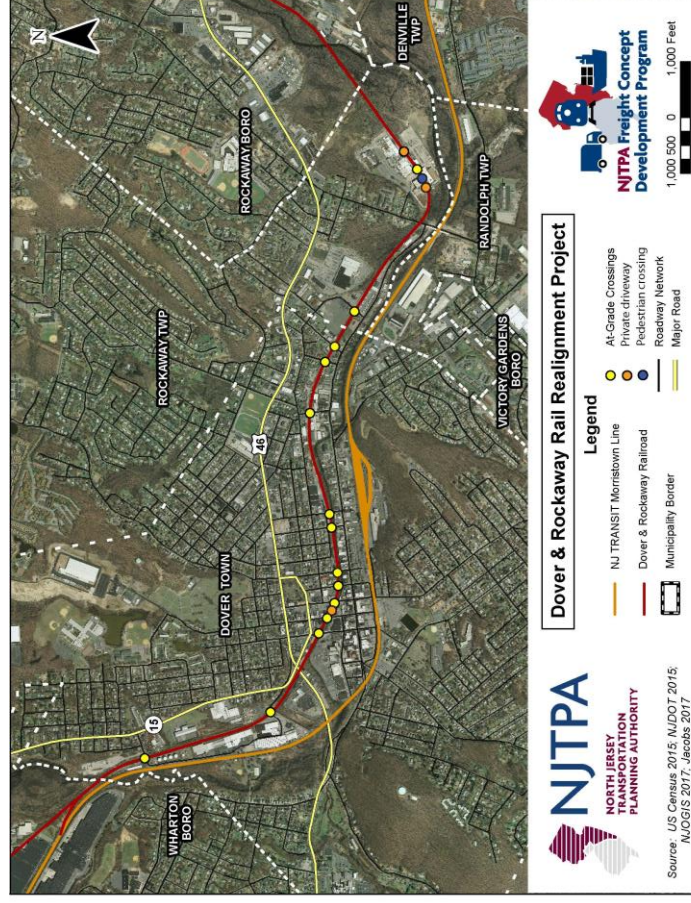


Esta reunión virtual se llevará a presentar la alternativa preferida preliminar a eliminar varios cruces ferroviarios sobre el Ferrocarril de Dover y Rockaway a través del pueblo de Dover, y para recibir comentarios sobre la solución propuesta. Este estudio esta' siendo realizado por la NJTPA en asociación con el Condado de Morris.

Visita www.DoverRailStudy.org para mas informacion

NJTPA Pilot Freight Concept Development Program

Dover & Rockaway Rail Realignment Project



Draft Project Purpose and Need

The purpose of this project is to optimize freight movement and improve safety by reducing conflicts between the Dover & Rockaway Railroad (D&R) freight line and vehicular and pedestrian traffic especially in downtown Dover.

The Project

Develop and assess potential alternatives to relocate the existing junction between the D&R and the NJ TRANSIT Morristown Line to east of Dover. Moving the connection would eliminate the un-gated street crossings in downtown Dover, improving the efficiency and safety of freight rail transport on the D&R.

Background

The D&R is an approximately six-mile-long rail line that runs at grade level through the older neighborhood of mixed residential, commercial and industrial in downtown Dover. The D&R currently connects to the NJ TRANSIT Morristown Line at the D&R Junction west of Dover. The project area is primarily located in the Town of Dover and Rockaway Borough, but includes small areas of Denville Township, Mine Hill Township, Randolph Township, Rockaway Township, Victory Gardens Borough, and Wharton Borough in Morris County.

The D&R has 13 at-grade road crossings in Dover and 5 in Rockaway Township. None of these crossings are controlled by gates, and many are located in close proximity to each other. As a result, trains move very slowly through this area of the D&R so as to avoid vehicular and pedestrian conflicts. This circumstance is highly inefficient and still presents safety risks to drivers and pedestrians traversing the downtown.

Further Information

Jakub Rowinski, Project Manager, NJTPA

Email: jrowinski@njtpa.org

www.doverrailstudy.org

Follow @doverrailstudy on Twitter

Schedule

- This three-year effort began in December 2016
- Final Purpose & Need Statement, November 2018
- Selection of Preliminary Preferred Alternative, June 2019
- Concept Development Report Complete, December 2019

Dover & Rockaway Rail Realignment Project

Public
Information
Center

March 17, 2020



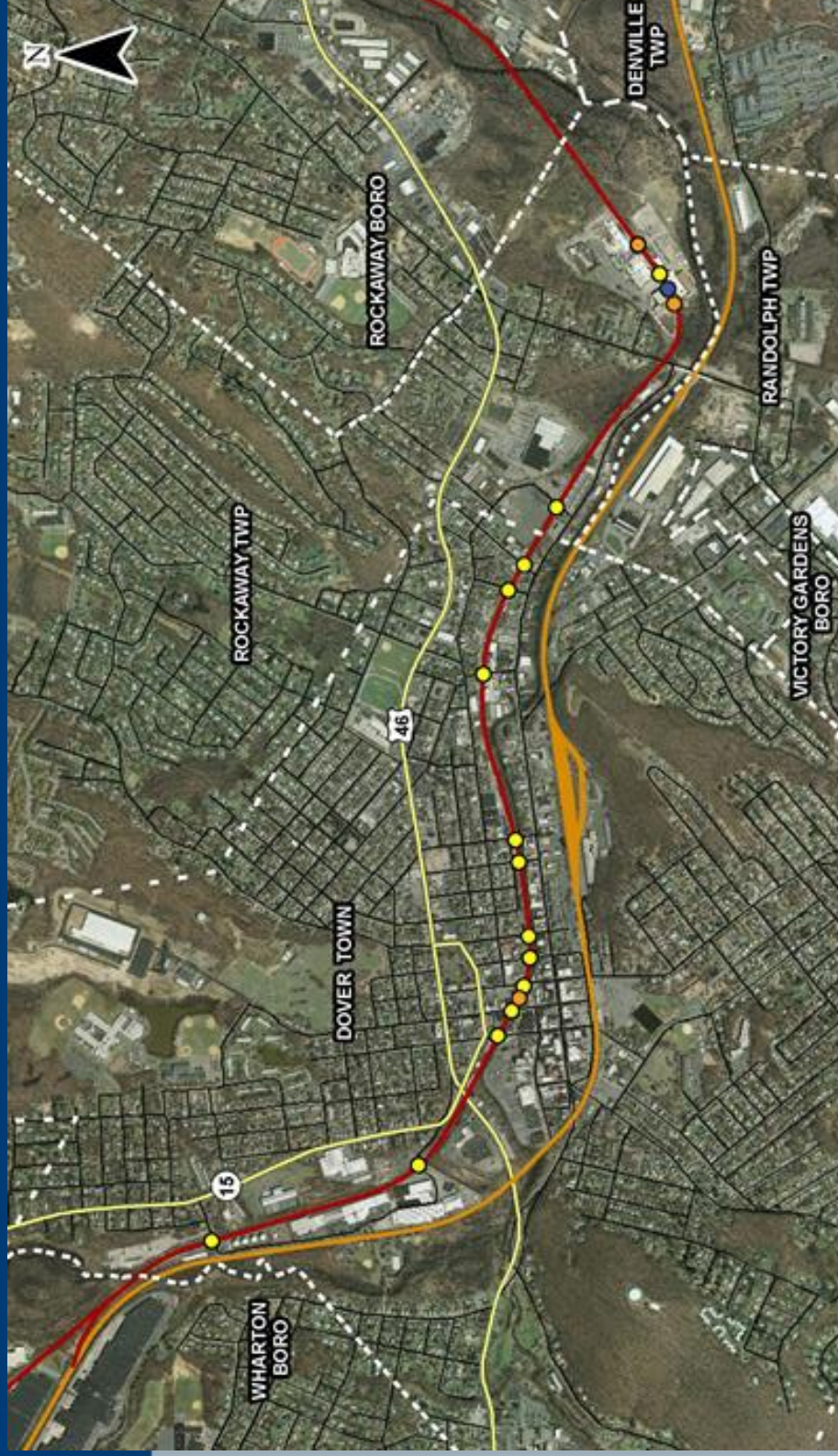
Jakub Rowinski, NJTPA Project Manager
Scott Parker, Jacobs Engineering Project Manager



Meeting Agenda

- Project Overview
- Data Collection
- Stakeholder Engagement
- Alternatives Scoring and Selection of Preliminary Preferred Alternative (PPA)
- Next Steps

Project Overview



Source: US Census 2015; NJDOT 2015;
NJGIS 2017; Jacobs 2017

Dover & Rockaway Rail Realignment Project

Legend

-  NJ TRANSIT Morristown Line
-  Dover & Rockaway Railroad
-  Municipality Border
-  At-Grade Crossings
-  Private driveway
-  Pedestrian crossing
-  Roadway Network
-  Major Road



**NJTPA Freight Concept
Development Program**

1,000 500 0 1,000 Feet



Project Overview

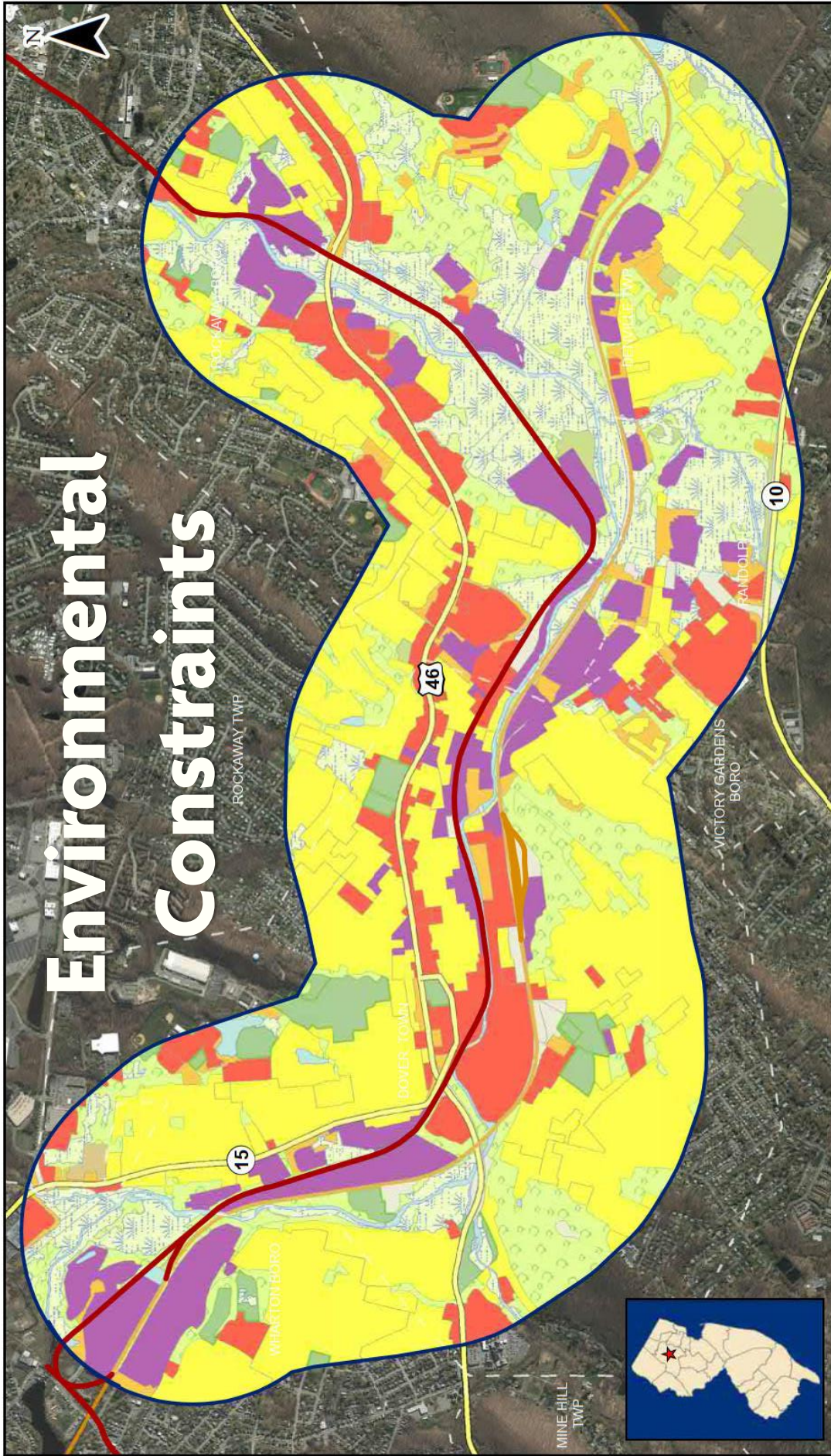
The purpose of this project is to optimize freight movement and improve safety by reducing conflicts between the Dover & Rockaway Railroad (“D&R”) freight line and vehicular and pedestrian traffic especially in downtown Dover.

- 12 un-gated at-grade road and 1 un-gated private driveway crossings in the Town of Dover
- 2 un-gated at-grade road, 2 un-gated private driveway and 1 un-gated pedestrian crossings in the Township of Rockaway
- Pedestrian and roadway safety concerns
- Noise and air quality impacts
- Inefficient rail operations

Key Constraints

- Existing Land Use
- Wetlands
- C-1 Waterways and Stream Corridors
- Flood Hazard Areas
- Threatened and Endangered Species
- Hazardous Materials
- Utilities
- Historic / Cultural Resources

Environmental Constraints



Legend

- Project Area
- Municipality Border
- Major Road
- NJ TRANSIT Morristown Line
- Dover & Rockaway Railroad

Land Use:

- WATER BODIES
- RECREATIONAL & OPEN SPACE
- COMMERCIAL/SERVICES
- CROPLAND AND PASTURELAND
- WOODED LAND
- WETLANDS
- INDUSTRIAL
- MILITARY INSTALLATIONS
- MIXED URBAN OR BUILT-UP LAND
- RESIDENTIAL
- TRANSPORTATION/COMMUNICATION/UTILITIES

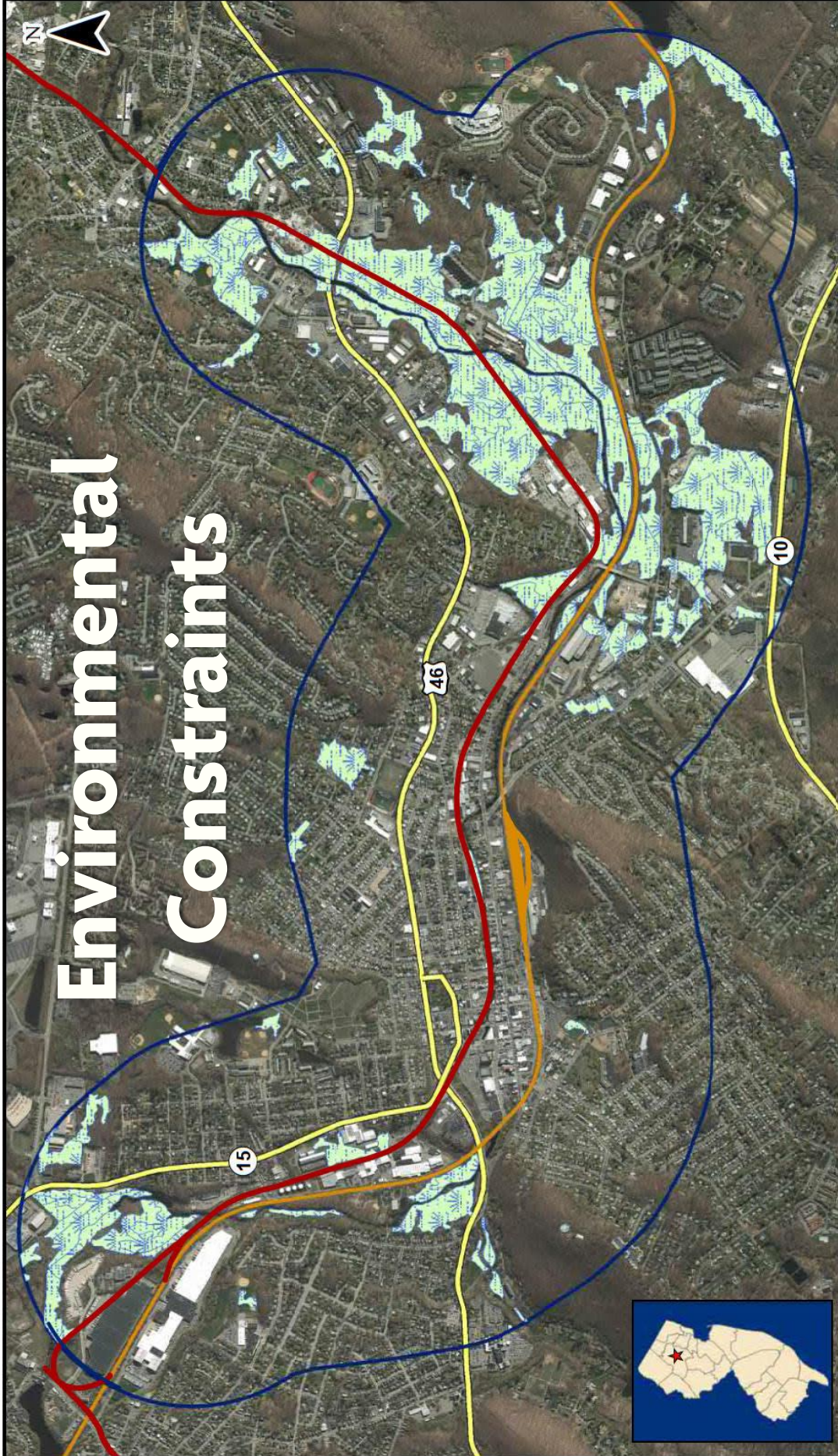
Land Use in the Dover-Rockaway Project Area

1,500 750 0 1,500 Feet

1,500 750 0 1,500 Feet

Source: NJDOT 2015; NJOGIS 2017; Jacobs 2017

Environmental Constraints



Legend

-  Mapped Wetlands
-  Project Area
-  Municipality Border
-  Major Road
-  NJ TRANSIT Morristown Line
-  Dover & Rockaway Railroad

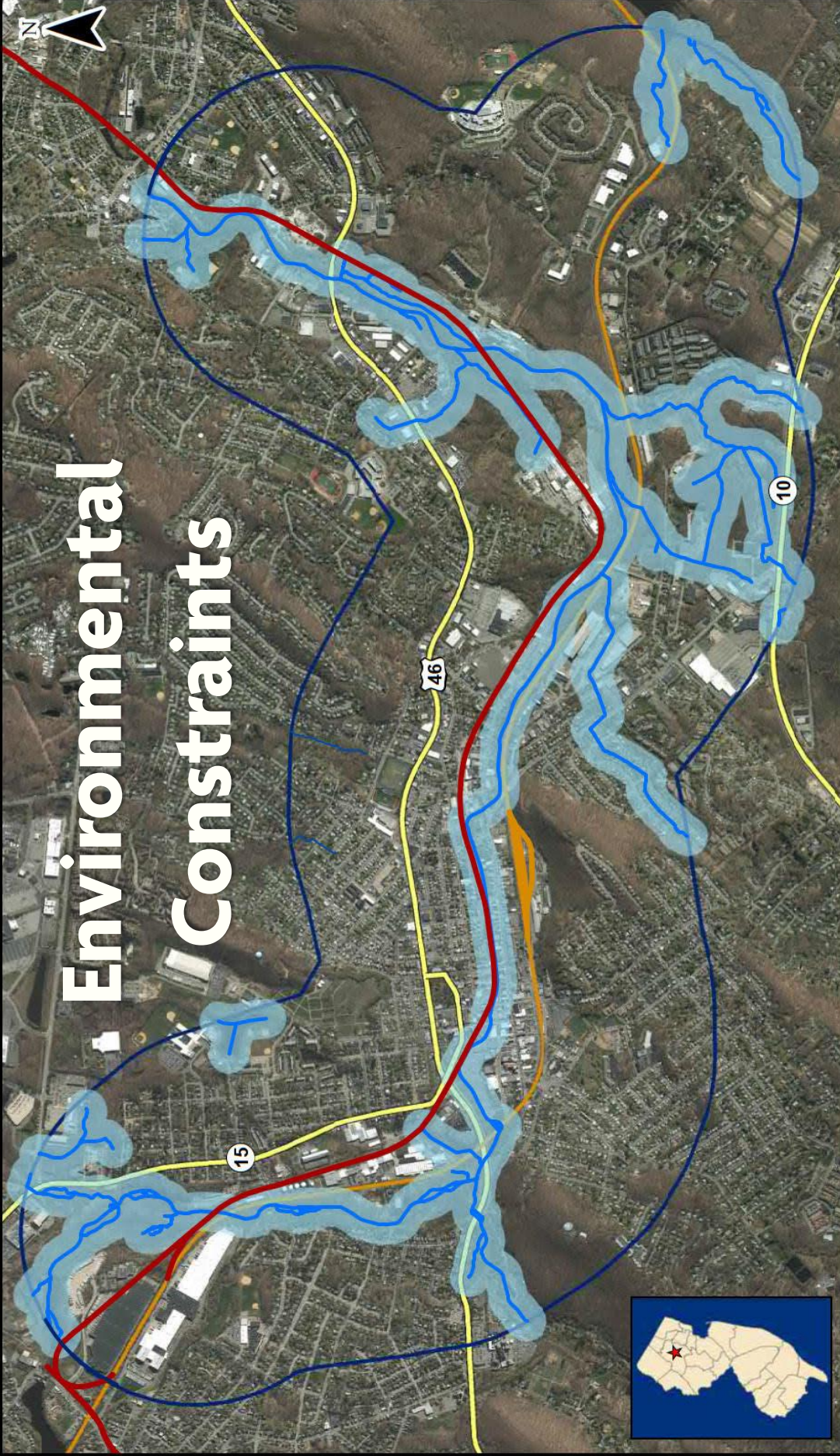
Mapped Wetlands in the Dover-Rockaway Project Area

1,500 750 0 1,500 Feet



Source: NJDOT 2015; NJDEP 2017; NJOGIS 2017; Jacobs 2017

Environmental Constraints



Legend

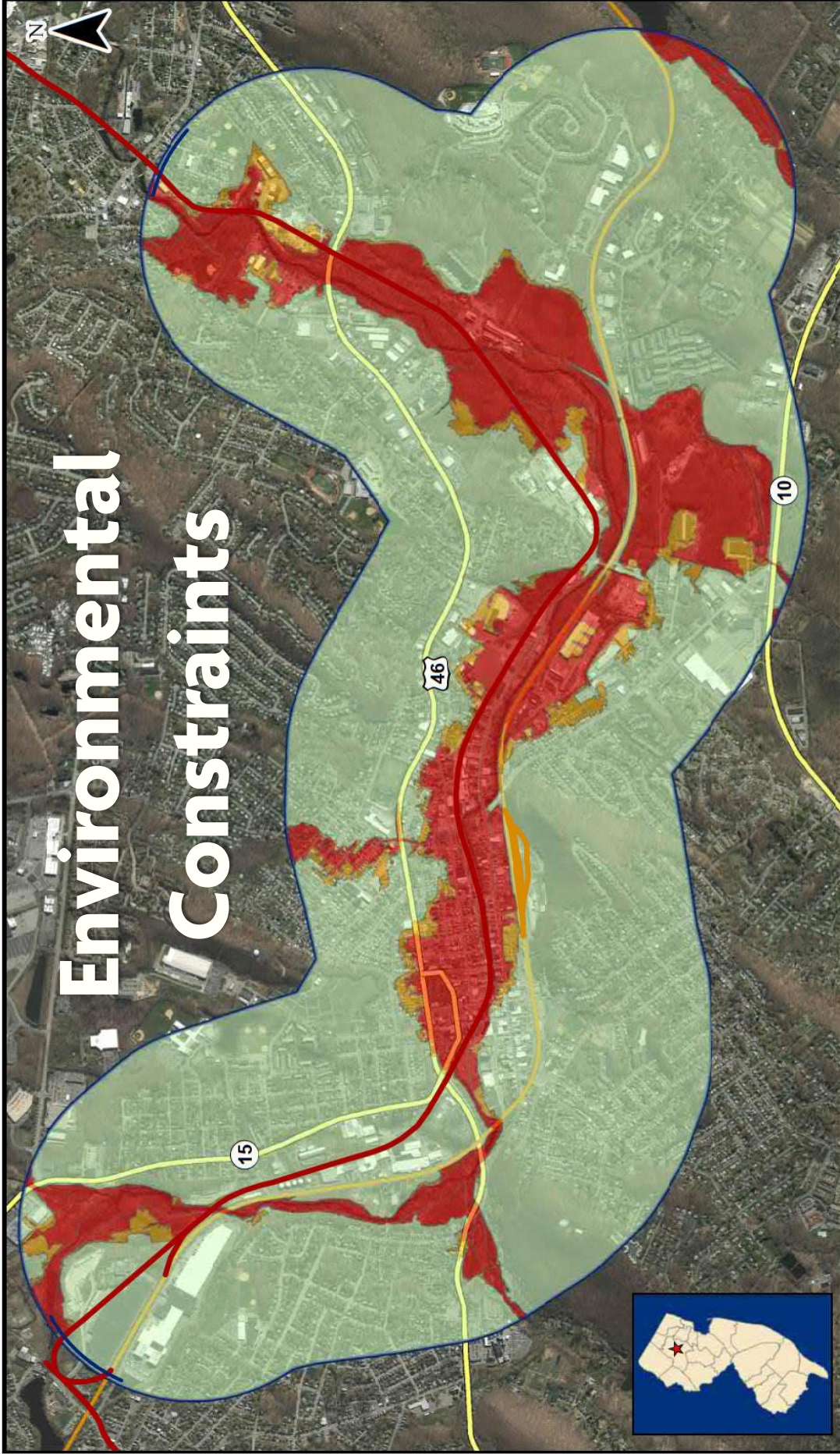
- Non- C1 Water
- C1 Waters
- 300' C1 Buffer
- Project Area
- Municipality Border
- Major Road
- NJ TRANSIT Morristown Line
- Dover & Rockaway Railroad

C1 Waters and Buffers in the Dover-Rockaway Project Area



Source: NJDOT 2015; NJDEP 2017; NJOGIS 2017; Jacobs 2017

Environmental Constraints



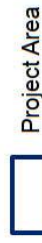
Legend

FEMA Flood Zone

Areas Historically Subject to Flooding



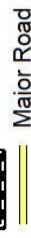
Areas Not Historically Subject to Flooding



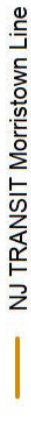
Project Area



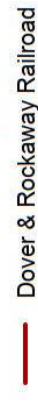
Municipality Border



Major Road



NJ TRANSIT Morristown Line



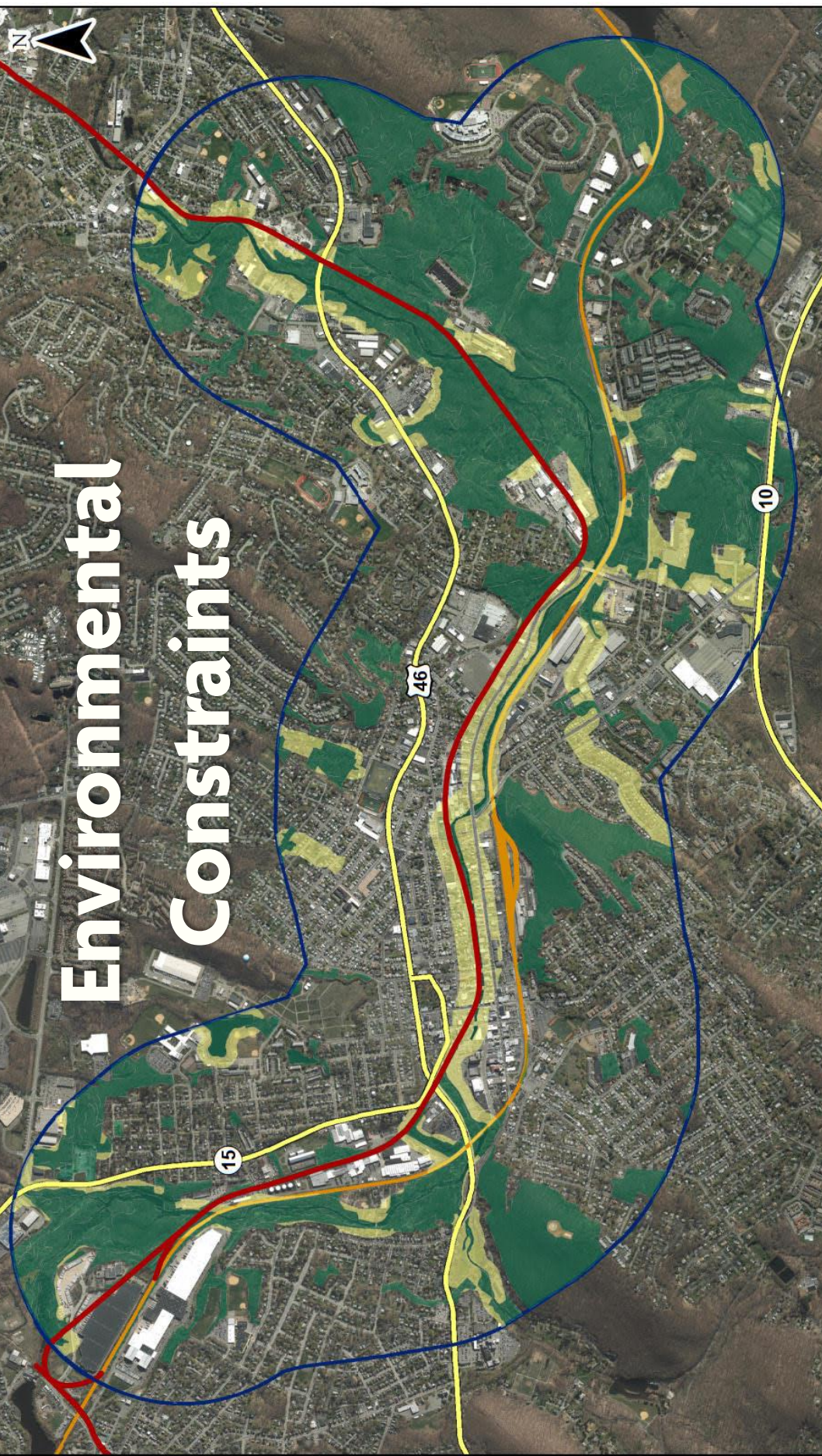
Dover & Rockaway Railroad

Flood Hazard Areas in the Dover-Rockaway Project Area

1,500 750 0 1,500 Feet



Environmental Constraints



Threatened and Endangered Species in the Dover-Rockaway Project Area

Legend

- | | |
|--|----------------------------|
| Rank 1 - Habitat specific requirements | Project Area |
| Rank 2 - Special Concern | Municipality Border |
| Rank 3 - State Threatened | Major Road |
| Rank 4 - State Endangered | NJ TRANSIT Morristown Line |
| Rank 5 - Federal Listed | Dover & Rockaway Railroad |

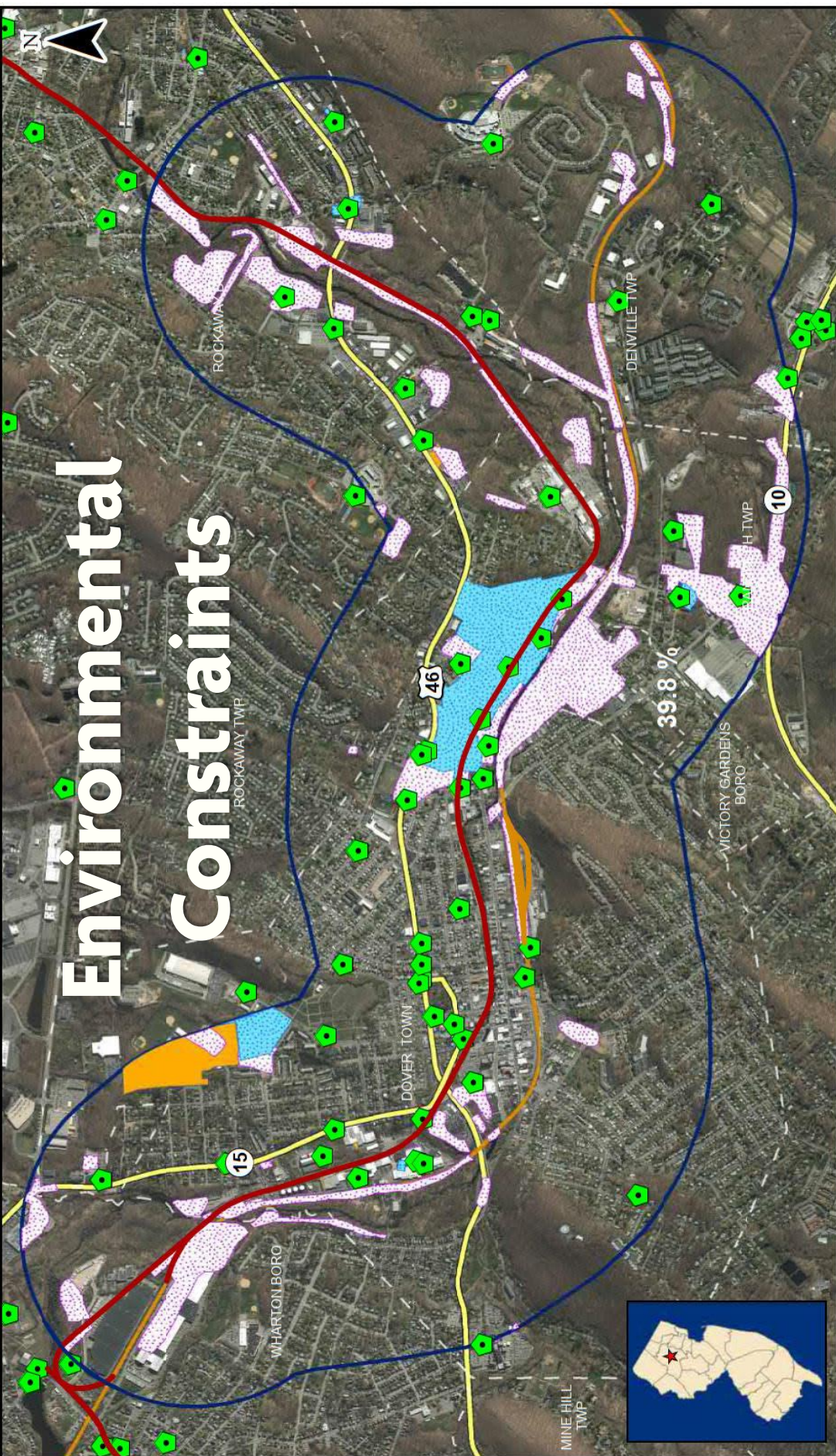


Source: NJDOT 2015; NJDEP 2017
NJOGIS 2017; Jacobs 2017

NJTPA Freight Concept Development Program

1,500 750 0 1,500 Feet

Environmental Constraints



Legend

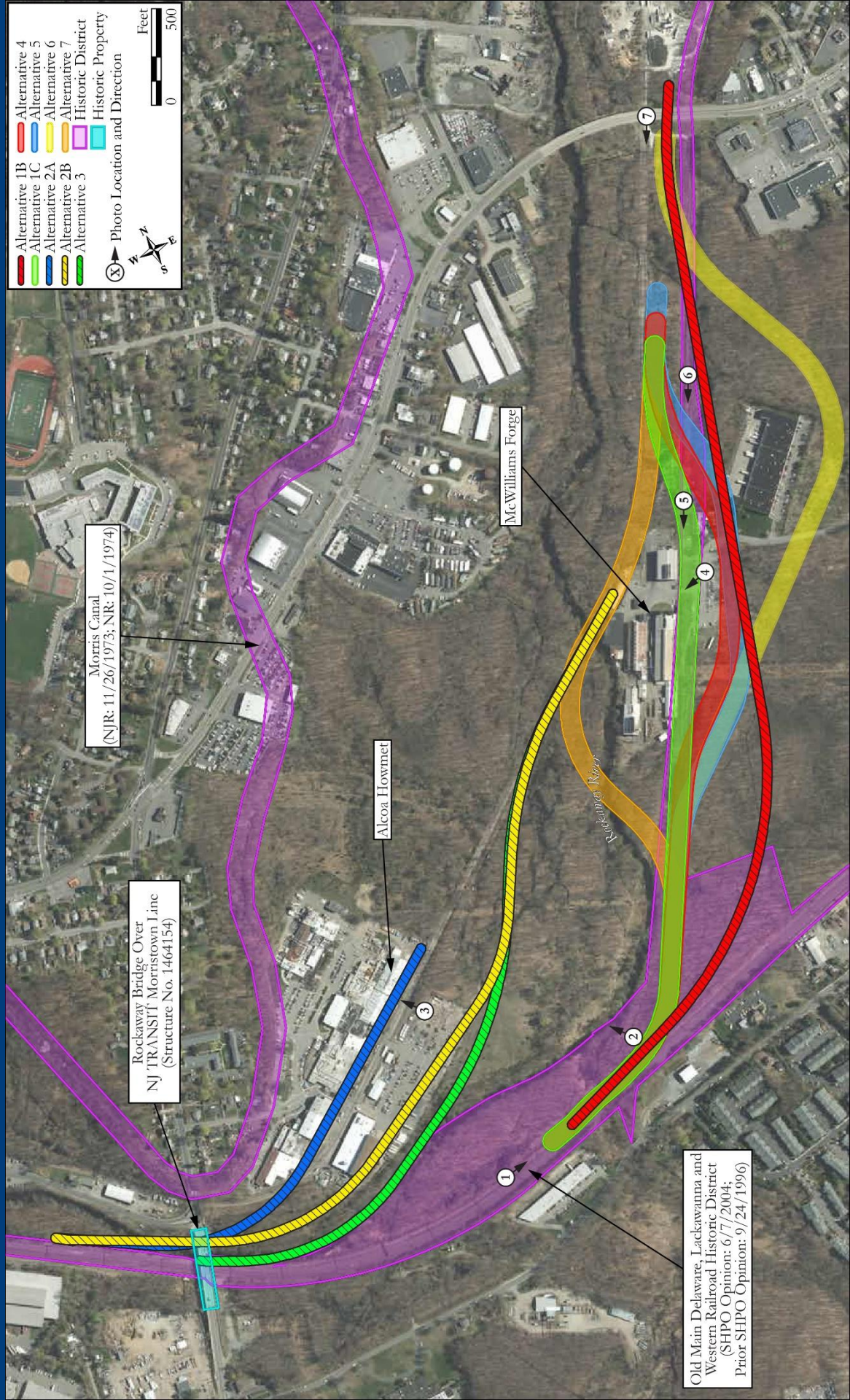
-  Known Contaminated Sites
-  Deed Notice
-  Groundwater Exception
-  Historic Fill
-  Project Area
-  Municipality Border
-  Major Road
-  NJ TRANSIT Morristown Line
-  Dover & Rockaway Railroad

Known Hazardous Materials Concerns in the Dover-Rockaway Project Area

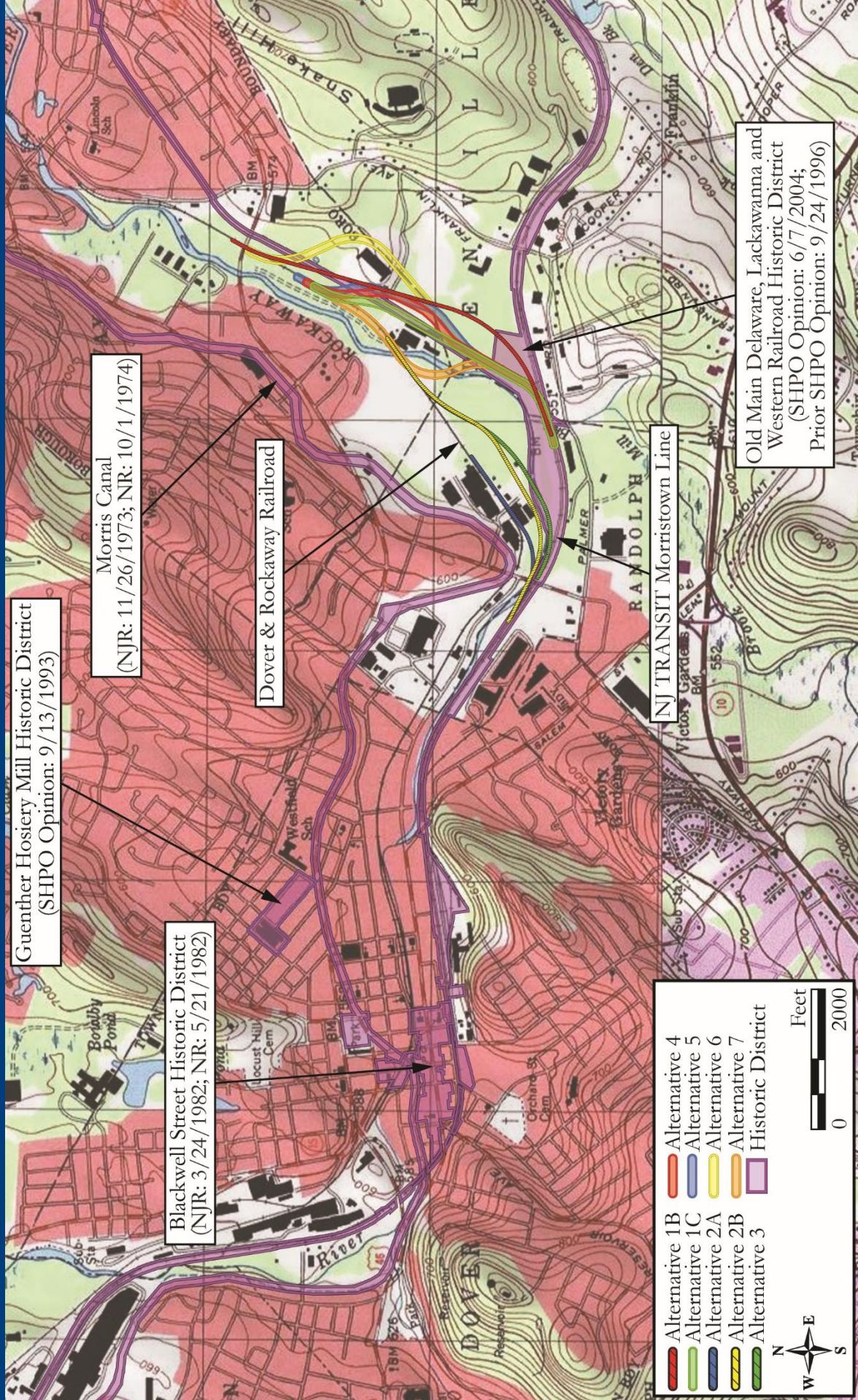


Source: NJDOT 2015; NJOGIS 2017; Jacobs 2017

Historic and Cultural Resources

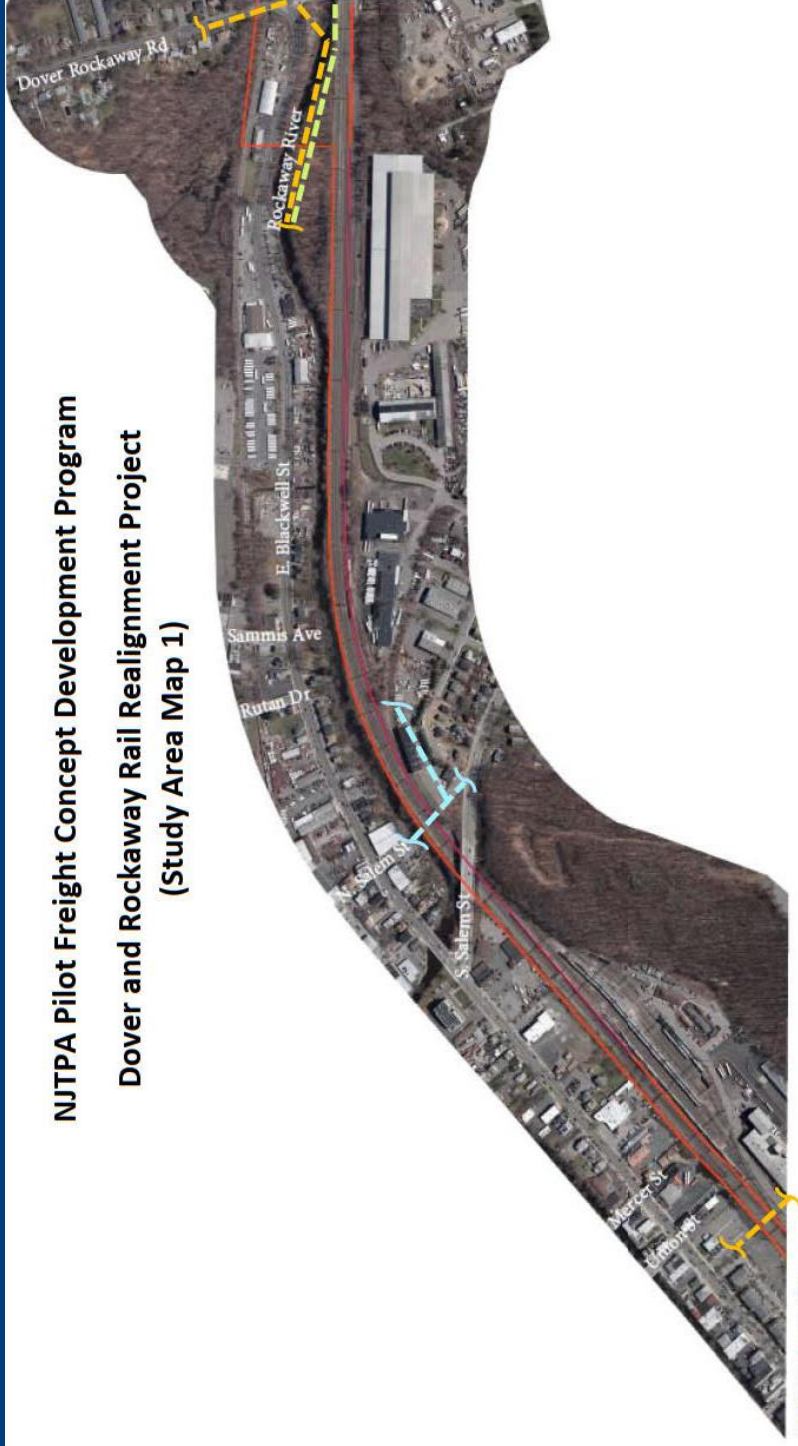


Historic and Cultural Resources



Utilities

NJTPA Pilot Freight Concept Development Program Dover and Rockaway Rail Realignment Project (Study Area Map 1)



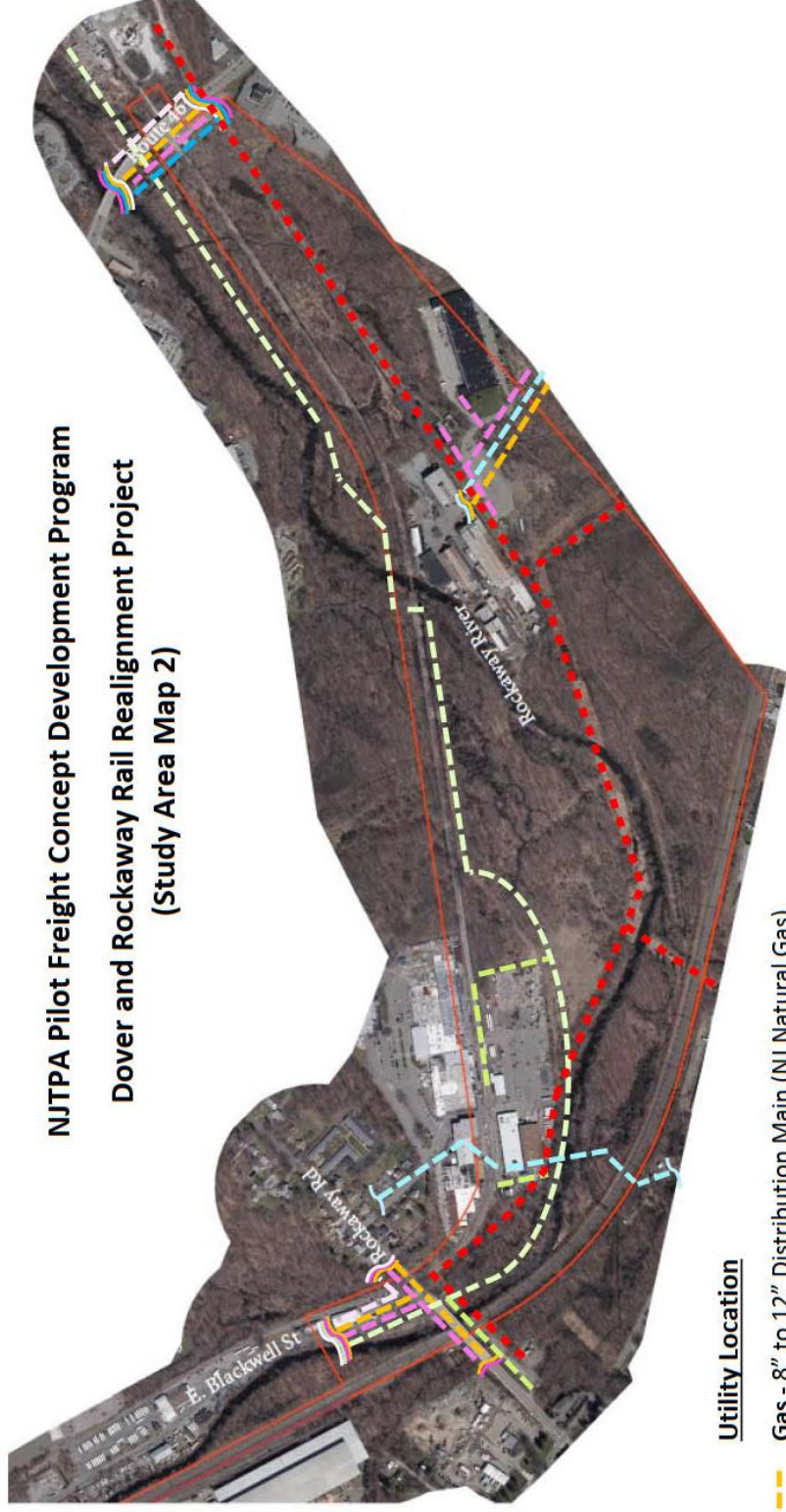
Utility Location

- Gas - 12" Steel Transmission Main (NJ Natural Gas)
- Regional Sewer¹ - Interceptor (Rockaway Valley Regional Sewerage Authority)
- Power - Only provides information via in-person. (First Energy Corporation)
- Telecommunications - "No facilities near railway"
- Water - 10" pipe (Town of Dover Water Commission)

Project Identification

- Base Mapping Boundary

Utilities



NJTPA Pilot Freight Concept Development Program
Dover and Rockaway Rail Realignment Project
(Study Area Map 2)

Utility Location

- Gas - 8" to 12" Distribution Main (NJ Natural Gas)
- Regional Sewer - Interceptor (Rockaway Valley Regional Sewerage Authority)
- Power Overhead 5Kv to 34.5 Kv (First Energy Corporation)
- Telecommunications - Fiber or 0.25" EHS Support Aerial (Optimum)
- Telecommunications - Conduit and Aerial 1-11/4" ID (Verizon)
- Water - ≤ 12" pipe (Township of Denville Water Utility)
- Water - water main under Route 46 (Rockaway Borough Department of Public Works)

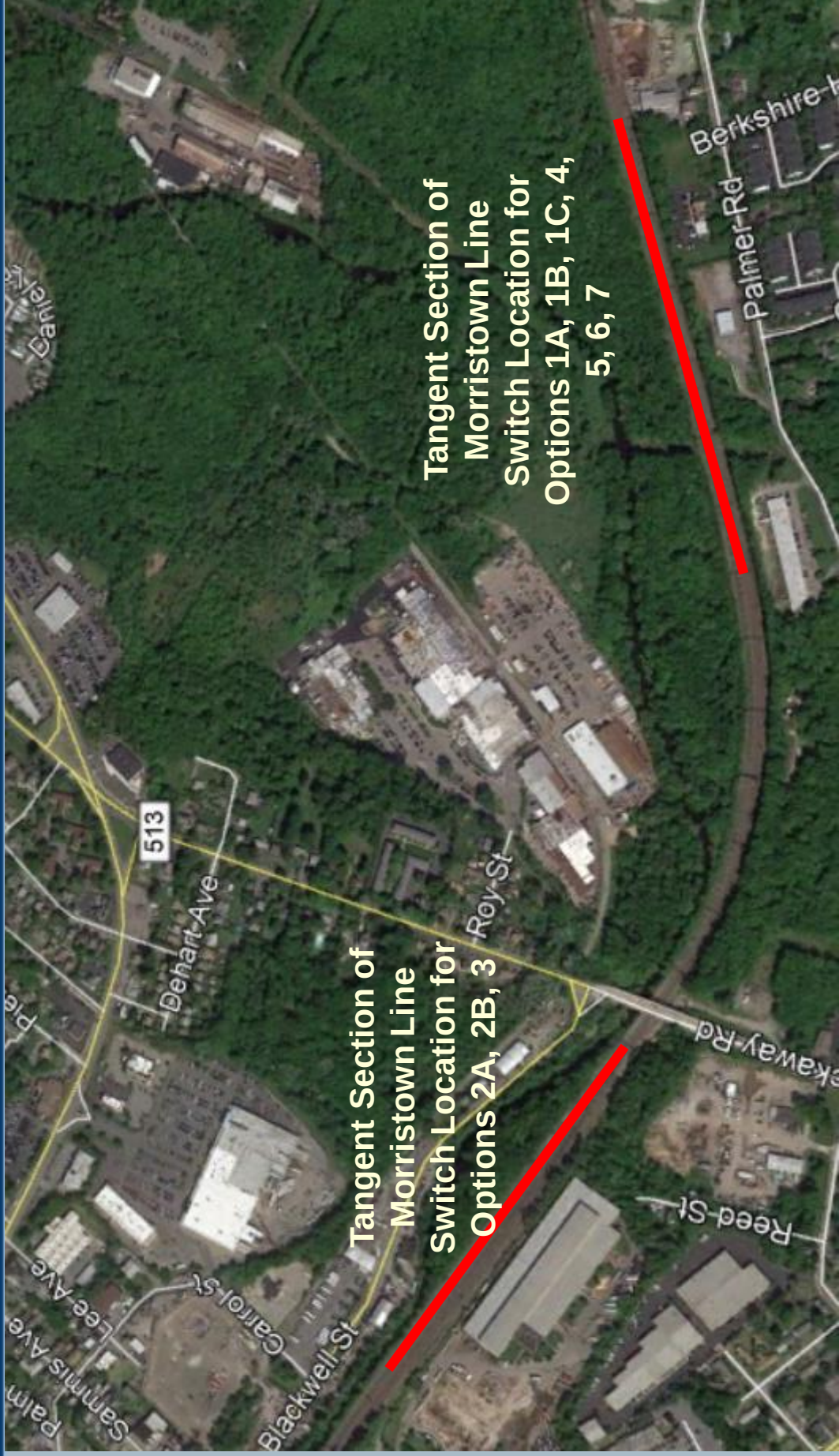
Project Identification

- Base Mapping Boundary

Stakeholder Engagement

- Agencies
 - NJ TRANSIT
 - NJ Department of Transportation
 - New Jersey Historic Preservation Office
- Property Owners / Businesses
 - McWilliams Forge
 - Sandy and Tim McWilliams
 - Donjon Recycling
 - Dover and Rockaway River Railroad
- Local Officials Briefing
- Public Information Center
- Project Website

Alternatives – Alternative Switch Location



PROPOSED CENTERLINE OF TRACK
(APPROXIMATE LOCATION OF FORMER D.L.W. ROCKAWAY LOOP)

FUTURE SIDING TRACK

FUTURE TURNOUT

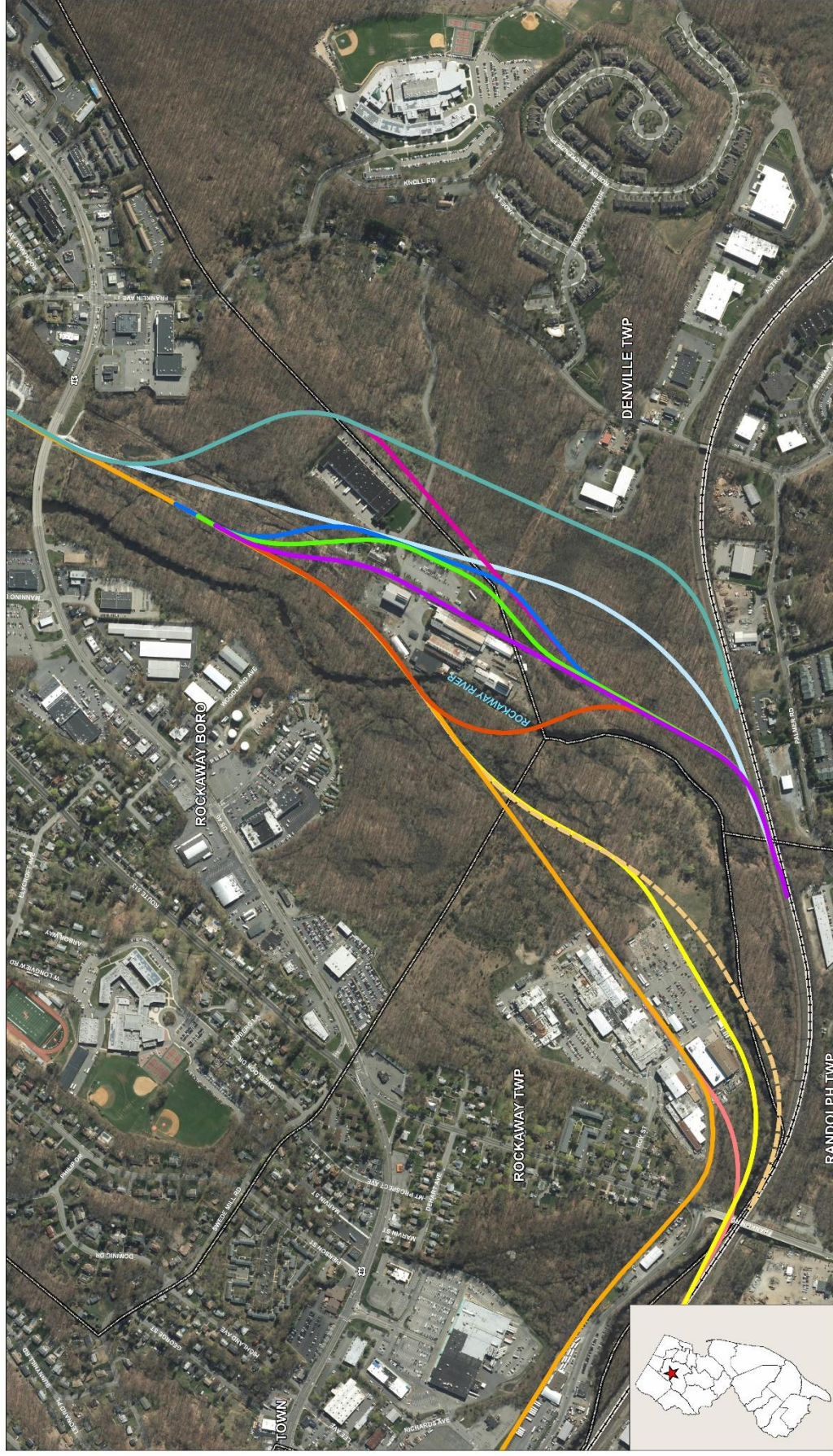
EXISTING GATEWAY PORTAL

EXISTING WAYSIDE EQUIPMENT

EXISTING CULVERT STRUCTURE

STATIONING: 552.00, 552.25, 552.40, 552.60, 552.80, 553.00, 553.20, 553.40, 553.60, 553.80, 554.00, 554.20, 554.40, 554.60, 554.80, 555.00, 555.20, 555.40, 555.60, 555.80, 556.00, 556.20, 556.40, 556.60, 556.80, 557.00, 557.20, 557.40, 557.60, 557.80, 558.00, 558.20, 558.40, 558.60, 558.80, 559.00, 559.20, 559.40, 559.60, 559.80, 560.00, 560.20, 560.40, 560.60, 560.80, 561.00, 561.20, 561.40, 561.60, 561.80, 562.00, 562.20, 562.40, 562.60, 562.80, 563.00, 563.20, 563.40, 563.60, 563.80, 564.00, 564.20, 564.40, 564.60, 564.80, 565.00, 565.20, 565.40, 565.60, 565.80, 566.00, 566.20, 566.40, 566.60, 566.80, 567.00, 567.20, 567.40, 567.60, 567.80, 568.00, 568.20, 568.40, 568.60, 568.80, 569.00, 569.20, 569.40, 569.60, 569.80, 570.00, 570.20, 570.40, 570.60, 570.80, 571.00, 571.20, 571.40, 571.60, 571.80, 572.00, 572.20, 572.40, 572.60, 572.80, 573.00, 573.20, 573.40, 573.60, 573.80, 574.00, 574.20, 574.40, 574.60, 574.80, 575.00, 575.20, 575.40, 575.60, 575.80, 576.00, 576.20, 576.40, 576.60, 576.80, 577.00, 577.20, 577.40, 577.60, 577.80, 578.00, 578.20, 578.40, 578.60, 578.80, 579.00, 579.20, 579.40, 579.60, 579.80, 580.00, 580.20, 580.40, 580.60, 580.80, 581.00, 581.20, 581.40, 581.60, 581.80, 582.00, 582.20, 582.40, 582.60, 582.80, 583.00, 583.20, 583.40, 583.60, 583.80, 584.00, 584.20, 584.40, 584.60, 584.80, 585.00, 585.20, 585.40, 585.60, 585.80, 586.00, 586.20, 586.40, 586.60, 586.80, 587.00, 587.20, 587.40, 587.60, 587.80, 588.00, 588.20, 588.40, 588.60, 588.80, 589.00, 589.20, 589.40, 589.60, 589.80, 590.00, 590.20, 590.40, 590.60, 590.80, 591.00, 591.20, 591.40, 591.60, 591.80, 592.00, 592.20, 592.40, 592.60, 592.80, 593.00, 593.20, 593.40, 593.60, 593.80, 594.00, 594.20, 594.40, 594.60, 594.80, 595.00, 595.20, 595.40, 595.60, 595.80, 596.00, 596.20, 596.40, 596.60, 596.80, 597.00, 597.20, 597.40, 597.60, 597.80, 598.00, 598.20, 598.40, 598.60, 598.80, 599.00, 599.20, 599.40, 599.60, 599.80, 600.00, 600.20, 600.40, 600.60, 600.80, 601.00, 601.20, 601.40, 601.60, 601.80, 602.00, 602.20, 602.40, 602.60, 602.80, 603.00, 603.20, 603.40, 603.60, 603.80, 604.00, 604.20, 604.40, 604.60, 604.80, 605.00, 605.20, 605.40, 605.60, 605.80, 606.00, 606.20, 606.40, 606.60, 606.80, 607.00, 607.20, 607.40, 607.60, 607.80, 608.00, 608.20, 608.40, 608.60, 608.80, 609.00, 609.20, 609.40, 609.60, 609.80, 610.00, 610.20, 610.40, 610.60, 610.80, 611.00, 611.20, 611.40, 611.60, 611.80, 612.00, 612.20, 612.40, 612.60, 612.80, 613.00, 613.20, 613.40, 613.60, 613.80, 614.00, 614.20, 614.40, 614.60, 614.80, 615.00, 615.20, 615.40, 615.60, 615.80, 616.00, 616.20, 616.40, 616.60, 616.80, 617.00, 617.20, 617.40, 617.60, 617.80, 618.00, 618.20, 618.40, 618.60, 618.80, 619.00, 619.20, 619.40, 619.60, 619.80, 620.00, 620.20, 620.40, 620.60, 620.80, 621.00, 621.20, 621.40, 621.60, 621.80, 622.00, 622.20, 622.40, 622.60, 622.80, 623.00, 623.20, 623.40, 623.60, 623.80, 624.00, 624.20, 624.40, 624.60, 624.80, 625.00, 625.20, 625.40, 625.60, 625.80, 626.00, 626.20, 626.40, 626.60, 626.80, 627.00, 627.20, 627.40, 627.60, 627.80, 628.00, 628.20, 628.40, 628.60, 628.80, 629.00, 629.20, 629.40, 629.60, 629.80, 630.00, 630.20, 630.40, 630.60, 630.80, 631.00, 631.20, 631.40, 631.60, 631.80, 632.00, 632.20, 632.40, 632.60, 632.80, 633.00, 633.20, 633.40, 633.60, 633.80, 634.00, 634.20, 634.40, 634.60, 634.80, 635.00, 635.20, 635.40, 635.60, 635.80, 636.00, 636.20, 636.40, 636.60, 636.80, 637.00, 637.20, 637.40, 637.60, 637.80, 638.00, 638.20, 638.40, 638.60, 638.80, 639.00, 639.20, 639.40, 639.60, 639.80, 640.00, 640.20, 640.40, 640.60, 640.80, 641.00, 641.20, 641.40, 641.60, 641.80, 642.00, 642.20, 642.40, 642.60, 642.80, 643.00, 643.20, 643.40, 643.60, 643.80, 644.00, 644.20, 644.40, 644.60, 644.80, 645.00, 645.20, 645.40, 645.60, 6

Alternatives Considered



NJTPA
NORTH JERSEY
TRANSPORTATION
PLANNING AUTHORITY

0 125 250 500 750 1000
0 125 250 500 750 1000
0 125 250 500 750 1000

OVERALL ALIGNMENTS CONSIDERED
Dover-Rockaway Project Area

LEGEND

- Proposed Alignment 5 (Blue)
- Proposed Alignment 6 (Cyan)
- Proposed Alignment 7 (Magenta)
- Proposed Alignment 8 (Green)
- Proposed Alignment 2B (Yellow)
- Proposed Alignment 3 (Orange)
- Proposed Alignment 4 (Light Blue)
- Proposed Alignment 1A/1C (Pink)
- Proposed Alignment 1B (Light Green)
- Proposed Alignment 2A (Light Purple)
- NJ TRANSIT Morristown Line (Black dashed line)
- Dover & Rockaway Railroad (Orange line)
- Municipal Borders (Black outline)

**NJTPA Freight Concept
Development Program**

Revised: 10/27/2015, 10/27/2015, 10/27/2015
Revised: 10/27/2015, 10/27/2015, 10/27/2015

Alternatives – Scoring

- Relative Scoring Process
- 14 Criteria

Highly Beneficial	5
Moderately Beneficial	3
Minorly Beneficial	1
Neutral	0
Minorly Detrimental	-1
Moderately Detrimental	-3
Highly Detrimental	-5
Fatally Flawed	-100

Alternatives – Scoring

Criteria	East Switch			West Switch			Alignment				
	1-A	1-B	1-C	2-A	2-B	3	Thru Bldg & Lot	Between Bldgs	Easterly Swing 1	Westerly Swing	Easterly Swing 2
Freight Rail Operations Impacts / Benefits	3	3	3	3	3	3	3	3	3	3	3
Passenger Rail Operations Impacts / Benefits	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Adjacent and Proximate Land Use Impacts / Benefits	-5	-5	-5	-5	-5	-5	-3	-3	0	0	0
Historic and Cultural Resources Impacts / Benefits	-1	-1	-1	-3	-3	-3	-1	-1	-3	-5	-3
Community Profile & Environmental Justice/Title VI Impacts / Benefits	0	0	0	0	0	0	0	0	0	0	0
Wetlands Impacts / Benefits	-3	-3	-1	-1	-1	-5	-1	-3	-5	-5	-5
Floodplains & Aquifers Impacts / Benefits	-1	-1	-1	-100	-100	-100	-1	-1	-1	-5	-1
Threatened & Endangered Species Impacts / Benefits	-1	-1	-1	-1	-1	-3	-1	-3	-5	-5	-5
Stormwater and Drainage Impacts / Benefits	-1	-1	-1	-3	-3	-5	-1	-1	0	0	0
Hazardous Materials Impacts / Benefits	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Air Quality & Noise Impacts / Benefits	3	3	3	3	3	3	3	3	3	3	3
Community Impacts / Benefits	5	5	5	5	5	5	5	5	5	5	5
Safety Impacts / Benefits	3	3	3	3	5	5	3	3	3	5	3
Utility Impacts / Relocation Requirements	-1	-1	-1	-1	-3	-1	-1	-1	-1	-1	-1
Summary Score	-1	-1	1	-102	-102	-108	3	-1	-3	-7	-3

Next Steps

- Complete Value Engineering (VE) Study
- Draft Concept Development Report
- Final Recommendation of Preferred Alternative
- Interagency Review Meeting
- Finalize Concept Development Report

Thank You/Questions?

Defining the Vision. Shaping the Future.



NJTPA

**NORTH JERSEY
TRANSPORTATION
PLANNING AUTHORITY**

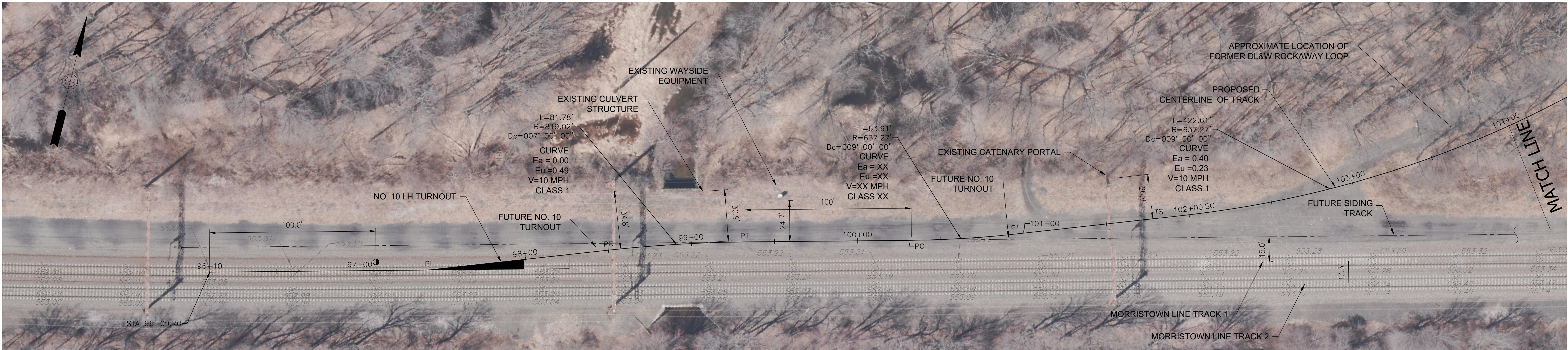
Jakub Rowinski
jrowinski@njtpa.org
(973) 639-8443



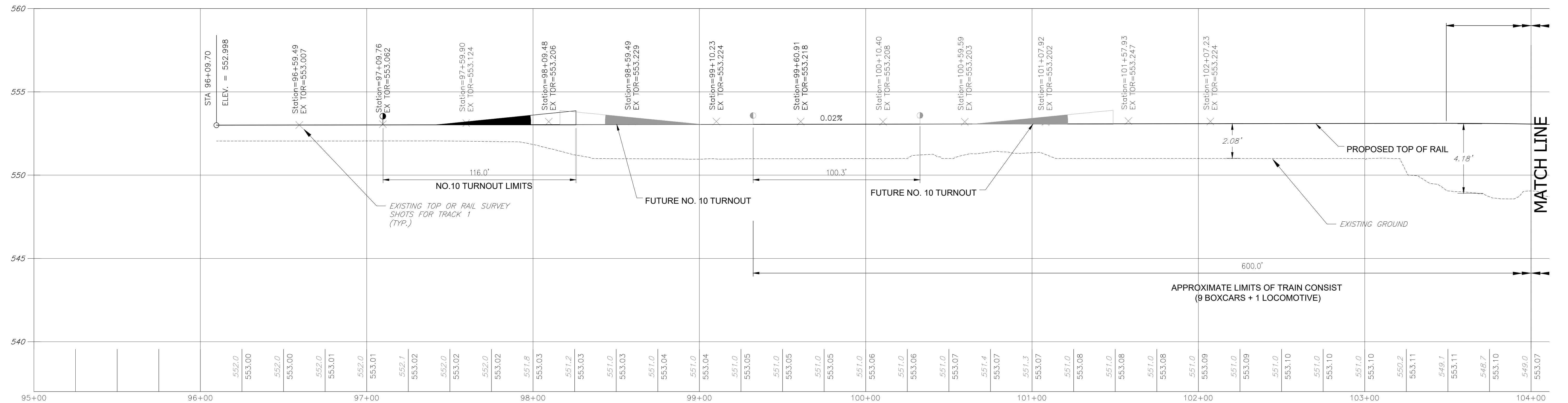
Appendix G

Preliminary Preferred Alternative Plan and Profile

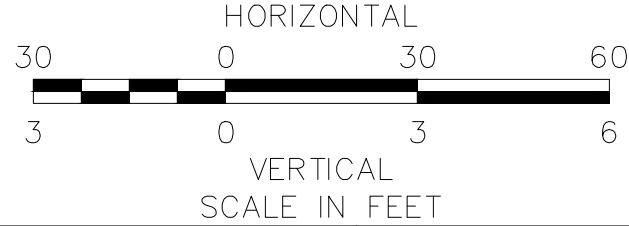




PLAN VIEW
1" = 30'



TOP OF RAIL PROFILE
H: 1" = 30'
V: 1" = 3'



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DATE: \$DATES
USER: \$USERS

				Date
				Des.
				Chkd.
				Dwn.
				Chkd.Dwn.
Date	Eng.	Revision Notes		

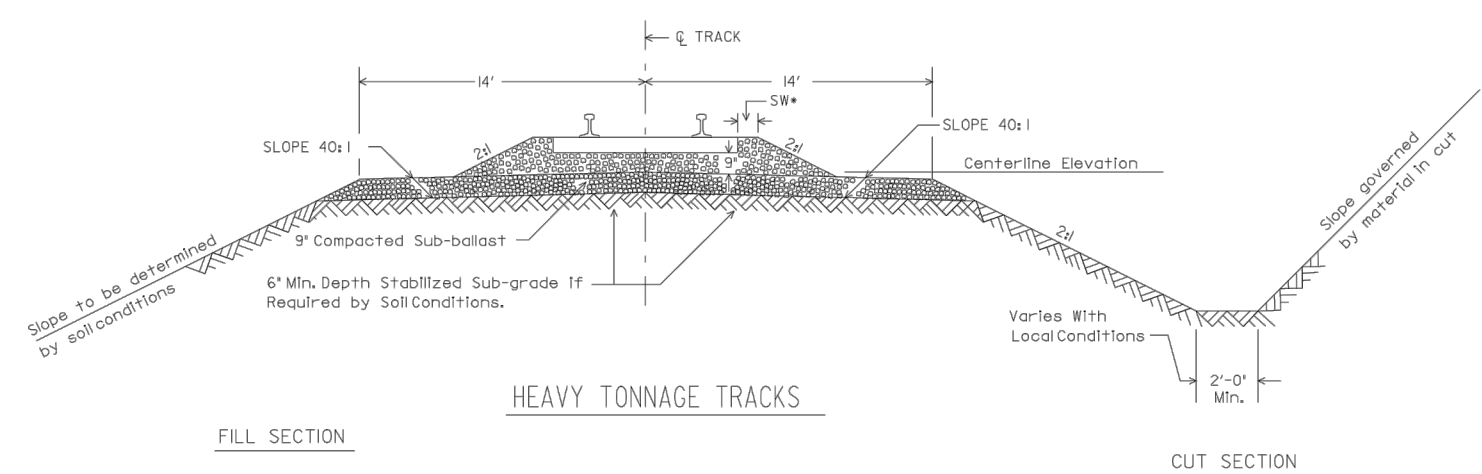
Engineer of Record
Professional Engineer
N.J. LIC.
Date:



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NY 10119

NJTPA PILOT FREIGHT STUDY

DOVER AND ROCKAWAY RAIL REALIGNMENT CONCEPT DEVELOPMENT PROJECT
TRACK PLAN AND PROFILE ALTERNATIVE 4
Scale AS NOTED
Contract No.
Drawing
Sheet 1

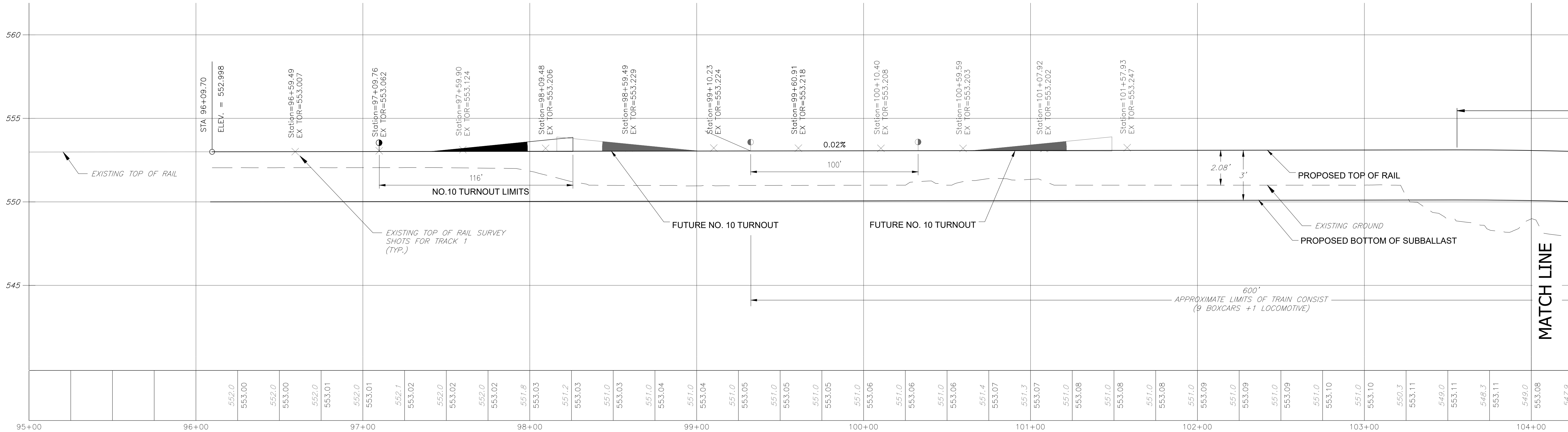


TYPICAL SECTION



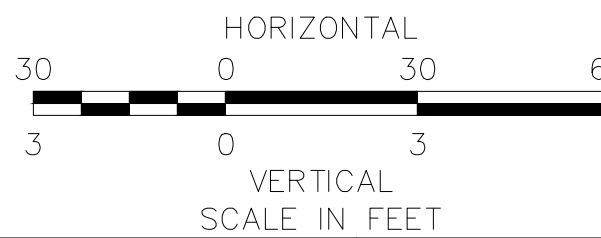
PLAN VIEW
1" = 30'

TO DOVER TO EXISTING D&R SHORTLINE



TOP OF RAIL PROFILE
H: 1" = 30'
V: 1" = 3'

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				Chkd.
				Dwn.
No.	Date	Eng.	Revision Notes	Chkd.Dwn.

Engineer of Record
Professional Engineer
N.J. LIC.
Date:

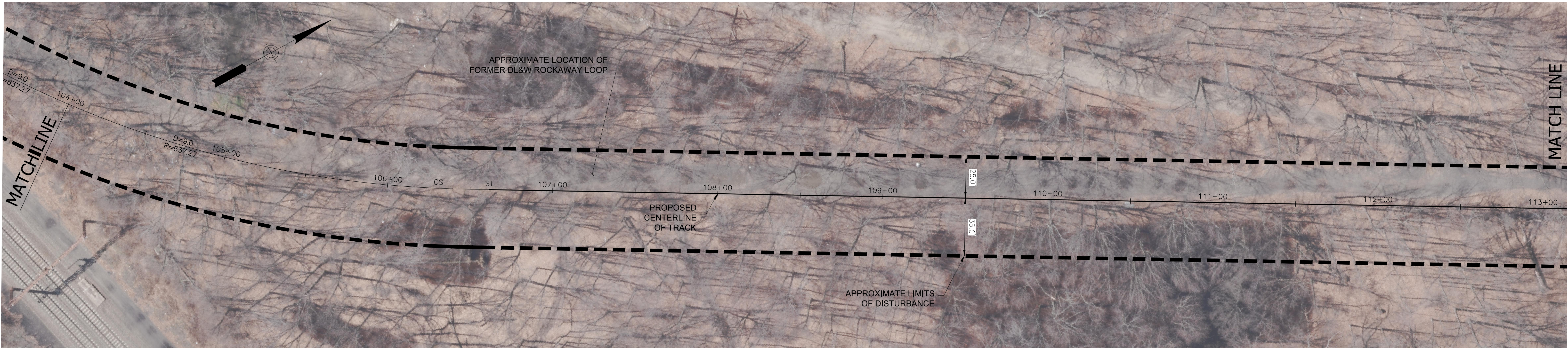


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NJTPA
PILOT FREIGHT
STUDY

DOVER AND ROCKAWAY RAIL REALIGNMENT
CONCEPT DEVELOPMENT PROJECT
TRACK PLAN AND PROFILE
ALTERNATIVE 4

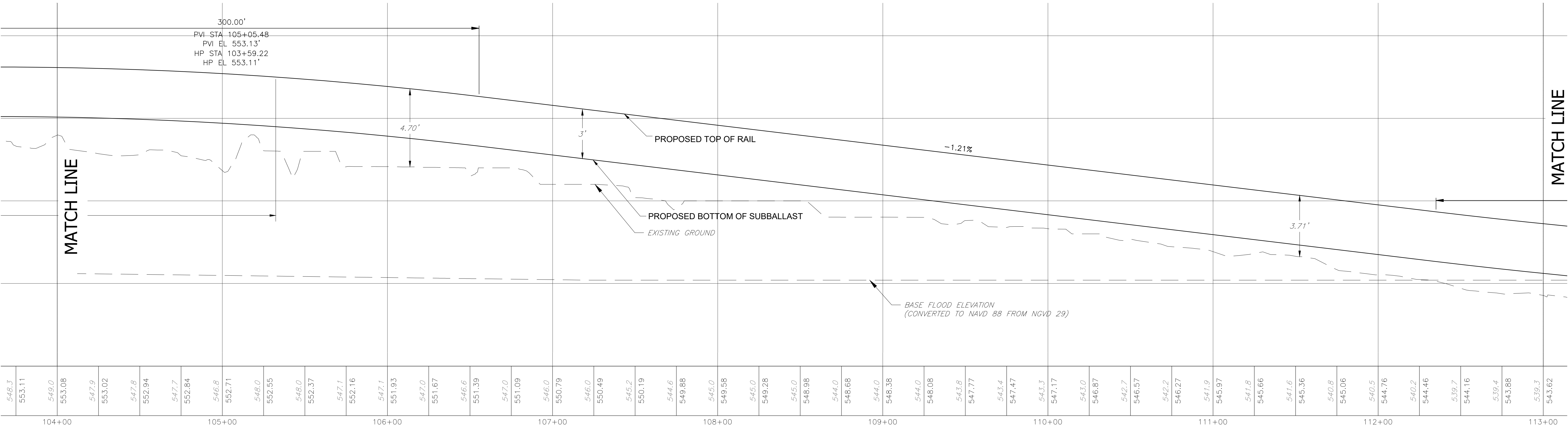
Scale
AS NOTED
Contract No.
Drawing
Sheet
1 OF 6



PLAN VIEW
1" = 30'

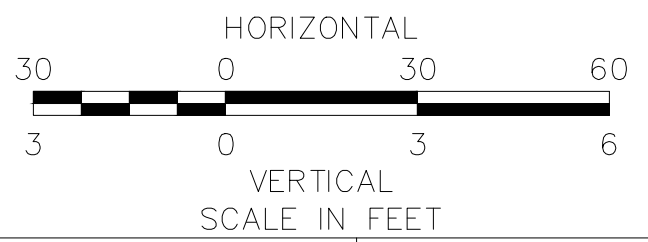
TO NJ TRANSIT MAINLINE CONNECTION

TO EXISTING D&R SHORTLINE



TOP OF RAIL PROFILE
H: 1" = 30'
V: 1" = 3'

DRAFT 10/22/20



				Date
				Des.
				Chkd.
				Dwn.
No.	Date	Eng.	Revision Notes	Chkd.Dwn.

Engineer of Record
Professional Engineer
N.J. LIC.
Date:



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NJTPA
PILOT FREIGHT
STUDY

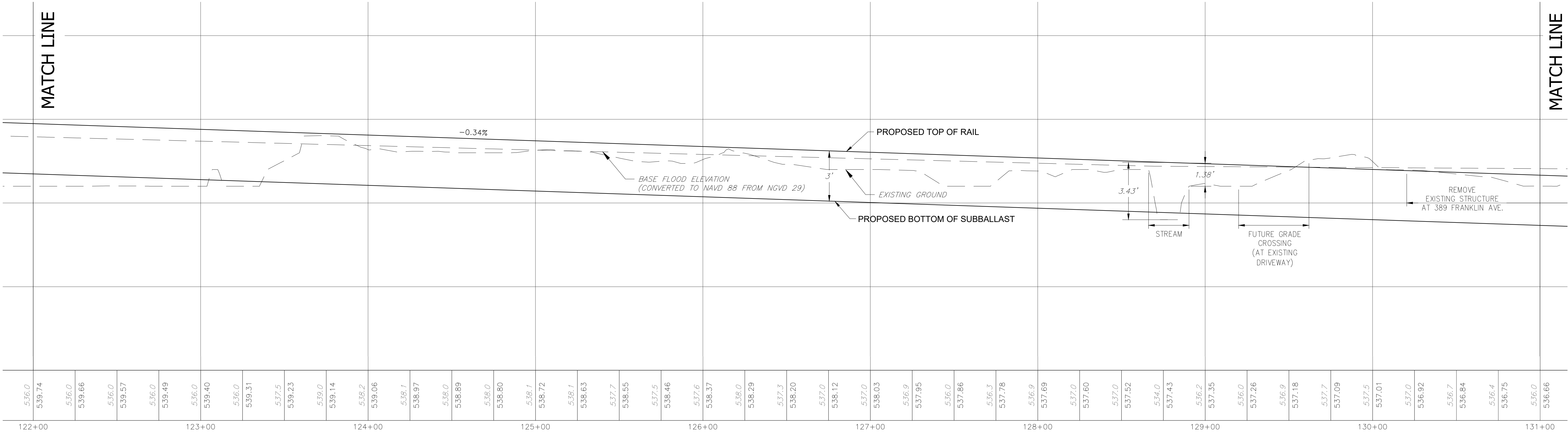
DOVER AND ROCKAWAY RAIL REALIGNMENT
CONCEPT DEVELOPMENT PROJECT
TRACK PLAN AND PROFILE
ALTERNATIVE 4

Scale
AS NOTED
Contract No.
Drawing
Sheet
2 OF 6



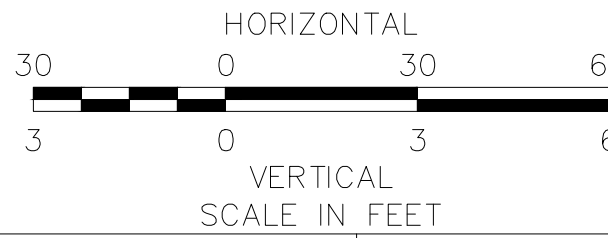
PLAN VIEW
1" = 30'

← TO NJ TRANSIT MAINLINE CONNECTION TO EXISTING D&R SHORTLINE →



TOP OF RAIL PROFILE
H: 1" = 30'
V: 1" = 3'

DRAFT 10/22/20



				Date	Engineer of Record
				Des.	Professional Engineer
				Chkd.	N.J. LIC.
				Dwn.	
No.	Date	Eng.	Revision Notes	Chkd.Dwn.	Date:

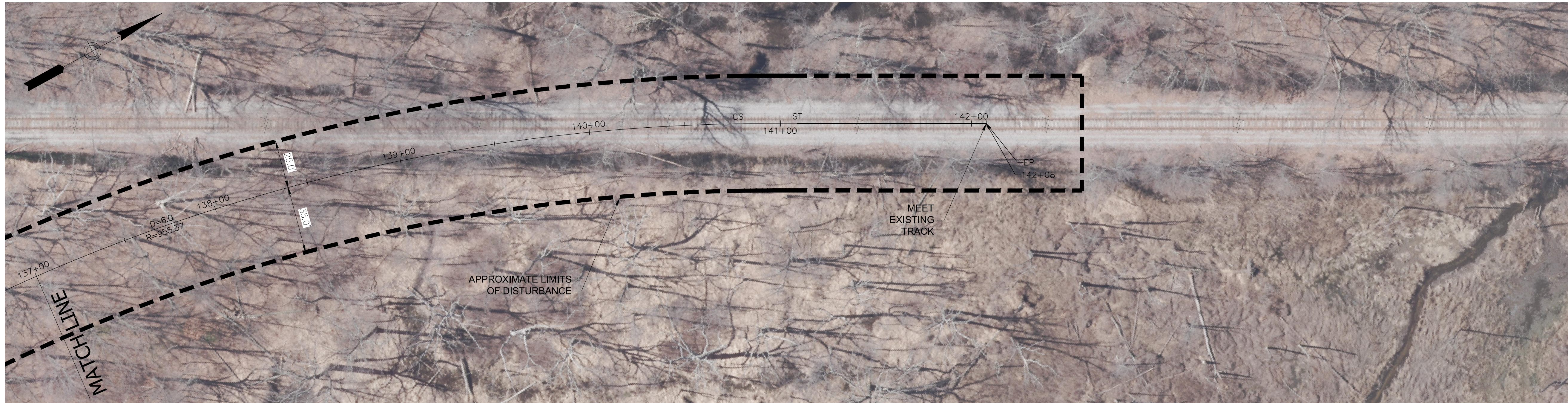


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PILOT FREIGHT
STUDY

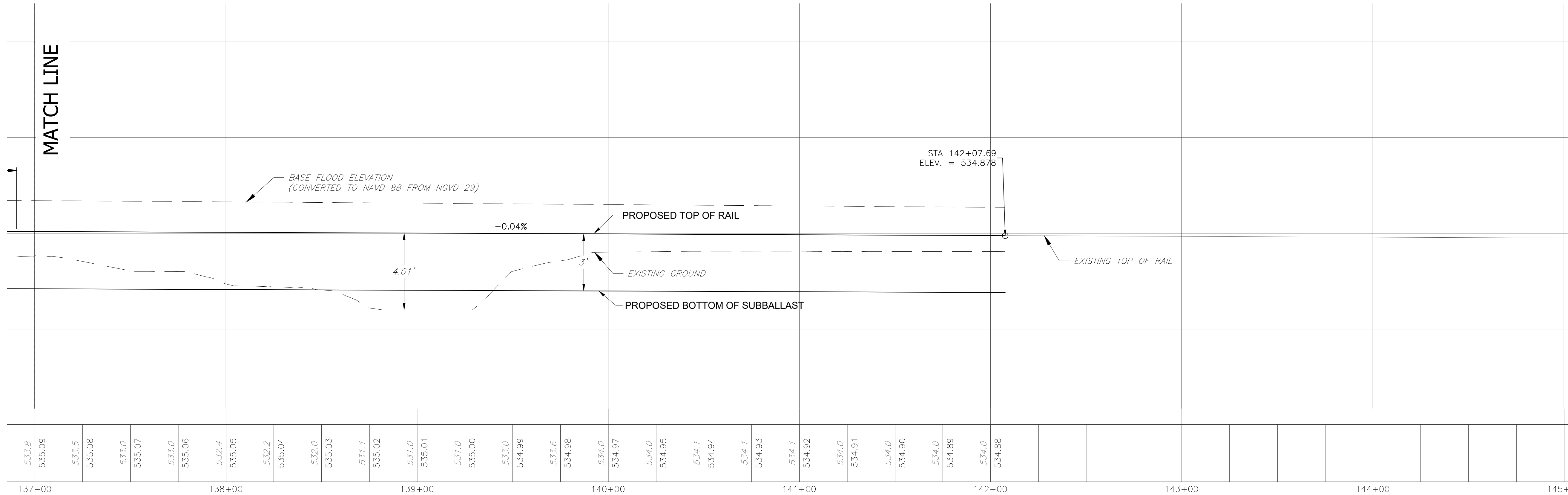
DOVER AND ROCKAWAY RAIL REALIGNMENT
CONCEPT DEVELOPMENT PROJECT
TRACK PLAN AND PROFILE
ALTERNATIVE 4

Scale	AS NOTED
Contract No.	
Drawing	
Sheet	4 OF 6



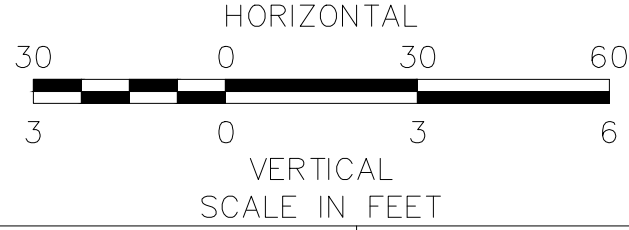
PLAN VIEW
1" = 30'

← TO NJ TRANSIT MAINLINE CONNECTION TO END OF TRACK →



TOP OF RAIL PROFILE
H: 1" = 30'
V: 1" = 3'

DRAFT 10/22/20



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				Chkd.
				Dwn.
No.	Date	Eng.	Revision Notes	Chkd.Dwn.

Engineer of Record
Professional Engineer
N.J. LIC.
Date: _____



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NJTPA
PILOT FREIGHT
STUDY

DOVER AND ROCKAWAY RAIL REALIGNMENT
CONCEPT DEVELOPMENT PROJECT
TRACK PLAN AND PROFILE
ALTERNATIVE 4

Scale AS NOTED
Contract No.
Drawing
Sheet 6 OF 6

Appendix H

Construction Cost Estimate



MAIN WORKSHEET - BUILD ALTERNATIVE								
North Jersey Transportation Planning Authority (NJTPA)						Today's Date		12/23/20
NJTPA Freight Concept Development Program						Yr of Base Year \$		2020
Dover and Rockaway Rail Realignment						Yr of Revenue Ops		TBD
	Quantity	Base Year Dollars w/o Contingency (2020)	Base Year Dollars Allocated Contingency (2020)	Base Year Dollars TOTAL (2020)	Base Year Dollars Unit Cost (2020)	Base Year Dollars Percentage of Construction Cost	Base Year Dollars Percentage of Total Project Cost	Year Of Expenditure Dollars Total (2020)
10 GUIDEWAY & TRACK ELEMENTS (route miles)	0.00	2,299,000	344,850	2,643,850		25%	12%	2,643,850
10.01 Guideway: At-grade exclusive right-of-way		0	0	0				0
10.02 Guideway: At-grade semi-exclusive (allows cross-traffic)		0	0	0				0
10.03 Guideway: At-grade in mixed traffic		0	0	0				0
10.04 Guideway: Aerial structure		0	0	0				0
10.05 Guideway: Built-up fill		0	0	0				0
10.06 Guideway: Underground cut & cover		0	0	0				0
10.07 Guideway: Underground tunnel		0	0	0				0
10.08 Guideway: Retained cut or fill		0	0	0				0
10.09 Track: Direct fixation		0	0	0				0
10.10 Track: Embedded		0	0	0				0
10.11 Track: Ballasted		1,435,000	215,250	1,650,250				1,650,250
10.12 Track: Special (switches, turnouts)		864,000	129,600	993,600				993,600
10.13 Track: Vibration and noise dampening		0	0	0				0
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	0	0	0	0		0%	0%	0
20.01 At-grade station, stop, shelter, mall, terminal, platform		0	0	0				0
20.02 Aerial station, stop, shelter, mall, terminal, platform		0	0	0				0
20.03 Underground station, stop, shelter, mall, terminal, platform		0	0	0				0
20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc.		0	0	0				0
20.05 Joint development		0	0	0				0
20.06 Automobile parking multi-story structure		0	0	0				0
20.07 Elevators, escalators (staircase)		0	0	0				0
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	0	0	0	0		0%	0%	0
30.01 Administration Building: Office, sales, storage, revenue counting		0	0	0				0
30.02 Light Maintenance Facility		0	0	0				0
30.03 Heavy Maintenance Facility		0	0	0				0
30.04 Storage or Maintenance of Way Building		0	0	0				0
30.05 Yard and Yard Track		0	0	0				0
40 SITEWORK & SPECIAL CONDITIONS	0	5,969,008	1,338,638	7,307,646		69%	35%	7,307,646
40.01 Demolition, Clearing, Earthwork		1,125,600	281,400	1,407,000				1,407,000
40.02 Site Utilities, Utility Relocation		550,000	192,500	742,500				742,500
40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments		0	0	0				0
40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks		3,920,000	784,000	4,704,000				4,704,000
40.05 Site structures including retaining walls, (column Replacement)		179,250	62,738	241,988				241,988
40.06 Pedestrian / bike access and accommodation, landscaping		0	0	0				0
40.07 Automobile, bus, van accessways including roads, parking lots		90,000	18,000	108,000				108,000
40.08 Temporary Facilities and other indirect costs during construction		104,158	0	104,158				104,158
50 SYSTEMS	0	410,000	158,500	568,500		5%	3%	568,500
50.01 Train control and signals		150,000	67,500	217,500				217,500
50.02 Traffic signals and crossing protection		260,000	91,000	351,000				351,000
50.03 Traction power supply: substations		0	0	0				0
50.04 Traction power distribution: catenary and third rail		0	0	0				0
50.05 Communications		0	0	0				0
50.06 Fare collection system and equipment		0	0	0				0
50.07 Central Control		0	0	0				0
Construction Subtotal (10 - 50)		8,678,008	1,841,988	10,519,996		100%	50%	10,519,996
60 ROW, LAND, EXISTING IMPROVEMENTS		1,439,000	503,650	1,942,650			9%	1,942,650
60.01 Purchase or lease of real estate		1,439,000	503,650	1,942,650				0
60.02 Relocation of existing households and businesses		0	0	0				0
70 VEHICLES (number)		0	0	0			0%	0
70.01 Light Rail		0	0	0				0
70.02 Heavy Rail		0	0	0				0
70.03 Commuter Rail		0	0	0				0
70.04 Bus		0	0	0				0
70.05 Other		0	0	0				0
70.06 Non-revenue vehicles		0	0	0				0
70.07 Spare parts		0	0	0				0
80 PROFESSIONAL SERVICES (applies to Cats. 10-50)		4,218,414	0	4,218,414		40%	20%	4,218,414
80.01 Preliminary Engineering		624,950	0	624,950				624,950
80.02 Final Design		781,188	0	781,188				781,188
80.03 Project Management for Design and Construction		312,475	0	312,475				312,475
80.04 Construction Administration & Management		624,950	0	624,950				624,950
80.05 Professional Liability and other Non-Construction Insurance		833,267	0	833,267				833,267
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.		416,634	0	416,634				416,634
80.07 Surveys, Testing, Investigation, Inspection		416,634	0	416,634				416,634
80.08 Start up		208,317	0	208,317				208,317
Subtotal (10 - 80)		14,335,423	2,345,638	16,681,060			79%	16,681,060
90 UNALLOCATED CONTINGENCY				4,170,265			20%	4,170,265
Subtotal (10 - 90)				20,851,325			98%	20,851,325
100 FINANCE CHARGES				327,500			2%	327,500
Total Project Cost (10 - 100)				21,178,825			100%	21,178,825
Allocated Contingency as % of Base Yr Dollars w/o Contingency 16.36%								
Unallocated Contingency as % of Base Yr Dollars w/o Contingency 29.09%								
Total Contingency as % of Base Yr Dollars w/o Contingency 45.45%								
Unallocated Contingency as % of Subtotal (10 - 80) 25.00%								
YOE Construction Cost per Mile (2019)								
YOE Total Project Cost per Mile Not Including Vehicles (2019)								
YOE Total Project Cost per Mile (2019)								

Standard Cost Categories for Core Capacity Projects DEFINITIONS		NOTE: The SCC cost breakdown is based on a traditional Design Bid Build model. If your project is Design Build, to the best of your ability, separate construction costs from design, administration, testing, etc. Put all construction costs in 10 through 50. Put design, administration, testing, etc. in 80 <i>Professional Services</i> .
(Rev.21, June 2019)		
10 GUIDEWAY & TRACK ELEMENTS (route miles)		Include guideway and track costs for all transit modes (heavy rail, light rail, commuter rail, BRT, rapid bus, bus, monorail, cable car, etc.) The unit of measure is route miles of guideway, regardless of width. As associated with the guideway, include costs for rough grading, excavation, and concrete base for guideway where applicable. Include all construction materials and labor regardless of whom is performing the work. For example, if the project is constructing guideway 2 miles in one direction and 2 miles in the opposite direction, it should be noted as "2" miles in SCC 10, and the cost of constructing the guideway should be noted in its entirety.
10.01	Guideway: At-grade exclusive right-of-way	
10.02	Guideway: At-grade semi-exclusive (allows cross-traffic)	
10.03	Guideway: At-grade in mixed traffic	
10.04	Guideway: Aerial structure	Include foundation excavation; guideway structures including caissons, columns, bridges, viaducts, cross-overs, fly-overs.
10.05	Guideway: Built-up fill	Include construction of earthen berms.
10.06	Guideway: Underground cut & cover	Include excavation, retaining walls, backfill, underground guideway structure and finishes.
10.07	Guideway: Underground tunnel	Include tunneling by means of a tunnel boring machine, drill blasting, mining, and immersed tube tunneling; tunnel structure and finishes.
10.08	Guideway: Retained cut or fill	Include excavation, retaining walls, backfill, underground guideway structure and finishes.
10.09	Track: Direct fixation	Include rails, connectors.
10.10	Track: Embedded	Include rails, ties; ballast where applicable
10.11	Track: Ballasted	Include rails, ties and ballast.
10.12	Track: Special (switches, turnouts)	Include transitional curves.
10.13	Track: Vibration and noise damper	Include upcharge for vib/noise dampening to any track condition above.

20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)		As associated with stations, include costs for rough grading, excavation, station structures, enclosures, finishes, equipment; mechanical and electrical components including HVAC, ventilation shafts and equipment, station power, lighting, public address/customer information system, safety systems such as fire detection and prevention, security surveillance, access control, life safety systems, etc. Include all construction materials and labor regardless of whom is performing the work. NOTE: Count paired inbound/outbound boarding platforms as one station - do
		Put guideway and track associated with stations in <i>10 Guideway & Track Elements</i> above.
20.01	At-grade station, stop, shelter, mall, terminal, platform	
20.02	Aerial station, stop, shelter, mall, terminal	Include station structures including caissons, columns, platforms, superstructures, etc.
20.03	Underground station, stop, shelter, terminal	Include retaining walls, backfill, structure.
20.04	Other stations, landings, terminals: Intermodal, ferry, trolley, etc.	
20.05	Joint development	Per FTA's Joint Development Guidance, "Joint development is any income-producing activity with a transit nexus related to a real estate asset in which FTA has an interest. ...Joint development projects are commercial, residential, industrial, or mixed-use developments that are induced by or enhance the effectiveness of transit projects. . ."
20.06	Automobile parking multi-story structure	Include retaining walls, backfill, structure.
20.07	Elevators, escalators	
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS		As associated with support facilities, include costs for rough grading, excavation, support structures, enclosures, finishes, equipment; mechanical and electrical components including HVAC, ventilation shafts and equipment, facility power, lighting, public address system, safety systems such as fire detection and prevention, security surveillance, access control, life safety systems, etc. Include fueling stations. Include all construction materials and labor regardless of whom is performing the work.
		Where a support facility shares the structure with a station, its cost may be included with station cost. Identify this with a note.
		Except for guideway and track associated with a yard, include all guideway and track costs associated with support facilities in <i>10 Guideway & Track Elements</i> above.
30.01	Administration Building: Office, sales, storage, revenue counting	
30.02	Light Maintenance Facility	Include service, inspection, and storage facilities and equipment.
30.03	Heavy Maintenance Facility	Include heavy maintenance and overhaul facilities and equipment.

30.04	Storage or Maintenance of Way Building	
30.05	Yard and Yard Track	Include yard construction, guideway and track associated with yard.
40 SITEWORK & SPECIAL CONDITIONS		Include all construction materials and labor regardless of whom is performing the work.
40.01	Demolition, Clearing, Earthwork	Include project-wide clearing, demolition and fine grading.
40.02	Site Utilities, Utility Relocation	Include all site utilities - storm, sewer, water, gas, electric.
40.03	Haz. mat'l, contam'd soil removal/mitigation, ground water treatments	Include underground storage tanks, fuel tanks, other hazardous materials and treatments, etc.
40.04	Environmental mitigation, e.g. wetlands, historic/archeologic, parks	Include other environmental mitigation not listed.
40.05	Site structures including retaining walls, sound walls	
40.06	Pedestrian / bike access and accommodation, landscaping	Include sidewalks, paths, plazas, functional landscaping, site and station furniture, site lighting, signage, bike facilities, permanent fencing.
40.07	Automobile, bus, van accessways including roads, parking lots	Include all on-grade paving.
40.08	Temporary Facilities and other indirect costs during construction	As a general rule and to the extent possible, appropriately allocate indirect costs among the construction costs in Categories 10 through 50. Where that is not possible, include in <i>40.08 Temporary Facilities</i> costs for mobilization, demobilization, phasing; time and temporary construction associated with weather (heat, rain, freezing, etc.); temporary power and facilities; temporary construction, easements, and barriers for storm water pollution prevention, temporary access and to mitigate construction impacts; project and construction supervision; general conditions, overhead, profit.
50 SYSTEMS		Include all construction materials and labor regardless of whom is performing the work.
50.01	Train control and signals	
50.02	Traffic signals and crossing protection	Include signal prioritization at intersections.
50.03	Traction power supply: substations	
50.04	Traction power distribution: catenary and third rail	
50.05	Communications	Include passenger information systems at stations and on vehicles (real time travel information; static maps and schedules). Include equipment to allow communications among vehicles and with central control.

50.06	Fare collection system and equipment	Include fare sales and swipe machines, fare counting equipment.
50.07	Central Control	
Construction Subtotal (10 - 50)		
60 ROW, LAND, EXISTING IMPROVEMENTS		Include professional services associated with the real estate component of the project. These costs may include agency staff oversight and administration, real estate and relocation consultants, legal counsel, court expenses, insurance, etc.
60.01	Purchase or lease of real estate	If the value of right-of-way, land, and existing improvements is to be used as local match to the Federal funding of the project, include the total cost on this line item. In backup documentation, separate cost for land from cost for improvements. Identify whether items are leased, purchased or acquired through payment or for free. Include the costs for permanent surface and subsurface easements, trackage rights, etc.
60.02	Relocation of existing households and businesses	In compliance with Uniform Relocation Act.
70 VEHICLES (number)		Include professional services associated with the vehicle component of the project. These costs may include agency staff oversight and administration, vehicle consultants, design and manufacturing contractors, legal counsel, warranty and insurance costs, etc.
70.01	Light Rail	Include light rail and streetcar rail using electric, diesel or other power supply.
70.02	Heavy Rail	
70.03	Commuter Rail	Include locomotives (diesel, electric, or other), trailer cars, self-propelled multiple units (EMU electric or DMU diesel, or other power supply)
70.04	Bus	Includes "rubber-tired" buses and trolleys including new, used, historic replica, articulated, using electric, diesel, dual-power, or other power supply.
70.05	Other	Include Vans, Sedan/Station Wagon, Cable Car, People Mover, Monorail, Car/Inclined Railway, Ferry Boat, Transferred Vehicle
70.06	Non-revenue vehicles	
70.07	Spare parts	
80 PROFESSIONAL SERVICES (applies to Cats. 10-50)		Cat. 80 applies to Cats. 10-50. Cat. 80 includes all professional, technical and management services related to the design and construction of fixed infrastructure (Cats. 10 - 50) during the project development and construction phases of the project. This includes environmental work, design, engineering and architectural services; specialty services such as safety or security analyses; value engineering, risk assessment, cost estimating, scheduling, ridership modeling and analyses, auditing, legal services, administration and management, etc. by agency staff or outside consultants.
80.01	Project Development	Include professional liability insurance and other non-construction insurance on 80.05 unless insurance for the agency and its consultants is already included in other lines.
80.02	Engineering	
80.03	Project Management for Design and Construction	
80.04	Construction Administration & Management	Include costs associated with professional services related to real estate and vehicles in Cats. 60 and 70.
80.05	Professional Liability and other Non-Construction Insurance	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	

80.07	Surveys, Testing, Investigation, Inspection	<i>(Note that costs for planning activities and NEPA work done before FTA approval to enter project development (PD), <u>regardless of funding source</u>, are not included in an FFGA and therefore, should not be included in the Standard Cost Category worksheets. For example, on one and the same grant, costs incurred prior to FTA approval to enter PD should be omitted from these worksheets whereas costs incurred after FTA approval to enter PD should be included.)</i>
80.08	Start up	Include start up and training. Include in Cats. 10 - 50 above access and protection work by agency staff or outside contractors.
Subtotal (10 - 80)		
90 UNALLOCATED CONTINGENCY		Includes unallocated contingency, project reserves. Document allocated contingencies for individual line items on the BUILD Main worksheet.
Subtotal (10 - 90)		
100 FINANCE CHARGES (CC Only)		Include finance charges expected to be paid by the project sponsor/grantee prior to either the completion of the project or the fulfillment of the Core Capacity funding commitment, whichever occurs later in time. Finance charges incurred after this date should not be included in Total Project Cost. (See FFGA Circular FTA C5200.1A Chapter III for additional information.) Derive finance charges from the Core Capacity project's financial plan, based on an analysis of the sources and uses of funds. The amount and type of debt financing required and revenues available determine the finance charges. By year, compute finance charges in year-of-expenditure (YOE) dollars. On the Inflation worksheet enter the finance charges for the appropriate years.
Total Project Cost (10 - 100)		

Dover and Rockaway Rail Realignment

10 GUIDEWAY & TRACK ELEMENTS											
10.11 Track: Ballasted											
	STATIONING					UNIT		ALLOCATED			
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST	COMMENTS
									15%		
			Install New Track	10.11	4100	LF	\$350	\$1,435,000	\$215,250	\$1,650,250	New Ballasted Track - D&R Mainline Standards
10.11			TOTAL BALLASTED TRACK					\$1,435,000	\$215,250	\$1,650,250	

Dover and Rockaway Rail Realignment

10 GUIDEWAY & TRACK ELEMENTS										
10.12 Track: Special (switches, turnouts, miter rails, etc.)										
	STATIONING					UNIT		ALLOCATED		
	PS	Track #	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	COMMENTS
									15%	
			#10 Turnout (D&R)	10.12	1	EA	\$230,000	\$230,000	\$34,500	To provide service to customers in Dover
			#10 Siding Turnout (NJT O&M)	10.12	2	EA	\$230,000	\$460,000	\$69,000	One to install under current concept, and one to install ufor future NJT siding
			Power Switch Machine and Rods (NJT O&M)	10.12	3	EA	\$40,000	\$120,000	\$18,000	For All New Turnouts
			Switch Heaters (NJT O&M)	10.12	3	EA	\$18,000	\$54,000	\$8,100	For All New Turnouts
10.12			TOTAL SPECIAL TRACK					\$864,000	\$129,600	\$993,600

Dover and Rockaway Rail Realignment

40 SITEWORK & SPECIAL CONDITIONS										
40.01 Demolition, Clearing, Earthwork										
	STATIONING						UNIT		ALLOCATED	
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST
									25%	
			Clearing & Grubbing - General	40.01	5.6	AC	\$13,500	\$75,600	\$18,900	\$94,500
										60' wide disturbance x 4100LF of new track is approximate area of disturbance
			Grading & Fill	40.01	35000	CY	\$30	\$1,050,000	\$262,500	\$1,312,500
40.01			TOTAL DEMOLITION, CLEARING, EARTHWORK					\$1,125,600	\$281,400	\$1,407,000

Dover and Rockaway Rail Realignment

40 SITEWORK & SPECIAL CONDITIONS										
40.02 Site Utilities, Utility Relocation										
	STATIONING					UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	COMMENTS
									35%	
			Overhead Line Relocation - JCPL	40.02	3	EA	\$50,000	\$150,000	\$52,500	\$202,500
			Overhead Line Relocation - Unknown	40.02	4	EA	\$50,000	\$200,000	\$70,000	\$270,000
			Underground Water Line Protection	40.02	1	EA	\$50,000	\$50,000	\$17,500	\$67,500
			Underground Natural Gas Protection	40.02	1	EA	\$50,000	\$50,000	\$17,500	\$67,500
			Utility Pole Protection/Relocation	40.02	2	EA	\$50,000	\$100,000	\$35,000	\$135,000
40.02			TOTAL UTILITY RELOCATION					\$550,000	\$192,500	\$742,500

Dover and Rockaway Rail Realignment

40 SITEWORK & SPECIAL CONDITIONS											
40.04 Environmental Mitigation, e.g. wetlands, historic/archeology, parks											
	STATIONING					UNIT		ALLOCATED			
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST	COMMENTS
									20%		
			Wetlands	40.04	5.6	Acres	\$700,000	\$3,920,000	\$784,000	\$4,704,000	60' wide disturbance x 4100LF of new track is approximate area of disturbance
40.05			TOTAL SITE STRUCTURES					\$3,920,000	\$784,000	\$4,704,000	

Dover and Rockaway Rail Realignment

40 SITEWORK & SPECIAL CONDITIONS										
40.05 Site Structures										
	STATIONING					UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST
									35%	
			Retaining Wall	40.05	150	LF	\$530	\$79,500	\$27,825	\$107,325
										Concrete Gravity Wall Along Access Road to Loading Dock
			Culvert (6' x 6')	40.05	150	LF	\$620	\$93,000	\$32,550	\$125,550
			Guiderail	40.05	150	LF	\$45	\$6,750	\$2,363	\$9,113
40.05			TOTAL SITE STRUCTURES					\$179,250	\$62,738	\$241,988

Dover and Rockaway Rail Realignment

40 SITEWORK & SPECIAL CONDITIONS											
40.07 Automobile, bus, van accessways including roads, parking lots											
	STATIONING						UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST	COMMENTS
									20%		
			Parking Lot	40.07	30	spaces	\$3,000	\$90,000	\$18,000	\$108,000	McWilliams Forge Parking Replacement
40.07			TOTAL ROADS & PARKING LOTS					\$90,000	\$18,000	\$108,000	

Dover and Rockaway Rail Realignment

40 SITEWORK & SPECIAL CONDITIONS										
40.08 Temporary Facilities and other indirect costs during construction										
	STATIONING					UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	COMMENTS
			General Conditions	40.08	10%	LS	\$1,041,584	\$104,158		\$104,158
			Percent of SCC 10.01 through 50.07 except 40.08							
40.08			TOTAL INDIRECT COSTS					\$104,158		\$104,158

Dover and Rockaway Rail Realignment

50 SYSTEMS											
50.01 Train Control and Signals											
	STATIONING					UNIT		ALLOCATED			
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST	COMMENTS
									45%		
			NJT Signal Work	50.01	1	LS	\$150,000	\$150,000	\$67,500	\$217,500	
50.01			TOTAL TRAIN CONTROL AND SIGNALS					\$150,000	\$67,500	\$217,500	

\$435,000

Dover and Rockaway Rail Realignment

50	SYSTEMS										
50.02	Traffic Signals and Crossing Protection										
	STATIONING					UNIT		ALLOCATED			
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST	COMMENTS
									35%		
			Grade Crossing Structure - Lights & Gates	50.02	1	EA	\$250,000	\$250,000	\$87,500	\$337,500	McWilliams Forge
			Crossing Package	50.02	1	EA	\$10,000	\$10,000	\$3,500	\$13,500	
50.02			TOTAL TRAFFIC SIGNALS AND CROSSING PROTECTION					\$260,000	\$91,000	\$351,000	

Dover and Rockaway Rail Realignment

60 ROW, LAND, EXISTING IMPROVEMENTS										
60.01 Purchase or lease of real estate										
	STATIONING					UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	COMMENTS
									35%	
			Wide Band Systems	60.01	1	LS	\$1,200,000	\$1,200,000	\$420,000	Asking Price
			Other Property Acquisition	60.01	5	AC	\$46,000	\$230,000	\$80,500	Average Land Value
			Easement - Utility Crossings	60.01	9	EA	\$1,000	\$9,000	\$3,150	Yearly Crossing License
60.01			TOTAL REAL ESTATE					\$1,439,000	\$503,650	\$1,942,650

Dover and Rockaway Rail Realignment

80 PROFESSIONAL SERVICES										
80.01 Preliminary Engineering										
	STATIONING					UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	COMMENTS
			Preliminary Engineering	80.01	6%	LS	\$10,415,838	\$624,950		\$624,950
			Percent of SCC 10.01 through 50.07 except 40.08							
80.01			TOTAL PRELIMINARY ENGINEERING					\$624,950		\$624,950

Dover and Rockaway Rail Realignment

80 PROFESSIONAL SERVICES										
80.02 Final Design and Construction Services										
	STATIONING						UNIT		ALLOCATED	
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST
			Final Design Engineering	80.02	5%	LS	\$10,415,838	\$520,792		\$520,792
			(Shop Dwgs, RFIs, NPCs, FOFs, etc.)							
			Percent of SCC 10.01 through 50.07 except 40.08							
			Construction Services by Engineering Team	80.02	2.5%	LS	\$10,415,838	\$260,396		\$260,396
			(Shop Dwgs, RFIs, NPCs, FOFs, etc.)							
			Percent of SCC 10.01 through 50.07 except 40.08							
80.02			TOTAL PRELIMINARY ENGINEERING					\$781,188		\$781,188

Dover and Rockaway Rail Realignment

80 PROFESSIONAL SERVICES											
80.03 Project Management for Design and Construction											
	STATIONING						UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST	COMMENTS
			Project Management for Design & Construction	80.03	3%	LS	\$10,415,838	\$312,475		\$312,475	
			Percent of SCC 10.01 through 50.07 except 40.08								
80.03			TOTAL PROJECT MANAGEMENT					\$312,475		\$312,475	

Dover and Rockaway Rail Realignment

80 PROFESSIONAL SERVICES											
80.04 Construction Administration and Management											
	STATIONING						UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST	COMMENTS
			Construction Management	80.04	6%	LS	\$10,415,838	\$624,950		\$624,950	
			Percent of SCC 10.01 through 50.07 except 40.08								
80.04			TOTAL PROJECT MANAGEMENT					\$624,950		\$624,950	

Dover and Rockaway Rail Realignment

80 PROFESSIONAL SERVICES										
80.05 Insurance										
	STATIONING					UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	COMMENTS
			Insurance and Insurance Certificates	80.05	8%	LS	\$10,415,838	\$833,267		\$833,267
			Percent of SCC 10.01 through 50.07 except 40.08							
80.05			TOTAL PROJECT MANAGEMENT					\$833,267		\$833,267

Dover and Rockaway Rail Realignment

80 PROFESSIONAL SERVICES											
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.											
	STATIONING						UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST	COMMENTS
			Legal; Permits; Review Fees by others, etc.	80.06	4%	LS	\$10,415,838	\$416,634		\$416,634	
			Percent of SCC 10.01 through 50.07 except 40.08								
80.06			TOTAL PROJECT MANAGEMENT					\$416,634		\$416,634	

Dover and Rockaway Rail Realignment

80 PROFESSIONAL SERVICES										
80.07 Surveys: Testing, Investigations, Inspections										
	STATIONING					UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	COMMENTS
			Surveys: Testing, Investigations, Inspections	80.07	4%	LS	\$10,415,838	\$416,634		\$416,634
			Percent of SCC 10.01 through 50.07 except 40.08							
			<u>Percentage is to cover items including those listed below:</u>							
			Complete site survey, including meets and bounds of affected properties							
			Confirm property requirements and make acquisition and/or easement arrangements							
			Permitting and stakeholder coordination							
80.07			TOTAL SURVEYS					\$416,634		\$416,634

Dover and Rockaway Rail Realignment

80 PROFESSIONAL SERVICES										
80.08 Start Up										
	STATIONING					UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	COMMENTS
			Start-Up Costs	80.08	2%	LS	\$10,415,838	\$208,317		\$208,317
			Percent of SCC 10.01 through 50.07 except 40.08							
80.08			TOTAL START UP					\$208,317		\$208,317

Dover and Rockaway Rail Realignment

90 UNALLOCATED CONTINGENCY											
	STATIONING						UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST	COMMENTS
			Unallocated Contingency	90	25.0%	LS	\$16,681,060	\$4,170,265		\$4,170,265	
			Percent of SCC 10.01 through 80.10								
90			TOTAL CONTINGENCY					\$4,170,265		\$4,170,265	

Dover and Rockaway Rail Realignment

100	FINANCIAL CHARGES										
	STATIONING					UNIT		ALLOCATED			
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST	COMMENTS
			Unallocated Contingency	100	2.65%	LS	\$12,358,488	\$327,500		\$327,500	
			Percent of SCC 10.01 through 70.00 except 40.08								
100			TOTAL FINANCIAL CHARGES					\$327,500		\$327,500	

D&R Realignment - Cost Estimate Alt 1C

MAIN WORKSHEET - ALTERNATIVE 1C								
North Jersey Transportation Planning Authority (NJTPA)						Today's Date		12/23/20
NJTPA Freight Concept Development Program						Yr of Base Year \$		2020
Dover and Rockaway Rail Realignment						Yr of Revenue Ops		TBD
	Quantity	Base Year Dollars w/o Contingency (2020)	Base Year Dollars Allocated Contingency (2020)	Base Year Dollars TOTAL (2020)	Base Year Dollars Unit Cost (2020)	Base Year Dollars Percentage of Construction Cost	Base Year Dollars Percentage of Total Project Cost	Year Of Expenditure Dollars Total (2020)
10 GUIDEWAY & TRACK ELEMENTS (route miles)	0.00	2,229,000	334,350	2,563,350		25%	12%	2,563,350
10.01 Guideway: At-grade exclusive right-of-way		0	0	0				0
10.02 Guideway: At-grade semi-exclusive (allows cross-traffic)		0	0	0				0
10.03 Guideway: At-grade in mixed traffic		0	0	0				0
10.04 Guideway: Aerial structure		0	0	0				0
10.05 Guideway: Built-up fill		0	0	0				0
10.06 Guideway: Underground cut & cover		0	0	0				0
10.07 Guideway: Underground tunnel		0	0	0				0
10.08 Guideway: Retained cut or fill		0	0	0				0
10.09 Track: Direct fixation		0	0	0				0
10.10 Track: Embedded		0	0	0				0
10.11 Track: Ballasted		1,365,000	204,750	1,569,750				1,569,750
10.12 Track: Special (switches, turnouts)		864,000	129,600	993,600				993,600
10.13 Track: Vibration and noise dampening		0	0	0				0
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	0	0	0	0		0%	0%	0
20.01 At-grade station, stop, shelter, mall, terminal, platform		0	0	0				0
20.02 Aerial station, stop, shelter, mall, terminal, platform		0	0	0				0
20.03 Underground station, stop, shelter, mall, terminal, platform		0	0	0				0
20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc.		0	0	0				0
20.05 Joint development		0	0	0				0
20.06 Automobile parking multi-story structure		0	0	0				0
20.07 Elevators, escalators (staircase)		0	0	0				0
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	0	0	0	0		0%	0%	0
30.01 Administration Building: Office, sales, storage, revenue counting		0	0	0				0
30.02 Light Maintenance Facility		0	0	0				0
30.03 Heavy Maintenance Facility		0	0	0				0
30.04 Storage or Maintenance of Way Building		0	0	0				0
30.05 Yard and Yard Track		0	0	0				0
40 SITEWORK & SPECIAL CONDITIONS	0	5,796,908	1,273,025	7,069,933		69%	34%	7,069,933
40.01 Demolition, Clearing, Earthwork		1,032,900	258,225	1,291,125				1,291,125
40.02 Site Utilities, Utility Relocation		500,000	175,000	675,000				675,000
40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments		0	0	0				0
40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks		3,759,000	751,800	4,510,800				4,510,800
40.05 Site structures including retaining walls,(column Replacement)		398,000	86,800	484,800				484,800
40.06 Pedestrian / bike access and accommodation, landscaping		0	0	0				0
40.07 Automobile, bus, van accessways including roads, parking lots		6,000	1,200	7,200				7,200
40.08 Temporary Facilities and other indirect costs during construction		101,008	0	101,008				101,008
50 SYSTEMS	0	410,000	158,500	568,500		6%	3%	568,500
50.01 Train control and signals		150,000	67,500	217,500				217,500
50.02 Traffic signals and crossing protection		260,000	91,000	351,000				351,000
50.03 Traction power supply: substations		0	0	0				0
50.04 Traction power distribution: catenary and third rail		0	0	0				0
50.05 Communications		0	0	0				0
50.06 Fare collection system and equipment		0	0	0				0
50.07 Central Control		0	0	0				0
Construction Subtotal (10 - 50)		8,435,908	1,765,875	10,201,783		100%	49%	10,201,783
60 ROW, LAND, EXISTING IMPROVEMENTS		1,439,000	503,650	1,942,650			9%	1,942,650
60.01 Purchase or lease of real estate		1,439,000	503,650	1,942,650				0
60.02 Relocation of existing households and businesses		0	0	0				0
70 VEHICLES (number)		0	0	0			0%	0
70.01 Light Rail		0	0	0				0
70.02 Heavy Rail		0	0	0				0
70.03 Commuter Rail		0	0	0				0
70.04 Bus		0	0	0				0
70.05 Other		0	0	0				0
70.06 Non-revenue vehicles		0	0	0				0
70.07 Spare parts		0	0	0				0
80 PROFESSIONAL SERVICES (applies to Cats. 10-50)		4,090,814	0	4,090,814		40%	20%	4,090,814
80.01 Preliminary Engineering		606,047	0	606,047				606,047
80.02 Final Design		757,558	0	757,558				757,558
80.03 Project Management for Design and Construction		303,023	0	303,023				303,023
80.04 Construction Administration & Management		606,047	0	606,047				606,047
80.05 Professional Liability and other Non-Construction Insurance		808,062	0	808,062				808,062
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.		404,031	0	404,031				404,031
80.07 Surveys, Testing, Investigation, Inspection		404,031	0	404,031				404,031
80.08 Start up		202,016	0	202,016				202,016
Subtotal (10 - 80)		13,965,722	2,269,525	16,235,247			79%	16,235,247
90 UNALLOCATED CONTINGENCY				4,058,812			20%	4,058,812
Subtotal (10 - 90)				20,294,058			98%	20,294,058
100 FINANCE CHARGES				319,151			2%	319,151
Total Project Cost (10 - 100)				20,613,209			100%	20,613,209
Allocated Contingency as % of Base Yr Dollars w/o Contingency				16.25%				
Unallocated Contingency as % of Base Yr Dollars w/o Contingency				29.06%				
Total Contingency as % of Base Yr Dollars w/o Contingency				45.31%				
Unallocated Contingency as % of Subtotal (10 - 80)				25.00%				
YOE Construction Cost per Mile (2019)								
YOE Total Project Cost per Mile Not Including Vehicles (2019)								
YOE Total Project Cost per Mile (2019)								

Standard Cost Categories for Core Capacity Projects DEFINITIONS		NOTE: The SCC cost breakdown is based on a traditional Design Bid Build model. If your project is Design Build, to the best of your ability, separate construction costs from design, administration, testing, etc. Put all construction costs in 10 through 50. Put design, administration, testing, etc. in 80 <i>Professional Services</i> .
(Rev.21, June 2019)		
10 GUIDEWAY & TRACK ELEMENTS (route miles)		Include guideway and track costs for all transit modes (heavy rail, light rail, commuter rail, BRT, rapid bus, bus, monorail, cable car, etc.) The unit of measure is route miles of guideway, regardless of width. As associated with the guideway, include costs for rough grading, excavation, and concrete base for guideway where applicable. Include all construction materials and labor regardless of whom is performing the work. For example, if the project is constructing guideway 2 miles in one direction and 2 miles in the opposite direction, it should be noted as "2" miles in SCC 10, and the cost of constructing the guideway should be noted in its entirety.
10.01	Guideway: At-grade exclusive right-of-way	
10.02	Guideway: At-grade semi-exclusive (allows cross-traffic)	
10.03	Guideway: At-grade in mixed traffic	
10.04	Guideway: Aerial structure	Include foundation excavation; guideway structures including caissons, columns, bridges, viaducts, cross-overs, fly-overs.
10.05	Guideway: Built-up fill	Include construction of earthen berms.
10.06	Guideway: Underground cut & cover	Include excavation, retaining walls, backfill, underground guideway structure and finishes.
10.07	Guideway: Underground tunnel	Include tunneling by means of a tunnel boring machine, drill blasting, mining, and immersed tube tunneling; tunnel structure and finishes.
10.08	Guideway: Retained cut or fill	Include excavation, retaining walls, backfill, underground guideway structure and finishes.
10.09	Track: Direct fixation	Include rails, connectors.
10.10	Track: Embedded	Include rails, ties; ballast where applicable
10.11	Track: Ballasted	Include rails, ties and ballast.
10.12	Track: Special (switches, turnouts)	Include transitional curves.
10.13	Track: Vibration and noise damper	Include upcharge for vib/noise dampening to any track condition above.

20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)		As associated with stations, include costs for rough grading, excavation, station structures, enclosures, finishes, equipment; mechanical and electrical components including HVAC, ventilation shafts and equipment, station power, lighting, public address/customer information system, safety systems such as fire detection and prevention, security surveillance, access control, life safety systems, etc. Include all construction materials and labor regardless of whom is performing the work. NOTE: Count paired inbound/outbound boarding platforms as one station - do
		Put guideway and track associated with stations in <i>10 Guideway & Track Elements</i> above.
20.01	At-grade station, stop, shelter, mall, terminal, platform	
20.02	Aerial station, stop, shelter, mall, terminal	Include station structures including caissons, columns, platforms, superstructures, etc.
20.03	Underground station, stop, shelter, terminal	Include retaining walls, backfill, structure.
20.04	Other stations, landings, terminals: Intermodal, ferry, trolley, etc.	
20.05	Joint development	Per FTA's Joint Development Guidance, "Joint development is any income-producing activity with a transit nexus related to a real estate asset in which FTA has an interest. ...Joint development projects are commercial, residential, industrial, or mixed-use developments that are induced by or enhance the effectiveness of transit projects. . ."
20.06	Automobile parking multi-story structure	Include retaining walls, backfill, structure.
20.07	Elevators, escalators	
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS		As associated with support facilities, include costs for rough grading, excavation, support structures, enclosures, finishes, equipment; mechanical and electrical components including HVAC, ventilation shafts and equipment, facility power, lighting, public address system, safety systems such as fire detection and prevention, security surveillance, access control, life safety systems, etc. Include fueling stations. Include all construction materials and labor regardless of whom is performing the work.
		Where a support facility shares the structure with a station, its cost may be included with station cost. Identify this with a note.
		Except for guideway and track associated with a yard, include all guideway and track costs associated with support facilities in <i>10 Guideway & Track Elements</i> above.
30.01	Administration Building: Office, sales, storage, revenue counting	
30.02	Light Maintenance Facility	Include service, inspection, and storage facilities and equipment.
30.03	Heavy Maintenance Facility	Include heavy maintenance and overhaul facilities and equipment.

30.04	Storage or Maintenance of Way Building	
30.05	Yard and Yard Track	Include yard construction, guideway and track associated with yard.
40 SITEWORK & SPECIAL CONDITIONS		Include all construction materials and labor regardless of whom is performing the work.
40.01	Demolition, Clearing, Earthwork	Include project-wide clearing, demolition and fine grading.
40.02	Site Utilities, Utility Relocation	Include all site utilities - storm, sewer, water, gas, electric.
40.03	Haz. mat'l, contam'd soil removal/mitigation, ground water treatments	Include underground storage tanks, fuel tanks, other hazardous materials and treatments, etc.
40.04	Environmental mitigation, e.g. wetlands, historic/archeologic, parks	Include other environmental mitigation not listed.
40.05	Site structures including retaining walls, sound walls	
40.06	Pedestrian / bike access and accommodation, landscaping	Include sidewalks, paths, plazas, functional landscaping, site and station furniture, site lighting, signage, bike facilities, permanent fencing.
40.07	Automobile, bus, van accessways including roads, parking lots	Include all on-grade paving.
40.08	Temporary Facilities and other indirect costs during construction	As a general rule and to the extent possible, appropriately allocate indirect costs among the construction costs in Categories 10 through 50. Where that is not possible, include in <i>40.08 Temporary Facilities</i> costs for mobilization, demobilization, phasing; time and temporary construction associated with weather (heat, rain, freezing, etc.); temporary power and facilities; temporary construction, easements, and barriers for storm water pollution prevention, temporary access and to mitigate construction impacts; project and construction supervision; general conditions, overhead, profit.
50 SYSTEMS		Include all construction materials and labor regardless of whom is performing the work.
50.01	Train control and signals	
50.02	Traffic signals and crossing protection	Include signal prioritization at intersections.
50.03	Traction power supply: substations	
50.04	Traction power distribution: catenary and third rail	
50.05	Communications	Include passenger information systems at stations and on vehicles (real time travel information; static maps and schedules). Include equipment to allow communications among vehicles and with central control.

50.06	Fare collection system and equipment	Include fare sales and swipe machines, fare counting equipment.
50.07	Central Control	
Construction Subtotal (10 - 50)		
60 ROW, LAND, EXISTING IMPROVEMENTS		Include professional services associated with the real estate component of the project. These costs may include agency staff oversight and administration, real estate and relocation consultants, legal counsel, court expenses, insurance, etc.
60.01	Purchase or lease of real estate	If the value of right-of-way, land, and existing improvements is to be used as local match to the Federal funding of the project, include the total cost on this line item. In backup documentation, separate cost for land from cost for improvements. Identify whether items are leased, purchased or acquired through payment or for free. Include the costs for permanent surface and subsurface easements, trackage rights, etc.
60.02	Relocation of existing households and businesses	In compliance with Uniform Relocation Act.
70 VEHICLES (number)		Include professional services associated with the vehicle component of the project. These costs may include agency staff oversight and administration, vehicle consultants, design and manufacturing contractors, legal counsel, warranty and insurance costs, etc.
70.01	Light Rail	Include light rail and streetcar rail using electric, diesel or other power supply.
70.02	Heavy Rail	
70.03	Commuter Rail	Include locomotives (diesel, electric, or other), trailer cars, self-propelled multiple units (EMU electric or DMU diesel, or other power supply)
70.04	Bus	Includes "rubber-tired" buses and trolleys including new, used, historic replica, articulated, using electric, diesel, dual-power, or other power supply.
70.05	Other	Include Vans, Sedan/Station Wagon, Cable Car, People Mover, Monorail, Car/Inclined Railway, Ferry Boat, Transferred Vehicle
70.06	Non-revenue vehicles	
70.07	Spare parts	
80 PROFESSIONAL SERVICES (applies to Cats. 10-50)		Cat. 80 applies to Cats. 10-50. Cat. 80 includes all professional, technical and management services related to the design and construction of fixed infrastructure (Cats. 10 - 50) during the project development and construction phases of the project. This includes environmental work, design, engineering and architectural services; specialty services such as safety or security analyses; value engineering, risk assessment, cost estimating, scheduling, ridership modeling and analyses, auditing, legal services, administration and management, etc. by agency staff or outside consultants.
80.01	Project Development	Include professional liability insurance and other non-construction insurance on 80.05 unless insurance for the agency and its consultants is already included in other lines.
80.02	Engineering	
80.03	Project Management for Design and Construction	
80.04	Construction Administration & Management	Include costs associated with professional services related to real estate and vehicles in Cats. 60 and 70.
80.05	Professional Liability and other Non-Construction Insurance	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	

80.07	Surveys, Testing, Investigation, Inspection	<i>(Note that costs for planning activities and NEPA work done before FTA approval to enter project development (PD), <u>regardless of funding source</u>, are not included in an FFGA and therefore, should not be included in the Standard Cost Category worksheets. For example, on one and the same grant, costs incurred prior to FTA approval to enter PD should be omitted from these worksheets whereas costs incurred after FTA approval to enter PD should be included.)</i>
80.08	Start up	Include start up and training. Include in Cats. 10 - 50 above access and protection work by agency staff or outside contractors.
Subtotal (10 - 80)		
90 UNALLOCATED CONTINGENCY		Includes unallocated contingency, project reserves. Document allocated contingencies for individual line items on the BUILD Main worksheet.
Subtotal (10 - 90)		
100 FINANCE CHARGES (CC Only)		Include finance charges expected to be paid by the project sponsor/grantee prior to either the completion of the project or the fulfillment of the Core Capacity funding commitment, whichever occurs later in time. Finance charges incurred after this date should not be included in Total Project Cost. (See FFGA Circular FTA C5200.1A Chapter III for additional information.) Derive finance charges from the Core Capacity project's financial plan, based on an analysis of the sources and uses of funds. The amount and type of debt financing required and revenues available determine the finance charges. By year, compute finance charges in year-of-expenditure (YOE) dollars. On the Inflation worksheet enter the finance charges for the appropriate years.
Total Project Cost (10 - 100)		

Dover and Rockaway Rail Realignment

10 GUIDEWAY & TRACK ELEMENTS											
10.11 Track: Ballasted											
	STATIONING					UNIT		ALLOCATED			
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST	COMMENTS
									15%		
			Install New Track	10.11	3900	LF	\$350	\$1,365,000	\$204,750	\$1,569,750	New Ballasted Track - D&R Mainline Standards
10.11			TOTAL BALLASTED TRACK					\$1,365,000	\$204,750	\$1,569,750	

Dover and Rockaway Rail Realignment

10 GUIDEWAY & TRACK ELEMENTS										
10.12 Track: Special (switches, turnouts, miter rails, etc.)										
	STATIONING					UNIT		ALLOCATED		
	PS	Track #	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	COMMENTS
									15%	
			#10 Turnout (D&R)	10.12	1	EA	\$230,000	\$230,000	\$34,500	To provide service to customers in Dover
			#10 Siding Turnout (NJT O&M)	10.12	2	EA	\$230,000	\$460,000	\$69,000	One to install under current concept, and one to install ufor future NJT siding
			Power Switch Machine and Rods (NJT O&M)	10.12	3	EA	\$40,000	\$120,000	\$18,000	For All New Turnouts
			Switch Heaters (NJT O&M)	10.12	3	EA	\$18,000	\$54,000	\$8,100	For All New Turnouts
10.12			TOTAL SPECIAL TRACK					\$864,000	\$129,600	\$993,600

Dover and Rockaway Rail Realignment

40 SITEWORK & SPECIAL CONDITIONS										
40.01 Demolition, Clearing, Earthwork										
	STATIONING						UNIT		ALLOCATED	
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST
									25%	
			Clearing & Grubbing - General	40.01	5.4	AC	\$13,500	\$72,900	\$18,225	\$91,125
										60' wide disturbance x 3900 LF of new track is approximate area of disturbance
			Grading & Fill	40.01	32000	CY	\$30	\$960,000	\$240,000	\$1,200,000
40.01			TOTAL DEMOLITION, CLEARING, EARTHWORK					\$1,032,900	\$258,225	\$1,291,125

Dover and Rockaway Rail Realignment

40 SITEWORK & SPECIAL CONDITIONS										
40.02 Site Utilities, Utility Relocation										
	STATIONING					UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	COMMENTS
									35%	
			Overhead Line Relocation - JCPL	40.02	1	EA	\$50,000	\$50,000	\$17,500	\$67,500
			Overhead Line Relocation - Unknown	40.02	5	EA	\$50,000	\$250,000	\$87,500	\$337,500
			Underground Water Line Protection	40.02	1	EA	\$50,000	\$50,000	\$17,500	\$67,500
			Underground Natural Gas Protection	40.02	1	EA	\$50,000	\$50,000	\$17,500	\$67,500
			Utility Pole Protection/Relocation	40.02	2	EA	\$50,000	\$100,000	\$35,000	\$135,000
40.02			TOTAL UTILITY RELOCATION					\$500,000	\$175,000	\$675,000

Dover and Rockaway Rail Realignment

40 SITEWORK & SPECIAL CONDITIONS											
40.04 Environmental Mitigation, e.g. wetlands, historic/archeology, parks											
	STATIONING					UNIT		ALLOCATED			
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST	COMMENTS
									20%		
			Wetlands	40.04	5.37	Acres	\$700,000	\$3,759,000	\$751,800	\$4,510,800	60' wide disturbance x 3900LF of new track is approximate area of disturbance
40.05			TOTAL SITE STRUCTURES					\$3,759,000	\$751,800	\$4,510,800	

0.23

Dover and Rockaway Rail Realignment

40 SITEWORK & SPECIAL CONDITIONS										
40.05 Site Structures										
	STATIONING					UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	COMMENTS
									35%	
			Retaining Wall	40.05	0	LF	\$530	\$0	\$0	
			Culvert (6' x 6')	40.05	400	LF	\$620	\$248,000	\$86,800	\$334,800
										At North east corner of McWilliams Forge
			Culvert (3' x 3')	40.05	500	LF	\$300	\$150,000	\$0	\$150,000
										East of track fronting McWilliams Forge
			Guiderail	40.05	0	LF	\$45	\$0	\$0	\$0
40.05			TOTAL SITE STRUCTURES					\$398,000	\$86,800	\$484,800

Dover and Rockaway Rail Realignment

40 SITEWORK & SPECIAL CONDITIONS											
40.07 Automobile, bus, van accessways including roads, parking lots											
	STATIONING						UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST	COMMENTS
									20%		
			Parking Lot	40.07	2	spaces	\$3,000	\$6,000	\$1,200	\$7,200	McWilliams Forge Parking Replacement for truck staging
40.07			TOTAL ROADS & PARKING LOTS					\$6,000	\$1,200	\$7,200	

Dover and Rockaway Rail Realignment

40 SITEWORK & SPECIAL CONDITIONS										
40.08 Temporary Facilities and other indirect costs during construction										
	STATIONING					UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	COMMENTS
			General Conditions	40.08	10%	LS	\$1,010,078	\$101,008		\$101,008
			Percent of SCC 10.01 through 50.07 except 40.08							
40.08			TOTAL INDIRECT COSTS					\$101,008		\$101,008

Dover and Rockaway Rail Realignment

50 SYSTEMS											
50.01 Train Control and Signals											
	STATIONING						UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST	COMMENTS
									45%		
			NJT Signal Work	50.01	1	LS	\$150,000	\$150,000	\$67,500	\$217,500	
50.01			TOTAL TRAIN CONTROL AND SIGNALS					\$150,000	\$67,500	\$217,500	

\$435,000

Dover and Rockaway Rail Realignment

50	SYSTEMS										
50.02	Traffic Signals and Crossing Protection										
	STATIONING					UNIT		ALLOCATED			
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST	COMMENTS
									35%		
			Grade Crossing Structure - Lights & Gates	50.02	1	EA	\$250,000	\$250,000	\$87,500	\$337,500	McWilliams Forge
			Crossing Package	50.02	1	EA	\$10,000	\$10,000	\$3,500	\$13,500	
50.02			TOTAL TRAFFIC SIGNALS AND CROSSING PROTECTION					\$260,000	\$91,000	\$351,000	

Dover and Rockaway Rail Realignment

60 ROW, LAND, EXISTING IMPROVEMENTS										
60.01 Purchase or lease of real estate										
	STATIONING					UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	COMMENTS
									35%	
			Wide Band Systems	60.01	1	LS	\$1,200,000	\$1,200,000	\$420,000	Asking Price
			Other Property Acquisition	60.01	5	AC	\$46,000	\$230,000	\$80,500	Average Land Value
			Easement - Utility Crossings	60.01	9	EA	\$1,000	\$9,000	\$3,150	Yearly Crossing License
60.01			TOTAL REAL ESTATE					\$1,439,000	\$503,650	\$1,942,650

Dover and Rockaway Rail Realignment

80 PROFESSIONAL SERVICES										
80.01 Preliminary Engineering										
	STATIONING					UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	COMMENTS
			Preliminary Engineering	80.01	6%	LS	\$10,100,775	\$606,047		\$606,047
			Percent of SCC 10.01 through 50.07 except 40.08							
80.01			TOTAL PRELIMINARY ENGINEERING					\$606,047		\$606,047

Dover and Rockaway Rail Realignment

80 PROFESSIONAL SERVICES										
80.02 Final Design and Construction Services										
	STATIONING						UNIT		ALLOCATED	
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST
			Final Design Engineering	80.02	5%	LS	\$10,100,775	\$505,039		\$505,039
			(Shop Dwgs, RFIs, NPCs, FOFs, etc.)							
			Percent of SCC 10.01 through 50.07 except 40.08							
			Construction Services by Engineering Team	80.02	2.5%	LS	\$10,100,775	\$252,519		\$252,519
			(Shop Dwgs, RFIs, NPCs, FOFs, etc.)							
			Percent of SCC 10.01 through 50.07 except 40.08							
80.02			TOTAL PRELIMINARY ENGINEERING					\$757,558		\$757,558

Dover and Rockaway Rail Realignment

80 PROFESSIONAL SERVICES											
80.03 Project Management for Design and Construction											
	STATIONING						UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST	COMMENTS
			Project Management for Design & Construction	80.03	3%	LS	\$10,100,775	\$303,023		\$303,023	
			Percent of SCC 10.01 through 50.07 except 40.08								
80.03			TOTAL PROJECT MANAGEMENT					\$303,023		\$303,023	

Dover and Rockaway Rail Realignment

80 PROFESSIONAL SERVICES											
80.04 Construction Administration and Management											
	STATIONING						UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST	COMMENTS
			Construction Management	80.04	6%	LS	\$10,100,775	\$606,047		\$606,047	
			Percent of SCC 10.01 through 50.07 except 40.08								
80.04			TOTAL PROJECT MANAGEMENT					\$606,047		\$606,047	

Dover and Rockaway Rail Realignment

80 PROFESSIONAL SERVICES										
80.05 Insurance										
	STATIONING					UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	COMMENTS
			Insurance and Insurance Certificates	80.05	8%	LS	\$10,100,775	\$808,062		\$808,062
			Percent of SCC 10.01 through 50.07 except 40.08							
80.05			TOTAL PROJECT MANAGEMENT					\$808,062		\$808,062

Dover and Rockaway Rail Realignment

80 PROFESSIONAL SERVICES										
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.										
	STATIONING					UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	COMMENTS
			Legal; Permits; Review Fees by others, etc.	80.06	4%	LS	\$10,100,775	\$404,031		\$404,031
			Percent of SCC 10.01 through 50.07 except 40.08							
80.06			TOTAL PROJECT MANAGEMENT					\$404,031		\$404,031

Dover and Rockaway Rail Realignment

80 PROFESSIONAL SERVICES										
80.07 Surveys: Testing, Investigations, Inspections										
	STATIONING					UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST
			Surveys: Testing, Investigations, Inspections	80.07	4%	LS	\$10,100,775	\$404,031		\$404,031
			Percent of SCC 10.01 through 50.07 except 40.08							
			<u>Percentage is to cover items including those listed below:</u>							
			Complete site survey, including meets and bounds of affected properties							
			Confirm property requirements and make acquisition and/or easement arrangements							
			Permitting and stakeholder coordination							
80.07			TOTAL SURVEYS					\$404,031		\$404,031

Dover and Rockaway Rail Realignment

80 PROFESSIONAL SERVICES											
80.08 Start Up											
	STATIONING					UNIT		ALLOCATED			
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST	COMMENTS
			Start-Up Costs	80.08	2%	LS	\$10,100,775	\$202,016		\$202,016	
			Percent of SCC 10.01 through 50.07 except 40.08								
80.08			TOTAL START UP					\$202,016		\$202,016	

Dover and Rockaway Rail Realignment

90 UNALLOCATED CONTINGENCY											
	STATIONING						UNIT		ALLOCATED		
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST	COMMENTS
			Unallocated Contingency	90	25.0%	LS	\$16,235,247	\$4,058,812		\$4,058,812	
			Percent of SCC 10.01 through 80.10								
90			TOTAL CONTINGENCY					\$4,058,812		\$4,058,812	

Dover and Rockaway Rail Realignment

100	FINANCIAL CHARGES										
	STATIONING					UNIT		ALLOCATED			
	BEGIN	END	DESCRIPTION	COST ID	QTY	UNIT	COST	BASE COST	CONTINGENCY	TOTAL COST	COMMENTS
			Unallocated Contingency	100	2.65%	LS	\$12,043,425	\$319,151		\$319,151	
			Percent of SCC 10.01 through 70.00 except 40.08								
100			TOTAL FINANCIAL CHARGES					\$319,151		\$319,151	

Appendix I

Value Engineering Assessment





May 15, 2020

Study Identification

Project

- Dover and Rockaway Rail Realignment Project

VE Team Members

- Gerald Fry PE, Project Manager, JMT, 610-366-2500, gfry@jmt.com
- Joel Schmoyer PE, Structural Engineer, JMT, 610-366-2510, jschmoyer@jmt.com
- Morgan Moldoff PE, Rail Specialist, JMT of New York, 518-218-5947, mmoldoff@jmt.com
- Amy Altimare, NEPA Specialist, JMT, 717-741-6239, aaltimare@jmt.com
- Mark Neves, CADD Technician, JMT, 610-366-2519, mneves@jmt.com

Information Phase

- Scott Parker PE, Project Manager, Jacobs Engineering Group, 862-242-7326, scott.parker@jacobs.com
- Jakub Rowinski, Manager of Freight Planning, NJTPA, 973-639-8443, jrowinski@njtpa.org

Mr. Parker and Mr. Rowinski conducted an overview of the Dover and Rockaway Rail Realignment project with the VE Team at the offices of Jacobs Engineering Group in Morristown, NJ on Wednesday, December 11, 2019. The in-office overview was followed by a site visit to the project site also lead by Mr. Parker and Mr. Rowinski.

The following documents were made available to the VE Team and were treated as project source documents:

1. Purpose and Need Document (including Existing Conditions and Issues Statement and Goals and Objectives Statement)
2. Draft Concept Development Narrative
3. Draft Alternative Evaluation Matrix
4. Project Area Maps
 - a. Preliminary Alignments Map
 - b. Floodplain Impacts Map
 - c. Wetlands Impact Map
 - d. Threatened and Endangered Species Impact Map
 - e. Hazardous Materials Impact Map
5. Cultural Resources Screening
6. Environmental Screening
7. Public Presentation Materials

Creative Idea Phase

The VE Team met on December 19, 2019 in JMT's Allentown, PA Office. This meeting focused on the creative ideas phase of the VE project. The Dover and Rockaway Rail Realignment project has been developed to a Transportation Planning Study phase, as such, a traditional preliminary engineering level cost breakdown is not yet available.



The creative idea phase focused on alternatives that might leave a lesser impact on the project area resources, while meeting the stated purpose and need. These ideas could include:

- An intuitively lower cost alternative
- An alternative with a smaller impact on identified cultural and natural resource
- An alternative that has a smaller real estate impact

Dover and Rockaway Rail Realignment Project – Purpose and Need

The Purpose and Need for this project is stated as:

“The purpose of this project is to optimize freight movement and improve safety by reducing conflicts between the Dover and Rockaway Railroad (D&R) and vehicular and pedestrian traffic especially in downtown Dover.”

In addition to the documents listed above the team reviewed two videos demonstrating the rail lines impact at the 18 un-gated and un-signalized at-grade crossings. Thirteen of these are in the Town of Dover and five are in Rockaway Township.

The VE team reviewed the existing alternatives studied (Options 1A/1C, 1B, 2A, 2B, 3 – 7) including the identified preferred alternative (Option 4), drafted by Jacob’s Engineering (See Attachment A, Preliminary Alignments Map), and conducted a facilitated brainstorming session to identify additional new alternatives. Many concepts/options were discussed during the brainstorming session but were immediately dismissed because they did not rise to the level of the considered options for various reasons such as, unreasonable requirements for property takings and displacement of businesses and residences. The following options were identified as potential alternatives. The team’s concepts and initial alternative pros and cons are listed below.

1. Do Nothing
 - a. This option would take no action to improve the current transportation route.
 - b. This option was dismissed as it fails to meet the project purpose and need.
2. Gate Crossings
 - a. This option provides gates at major or closely spaced at-grade crossings throughout the corridor. The VE Team believes that seven crossings on the downtown Dover grid system could be considered including, Pequannock Street, N. Sussex Street, N. Morris Street, N. Essex Street, N. Bergen Street, Union Street, and Mercer Street.
 - b. This option has a high cost assuming \$250K per crossing.
 - c. It does not improve vehicular or pedestrian conflicts in downtown Dover.
 - d. It is at odds with Goal 4A in the project’s Purpose and Need document and does not meet the project purpose and need.
 - e. This option was dismissed.
3. Reconfigure Grid System to Reduce Crossings (with gates)
 - a. This option provides an improved grid system within the Town of Dover.
 - b. This option reduces but does not eliminate traffic and pedestrian conflicts.
 - c. The cost to complete this option will be significant, and maintenance will need to be factored in.
 - d. This option reduces natural resource impacts, specifically impacts to aquatic resources.
 - e. This option is at odds with Goal 4A in the project’s Purpose and Need document and does not meet the project purpose and need.



- f. This option was dismissed.
- 4. Option 1c
 - a. This option is a previously identified alternative drafted by Jacobs Engineering. Option 1c stays on the alignment of and reestablishes the former rail line.
 - b. Option 1c shifts the rail line closer to McWilliams Forge.
 - c. The option will create an at-grade crossing for the Forge with pedestrian traffic from the parking lot.
 - d. Option 1c would require the modification of the existing gate house and configuration of trucks into the Forge facility.
 - e. Hazmat impacts could be higher which result in higher costs and liability implications.
 - f. McWilliams Forge has expressed an objection to this option. To date, this objection has been considered a fatal flaw.
- 5. New Alignment Option 8
 - a. New Alignment Option 8 takes the alignment further to the east of the previously considered alignments and is a similar alternative to the previously identified Option 6 that connects existing Option 6 with the NJT line at a point further east than other options. It includes approximately 4600 LF of new rail construction. See Attachment A, Preliminary Alignments Map.
 - b. Roadway access will require a gate and roadhouse similar to Option 6.
 - c. Similar to Option 6, Option 8 avoids impacts to existing structures.
 - d. Option 8 Reduces 100-yr Floodplain impacts.
 - e. Option 8 is not on historic fill other than adjacent to the RR.
 - f. Option 8 avoids known contaminants.
 - g. Option 8 has not yet been evaluated for vertical alignment criteria.
 - h. Option 8 should be added to the impact charts, to compare this with the alternatives studied in detail previously. It is likely that there will be:
 - i. The same to less Threatened and Endangered Species impacts than original Option 6.
 - ii. Potentially a lesser impact regarding hazardous materials than original Options 4 and 6.
 - iii. Less of an impact to wetlands than Option 6. Likely similar to Option 4, and more impact than Option 1c.
- 6. Option 4 (Jacobs preferred alternative)
 - a. This option is a previously identified alternative drafted by Jacobs Engineering, and was identified as the Jacobs Engineering preferred alternative. Option 4 mimics Option 1c but with a lesser impact on the operation of McWilliams Forge. Unlike option 1c this option is not immediately adjacent to the forge operating facilities. Management of the forge has indicated that this option is more desirable.
 - b. This option impacts the McWilliams Forge existing parking lot.
 - c. This option impacts access to McWilliams Forge and would require grade crossing and signals.
 - d. Option 4 adds a culvert which needs to be extended adjacent to the access road and into the parking lot, and it must meet loading criteria for freight (Cooper E80).
 - e. There would not be a daily use pedestrian crossing at the new track; however, there would be a vehicular crossing.



- f. Impacts the commercial building located east of the Forge. This building is for sale at \$1.2 M.
- g. Grading would need to be adjusted for the Stone and Tile business access located east of McWilliams Forge.
- h. Impacts wetlands and floodplains about the same as Option 1c.
- i. Requires removal of the existing propane tank, located adjacent to McWilliams Forge.

In summary, Options 2 and 3, listed above consider efforts to eliminate or reduce conflicts on the main grid system in Dover. Options 4 through 6, listed above, as well as the other originally mapped realignment options are located east of the Town of Dover and Dover-Rockaway Road in an industrial and natural resources rich area. They all eliminate nine crossings in Dover while leaving the other nine in place.

The following investigations would need to be conducted on the listed options as the project continues into preliminary engineering:

1. Do Nothing
 - a. No further investigations are required. The option was dismissed because it does not meet the purpose and need.
2. Gate Crossings for existing crossings in Dover (approximately \$250K per crossing gate with control systems)
 - a. No further investigations are required. The option was dismissed because it does not meet the purpose and need.
3. Reconfigure Grid System to Reduce Crossings (with gates)
 - a. This Option is at odds with Goal 4A in the Purpose and Needs Statement, therefore was dismissed. No further investigations are required.
4. Option 1c
 - a. Additional cultural resource investigations and coordination are required. Natural resource investigations and impacts need to be updated/verified.
5. New Alignment Option 8
 - a. Additional cultural and natural resource investigations and coordination are required.
 - b. The vertical alignment will have to be evaluated.
6. Option 4
 - a. Additional cultural resource investigations and coordination are required.

Discussion

The VE Team recommends that a robust cost estimate be prepared for the identified viable alternatives; Option 1c, Option 4, and New Alignment Option 8. See discussion below in the Conclusions/Findings.

Conclusions/Findings

The VE Team sees benefits to several the options presented.

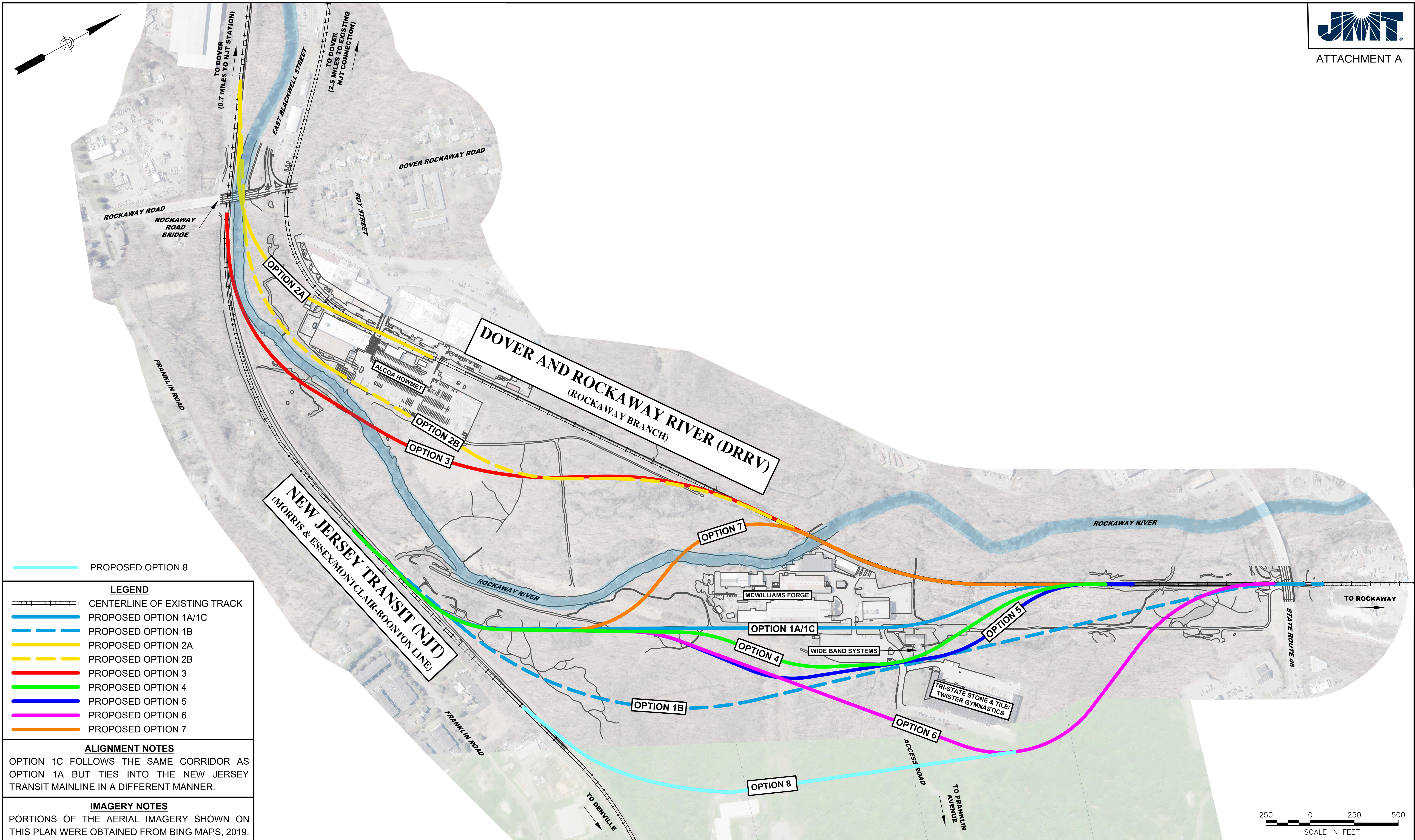
Option 1c may present the cleanest way to reestablish a rail corridor given the historic location, likely existing railroad property rights, and the current grade of the option. We believe the best judge of the fatal flaw nature of the McWilliams Forge objection lies within the community, namely with the Jacobs/NJTPA team.

Option 4, the current preferred alternative, addresses the potential fatal flaw in Option 1c. This option also acquires a commercial building that is currently for sale. Environmental impacts as a result of Option 4 appear to be in a reasonable range in comparison to the other options.



New Alignment Option 8 is a VE Team developed option that appears to have similar environmental impacts as Option 4. It avoids the building acquisition required under Option 4. Option 8 would require further evaluation on its line and grade, particularly the grade (vertical alignment).

In summary the VE Team believes all three of these options, (Option 1c, Option 4, and New Alignment Option 8), are viable in terms of constructability, purpose and need, and environmental impacts. Each of these options would need to evaluate cost. The VE Team believes New Alignment Option 8 is worthy of a review from a fatal flaw perspective before finalizing the option to proceed to preliminary engineering.



NEW JERSEY TRANSIT (NJT)
(MORRIS & ESSEXMONTCLAIR-BOONTON LINE)

- LEGEND
- CENTERLINE OF EXISTING TRACK
 - PROPOSED OPTION 1A/1C
 - PROPOSED OPTION 1B
 - PROPOSED OPTION 2A
 - PROPOSED OPTION 2B
 - PROPOSED OPTION 3
 - PROPOSED OPTION 4
 - PROPOSED OPTION 5
 - PROPOSED OPTION 6
 - PROPOSED OPTION 7
 - PROPOSED OPTION 8

ALIGNMENT NOTES

OPTION 1C FOLLOWS THE SAME CORRIDOR AS
OPTION 1A BUT TIES INTO THE NEW JERSEY
TRANSIT MAINLINE IN A DIFFERENT MANNER.

IMAGERY NOTES

PORTIONS OF THE AERIAL IMAGERY SHOWN ON
THIS PLAN WERE OBTAINED FROM BING MAPS, 2019.

				Date
				Des.
				Chkd.
				Dwn.
No.	Date	Eng.	Revision Notes	Chkd.Dwn.

Engineer of Record
Professional Engineer
N.J. LIC.
Date:



NJTPA
NORTH JERSEY
TRANSPORTATION
PLANNING AUTHORITY



**NJTPA Freight Concept
Development Program**

PRIME CONSULTANT:

JACOBS

299 Madison Ave, Morristown, NJ 07962

SUB-CONSULTANT:

One Penn Plaza
New York,
NY 10119

vhb

NJTPA
PILOT FREIGHT
STUDY

DOVER AND ROCKAWAY RAIL REALIGNMENT CONCEPT DEVELOPMENT PROJECT	Scale AS NOTED
PRELIMINARY ALIGNMENTS	Contract No.
	Drawing
	Sheet 1 OF 1

Appendix J

Grant Programs and Funding Sources



Potential Funding Programs for Advancement of PPA into Design and Construction

Funding Option	Funding Source	Funding Availability	Match / Funding / Application Requirements	Eligible Applicants	Eligible Modes / Projects <i>(use grouped columns to specify)</i>	Eligible Project Phases <i>(use grouped columns to specify)</i>	Eligibility Requirements	Discretionary or Formula	Source	Contact	Misc. Notes
Consolidated Rail Infrastructure and Safety Improvements (CRISI)	FRA	\$1,103 million authorized; \$593 million appropriated in Fiscal Year (FY) 2018 (up to \$10 million per project)	Federal share does not exceed 80% of total project costs; minimum of 20% non-Federal match may be public and/or private sector funding Apply directly through the FRA	A State; a group of States; an Interstate Compact; a public agency or publicly chartered authority established by one or more States; a political subdivision of a State; Amtrak or another Rail Carrier that provides Intercity Rail Passenger Transportation; a Class II railroad or Class III railroad; any Rail Carrier or rail equipment manufacturer in partnership a public organization; the Transportation Research Board together with any entity with which it contracts in the development of rail-related research, including cooperative research programs; a University transportation center engaged in rail-related research; or a non-profit labor organization representing a class or craft of employees of Rail Carriers or Rail Carrier contractors.	Rail line improvements, rail line relocation, regional rail and corridor service development planning, and deployment of railroad safety technology	Final design, construction	Capital projects addressing safety, efficiency and reliability including rail line improvements, rail line relocation, regional rail and corridor service development planning, and deployment of railroad safety technology, such as positive train control systems.	Discretionary	CRISI - Info link	Amy Houser (Amy.houser@dot.gov)	Most recent round of applications closed on 9/17/2018, 2019 round of application is TBD
Federal-State Partnership for State of Good Repair Program	FRA	\$997 million authorized; FY 2018 Notice of Funding Opportunity (NOFO) announced \$272 million in funding available (applications due 3/18/19)	Federal share does not exceed 80% of total project costs; minimum of 20% non-Federal match may be public and/or private sector funding Apply directly through the FRA	A State; a group of States; an Interstate Compact; a public agency; a political subdivision of a State; Amtrak, acting on its own behalf or under a cooperative agreement with one or more States	Rehabilitation or replacement of railroad assets	Construction, (final design considered only if in conjunction with construction activities funding)	Capital projects to replace or rehabilitate qualified railroad assets including replacement with assets in-kind, with assets that increase capacity, or with rehabilitated assets (state of good repair).	Discretionary	State of Good Repair Program - Info Link	Amy Houser (Amy.houser@dot.gov)	Application deadline on 3/18/19
Positive Train Control Grant Program (PTC)	FRA	\$199 million appropriated in FY2017 (\$0.5 million to \$9 million per project)	Federal share does not exceed 80% of total project costs; minimum of 20% non-Federal match may be public and/or private sector funding Apply directly through the FRA	A State; a group of States; an Interstate Compact; A public agency; A political subdivision of a State; Amtrak or another Rail Carrier that provides Intercity Rail Passenger Transportation; Any Rail Carrier or rail equipment manufacturer in partnership with at least one of the aforementioned entities; the Transportation Research Board together with any entity with which it contracts in the development of rail-related research, including cooperative research programs; A University transportation center engaged in rail-related research; A non-profit labor organization representing a class or craft of employees of Rail Carriers or Rail Carrier contractors	Installation of PTC systems projects: back office systems; wayside, communications, and onboard hardware equipment; and spectrum acquisition.	Final design, construction	PTC Grant Program funds the installation of PTC systems that include back office systems; wayside, communications, and onboard hardware equipment; and spectrum acquisition. Under this grant program, the intended outcomes and benefits of the funded projects are accelerated implementation, increased interoperability, and improved reliability of PTC systems.	Discretionary	PTC - Info Link	Amy Houser (Amy.houser@dot.gov)	
Surface Transportation Block Grants (STBG)	FTA/ FHWA	\$281 million appropriated to New Jersey in FY 2018; \$287 million appropriated to New Jersey in FY 2019	Federal share does not exceed 80% of total project costs (90% for projects on the Interstate System); minimum of 20% non-Federal match may be public and/or private sector funding. Funds distributed by the state	A State; a local government	Highway, bridges, tunnels, and transit; maintenance expenses for existing services.	Construction	Capital projects including highway, bridges, tunnels, and transit; maintenance expenses for existing services.	Formula	STBG - Info Link	David Bartz (dbartz@dot.gov)	App due the last day of each calendar year 12/31/2019
Railway-Highway Crossings (Section 130) Program	FTA/ FHWA	FY 2019: \$240 million FY 2020: \$245 million \$3.9 million set-aside appropriated to New Jersey in FY 2018; \$4.0 million set-aside appropriated to New Jersey in FY 2019	Federal share does not exceed 80% of total project costs; minimum of 20% non-Federal match may be public and/or private sector funding. 2% of Section 130 funding can be used for for compilation and analysis of data to support the reporting requirements; Funds can be used as incentive payments for local agencies to close public crossings provided there are matching funds from the railroad. Funds distributed by the state	A State with projects with any public crossings including roadways, bike trails and pedestrian paths	Projects at all public crossings including roadways, bike trails and pedestrian paths.	Preliminary engineering, final design, construction, right-of-way	Projects at all public crossings including roadways, bike trails and pedestrian paths. 50% of a State's apportionment is dedicated for the installation of protective devices at crossings. The remainder of the funds apportionment can be used for any hazard elimination project, including protective devices. The FAST Act extends eligibility to include projects at grade crossings to eliminate hazards posed by blocked crossings due to idling trains.	Formula	Railway-Highway Crossings Program - Info Link	James Dahlem (James.dahlem@dot.gov; 202 - 493 - 0571) Kelly Morton (kelly.morton@dot.gov)	
National Highway Performance Program (NHPP)	FTA/ FHWA	\$558 million appropriated to New Jersey in FY 2018; \$571 million appropriated to New Jersey in FY 2019	Federal share does not exceed 80% of total project costs; minimum of 20% non-Federal match may be public or private sector funding. 2% of a State's NHPP funding is to be set aside for State Planning & Research; NHPP funds can be used as the non-Federal share to match the 50 percent Federal share for projects funded by the Local Technical Assistance Program. Funds distributed by the state	A State	NHPP funds may be obligated only for a project on an "eligible facility" (located on NHS); that is a project, part of a program of projects, or an eligible activity supporting progress toward the achievement of national performance goals for improving infrastructure condition, safety, congestion reduction, system reliability, or freight movement on the NHS.	Planning, environmental, construction	Capital projects for new facilities on the National Highway System (NHS), maintenance of the NHS, and transit projects more cost effective than a NHS improvement, in the same corridor and in proximity to a fully access-controlled NHS highway. Projects must be identified in the Statewide Transportation Improvement Program (STIP)/Transportation Improvement Program (TIP) and be consistent with the Long-Range Statewide Transportation Plan and the Metropolitan Transportation Plan(s).	Formula	NHPP - Info Link	David Bartz - dbartz@dot.gov	
Metropolitan & Statewide Planning, and Non-Metropolitan Transportation Planning	FTA	\$139 million total FY 2019	Federal share does not exceed 80% of total project costs; minimum of 20% non-Federal match may be public and/or private sector funding Funds distributed by the state	A State; Metropolitan Planning Organization (MPOs)	Multimodal transportation planning in metropolitan areas and states.	Planning, final design, research	Provides funding and procedural requirements for multimodal transportation planning in metropolitan areas and states that is cooperative, continuous and comprehensive, resulting in long-range plans and short-range programs of transportation investment priorities. The planning programs are jointly administered by FTA and the Federal Highway Administration (FHWA), which provides additional funding.	Formula	Metropolitan & Statewide Planning - Info link	Office of Planning and Environment, FTA, 202-366-4033	

Potential Funding Programs for Advancement of PPA into Design and Construction

Funding Option	Funding Source	Funding Availability	Match / Funding / Application Requirements	Eligible Applicants	Eligible Modes / Projects <i>(use grouped columns to specify)</i>	Eligible Project Phases <i>(use grouped columns to specify)</i>	Eligibility Requirements	Discretionary or Formula	Source	Contact	Misc. Notes
National Highway Freight Program (NHFP)	FHWA	Estimated funding for FY 2019 is \$1,350 million and for FY 2020 is \$1,500 million; \$30 million appropriated to New Jersey in FY 2018; \$33.9 million appropriated to New Jersey in FY 2019	Federal share does not exceed 80% of total project costs; minimum of 20% non-Federal match may be public and/or private sector funding Funds distributed by the state	A State	Activities that enhance movement of freight, including: Planning, feasibility, and other development phase activities; construction, reconstruction, and rehabilitation	Planning, environmental, final design, construction	Capital projects that contribute to the efficient movement of freight on the National Highway Freight Network and identified in a freight investment and State's freight plan. Eligible projects include planning, feasibility, and other development phase activities; construction, reconstruction, and rehabilitation; and other activities that enhance movement of freight.	Formula	NHFP - Info Link	Caitlin Hughes Rayman (202-394-0457)	
Competitive Highway Bridge Program (CHBP)	FHWA	\$225 million available in funding in FY2019	Federal share does not exceed 80% of total project costs; minimum of 20% non-Federal match may be public and/or private sector funding. For states on the sliding scale, Federal share of the cost of the project is up to 95% Apply directly through FHWA	State DOTs from States that have a population density of 100 individuals per square mile based on the 2010 decennial census.	Highway bridge replacement and rehabilitation projects	Final design, construction	CHBP funds must be used for highway bridge replacement and rehabilitation projects on public roads that demonstrate cost savings by bundling multiple highway bridge projects.	Discretionary	CHBP - Info link	Douglas Blade (CHBPgrant@dot.gov; 202-366-4622)	
Congestion Mitigation and Air Quality Improvement Program (CMAQ)	FHWA	\$2,449 million FY 2019 \$2,499 million FY 2020 \$109 million appropriated to New Jersey in FY 2019	Federal share does not exceed 80% of total project costs; minimum of 20% non-Federal match may be public or private sector funding. 2% set-aside for State Planning and Research Funds distributed through the state	A State; Metropolitan Planning Organization (MPOs); non-profit organization; a private entity contributing to public-private partnership	Transportation project or program that contributes to improving the air quality standard	Construction, planning/research	Transportation project or program that is likely to contribute to the attainment or maintenance of a national ambient air quality standard, with a high level of effectiveness in reducing air pollution. 2% for State Planning and Research	Formula	CMAQ - Info Link	Mark Glaze (mark.glaze@dot.gov)	
BUILD Grants	USDOT	\$1,500 million appropriated in FY 2018; \$900 million proposed for FY 2019 Minimum grant award is \$5 million in urban areas, Maximum grant award is \$25 million in urban areas; FY 2018 grant awards ranged from \$5 million to \$25 million	Federal share does not exceed 80% (urban area) or up to 100% (rural area) of total project costs; minimum of 20% non-Federal match may be public or private sector funding. Non-Federal financial contributions can include State, local, and private sector funding; or other forms of cost share such right of way contributions, toll credits, or recycled revenue from the competitive sale or lease of publicly owned or operated assets. Apply directly through USDOT	A State; a local government; a tribal government, including U.S territories; Transit Agencies; Port Authorities; Metropolitan Planning Organizations (MPOs); political subdivisions of State or Local governments	Highway, bridge, public transit, passenger and freight rail, port, and intermodal projects	Planning, environmental, final design, construction	Capital projects that have a significant impact on the nation, a region, or a metropolitan area including road, rail, transit, port and intermodal improvements.	Discretionary	Build Grant - Info Link	Contact: buildgrants@dot.gov; 202-266-0301	
INFRA Grants	BAB	Estimated total FY 2017 – FY 2018 apportionment \$1,560 million, \$855 - \$902.5 million available for projects in FY2019 NOFO Minimum total project cost for large projects in New Jersey is \$100 million; 25% of INFRA funds reserved for projects (large or small) in rural areas; FY 2017 - 2018 grant awards ranged from \$6 million to \$184 million	An INFRA grant may not exceed 60% of the total eligible project costs. An additional 20% of project costs may be funded with other Federal assistance, bringing total Federal participation in the project to a maximum of 80%. There is an exception for projects carried out by Federal land management agencies, which can use Federal funds to pay the non-Federal share of the project cost, bringing the total Federal participation up to 100%. Apply directly through the BAB	A State; A group of States; A Metropolitan Planning Organization (MPOs) that serves an Urbanized Area with a population of more than 200,000 individuals; A unit of local government; A group of local governments; A political subdivision of a State or local government; A special purpose district or public authority with transportation function including a port authority; a Federal land management agency that applies jointly with a State or group of States; A Tribal government or a consortium of tribal governments; A Multi-State or multijurisdictional group of public entities	Eligible projects include: highway freight projects, highway or bridge, railway-highway grade crossing or grade separation projects; or a freight project	Planning, environmental, final design, construction	Capital projects of national or regional significance including highway freight projects on the NHFN, highway or bridge projects on the NHS, railway-highway grade crossing or grade-separation projects, intermodal and freight rail projects, and projects within the boundaries of a freight rail, water, or intermodal facility that facilitates direct access and improve freight movement on the network.	Discretionary	INFRA Grant - Info Link	Paul Baumer (infragrants@dot.gov; 202-366-1092)	This round of applications due March 4, 2019
Transportation Trust Fund (TTF) <i>(Program specifics listed in the group of rows below)</i>	NJDOT	FY2019 funds programmed at \$2,000 million: \$810 million NJDOT \$430 million Local Aid \$760 million for NJ TRANSIT	The State pays 75% of the funds at the time of award concurrence and the remainder on a reimbursement basis after acceptance by the municipality and the State of the work completed.	Local Public Agencies (LPAs)	Road, bridge, and other transportation projects	Construction	The 2016 legislation included authorization of a TTF capital program of \$16 billion over 8 years, a minimum appropriation of \$25 million per FY for freight rail projects, and \$28 million per year for the newly created Local Freight Impact Fund. The TTF also provides \$400 million annually to local governments for the funding of road, bridge and other transportation projects (more details below)	Formula	TTF - Info Link	Contact form link: https://www.state.nj.us/ttfa/email.shtml	
Local Aid and Economic Development Program <i>(Program specifics listed in group of rows below)</i>	NJDOT	FY2019 funds programmed at \$430 million for Local Aid: Municipal Aid: \$150 million County Aid: \$150 million Local Bridges Fund: \$44 million Local Freight Impact: \$28 million Local Aid Infrastructure Fund: \$7.5 million Transportation Infrastructure Bank Fund: \$2.5 million	The State pays 75% of the funds at the time of award concurrence and the remainder on a reimbursement basis after acceptance by the municipality and the State of the work completed.	Local Public Agencies (LPAs)	See specific program details below.	Construction	See specific program details below.	Discretionary and Formula	State Aid Handbook - Link	Contact appropriate district: 1. District 1: 973-601-6700 2. District 2: 973-877-1500 3. District 3: 609-530-5271 4. District 4: 856-486-6618	

Potential Funding Programs for Advancement of PPA into Design and Construction

Funding Option	Funding Source	Funding Availability	Match / Funding / Application Requirements	Eligible Applicants	Eligible Modes / Projects <i>(use grouped columns to specify)</i>	Eligible Project Phases <i>(use grouped columns to specify)</i>	Eligibility Requirements	Discretionary or Formula	Source	Contact	Misc. Notes
Municipal Aid (Local Aid and Economic Development Program)	NJDOT	Municipal Aid: \$150 million (up to \$0.5 million per project)	The State pays 75% of the funds at the time of award concurrence and the remainder on a reimbursement basis after acceptance by the municipality and the State of the work completed. Apply through NJDOT	A Municipality	Mobility, bikeway, bridge preservation, pedestrian safety, roadway preservation, roadway safety.	Construction	The TTF sets aside \$400 million annually for the Local Aid and Economic Development Programs. Municipal Aid: road improvement projects, bridge improvements, pedestrian safety improvements and bikeway improvements.	Discretionary	Municipal Aid Handbook - Link	Contact appropriate district: 1. District 1: 973-601-6700 2. District 2: 973-877-1500 3. District 3: 609-530-5271 4. District 4: 856-486-6618	
County Aid (Local Aid and Economic Development Program)	NJDOT	County Aid: \$150 million	The State pays 75% of the funds at the time of award concurrence and the remainder on a reimbursement basis after acceptance by the municipality and the State of the work completed. Apply through NJDOT	A County	Public roads and bridges under county jurisdiction	Construction	The TTF sets aside \$400 million annually for the Local Aid and Economic Development Programs. County Aid: roads and bridges under county jurisdiction, public transportation and other transportation projects. The Division of Local Aid is currently accepting application for County Aid program through SAGE. Annual Transportation Program Deadline: February 1, 2019	Discretionary	State Aid Handbook - Link	Contact appropriate district: 1. District 1: 973-601-6700 2. District 2: 973-877-1500 3. District 3: 609-530-5271 4. District 4: 856-486-6618	
Local Bridges Future Needs Fund (Local Aid and Economic Development Program)	NJDOT	Local Bridges Fund: \$44 million	The State pays 75% of the funds at the time of award concurrence and the remainder on a reimbursement basis after acceptance by the municipality and the State of the work completed.	A County	Preventive maintenance, rehabilitation and selective replacement of bridges	Construction	The TTF sets aside \$400 million annually for the Local Aid and Economic Development Programs. Local Bridges Fund: Bridges - preventive maintenance, rehabilitation and selective replacement of bridges.	Discretionary	Local Bridge Aid Handbook - Link	Contact appropriate district: 1. District 1: 973-770-5070 2. District 2: 973-877-1500 3. District 3: 732-308-4002 4. District 4: 856-486-6618	
Local Freight Impact Fund (LFIF) (Local Aid and Economic Development Program)	NJDOT	Local Freight Impact: \$28 million	The State pays 75% of the funds at the time of award concurrence and the remainder on a reimbursement basis after acceptance by the municipality and the State of the work completed. Apply through NJDOT	A County; a municipality	Project categories include: pavement preservation, truck safety and mobility, bridge preservation, new construction	Construction	The TTF sets aside \$400 million annually for the Local Aid and Economic Development Programs. Local Freight Impact Funds assists counties and municipalities with the impacts associated with the freight industry's use of infrastructure. NJDOT will be taking applications from counties and municipalities to select projects for this fund. This program accepted applications for FY 2018 in July 2017 (an applicant may submit up to two applications per fiscal year).	Discretionary	Local Freight Impact Fund Handbook - Link	Contact appropriate district: 1. District 1: 973-601-6700 2. District 2: 973-877-1500 3. District 3: 609-530-5271 4. District 4: 856-486-6618	
Local Aid Infrastructure Fund (LAIF) (Local Aid and Economic Development Program)	NJDOT	Local Aid Infrastructure Fund: \$7.5 million	The State pays 75% of the funds at the time of award concurrence and the remainder on a reimbursement basis after acceptance by the municipality and the State of the work completed. Apply through NJDOT	A County; a municipality	Projects that address emergency needs, pedestrian safety and bikeway projects.	Construction	The TTF sets aside \$400 million annually for the Local Aid and Economic Development Programs. Local Aid Infrastructure: helps fund emergency and regional needs	Discretionary	State Aid Handbook - Link	Contact appropriate district: 1. District 1: 973-601-6700 2. District 2: 973-877-1500 3. District 3: 609-530-5271 4. District 4: 856-486-6618	
Transportation Infrastructure Bank Fund (Local Aid and Economic Development Program)	NJDOT	Transportation Infrastructure Bank Fund: \$2.5 million	The State pays 75% of the funds at the time of award concurrence and the remainder on a reimbursement basis after acceptance by the municipality and the State of the work completed. Apply through NJDOT and funds are distributed through NJDOT	A County; a municipality;a county or regional transportation authority; any political subdivision of the State authorized to construct, operate, and maintain public highways or transportation projects	Road, bridge, and other transportation projects	Construction	The TTF sets aside \$400 million annually for the Local Aid and Economic Development Programs. Transportation Infrastructure Bank Fund: financial assistance to public or private entities for the planning, acquisition, engineering, construction, reconstruction, repair, and rehabilitation of a transportation project or for any other purpose permitted under the federal program.	Formula	Transportation Infrastructure Bank - Info Link	Contact appropriate district: 1. District 1: 973-601-6700 2. District 2: 973-877-1500 3. District 3: 609-530-5271 4. District 4: 856-486-6618	
Rail Freight Assistance Program	NJDOT	\$25 million annually	Class I railroads: financial assistance may be provided at 50% of the total eligible cost with the remaining 50% to be paid by the sponsor; Class II railroads: financial assistance may be provided at 70% of the total eligible cost with the remaining 30% to be paid by the sponsor; and Class III railroads: financial assistance may be provided at 90% of the total eligible cost with the remaining 10% to be paid by the sponsor. Apply directly through NJDOT	Owners of rail projects; operators of rail freight service; public agencies or authorities for projects included in the annual list of projects eligible for participation in the RFAP	Projects that would improve and support existing freight rail system and acquisition of property needed for these projects are eligible as well	Final design, construction	The Assistance Program distributes \$10 million annually to eligible capital improvement projects that result in the continuation of economically viable rail freight services. This grant is supported through multimodal grant and programs.	Discretionary	Rail Freight Assistance Program - Info Link	Kim Giddens (609-530-5644)	2019 program ran through August 15, 2018 through October 9, 2018

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Local Capital Project Delivery (LCPD) Program	NJTPA	\$1.5 million in FY 2018 (projects ranged from \$0.35 million to \$0.5 million); \$1.25 million for FY 2019	Each subregion may submit one (1) application Apply directly through NJTPA	NJTPA Subregions	Existing highway or bridge, pedestrian/bikeway facility	Planning, environmental	Provides funding to NJTPA subregions to prepare projects for construction using federal funding. The program involves completing the multi-step Capital Project Delivery Process which was developed by the NJDOT. This new process is designed to streamline project development and provide a common and consistent framework for federally funded projects at the local, regional and State level.	Discretionary	Local Capital Project Delivery (LCPD) Program - Info Link	https://www.njtpa.org/about-njtpa/contact-us	
Nationally Significant and Highway Projects	USDOT	\$950 M for FY 2019; \$1 B for FY 2020	There are large project and small project thresholds. The Department may offer a project selected under this program credit assistance under the TIFIA program and may use amounts under the NSFHP to pay the subsidy and administrative costs required for such assistance	A State; A group of States; A Metropolitan Planning Organization (MPOs) that serves an Urbanized Area with a population of more than 200,000 individuals; A unit of local government; A group of local governments; A political subdivision of a State or local government; a special purpose district; public authority with a transportation function including a port authority; a Federal land management agency that applies jointly with a State or group of States; a tribal government or a consortium of tribal governments; a multistate or multijurisdictional group of entities aforementioned	A highway freight project on the National Highway Freight Network, a highway or bridge project on the National Highway System, a freight intermodal or freight rail project, a project within the boundaries of a public or private freight rail, water (including ports) and railway highway grade crossing or grade separation project	Planning, environmental, preliminary engineering, right of way, final design, construction	For large projects, the total projects must be reasonably anticipated to equal or exceed the lesser of \$100 million or located in one state, 30% of the state's federal-aid highway apportionment in the most recently completed fiscal year; or located in more than one state, 50% of the amount apportioned to the state with the largest Federal-aid highway apportionment in the most recently completed fiscal year; For small projects, the Secretary shall consider the cost effectiveness of the proposed project; and the effect of the proposed project on mobility in the state and region in which the project is carried out		NSHFP Info link	Benjamin Fischer 518-431-8863 Benjamin.Fischer@dot.gov	