



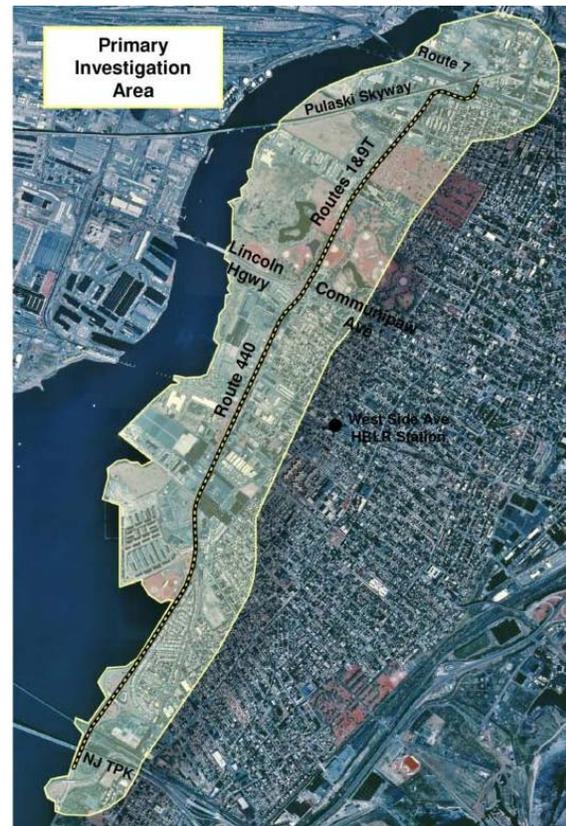
1. PROJECT PURPOSE AND NEED

1.1 Purpose and Need Statement

The purpose of the Route 440/Routes 1&9T project is to improve existing and future safety, traffic operations, multi-modal mobility, and accessibility; to support and interconnect growth areas and livable communities along both sides of the corridor; and to support local and regional economic development.

This project examines an approximately 3.4 mile corridor along Route 440/Routes 1&9T corridor in Jersey City between Route 7 to the north and the City of Bayonne to the south (Figure 1.1). The Circulation Element of the Jersey City Master Plan targets this corridor for investigation for a new multi-use urban boulevard and the land along the central section of the corridor for the development of new livable, mixed-use communities.

Figure 1.1: Primary Investigation Area



1.1.1 NJDOT Management Systems

1.1.1.1 Congestion Management System Priority Ranking

The New Jersey Department of Transportation (NJDOT) Bureau of Systems Planning maintains the Congestion Management System (CMS) which quantifies traffic congestion and prioritizes improvement needs across all state roadways. The CMS assigns a score for sections of roadway based upon the Average Daily Traffic volume (ADT) and the ratio of the volume to capacity of



the roadway. A priority ranking is assigned considering the scores calculated for all state roadways. Sections of roadway with a score of less than 5.00 are assigned a low priority rating. Sections with a score between 5.00 and 6.99 are assigned a medium priority rating. Sections with a score of 7.00 or higher are assigned a high priority rating.

The CMS segregates the study corridor into seven discrete sections. Three of these sections are along Route 440 running from milepost 23.73 to 26.18. Overall CMS scores along this roadway range from a low of 5.15 to a high of 6.12. The length of Route 440 within Jersey City is assigned a medium priority rating.

The remaining four sections identified in the CMS cover Routes 1&9T from milepost 2.29 to 4.11. Overall CMS scores along these roadway sections range from a low of 6.58 to a high of 6.96. The length of Routes 1&9T within Jersey City is assigned a medium priority rating. Details from the CMS are presented in Appendix 1.1.

1.1.1.2 Crash History

A primary purpose of the proposed action is to improve the current and future safety conditions along the corridor. A crash investigation revealed that the existing condition crash rate along the Route 440 portion of the study corridor (milepost 24.1 to 26.18) of 1.31 crashes per million vehicle miles of travel is slightly less than the statewide average of 1.84 for similar roadways. Crash rates along various sections of the Routes 1&9T portion of the study corridor (milepost 2.00 to 4.11) range from 0.35 to 1.50 crashes per million vehicle miles of travel. These rates are significantly less than the statewide average crash rates of 2.93 to 5.90 crashes per million vehicle miles of travel for similar roadways.

While existing crash rates are less than the statewide averages for similar roadways, the anticipated increase in travel demand along the corridor holds the potential to negatively affect this crash rate. Increases in pedestrian and bicycle travel along and across the corridor related to the anticipated growth along the Western Waterfront raises the level of concern with respect to safety for all modes of travel along the corridor. Large portions of the land along the corridor are temporarily fallow due to soil contamination, but are envisioned for future redevelopment. Additional large areas are anticipated to transform into higher densities and intensities of use than currently exist along the corridor. These factors, along with general regional growth in vehicle miles traveled will greatly increase the number of vehicles using the



Route 440/Routes 1&9T corridor, as well as the number of bicyclists and pedestrians traveling along and across the roadway. It is important to maintain the high level of safety that presently exists even as these increasing demands are placed upon the roadway.

One of the most easily identifiable and significant safety issues along the corridor that is likely to worsen as traffic volumes and east-west crossings across the highway increase is the lack of formalized access to businesses and services with frontage on Route 440/Routes 1&9T. In many areas, there is a lack of curbs and sidewalks separating parking lots from Route 440/Routes 1&9T. The result is multiple, poorly-defined curb cuts allowing vehicles to enter and exit Route 440/Routes 1&9T at random intervals. The lack of defined and consistent sidewalks results in additional safety concerns for pedestrians.

Compounding the issue of random curb cuts accessing Route 440/Routes 1&9T are overhead utilities which cross Route 440/Routes 1&9T along its entire length. Utility poles present visual obstacles for motorists and physical and visual obstacles for pedestrians and bicyclists. The heavy volume of traffic on Route 440/Routes 1&9T combined with the random curb cuts described above present several opportunities each peak hour for potential collision of vehicles and utility poles.

A less constant but nonetheless problematic safety issue involves the presently combined sanitary and storm water sewer system. During significant rain events, the combined sewers have a tendency to reach capacity and surcharge onto the highway, creating a public health issue, affecting businesses, residences, and public recreation facilities. While not a physical safety concern, such as the lack of formalized access or overhead utilities, the combined sewer system and its impact on public health is a matter of safety that is likely to worsen with additional demand on the sanitary sewers occurring in conjunction with the anticipated future development.

1.1.1.3 Pavement Condition

The NJDOT Pavement Management and Technology Unit maintains data on pavement conditions on state roadways. Pavement conditions are defined in terms of skid values, roughness, surface distress and rutting. The existing pavement conditions along the Route 440 portion of the study corridor is characterized by substandard skid values and deficient surface roughness. Pavement conditions along the Routes 1&9T portion of the study corridor is characterize by substandard skid values, deficient surface roughness, deficient surface distress



and one section with excessive rutting. Details of the pavement condition rating in 1/10 mile increments along the study corridor are presented in Appendix 1.1.

1.1.2 Traffic Operations

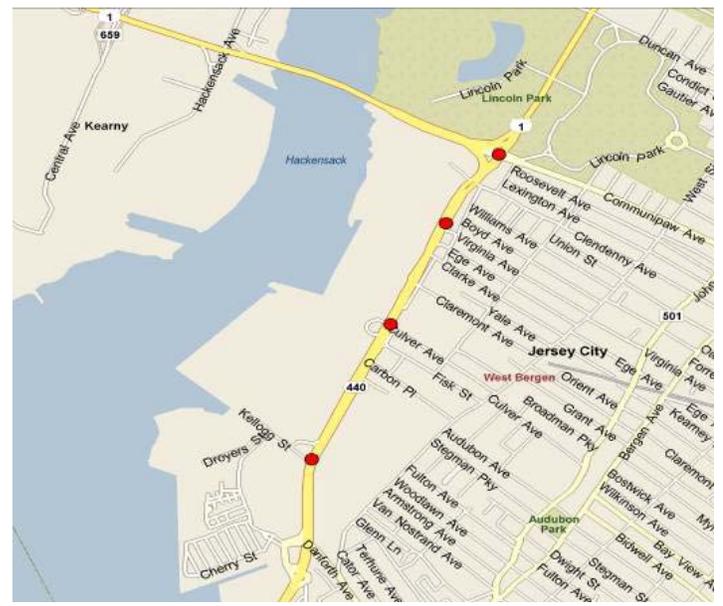
As identified through recent studies, during typical peak hour conditions, numerous intersection locations along the corridor currently operate at Level of Service “F”, which represents failed conditions, extensive congestion and delays, increased vehicle emissions and driver frustration. Major intersections that currently operate at failed levels of service (Figure 1.2) include the intersections of Route 440/Routes 1&9T with:

- Kellogg Street
- Culver Avenue
- Virginia Avenue/ Hudson Mall Entrance Driveway
- Communipaw Avenue

Numerous other intersections currently operate at a marginal Level of Service “E” (Table 1.1).

Traffic operations are also intermittently compromised by flooding, caused by overflow from the combined sanitary and stormwater sewer system in association with significant rain events. Impacts are difficult to quantify, but include congestion and delays, increased emissions, and driver frustration.

Figure 1.2: Intersections Currently Operating at Level of Service “F”



With the anticipated growth in travel demand, particularly with respect to increases in truck travel along the corridor, future traffic operating conditions will further deteriorate if the roadway corridor remains unchanged. If significant infrastructure and operational improvements are not made, virtually all of the intersections along the corridor are anticipated to operate at Level of Service “F” conditions during one or more peak travel periods on a daily basis. Improvement to traffic operations must also include environmental infrastructure improvements to reduce the potential for flooding and closure of area roads.



Route 440/Routes 1&9T Multi-Use Urban Boulevard and Through Truck Diversion Concept Development Study

In addition to presenting a periodic public health concern, the combined sanitary and storm water sewer system represents a traffic operations concern. During instances when the combined sewers reach capacity and surcharge onto the highway, efficient traffic flow is significantly impeded, often resulting in a temporary closure of the roadway to traffic.



**Route 440/Routes 1&9T Multi-Use Urban Boulevard and Through Truck Diversion
Concept Development Study**

Table 1.1: Capacity Analysis Summary - 2007 Existing Condition

Intersection	AM Peak			PM Peak			Saturday Peak		
	LOS	V/C Ratio	Delay	LOS	V/C Ratio	Delay	LOS	V/C Ratio	Delay
Route 440/Culver Avenue									
Route 440									
Northbound Th	F	1.11	72.8	D	0.88	37.0	D	0.97	36.0
Northbound Rt	B	0.03	14.6	C	0.05	33.4	C	0.06	28.3
Southbound Th	C	1.00	34.1	C	0.94	29.5	C	0.89	29.0
Culver Avenue									
Eastbound Lt	D	0.51	53.2	E	0.57	55.1	E	0.77	67.3
Eastbound Th + Rt	F	1.13	135.6	F	1.11	129.6	F	1.10	129.8
Westbound Lt	F	1.17	172.0	F	1.16	165.3	F	1.12	151.3
Westbound Rt	D	0.35	49.1	D	0.51	53.5	F	0.91	86.8
Overall	E		62.6	D		46.8	D		46.5
Route 440/Stegman Street									
Route 440									
Northbound Th + Rt	C	0.94	33.3	C	0.76	27.5	C	0.84	24.0
Southbound Lt	D	0.27	45.0	D	0.17	51.7	D	0.34	38.9
Southbound Th	A	0.75	8.1	A	0.85	5.2	B	0.76	15.7
Stegman Street									
Westbound Lt	D	0.16	45.1	D	0.50	50.4	D	0.67	55.0
Westbound Rt	D	0.02	43.6	D	0.05	44.1	D	0.09	44.6
Overall	C		23.6	B		18.8	C		23.8
Route 440/Kellogg Street - 1									
Route 440									
Northbound Th + Rt	C	0.98	24.0	A	0.61	8.7	B	0.79	10.4
Southbound th	A	0.69	9.7	C	0.84	22.9	B	0.86	10.5
Kellogg Street									
Eastbound Lt	F	1.13	137.5	D	0.82	53.2	D	0.81	53.8
Westbound Rt	A	0.01	0.0	A	0.02	0.0	A	0.05	0.1
Overall	C		26.6	C		21.5	B		14.2
Route 440/Kellogg Street - 2									
Route 440									
Northbound Lt	C	0.19	31.3	D	0.08	35.9	D	0.83	54.1
Northbound Th	A	0.71	0.0	A	0.44	0.3	A	0.64	0.6
Southbound Th	A	0.86	7.9	A	0.86	8.0	A	0.76	3.7
Kellogg Street									
Eastbound Rt	D	0.01	0.0	D	0.00	37.7	D	0.17	39.7
Overall	A		4.4	A		5.2	A		6.6
Route 440/Danforth Avenue									
Route 440									
Northbound Th	E	1.07	70.3	C	0.62	21.1	C	0.91	33.3
Northbound Rt	B	0.20	15.1	B	0.08	13.8	B	0.07	13.7
Southbound Th + Rt	B	0.59	10.7	A	0.62	7.3	A	0.58	5.5
Danforth Avenue									
Eastbound Lt	C	0.10	22.8	C	0.10	22.9	C	0.16	23.8
Eastbound Th	C	0.21	24.0	C	0.38	26.2	C	0.37	26.1
Westbound Lt + Th	C	0.07	23.8	C	0.21	24.6	C	0.16	23.9
Westbound Rt	C	0.55	31.1	C	0.51	30.2	D	0.71	37.0
Overall	D		39.6	B		16.7	C		22.5

Source: Route 440 Mixed Use Development Access Management Traffic Study, June 15, 2007, prepared by El Taller Colaborativo, PC



**Route 440/Routes 1&9T Multi-Use Urban Boulevard and Through Truck Diversion
Concept Development Study**

Table 1.1: Capacity Analysis Summary - 2007 Existing Condition (continued)

Intersection	AM Peak			PM Peak			Saturday Peak		
	LOS	V/C Ratio	Delay	LOS	V/C Ratio	Delay	LOS	V/C Ratio	Delay
Routes 1&9/Route 440									
Routes 1&9									
Eastbound Lt	D	0.71	38.7	C	0.53	33.8	C	0.03	24.4
Eastbound Th	E	1.13	61.3	D	0.99	42.5	C	0.86	21.1
Westbound Th	F	1.13	86.4	E	1.09	78.9	D	0.91	35.4
Route 440									
Northbound Lt	F	1.15	115.1	E	1.01	67.0	D	0.87	46.1
Overall	E		78.0	D		54.5	C		31.0
Routes 1&9/Route 440/ Communipaw Avenue									
Routes 1&9									
Eastbound Th	F	1.13	96.7	F	1.09	103.7	E	0.89	56.7
Communipaw Avenue									
Westbound Lt	E	0.60	57.1	E	0.83	71.4	E	0.55	56.3
Westbound Th + Rt	D	0.83	37.5	C	0.69	34.1	C	0.62	31.2
Route 440									
Northbound Th	C	0.71	29.3	C	0.67	32.2	D	0.84	37.8
Northbound Rt	C	0.05	31.0	C	0.17	23.7	C	0.26	24.1
Southbound Lt	F	1.10	109.7	E	1.01	79.2	F	1.09	117.4
Southbound Th	B	0.52	19.8	C	0.58	20.5	C	0.61	21.1
Overall	D			D		49.0	D		40.2
Route 440/Virginia Avenue - 1									
Route 440									
Northbound Th	B	1.02	13.0	A	0.58	1.5	A	0.58	1.6
Southbound Th	B	0.94	17.1	D	1.02	36.3	B	0.85	10.2
Virginia Avenue									
Eastbound Lt	D	0.19	43.8	F	1.13	127.6	F	1.11	122.2
Overall	B		16.0	D		39.1	C		23.0
Route 440/Virginia Avenue - 2									
Route 440									
Northbound Th	D	1.02	38.2	A	0.69	9.4	A	0.58	8.5
Southbound Th	D	1.07	36.3	B	1.02	12.5	A	0.85	2.5
Virginia Avenue									
Eastbound Rt	D	0.00	41.7	D	0.33	46.0	D	0.31	45.6
Westbound Lt	D	0.13	43.6	D	0.14	43.6	D	0.58	54.1
Westbound Lth + Rt	D	0.06	42.3	D	0.62	51.1	D	0.68	53.1
Overall	D		37.0	B		15.7	B		12.5

Source: Route 440 Mixed Use Development Access Management Traffic Study, June 15, 2007, prepared by El Taller Colaborativo, PC



1.1.3 Multi-Modal Mobility

Provision of a range of mass transit opportunities is critical to the development and support of a vital and thriving urban community. Consistent with the overarching goals and objectives articulated in the Circulation Element of the Master Plan, the proposed action is intended to improve multi-modal mobility for people traveling to, from, along, and across the roadway corridor. Currently, much of the Western Waterfront area is primarily automobile-dependent, with mass transit service to the corridor limited to limited access and circuitous local bus routes, and no accommodation for bus priority or bus rapid transit. Bicycle and pedestrian accommodations are inadequate for current purposes, and will be even more inadequate for serving the needs of the future populations that will live, work, shop, and play in the new communities along the corridor.

1.1.4 Accessibility

Without accessibility improvements, access to major destinations within the growth areas, including the waterfront itself, will be impeded by the limitations of the existing transportation infrastructure. The proposed action is intended and envisioned to increase accessibility to a range of destinations within the Western Waterfront area by all modes of travel. Presently, sidewalks along the corridor are minimal or non-existent, with no dedicated bicycle paths/facilities serving the corridor or the land uses in the immediately surrounding area. Along with the lack of sidewalks, “pedestrian” accommodations under the Americans with Disabilities Act (ADA) along Route 440/Routes 1&9T are rare, confined to a few intersections where tactile strips and ramps are provided at crosswalks. Corridor ADA requirements are largely satisfied by the provision of ADA parking stalls in existing parking lots, including those parking lots within Lincoln Park. Mass transit opportunities along and across the corridor are limited to local bus service. The Westside Avenue branch of Hudson-Bergen Light Rail (HBLR) system currently terminates at Westside Avenue approximately 0.4 miles east of the corridor. The terminus of the HBLR Westside Avenue line is separated by well over one mile from large areas of the waterfront growth area, rendering it ineffective in providing significant transit opportunity.

The Circulation Element of the Master Plan calls for sidewalks and bicycle lanes to be ubiquitous throughout Jersey City. Integration of a network of bicycle and pedestrian facilities along and across the corridor will further enhance transportation options and improve access to and between the major destinations within and along the corridor. Creation of safe and efficient facilities for crossing the corridor will serve to integrate and connect the communities



on both sides of the highway and provide access to the new neighborhoods and the waterfront for the entire community. To ensure that improvements are accessible to all users of all modes of travel, all improvements must be designed in compliance with the Americans with Disabilities Act (ADA) of 1990.

1.1.5 Support and Interconnect Livable Communities

Completed in 2003, the Bayside Development Plan presented a vision for revitalizing the west side of Jersey City. The plan focused on conversion of 1,344 acres of formerly industrial property with mixed-use development and creation of a walkable, bicycle-friendly community within a multimodal, transit-rich environment. The Bayside Development Plan and the Circulation Element of the Master Plan envision Route 440/Routes 1&9T as a new main street for new neighborhoods that are planned along both sides of the roadway corridor. The planning for these neighborhoods incorporates interconnected networks of streets throughout, a mix of uses, and a pedestrian and bicycle friendly environment. In recent policy guidance, the US Department of Transportation, Federal Highway Administration (FHWA) issued a list of federal planning emphasis areas to the New Jersey Department of Transportation (NJDOT) for consideration during the preparation and adoption of the FY 2011 Unified Planning Work Program (UPWP) pursuant to 23 CFR 450.314. These emphasis areas include support for the creation of livable communities. In an August 28, 2009 letter to the NJDOT, the FHWA articulated this emphasis area as – ***“create and support livable communities in appropriate locations throughout the region that provide multimodal mobility and accessibility options. Pedestrian travel and safety in equal measures for each mode of travel should be a priority.”***

A key deficiency of the existing corridor is a lack of safe and efficient bicycle and pedestrian facilities accommodating not only travel along the corridor, but across the corridor, enhancing access to the waterfront. The creation and support of livable communities depends in large measure upon the ability of people who live, work and recreate in the community to access destinations within the community and surrounding area without reliance on the single occupant automobile. Integration of a variety of mass transit opportunities, as well as bicycle and pedestrian facilities and accommodations along and across the corridor, will support of the creation of livable communities.

Improvement of the existing combined storm water and sanitary sewer system is also an item to address in the creation and support of livable communities. While the interference caused by surcharging sewer systems is not a daily occurrence in the corridor, significant rain events



often result in flooding, which causes not only mobility issues but presents a health and safety issue. Reduction in the potential for flooding of this nature is an important aspect of improving the livability of the communities adjacent to the Route 440/Routes 1&9T corridor.

Lastly, the presence of overhead utilities presents an aesthetic issue. While overhead utilities in themselves are not problematic, their height and appearance contribute to an industrial sense of place which is incongruent with the goal of creating a livable community designed on the human scale. In addition, connections to overhead utilities from numerous buildings that are close together, as is envisioned for future development of the corridor, creates a canopy of overhead wires that is unattractive and uninviting.

1.1.6 Economic Development

The proposed action is also being undertaken to support economic development locally and regionally. The project will support development of new businesses locally, as well as expansion of nearby large-scale port and logistics industry operations. Business development creates jobs and can increase local wage levels, which improves the quality of life for residents. Businesses also provide goods and services to residents, workers, visitors, and other businesses, which is also necessary to support quality of life and additional economic activity. Furthermore, business activity has an economic multiplier effect, whereby further business activity is supported by the resulting increase in resident purchasing power and the demand by businesses for supplies.

The Route 440/Routes 1&9T corridor already has failing and near failing intersections, and in its current form, will experience worsening traffic congestion and corresponding air pollution as local and regional growth occurs. As such, this environment is not supportive of increases in local or regional economic activity.

Additionally, congestion mitigation, and vehicular, bicycle and pedestrian mobility and accessibility will be necessary to support future business development efforts that will occur within the new mixed-use neighborhoods that are planned for the growth areas along the Western Waterfront.



1.1.7 Summary of Need

Without appropriate and sufficient infrastructure to accommodate all users, significant congestion and constraints to mobility created by the physical characteristics of the highway will serve as a deterrent to the development of new livable communities and will negatively impact the quality of life for residents, workers and visitors.

The project is intended to address:

Safety: Enhance safety and provide safe facilities for additional travel modes including bicycle and pedestrian traffic both along and across the corridor. Address safety issues associated with direct access to and from adjacent businesses from the travel lanes of Route 440/Routes 1&9T, and examine options to improving the wastewater and storm water conveyance systems.

Traffic Operations: Improve existing and projected operational deficiencies along the corridor, which include both intersection level of service and intermittent road closures due to flooding.

Multi-Modal Mobility: Integrate alternative modes of transportation that are not currently available to the current and future populations of the corridor and surrounding region.

Accessibility: Provide accessibility by a range of travel modes (automobile, bus, light rail, bicycle and pedestrian) to destinations within the growth areas along the corridor, and provide ADA-compliant access to the waterfront for all persons in the region.

Livable Communities: Support creation of livable communities through integration of an interconnected network of streets, a diverse, multi-modal transportation system to serve the needs of the community, improve the aesthetic conditions and public health concerns, and reduce dependence on the automobile.

Economic Development: Create a transportation infrastructure that will support extensive redevelopment and local and regional business development for the benefit of the City of Jersey City, Hudson County and the State of New Jersey.

The product of this study shall be the identification of preferred alternatives (and associated projects) to advance to the next phase of project development. The improvements are envisioned to incorporate a range of multi-modal and system operational improvements to



meet the mobility needs of people traveling to, from, within and through the study area, and goods traveling to, from and through the study area. In keeping with the recommendations of the Bayside planning process and the Circulation Element of the Master Plan, Route 440/Routes 1&9T is expected to serve as the Western Waterfront's main street, providing improved connectivity with the existing and future local street network. Incorporation of a range of mass transit opportunities and services, as well as extensive bicycle and pedestrian facilities, will support and encourage a diversion away from the single occupant vehicle as a primary mode of travel.

In addition, it is recognized that port activity in Newark, Elizabeth, Bayonne and Jersey City may increase significantly in coming years, which may generate increases in truck traffic on various routes including Route 440/Routes 1&9T in Jersey City. With the goals of minimizing negative air quality and noise impacts to planned new neighborhoods and improving traffic flow and the pedestrian experience, this study will investigate alternatives to eliminate through truck traffic from Route 440/Routes 1&9T and develop alternative travel paths to accommodate regional growth in the goods movement industry.

This effort should result in a preferred alternative inclusive of the envisioned urban boulevard, and identify means to divert freight movement away from Route 440/Routes 1&9T in Jersey City, which may consist of alternate truck routes, expansion of rail systems that would minimize local truck volumes, use of water borne vessels, or other means. This study will also investigate and identify strategies to manage through truck traffic and its impacts on Route 440/Routes 1&9T should diversion of through trucks away from the corridor prove impractical.

The preferred alternatives to be identified through this study will have undergone an extensive public participation/public outreach process, and will capture the highest level of support and consensus possible, allowing the preferred alternatives to advance to the next phases of project development.



1.2 Additional Project Goals and Objectives

Beyond the stated purpose of this project -

"The purpose of the Route 440/Routes 1&9T project is to improve existing and future safety, traffic operations, multi-modal mobility, and accessibility; to support and interconnect growth areas and livable communities along both sides of the corridor; and to support local and regional economic development."

- a wide array of additional issues and concerns will be addressed by the study's goals and objectives, which are targeted at balancing transportation needs with environmental and land use planning principles priorities. The study approach has been designed to advance the following fourteen (14) specific goals articulated by the Circulation Element of the Jersey City Master Plan¹.

- Goal 1:** Coordinate transportation and land use planning in a systematic and comprehensive manner.
- Goal 2:** Increase, improve, and enhance public transit service to, from, and within all areas of Jersey City.
- Goal 3:** Integrate and connect neighborhoods, and improve public access to and along waterfront areas.
- Goal 4:** Create a city-wide pedestrian-friendly environment.
- Goal 5:** Create a city-wide bicycle-friendly environment.
- Goal 6:** Maintain existing roadway and public transportation infrastructure in a state of good repair and in a clean condition, and replace obsolete infrastructure.
- Goal 7:** Create a safe and accessible environment for vehicles, pedestrians, and bicyclists.

¹ Adopted April 14, 2009



- Goal 8:** Improve access between Jersey City and the greater region.
- Goal 9:** Facilitate the regional movement of goods and services.
- Goal 10:** Accommodate the local delivery of goods and services through community-sensitive practices.
- Goal 11:** Reduce the amount of energy that is used to travel, improve air and water quality, reduce greenhouse gas emissions, and encourage healthier lifestyles.
- Goal 12:** Mitigate congestion and reduce the use of the single occupancy vehicles (SOV) in Jersey City.
- Goal 13:** Design transportation infrastructure in a manner that beautifies the city.
- Goal 14:** Encourage the use of new technologies and innovative techniques that are supportive of the other goals.

In the context of the Route 440/Routes 1&9T Multi-Use Urban Boulevard and Through Truck Diversion Concept Development Study, these city-wide planning goals and objectives may be aggregated into three general categories as guiding principles for the advancement of the study, as follows:.

Broad Community Goals

- Stimulate and support local and regional economic development and brownfield redevelopment
- Create a pedestrian friendly, walkable community
- Encourage and accommodate bicycle use
- Integrate mass transit opportunities including extension of the existing Hudson-Bergen Light Rail System and preservation of right-of-way for the addition of Bus Rapid Transit along the Route 440/Routes 1&9T corridor
- Plan for the creation of a Bus Rapid Transit system along Route 440/Routes 1&9T to provide a robust mass transit link between the Western Waterfront and the transportation center at Journal Square



- Promote/ensure environmental justice
- Maintain and enhance safety to motorists, pedestrians and bicyclists utilizing the corridor and crossing the corridor
- Support new urbanist mixed-use walkable communities containing interconnected networks of streets that are planned along both sides of the much of the length of the corridor
- Provide public access to Newark Bay and the Hackensack River

Environmental Goals

- Improve air quality
- Minimize noise and vibration impacts
- Preserve cultural and historic resources
- Support environmental remediation of contaminated sites along the Western Waterfront
- Identify opportunities for reductions in greenhouse gas emissions
- Prepare for resilience against the anticipated effects of climate change

Regulatory Compliance

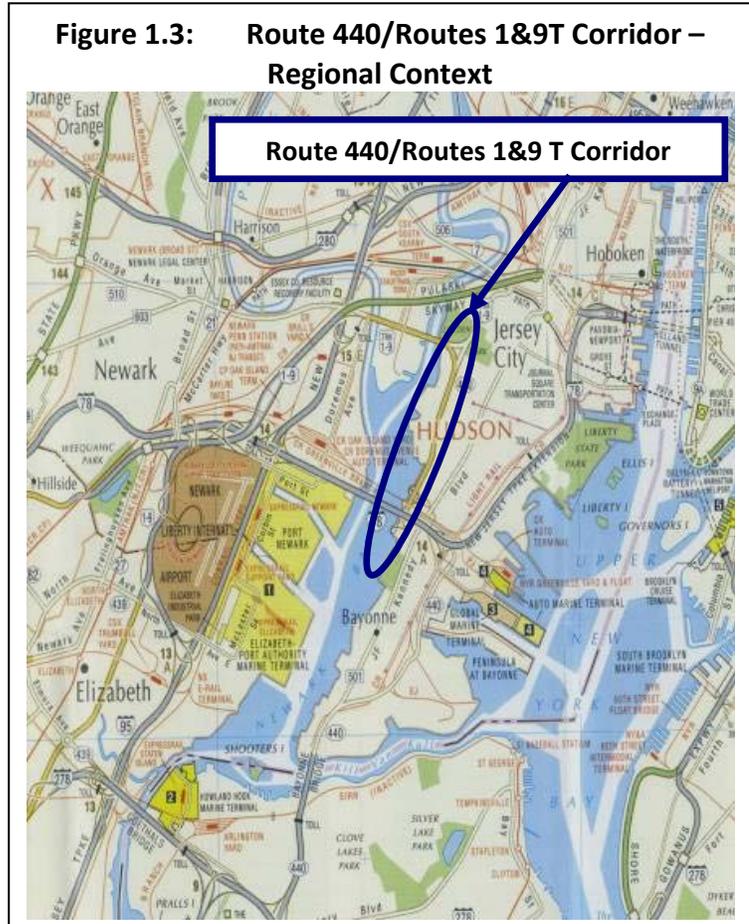
- Incorporate an environmental screening pursuant to the National Environmental Policy Act (NEPA) as implemented by Federal Highway Administration and set forth in the Code of Federal Regulations 23 CFR Part 771.
- Incorporate a broad public involvement process



1.3 Project Background

The Route 440/Routes 1&9T corridor is a north-south land service facility in the cities of Bayonne and Jersey City (Hudson County) that serves as an important connection to the New Jersey Turnpike, Hudson River crossings (Holland Tunnel) and the Bayonne Bridge. The corridor also serves as a significant truck route to the Newark/Elizabeth Seaport Complex and the Global Marine Terminal/Port Jersey Peninsula, the Meadowlands distribution centers and Jersey City's commercial and industrial businesses (Figure 1.3).

Figure 1.3: Route 440/Routes 1&9T Corridor – Regional Context



1.3.1 Planning Context

The City of Jersey City's extensive planning efforts resulted in the adoption of the Circulation Element of the Jersey City Master Plan that identified the need to investigate the potential for a new multi-use urban boulevard roughly along the 3.4± mile Route 440/Routes 1&9T corridor between the City of Bayonne border and Route 7 in Jersey City (Figure 1.3). Beyond the limits of the roadway corridor within Jersey City, the transportation corridor is envisioned to extend southward into the City of Bayonne, providing enhanced connectivity to the Richard A. Rutkowski Park in the northern portion of Bayonne.

The Route 440/Routes 1&9T corridor traverses the length of the Jersey City Western Waterfront, and represents not only a major roadway link through Jersey City, but also the roadway that is envisioned to be transformed into a new main street for new mixed-use, transit-oriented neighborhoods and other development that is anticipated in the western portion of Jersey City. In its current configuration and function, the corridor is incapable of safely and efficiently accommodating the future travel demands that will be placed upon it by

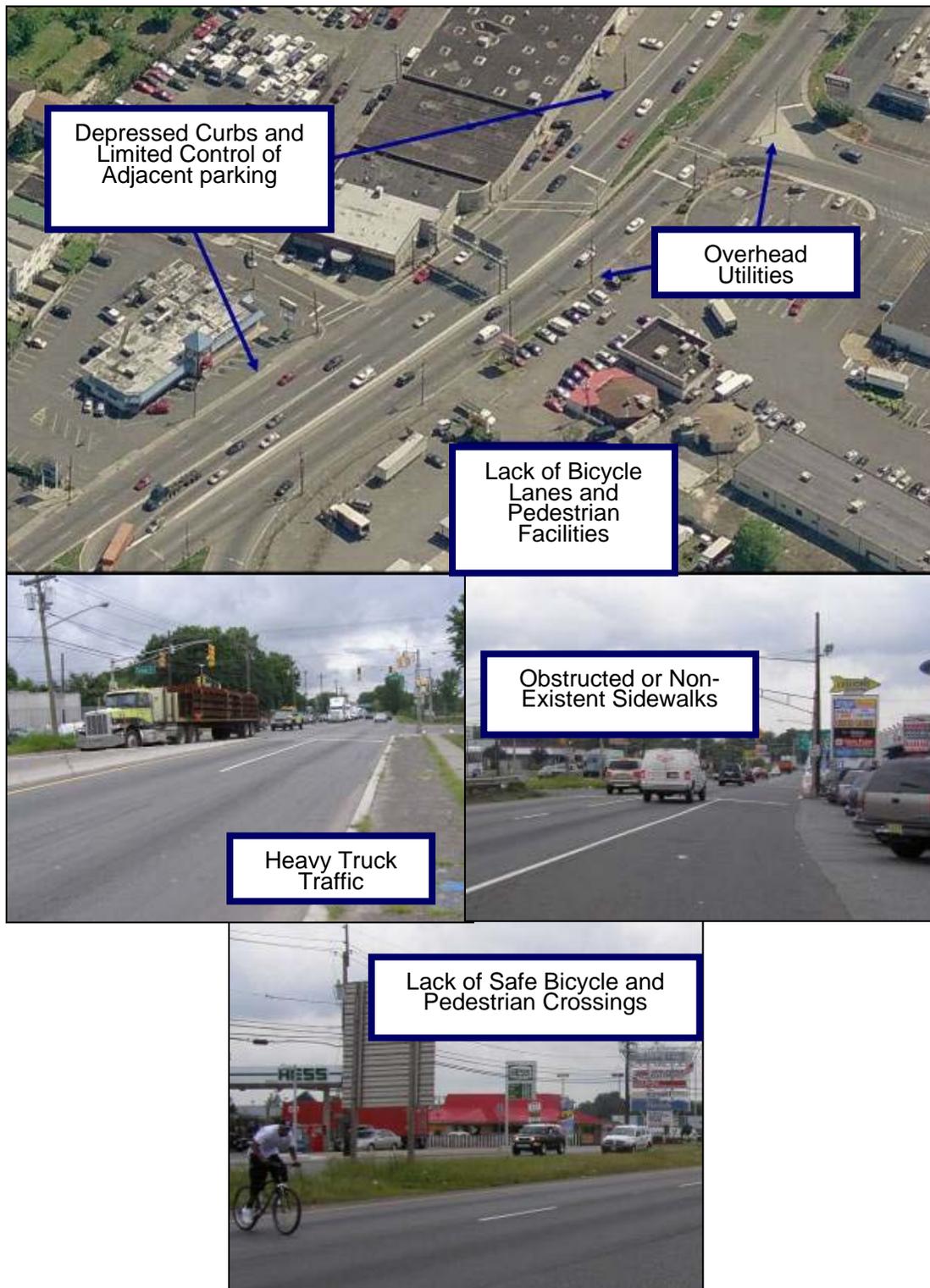


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ongoing and anticipated redevelopment and growth. The corridor is characterized by a number of existing geometric and operational features and deficiencies, including depressed curbs and limited control of adjacent parking, overhead utilities, lack of bicycle and pedestrian facilities, heavy truck traffic, obstructed or non-existent sidewalks, and lack of safe bicycle and pedestrian crossings (Figure 1.4).



Figure 1.4: Existing Features along the Route 440/Routes 1&9T Corridor





Even today, the study area is characterized by high travel demand, a significant portion of which is truck traffic. An August 2009 traffic count along the corridor to the south of Communipaw Avenue revealed that a significant percentage (from 10 to 14 %) of the total traffic utilizing the corridor is comprised of heavy trucks (Table 1.2).

Table 1.2: Route 440/Routes 1&9 T Corridor – Regional Context

Traffic Volumes and Vehicle Classifications on Route 440 s/o Communipaw Avenue*								
Time Period	Northbound				Southbound			
	Autos	Light Truck	Heavy Truck	Total	Autos	Light Truck	Heavy Truck	Total
24 Hour Volume	16,986 <i>81%</i>	847 <i>4%</i>	3,022 <i>14%</i>	20,855	13,772 <i>79%</i>	1,810 <i>10%</i>	1,955 <i>11%</i>	17,537
AM Peak Hour	778 <i>80%</i>	44 <i>5%</i>	148 <i>15%</i>	970	597 <i>76%</i>	83 <i>11%</i>	106 <i>13%</i>	786
PM Peak Hour	1,200 <i>84%</i>	48 <i>3%</i>	182 <i>13%</i>	1,430	982 <i>82%</i>	93 <i>8%</i>	121 <i>10%</i>	1,196

* Average volumes 8/11/09 – 8/13/09

A portion of the heavy truck traffic utilizing the corridor is generated by activities at the region’s maritime terminals. Depending upon the section of the corridor in question and the time of day, port-generated truck traffic represents between six and 24 percent of the total heavy truck traffic utilizing the corridor. Significant growth in the volume of freight imported and exported via the area’s maritime terminals is expected in the future. Initiatives such as expansion of on-dock rail facilities are expected to reduce the amount of daily increase in regional port-generated truck traffic activity. In addition, changes in terminal operations such as scheduling of truck pickup and delivery activities and extending the operating hours at the terminal truck gates will serve to more evenly distribute port-generated truck activity over a typical day. While these actions will minimize the effect of port growth on area roadways, significant use of the regional roadway network, including the Route 440/Routes 1&9T corridor, by port-generated trucks is expected to continue into the future.

Significant congestion and constraints to mobility created by the physical characteristics of the highway will serve as a deterrent to development of the livable communities that are planned



and will negatively impact the attainment of local and state planning goals and the quality of life for residents, workers and visitors.

Significant public and private sector investment into the creation of livable, mixed-use communities along the corridor that incorporate residential, office, retail and open space uses is ongoing. The increase in travel demand that will result from this significant development anticipated along the corridor and throughout Jersey City will exacerbate the already congested traffic conditions along the corridor. The City of Jersey City's prior planning efforts determined that the transportation corridor should be designed as a complete street that accommodates all users and is in conformance with the New Jersey State Development and Redevelopment Plan goal of smart growth, that is, compact, mixed-use development in existing urban centers instead of sprawl and new subdivisions on rural greenfield sites.

1.3.2 Local Growth Affecting the Corridor

The need for significant improvement in the transportation infrastructure serving the Western Waterfront of Jersey City was one of a number of findings articulated in the award-winning Circulation Element of the Jersey City Master Plan, which was adopted by the Jersey City Planning Board on April 14, 2009. The Circulation Element of the Jersey City Master Plan was the product of an extensive land use and transportation infrastructure planning process undertaken by the City of Jersey City that commenced in the summer of 2007. This process created a blueprint vision for Jersey City through the year 2050 that sets the stage for the next 41 years of growth. The Circulation Element anticipates the creation of over 80,000 additional residential dwelling units and nearly 10 million square feet of new commercial office and retail space by the year 2050 and explicitly articulates the linkage between land use needs and transportation needs in Jersey City.

Consistent with the growth projections of the Circulation Element, the North Jersey Transportation Planning Authority (NJTPA) projects that Jersey City will experience significant growth (Table 1.3).



Table 1.3: Population and Employment Projections

Year	Population	Households	Employment
Jersey City			
2010	265,610	101,180	130,780
2035	327,500	135,810	152,510
Change	61,890	34,630	21,730
Change (%)	23.3	34.2	16.6
Hudson County			
2010	667,000	257,100	297,000
2035	781,100	317,800	348,000
Change	114,100	60,700	51,000
Change (%)	17.1	23.6	17.2

Source: North Jersey Transportation Planning Authority

While the NJTPA projections envision significant growth through 2035, it is important to note that the Circulation Element of the Jersey City Master Plan anticipates continuing growth beyond 2035 to 2050 with the addition of over 80,000 residential dwelling units, a population increase to over 475,000 people, and a 79-percent increase over the NJTPA 2010 population projections. This equates to an annual population growth rate of nearly 1.5-percent per year. In addition to the anticipated growth in residential population, the Circulation Element anticipates nearly 10 million square feet of additional commercial development, further increasing the number of people utilizing the transportation infrastructure in Jersey City by adding commuters and visitors to the transportation system. The Circulation Element accommodates this growth through the expansion of the City’s already interconnected network of streets, with existing streets to be reconfigured and new streets to be designed to safely accommodate cars, bikes, pedestrians, and where appropriate buses and trucks. The Circulation Element also aims to reduce traffic congestion through further expansion of the City’s already robust mass transit system.

While extensive growth is anticipated citywide, nearly 30 percent of the residential growth and extensive commercial and institutional land use growth is expected to be located on the Western Waterfront of Jersey City between the Bayonne municipal border in the south and NJ



Route 7/St. Paul's Avenue in the north. The Circulation Element incorporates a vision for the Western Waterfront that was first articulated by the *Bayside Development Plan*, which provided an overarching planning and design vision for comprehensive redevelopment of the Western Waterfront of Jersey City between Danforth Avenue to the south and Lincoln Highway and Communipaw Avenue to the north. The Bayside plan was the outcome of an extensive public participation and visioning process. The Bayside area covers over 1,300 acres (2.1 square miles) and envisions a mix of land uses and multi-modal transportation infrastructure integrated to form a livable urban community and a sustainable live-work-play environment. The Bayside Development Plan focused on a comprehensive revitalization of the area that seeks to:

- **Facilitate, support, and encourage mixed-use pedestrian friendly development** with a blend of residential, retail, commercial and recreational uses.
- **Create an interconnected network of streets** that extends the local “grid” along and across Route 440/Routes 1&9T, and incorporates Route 440/Routes 1&9T as a walkable and bicycle friendly urban boulevard.
- **Create a bicycle-friendly, walkable community** by designing the interconnected network of streets as “complete streets” that accommodate the needs of all users with sidewalks, crosswalks, and bicycle lanes, as well as public amenities such as benches, lighting, and way-finding signs.
- **Increase parks and open space** within the Western Waterfront area of Jersey City, particularly along the riverfront, and provide enhanced accessibility to existing and new open space including a new riverfront walkway and pocket parks.
- **Create a multi-modal, mass transit-rich environment** through extension of the Hudson-Bergen Light Rail from its current terminus at the Westside Avenue station and expansion of local and regional bus service.

The Circulation Element anticipates growth in six (6) specific areas within the Western Waterfront area of Jersey City (Figure 1.5), as follows:



- **Bayfront** – 8,000 residential units, 350,000 square feet retail, 700,000 square feet commercial office
- **K-Mart site** – 500 residential units
- **Hudson Mall** – 5,000 residential units, 390,000 square feet retail
- **Route 440 Northeast** – 3,000 residential units, 135,000 square feet retail
- **Route 440 Southeast** – 2,000 residential units, 30,000 square feet retail
- **Hackensack River Edge** – 883,000 square feet high-cube warehouse

Figure 1.5: Anticipated Growth Areas on the Western Waterfront



Within the Western Waterfront area, a number of redevelopment plans have been formally adopted as ordinances by the City (Table 1.4). With the exception of the Hackensack River Edge Redevelopment Plan, which is outside of the Bayside area, all are within the framework of the Bayside vision. One of these adopted redevelopment plans is the award-winning Bayfront I Redevelopment Plan. The City of Jersey City has also taken other actions to advance the redevelopment planning process. The governing body has authorized the Planning Board to study the Route 440-Culver study area within the Route 440 Northeast growth area to determine if it qualifies as an area in need of redevelopment or rehabilitation, which is the first step of the redevelopment planning process. The governing body has also declared the Route 440 Southeast growth area as an area in need of redevelopment, and the Planning Board is in the process of preparing a redevelopment plan.



Table 1.4: Status of Redevelopment Plans - Western Waterfront Growth Areas

Growth Area	Redevelopment Plan Adoption Status
Hackensack River Edge	Hackensack River Edge Redevelopment Plan under study
Hudson Mall	Western Gateway Redevelopment Plan adopted
Bayfront	Bayfront I Redevelopment Plan adopted
K-Mart Site	No Action Taken
Route 440 Northeast	NJCU West Campus Redevelopment Plan adopted
	Water Street Redevelopment Plan adopted
	Westside Avenue Redevelopment Plan adopted
	Route 440-Culver Study Area is under study
Route 440 Southeast	Route 440 Southeast was declared a Redevelopment Area, redevelopment plan is under development

These redevelopment areas and areas under study as described above abut both sides of the Route 440/Route 1&9T corridor and rely heavily upon this roadway for access. With the exception of the northern portion of the corridor, Route 440/Routes 1&9T is a four-lane arterial with a series of signalized and unsignalized at-grade intersections along its length. The corridor is currently not well-served by mass transit, and the surrounding land uses, particularly on the west side of the corridor, are primarily dependent on automobiles and trucks. The configuration of the existing Route 440/Routes 1&9T corridor and the availability and accessibility of mass transit are inadequate for serving the anticipated future travel demands that the anticipated regional and local growth will place on it.

A key recommendation articulated by the Bayside Development Plan and the Circulation Element of the Master Plan is the creation of a multi-use urban boulevard to replace the existing Route 440/Routes 1&9T between Route 7 and the municipal boundary with the City of Bayonne. This recommendation was the result of two comprehensive planning processes including extensive public outreach, meetings with stakeholders, and visioning workshops, with the findings and recommendations of these planning studies gaining wide acceptance and support. These studies anticipate that the character of the boulevard will greatly impact the character of the development that is planned to occur along both sides of the corridor. The urban boulevard is envisioned to be a walkable, bicycle-friendly, tree-lined facility segregating through traffic from local traffic, and providing safe, attractive and inviting bicycle and pedestrian linkages between the new neighborhoods that will abut both sides of the boulevard, as well as the existing residential neighborhoods to the east. The Bayside Development Plan and the Circulation Element of the Master Plan also call for the expansion of the existing mass



transit system including a westward extension of the Hudson-Bergen Light Rail system from its current terminus at the Westside Avenue station across Route 440 to the northern border of the Bayfront I Redevelopment Plan Area that would connect the west side of Route 440 with a major regional employment center along the eastern waterfront of Jersey City. The Bayfront I Redevelopment Plan envisions a feeder bus or shuttle system on dedicated bus only lanes to provide access to a future HBLR station. NJ Transit evaluated a number of alternatives for an extension of HBLR from the Westside Avenue terminus, as well as a transportation system management alternative, and determined that the alternative articulated by the Bayside Development Plan and the Circulation Element of the Master Plan is the best alternative.

1.3.3 Regional Growth Affecting the Corridor

1.3.3.1 Land Development / Redevelopment Outside of Jersey City

In addition to the anticipated growth within Jersey City, extensive development, redevelopment and growth is expected to occur in surrounding and proximate municipalities. These additional growth areas will likely contribute traffic to the regional roadways, including those that traverse Jersey City, further emphasizing the need for improvements to the transportation infrastructure in Jersey City, particularly the Route 440/Routes 1&9T corridor.

Of primary note is the planned redevelopment of the former Military Ocean Terminal – Bayonne. This redevelopment – known as the Peninsula at Bayonne Harbor – was initially a plan to transform the former Military Ocean Terminal (MOTBY) into a mixed-use waterfront community. Redevelopment plans created six districts within the 430-acre peninsula consisting of up to 6,700 residential units; commercial, entertainment and recreational space; as well as marinas, ferry service and over two miles of waterfront walkway. In June 2010, the Port Authority of New York and New Jersey (PANYNJ) acquired a portion (approximately 133 acres) of the MOTBY peninsula. While plans for the future development and use of this portion of the peninsula are not currently defined, the acquisition is reasonably expected to reduce the level of mixed use waterfront community development on the peninsula, with the portion acquired by the PANYNJ being developed with some form of industrial / port use. Vehicular access to this redevelopment area is afforded directly from Route 440 in Bayonne and is expected to increase travel demand along the Route 440/Routes 1&9T corridor within Jersey City.



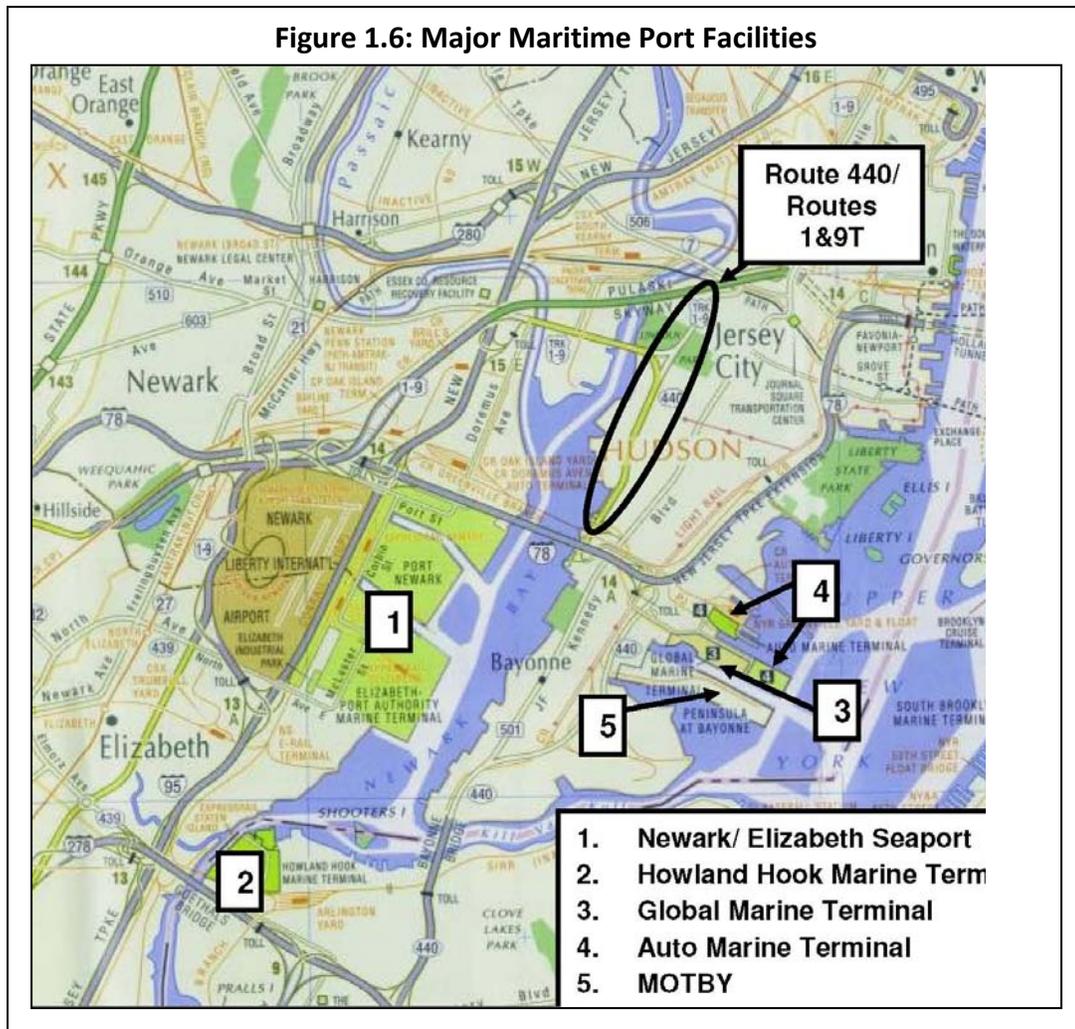
The City of Newark is also expecting significant growth in the coming years. In addition to an anticipated increase of approximately 25,000 residents by the year 2025, Newark hosts the largest maritime port on the east coast. Port Newark accommodates a significant portion of the region's maritime shipping. In addition, three rail yards (Oak Island Yards, Waverly Yards and Brills Yards) are located within the City of Newark. The volume of freight moved through the port is anticipated to grow substantially over the next 20 years, with annual growth expected to range from 3 to 4 percent. The City of Newark is seeking to expand its port support industries as an economic development strategy. With approximately 88 percent of the landside movements of goods to and from the ports and rail yards being made by trucks, it is likely that the expected growth in the goods movement and freight logistics industry in Newark will contribute to increased travel demand and congestion throughout the region, including Jersey City and the Route 440/Routes 1&9T corridor.

1.3.3.2 Port of New York and New Jersey

Additionally, significant growth is anticipated in the volume of goods imported and exported via the maritime terminals operating in the region. While extensive investment has been made in recent years to develop and expand the rail system directly serving the ports, a majority of the goods are transported to and from the marine terminals by truck. Accordingly, increases in the volume of goods moved through the ports would be expected to equate to an increase in the number of trucks on the local and regional roadways, including the Route 440 / Routes 1&9T corridor.

The major maritime terminals in the area are generally and collectively referred to as the Port of New York and New Jersey (Figure 1.6). As a part of the Port of New York and New Jersey, the Newark/Elizabeth Seaport Complex is the largest maritime port on the east coast, and the second largest in the nation, handling approximately 2.5 million containers annually. A majority of these containers are moved into and out of the port by truck, with a portion of these trucks utilizing the Route 440/Routes 1&9T corridor.

While significantly smaller in area and the volume of freight handled, the Global Marine Terminal and Auto Marine Terminal in southeastern Jersey City contribute directly to the freight-related activity in the area. While the volume of goods that pass through these terminals are approximately 300,000 containers annually, the proximity to the Route 440/Routes 1&9T corridor results in a larger percentage of the trucks traveling to and from Port Jersey utilizing some portion of the Route 440/Routes 1&9T corridor.



In addition to the increase in travel demand related to the envisioned growth and redevelopment along the corridor, significant growth in area truck traffic is expected in the coming decades. Projected increases in goods movement and trucking/international shipping container activity in the region have been developed as part of several different studies, including: the Harbor Navigation Study; the Port Development and Investment Strategy; the Strategic Plan for the Redevelopment of the Port of New York and New Jersey; and the Comprehensive Port Improvement Plan (CPIP). The CPIP forecasts were generated by examining total container trade growth between the U.S. and all world markets, and by apportioning this



trade growth among different U.S. “gateway” ports, including the Port of New York and New Jersey. The apportionment process assumed that the Port Authority of New York and New Jersey (PANYNJ) would be capable of accommodating “mega-containerships” with 50’ navigation channels, that its terminals would provide adequate capacity to meet demand, and that its landside access system would be capable of providing the necessary capacity and quality of service. The apportionment process also assumed that other U.S. ports would make comparable improvements in their own competitive positions.

The NJDOT’s Portway Extensions Concept Development and CMS Study, September 2003, addressed the potential for significant increases in trucking activity in the area on a regional basis. This study integrated global goods movement projections and focused more directly on the movement of import and export traffic between inland warehouse/distribution centers and the maritime terminals in Newark, Elizabeth, Jersey City and Bayonne. The Portway Extensions Concept Development and CMS Study determined, that by the year 2025, trucking activity related to the area ports are projected to potentially increase by 213 percent of current levels.

The PANYNJ provided projections of the potential growth in container traffic through the regional port facilities. These projections (Table 1.5) are based on a range of market demand annual increase rates, as well as improved per-acre container handling efficiency at the maritime terminals. Even with an annual growth rate of only 3-percent, the number of containers moving through the region is expected to increase by approximately 330-percent by the year 2050. If the annual growth rate reaches 4.5-percent, the number of containers moving through the region is expected to increase by over 600-percent. Even if the proportion of containers moved by rail increases substantially, the number of trucks on the regional roadways, including the Route 440/Routes 1&9T corridor, will increase substantially, further exacerbating the already congested and deficient operations on the roadway.



Table 1.5: Annual Container Volume through Area Maritime Terminals

Year	Demand in Containers			Container Acres		Average Port-Wide Capacity (Alternate CTs/Acre Scenarios)		
	3.00%	4.00%	4.50%	Total Port	Port Jersey	4000	5000	6000
2009	2,669,973	2,669,973	2,669,973	1330	100	5,320,000	6,650,000	NA
2020	3,695,868	4,110,301	4,332,975	1460	170	5,840,000	7,300,000	8,760,000
2035	5,758,041	7,402,421	8,385,530	1460	170	5,840,000	7,300,000	8,760,000
2050	8,970,841	13,331,342	16,228,368	1660	170	7,320,000	8,300,000	9,960,000

Source: PANYNJ Potential Growth Scenario Projections

The PANYNJ is implementing a major capital investment program to support and accommodate this anticipated growth. One key component of this program, and to the ability of the port complex to accommodate the anticipated growth, is the ongoing deepening of the shipping channels required to access the maritime terminals. Thirty years ago, typical ships employed in maritime trade carried only one to two thousand containers and were able to navigate in 35-foot deep channels. Subsequently, the typical ship increased dramatically in size. The Panamax class of ships – the largest ships that could fit through the Panama Canal – carry up to 5,000 containers, and require significantly deeper channels for navigation. In response to this size increase, the U.S. Army Corp of Engineers completed dredging of the channels to a depth of 45 feet to accommodate these vessels.

In 1996, the Regina Mærsk exceeded the limits of the Panama Canal with a carrying capacity of 6,400 containers. Since 1996, ship size has steadily increased. As recently as 2006, Samsung delivered a Post-Panamax ship with a capacity of 9,600 containers. In response to the ever-increasing ship sizes, plans were initiated to further increase channel depths to 50 feet to accommodate "Post-Panamax Plus" ships.

The NJRTM-E was employed to identify the portion of trucks utilizing the Route 440 / Routes 1&9T corridor that are directly related to the activity within the maritime ports, both currently and in the future. The total volume of trucks and the percentage of these trucks that have an origin or a destination at one of the area maritime terminals traveling along the Route 440/Routes 1&9T corridor was extracted from the NJRTM-E for the existing condition and the



projected 2035 condition (Table 1.6 and Figure 1.7). The total volume of trucks traveling along the corridor is expected to increase in future years, while the proportion of the trucks traveling the corridor that are going to or from a maritime terminal is expected to decrease during the AM and PM peak periods. This decrease is attributed to the anticipated completion of a number of roadway and bridge infrastructure improvement projects such as the Charlotte Circle elimination and the Wittpenn Bridge replacement, as well as the expansion of the rail system to move goods directly from the ports via train.

Table 1.6: Heavy Truck Volumes and Port Related Truck Percentages along the Route 440/Routes 1&9T Corridor

	2009						2035					
	AM Peak Period (Figure 1.7 - Chart 1)			PM Peak Period (Figure 1.7 - Chart 2)			AM Peak Period (Figure 1.7 - Chart 3)			PM Peak Period (Figure 1.7 - Chart 4)		
	Total Trucks	Port Generated		Total Trucks	Port Generated		Total Trucks	Port Generated		Total Trucks	Port Generated	
		Total	Percent									
Rt 440 NB - South of Communipaw	391	72	18.4%	367	72	19.6%	463	63	13.6%	430	70	16.3%
Rt 440 SB - South of Communipaw	407	83	20.4%	363	72	19.8%	415	62	14.9%	402	65	16.2%
Rts 1&9T NB - North of Communipaw	259	26	10.0%	160	13	8.1%	260	21	8.1%	186	12	6.5%
Rts 1&9T SB - North of Communipaw	272	67	24.6%	183	36	19.7%	221	13	5.9%	278	31	11.2%



Figure 1.7: Heavy Truck Volumes and Port Related Truck Percentages along the Route 440/Routes 1&9T Corridor – Existing Condition

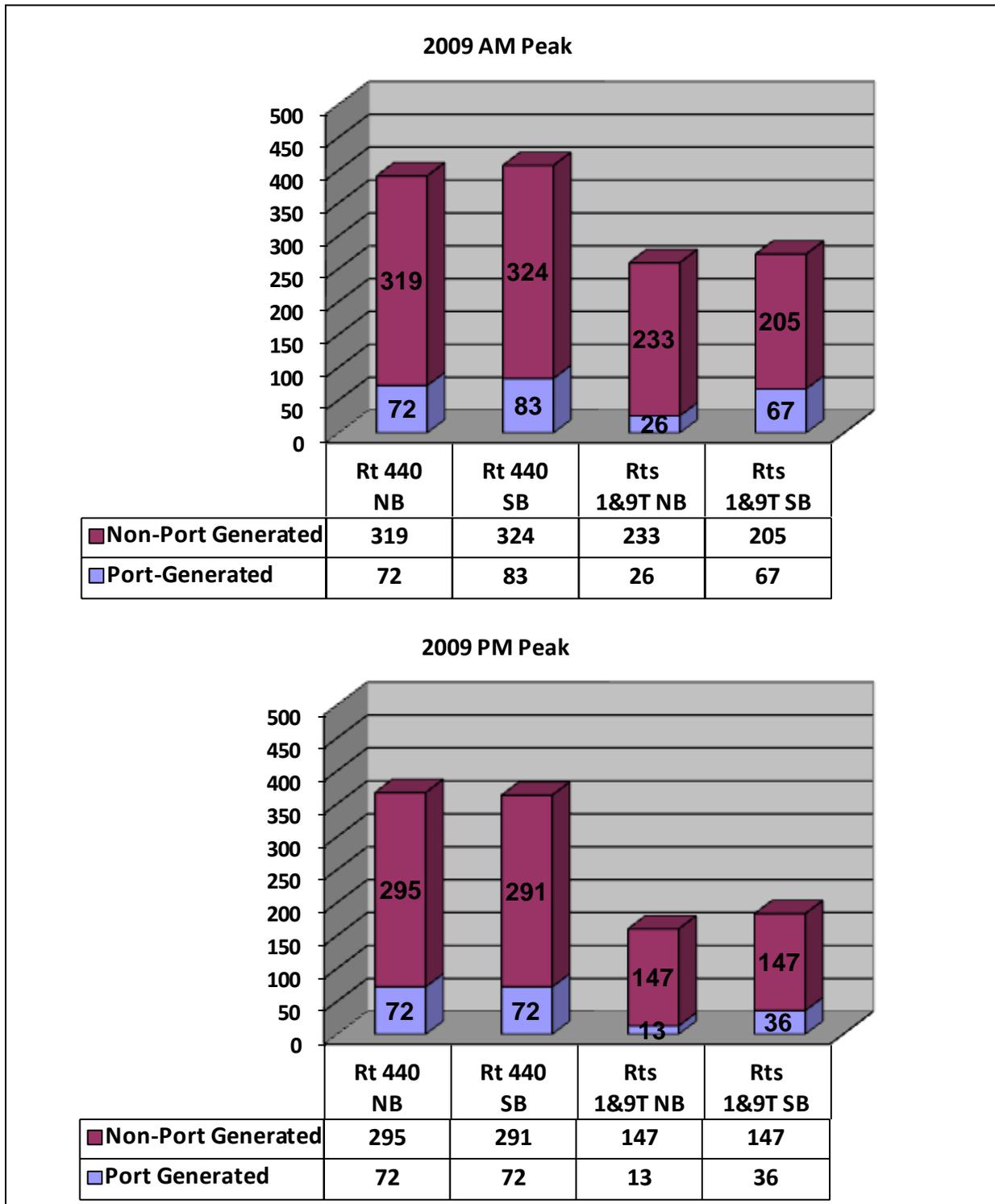
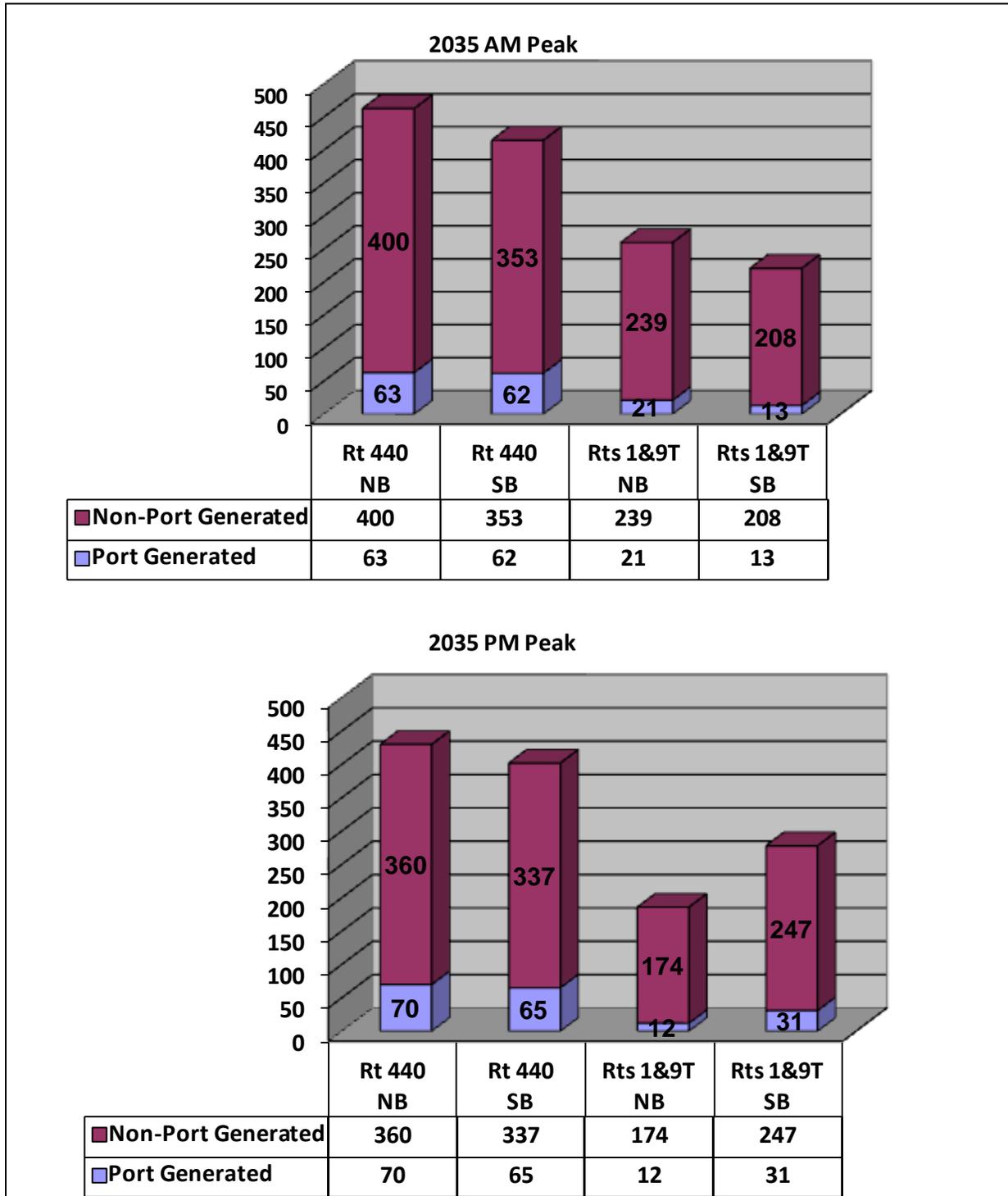




Figure 1.8: Heavy Truck Volumes and Port Related Truck Percentages along the Route 440/Routes 1&9T Corridor – 2035 Condition





The number of truck trips along the Route 440 / Routes 1&9T corridor that are directly generated by activity in the region's ports is expected to remain relatively constant and even decrease over time. The movement of goods from the point of import to the point of final consumption typically consists of multiple links or trip segments. Any reduction in the future volume of trucks utilizing the corridor results primarily from the anticipated redevelopment in the Western Waterfront that will convert industrial space to mixed use development. Use of the corridor by heavy trucks, whatever their origin or destination, is not supportive of the redevelopment of the Western Waterfront of Jersey City and the creation of livable communities along the Route 440/Route 1&9T corridor.

In summary, the anticipated growth in the volume of goods imported and exported through the area maritime terminals, coupled with regional travel demand growth resulting from a variety of planned development activities, are expected to generate significant increases in travel demand along the Route 440/Routes 1&9T corridor in Jersey City. These increases will degrade already congested traffic conditions, with the potential for negative noise, vibration and air quality impacts that would deter and undermine the planned livable communities along the corridor and negatively impact existing nearby residential neighborhoods. A comprehensive investigation of future travel demand within the study area and development of a multi-modal transportation infrastructure plan to serve the corridor are critical to the realization of the vision for the Western Waterfront described in both the Bayside Development Plan and the Circulation Element of the Jersey City Master Plan.



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