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**APPENDIX D:  
LAND USE, ZONING & SOCIOECONOMICS**

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- D.1 Public Policy
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Appendix D.1  
Public Policy

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## **NEW JERSEY**

### **New Jersey State Development and Redevelopment Plan – Statewide Policies**

The purpose of the New Jersey State Development and Redevelopment Plan (the State Plan) is to coordinate planning activities and establish statewide planning objectives in the following areas: land use, housing, economic development, transportation, natural resource conservation, agriculture and farmland retention, recreation, urban and suburban redevelopment, historic preservation, public facilities and services, and intergovernmental coordination (N.J.S.A. 52:18A-200(f)). There are 24 statewide transportation policies. Of these, the following 10 are relevant to the proposed project.

#### **Policy 1: Transportation Maintenance and Repair**

*The maintenance and repair of the existing transportation network is the highest transportation priority.*

The proposed project is the replacement of an existing bridge which needs substantial improvement and repair.

#### **Policy 3: Coordination of Transportation Planning Among Public, Quasi-public and Private Agencies**

*Improve the coordination and integration of transportation planning among the relevant public, quasi-public and private transportation interests in New Jersey, including the metropolitan planning organizations, bistate authorities, toll road authorities and commissions. Transportation planning coordination should also be improved through the provisions of the federal Transportation Equity Act for the 21st century, including the Metropolitan Planning Organization Transportation Improvement Plan process.*

The planning of the proposed project has involved numerous federal, regional, state, and local agencies, authorities and organizations.

#### **Policy 4: Integration of Land Use and Transportation Planning**

*Establish a working partnership between transportation agencies, municipal, county and regional governments and the private development community to strengthen the linkages between land use planning and transportation planning for all modes of transportation including mass transit, highways, rail, aviation, passenger ferry service and port facilities. Transportation system improvements and good land use planning practices must be mutually supportive. Coordinate and harmonize local, state and regional infrastructure investment plans and programs with local land use plans to achieve the following objectives:*

- *Reduce consumption of land and increase the efficiency of infrastructure.*
- *Support public transportation systems and other alternatives to the automobile.*
- *Reduce total vehicle miles of travel.*
- *Reduce the overall consumption of energy resources for transportation purposes.*

The planning of the proposed project has been coordinated with numerous large development projects and redevelopment initiatives in the area, and has involved a partnership with a variety of agencies and development interests.

#### **Policy 5: Transportation and Environmental Resource Protection**

*Coordinate transportation planning and project development with environmental planning through a capital planning process. Before programming for construction, evaluate the direct, indirect and*

*cumulative impacts of installing transportation improvements and of the development that these improvements may support or induce to ensure that they accommodate and protect sensitive environmental resources.*

The analysis of the direct, indirect and cumulative impacts anticipated to result from the proposed project have been evaluated in this EIS. Mitigation measures have been recommended to address any potential negative impacts that have been identified and ensure that the proposed project improvements will accommodate and protect sensitive environmental resources with required regulatory compliance.

#### Policy 14: Efficient Utilization of Capacity

*Efficiently manage the existing transportation network. Employ or provide for both capital and operational improvements the latest available technology and design techniques where they can efficiently increase the capacity or reduce costs of all forms of existing and planned transportation infrastructure and services.*

The proposed project's design and construction integrates the latest available technology to increase capacity and reduce costs of all forms.

#### Policy 17: Transportation Supply Management Strategies

*Alleviate congestion on the existing infrastructure system by managing the supply of transportation services. Specific supply side programs that should be considered include electronic toll collection, intelligent transportation systems, highway access management plans, transportation improvement and development districts and employer or other shuttle pick-up at transit stations.*

The proposed project incorporates Transportation Supply Management Strategies, which include: electronic toll collection, intelligent transportation systems, and highway access management plans.

#### Policy 19: Regional and Local Traffic Patterns

*Separate regional through traffic from local traffic by way of limited access bypass roads planned to minimize sprawl and adverse impacts on adjacent communities—where alternative circulation patterns using existing roads are not feasible.*

The proposed project is an integral part of the regional highway network and is separated from the local traffic network.

#### Policy 21: Labor Markets

*Use appropriate transportation connections to link places of residence with those areas of growing employment opportunities identified in the State Plan.*

The proposed project is a major linkage to the employment centers in both New Jersey and New York,.

#### Policy 22: Recreational and Tourism Travel

*Promote travel and tourism in New Jersey by making appropriate transportation investments that consider seasonal demands, enhance mobility and accessibility through infrastructure improvements, access management and demand management strategies, and protect the resources on which recreation and tourism are dependent.*

The proposed project is a major infrastructure improvement that enhances transportation mobility and accessibility.

### Policy 23: Goods Movement

*Enhance the movement of goods throughout New Jersey by investing in a comprehensive network for regional and interstate commerce, including, where appropriate:*

- *developing intermodal facilities linking seaports, airports, railroads and highways;*
- *encouraging movement of goods by rail to and from the ports and elsewhere, while protecting current and future passenger use on available rights of way;*
- *dredging channels to provide shipping access;*
- *developing new port facilities, including new land for expansion; and*
- *providing exclusive rights-of-way congestion bypasses for local port and distribution activities and regional through movement of trucks.*

The proposed project is a significant component of the regional and interstate highway network and a major linkage between shipping ports and industrial plants along the Arthur Kill and regional and national consumers. In addition, the Proposed Project will ease congestion on the only direct link between the New York Container Terminal and the interstate highway system.

### **New Jersey State Development and Redevelopment Plan – Planning Area Policies**

The State Plan's statewide policies are applied to the natural and built resources of the state through the designation of five Planning Areas:

- Metropolitan Planning Area (PA 1)
- Suburban Planning Area (PA 2)
- Fringe Planning Area (PA 3)
- Rural Planning Area (PA 4)
- Environmentally Sensitive Planning Area (PA 5)

These Planning Areas reflect distinct geographic and economic units within the state and serve as an organizing framework for application of the Statewide Policies of the State Plan. The Proposed Project is located in the Metropolitan Planning Area (PA 1).

Each Planning Area has a set of 11 policy objectives that are utilized to guide local and state agency planning. These objectives range from agriculture and natural resource conservation to transportation, public facilities and intergovernmental coordination. The Metropolitan Planning Area's policy objectives that are related to the Proposed Project include the following:

Transportation Objective: *Maintain and enhance a transportation system that capitalizes on high density settlement patterns by encouraging the use of public transit systems, walking and alternative modes of transportation to reduce automobile dependency, link Centers and Nodes, and create opportunities for transit oriented redevelopment. Facilitate efficient goods movement through strategic investments and intermodal linkages. Preserve and stabilize general aviation airports and, where appropriate, encourage community economic development and promote complementary uses for airport property such as business centers.*

Through its resulting capacity and accessibility enhancements, the Proposed Project will facilitate efficient goods movement and intermodal linkages.

**Public Facilities and Services Objective:** *Complete, repair or replace existing infrastructure systems to eliminate deficiencies and provide capacity for sustainable development and redevelopment in the region. Encourage the concentration of public facilities and services in Centers and Cores.*

The proposed project is the replacement of an important component of the region's transportation infrastructure. The increased capacity anticipated to result will address deficiencies in the transportation network while enhancing opportunities for redevelopment in the surrounding region.

**Intergovernmental Coordination Objective:** *Regionalize as many public services as feasible and economical to enhance the cost-effective delivery of those services. Establish multijurisdictional policy and planning entities to guide the efforts of state, county and municipal governments to ensure compatible and coordinated redevelopment.*

The planning of the proposed project has involved numerous federal, regional, state, and local agencies, authorities and organizations.

### **City of Elizabeth Master Plan**

The City of Elizabeth Master Plan was adopted in March 1990. The Land Use Element of the Plan proposes to continue the pattern of land use that currently exists in the Goethals Bridge Study Area (residential, commercial and industrial), as well as encourage infill industrial development in the vicinity of Arthur Kill.

### **City of Linden Master Plan**

The City of Linden Master Plan was adopted in January 2003. The Land Use Element of the Plan proposes to continue the pattern of land use that currently exists in the Goethals Bridge Study Area (heavy and light industrial). The proposed project will assist in this goal through enhancing freight mobility and accessibility to the area.

The Circulation Element of the Plan describes major transportation infrastructure proposals within the city, including the proposed project. The Plan supports the proposed project and notes that its implementation will have direct impacts on traffic in Linden. The Plan also recommends numerous basic roadway improvements. One recommendation relevant to the study area is the Goethals Bridge/Lower Wood Avenue Connector. This roadway would run parallel to the New Jersey Turnpike and provide alternate access to the major freeway systems serving the city and the region. The proposed project is consistent with the Circulation Element of the Master Plan.

The Economic Plan Element states that Union County's future employment growth will stay concentrated in the services and wholesale/retail trade industry divisions. Construction employment should improve as existing projects and proposed development come to realization in the near future. The proposed project is consistent with the Economic Plan by providing improved accessibility to employment opportunities and additional jobs through construction.

## **NEW YORK (STATEN ISLAND)**

From Port Ivory to Tottenville along the Arthur Kill, Staten Island's west shore encompasses an area of approximately 5,700 acres, mostly zoned for manufacturing. While the area has a long and varied history of industrial uses, more than half of the area has remained dormant, as vacant, dilapidated, or underutilized properties. This is beginning to change, however, as evidenced by recent proposals for residential and retail development.

### **Staten Island West Shore – Land Use and Transportation Study**

The NYC Economic Development Corporation (EDC), in conjunction with the Department of City Planning, is conducting a study of the future transportation and land use needs of the West Shore. The West Shore study area is approximately 3,000 acres, including a wide variety of land uses, and covers approximately 12 miles of shoreline along the Arthur Kill. The study area includes, from north to south, the neighborhoods of Howland Hook/Arlington, Bloomfield, Chelsea, Travis, Rossville, Woodrow, Charleston and Tottenville, as well as Fresh Kills Park. Rather than managing the impacts of piecemeal development, this study offers an opportunity to weigh alternative futures, develop a community-based vision, and establish a planning framework to guide land use and transportation decision-making. The need to develop a comprehensive plan is partly driven by the area's limited connectivity on inadequate roads and the increased development pressure that is expected to occur within this area.

Through a series of public workshops and Advisory Committee meetings, the study will identify ways to coordinate transportation and land use while supporting existing businesses, preserving open space & natural features, and improving access to the waterfront and recreation. The study will assess alternative futures, develop a community-based vision, and establish a planning framework to guide land use and transportation decision-making in the future. Key components of the study will include: opportunities to improve transportation (roads and mass transit); better utilize industrial properties along the waterfront while also protecting existing businesses; better integrate development by clustering around existing and future transit options; preserve open space; and enhance job opportunities for all skill levels. In parallel with the West Shore Study, the city has allocated funding to allow the Staten Island Economic Development Corporation (SIEDC) to further study the feasibility of light rail passenger service along the West Shore.

### **Strategic Policy Statement 2006 – Office of the Staten Island Borough President**

The Office of the Staten Island Borough President's strategic policy statement outlines specific goals and strategies for various issues within the Borough. Relevant goals and strategies pertaining to the proposed project include: constructing the new Goethals Bridge; improvements to the Staten Island Expressway and West Shore Expressway; improving existing highway connections including flipping the Staten Island Expressway/West Shore Expressway interchange; increasing transit ridership through improvements in express bus routes and park-and-ride facilities; and using traffic-calming measures to improve road safety.

### **Statement of Community District Needs Fiscal Year 2009, Community Board 1**

Community Board One represents Staten Island's North Shore neighborhoods. The specific needs of Community Board One focus on waterfront and economic development; improving the transportation infrastructure, including the expansion of mass transit; enhancing services for youth and senior citizens; and, providing recreational opportunities in underserved areas.

### **Statement of Community District Needs Fiscal Year 2009, Community Board 2**

Community Board Two is approximately 24 square miles in area encompassing the entire mid-island sections of Staten Island. The Board's needs focus on transportation and request the following improvements: construct a fourth bus depot, install continuous service roads in both directions along the entire length of the West Shore Expressway; explore the feasibility of adding another travel lane in each direction on the West Shore Expressway, and certain road and intersection improvements along Rockland Avenue, Forest Hill Road, and Richmond Hill Road.

### **The New Waterfront Revitalization Program, September 2002**

New York City Department of City Planning's *Waterfront Revitalization Program (WRP)* is the city's principal coastal management tool and establishes the city's policies for development and use of the waterfront. The WRP's ten policies deal with the following: (1) residential and commercial redevelopment; (2) water-dependent and industrial uses; (3) commercial and recreational boating; (4) coastal ecological systems; (5) water quality; (6) flooding and erosion; (7) solid waste and hazardous substances; (8) public access; (9) scenic resources; and (10) historical and cultural resources.

Utilizing these policies, the WRP provides the framework for evaluating the consistency of all discretionary actions in the coastal zone. When a proposed project is located within the coastal zone and requires a local, state, or federal discretionary action, a determination of the project's consistency with the policies and intent of the WRP must be made before the project can move forward.

The WRP's policies refer to Significant Maritime and Industrial Areas (SMIA) and Special Natural Waterfront Areas (SNWA). The area directly north of the Goethals Bridge is an SMIA and the area surrounding the bridge and directly south is the Northwest Staten Island / Harbor Herons SNWA. The WRP's policies regarding SMIA's promote industrial uses within these areas through encouraging the appropriate zoning and targeted infrastructure improvements. The policies within the WRP regarding SNWA aim to protect and restore the sensitive natural environmental resources within these areas.

### **The PlaNYC 2030**

In December 2006, New York City Mayor Michael Bloomberg unveiled PlaNYC 2030, a challenge to New Yorkers "to generate ideas for achieving ten key goals for the city's sustainable future." Organized into six key areas (Land, Water, Transportation, Energy, Air, and Climate Change), the PlaNYC 2030 project is targeting ten goals, ideally achievable by the year 2030, to allow for the growth and sustenance of New York City's industry, population, environment, and infrastructure. The goals of PlaNYC 2030, in no particular order of importance, are as follows:

- Create homes for almost a million more New Yorkers, while making housing more affordable and sustainable
- Ensure that all New Yorkers live within a 10-minute walk of a park
- Clean up all contaminated land in New York
- Open 90% of our waterways for recreation by reducing water pollution and preserving our natural areas
- Develop critical back-up systems for our aging water network to ensure long-term reliability
- Improve travel times by adding transit capacity for millions more residents
- Reach a full "state of good repair" on New York City's roads, subways, and rails for the first time in history
- Provide cleaner, more reliable power for every New Yorker by upgrading our energy infrastructure
- Achieve the cleanest air quality of any big city in America
- Reduce global warming emissions by more than 30%

Within the Community Boards 1 and 2 of Staten Island, the PlaNYC initiatives are principally of transit and transportation nature including bus network enhancements (buss rapid transit – BRT), NYCDOT and MTA state-of-good repair for the local road network and local subway station respectively, reactivation of the North Shore Transit, neighborhood improvements (notably in Saint George), creation of new open space, etc.

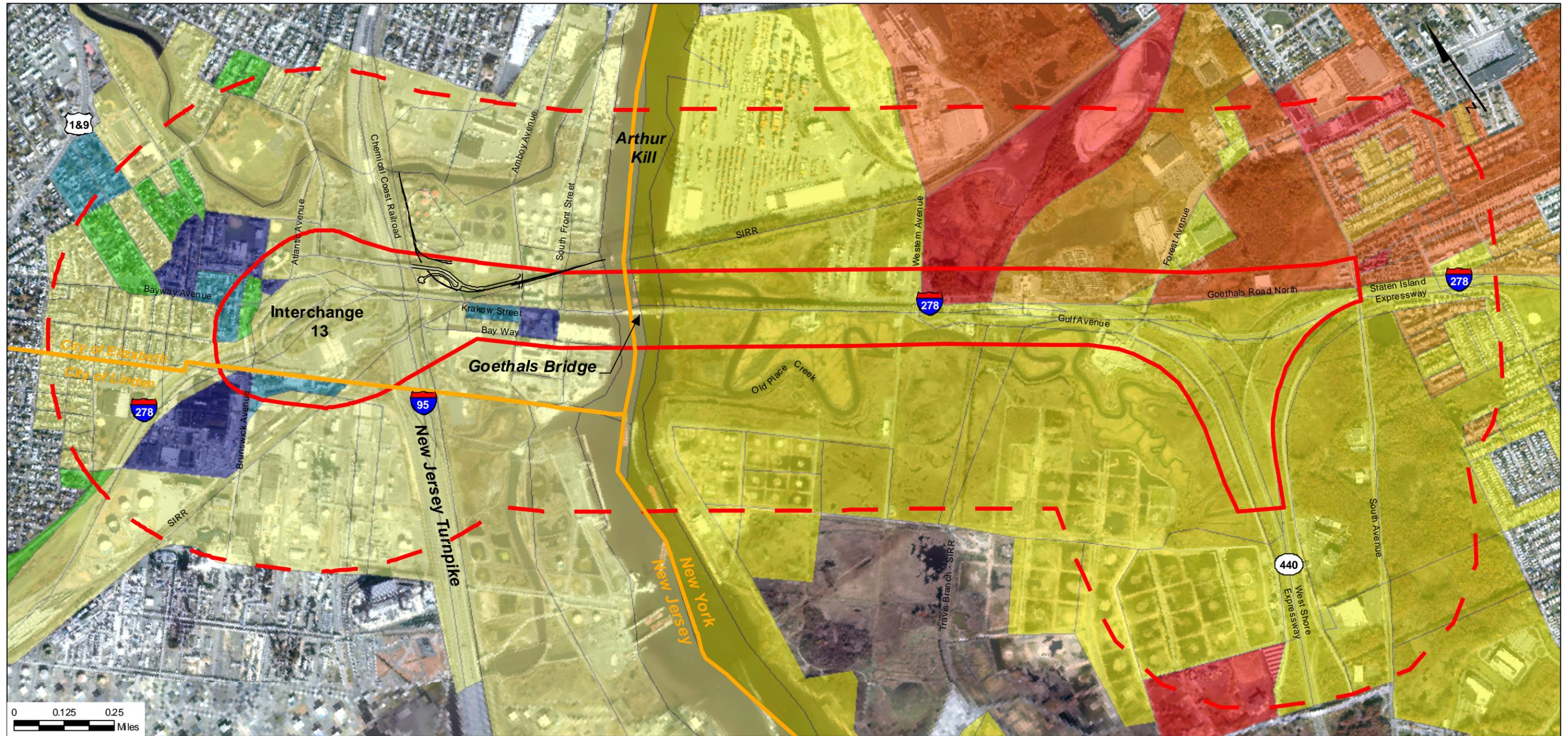
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## Appendix D.2

### Socioeconomic Environmental Justice Figures

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- Figure 1: Percentage of Minority Residents within the Census Block Categories of the Goethals Bridge Study Area
- Figure 2: Persons Living Below Poverty within the Census Block Groups of the Goethals Bridge Study Area



**Legend**

- Primary Study Area
- Secondary Study Area

**Percentage of Minority Residents - New Jersey**

- 0-- 28.7%
- 28.8- 50.0%
- 50.1 - 75.0%
- 75.1 - 100.0%

**Percentage of Minority Residents - New York**

- 0-- 45.8%
- 45.9 - 65.8%
- 65.9 - 80.0%
- 80.0 - 100.0%

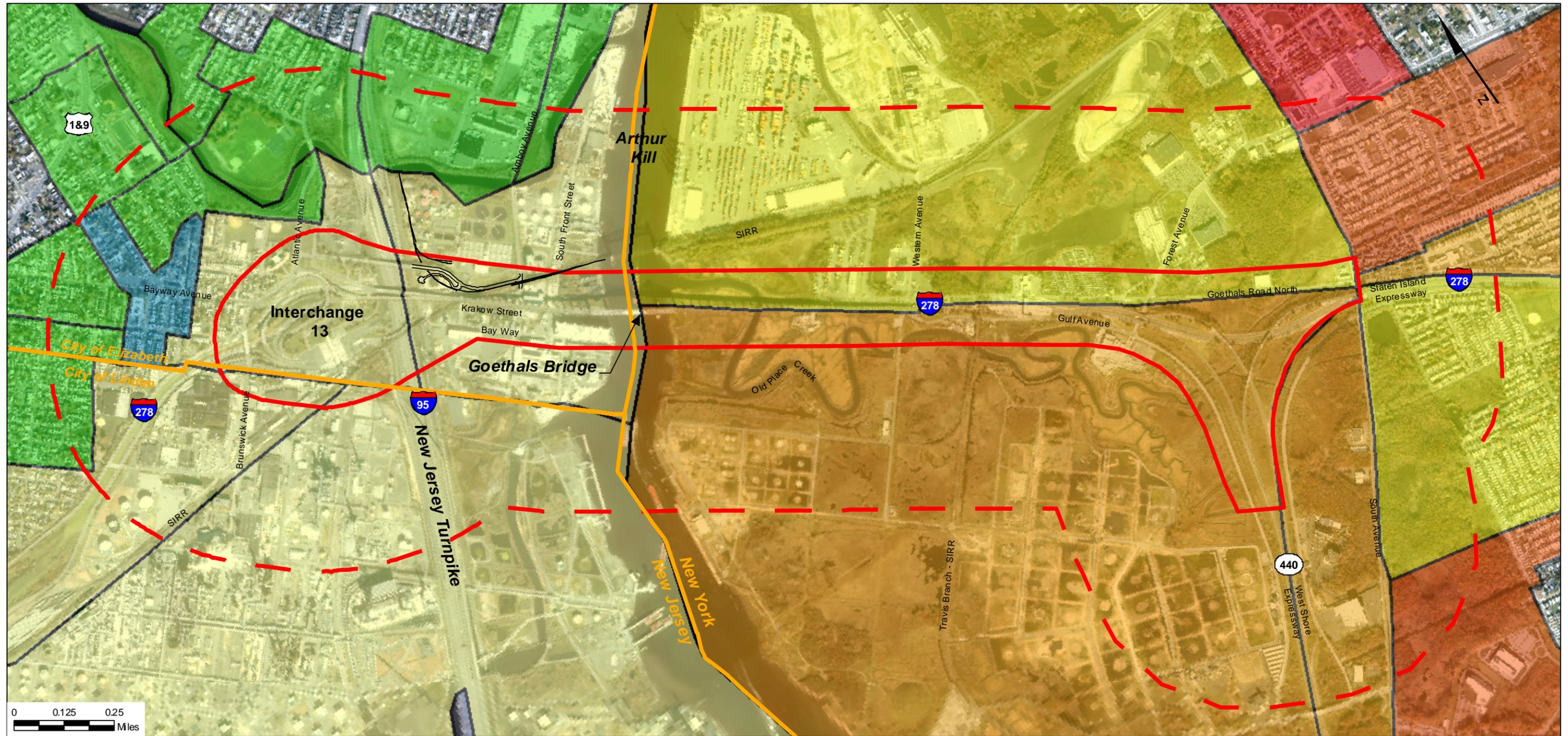
**Goethals Bridge Replacement EIS**

**FIGURE 1**

Percentage of Minority Residents within the Census Block Categories of the Goethals Bridge Study Area

United States Coast Guard

Source:  
 Basemapping: Port Authority of New York and New Jersey, 2002.  
 Data: U.S. Census Bureau, 2000.



**Legend**

- Primary Study Area
- Secondary Study Area

**Persons Living Below Poverty - New Jersey**

- 0-- 8.4%
- 8.5 - 30.0%
- 30.1 - 42.8%
- 42.9 - 100.0%

**Persons Living Below Poverty - New York**

- 0-- 3.7%
- 3.8- 7.4%
- 7.5 - 10.0%
- >10.1%

**Goethals Bridge Replacement EIS**

**FIGURE 2**

Persons Living Below Poverty within the Census Block Groups of the Goethals Bridge Study Area

United States Coast Guard

Source:  
 Basemapping: Port Authority of New York and New Jersey, 2002.  
 Data: U.S. Census Bureau, 2000.

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## Appendix D.3

### Socioeconomic Environmental Justice Tables

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- Table 1: Employees and Establishments by Industry Sector: Union County, NJ
- Table 2: Establishments by Zip Codes (07036/07202/07206): New Jersey Portion of the Goethals Bridge Study Area
- Table 3: Employees and Establishments by Industry Sector: Staten Island, NY
- Table 4: Establishments by Zip Codes : New York Portion of the Goethals Bridge Study Area
- Table 5: Population and Economic Characteristics of Census Blocks: New Jersey Portion of the Goethals Bridge Study Area
- Table 6: County Thresholds and Census Block Groups within Concentrations of Minority of Low-Income Persons: New Jersey Portion of the Goethals Bridge Study Area
- Table 7: Census Blocks with High Percentages of Minority Residents: New Jersey Portion of the Goethals Bridge Study Area
- Table 8: Population and Economic Characteristics of Census Blocks: New York Portion of the Goethals Bridge Study Area
- Table 9: Census Block Groups with High Concentrations of Minority or Low-Income Persons: New York Portion of the Goethals Bridge Study Area
- Table 10: Census Blocks with High Percentages of Minority Residents: New York Portion of the Goethals Bridge Study Area

**TABLE 1**  
**EMPLOYEES AND ESTABLISHMENTS BY INDUSTRY SECTOR:**  
**UNION COUNTY, NJ**

Industry Description	Number of Employees	Percentage of Employees	Number of Establishments	Share by Establishment
Total	233,029	100%	14,584	100.0%
Forestry, fishing, hunting, and agriculture support*	0-19	0.004%	2	0.0%
Mining*	20-99	0.021%	3	0.0%
Utilities	1,847	0.8%	22	0.2%
Construction	13,016	5.6%	1,342	9.2%
Manufacturing	32,079	13.8%	853	5.8%
Wholesale trade	21,542	9.2%	1,038	7.1%
Retail trade	26,088	11.2%	2,178	14.9%
Transportation & warehousing	12,756	5.5%	631	4.3%
Information	4,839	2.1%	201	1.4%
Finance & insurance	10,479	4.5%	816	5.6%
Real estate & rental & leasing	3,286	1.4%	624	4.3%
Professional, scientific & technical services	11,463	4.9%	1,649	11.3%
Management of companies & enterprises	10,896	4.7%	97	0.7%
Admin, support, waste mgt, remediation services	20,945	9.0%	777	5.3%
Educational services	3,520	1.5%	146	1.0%
Health care and social assistance	26,837	11.5%	1,456	10.0%
Arts, entertainment & recreation	1,981	0.9%	132	0.9%
Accommodation & food services	10,929	4.7%	987	6.8%
Other services (except public administration)	10,549	4.5%	1,491	10.2%
Auxiliaries (exc corporate, subsidiary & regional mgt)	9,845	4.2%	44	0.3%
Unclassified establishments*	20-99	0.021%	95	0.7%

Source: County Business Patterns 2002. U.S. Census of Population and Housing, 2000

Note: \* Share averages assume the mid-point of an employee range.

**TABLE 2**  
**ESTABLISHMENTS BY ZIP CODES (07036/07202/07206):**  
**NEW JERSEY PORTION OF THE GOETHALS BRIDGE STUDY AREA**

Industry Sector	Number of Establishments	Percentage Composition
Utilities	4	0.2%
Construction	181	8.7%
Manufacturing	192	9.3%
Wholesale trade	178	8.6%
Retail trade	363	17.5%
Transportation & warehousing	196	9.5%
Information	16	0.8%
Finance & insurance	61	2.9%
Real estate & rental & leasing	86	4.2%
Professional, scientific & technical services	89	4.3%
Management of Companies and enterprises	5	0.2%
Administration, support, waste mgt, remediation services	79	3.8%
Educational services	13	0.6%
Health care and social assistance	163	7.9%
Arts, entertainment & recreation	6	0.3%
Accommodation & food services	186	9.0%
Other services (except public administration)	233	11.3%
Auxiliaries (exc corporate, subsidiary)	7	0.3%
Unclassified establishments	13	0.6%
<b>Total</b>	<b>2,071</b>	<b>100.0%</b>

Source: County Business Patterns 2002. U.S. Census of Population and Housing, 2000.

**TABLE 3**  
**EMPLOYEES AND ESTABLISHMENTS BY INDUSTRY SECTOR:**  
**STATEN ISLAND, NY**

Industry Description	Number of Employees	Percentage of Employees	Number of Establishments	Share by Establishment
Total	85,676	100.0%	7,677	100.0%
Forestry, fishing, hunting, and agriculture support*	0-19	0.0%	1	0.0%
Mining*	0-19	0.0%	1	0.0%
Utilities	654	0.8%	6	0.1%
Construction	6,637	7.7%	989	12.9%
Manufacturing	1,530	1.8%	156	2.0%
Wholesale trade	1,974	2.3%	328	4.3%
Retail trade	14,553	17.0%	1,249	16.3%
Transportation & warehousing	4,843	5.7%	236	3.1%
Information	3,491	4.1%	115	1.5%
Finance & insurance	2,877	3.4%	329	4.3%
Real estate & rental & leasing	1,173	1.4%	313	4.1%
Professional, scientific & technical services	4,161	4.9%	811	10.6%
Management of companies & enterprises	462	0.5%	18	0.2%
Admin, support, waste mgt, remediation services	3,666	4.3%	411	5.4%
Educational services	4,308	5.0%	98	1.3%
Health care and social assistance	23,380	27.3%	1,015	13.2%
Arts, entertainment & recreation	1,447	1.7%	100	1.3%
Accommodation & food services	6,322	7.4%	583	7.6%
Other services (except public administration)	4,102	4.8%	880	11.5%
Auxiliaries (exc corporate, subsidiary & regional mgt)	67	0.1%	3	0.0%
Unclassified establishments*	20-99	0.1%	35	0.5%

Source: County Business Patterns 2002. U.S. Census of Population and Housing, 2000.

Note: \* Share averages assume the mid-point of an employee range.

**TABLE 4**  
**ESTABLISHMENTS BY ZIP CODES:**  
**NEW YORK PORTION OF THE GOETHALS BRIDGE STUDY AREA**

<b>Industry Sector</b>	<b>Number of Establishments</b>	<b>Percentage Composition</b>
Utilities	4	0.2%
Construction	244	12.2%
Manufacturing	38	1.9%
Wholesale trade	100	5.0%
Retail trade	407	20.4%
Transportation & warehousing	64	3.2%
Information	33	1.7%
Finance & insurance	102	5.1%
Real estate & rental & leasing	92	4.6%
Professional, scientific & technical services	165	8.3%
Management of companies & enterprises	6	0.3%
Administration, support, waste mgt, remediation services	107	5.4%
Educational services	23	1.2%
Health care and social assistance	210	10.5%
Arts, entertainment & recreation	23	1.2%
Accommodation & food services	141	7.1%
Other services (except public administration)	229	11.5%
Auxiliaries (exc corporate, subsidiary)	1	0.1%
Unclassified establishments	11	0.6%
<b>Total</b>	<b>2,000</b>	<b>100.0%</b>

Source: County Business Patterns 2002. U.S. Census of Population and Housing, 2000.

**TABLE 5**  
**POPULATION AND ECONOMIC CHARACTERISTICS OF CENSUS BLOCKS:**  
**NEW JERSEY PORTION OF THE GOETHALS BRIDGE STUDY AREA**

	Study Area									
	Census Blocks		Census Block Groups		City of Elizabeth, NJ		City of Linden, NJ		Union County, NJ	
	Number of Residents	Percentage (%)	Number of Residents	Percentage (%)	Number of Residents	Percentage (%)	Number of Residents	Percentage (%)	Number of Residents	Percentage (%)
Race										
White Alone	2,876	69.8%	10,086	63.7%	67,250	55.8%	26,031	66.1%	342,302	65.5%
Non-Hispanic White	1,923	46.7%	5,678	35.9%	32,338	26.8%	22,827	57.9%	283,345	54.2%
Hispanic White	953	23.1%	4,408	27.9%	34,912	29.0%	3,204	8.1%	58,957	11.3%
Non-White Alone	1,243	30.2%	5,739	36.3%	53,318	44.2%	13,363	33.9%	180,239	34.5%
Black or African-American	212	5.1%	1,898	12.0%	24,090	20.0%	8,981	22.8%	108,593	20.8%
American Indian and Alaska Native	21	0.5%	66	0.4%	580	0.5%	56	0.1%	1,215	0.2%
Asian Alone	64	1.6%	206	1.3%	2,830	2.3%	925	2.3%	19,993	3.8%
Native Hawaiian and Other Pacific Islander	0	0.0%	8	0.1%	55	0.0%	15	0.0%	201	0.0%
Other*	704	17.1%	3,561	22.5%	25,763	21.4%	3,386	8.6%	50,237	9.6%
<b>Total</b>	<b>4,119</b>	<b>100.0%</b>	<b>15,825</b>	<b>100.0%</b>	<b>120,568</b>	<b>100.0%</b>	<b>39,394</b>	<b>100.0%</b>	<b>522,541</b>	<b>100.0%</b>
Hispanic Origin	1,841	44.7%	7,887	49.8%	59,627	49.5%	5,674	14.4%	103,011	19.7%
Minority Population Total**	2,196	53.3%	10,147	64.1%	88,230	73.2%	16,567	42.1%	239,196	45.8%
Persons Below Poverty (1999)			2,738	17.6%	20,963	17.8%	2,490	6.4%	43,319	8.4%
Per-Capita Income (1999)			\$15,187		\$15,114		\$21,314		\$26,992	
Median Household Income (1999)***			\$36,590		\$35,175		\$46,345		\$55,339	

Source: U.S. Department of Commerce, Bureau of Census, U.S. Census of Population and Housing, 2000. SF1 and SF3 data tables.

Notes:

\* The Other category includes 'some other race alone' and 'two or more races'.

\*\* The total minority population includes all those who have classified themselves as Black or African American, Asian Alone, Hispanic (Whites and Non-Whites), American Indian or Alaskan Native, Native Hawaiian and Other Pacific Islander and Others.

\*\*\* The median household income was calculated by taking the weighted average of the median incomes of all the census tracts in a given study area.

**TABLE 6**  
**COUNTY THRESHOLDS AND CENSUS BLOCK GROUPS WITH HIGH**  
**CONCENTRATIONS OF MINORITY OR LOW-INCOME PERSONS:**  
**NEW JERSEY PORTION OF THE GOETHALS BRIDGE STUDY AREA**

County	Minority Threshold (%)	Poverty Threshold (%)
<b>Union County</b>	<b>45.8%</b>	<b>8.4%</b>

Municipality	Census Tract	Block Group	Minority Persons	Percent Minority	Percent Below Poverty	Median Household Income	Per-Capita Income	High Minority	High Poverty
Elizabeth	305	2	1,164	81.7%	18.7%	\$28,409	\$12,237	X	X
Elizabeth	305	3	687	70.6%	19.8%	\$44,063	\$14,446	X	X
Elizabeth	306	1	334	51.3%	17.7%	\$41,500	\$16,009	X	X
Elizabeth	306	2	1,425	72.0%	42.8%	\$15,833	\$9,953	X	X
Elizabeth	306	3	584	66.8%	8.0%	\$31,544	\$15,971	X	
Elizabeth	306	4	55	45.1%	0.0%	\$61,250	\$15,320		
Elizabeth	307	3	705	63.0%	13.9%	\$32,337	\$21,019	X	X
Elizabeth	307	4	292	46.6%	9.4%	\$45,714	\$17,395	X	X
Elizabeth	308.02	2	1,018	73.6%	15.6%	\$42,833	\$15,454	X	X
Elizabeth	308.02	4	878	71.4%	17.8%	\$31,554	\$13,065	X	X
Elizabeth	309	1	949	60.6%	16.4%	\$40,850	\$15,179	X	X
Elizabeth	309	4	593	53.4%	9.2%	\$47,361	\$19,573	X	X
Linden	352	1	810	51.2%	13.4%	\$43,750	\$16,809	X	X
Linden	352	2	495	62.7%	3.5%	\$40,625	\$14,313	X	
Linden	354	9	158	40.2%	5.5%	\$56,875	\$19,029		

Source: US Census of Population and Housing, 2000.

Note: An X denotes block groups with a higher concentration of minority persons or persons below poverty when compared to the county threshold.

**TABLE 7**  
**CENSUS BLOCKS WITH HIGH PERCENTAGES OF MINORITY**  
**RESIDENTS:**  
**NEW JERSEY PORTION OF THE GOETHALS BRIDGE STUDY AREA**

County	Tract	Block	Municipality	2000 Population	Minority Persons	Percent Minority
Union	306	1002	Elizabeth	159	99	62.3%
Union	306	1004	Elizabeth	50	24	48.0%
Union	306	1006	Elizabeth	63	35	55.6%
Union	306	1007	Elizabeth	57	34	59.6%
Union	306	2000	Elizabeth	1065	1006	94.5%
Union	306	2001	Elizabeth	304	154	50.7%
Union	306	3003	Elizabeth	210	169	80.5%
Union	306	3004	Elizabeth	212	155	73.1%
Union	306	3006	Elizabeth	158	115	72.8%
Union	306	3007	Elizabeth	28	17	60.7%
Union	306	3008	Elizabeth	51	31	60.8%
Union	306	3010	Elizabeth	36	29	80.6%
Union	306	4012	Elizabeth	11	8	72.7%
Union	306	4019	Elizabeth	34	29	85.3%
Union	307	3000	Elizabeth	346	182	52.6%
Union	307	3004	Elizabeth	74	57	77.0%
Union	307	3005	Elizabeth	183	117	63.9%
Union	307	4003	Elizabeth	158	79	50.0%
Union	308.02	2014	Elizabeth	111	74	66.7%
Union	308.02	4005	Elizabeth	254	185	72.8%
Union	308.02	4006	Elizabeth	309	220	71.2%
Union	309	1004	Elizabeth	272	135	49.6%
Union	309	4001	Elizabeth	133	70	52.6%
Union	309	4002	Elizabeth	98	45	45.9%
Union	309	4007	Elizabeth	189	132	69.8%
Union	309	4010	Elizabeth	36	25	69.4%
Union	352	1013	Linden	42	27	64.3%
Union	352	1022	Linden	47	41	87.2%
Union	352	2000	Linden	28	19	67.9%
Union	352	2001	Linden	18	18	100.0%
Union	352	2008	Linden	15	7	46.7%
Union	352	2011	Linden	33	17	51.5%

Source: US Census of Population and Housing, 2000.

**TABLE 8**  
**POPULATION AND ECONOMIC CHARACTERISTICS OF CENSUS**  
**BLOCKS:**  
**NEW YORK PORTION OF THE GOETHALS BRIDGE STUDY AREA**

	Study Area					
	Census Blocks		Census Block Groups		Staten Island Borough (Richmond County)	
	Number of Residents	Percentage (%)	Number of Residents	Percentage (%)	Number of Residents	Percentage (%)
<b>Race</b>						
White Alone	7,026	63.5%	17,063	72.9%	344,319	77.6%
Non-Hispanic White	6,009	54.3%	15,136	64.7%	316,316	71.3%
Hispanic White	1,017	9.2%	1,927	8.2%	28,003	6.3%
Non-White Alone	4,032	36.5%	6,342	27.1%	99,409	22.4%
Black or African-American	1,416	12.8%	2,071	8.8%	42,914	9.7%
American Indian and Alaska Native	34	0.3%	53	0.2%	1,107	0.2%
Asian Alone	943	8.5%	1,765	7.5%	25,071	5.7%
Native Hawaiian and Other Pacific Islander	12	0.1%	14	0.1%	182	0.0%
Other*	1,035	9.4%	2,439	10.4%	30,135	6.8%
<b>Total</b>	<b>11,058</b>	<b>100.0%</b>	<b>23,405</b>	<b>100.0%</b>	<b>443,728</b>	<b>100.0%</b>
Hispanic Origin	2,390	21.6%	3,938	16.8%	53,550	12.1%
Minority Population Total**	5,049	45.7%	8,269	35.3%	127,412	28.7%
Persons Below Poverty (1999)			1,544	6.6%	43,866	10.0%
Per-Capita Income (1999)			\$22,614		\$23,905	
Median Household Income (1999)***			\$55,666		\$55,039	

Source: U.S. Department of Commerce, Bureau of Census, U.S. Census of Population and Housing, 2000. SF1 and SF3 data tables.

Notes:

\* The Other category includes 'some other race alone' and 'two or more races'.

\*\* The total minority population includes all those who have classified themselves as Black or African American, Asian Alone, Hispanic (Whites and Non-Whites), American Indian or Alaskan Native, Native Hawaiian and Other Pacific Islander and Others.

\*\*\* The median household income was calculated by taking the weighted average of the median incomes of all the census tracts in a given study area.

**TABLE 9**  
**CENSUS BLOCK GROUPS WITH HIGH CONCENTRATIONS**  
**OF MINORITY OR LOW-INCOME PERSONS:**  
**NEW YORK PORTION OF THE GOETHALS BRIDGE STUDY AREA**

County	Minority Thresholds (%)	Poverty Thresholds (%)
<b>Richmond</b>	<b>28.7%</b>	<b>10.0%</b>

Borough	Census Tract	Block Group	Minority Persons	Percent Minority	Percent Below Poverty	Median Household Income	Per-Capita Income	High Minority	High Poverty
Staten Island	291.02	1	440	19.9%	5.6%	\$60,694	\$22,084		
Staten Island	291.03	1	608	15.7%	7.4%	\$34,773	\$16,602		
Staten Island	291.04	1	1037	20.1%	3.7%	\$62,131	\$26,500		
Staten Island	303.01	1	1950	40.3%	5.8%	\$49,962	\$20,909	X	
Staten Island	303.02	1	3447	56.3%	8.5%	\$51,867	\$18,590	X	
Staten Island	323	1	757	69.3%	3.4%	\$51,071	\$24,750	X	
Staten Island	291.02	3	30	25.9%	3.4%	\$59,189	\$25,859		

Source: US Census of Population and Housing, 2000.

Note: An X denotes block groups with a higher concentration of minority persons and persons below poverty compared to the county thresholds for the same variables.

**TABLE 10**  
**CENSUS BLOCKS WITH HIGH PERCENTAGES OF MINORITY**  
**RESIDENTS:**  
**NEW YORK PORTION OF THE GOETHALS BRIDGE STUDY AREA**

County	Tract	Block	2000 Population	Minority Persons	Percent Minority
Richmond	291.02	3043	4	4	100.0%
Richmond	291.04	1005	406	132	32.5%
Richmond	291.04	1007	139	45	32.4%
Richmond	291.04	1019	191	66	34.6%
Richmond	291.04	1033	165	50	30.3%
Richmond	303.01	1017	290	147	50.7%
Richmond	303.01	1018	285	157	55.1%
Richmond	303.01	1019	246	174	70.7%
Richmond	303.01	1021	229	84	36.7%
Richmond	303.01	1023	388	159	41.0%
Richmond	303.01	1024	153	59	38.6%
Richmond	303.02	1002	2355	1284	54.5%
Richmond	303.02	1003	104	60	57.7%
Richmond	303.02	1008	159	63	39.6%
Richmond	303.02	1009	169	103	60.9%
Richmond	303.02	1011	157	101	64.3%
Richmond	303.02	1012	445	197	44.3%
Richmond	303.02	1013	320	230	71.9%
Richmond	303.02	1014	170	118	69.4%
Richmond	303.02	1015	219	93	42.5%
Richmond	303.02	1016	110	61	55.5%
Richmond	303.02	1017	315	180	57.1%
Richmond	303.02	1018	21	19	90.5%
Richmond	303.02	1019	105	65	61.9%
Richmond	303.02	1020	161	80	49.7%
Richmond	303.02	1021	247	118	47.8%
Richmond	303.02	1022	124	73	58.9%
Richmond	303.02	1023	231	148	64.1%
Richmond	303.02	1024	73	57	78.1%
Richmond	319.01	1010	297	200	67.3%
Richmond	319.01	1012	7	6	85.7%
Richmond	323	1010	96	70	72.9%
Richmond	323	1011	119	110	92.4%
Richmond	323	1014	316	138	43.7%
Richmond	323	1016	18	13	72.2%
Richmond	323	1018	24	13	54.2%

Source: US Census of Population and Housing, 2000.

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Appendix D.4  
Methodology & Assessment for Environmental Justice

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## **APPENDIX D.4**

### **Methodology & Assessment for Environmental Justice**

#### **1.0 Introduction**

This Environmental Justice assessment was conducted to determine if a disproportionate share of the Proposed Project's adverse environmental impacts would be borne by low-income and/or minority populations. This review examines the extent to which populations of concern concentrated in or immediately adjacent to the Proposed Project would experience disproportionately high and adverse environmental impacts as a result of the project.

The methodology for identifying low-income and/or minority communities (i.e., populations of concern), as presented in Section 4.5.6 of EIS, concludes that minority and low-income populations within the New Jersey portion of the Study Area exceed Union County averages. On the New York side, there is a greater concentration of minority residents in the Study Area than in Richmond County overall; however, persons living below the poverty line in this area is less than the county average (see Figures 1 and 2 in Appendix D.2 of EIS). Since populations of concern are present in the Study Area, the following analysis evaluates environmental impacts, either direct or indirect, that may be incurred by these populations as a result of construction and operation of the Proposed Project.

#### **2.0 Data Sources and Methodology**

The Environmental Justice assessment for the Proposed Project follows the guidance and methodologies recommended in the Federal Council on Environmental Quality's (CEQ's) *Environmental Justice Guidance under the National Environmental Policy Act* (December 1997) and the U.S. Department of Transportation's (DOT's) *Final Order on Environmental Justice* (April 1997). It should be noted that the latter document is specifically oriented toward DOT projects, which the Proposed Project is not.

In order to make a determination as to whether low-income and/or minority populations would be disproportionately impacted by the Proposed Project, the magnitude or severity of potential impacts within these areas was analyzed and then quantified to the extent possible. As appropriate, measures to avoid, minimize, or mitigate adverse impacts to nearby populations both during the construction and operational phases of the Proposed Project have been identified.

In assessing the impacts to nearby populations, it is appropriate to consider the extent to which the area has previously been subject to environmental degradation. Previous degradation to the physical or social environment can arise from past projects that had major impacts or an accumulation of land uses that have had a negative impact on the environment. Additional impacts that may result from the Proposed Project have the potential to yield a greater cumulative effect in areas where previous levels of degradation are high.

Impacts resulting from the construction and operation of the Proposed Project have been evaluated to determine whether those environmental impacts would be disproportionately borne by populations of concern. Potential issues, herein considered for the Proposed Project, included:

- Residential displacement due to right-of-way acquisition;
- Air toxicity;

- Noise;
- Contaminated Materials; and
- Changes in accessibility and mobility.

### **3.0 Previous Environmental Degradation**

#### **3.1 New Jersey**

Local planners were consulted to determine if any past development or transportation projects located in or near the Study Area had resulted in significant adverse impacts to nearby residents, including low-income and minority populations. Emphasis was placed on identifying projects that required an environmental review in accordance with NEPA guidelines, or other major local or state construction projects. Such projects would include solid waste disposal facilities, incinerators, trash disposal or transfer facilities, and major transportation projects. Major privately funded projects were not considered unless they involved an environmental review under state or federal regulations.

##### ***Past Projects***

The isolated Bay Way/Krakow Street neighborhood, part of the original east-west alignment of Bay Way, was designed as a continuous residential development and originally built between the late 1800s and early 1900s, during much the same time as the industrial landscape in the surrounding area. The neighborhood was severed from the rest of Elizabeth with the construction of the NJ Turnpike in the early 1950s. The neighborhood has historically been home to minority and working-class residents, many of whom worked at surrounding chemical, petroleum, and wire factories. Following the 1950s and into the 1990s, the manufacturing area of the Bay Way/Krakow Street neighborhood suffered a decline in light-to-heavy industries due to global competition, obsolescence, and stiffer environmental regulations. During this period, the local chemical companies (i.e., Borne, Bowker, and Reichold Chemical) vacated their plants.

To date, the neighborhood remains highly industrialized with several light and heavy industrial establishments, such as a waste transfer station operated by Waste Management Associates, Bayway Metals, the Phelps Dodge copper wire factory, and several chemical/oil refineries within the larger area. A slow revival of light industries can also be seen with the on-going construction of a refrigerated warehouse facility (Preferred Freezer Services on Bay Way) and the proposed construction of the dredged material processing facility (to be operated by Jay Cashman just north of the Goethals Bridge on South Front Street).

##### ***Other Sources of Environmental Degradation***

The USEPA maintains a detailed database of point sources of environmental contaminants.<sup>1</sup> This database serves as a good indicator of the degree of pre-existing environmental degradation within a specified area. In the Study Area, the presence of establishments that currently or previously handled hazardous wastes, including two Superfund sites listed for No Further Remedial Action Planned (NFRAP) under the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS), may have served as other sources of environmental degradation for Study Area residents.

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<sup>1</sup> [http://www.epa.gov/enviro/html/cerclis/cerclis\\_query.html](http://www.epa.gov/enviro/html/cerclis/cerclis_query.html)

## 3.2 New York

### *Past Projects*

East of the New York Container Terminal (NYCT) is the 40-acre Arlington Yards that once served the Staten Island Railroad, a branch of which connects the NYCT to freight railroads in New Jersey. The City of New York has recently restored the New York portion of the railroad and the associated lift bridge over the Arthur Kill, while the Port Authority completed a new connecting track to the Chemical Coast Secondary Line in New Jersey. The restored railroad serves the new intermodal rail terminal located on a section of the Port Ivory tract and will extend to serve commercial and manufacturing activities on the west shore of Staten Island. Port Ivory, the former Proctor and Gamble manufacturing plant, was bought by the Port Authority in 2001 for future development. The Port Authority is currently leasing portions of this property for warehousing and distribution uses.

South of the Goethals Bridge is a large (760-acre) vacant site that was formerly a GATX petroleum storage terminal. This brownfield site has recently become the center of two large development proposals, initially for a NASCAR racetrack and commercial development, and then industrial warehousing and port facilities, neither of which reached fruition. Existing commercial operations immediately south of the Goethals Bridge are: a plumbing contractor, an environmental services firm and an electrical contractor along Gulf Avenue; the R.T. Baker & Sons Property, which formerly was a junkyard for defunct transformers; and KeySpan's Staten Island Service Center at Gulf and Forest Avenues.

In the 1940s and 1950s, a portion of the Arthur Kill shoreline was filled with dredged material. Based on the findings of the contaminated materials screening conducted for the Proposed Project (see Appendix I of EIS) and previous soil and groundwater sampling conducted by the Port Authority along the New York approach roadways, petroleum products (TPH, VOCs and SVOCs), PCBs, and metals are known or likely to be present and will be disturbed in the soils (see Section 5.18 of EIS for further details).

### *Other Sources of Environmental Degradation*

The USEPA database indicates that within the Study Area, the presence of establishments that currently handle or previously handled hazardous wastes, including one Superfund site listed for No Further Remedial Action Planned (NFRAP) under the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS), may have served as other sources of environmental degradation for Study Area residents. Residents in this area include the minority population residing in the Goethals Garden Homes Community just north of the existing toll plaza.

## 4.0 Residential Displacements

### 4.1 No-Build Alternative

Despite currently planned projects within the vicinity of the Goethals Bridge in New Jersey to be developed by 2014, the small mixed-use residential and commercial neighborhood located between Krakow Street and Bay Way in Elizabeth would remain essentially the same as at present. It is anticipated that zoning in this area would remain the same and that this mixed-use neighborhood would remain isolated within the M-2 manufacturing zoning district in which it is located; industrial, transportation and commercial land uses are expected to continue to dominate the landscape. Other residential neighborhoods in the New Jersey portion of the Study Area are not anticipated to be altered or expanded by 2014 under the No-Build Alternative.

No significant changes to the existing residential character, currently exhibited in the Goethals Garden Homes Community in the Staten Island portion of the Study Area, are anticipated.

## 4.2 Southern Alternatives

The following analysis is based on the smallest geographic area for which the US Census data are available. Demographic characteristics including racial composition are available at the block level, the smallest geographic area for which data are available. Economic characteristics, including median and per-capita income and those reported living below the poverty line, are available at the block group level, which is a collection of blocks at a slightly more aggregated reporting unit.

Since both the Existing Alignment South and New Alignment South alternatives would require the acquisition of the same residential units, they are discussed together for purposes of the residential displacement analysis. There are three Census blocks located within the proposed right-of-way for the Existing Alignment South (i.e., Blocks 4011, 4019, and 4020, all located in Census Tract 306, Block Group 4). These blocks are situated in the neighborhood between Bay Way and Krakow Street at the base of the existing Goethals Bridge. There are 51 residential units with an estimated 130 residents living within these blocks<sup>2</sup>.

While the New Jersey portion of the Study Area has a higher concentration of minority and/or low-income residents than Union County overall, the total population reported for the subject census blocks that would be directly affected by the Proposed Project does not exceed either threshold (see Table 1). As demonstrated in Table 1, one of the three blocks (Block 4019, located north of Bay Way between Amboy Avenue and South Front Street) has a higher concentration of minority residents than the Union County average, accounting for approximately 29.4 percent of total dwellings or 27.7 percent of all residents being displaced within these three blocks. The weighted minority average of the three blocks (41.1%) is also lower than the Union County average (45.8%). The median household income for Block Group 4 (\$61,250) is considerably higher than the Union County average (\$55,339), despite reporting a lower per-capita income (\$15,320) than that of Union County (\$26,992). The 2000 Census does not report residents living below the poverty line. This suggests that direct residential displacements on the New Jersey side would not be disproportionately borne by minority and/or low-income residents.

In New Jersey, any residential property displacements, whether minority or low-income or non-minority or non-low-income, would be mitigated uniformly with payment of just compensation in accordance with, and to the extent provided by, applicable law found in the New Jersey Statutes Annotated (NJSA) Section 32:1-132, as presented earlier in Section 5.3.5 of EIS.

In Staten Island, since neither the New Alignment South nor the Existing Alignment South would result in residential acquisitions, no adverse impact to populations of concern is expected to occur east of the Arthur Kill. Therefore, no mitigation is required.

## 4.3 New Alignment North

Since the New Alignment North would not result in any residential acquisitions in either the New Jersey or Staten Island portions of the Study Area, no adverse displacement impacts are expected, including to low-income and/or minority populations. Therefore, no mitigation is required.

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<sup>2</sup> The number of residents living within these blocks was derived by multiplying the number of housing units by the average household size for each block, as depicted in the residential displacement analyses under Section 5.3 of EIS. The totals were then summed.

## 4.4 Existing Alignment North

There is one Census block located within the proposed right-of-way for the Existing Alignment North (i.e., Block 4020, located in Census Tract 306, Block Group 4). This block is located in the neighborhood between Bay Way and Krakow Street at the base of the existing Goethals Bridge. There are 11 residential units with an estimated 28 residents living within this block.

While the New Jersey portion of the Study Area exhibits a higher concentration of minority and/or low-income residents than Union County overall, the total population of the affected block does not exceed either threshold (see Table 2). As shown in Table 2, approximately 20.9 percent of Block 4020 residents identify themselves as a minority, considerably less than the Union County average (45.8%). The median household income for Block Group 4 (\$61,250) is higher than the Union County average (\$55,339), despite reporting a lower per-capita income (\$15,320) than that of Union County (\$26,992). The 2000 Census does not report residents living below the poverty line. Therefore, it does not appear that low-income and/or minority persons living in the New Jersey portion of the Study Area would bear an appreciably greater share of the direct residential displacements resulting from the Proposed Project.

In New Jersey, any residential property displacements, whether minority or low-income or non-minority or non-low-income, would be mitigated uniformly with payment of just compensation in accordance with, and to the extent provided by, applicable law found in the New Jersey Statutes Annotated (NJSA) Section 32:1-132, as presented earlier in Section 5.3.5 of EIS.

In Staten Island, no adverse impact to populations of concern is expected since the Existing Alignment North would not result in residential acquisitions. Therefore, no mitigation is required.

## 5.0 Other Environmental Impacts

Other types of environmental impacts resulting from the No-Build Alternative and the construction and operation of the Proposed Project have also been evaluated to determine whether those impacts would be disproportionately borne by populations of concern. These include air toxicity, noise, and contaminated materials. Table 3 presents a summary of potential environmental impacts and how they would affect nearby residents, including low-income and/or minority populations.

### 5.1 Air Toxicity

**No-Build Alternative** – The air quality analyses conducted for both 2014 and 2034 under the No-Build Conditions indicates an increase in particulate matter over Existing Conditions (see Section 5.21 of EIS). Adverse public health impacts to area residents, including populations of concern within the overall Study Area, could be associated with the increase of particulate matter.

**Build Alternatives, Construction Phase** – Gaseous emissions from diesel-fuel burning equipment and dust generated by earth-moving operations would be present during the construction of the Proposed Project. These emissions have the potential to cause adverse public health impacts to those residing within close proximity to construction staging areas and material haul routes. Control measures to mitigate potential impacts associated with these emissions to nearby residents are further outlined in Section 5.21 of EIS.

**Build Alternatives, Operational Phase** – The air quality analysis concludes that the operation of the Proposed Project would result in a decrease of mobile source-related pollutants when compared to the future No-Build levels. Therefore, the operation of the Proposed Project is not anticipated to generate adverse public health impacts to any populations of concern in the Study Area. No mitigation is required.

**TABLE 1  
DEMOGRAPHIC PROFILE OF CENSUS BLOCKS AND BLOCK GROUPS TO BE POTENTIALLY DISPLACED –  
NEW ALIGNMENT SOUTH AND EXISTING ALIGNMENT SOUTH  
(NEW JERSEY)**

Municipality	Census Tract, Block	No. of Residential Dwellings Displaced <sup>(1)</sup>	Estimate of Persons Displaced <sup>(1)</sup>	Percent Minority <sup>(2)</sup>		Percent Below Poverty <sup>(3)</sup>		Median Household Income		Per-Capita		High Minority	High Poverty
				Site	Union County	Site	Union County	Site	Union County	Site	Union County		
Elizabeth	306, 4020	32	80	20.9%	45.8%	0.0%	8.4%	\$61,250	\$55,339	\$15,320	\$26,992	No	No
Elizabeth	306, 4019	15	36	85.3%		0.0%		\$61,250		\$15,320		Yes	No
Elizabeth	306, 4011	4	14	42.9%		0.0%		\$61,250		\$15,320		No	No
	<b>Total</b>	<b>51</b>	<b>130</b>										
			<b>Weighted Average</b>	<b>41.1%</b>									

Source: U.S. Census Bureau, 2000 U.S. Census of Population and Housing, SF 1 and SF 3 Data Sets.

Notes: (1) Those estimated numbers of residential and persons to be potentially displaced were obtained from the residential displacement analyses under Section 5.3 of EIS.

(2) Demographic data including racial characteristics are available at the smallest geographic level (Block level) for which Census data is presented.

(3) The smallest geographic area for which economic characteristics, including percent living below the poverty line, median household and per-capita income, are available is the Block Group level.

**TABLE 2  
DEMOGRAPHIC PROFILE OF CENSUS BLOCK AND BLOCK GROUPS TO BE POTENTIALLY DISPLACED –  
EXISTING ALIGNMENT NORTH  
(NEW JERSEY)**

Municipality	Census Tract, Block	No. of Residential Dwellings Displaced <sup>(1)</sup>	Estimate of Persons Displaced <sup>(1)</sup>	Percent Minority <sup>(2)</sup>		Percent Below Poverty <sup>(3)</sup>		Median Household Income		Per-Capita		High Minority	High Poverty
				Site	Union County	Site	Union County	Site	Union County	Site	Union County		
Elizabeth	306, 4020	11	28	20.9%	45.8%	0.0%	8.4%	\$61,250	\$55,339	\$15,320	\$26,992	No	No
	<b>Total</b>	<b>11</b>	<b>28</b>										

Source: U.S. Census Bureau, 2000 U.S. Census of Population and Housing, SF 1 and SF 3 Data Sets.

Notes: (1) Those estimated numbers of residential and persons to be potentially displaced were obtained from the residential displacement analyses under Section 5.3 of EIS.

(2) Demographic data including racial characteristics are available at the smallest geographic level (Block level) for which Census data is presented.

(3) The smallest geographic area for which economic characteristics, including percent living below the poverty line, median household and per-capita income, are available is the Block Group level.

**TABLE 3**  
**SUMMARY OF ENVIRONMENTAL IMPACTS ON NEARBY**  
**RESIDENTIAL RECEPTORS**

	Air Toxicity	Noise	Contaminated Materials
<b>No Build</b>	Particulate matter in the air would increase over Existing Conditions. Adverse health impacts to area residents may increase slightly.	Noise levels would increase over Existing Conditions due to idling vehicles and increased congestion. Such increases would adversely impact sensitive receptors.	Two sites are currently proposed for remediation. The removal of contaminants offers long-term public health benefits.
<b>Build, Construction Phase</b>	Gaseous emissions generated by construction-related activities would be present. Control measures to mitigate potential impacts to area residents would be employed.	Mitigation measures would be implemented to minimize noise impacts that would be generated by construction-related activities for all residential receptors within 200 feet of construction activities.	Control measures and safeguards would be implemented to ensure the proper treatment of contaminants to protect construction workers and nearby residents.
<b>Build, Operational Phase</b>	Mobile source-related pollutants would decrease over the No-Build Alternative. The operation of the Proposed Project would offer public health benefits to area residents over the No-Build Alternative.	Noise levels would decrease over the No-Build Alternative. The decrease would benefit all populations residing within sensitive noise receptor areas.	The remediation of any contaminated sites disturbed during the construction of the Proposed Project offers long-term public health benefits.

*Source: Berger/PB, 2008.*

## 5.2 Noise

**No-Build Alternative** – The analysis concludes that traffic noise levels at the sensitive receptor locations in the 2034 No-Build Conditions would essentially be the same as or worse than the traffic noise levels under the Existing Conditions (see Section 5.23 of EIS). Residential receptors within the vicinity of Krakow Street and Bay Way, and Brunswick Avenue would experience a slight increase in traffic noise levels. This increase would affect all existing and future residents, including but not limited to those areas currently occupied by low-income and/or minority populations.

**Build Alternatives, Construction Phase** – Construction-related activities along the Goethals Bridge corridor may result in impacts to sensitive receptors, including nearby dwellings, in the immediate vicinity of potential construction staging areas and material haul routes. To mitigate potential construction-related noise impacts, construction activities are proposed to comply with local noise ordinances and codes (see Section 5.23 of EIS). Restricted construction hours and temporary noise barriers for residences within 200 feet of construction staging areas would help minimize noise impacts to nearby residential receptors.

**Build Alternatives, Operational Phase** – Although noise levels are predicted to approach or exceed the FHWA’s Noise Abatement Criteria (NAC) in the Build Year, noise threshold exceedance levels are predicted to occur beyond project limits, and/or are not directly attributed to any of the four Build Alternatives being considered (see Section 5.23 of EIS). It is anticipated that noise levels at residential receptors within the Study Area would be lower than that of the No-Build Alternative largely because of better traffic flows. The decrease in noise levels would benefit all populations residing within close

proximity to sensitive noise receptors, including any populations of concern. Mitigation analysis was deemed unwarranted for each of the four Build Alternatives.

### 5.3 Contaminated Materials

**No-Build Alternative** – Two sites, one on either side of the Goethals Bridge, with known contaminants would be disturbed. In the case of the Borne Chemical Company property in Elizabeth, it is expected that the property would continue to be remediated and redeveloped, as part of the Elizabethport Brownfields Development Area (BDA), by the City of Elizabeth in conjunction with Jay Cashman, Inc. Similarly, the R. T. Baker & Son property in Staten Island may be investigated and remediated by either R.T. Baker & Son or by the NYSDEC.

**Build Alternatives, Construction Phase** – In both New Jersey and New York, the construction of the Proposed Project may disturb sites with contaminated materials, the number of which would depend on the alignment alternative selected. Residents, including those who may identify themselves as a minority and/or low-income, could be subject to exposure from disturbed contaminants. Section 5.18 of EIS identifies safety measures the Port Authority would implement to ensure the safe removal or remediation of these materials.

**Build Alternatives, Operational Phase** – The removal of potentially contaminated materials would offer health benefits to all residents, employees, and visitors, including but not limited to low-income and/or minority populations, both in New Jersey and New York.

### 6.0 Changes in Accessibility and Mobility

**Build Alternatives, Construction Phase** – The designation of haul routes, lane closures, and construction staging areas during the construction period could potentially affect nearby residential areas, including but not limited to those demonstrating high concentrations of low-income and/or minority populations. Measures to minimize impacts from construction-related activities will be undertaken.

**Build Alternatives, Operational Phase** – The Proposed Project would improve access and mobility within both the New Jersey and New York portions of the Study Area.

In New Jersey, Krakow Street in Elizabeth is the only street currently proposed to be permanently closed as part of three of the Build Alternatives, with the one exception being the New Alignment North, which would not require any street closures. The closure of Krakow Street is not expected to affect local connectivity since other streets in the area such as Bay Way and Front Street provide alternate means of access to the local and regional road network. As a result, the closure of Krakow Street would not adversely affect pedestrian or vehicular movements within the community of concern nor affect access to community facilities, commercial areas or employment areas.

In Staten Island, the Proposed Project would require a minor realignment of Gulf Avenue as part of all four Build Alternatives, as well as a relocation of Goethals Road North as part of the two Northern Alternatives in order to improve local and regional access, which in turn would provide for more balanced traffic flows.

The Proposed Project is not anticipated to permanently disrupt or otherwise impact pedestrian usage, auto access or transit services to businesses or community facilities that serve the neighborhoods within or outside the Study Area. Pedestrian access across the Arthur Kill that had previously existed would be re-introduced in improved fashion as part of the Proposed Project, and the ability to accommodate bicycle use is also proposed. To the extent that the Proposed Project would serve to relieve congestion, the

reliability and performance of transit services would be enhanced as well as the potential to accommodate future transit service on the bridge if and when deemed warranted.

## 7.0 Mitigation

All residential displacements associated with the Proposed Project are located in New Jersey, although these do not represent disproportionate impacts to special population groups or neighborhoods with minority and/or low income populations. The recommended mitigation measure for residential displacements is payment of fair compensation for private property owners in accordance with, and to the extent provided by, the applicable law. The legislation statute of the Port Authority's Department of Bridges and Tunnels, found in the N.J.S.A. 32:1-132;<sup>3</sup> and 65 McKinney's Unconsolidated Laws of New York Section 6516, provides for the procedures the Port Authority may follow when it exercises the right of eminent domain to acquire real property for the purposes of the Bridges and Tunnels Department. It is anticipated that the Port Authority, after authorization by the Port Authority's Board of Commissioners, would acquire the real property interests necessary to effectuate the Proposed Project by negotiation and/or the exercise of eminent domain.

Property interests that may be involved in an acquisition for project right-of-way (ROW) include a fee simple absolute and easements. Permanent easements would permit the use of a strip of property for construction of the project without fee ownership of the property. Temporary construction easements would permit use of the property for a discrete period of time for construction of the project.

The replacement of the bridge and the proposed access improvements are designed to maintain or even enhance current levels of accessibility and mobility within local neighborhoods, in addition to accommodating anticipated future demand. Impacts from either the Northern or Southern Alternatives would not result in any disproportionate impacts to special population groups or neighborhoods with minority and/or low-income populations.

Given the findings of no regional air quality and noise impacts (see Sections 5.21 and 5.23 of EIS respectively), no mitigation measures for populations of concern would be required beyond the Goethals Bridge Study Area. However, mitigation measures would be implemented during construction in order to avoid short-term construction impacts, as appropriate (e.g., traffic, noise, vibration, fugitive dust).

To the extent that some populations of concern were identified within the overall Goethals Bridge Study Areas, it has been the goal of the public involvement program to maximize opportunities for public participation and outreach, including for low-income and minority residents (see further details in Section 6.0 of EIS). Until now, the public involvement program has continued uninterrupted through all major project milestones since its initial development stage, and will continue through the final environmental review as well as during design/permitting phases and through the construction phase in order to fully engage the local community in all aspects of the Proposed Project.

## 8.0 Summary

The Proposed Project would not result in any residential displacements in the Staten Island portion of the Study Area. Anticipated residential displacements in the New Jersey portion of the Study Area would occur within the isolated residential neighborhood along Bay Way and the area generally south of Krakow Street. The two Southern Alternatives would both result in the displacement of an estimated 51 residential units in the neighborhood but adverse impacts would neither be predominantly borne by any minority or low-income populations nor be more severe or greater in magnitude than for non-minority or non-low-income populations.

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<sup>3</sup> New Jersey Statutes Annotated (N.J.S.A.) – Section 32:1-132.

No residential displacements are anticipated for the New Alignment North. The estimated 11 residential units to be displaced by the Existing Alignment North are not situated in an area that has been identified as having a high concentration of minority or low-income populations. Therefore, the adverse impacts from displacement are not expected to be borne more severely by minority and/or low-income populations.

It is anticipated that during the construction of the Proposed Project, there may be some disturbance to residents living within the Goethals Bridge Study Area, including some that may be part of minority and/or low-income populations. These disturbances would be temporary and during designated periods throughout the day.

It should be noted that some beneficial off-setting effects would be expected to result for the greater population of Elizabeth and Staten Island (including minority and/or low-income communities within the overall Goethals Bridge Study Area, but outside of the Primary Study Area) by improving mobility within the regional and local street networks. Furthermore, the reduction of emissions and noise during the operational phase for those in close proximity to the Proposed Project has the potential to enhance overall quality of life and address some pre-existing conditions that degrade the local human and natural environment.