

**19-1 INTRODUCTION**

This chapter analyzes the Tappan Zee Hudson River Crossing Project's potential effects on minority and low-income populations, to determine whether the project would result in disproportionately high and adverse impacts on those populations. The analysis of potential environmental justice impacts of the Tappan Zee Hudson River Crossing Project is based on the impact assessments included in the other chapters of this Environmental Impact Statement (EIS), and takes into account mitigation measures and any offsetting benefits to the affected populations.

In summary, the project would not result in any disproportionately high and adverse effects on minority and low-income populations. Therefore, no environmental justice impacts are anticipated.

**19-2 REGULATORY CONTEXT**

To satisfy Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994), this analysis has been prepared to identify and address any disproportionately high and adverse impacts on minority or low-income populations that could result from the project. Executive Order 12898 also requires federal agencies to work to ensure greater public participation in the decision-making process. This environmental justice analysis will also serve to assist the New York State Department of Environmental Conservation (NYSDEC) in its environmental permit review process associated with the proposed permit actions and its application of the State Environmental Quality Review Act (SEQRA), and is consistent with the intent of CP-29, "Environmental Justice and Permitting," which is the NYSDEC's policy on environmental justice.

The environmental justice analysis for the project follows the guidance and methodologies recommended by the federal Council on Environmental Quality (CEQ) in *Environmental Justice Guidance under the National Environmental Policy Act* (December 1997), the U.S. Department of Transportation (USDOT) in the *US Department of Transportation Order on Environmental Justice* (April 1997), and the Federal Highway Administration (FHWA) in *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (December 1998). These orders establish policies and procedures for the agencies to use in complying with Executive Order 12898. The Executive, USDOT, and FHWA orders on environmental justice reaffirm the principles of Title VI of the Civil Rights Act of 1964 (Title VI) and the National Environmental Policy Act (NEPA), emphasizing the importance of those provisions in the environmental and transportation-related decision-making process. On December 16, 2011, FHWA issued supplemental guidance on environmental justice and NEPA, which was also consulted in preparing this environmental justice analysis.

## **19-3 METHODOLOGY**

The assessment of environmental justice for the project was based on the CEQ, USDOT, and FHWA documents identified above. It involved five basic steps:

1. Identify the areas where the project may cause adverse impacts either during construction or operation (i.e., the study areas);
2. Compile minority and low-income data for the census block groups within the study areas and identify minority and low-income populations;
3. Identify the project's potential adverse impacts on minority and low-income populations; and
4. Evaluate the project's potential adverse effects on minority and low-income populations relative to its overall effects to determine whether any potential adverse impacts on those communities would be significant and disproportionately high.
5. Discuss mitigation measures for any identified disproportionate adverse impacts and describe the public outreach and participation process for effectively engaging minority and low-income populations in the decision-making process.

### **19-3-1 DELINEATION OF STUDY AREA**

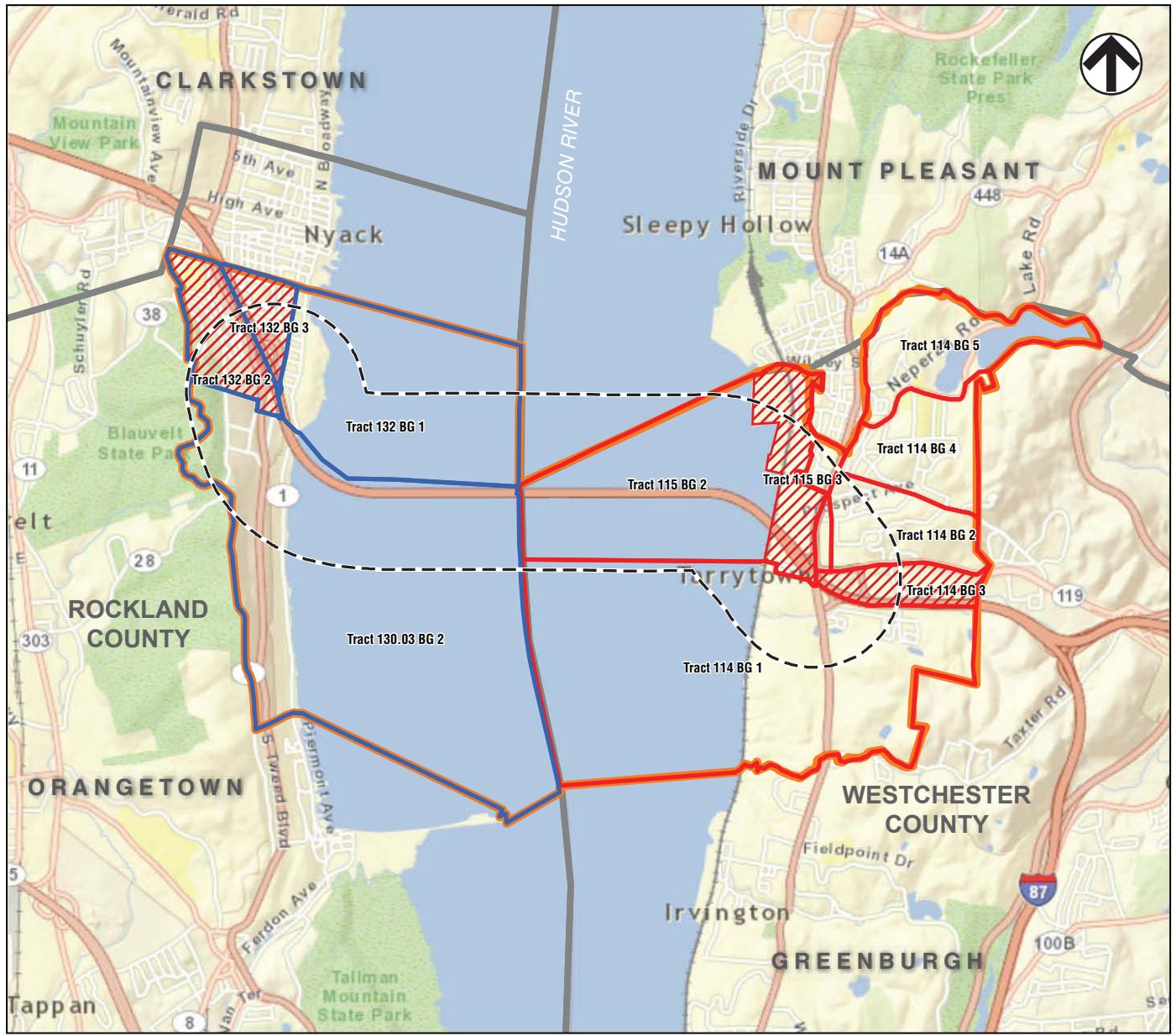
The study area for environmental justice encompasses the area most likely to be affected by the project and accounts for the potential impacts resulting from operation (see **Figures 19-1** and **19-2**). For the evaluation of environmental justice for the project, the environmental justice study area generally approximates the socioeconomic study area (see Chapter 8, "Socioeconomic Conditions"). The environmental justice study area generally includes the census block groups that overlap with the ½-mile perimeter around the project site. Census block groups were chosen as the geographic unit most appropriate for this analysis so as not to artificially dilute or inflate the affected populations, consistent with the federal guidance on environmental justice. Some census block group boundaries have changed between the 2000 Census and the 2010 Census. In order to have a consistent study area (in terms of land area covered) between the minority analysis (which relies on 2010 Census race and ethnicity data for 2010 Census block groups) and the low-income analysis (which relies on 2005-2009 American Community Survey poverty status data for 2000 Census block groups), additional block groups beyond the ½-mile perimeter were included in the Westchester County portion of the study area.<sup>1</sup>

The environmental justice study area for operational impacts spans a portion of the Hudson River in the area of the Tappan Zee Bridge and extends into Westchester County on the east and Rockland County on the west. The study area includes the replacement bridge and proposed landing locations.

The study area for construction effects includes the area where construction would take place along the Interstate 87/287 right-of-way (see **Figures 19-3** and **19-4**). In addition, the study area includes three potential construction staging areas outside the NYSTA

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<sup>1</sup> It is anticipated that between publication of the Draft EIS and Final EIS, 2006-2010 American Community Survey data will be released based on 2010 Census block groups, so that one set of common block groups may be analyzed for both the minority and low-income analysis.

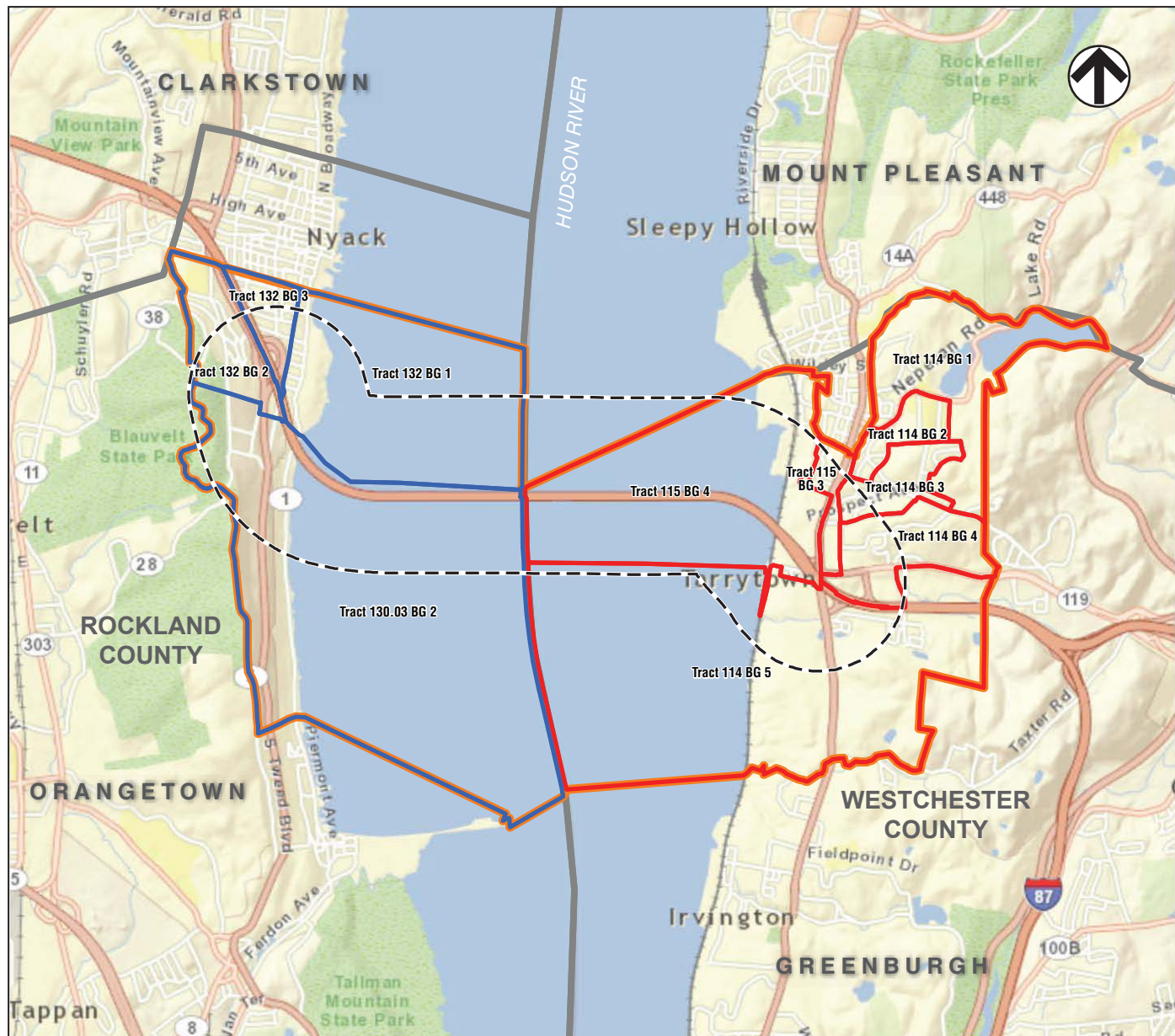


- 1/2-Mile Perimeter
- Environmental Justice Study Area
- 2010 Census Block Groups in Westchester County
- 2010 Census Block Groups in Rockland County
- County Subdivision
- Minority Area

0 0.5 1 MILES  
SCALE

Figure 19-1

## Environmental Justice Study Area: Minority Analysis



- 1/2-Mile Perimeter
- Environmental Justice Study Area
- 2000 Census Block Groups in Westchester County
- 2000 Census Block Groups in Rockland County
- County Subdivision

0 0.5 1 MILES  
SCALE

Figure 19-2

## Environmental Justice Study Area: Low-Income Analysis



11.29.11  
Source: National Geographic Society, 2008

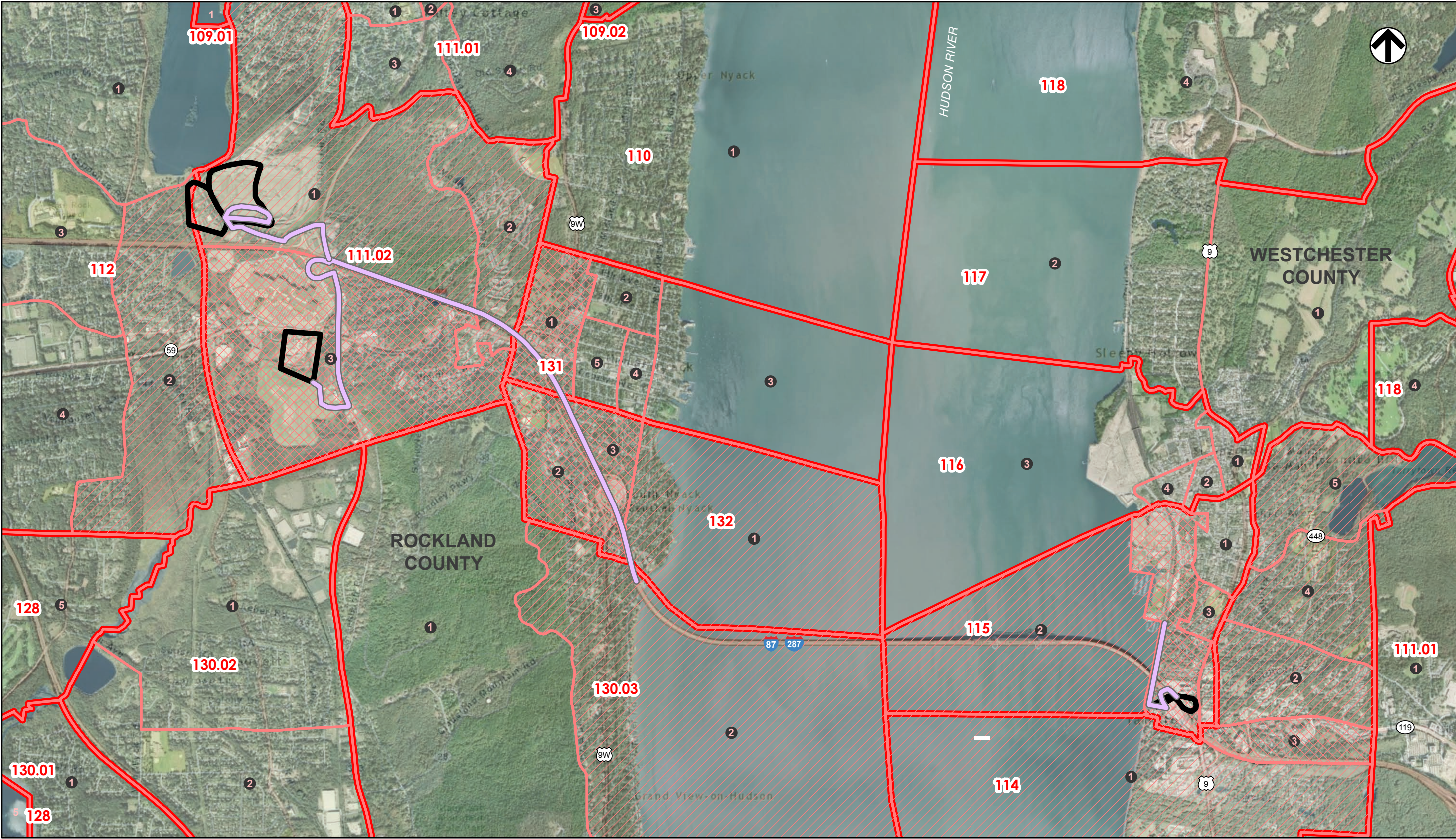


Figure 19-3  
**Construction Study Area for  
Environmental Justice - Minority Analysis**



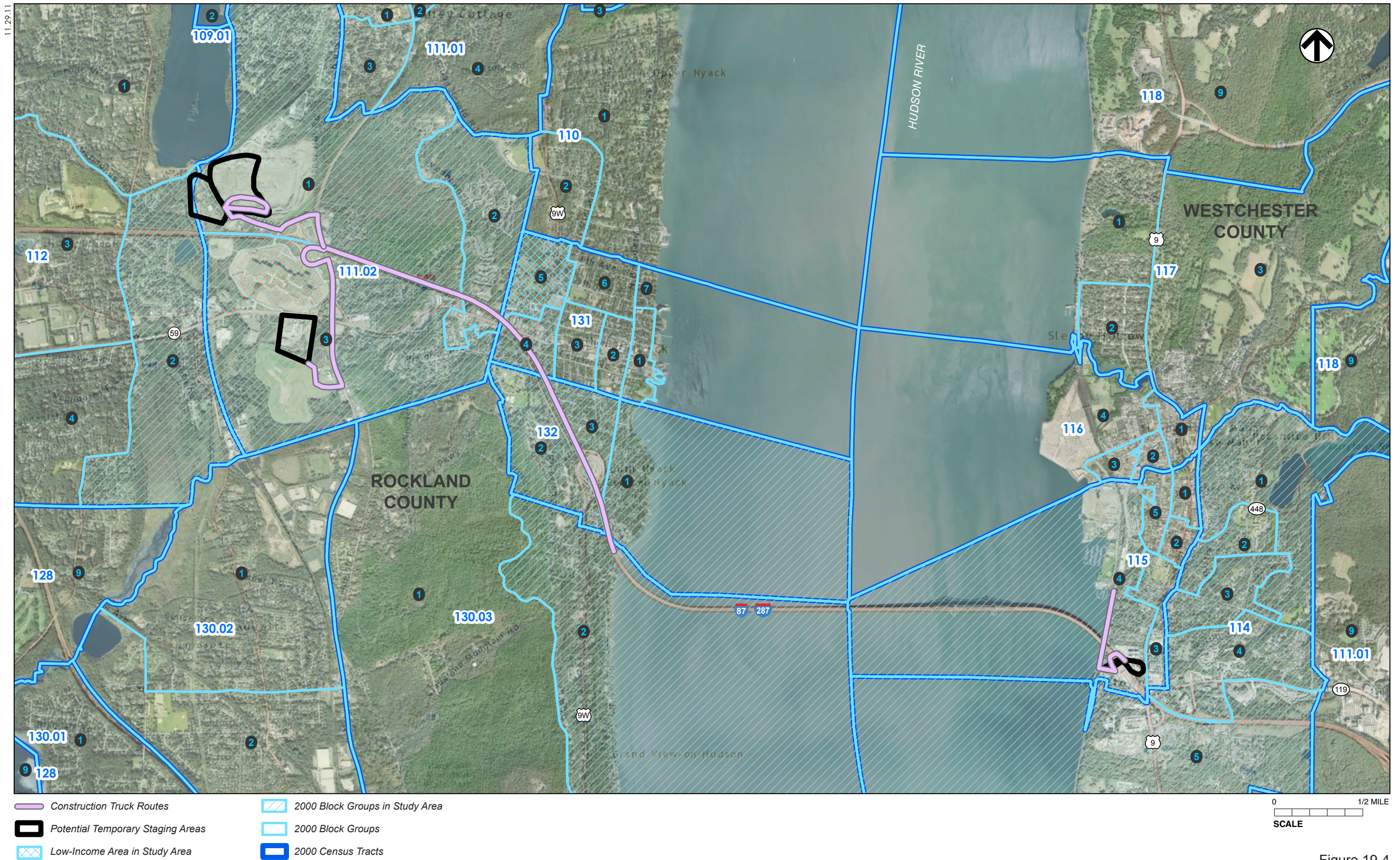


Figure 19-4  
**Construction Study Area for  
Environmental Justice - Low Income Analysis**



right-of-way: the Tilcon Quarry Inland Staging Area and the West Nyack Inland Staging Area in Rockland County on the west side of the Hudson River and the Tarrytown Inland Staging Area in Westchester County on the east side of the Hudson River.

### **19-3-2 IDENTIFICATION OF ENVIRONMENTAL JUSTICE POPULATIONS**

Data were gathered from the U.S. Census Bureau's *Census 2010* and *2005–2009 American Community Survey* for all census block groups within the study areas. For comparison purposes, data were aggregated for the study areas as a whole, and compiled for Rockland and Westchester Counties since the study areas include portions of both. Minority and low-income populations were identified as follows:

- *Minority Populations.* The guidance documents define minorities to include American Indians or Alaskan Natives, Asians and Pacific Islanders, Black or African American persons, and Hispanic persons. This environmental justice analysis also considers minority populations to include persons who identified themselves as being either “some other race” or “two or more races” in the *Census 2010*. Following CEQ guidance, minority populations were identified where either: (1) the minority population of the affected area exceeds 50 percent; or (2) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. For this analysis, Rockland County was used as the project’s primary statistical reference area for the census block groups located in Rockland County. In Rockland County, the minority population in 2010 was 34.7 percent. Westchester County was used as the reference area for the study area’s census block groups located in Westchester County. In Westchester County, the minority population in 2010 was 42.6 percent. For this environmental justice analysis, census block groups having total minority populations greater than in the respective county reference areas were identified as minority areas.
- *Low-Income Populations.* The percent of individuals below poverty level in each census block group (based on the 2000 Census), available in the U.S. Census Bureau's *2005–2009 American Community Survey*, was used to identify low-income populations. Since the federal guidance documents do not specify thresholds to identify low-income areas, this analysis considers any census block group with a percentage of individuals below poverty level that is greater than its respective reference area (i.e., Rockland or Westchester County) to be a low-income. In Rockland County, approximately 11 percent of individuals live below the federal poverty threshold; therefore, any census block group located in Rockland County with more than 11 percent of its individuals living below the poverty level is considered to be low-income area. Similarly, any census block group in Westchester County having a low-income population greater than the percentage of individuals living below poverty in Westchester County (8 percent) is considered to be a low-income area.

## 19-4 AFFECTED ENVIRONMENT

### 19-4-1 MINORITY STATUS ANALYSIS

#### 19-4-1-1 OPERATIONAL STUDY AREA

Of the study area's 11 census block groups, four (4) are considered minority areas or communities of concern for environmental justice (see **Figure 19-1** and **Table 19-1**). The identified minority populations include two in Rockland County (Tract 132 Block Groups 2 and 3) and two in Westchester County (Tract 114 BG 3 and Tract 115 BG 2). These communities have minority population percentages ranging from 44.1 to 50.0 percent. While these percentages are at or below CEQ's 50 percent threshold for identifying minority populations, they are considered meaningfully greater than in their respective references areas (34.7 percent in Rockland County and 42.6 percent in Westchester County). Of the minority populations in the study area, the Hispanic population accounts for the greatest proportion of the total population in the study area (13.3 percent), followed by Black or African American populations (9.3 percent) and by Asian populations (7.8 percent) and "Other" minority populations (2.5 percent).

**Table 19-1**  
**Operational Study Area Race and Ethnicity**

Census Block Groups	2010 Census											
	2010 Total	Race and Ethnicity*										Total Minority (%)
		White	%	Black	%	Asian	%	Other	%	Hispanic	%	
Westchester County Block Groups												
Tract 114, BG 1	1,331	1032	77.5	11	0.8	166	12.5	48	3.6	74	5.6	22.5
Tract 114, BG 2	2,004	1,333	66.5	192	9.6	209	10.4	27	1.3	243	12.1	33.5
<b>Tract 114, BG 3</b>	<b>575</b>	<b>291</b>	<b>50.6</b>	<b>69</b>	<b>12.0</b>	<b>103</b>	<b>17.9</b>	<b>19</b>	<b>3.3</b>	<b>93</b>	<b>16.2</b>	<b>49.4</b>
Tract 114, BG 4	1,808	1217	67.3	129	7.1	215	11.9	54	3.0	193	10.7	32.7
Tract 114, BG 5	650	567	87.2	11	1.7	21	3.2	3	0.5	48	7.4	12.8
<b>Tract 115, BG 2</b>	<b>1,478</b>	<b>783</b>	<b>53.0</b>	<b>135</b>	<b>9.1</b>	<b>53</b>	<b>3.6</b>	<b>27</b>	<b>1.8</b>	<b>480</b>	<b>32.5</b>	<b>47.0</b>
Tract 115, BG 3	862	617	71.6	44	5.1	36	4.2	25	2.9	140	16.2	28.4
Rockland County Block Groups												
Tract 130.03, BG 2	912	774	84.9	54	5.9	37	4.1	9	1.0	38	4.2	15.1
Tract 132, BG 1	1,014	874	86.2	45	4.4	42	4.1	19	1.9	34	3.4	13.8
<b>Tract 132, BG 2</b>	<b>1,333</b>	<b>745</b>	<b>55.9</b>	<b>209</b>	<b>15.7</b>	<b>123</b>	<b>9.2</b>	<b>64</b>	<b>4.8</b>	<b>192</b>	<b>14.4</b>	<b>44.1</b>
<b>Tract 132, BG 3</b>	<b>1,163</b>	<b>581</b>	<b>50.0</b>	<b>322</b>	<b>27.7</b>	<b>25</b>	<b>2.1</b>	<b>29</b>	<b>2.5</b>	<b>206</b>	<b>17.7</b>	<b>50.0</b>
<b>Total Study Area</b>	<b>13,130</b>	<b>8,814</b>	<b>67.1</b>	<b>1,221</b>	<b>9.3</b>	<b>1,030</b>	<b>7.8</b>	<b>324</b>	<b>2.5</b>	<b>1,741</b>	<b>13.3</b>	<b>32.9</b>
<b>Westchester County</b>	<b>949,113</b>	<b>544,563</b>	<b>57.4</b>	<b>126,585</b>	<b>13.3</b>	<b>51,123</b>	<b>5.4</b>	<b>19,810</b>	<b>2.1</b>	<b>207,032</b>	<b>21.8</b>	<b>42.6</b>
<b>Rockland County</b>	<b>311,687</b>	<b>203,670</b>	<b>65.3</b>	<b>34,623</b>	<b>11.1</b>	<b>19,099</b>	<b>6.1</b>	<b>5,512</b>	<b>1.8</b>	<b>48,783</b>	<b>15.7</b>	<b>34.7</b>
<b>Notes:</b> <b>Bold italic</b> denotes environmental justice area. * The racial and ethnic categories provided are further defined as: White (White alone, not Hispanic or Latino); Black (Black or African American alone, not Hispanic or Latino); Asian (Asian alone, not Hispanic or Latino); Other (American Indian and Alaska Native alone, not Hispanic or Latino; Native Hawaiian and Other Pacific Islander alone, not Hispanic or Latino; Some other race alone, not Hispanic or Latino; Two or more races, not Hispanic or Latino); Hispanic (Hispanic or Latino; Persons of Hispanic origin may be of any race). <b>Sources:</b> U.S. Census Bureau, <i>Census 2010</i> .												



## 19-4-1-2 CONSTRUCTION STUDY AREA

As shown on **Figure 19-3** and in **Table 19-2**, there are minority areas, as well as non-minority areas, located within the construction study area. Of the construction study area's 16 2010 Census block groups, 6 are considered minority areas and the remaining 10 block groups are considered non-minority areas.

**Table 19-2**  
**Construction Study Area Race and Ethnicity**

Census Block Groups	2010 Census											Total Minority (%)
	2010 Total	Race and Ethnicity*										
		White	%	Black	%	Asian	%	Other	%	Hispanic	%	
Westchester County Block Groups												
Tract 114, BG 1***	1,331	1032	77.5	11	0.8	166	12.5	48	3.6	74	5.6	22.5
Tract 114, BG 2***	2,004	1,333	66.5	192	9.6	209	10.4	27	1.3	243	12.1	33.5
<b>Tract 114, BG 3***</b>	<b>575</b>	<b>291</b>	<b>50.6</b>	<b>69</b>	<b>12.0</b>	<b>103</b>	<b>17.9</b>	<b>19</b>	<b>3.3</b>	<b>93</b>	<b>16.2</b>	<b>49.4</b>
Tract 114, BG 4***	1,808	1217	67.3	129	7.1	215	11.9	54	3.0	193	10.7	32.7
Tract 114, BG 5***	650	567	87.2	11	1.7	21	3.2	3	0.5	48	7.4	12.8
<b>Tract 115, BG 2***</b>	<b>1,478</b>	<b>783</b>	<b>53.0</b>	<b>135</b>	<b>9.1</b>	<b>53</b>	<b>3.6</b>	<b>27</b>	<b>1.8</b>	<b>480</b>	<b>32.5</b>	<b>47.0</b>
Tract 115, BG 3***	862	617	71.6	44	5.1	36	4.2	25	2.9	140	16.2	28.4
Rockland County Block Groups												
Tract 111.02 BG 1	1,844	1350	73.2	109	5.9	188	10.2	35	1.9	162	8.8	26.8
Tract 111.02 BG 2	2,103	1380	65.6	396	18.8	120	5.7	35	1.7	172	8.2	34.4
<b>Tract 111.02 BG 3</b>	<b>1,948</b>	<b>658</b>	<b>33.8</b>	<b>639</b>	<b>32.8</b>	<b>182</b>	<b>9.3</b>	<b>68</b>	<b>3.5</b>	<b>401</b>	<b>20.6</b>	<b>66.2</b>
Tract 112 BG 2	1,281	902	70.4	30	2.3	171	13.3	11	0.9	167	13.0	29.6
Tract 130.03, BG 2***	912	774	84.9	54	5.9	37	4.1	9	1.0	38	4.2	15.1
<b>Tract 131 BG 1**</b>	<b>1,331</b>	<b>669</b>	<b>50.3</b>	<b>295</b>	<b>22.2</b>	<b>86</b>	<b>6.5</b>	<b>33</b>	<b>2.5</b>	<b>248</b>	<b>18.6</b>	<b>49.7</b>
Tract 132, BG 1***	1,014	874	86.2	45	4.4	42	4.1	19	1.9	34	3.4	13.8
<b>Tract 132, BG 2***</b>	<b>1,333</b>	<b>745</b>	<b>55.9</b>	<b>209</b>	<b>15.7</b>	<b>123</b>	<b>9.2</b>	<b>64</b>	<b>4.8</b>	<b>192</b>	<b>14.4</b>	<b>44.1</b>
<b>Tract 132, BG 3***</b>	<b>1,163</b>	<b>581</b>	<b>50.0</b>	<b>322</b>	<b>27.7</b>	<b>25</b>	<b>2.1</b>	<b>29</b>	<b>2.5</b>	<b>206</b>	<b>17.7</b>	<b>50.0</b>
<b>Total Study Area</b>	<b>21,637</b>	<b>13,773</b>	<b>63.7</b>	<b>2,690</b>	<b>12.4</b>	<b>1,777</b>	<b>8.2</b>	<b>506</b>	<b>2.3</b>	<b>2,891</b>	<b>13.4</b>	<b>36.3</b>
<b>Westchester County</b>	<b>949,113</b>	<b>544,563</b>	<b>57.4</b>	<b>126,585</b>	<b>13.3</b>	<b>51,123</b>	<b>5.4</b>	<b>19,810</b>	<b>2.1</b>	<b>207,032</b>	<b>21.8</b>	<b>42.6</b>
<b>Rockland County</b>	<b>311,687</b>	<b>203,670</b>	<b>65.3</b>	<b>34,623</b>	<b>11.1</b>	<b>19,099</b>	<b>6.1</b>	<b>5,512</b>	<b>1.8</b>	<b>48,783</b>	<b>15.7</b>	<b>34.7</b>
<b>Notes:</b> <b><i>Bold italic</i></b> denotes environmental justice area. * The racial and ethnic categories provided are further defined as: White (White alone, not Hispanic or Latino); Black (Black or African American alone, not Hispanic or Latino); Asian (Asian alone, not Hispanic or Latino); Other (American Indian and Alaska Native alone, not Hispanic or Latino; Native Hawaiian and Other Pacific Islander alone, not Hispanic or Latino; Some other race alone, not Hispanic or Latino; Two or more races, not Hispanic or Latino); Hispanic (Hispanic or Latino; Persons of Hispanic origin may be of any race). **Tract 131, BG 1 as defined by the 2010 Census covers the same land area as Tract 131, Block Groups 4 and 5 as identified in the 2000 Census (see <b>Table 19-4</b> , below) ***These block groups are also in the operational study area. <b>Sources:</b> U.S. Census Bureau. <i>Census 2010</i> .												

Both minority and non-minority areas are located along the right-of-way. There is no alternative to construction of the Tappan Zee Hudson River Crossing taking place within the Interstate 87/287 right-of-way. Outside of the right-of-way, two of the potential construction staging areas (the West Nyack Inland Staging Area in Rockland County and the Tarrytown Inland Staging Area in Westchester County) are located in minority areas as identified according to the applicable federal guidance on environmental justice, and one of the potential staging areas—the Tilcon Quarry Inland Staging Area in Rockland County—is located in a non-minority and non-low-income area. Of the two



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staging areas located in minority areas, the one in West Nyack, Town of Clarkstown, is composed of vacant land or commercial and industrial uses, including auto-related uses, storage and manufacturing, a fast food establishment, and a waste disposal facility, and does not contain any residents.<sup>1</sup> The Tarrytown Inland Staging Area, which is also located in a minority area, is owned by the New York State Thruway Authority (NYSTA).

### **19-4-2 POVERTY STATUS ANALYSIS**

#### **19-4-2-1 OPERATIONAL STUDY AREA**

Data on poverty status were collected for the 2000 Census block groups in the study area to determine whether any low-income areas are present in the study area. As shown in **Table 19-3**, none of the study area's block groups have low-income populations that exceed the percentage of the overall low income in Rockland County (11 percent) or Westchester County (8 percent). Rather, the study area's 11 block groups have low-income population percentages ranging from less than 1 percent to approximately 6 percent. The study area as a whole has a low-income population of approximately 3 percent of the total study area population. Therefore, none of the study area's block groups are considered potential environmental justice areas based on the income characteristics.

**Table 19-3  
Operational Study Area Poverty Status**

<b>2000 Census Block Groups</b>	<b>ACS 2005-2009</b>
	<b>Individuals Below Poverty Level (%)*</b>
<b>Westchester County Block Groups</b>	
Tract 114, BG 1	2
Tract 114, BG 2	0
Tract 114, BG 3	0
Tract 114, BG 4	3
Tract 114, BG 5	3
Tract 115, BG 1	1
Tract 115, BG 2	5
<b>Rockland County Block Groups</b>	
Tract 130.03, BG 2	5
Tract 132, BG 1	4
Tract 132, BG 2	6
Tract 132, BG 3	4
<b>Study Area</b>	3
<b>Rockland County</b>	11
<b>Westchester County</b>	8
<b>Notes:</b>	
** Percent of individuals with incomes below poverty level, as established by the U.S. Census Bureau.	
<b>Sources:</b> U.S. Census Bureau, 2005-2009 American Community Survey.	

#### **19-4-2-2 CONSTRUCTION STUDY AREA**

In terms of low-income areas, of the 17 2000 Census block groups located in the construction study area for environmental justice, only 1—Tract 131 BG 5—was

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<sup>1</sup> Uses based on 2011 Tax Bills from the Town of Clarkstown, Receiver of Taxes.



identified as a low-income area according to the applicable federal guidance on environmental justice (see **Table 19-4** and **Figure 19-4**). Interstate 87/287 runs along a small portion of this block group's southwestern boundary.

**Table 19-4**  
**Construction Study Area Poverty Status**

2000 Census Block Groups	ACS 2005-2009
	Individuals Below Poverty Level (%)*
<b>Westchester County Block Groups</b>	
Tract 114, BG 1***	2
Tract 114, BG 2***	0
Tract 114, BG 3***	0
Tract 114, BG 4***	3
Tract 114, BG 5***	3
Tract 115, BG 1***	1
Tract 115, BG 2***	5
<b>Rockland County Block Groups</b>	
Tract 111.02, BG 1	1
Tract 111.02, BG 2	9
Tract 111.02, BG 3	5
Tract 112, BG 2	5
Tract 130.03, BG 2***	5
Tract 131, BG 4**	7
<b>Tract 131, BG 5**</b>	<b>16</b>
Tract 132, BG 1***	4
Tract 132, BG 2***	6
Tract 132, BG 3***	4
<b>Study Area</b>	<b>3</b>
<b>Rockland County</b>	<b>11</b>
<b>Westchester County</b>	<b>8</b>
<b>Notes:</b> <b>Bold italic</b> denotes potential environmental justice area. *Percent of individuals with incomes below poverty level, as established by the U.S. Census Bureau. **Tract 131, Block Groups 4 and 5 as defined by the 2000 Census covers the same land area as Tract 131, BG 1 as identified in the 2010 Census (see <b>Table 19-2</b> , above). ***These block groups are also located in the operational study area for poverty status. <b>Sources:</b> U.S. Census Bureau, 2005-2009 American Community Survey.	

## 19-5 ENVIRONMENTAL EFFECTS

### 19-5-1 SUMMARY OF ADVERSE EFFECTS

As discussed throughout this EIS, the Replacement Bridge Alternative would result in certain adverse impacts. Those impacts are described below. An analysis of the project's potential for disproportionately high and adverse impacts on environmental justice populations is provided in the next section.

- **Land Acquisition, Displacement, and Relocation.** The Replacement Bridge Alternative would result in the displacement of approximately nine households in Rockland County. Three of these are two-family homes and three are one-family homes. The displacement would be undertaken pursuant to the federal *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970* and the



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New York State Eminent Domain Procedure Law (EDPL), which protect the rights of property owners and tenants.

- **Visual and Aesthetic Resources.** The Replacement Bridge Alternative would adversely impact views from a limited number of residences on Ferris Lane, Bight Lane, and River Road.
- **Historic and Cultural Resources.** The existing Tappan Zee Bridge would be removed and replaced as a result of this project. This would constitute an adverse effect on historic properties. Proposed measures to mitigate the adverse effect of the project on the Tappan Zee Bridge are outlined in a Draft Section 106 Memorandum of Agreement (MOA) for this project, included as **Appendix C** of this document, and are discussed in Chapter 10, “Historic and Cultural Resources.”

The Replacement Bridge Alternative would adversely affect two architectural resources—Tappan Zee Bridge and South Nyack Historic District. Proposed measures to mitigate these adverse effects on the Tappan Zee Bridge and the South Nyack Historic District (including the removal of two historic residences) are outlined in the Draft Section 106 MOA and are discussed in Chapter 10, “Historic and Cultural Resources.”

- **Noise and Vibration.** The Replacement Bridge Alternative would exceed the FHWA Noise Abatement Criteria (NAC) resulting in noise impacts at up to 79 properties in Rockland County and 8 properties in Westchester County. The majority of these impacts would be attributed to increases in traffic independent of the Replacement Bridge Alternative. As addressed in Chapter 12, “Noise and Vibration,” where feasible and reasonable, noise impacts would be mitigated through the use of noise walls pursuant to federal regulations and state policy.
- **Construction Impacts.** Potential construction impacts related to traffic, air quality, noise, water quality, and ecology would occur along the right-of-way. Construction activities would incorporate measures to minimize these impacts to the extent feasible (see Chapter 18, “Construction Impacts”).

### **19-5-2 ANALYSIS OF THE POTENTIAL FOR DISPROPORTIONATELY HIGH AND ADVERSE IMPACTS**

The FHWA environmental justice guidance document states that when determining whether an action would have a disproportionately high and adverse effect on minority and low-income populations, mitigation measures for any potential adverse effects from the project and potential offsetting benefits to the affected minority and low-income populations should be taken into account. The project would maintain a vital link in the regional and national transportation network by providing an improved Hudson River crossing between Rockland and Westchester Counties. While safe to the traveling public, the bridge does not meet current standards for its design or traffic operations. The project would correct structural, operational, mobility, safety, and security features of the existing Tappan Zee Bridge, including providing for trans-Hudson access for cyclists and pedestrians and study area residents. The project would result in improvements in transportation mobility and safety and would not affect existing bus service nor would it preclude transit operations.

In addition, the Replacement Bridge Alternative would include a shared-use path for pedestrians and bicyclists to cross the Hudson River. This shared-use path would increase the public's access to trail systems and bicycle routes on both sides of the Hudson River. The addition of the shared-use path would also mitigate the 0.01 acre loss of the green space in Rockland County as a result of the bridge replacement and would also benefit area residents with no access to a car or other vehicle transport.

The Replacement Bridge Alternative would not result in any disproportionately high and adverse impacts on environmental justice populations. Of the households that would be displaced with the Replacement Bridge Alternative, three (one one-family and one two-family homes) are located in Tract 132 BG 1—a non-minority area—and six (two one-family and two two-family homes) are located in Tract 132 BG 2—a minority area or community of concern for environmental justice. Neither of these communities are considered low-income areas of concern for environmental justice. Thus, displacement impacts would affect both minority and non-minority areas. Assuming the 2010 Rockland County socioeconomic study area average household size of 2.39 (see Chapter 8, “Socioeconomic Conditions”), approximately 7 persons in Tract 132 BG 1 (or approximately 1 percent of the 2010 total population in that community) and 14 persons in Tract 132 BG 2 (also approximately 1 percent of the 2010 total population in that particular community) would be displaced. Therefore, while the displacement is higher for the community of concern (six families compared to three families), displacement impacts on the block group populations are not considered disproportionately high and adverse since the percentage change in population is the same in both communities (1 percent), such that the overall effect of displacement would not be predominantly borne by the minority community.<sup>1</sup> The numbers of persons or households to be displaced relative the entire community in either block group is not significant and the displaced residents would be expected to be relocated in close proximity to their existing residences, such that there would not be a destruction or disruption of community cohesion or a community's economic vitality, and there would not be an exclusion or separation of minority individuals from the broader community, and socioeconomic or community character impacts are expected (see also Chapter 6, “Land Acquisition, Relocation, and Displacement” and Chapter 8, “Socioeconomic Conditions”). As discussed elsewhere, the project would also result in transportation safety and mobility benefits for all study area residents, and the displaced residents would be appropriately compensated for the acquisition and relocated.

Moreover, the approximately 14 persons to be displaced in the minority community represent just 2 percent of the total minority population in that block group. Based on property records and public meetings, not all residents of these displaced households are minority (FHWA guidance on relocation impacts when there are only a small

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<sup>1</sup> *FHWA Actions to Address Environmental Justice* (6640.23) defines a disproportionately high and adverse effect as “an adverse effect that is predominantly borne by a minority population and/or low-income population or will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the nonminority population and/or non-low-income population. The guidance also states that “when determining whether a particular program, policy, or activity will have disproportionately high and adverse effects on minority and low-income populations, FHWA managers and staff should take into account mitigation and enhancement measures and potential offsetting benefits to the affected minority or low-income populations. Other factors that may be taken into account include design, comparative impacts, and the relevant number of similar existing system elements in non-minority and non-low-income areas.”



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number of displacements, specifically advises that information on race, ethnicity and income level should not be included to protect the privacy of those affected). Therefore, the percentage of minority persons that would be displaced would likely be even smaller. In all cases, displacement would be accommodated pursuant to the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970*, which ensures that a relocation assistance program is provided to displaced occupants.

As discussed in more detail in Chapter 8, “Socioeconomic Conditions,” the Replacement Bridge Alternative would not adversely affect the population characteristics of the study area. As identified in Chapter 6, “Land Acquisition, Displacement, and Relocation,” the small loss of property tax revenue associated with the parcels to be acquired would not affect the overall social or economic base of the community, representing less than a 1 percent loss in assessment base. Furthermore, based on the implementation of a relocation assistance program for displaced residents, it is anticipated that displaced households would be able to remain in the study area or, at a minimum, in the larger Town and County area. As a result, there is unlikely to be any net reduction of population or workforce as a result of the Replacement Bridge Alternative. Given the small changes to the local study area, and the lack of overall changes to demographic characteristics generated by the Replacement Bridge Alternative, there would be no expected socioeconomic impact on specific populations of the elderly, disabled, or low-income and minority populations, and the cohesiveness of the affected communities would remain intact. On the other hand, the Replacement Bridge Alternative would provide benefits to local and regional populations in terms of improved operational mobility and safety. Displaced households would also be compensated for the displacement and would be relocated. In addition, the land area that would be acquired would become part of the Thruway right-of-way thereby providing an added buffer between the roadway and the surrounding communities such that the adjacent minority and non-minority areas would also experience an overall quality of life benefit.

The project’s potential impacts on historic resources would occur mainly in a non-minority area and would not constitute a disproportionately high or adverse impact on environmental justice populations. The affected historic districts and the resource at 10 Ferris Lane are located in non-minority and non-low-income areas. The Tappan Zee Bridge is located in both minority and non-minority areas. The historic residences that would be removed contribute to the overall South Nyack Historic District which is beneficial to the entire Village, including both minority and non-minority populations. The potential impacts associated with the removal of the historic residences in the South Nyack Historic District (which are both located in non-minority and non-low-income areas) would be mitigated as outlined in the Draft MOA (see **Appendix C**) and would be undertaken pursuant to the federal *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970* and the New York State Eminent Domain Procedure Law, as described in Chapter 6, “Land Acquisition, Displacement, and Relocation.”

The expected visual impacts would also occur in non-minority and non-low-income areas such that no disproportionately high or adverse impacts on environmental justice populations would occur from the project’s visual effects.

The expected noise impacts as a result of the project would occur on either side of Interstate 87/287 in both minority and non-minority areas, in close proximity to the area of the proposed bridge realignment. In Rockland County, noise impacts would occur in CT 132 Block Groups 2 and 3, which are minority areas, in addition to in non-minority areas (CT 130.03 BG 2 and CT 132 BG 1). In Westchester County, noise impacts would occur in both minority (CT 115 BG 2) and non-minority (CT 114 Block Groups 1 and 3) areas. Where feasible and reasonable, noise impacts would be mitigated through the use of noise walls. Unmitigated noise impacts would primarily occur in non-minority areas of Rockland County (CT 132 BG 1 in both the Short and Long Span Options) and in CT 130.03 BG 2 (Long Span Option only). In Westchester County, unmitigated noise impacts would occur in minority (CT 115 BG 2) and non-minority (CT 114 BG 1) areas in both the Short and Long Span Options.

In summary, there is no alternative to construction of the Tappan Zee Hudson River Crossing taking place within the Interstate 87/287 right-of-way along which both minority and non-minority areas are located. Based on a review of the likely potential impacts of the project, minority and low-income areas would not bear a disproportionately high or adverse share of construction impacts resulting from the project. Construction-related effects of the project would be borne by minority and low-income areas as well as non-minority and non-low-income areas including at the staging areas where potential construction effects would be mitigated.

## **19-6 PUBLIC PARTICIPATION**

FHWA, the New York State Department of Transportation (NYSDOT) and NYSTA have engaged in a robust public outreach effort. The project sponsors have compiled a mailing list, comprising more than 5,000 interested individuals and organizations, which is used to distribute meeting announcements and information about the project. Included within the list are organizations, media, and individuals that have relevance and connections with environmental justice communities in the study area.

Advertisements announcing public hearings were and will continue to be placed in five newspapers, including two newspapers serving environmental justice communities. A public notice inviting interested members of the public to participate in the Section 106 consultation process also was published in English and Spanish in newspapers, and Spanish translation services were available at the scoping briefings (held on October 25, 2011 in Westchester County and on October 27, 2011 in Rockland County) and will be available at future public hearings. A project website is updated regularly to provide notification of meetings and other project-related information.

The Tappan Zee Bridge Hudson River Crossing Project's public outreach program, including outreach to the affected communities of concern, will be ongoing throughout the environmental review process in accordance with applicable regulations.

## **19-7 MITIGATION FOR DISPROPORTIONATELY HIGH AND ADVERSE EFFECTS**

The Replacement Bridge Alternative would not result in any disproportionately high and adverse effects on minority and low-income populations during operation or construction and therefore no mitigation would be required.