

# I-64 HAMPTON ROADS BRIDGE TUNNEL



## SOCIOECONOMICS TECHNICAL REPORT



November 30, 2012

# **SOCIOECONIMICS TECHNICAL REPORT**

## **I-64 Hampton Roads Bridge Tunnel Project Cities of Hampton and Norfolk, Virginia**

November 2012

Prepared for:

**Virginia Department of Transportation**

1401 East Broad Street  
Richmond, VA 23219

VDOT Project No. 0064-965-004, P101  
UPC No. 99037

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## 1. INTRODUCTION

### 1.1 Project Description

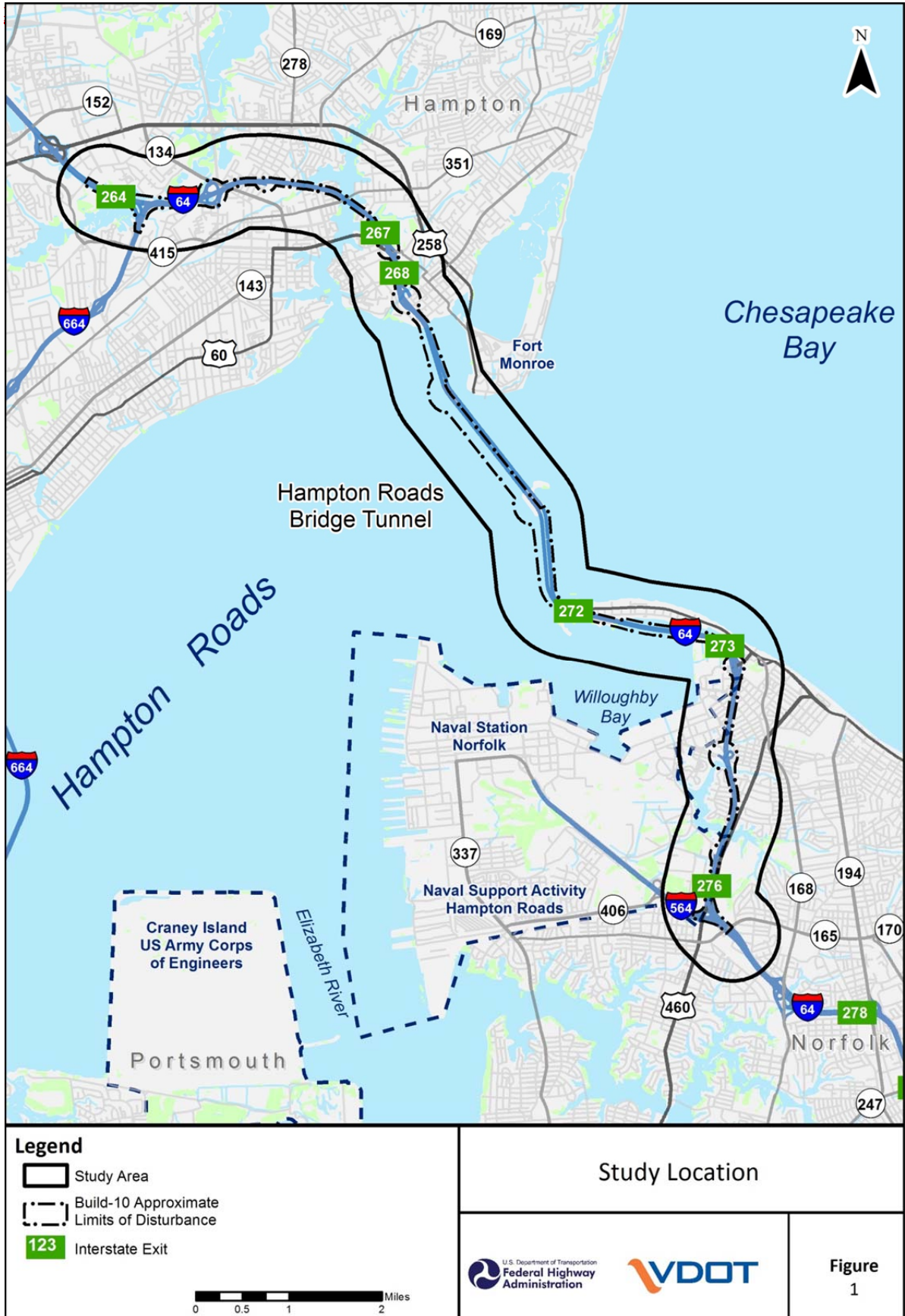
The Virginia Department of Transportation (VDOT), in cooperation with the Federal Highway Administration (FHWA), is studying the environmental consequences of transportation alternatives along Interstate 64 (I-64) and the Hampton Roads Bridge-Tunnel (HRBT). The study area, as shown in **Figure 1**, is a one-mile-wide corridor along I-64 from the I-664 interchange in the City of Hampton to the I-564 interchange in the City of Norfolk, a distance of approximately 12 miles, including the 3.5-mile-long HRBT.

The purpose of this Technical Memorandum is to identify social and economic conditions in the study area and analyze potential impacts that could result from implementation of the Retained Build Alternatives. Information in this memorandum supports discussions presented in the Environmental Impact Statement (EIS).

- **Section 1** provides an overview of the study and outlines the methods used to assess socioeconomic impacts.
- **Section 2** provides an examination of communities and community facilities and potential impacts to these resources.
- **Section 3** analyzes demographics and potential impacts to populations.
- **Section 4** provides an examination of economic data and potential impacts to the economy and businesses.

Details of all alternatives, including potential limits of disturbance, are included in the *Alternatives Technical Report*. Three Retained Build Alternatives, each representing a set of improvements that form a stand-alone solution to the identified needs within the study limits, have been retained for detailed evaluation in the EIS and, therefore, this Technical Memorandum:

- The **Build-8 Alternative** would provide four continuous mainline lanes in each direction of I-64 throughout the study area. Through the Hampton section of the study area, this alternative would require one lane of widening in each direction of I-64. Through the Norfolk section, this alternative would require the addition of two lanes in each direction of I-64. The eastbound and westbound directions would be separated by a concrete traffic barrier. The total pavement width of the Build-8 Alternative mainline would be approximately 150 feet. Through Willoughby Spit, widening would occur on the south side of the existing roadway only. The eastbound approach bridge would be modified to carry two westbound lanes, and a new four-lane bridge would be constructed approximately 200 feet to the west of the existing bridges to carry the eastbound lanes. A new four-lane tunnel would be constructed approximately 200 feet west of the existing tunnel.
- The **Build-8 Managed Alternative** mainline, bridges, and tunnels would be similar to the Build-8 Alternative, providing four continuous mainline lanes in each direction of I-64 with a new bridge structure and tunnel. However, some or all of the travel lanes would be managed using tolls and/or vehicle occupancy restrictions. Additionally, the typical section would include an approximate four-foot buffer separation between the general purpose lanes and any managed lanes, resulting in a total mainline pavement width of approximately 160 feet. The managed lanes would tie to the high occupancy vehicle (HOV) lanes on I-64 on both ends of the study area.



- The **Build-10 Alternative** would provide five continuous mainline lanes in each direction of I-64 throughout the study area, with the eastbound and westbound directions separated by a concrete traffic barrier. Throughout the Hampton section of the study area, this alternative would require widening both directions of I-64 by two lanes. In the Norfolk section of the study area, this alternative would require widening both directions of I-64 by three lanes. The total width of the mainline pavement would be approximately 170 feet. The approach bridges and tunnel would be similar to the Build-8 Alternative; however, the new bridge-tunnel would include one westbound lane and five eastbound lanes.

The No-Build Alternative also has been retained to serve as a baseline for comparison of alternatives and their potential effects. Under the No-Build Alternative, I-64 would remain predominantly three lanes per direction within the Hampton section of the study area, with auxiliary lanes (acceleration and deceleration lanes) at the interchanges. The 3.5-mile HRBT would continue with current operations. Within the Norfolk section of the study area, I-64 would remain two lanes per direction, including the I-64 bridges across Willoughby Bay. VDOT would continue maintenance and repairs of I-64 and the HRBT as needed. There would be no rehabilitation or reconstruction of the HRBT.

As the limits of disturbance for the Retained Build Alternatives are similar, the figures in this memorandum show the limits for the Build-10 Alternative only, which would have the largest disturbance area and therefore the largest potential impact. The text and tables discuss the potential impact of all Retained Build Alternatives in comparison to the No-Build Alternative.

## 1.2 Methods

Data and information on demographics, community facilities, emergency services, community characteristics, access within the study area, employment, income, and the local economy provide a baseline for analysis of potential impacts. These were compiled from aerial photos, local comprehensive and land use plans, the US Census web site (including the American Community Survey), Geographic Information System (GIS) databases, conceptual drawings, and field inspections.

## 2. COMMUNITIES AND COMMUNITY FACILITIES

I-64 and the HRBT comprise a major transportation corridor for communities throughout the Hampton Roads region, particularly the cities of Hampton and Norfolk. As a limited-access roadway, I-64 connects to communities and neighborhoods through designated interchanges. However, due to the urban environment of both Hampton and Norfolk, the communities surrounding I-64 use the local roadway network as well as I-64 to access local, city-wide, and regional destinations. Detailed community demographic data appear in Section 3.

### 2.1 Communities

Even though the cities of Hampton and Norfolk are older, well-established cities, infill development subsequent to the construction of I-64 has centered around that corridor. The first bridge-tunnel across the Hampton Roads was completed in 1957. This transportation corridor has been a part of the cities, and the individual communities within the cities, and has not been a limitation to community growth and development. The City of Hampton is divided into different districts, and, within them, smaller communities/neighborhoods. There are several large districts and smaller neighborhoods within the study area. Strategic master plans for Coliseum Central, the North King Street corridor, Downtown Hampton, and Phoebus have been prepared by the City of Hampton and are integrated into the current comprehensive plan, the *City of Hampton Community Plan*, as

addenda (City of Hampton, 2006a). Coliseum Central includes the Hampton Coliseum, Coliseum Mall, and other businesses and residential and recreational areas surrounding these destinations. The North King Street Corridor is north of I-64 and east of Coliseum Central. North King Street is one of the oldest transportation corridors in the city and, along with LaSalle Avenue, connects downtown Hampton with Langley Air Force Base (AFB). The future role of North King Street is to serve as a gateway to the older neighborhoods throughout the district, as well as to Langley AFB (City of Hampton, 2007a). Downtown Hampton is just south of I-64 and will continue to be the core of the city (City of Hampton, 2006b). Phoebus has a distinct identity rooted in its origins as a city separate from the City of Hampton (Hampton and Phoebus were separate cities within Elizabeth City County until 1952, when they were consolidated into the City of Hampton). Phoebus's access to the waterfront and historic core are key elements of its identity. Maintaining these elements while allowing guided infill development and improving the gateways to the area are central to the future vision for Phoebus (City of Hampton, 2007b). Neighborhoods within the study area in Hampton include Findley Square, Windsor Terrace, Brights Creek, Old Northampton, Olde Hampton, Pasture Point, Downtown Hampton, Hampton University, and Phoebus.

The City of Norfolk is characterized by its many distinct neighborhoods. The neighborhoods that are located partly within the study area include: Willoughby, Ocean View, Pamlico, Merrimack Park, Commodore Park, Hampton Gardens, Granby Shores, Albemarle, Monticello Village, Denby Park, Daniels Gardens, Suburban Park, Pinehurst, Westmere, Bondale, Sewells Park, and Rose Gardens. Plans relating to specific neighborhoods within the study area are included in the draft *plaNorfolk 2030* (Norfolk, 2011). According to the plan, the City will work with the Willoughby Area, at the western end of the City, to support traditional housing, revise development regulations, improve several locations on the local transportation network, and work with the US Navy regarding land at the 4<sup>th</sup> View Street and I-64 interchange. The City will work with the West Ocean View Area, south and east of the 4<sup>th</sup> View interchange with I-64, to support mixed-use zoning in some areas, modify connections within the local road network, improve park and beach entrances, and provide connections between community facilities. The City will work with the Greater Wards Corner Area, at the eastern end of the study area, to identify vacant properties for acquisition, encourage townhomes and rentals in certain residential areas, support redevelopment in some areas, monitor traffic conditions in certain areas, and improve pedestrian access and connections.

## **2.2 Community Impacts**

The No-Build Alternative has no direct impacts on communities in the study area. Under the Retained Build Alternatives, there are potential residential displacements occurring in the communities of Old North Hampton, Pasture Point and Phoebus in Hampton, and Willoughby Spit, Ocean View, Commodore Park, and Granby Shores in Norfolk. Although these communities have grown and developed around I-64, the encroachment of I-64 further into the individual neighborhoods and the relocation of residents could have a negative effect on the cohesion of the individual communities.

The Old North Hampton neighborhood north of Armistead Avenue and west of Rip Rap Road, and Pasture Point were bisected by I-64 previously. However, relocations in these areas would require further encroachment of the interstate into the neighborhoods. Relocations in west Phoebus at the I-64 interchange with Mallory Street would occur on the edge of the community and, although these relocations would impact individual properties within the community, they would not severely affect community cohesion.



In Norfolk, I-64 would encroach upon the community of Willoughby Spit, particularly to the south where construction of any of the Retained Build Alternatives would eliminate most of a residential community west of Willoughby Boat Ramp and the Willoughby Harbor Marina. The Willoughby Boat Ramp would be impacted insofar as part of its parking lot, as well as an appurtenant structure with a communications tower, would be taken. The West Ocean View community was previously bisected by I-64. The residential areas on both sides of the interstate could experience negative effects from the Retained Build Alternatives due to relocations. Impacts also would occur to most of the apartments north of Bellinger Boulevard and some townhouses south of Bellinger Boulevard in Merrimac Park. In Pamlico, improvements to the interchange with West Ocean Avenue/West Bay Avenue result in relocations along Mace Arch and Ridgewell Circle. This encroachment of I-64 occurs along the edge of the neighborhood. In Commodore Park, the community was bisected by the construction of I-64 and also is bordered by Granby Street to the east. In the north, relocations would eliminate some of the residences between Commodore Drive and I-64 and between Commodore Place and I-64. Residences would be relocated along the entire I-64 corridor within this community, thus further encroaching into this neighborhood.

**2.3 Community Facilities**

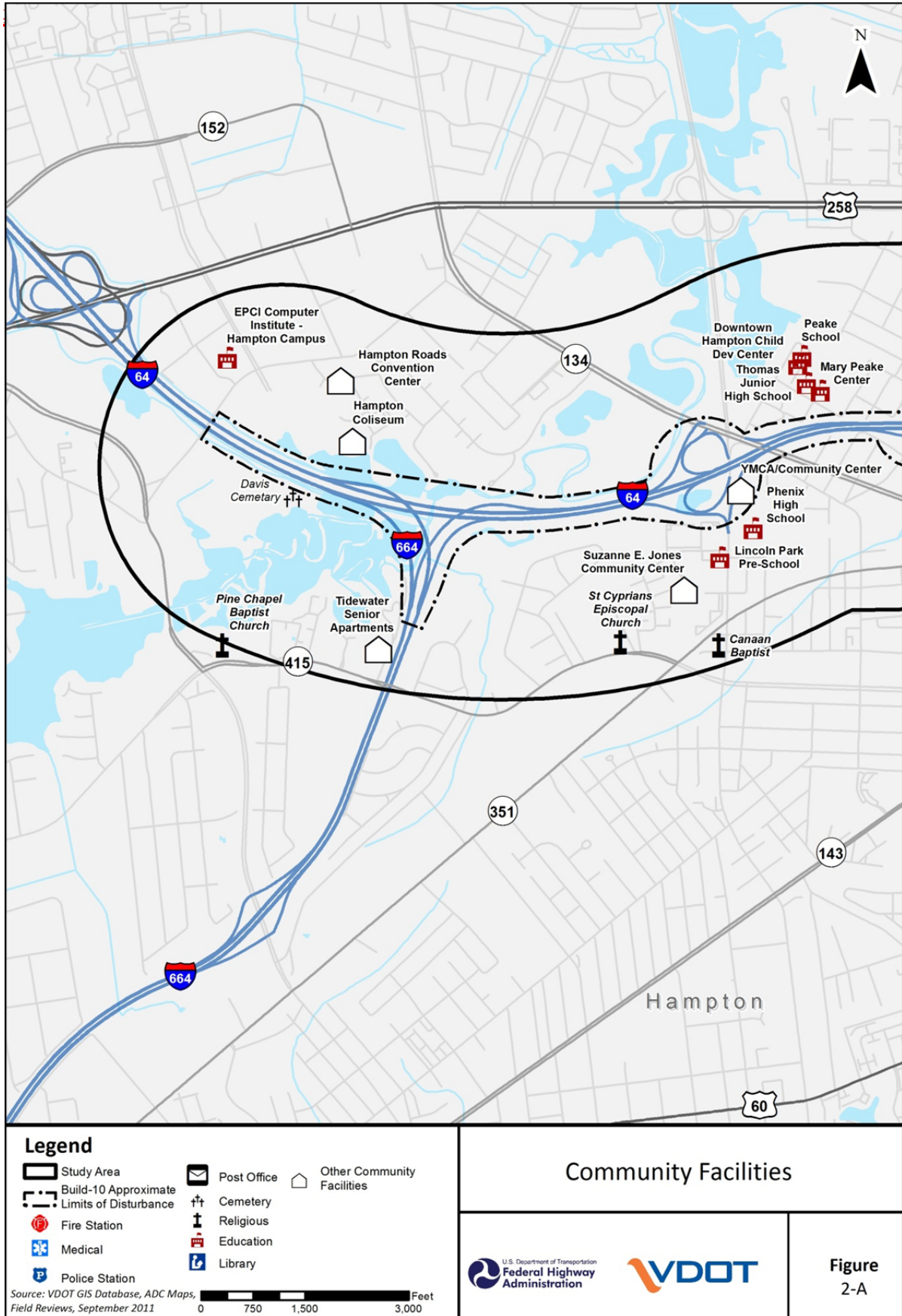
There is a wide range of community facilities located throughout the study area, including schools, churches, and recreation centers. Some of the most notable include the Hampton Coliseum and Convention Center, the Hampton National Cemetery, the Hampton Veteran’s Affairs Medical Center, Norfolk Visitor Information Center, Girl Scouts of the USA’s Camp Apasus, and Forest Lawn Cemetery, as shown on **Figures 2A-E**. A tabulation of community facilities within the study area is provided in **Table 1**. Individual parks, recreation areas, and open space easements are discussed in the *Parks and Recreation Technical Memorandum*.

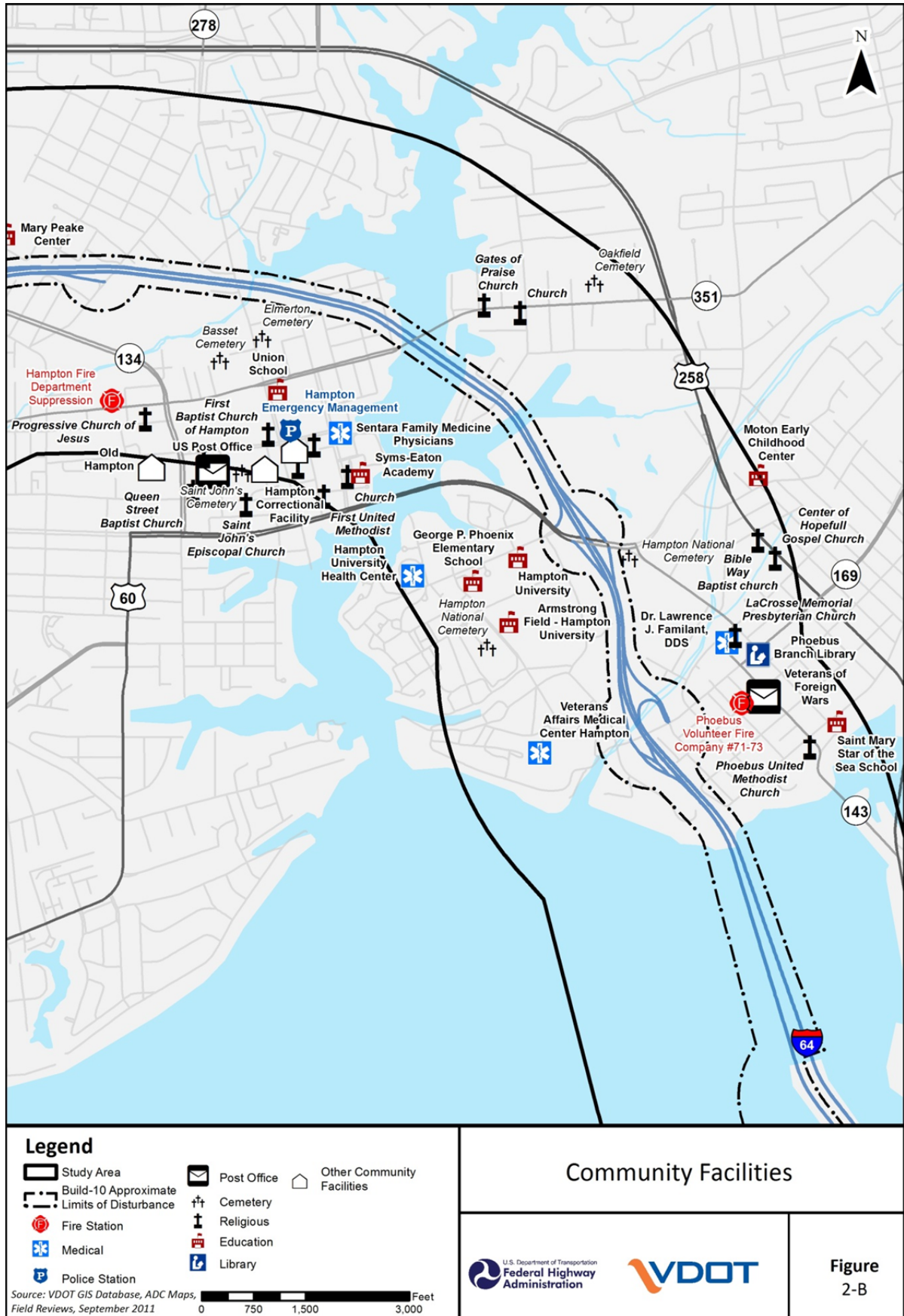
**Table 1. Community Facilities in the Study Area**

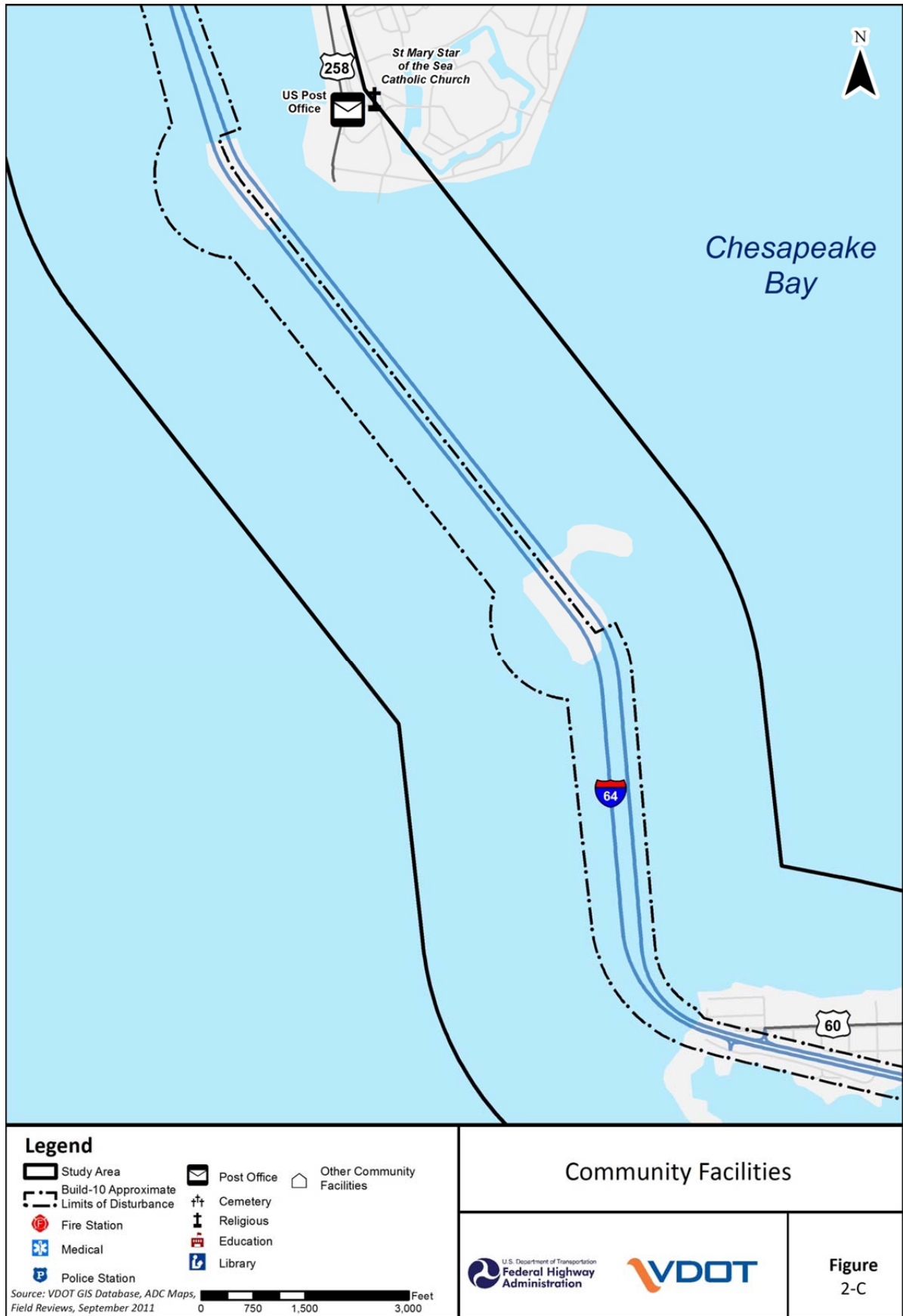
<b>Facility Type</b>	<b>Hampton</b>	<b>Norfolk</b>
Cemetery	7	1
Fire Station	2	1
Medical Facility	4	2
Library	1	0
Police Station	1	0
Post Office	2	1
Religious Facility	16	6
School/University	13	5
Other	12	8
<b>Total</b>	<b>66</b>	<b>36</b>

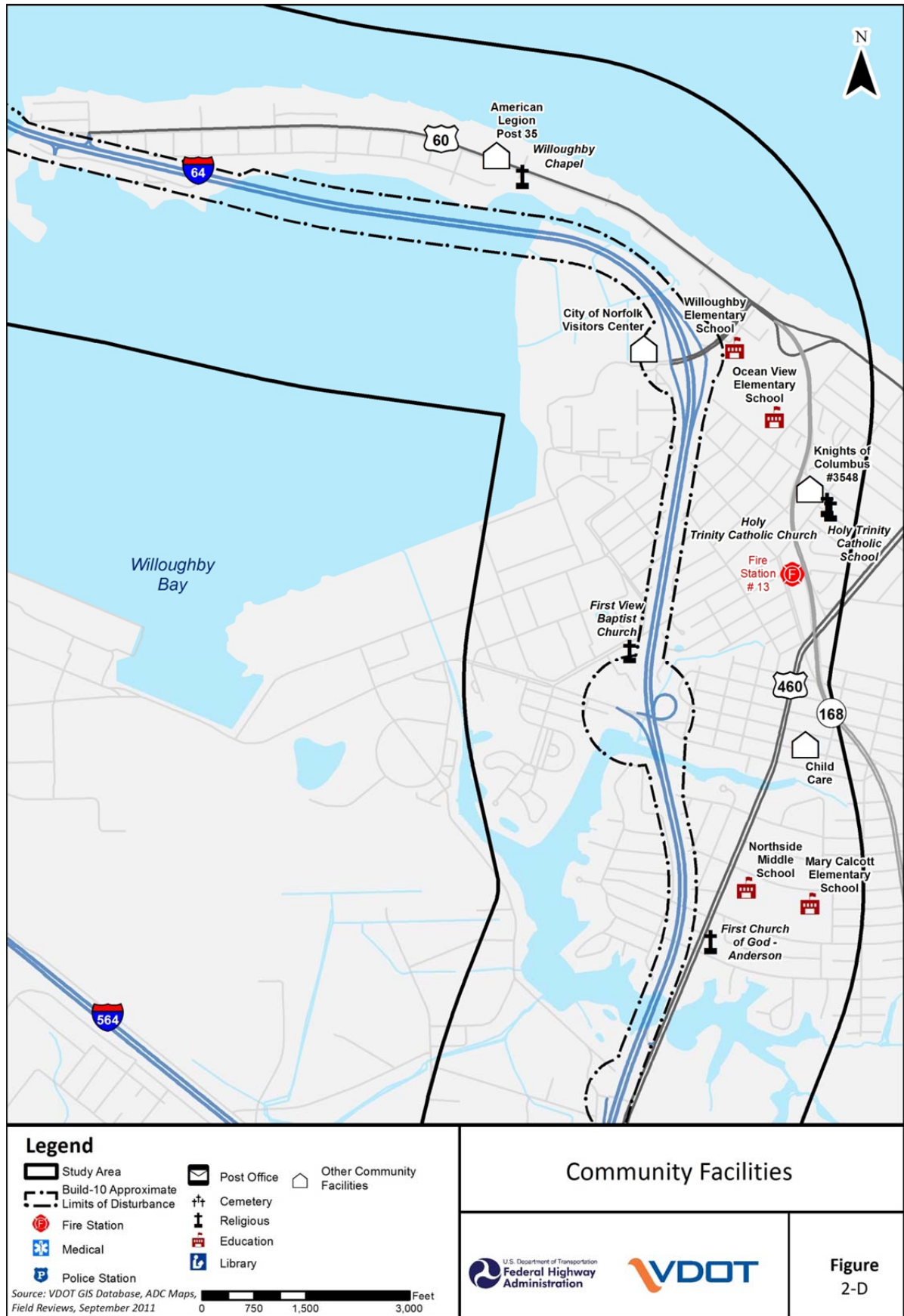
Sources: VDOT GIS database; ADC Maps; field reviews, September, 2011

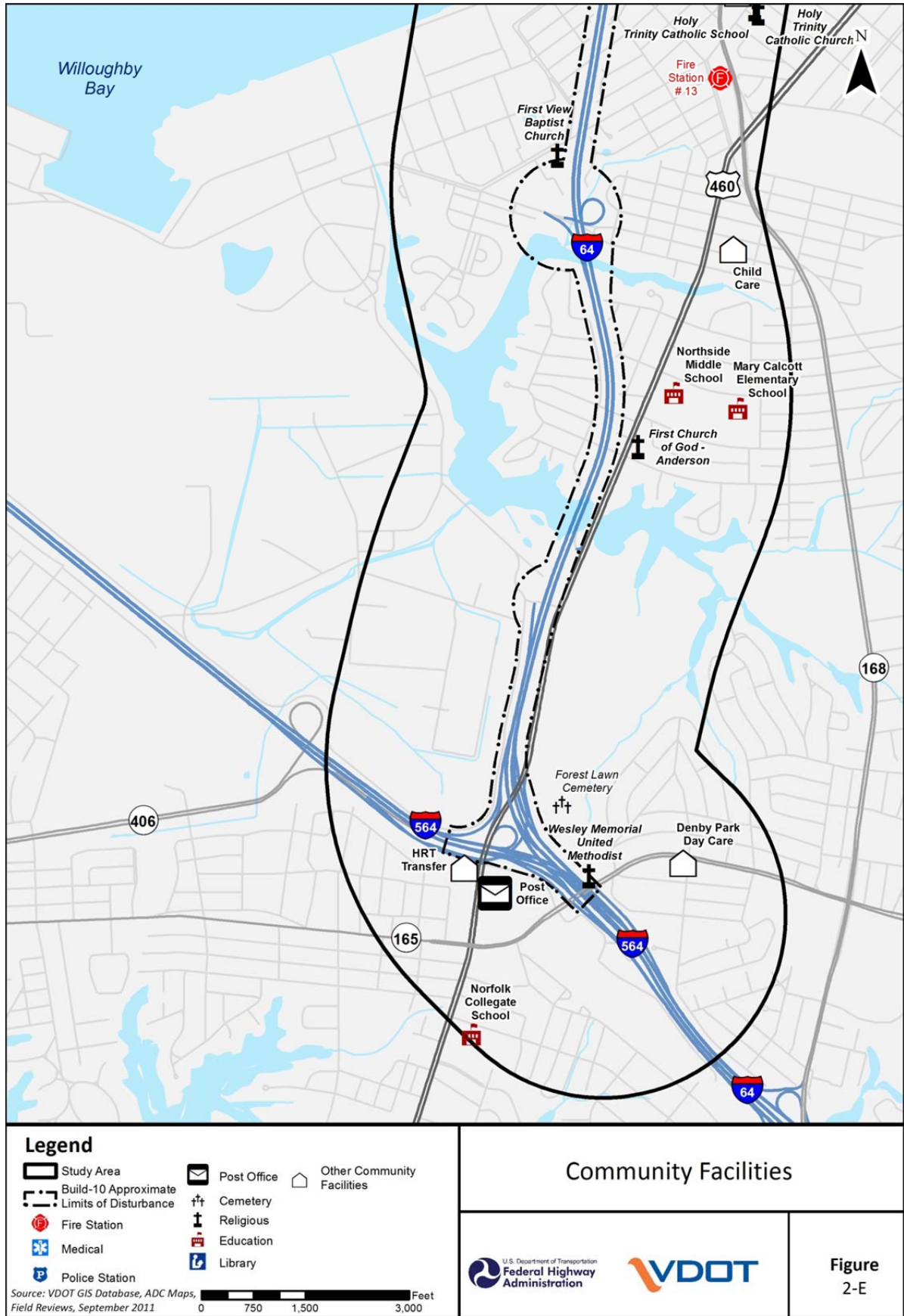
Note: The category “Other” includes resources that did not specifically belong in another category, e.g., the Hampton Coliseum, Norfolk Visitor Information Center, Knights of Columbus, or private child care centers.











## 2.4 Community Facility Impacts

The No-Build Alternative has no direct impacts on community facilities in the study area. The Retained Build Alternatives all potentially would impact community facilities due to partial right-of-way acquisition and relocation (**Table 2**). Potential impacts to parks and recreation facilities are discussed in the *Parks and Recreation Technical Memorandum*, including the relocation of the Hampton YMCA.

**Table 2. Community Facilities Impacted**

Facility Type	Build-8 Alternative	Build-8 Managed Alternative	Build-10 Alternative
Cemetery	2	2	2
Fire Station	0	0	0
Medical Facility	1	1	1
Library	0	0	0
Police station	0	0	0
Post Office	0	0	0
Religious Facility	4	4	4
School/University	2	2	2
Other	2	2	2
Total	11	11	11

Sources: VDOT GIS database; ADC Maps; field reviews, September, 2011.

Note: Facility designations are being kept consistent with the designations that were identified in Table 1. The two "other" facilities that may be impacted are the Norfolk Visitor Information Center and Hampton YMCA.

Potential relocations of community facilities include the Hampton YMCA, the Norfolk Visitor Information Center, and four churches. The churches are: ZEM Temple and Zion Baptist Church in Hampton and First View Baptist and Wesley Memorial Methodist Church in Norfolk. The relocation of these facilities could have potential direct and indirect effects on their respective congregations. For example, if a new facility is not in close proximity to the existing site, access and travel time to the church could limit the number of parishioners that would stay with that church.

The Retained Build Alternatives would potentially require partial acquisition of Hampton National Cemetery, the Veterans Affairs Medical Center (VAMC) – Hampton, and Hampton University in Hampton and Forest Lawn Cemetery and Willoughby Elementary School in Norfolk. Only minor amounts of right-of-way on the edges of the parcels are required from Forest Lawn Cemetery.

## 3. POPULATION CHARACTERISTICS/ENVIRONMENTAL JUSTICE

### 3.1 Methods

Title VI of the Civil Rights Act of 1964 states that "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." Title VI bars intentional discrimination, as well as disparate impact discrimination (i.e., a neutral policy or practice that has an unequal impact on protected groups). Data collection to determine the presence of any Title VI groups has occurred as a part of this project. Through the

use of the FHWA Technical Advisory T6640.8A, State Departments of Transportation, including VDOT, have complied with Title VI. T6640.8A states that the “general population served and/or affected (city, county, etc.) by the proposed action should be identified by race, color, national origin, and age” and identify if there are foreseeable impacts on “general social groups specially benefitted or harmed by the proposed project” including “effects of a project on the elderly, handicapped, non-drivers, transit-dependent, and minority and ethnic groups” (FHWA, 1987).

Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations”, states that each Federal agency “shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations”. The US Department of Transportation’s most recent order on implementing environmental justice requirements (DOT Order 5610.2a, issued May 2, 2012) states that:

It is the policy of DOT to promote the principles of environmental justice (as embodied in the Executive Order) through the incorporation of those principles in all DOT programs, policies, and activities. This will be done by fully considering environmental justice principles throughout planning and decision-making processes in the development of programs, policies, and activities, using the principles of the National Environmental Policy Act of 1969 (NEPA), Title VI of the Civil Rights Act of 1964 (Title VI), the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, (URA), the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (Public Law 109-59; SAFETEA-LU) and other DOT statutes, regulations and guidance that address or affect infrastructure planning and decision-making; social, economic, or environmental matters; public health; and public involvement.

The FHWA implemented the DOT order via FHWA Order 6640.23A, “FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations” (June 14, 2012). The order provides methods to comply with existing applicable regulations and requirements as well as administering FHWA’s “governing statutes so as to identify and avoid discrimination and disproportionately high and adverse effects on minority populations and low-income populations”.

Therefore, demographic data for the Cities of Hampton and Norfolk were analyzed to determine whether the Retained Build Alternatives would have effects on Title VI populations or any disproportionately high and adverse human health or environmental effects on minority and low-income populations. As defined by Title VI and in the guidance for implementing EO 12898, minority populations include citizens or lawful permanent residents of the U.S. who, as defined by FHWA Order 6640.23A, are:

- Black: a person having origins in any of the black racial groups of Africa;
- Hispanic or Latino: a person of Mexican, Puerto Rican, Cuban, Central, or South American or other Spanish culture or origin, regardless of race;
- Asian American: a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent;
- American Indian and Alaskan Native: a person having origins in any of the original people of North America or South America (including Central America) and who maintains cultural identification through tribal affiliation or community recognition; or
- Native Hawaiian and Other Pacific Islander: a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.



Low-income populations are defined as those whose median household income is below the U.S. Department of Health and Human Services poverty guidelines.

Executive Order 13166 “Improving Access to Services for Persons with Limited English Proficiency” directs federal agencies to “examine the services they provide, identify any need for services to those with limited English proficiency (LEP), and develop and implement a system to provide those services so LEP persons can have meaningful access to them”. As a part of EO 13166, the Department of Justice issued guidance on implementing the LEP regulations because of the inherent connection between Title VI barring of discrimination based on national origin and EO 13166. Data collection to determine the presence of persons with LEP and public involvement that includes a process for seeking out and considering the needs of the LEP population has occurred as a part of this project.

Data products from the US Census Bureau were used for demographic information, primarily the 2010 decennial census and the 2006-2010 American Community Survey (ACS). The study area traverses parts of 26 census tracts in Hampton and Norfolk in the 2010 decennial census. One Norfolk census tract in the 2000 Census, Tract 9, was split into two tracts, Tract 9.01 and 9.02, in the 2010 Census. Also in Norfolk, two census tracts in the 2000 Census, Tracts 14 and 19, were consolidated into Tract 14 in the 2010 Census. The demographic data of census tracts in the study area were examined to determine the presence of any potential Title VI populations, environmental justice populations, and any persons with LEP. The census data for both cities were combined to establish a census-based study area against which to compare the individual census tracts. Those census tracts that have populations of minorities, persons over 65 years of age, persons in poverty, or persons with LEP that are ten percent higher than that of the study area have been identified. The ten percent threshold was chosen because it may be perceived to be a level that is not negligible or discountable, and imparts substantiality.

The reporting of detailed data by the decennial US Census changed between 2000 and 2010. In 2000, a long form was used for respondents to provide detailed demographic, housing, employment, and income data. In 2010, respondents to the decennial census were given a short form that did not include questions regarding employment or income. The ACS of 2006-2010 was used to provide detailed demographic data on persons with low-incomes and the LEP population.

### 3.2 Census Data

The total population in the City of Hampton has decreased since 2000, but it has experienced an overall increase since 1990. The City of Norfolk has experienced the opposite effect, with an increase in population since 2000 but an overall decrease since 1990 (**Table 3**).

**Table 3. Total Population Over Time**

Location	1990	2000	2010	Percent Change 2000-2010
City of Hampton	133,793	146,437	137,436	-6.15%
City of Norfolk	261,229	234,403	242,803	3.58%
Study Area	395,022	380,840	380,239	-0.16%

Sources: US Census Bureau: 1990, STF1; 2000, SF3; 2010 SF1.

Both cities in the study area have minority populations that are greater than 50% of the total population (**Table 4**). The percent of persons with low-income in the study area is 15%, with Norfolk having a higher percentage than Hampton. Those census tracts that have populations of minorities or low-income persons that are ten percent higher than that of the study area, and therefore

the potential for environmental justice impacts, have been highlighted in bold in **Table 4**. These census tracts appear graphically on **Figures 3 through 5**.

**Table 4. Demographic Data**

Location	Total Population	Per Capita Income 2008	Total Minorities (Percent)	Total Low-Income (Percent)	Total LEP (Percent)
City of Hampton	137,436	\$35,903	81,153 (59.05%)	17,040 (12.59%)	2,866 (2.21%)
Tract 103.06	6,355	--	3,544 (55.77%)	68 (1.05%)	401 (6.76%)
Tract 104	6,628	--	5,419 <b>(81.76%)</b>	923 (13.97%)	64 (1.00%)
Tract 105.01	5,805	--	4,580 <b>(78.90%)</b>	1,148 (19.64%)	124 (2.26%)
Tract 105.02	3,214	--	2,744 <b>(85.38%)</b>	563 (18.10%)	45 (1.55%)
Tract 106.01	2,729	--	2,230 <b>(81.71%)</b>	675 <b>(28.77%)</b>	27 (1.15%)
Tract 106.02	3,091	--	2,700 <b>(87.35%)</b>	643 (20.81%)	35 (1.21%)
Tract 108	5,317	--	2,289 (43.05%)	371 (6.78%)	74 (1.42%)
Tract 109	2,092	--	1,734 <b>(82.89%)</b>	658 <b>(30.81%)</b>	64 (3.27%)
Tract 111	696	--	245 (35.20%)	--	65 (9.85%)
Tract 112	2,839	--	1,105 (38.92%)	742 (20.54%)	32 (0.91%)
Tract 113	2,207	--	1,444 (65.43%)	568 (23.09%)	--
Tract 114	2,784	--	2,678 <b>(96.19%)</b>	499 <b>(66.62%)</b>	65 (1.97%)
Tract 118	4,880	--	3,589 <b>(73.55%)</b>	656 (14.98%)	193 (4.54%)
City of Norfolk	242,803	\$36,065	135,340 (55.74%)	36,847 (16.48%)	7,531 (3.35%)
Census Tract 3	2,985	--	1,080 (36.18%)	382 (11.33%)	110 (3.57%)
Census Tract 4	3,241	--	1,014 (31.29%)	359 (9.27%)	39 (1.05%)
Census Tract 5	3,181	--	1,137 (35.74%)	439 (13.77%)	171 (6.04%)
Census Tract 6	4,327	--	2,278 (52.65%)	672 (14.04%)	220 (5.08%)
Census Tract 7	2,864	--	817 (28.53%)	184 (5.97%)	58 (2.06%)
Census Tract 8	2,075	--	829 (39.95%)	30 (1.29%)	68 (3.14%)

**Table 4. Demographic Data**

Location	Total Population	Per Capita Income 2008	Total Minorities (Percent)	Total Low-Income (Percent)	Total LEP (Percent)
Census Tract 9.01	5,472	--	2,700 (49.34%)	1,116 <b>(27.66%)</b>	86 (2.71%)
Census Tract 9.02	3,541	--	1,438 (40.61%)	230 (12.20%)	243 (1.89%)
Census Tract 13	2,378	--	1,443 (60.68%)	214 (8.72%)	67 (2.94%)
Census Tract 14	2,470	--	958 (38.79%)	238 (9.95%)	163 (7.17%)
Census Tract 15	1,995	--	697 (34.94%)	147 (7.58%)	22 (1.24%)
Census Tract 17	2,246	--	964 (42.92%)	325 (13.78%)	68 (3.01%)
Census Tract 55	2,855	--	1,459 (51.10%)	305 (9.30%)	405 <b>(12.91%)</b>
Census Tract 57.01	4,663	--	3,873 <b>(83.06%)</b>	1,126 (23.07%)	724 <b>(16.16%)</b>
Study Area Cities - Total	380,239	--	216,493 (56.94%)	53,887 (15.01%)	10,397 (2.93%)

Sources: US Census Bureau, 2010, SF1; US Census Bureau, ACS 2006-2010, S1701 and B16001.

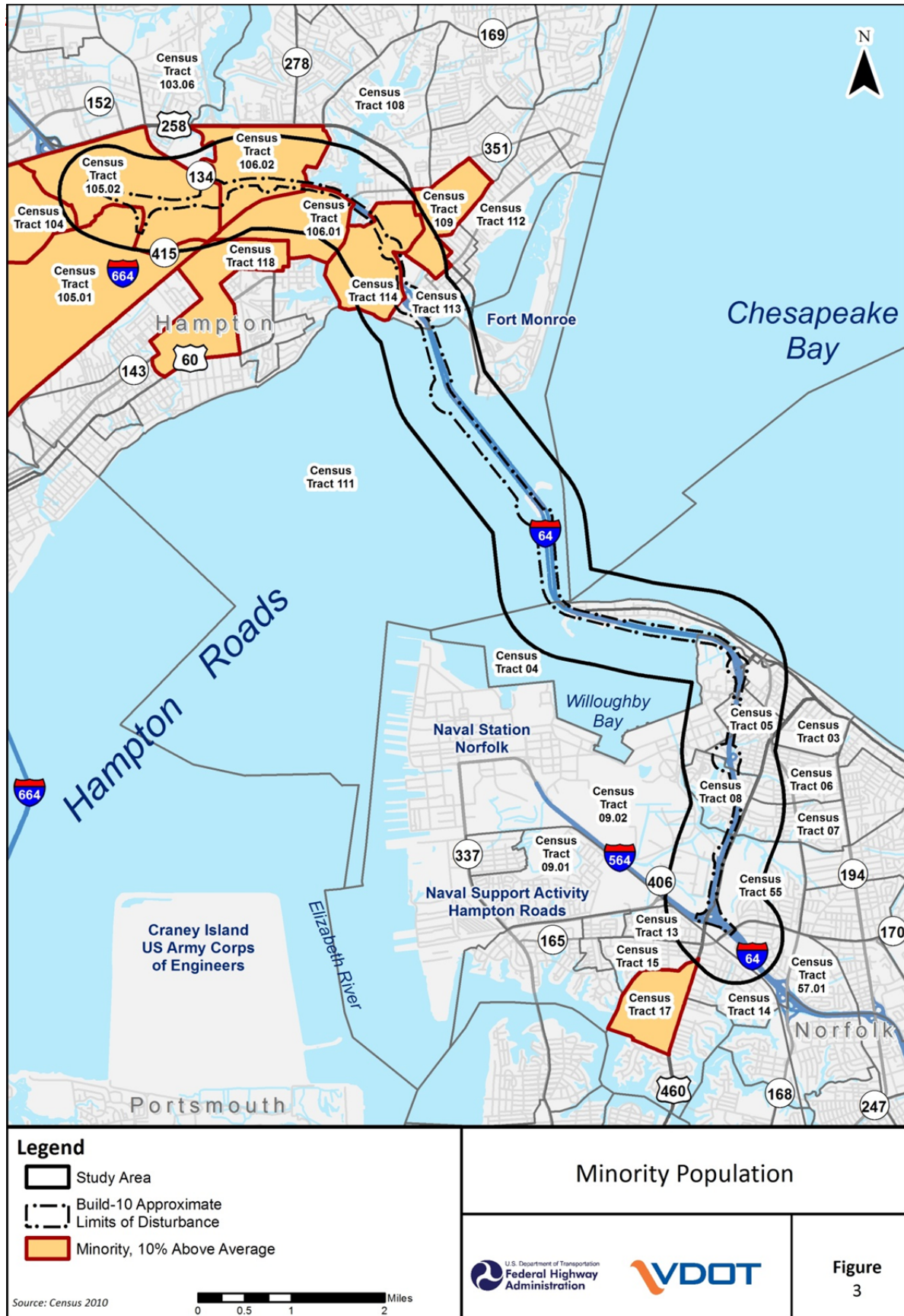
Note: -- Totals less than 25 persons not shown.

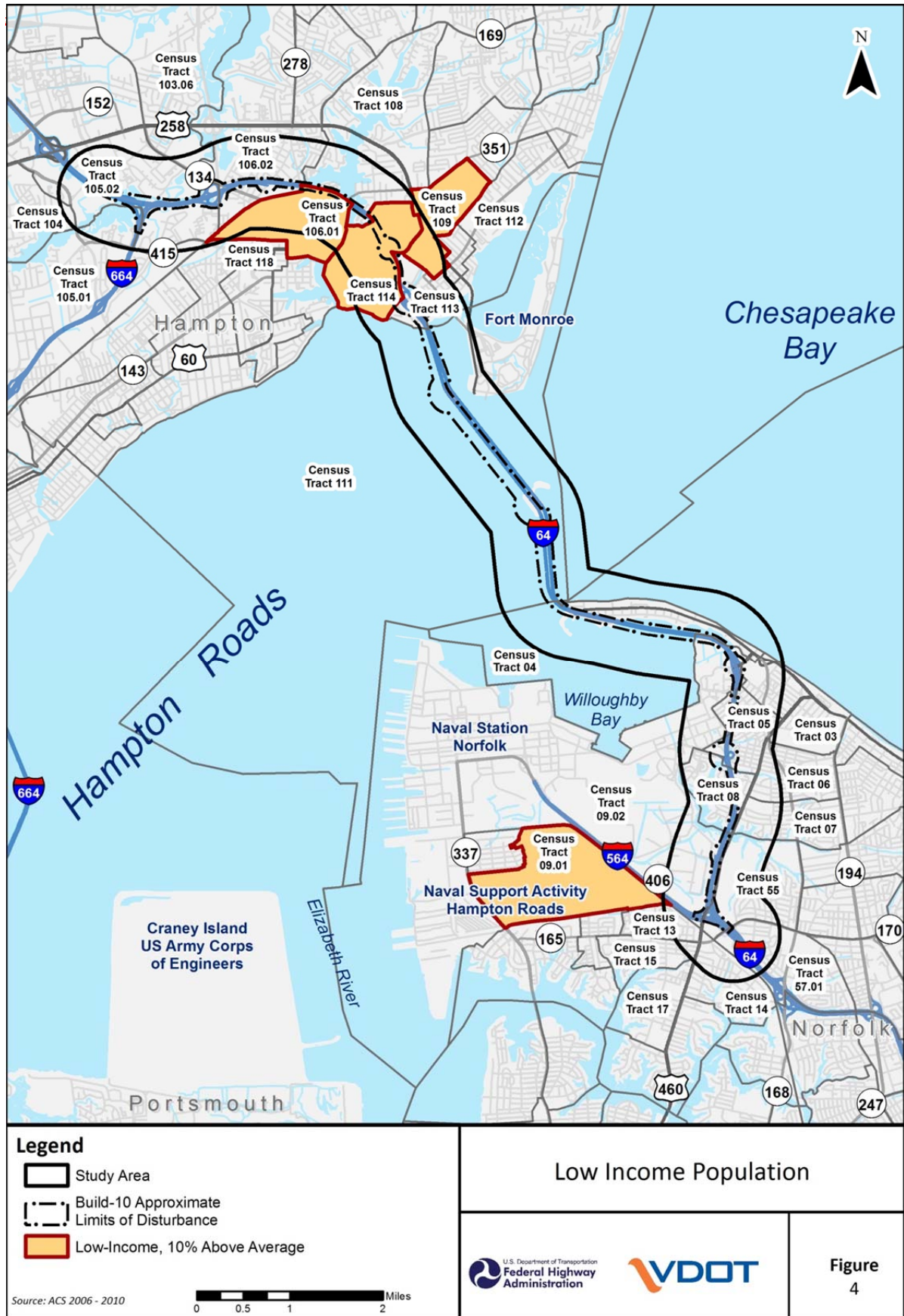
One census tract in Norfolk has a percentage of persons with LEP ten percent or higher than that of the study area population. The primary languages spoken by the persons in these tracts that speak English with limited proficiency are Spanish and Tagalog.

Eight census tracts in Hampton and one in Norfolk have minority populations where the proportion of minorities is ten percent or higher than that of the study area population. Three census tracts in Hampton and one in Norfolk have a proportion of persons with low-income ten percent or higher than that of the study area populations.

There are several census tracts with data that vary widely from other tracts based on their unique geographies. For example, Tract 114 in Hampton contains Hampton University, a historically African-American university, and has a minority population of 96.2%. Tract 111 in Hampton has a very low total population, which has a large effect on all of its percentages. Also, some of the census tract boundaries are along existing roadways (i.e., sides of the same street are in separate census tracts) and, therefore, may not give the most accurate picture of a community.

More detailed race data appears in **Table 5**. The predominant minority in the study area is Black or African-American.





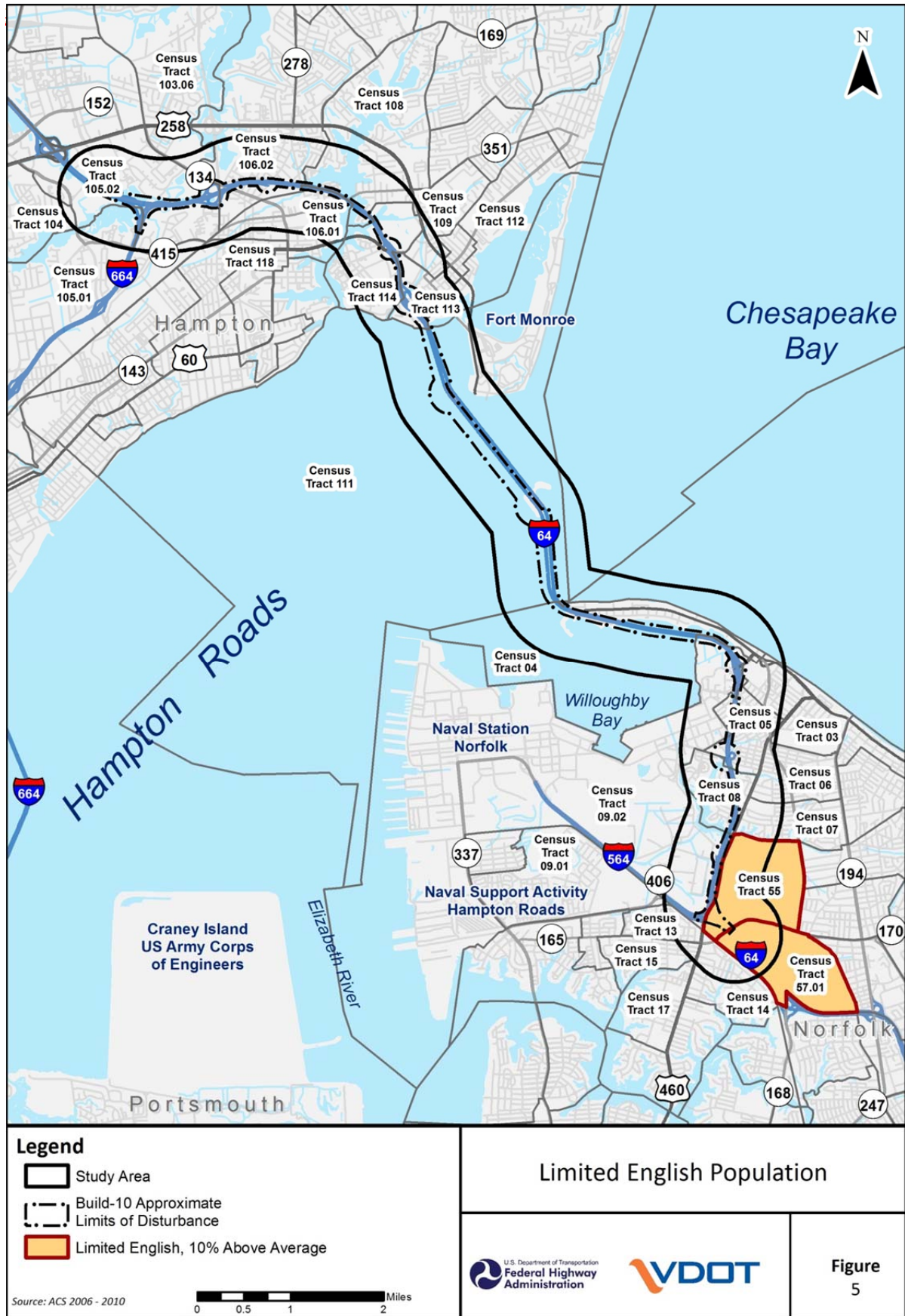


Table 5. 2010 Race Data

Location	Total Minorities (Percent)	American Indian and Alaska Native* (Percent)	Asian* (Percent)	Black or African American* (Percent)	Hispanic or Latino (Percent)	Native Hawaiian and Other Pacific Islander* (Percent)	Some Other Race Alone and Two or More Races* (Percent)	White* (Percent)
City of Hampton	81,153 (59.05%)	498 (0.36%)	2,950 (2.15%)	66,878 (48.66%)	6,241 (4.54%)	132 (0.10%)	4,454 (3.24%)	56,283 (40.95%)
Tract 103.06	3,544 (55.77%)	32 (0.50%)	288 (4.53%)	2,616 (41.16%)	349 (5.49%)	--	252 (3.97%)	2,811 (44.23%)
Tract 104	5,419 (81.76%)	35 (0.53%)	75 (1.13%)	4,962 (74.86%)	172 (2.60%)	--	174 (2.63%)	1,209 (18.24%)
Tract 105.01	4,580 (78.90%)	--	168 (2.89%)	4,085 (70.37%)	184 (3.17%)	--	120 (2.07%)	1,225 (21.10%)
Tract 105.02	2,744 (85.38%)	--	46 (1.43%)	2,411 (75.02%)	188 (5.85%)	--	89 (2.77%)	470 (14.62%)
Tract 106.01	2,230 (81.71%)	--	--	2,027 (74.28%)	112 (4.10%)	--	59 (2.16%)	499 (18.29%)
Tract 106.02	2,700 (87.35%)	--	--	2,425 (78.45%)	171 (5.53%)	--	94 (3.04%)	391 (12.65%)
Tract 108	2,289 (43.05%)	--	155 (2.92%)	1,792 (33.70%)	186 (3.50%)	--	126 (2.37%)	3,028 (56.95%)
Tract 109	1,734 (82.89%)	--	--	1,555 (74.33%)	83 (3.97%)	--	68 (3.25%)	358 (17.11%)
Tract 111	245 (35.20%)	--	--	136 (19.54%)	71 (10.20%)	--	29 (4.17%)	451 (64.80%)
Tract 112	1,105 (38.92%)	--	--	793 (27.93%)	169 (5.95%)	--	104 (3.66%)	1,734 (61.08%)
Tract 113	1,444 (65.43%)	--	27 (1.22%)	1,270 (57.54%)	92 (4.17%)	--	53 (2.40%)	763 (34.57%)

Table 5. 2010 Race Data

Location	Total Minorities (Percent)	American Indian and Alaska Native* (Percent)	Asian* (Percent)	Black or African American* (Percent)	Hispanic or Latino (Percent)	Native Hawaiian and Other Pacific Islander* (Percent)	Some Other Race Alone and Two or More Races* (Percent)	White* (Percent)
Tract 114	2,678 (96.19%)	--	--	2,439 (87.61%)	100 (3.59%)	--	119 (4.27%)	106 (3.81%)
Tract 118	3,589 (73.55%)	--	--	3,220 (65.98%)	171 (3.50%)	--	149 (3.05%)	1,291 (26.45%)
City of Norfolk	135,340 (55.74%)	935 (0.39%)	7,861 (3.24%)	102,452 (42.20%)	16,144 (6.65%)	359 (0.15%)	7,589 (3.13%)	107,463 (44.26%)
Census Tract 3	1,080 (36.18%)	--	79 (2.65%)	649 (21.74%)	225 (7.54%)	--	110 (3.69%)	1,905 (63.82%)
Census Tract 4	1,014 (31.29%)	--	59 (1.82%)	577 (17.80%)	249 (7.68%)	--	115 (3.55%)	2,227 (68.71%)
Census Tract 5	1,137 (35.74%)	--	117 (3.68%)	590 (18.55%)	237 (7.45%)	--	164 (5.16%)	2,044 (64.26%)
Census Tract 6	2,278 (52.65%)	--	83 (1.92%)	1,559 (36.03%)	443 (10.24%)	--	156 (3.61%)	2,049 (47.35%)
Census Tract 7	817 (28.53%)	--	88 (3.07%)	430 (15.01%)	189 (6.60%)	--	98 (3.42%)	2,047 (71.47%)
Census Tract 8	829 (39.95%)	--	113 (5.45%)	431 (20.77%)	188 (9.06%)	--	71 (3.42%)	1,246 (60.05%)
Census Tract 9.01	2,700 (49.34%)	43 (0.79%)	106 (1.94%)	1,516 (27.70%)	752 (13.74%)	--	263 (4.81%)	2,772 (50.66%)
Census Tract 9.02	1,438 (40.61%)	36 (1.02%)	85 (2.40%)	749 (21.15%)	401 (11.32%)	--	153 (4.32%)	2,103 (59.39%)
Census Tract 13	1,443 (60.68%)	--	63 (2.65%)	1,000 (42.05%)	279 (11.73%)	--	83 (3.49%)	935 (39.32%)



Table 5. 2010 Race Data

Location	Total Minorities (Percent)	American Indian and Alaska Native* (Percent)	Asian* (Percent)	Black or African American* (Percent)	Hispanic or Latino (Percent)	Native Hawaiian and Other Pacific Islander* (Percent)	Some Other Race Alone and Two or More Races* (Percent)	White* (Percent)
Census Tract 14	958 (38.79%)	--	84 (3.40%)	673 (27.25%)	123 (4.98%)	--	68 (2.75%)	1,512 (61.21%)
Census Tract 15	697 (34.94%)	--	64 (3.21%)	411 (20.60%)	132 (6.62%)	--	65 (3.26%)	1,298 (65.06%)
Census Tract 17	964 (42.92%)	--	62 (2.76%)	717 (31.92%)	102 (4.54%)	--	76 (3.38%)	1,282 (57.08%)
Census Tract 55	1,459 (51.10%)	--	138 (4.83%)	911 (31.91%)	251 (8.79%)	--	146 (5.11%)	1,396 (48.90%)
Census Tract 57.01	3,873 (83.06%)	--	82 (1.76%)	3,057 (65.56%)	580 (12.44%)	--	134 (2.87%)	790 (16.94%)
Study Area Total	216,493 (56.94%)	1,433 (0.38%)	10,811 (2.84%)	169,330 (44.53%)	22,385 (5.89%)	491 (0.13%)	12,043 (3.17%)	163,746 (43.06%)

Sources: US Census Bureau, 2010, SF1.

Note: -- = Totals less than 25 persons not shown.

\*Does not include individuals of Hispanic or Latino origin.

### 3.3 Impacts

The No-Build Alternative requires no right-of-way acquisition and therefore requires no relocations and has no direct adverse impacts to environmental justice populations. Under the No-Build Alternative, beneficial impacts also would not be realized. Congestion and lack of mobility would continue to affect individuals and communities. These problems also would continue to impact businesses and economic activity within the study area, which would, in turn, result in additional impacts to individuals and communities.

The Retained Build Alternatives have the potential to impact two census tracts with above-average low-income and minority populations as shown in **Table 6**, Census Tracts 105.02 and 106.02 in Hampton. All census tracts that have populations of minorities or low-income persons that are ten percent higher than that of the study area population, and therefore the potential for environmental justice impacts, have been highlighted in bold and italics in **Table 6**. Implementation of a Retained Build Alternative would impact communities with environmental justice populations by requiring the acquisition of right-of-way. Project activities within the acquired right-of-way would require the displacement of some residences, also as set forth in **Table 6**.

The majority of the potential impacts to environmental justice populations are in Census Tract 106.02 in Hampton. When compared to the total number of potential relocations under all of the Retained Build Alternatives, no disproportionate impacts to low-income and minority populations are expected. Further, the acquisition of right-of-way and the relocation of displaces would be in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Assurance is given that relocation resources would be available to all residential, business, farm, and nonprofit displacees without discrimination.

**Table 6. Residential Relocations by Census Tract**

Location	Build-8 Alternative	Build-8 Managed Alternative	Build-10 Alternative
City of Hampton Total	107	115	130
Tract 105.01	0	0	0
Tract 105.02	2	2	2
Tract 106.01	0	0	0
Tract 106.02	37	43	52
Tract 108	24	26	31
Tract 112	0	0	0
Tract 113	44	44	45
Tract 114	0	0	0
City of Norfolk Total	154	160	185
Census Tract 3	0	0	0
Census Tract 4	32	31	41
Census Tract 5	76	82	89
Census Tract 8	46	46	54
Census Tract 9.02	0	1	1
Census Tract 55	0	0	0
Census Tract 57.01	0	0	0
Study Area Total	261	275	315

Sources: City Tax Assessment Databases; field reviews, September, 2011; US Census Bureau, 2010, SF1; US Census Bureau, ACS 2006-2010.

Note: This does not include the total number of units for multi-family residences.

## 4. ECONOMICS

### 4.1 Methods

Economic data, including employment, income, the industrial base, and port and cargo tonnage, provide a baseline for analysis of potential impacts. These were compiled from local, regional, and national economic studies and databases and the Virginia Employment Commission.

### 4.2 Economic Base

Hampton Roads has an economy based primarily on its unique geographical elements: a deepwater port and immediate access to the Chesapeake Bay and Atlantic Ocean. The US Navy (USN), other armed services, and port and maritime related industries are located in the region due to the Port of Hampton Roads and access to the Atlantic Ocean. Hampton University is a major economic driver and employer in Hampton. Tourism is the other significant industrial sector in the region. *Vision Hampton Roads*, the region's economic development strategy, terms the port, tourism, and federal assets as the three main pillars of the economy (Hampton Roads Partnership, 2010). The economic strategy for the region focuses on four broad issues or themes: adequate transportation, regional awareness, 21<sup>st</sup> century education, and an innovative economy (Hampton Roads Partnership, 2010). More detailed information on USN employment is in Section 4.3. Employment Patterns.

Tourism is generally centered around the Atlantic Oceanfront in Virginia Beach and the Historic Triangle of Jamestown, Williamsburg, and Yorktown. However, Norfolk and Hampton do have numerous tourist attractions throughout their respective jurisdictions, including Fort Monroe and the Norfolk Waterside. The region in total gained \$3.5 billion in tourism expenditures in 2009 (Virginia Tourism Corporation, 2011a). In 2010, tourist expenditures, payrolls for tourism-related employees, and tourism-based local and state taxes collected totaled \$270 million in Hampton and almost \$890 million in Norfolk (Virginia Tourism Corporation, 2011b).

The Virginia Port Authority administers the Port of Virginia, which is comprised of five facilities in the state: Newport News Marine Terminal, Norfolk International Terminals (NIT), Portsmouth Marine Terminals, APM Terminal, and the Inland Port. Four of these facilities surround Hampton Roads; the Inland Port is in Front Royal. NIT is located just west of the eastern terminus of the study corridor. All of the Hampton Roads facilities access the Chesapeake Bay via Hampton Roads. The Port of Virginia, through all of these individual port facilities, contributes substantially not only to the region, but also to the state. According to an analysis by the College of William and Mary, the port contributes approximately 343,000 jobs, \$13.55 billion in employee wages, \$1.2 billion in taxes, and \$41.1 billion in business to the Commonwealth annually (Hampton Roads Partnership, 2010).

The NIT accounts for 96% of the cargo value handled by the port (USDOT, 2011a). The majority of the freight value is containerized cargo. In 2008, Norfolk was the third largest container port on the East Coast. Norfolk also was ranked third for total tonnage on the Atlantic in 2009 and second in total vessel calls in 2009 and 2010 (USDOT, 2011a, 2011b).

The impending completion of the Panama Canal expansion to accommodate larger container ships with deeper draft, wider beam, and extended length is affecting port planning and operational efforts along the East Coast. Navigational clearances under bridges and channel depths are being examined within East Coast ports, such as New York (USDOT, 2011a). Hampton Roads does not have this issue due to the presence of the tunnels instead of bridges in the region and sufficient

navigational channel depth and thus is likely to remain an attractive shipping destination into the foreseeable future.

### 4.3 Employment Patterns

The Hampton Roads Planning District Commission (HRPDC) produced the *2010 Regional Benchmarking Study*, which includes economic and social data at the regional level for Hampton Roads and other similar metropolitan statistical areas (MSAs). There also is specific city data in the study, as noted in **Table 7**.

**Table 7. Employment Data for Hampton and Norfolk**

Location	Total Employment 2008	Labor Force 2009	Unemployment Rate Dec. 2011
City of Hampton	81,410	69,807	8.2%
City of Norfolk	223,550	101,847	8.8%

Source: 2010 Regional Benchmarking Study, HRPDC; Community Profiles, Virginia Employment Commission.

Employment at Naval Station Norfolk and Naval Support Activities Norfolk has a decided impact on employment in the region and, more specifically, the study area. According to *Vision Hampton Roads*, the 2008 military and civilian employment was 96,000 at Naval Station Norfolk and 11,500 at Langley Air Force Base. Langley Air Force base is just outside of the study corridor.

The HRPDC has additional data on the US Navy's impact on both the economy and employment in the region. The *HRPDC Special Report No. 7 Navy Economic Impact Brief* noted that active duty USN and United States Marine Corps (USMC) personnel was 86,377 in 2009 (across multiple installations throughout the region). Department of Defense civilian employment in the region is 35,987. The report also noted that total USN payrolls in 2009 were \$8.169 billion (active duty and retiree) and total procurement was \$6.684 billion, for a total direct impact of \$14.853 billion (HRPDC, 2011).

The HRBT is the primary access between the cities of Hampton and Norfolk and therefore between many employees and their places of employment. I-64 provides access to Naval Station Norfolk via Exit 274 and provides the only interstate access to NIT via Exit 276/Terminal Boulevard at the eastern terminus of the study area. However, the future Intermodal Connector and Patriots Crossing both would provide more direct access to USN and port facilities.

### 4.4 Impacts

The No-Build Alternative has no direct impacts on the economic environment. The Retained Build Alternatives have direct impacts on the economy through business relocations (**Table 8**).

The general commercial businesses within the potential limits of disturbance include fast food restaurants, a gas station, and office buildings. The warehousing businesses are storage facilities. There is one manufacturing facility in Hampton adjacent to I-64. There are two marinas and marina storage in Norfolk within the limits of disturbance that are listed in the "other" category. The "other" facilities in Hampton include a radio tower and billboards.

As with residential relocations, the acquisition of right-of-way and the relocation of displacees would be in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Assurance is given that relocation resources would be available to all residential, business, farm, and nonprofit displacees without discrimination.

**Table 8. Business Relocations**

<b>Location/Business Type</b>	<b>Build-8 Alternative</b>	<b>Build-8 Managed Alternative</b>	<b>Build-10 Alternative</b>
City of Hampton Total	12	12	13
General Commercial	5	4	5
Warehousing	4	4	4
Manufacturing	1	1	1
Other	2	3	3
City of Norfolk Total	4	4	4
General Commercial	1	1	1
Warehousing	0	0	0
Manufacturing	0	0	0
Other	3	3	3
Total	16	16	17

Sources: City Tax Assessment Databases; VDOT GIS database; ADC Maps; field reviews, September, 2011.

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