Appendix F – Socioeconomic Report

Report

Socioeconomic

December 2020

Howard Street Tunnel Project

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Contents

ACRONYMS AND ABBREVIATIONS

Notation	Definition
ACS	American Community Survey
BCA	Benefit-Cost Analysis
BCR	Benefit-cost ratio
BLS	Bureau of Labor Statistics
CSX	CSX Corporation
EA	Environmental Assessment
FRA	Federal Railroad Administration
HST	Howard Street Tunnel
I-95	Interstate 95
INFRA	Infrastructure for Rebuilding America
MDOT	Maryland Department of Transportation
NA	Not available
NEPA	National Environmental Protection Act
Project	Howard Street Tunnel Project
TES	Tunnel Enlargement System
U.S.	United States

1 INTRODUCTION

1.1 Project Background

CSX Corporation (CSX) is preparing an Environmental Assessment (EA) for the Howard Street Tunnel Project (Project), with the Federal Railroad Administration (FRA) as the lead agency. The Project Study Area is located in Maryland, Delaware, and Pennsylvania.

In 2016, Maryland Department of Transportation (MDOT) and CSX Corporation (CSX) conducted a feasibility study[1] that evaluated alternatives to achieving double-stack clearance within the existing tunnel, rather than a wholesale replacement of Howard Street Tunnel (HST) on a new alignment. The study concluded: (1) the current HST has many years of useful life; (2) engineering advances now allow the tunnel to be double-stack cleared for a practicable cost with minimal impacts to the public; and (3) frequent flooding must be addressed to improve the tunnel's reliability. Additionally, CSX completed a separate investigation for the clearances north of Baltimore, Maryland up to Philadelphia, Pennsylvania, and determined those projects would be financially and technically feasible as well.

1.2 Study Objectives

The objective of this Socioeconomic Report is to evaluate the socioeconomic effects of the Project on the local Project Study Area defined in Section 2 below. This study will also address the expected impact of the Project on those communities.

Several laws, acts, and regulations have shaped the consideration of impacts to the natural and human environment resulting from federal actions or federally funded activities, most notably, the National Environmental Policy Act (NEPA) of 1969, 42 United States Code §4321 et seq. This Socioeconomic Report provides documentation to address these requirements. Specifically, this study will:

- develop a demographic and economic profile of the current conditions of the local communities, and
- evaluate potential socioeconomic effects on the states and on local communities from the Project.

2 STUDY AREA

The Project includes 26 locations along the existing I-95 Rail Corridor between Baltimore, Maryland and Philadelphia, Pennsylvania. The propose Project consists of 18 track lowering locations, one bridge modification, two bridge replacements, one tunnel modification, and one track lowering, arch and/or invert modification at one tunnel location. The sites are clustered around Baltimore, Maryland; Wilmington, Delaware; and Philadelphia, Pennsylvania. The existing Bayview Rail Yard in Baltimore will be used for staging of work (laydown yard) and storage of excavated materials as needed. Also, the existing interlocking site located just south of South 58th Street, at the northern terminus of the Project in Philadelphia, Pennsylvania, will be relocated to an area between Lindbergh Boulevard and the Schuylkill River in Philadelphia, Pennsylvania. The Socioeconomic Study Area includes the overlapping states, counties, and municipalities in which the Project is located. The Study Area reflects the diffusion of demographic, employment, and other socioeconomic impacts may occur as a result of the Project's

[1] Clark Construction and Parsons, *Howard Street Tunnel Clearance Report*. 2016.

construction and operation.[2] The overlapping jurisdictions in the Study Area also capture the taxing jurisdiction in which Project sites are located.

For the socioeconomic analysis, the municipalities, counties, and states in the Study Area of the Project sites were evaluated to determine their socioeconomic profile. The Project includes 13 sites in the City of Baltimore,[3] Maryland; 2 sites in New Castle County, Delaware; 4 sites in Delaware County, Pennsylvania; and 7 sites in Philadelphia City/County, Pennsylvania. Table 3.0-1 below presents the sites by location (state, county, and municipality).

Table 3.0-1 Project Site Locations, Howard Street Tunnel Project

Project Site	State	County	Municipality
Howard Street Tunnel	Maryland	City of Baltimore	Baltimore
Mount Royal Avenue	Maryland	City of Baltimore	Baltimore
MTA Bridge	Maryland	City of Baltimore	Baltimore
North Avenue	Maryland	City of Baltimore	Baltimore
Sisson Street	Maryland	City of Baltimore	Baltimore
Huntington Avenue	Maryland	City of Baltimore	Baltimore
Charles Street	Maryland	City of Baltimore	Baltimore
St. Paul/Calvert Street	Maryland	City of Baltimore	Baltimore
Guildford Avenue	Maryland	City of Baltimore	Baltimore
Barclay Street	Maryland	City of Baltimore	Baltimore
Greenmount Avenue	Maryland	City of Baltimore	Baltimore
Harford Road	Maryland	City of Baltimore	Baltimore
Bayview Rail Yard	Maryland	City of Baltimore	Baltimore
Lancaster Avenue	Delaware	New Castle	Wilmington
4th Street	Delaware	New Castle	Wilmington
Chichester Road	Pennsylvania	Delaware	Upper Chichester Township
Crum Lynne Road	Pennsylvania	Delaware	Ridley Township
Clifton Avenue	Pennsylvania	Delaware	Sharon Hill Borough
Boone Tunnel	Pennsylvania	Delaware	Darby Borough/Sharon Hill Borough
68th Street	Pennsylvania	Philadelphia	Philadelphia
65th Street	Pennsylvania	Philadelphia	Philadelphia
Cemetery Avenue	Pennsylvania	Philadelphia	Philadelphia
61st Street	Pennsylvania	Philadelphia	Philadelphia
Woodland Avenue	Pennsylvania	Philadelphia	Philadelphia
58th Street	Pennsylvania	Philadelphia	Philadelphia

[2] Both direct and indirect impacts to employment are anticipated as a result of the Project, which in turn can affect housing and population characteristics. These impacts will not be limited to the areas in the vicinity of the Project but are expected to be spread across the larger geographies. For example, increases in CSX's work force would not be limited to residents of those areas in which construction occurs. Likewise, Port of Baltimore employment (an indirect impact), for example, will draw workers from areas across metropolitan Baltimore.

[3] Baltimore City, although a municipality, has been considered to be a county-equivalent since the adoption of the Maryland Constitution of 1851. Baltimore County surrounds, but does not include, Baltimore City. There are no Project sites in Baltimore County.

Project Site	State	County	Municipality
Eastwick Interlocking	Pennsylvania	Philadelphia	Philadelphia

3 AFFECTED ENVIRONMENT

3.1 Population Characteristics

3.1.1 Population

Recent population trends were evaluated for the municipalities, counties, and states that comprise the Project Study Area. For the purpose of this evaluation, population counts from the 2000 and 2010 Censuses were used, along with the 2018 population estimate by the United States (U.S.) Census Bureau. The total populations within the Project Study Areas are presented in Table 3.1-1 below.

Table 3.1-1 Study Area Population, Howard Street Tunnel Project

Location	2000	2010	2018
State of Maryland	5,296,486	5,773,552	6,045,680
City of Baltimore	651,155	620,961	620,770
State of Delaware	783,600	897,934	973,764
New Castle County	500,265	538,479	558,753
City of Wilmington	72,664	70,851	70,166
Commonwealth of Pennsylvania	12,281,054	12,702,379	12,801,989
Delaware County	550,864	558,979	566,747
Darby Borough	10,299	10,887	10,702
Ridley Township	30,791	30,768	31,204
Sharon Hill Borough	5,468	5,697	5,689
Upper Chichester Township	16,842	16,738	16,959
Philadelphia City/County	1,517,550	1,526,006	1,584,064

Sources: U.S. Census Bureau, May 2002. U.S. Census Bureau, September 2002. U.S. Census Bureau, November 2002. U.S. Census Bureau, 2020b.

As shown above, the populations of each of the three states in the Study Area grew in size from 2000 to 2018. The State of Delaware saw the largest increase in population in terms of both absolute and relative growth, growing by 749,194 persons (a 24.3-percent increase) from 2000 to 2018. The State of Maryland's population increased by 14.1 percent over the same time period. The largest state in the Study Area, the Commonwealth of Pennsylvania, experienced a 4.2-percent increase in population from 2000 to 2018.

Each of the counties in the Study Area also increased in population from 2000 to 2018. The largest percentage increase in population was in New Castle County, Delaware, which experienced an 11.7-percent increase in population over the 18-year period.

The cities of Baltimore, Maryland, and Wilmington, Delaware, both had declines in population from 2000 to 2018. Baltimore lost more than 30,000 people, or roughly 4.7 percent of the population. Wilmington experienced a 3.4-percent decline (roughly 2,500 persons). The municipalities in Pennsylvania saw

increases in population ranging from 0.7 percent in Upper Chichester Township to 4.4 percent in Philadelphia.

Population projections have been developed for states, counties, and the City of Wilmington by various organizations. These population projections are presented in Table 3.1-2 below.

Table 3.1-2 Projected Study Area Population, Howard Street Tunnel Project

Location	2018 Census Estimate	2030 Projection	2040 Projection
State of Maryland	6,045,680	6,518,750	6,834,500
City of Baltimore	620,770	NA	NA
State of Delaware	973,764	1,021,023	1,044,441
New Castle County	558,753	580,351	583,975
City of Wilmington	70,166	72,152	71,723
Commonwealth of Pennsylvania	12,801,989	13,759,594	14,132,588
Delaware County	566,747	622,307	648,439
Darby Borough	10,699	NA	NA
Ridley Township	31,204	NA	NA
Sharon Hill Borough	5,689	NA	NA
Upper Chichester Township	16,959	NA	NA
Philadelphia City/County	1,584,064	1,753,054	1,859,944

Sources: U.S. Census Bureau, 2020b. Maryland Department of Planning, Projections and State Data Center, August 2017. Delaware Population Consortium, October 2019. The Center for Rural Pennsylvania, March 2014.

As shown above, the populations of each of the three states in the Study Area are projected to increase between 2018 and 2040. The State of Maryland is anticipated to see the largest rate of increase in population, with a 13.0-percent expected growth. The Commonwealth of Pennsylvania is forecast to grow by 1.3 million persons (10.4 percent). Delaware is expected to experience a 7.3-percent increase in population between 2018 and 2040.

Each of the Study Area counties and the City of Wilmington are also anticipated to increase in population size. Philadelphia is forecast to add 275,880 residents from 2018 to 2020 (a 17.4-percent increase). Delaware County is anticipated to experience a 14.4-percent growth in population. New Castle County is forecast to have a 4.5-percent increase in population, with the City of Wilmington having a 2.2-percent growth.

3.1.2 Race and Ethnicity

The racial and ethnic breakdown of the Project Study Area is presented in Table 3.1-3 below.

Table 3.1-3 Racial and Ethnicity Characteristics, Howard Street Tunnel Project

Location	White	Black/ African American	American Indian/ Alaska Native	Asian	Native Hawaiian/ Other Pacific Islander	Two or More Races	Hispanic Origin (any race)
State of Maryland	58.5%	30.9%	0.6%	6.7%	0.1%	2.9%	10.4%
City of Baltimore	30.4%	62.5%	0.3%	2.6%	0.0%	2.5%	5.1%
State of Delaware	69.5%	23.0%	0.7%	4.1%	0.1%	2.7%	9.5%
New Castle County	65.0%	26.1%	0.5%	5.8%	0.1%	2.6%	10.3%
City of Wilmington	35.1%	58.3%	0.2%	1.2%	0.0%	1.7%	10.2%
Commonwealth of Pennsylvania	81.8%	12.0%	0.4%	3.7%	0.1%	2.9%	10.4%
Delaware County	69.5%	22.4%	0.2%	6.1%	0.0%	2.2%	3.9%
Darby Borough	14.4%	83.7%	0.0%	0.9%	0.0%	0.8%	3.4%
Ridley Township	87.7%	6.4%	0.0%	3.5%	0.0%	1.6%	3.4%
Sharon Hill Borough	23.3%	70.3%	0.0%	1.0%	0.0%	2.3%	3.8%
Upper Chichester Township	86.2%	7.8%	0.4%	3.3%	0.0%	2.1%	1.1%
Philadelphia City/County	41.2%	42.3%	0.4%	7.2%	0.0%	3.0%	14.5%

Source: Vintage 2018 Population Estimates Program (U.S. Census, 2020b).

The predominant racial groups in the Project Study Area are white and black/African American. The larger cities of Baltimore, Wilmington, and Philadelphia have higher proportions of minority (non-white and/or Hispanic) populations than their respective states and counties. The racial profile of the smaller municipalities in Delaware County vary widely, with the populations of Ridley Township and Upper Chichester Township being predominantly white and that of Darby Borough and Sharon Hill Borough being predominantly black/African American. Ethnically, the percentage of the population identifying as Hispanic varied from a low of 1.1 percent in Upper Chichester Township to a high of 14.5 percent in Philadelphia City/County.

3.1.3 Age

Data on ages of residents of the state, county, and municipal populations in the Study Area are presented in Table 3.1-4 below.

Table 3.1-4 Age and Sex Characteristics, Howard Street Tunnel Project

Location	% under 18 years	% 18 - 64 years	% older than 65 years	Median Age	% Female	% Male
State of Maryland	22.2%	62.4%	15.4%	38.6	51.5%	48.5%
City of Baltimore	20.9%	65.9%	13.2%	35.1	53.0%	47.0%
State of Delaware	21.1%	60.2%	18.7%	40.2	51.6%	48.4%

Location	% under 18 years	% 18 - 64 years	% older than 65 years	Median Age	% Female	% Male
New Castle County	21.5%	62.9%	15.6%	38.1	51.5%	48.5%
City of Wilmington	23.2%	64.1%	12.7%	35.8	52.9%	47.1%
Commonwealth of Pennsylvania	20.7%	61.1%	18.2%	40.7	51.0%	49.0%
Delaware County	21.9%	61.7%	16.4%	39.0	51.9%	48.1%
Darby Borough	33.7%	56.3%	10.0%	29.4	55.0%	45.0%
Ridley Township	22.0%	63.7%	14.3%	39.4	50.1%	49.9%
Sharon Hill Borough	21.7%	70.1%	8.2%	36.4	49.2%	51.8%
Upper Chichester Township	16.9%	63.9%	19.2%	44.3	54.3%	45.7%
Philadelphia City/County	22.0%	64.8%	13.2%	34.3	52.7%	47.3%

Source: American Community Survey (ACS), 2014 - 2018.

The states' populations have similar age distributions, with that of Pennsylvania being somewhat older in terms of both the percentage of residents over 65 (18.2 percent) and the median age (40.7 years old). In contrast, the population of Maryland has a 65-and-older population of 15.4 percent, with a median age of 40.2 years statewide.

Darby Borough has the largest population of children (under the age of 18) at 33.7 percent, which is significantly higher than the Commonwealth of Pennsylvania. In other geographies, the percentage of children is generally around 21 to 22 percent, with the exception of Upper Chichester Township (16.9 percent). The percentage of working-age adults (aged 18 to 64) varies from a low of 60.2 percent statewide in Delaware to a high of 70.1 percent in Sharon Hill Borough. Median age varies widely across the various geographies, ranging from a low of 34.3 years in Philadelphia to a high of 44.3 years in Upper Chichester.

3.1.4 Educational Attainment

Data on the educational attainment, in terms of high school and bachelor's degrees, of the populations in the Study Area are presented in Table 3.1-5.

Table 3.1-5 Educational Attainment, Howard Street Tunnel Project

Location	% High School Graduate or Higher (25 years or older)	% Bachelor's Degree or Higher (25 years or older)
State of Maryland	90.0%	39.6%
City of Baltimore	84.9%	31.2%
State of Delaware	89.8%	31.4%
New Castle County	91.5%	35.9%
City of Wilmington	88.9%	28.3%
Commonwealth of Pennsylvania	90.2%	30.8%
Delaware County	92.8%	38.3%
Darby Borough	86.0%	14.0%
Ridley Township	93.0%	25.8%

Location	% High School Graduate or Higher (25 years or older)	% Bachelor's Degree or Higher (25 years or older)
Sharon Hill Borough	92.2%	16.4%
Upper Chichester Township	91.5%	26.2%
Philadelphia City/County	83.9%	28.6%

Source: ACS, 2014 - 2018 (Census 2020a).

The states' populations have similar rates of high school graduation, at roughly 90 percent of the population over 25 having graduated. The State of Maryland, however, has a significantly higher proportion of the population that holds a bachelor's degree (39.6 percent). The counties in the Study Area generally have higher rates of high school graduation, except for the combined City/County of Philadelphia (83.9 percent). For municipalities, the percentage of high school graduates range from 84.9 percent in Baltimore to 93.0 percent in Ridley Township. Rates of bachelor's degree obtainment varies more, from a low of 14.0 percent in Darby Borough to a high of 31.2 percent in the City of Baltimore.

3.2 Income and Employment

3.2.1 Income

Income statistics for the Project Study Area were collected from the ACS 5-year estimates, covering the 2014 - 2018 period, and are presented in this section. Table 3.2-1 below presents the median household income and the per capita income for the Study Area.

Table 3.2-1 Median Household Income and Per Capita Income, Howard Street Tunnel Project

Location	Median Household Income	Per Capita Income
State of Maryland	$81,868	$40,517
City of Baltimore	$48,840	$29,700
State of Delaware	$65,627	$33,989
New Castle County	$70,996	$35,847
City of Wilmington	$42,854	$29,706
Commonwealth of Pennsylvania	$59,445	$32,889
Delaware County	$71,539	$38,251
Darby Borough	$43,406	$17,836
Ridley Township	$72,819	$34,056
Sharon Hill Borough	$56,250	$26,667
Upper Chichester Township	$71,373	$35,499
Philadelphia City/County	$43,744	$26,557

Source: ACS, 2014 - 2018 (Census 2020a).

Both median household income and per capita income vary greatly across the geographies. The State of Maryland has a median household income of $81,868 and a per capita income of $40,517. Median household incomes in Delaware ($65,627) and Pennsylvania ($59,445) are lower, along with per capita incomes. The largest variation in incomes is seen amongst the municipalities. Median household income in Upper Chichester Township and Ridley Township, Pennsylvania, exceed $71,000. In the cities of

Baltimore, Wilmington, Philadelphia, Darby Borough and Sharon Hill Borough, Pennsylvania; however, median household incomes are below $57,000.

3.2.2 Poverty

As part of the socioeconomic background analysis, the percentage of the population with incomes below the poverty level were gathered from the ACS. The Census poverty level refers to income levels that are considered too low to meet essential living requirements, based on family size, age of householder, and the number of children under 18 years old. The criteria for determining poverty level are applied nationally (except for Alaska and Hawaii), without regard to the local cost of living. Table 3.2-2 below presents the Federal poverty guidelines for 2018. Following those guidelines, Table 3.2-3 includes the percentage of persons living below the poverty level by state, county, and municipality.

Table 3.2-2 2018 Poverty Guidelines, 48 Contiguous States and District of Columbia

Household Type	Income
1-Person Household	$12,140
2-Person Household	$16,460
3-Person Household	$10,780
4-Person Household	$25,100
5-Person Household	$29,420
6-Person Household	$33,740

Source: Unites States Department of Health and Human Services, 2018.

Table 3.2-3 Persons in Poverty, Howard Street Tunnel Project

Location	% of Persons below Poverty Level
State of Maryland	9.0%
City of Baltimore	21.8%
State of Delaware	12.5%
New Castle County	11.6%
City of Wilmington	25.1%
Commonwealth of Pennsylvania	12.2%
Delaware County	8.8%
Darby Borough	28.2%
Ridley Township	7.1%
Sharon Hill Borough	11.1%
Upper Chichester Township	7.8%
Philadelphia City/County	24.9%

Source: ACS, 2014 - 2018.

Maryland has a relatively low percentage of residents living below the poverty level (9.0 percent). Pennsylvania (12.2 percent) and Delaware (12.5 percent) have higher incidences of poverty. The counties and smaller municipalities have poverty rates that are similar to or lower than that of their respective

states as a whole. In the larger cities of Baltimore, Wilmington, and Philadelphia, however, rates are significantly higher. Poverty rates in the cities are 21.8 percent in Baltimore, 24.9 percent in Philadelphia, 25.1 percent in Wilmington, and 28.2 percent in Darby Borough.

3.2.3 Labor Force and Employment

Labor force and employment data were drawn from the Bureau of Labor Statistics (BLS). The data presented is from March 2020. These data are prior to the Covid-19 business closures and the subsequent unemployment spikes known to have occurred in April and May of 2020. Economic impacts related to Covid-19 are anticipated to continue at some level beyond the initial months during which stay-at-home orders were issued. The March 2020 figures provide an indication of the overall health of the state, county, and municipal economies prior to the issuance of stay-at-home orders and the ensuing economic disruption.

BLS labor force and unemployment data are available for all states and counties and for cities and towns with populations of 25,000 or more. The labor force participation rate is available at the state level only. Table 3.2-4 below presents the labor force and employment data for the Study Area. For context, the United States' labor force and unemployment data are included.

Table 3.2-4 Labor Force and Employment, March 2020, Howard Street Tunnel Project

Location	Labor Force	Labor Force Participation Rate	Unemployment	Unemployment Rate
United States	162,537,000	62.7%	7,370,000	4.5%
State of Maryland	3,276,247	68.7%	114,717	3.5%
City of Baltimore	291,181	NA	14,283	4.9%
State of Delaware	477,155	60.8%	24,084	5.0%
New Castle County	295,841	NA	14,076	4.8%
City of Wilmington	33,514	NA	2,280	6.8%
Commonwealth of Pennsylvania	6,500,739	63.2%	381,669	5.9%
Delaware County	302,209	NA	15,282	5.1%
Darby Borough	NA	NA	NA	NA
Ridley Township	18,508	NA	899	4.9%
Sharon Hill Borough	NA	NA	NA	NA
Upper Chichester Township	NA	NA	NA	NA
Philadelphia City/County	736,461	NA	51,297	7.0%

Source: BLS, June 2020 (reflecting March 2020 data).
Notes: Labor and employment data are from March 2020, prior to the Covid-19 shutdowns.
Not Available (NA).
BLS labor force participation rate is only available at the state level.
BLS data are not available for cities/towns with populations under 25,000 people.

As shown in Table 8, the March 2020 labor force participation rates (persons in the labor force divided by population 16 years and older) ranged from 60.8 percent in Delaware to 68.7 percent in Maryland. For comparison, the labor force rate in the United States as a whole was 62.7 percent.

Unemployment rates vary, with Maryland (3.5 percent) having a lower level of unemployment. Higher levels of unemployment were seen in the cities of Wilmington (6.8 percent) and Philadelphia (7.0 percent). Nationwide, the unemployment rate in March 2020 was 4.5 percent, slightly lower than the majority of the states, counties, and municipalities in the Study Area.

3.3 Housing

3.3.1 Housing Stock

Statistics on the housing stock in the Study Area were collected from the ACS estimates. Table 3.3-1 below presents the number of housing units and the housing units' median year built for the states, counties, and municipalities in the Study Area.

Table 3.3-1 Number and Year Built, Housing Units, Howard Street Tunnel Project

Location	Housing Units	Median Year Built
State of Maryland	2,437,740	1977
City of Baltimore	294,522	1943
State of Delaware	428,251	1984
New Castle County	222,146	1973
City of Wilmington	34,156	1946
Commonwealth of Pennsylvania	5,673,599	1962
Delaware County	224,158	1956
Darby Borough	3,856	1941
Ridley Township	12,723	1956
Sharon Hill Borough	2,299	1945
Upper Chichester Township	7,332	1974
Philadelphia City/County	682,893	1947

Source: ACS, 2014 - 2018.

As shown by the *median year built* data above, the age of housing in the Study Area's geographies varies greatly. While Delaware as a whole has the newest housing stock, with a median age of 36 years (median year built: 1984), the City of Wilmington had some of the oldest housing stock in the Study Area, with a median age of 74 years (median year built: 1946). The City of Baltimore, Darby Borough, Ridley Township, Sharon Hill Borough, and Philadelphia City/County have housing stocks with median ages of 64 years or older. Somewhat newer housing stock can be found in Upper Chichester Township, which has housing with a median year built of 1974.

3.3.2 Housing Occupancy and Tenure

Data on the occupancy rates and ownership were collected from the ACS estimates and are presented in Table 3.3-2 below.

Table 3.3-2 Ownership and Occupancy of Housing, Howard Street Tunnel Project

Location	% Occupied	% Vacant	% Owner-Occupied	% Renter-Occupied
State of Maryland	89.9%	10.1%	66.8%	33.2%
City of Baltimore	81.0%	19.0%	47.3%	52.7%
State of Delaware	83.5%	16.5%	71.1%	28.9%
New Castle County	91.8%	8.2%	68.0%	32.0%
City of Wilmington	83.5%	16.5%	44.8%	55.2%
Commonwealth of Pennsylvania	88.6%	11.4%	69.0%	31.0%
Delaware County	92.1%	7.9%	69.1%	30.9%
Darby Borough	82.7%	17.3%	46.1%	53.9%
Ridley Township	93.6%	6.4%	72.6%	27.4%
Sharon Hill Borough	92.1%	7.9%	76.7%	23.3%
Upper Chichester Township	94.3%	5.7%	69.9%	30.1%
Philadelphia City/County	87.1%	12.9%	53.0%	47.0%

Source: ACS, 2014 - 2018.

Within the Project Study Area, occupancy rates vary from a low of 81.0 percent in the City of Baltimore to a high of 94.3 percent in Upper Chichester. Nationwide, vacancy rates are 12.3 percent.

For the states and counties, with the exception of the combined County/City of Philadelphia, approximately two-thirds of the housing units are owner-occupied. The smaller municipalities in Delaware County, Pennsylvania, have owner-occupancy rates of between 46.1 percent (Darby Borough) and 76.7 percent (Sharon Hill Borough). Renter-occupied housing accounts 47.0 percent of housing in Philadelphia, 52.7 percent in Baltimore, and 55.2 percent in Wilmington.

3.3.3 Financial Characteristics

The financial characteristic of the housing units in the states, counties, and municipalities in the Study Area were collected from the ACS and are presented in Table 3.3-3 below.

Table 3.3-3 Financial Characteristics of Housing, Howard Street Tunnel Project

Location	Median Value, Owner-Occupied	Median Gross Rent, Monthly
State of Maryland	$305,500	$1,357
City of Baltimore	$156,400	$922
State of Delaware	$244,700	$1,110
New Castle County	$254,500	$1,141
City of Wilmington	$169,400	$974
Commonwealth of Pennsylvania	$174,100	$915
Delaware County	$239,600	$1,055
Darby Borough	$74,600	$1,078
Ridley Township	$191,500	$978
Sharon Hill Borough	$118,900	$1,100
Upper Chichester Township	$213,300	$1,062
Philadelphia City/County	$156,800	$1,007

Source: ACS, 2014 - 2018.

Median owner-occupied housing values vary widely across the three states in the Study Area. Values are highest in Maryland at $305,500. In Delaware, the median value is $244,700. The lowest values are found in Pennsylvania at $174,100. County-level values are more similar, with the exception of the combined City/County of Philadelphia. Median housing values in the counties are $239,600 in Delaware County and $254,500 in New Castle County. The larger cities have values that range from $156,400 in Baltimore, Maryland, to $169,400 in Wilmington, Delaware. Values in the smaller municipalities range widely, from $74,600 in Darby Borough to $213,300 in Upper Chichester Township, Pennsylvania.

Median rental rates for range from $915 statewide in Pennsylvania to $1,357 statewide in Maryland. Rates in the municipalities fall in a narrower range, with a low of $922 in Baltimore and a high of $1,100 in Sharon Hill Borough.

3.4 Transportation

The Project is located along the Boston-Atlanta transportation corridor. Within the Study Area, Baltimore, Philadelphia, and Wilmington all boast ports with intermodal capability, access to rail service, and interstate access. The focus of this discussion is on the transportation resources in Baltimore, as the purpose and need of the Project are directly related to these resources.

Several state-level and one regional master plans are relevant to the goals of the Project. The plans applicable to the Project in Maryland include *Maryland Statewide Rail Plan* (2015),[4] *2017 Maryland Strategic Goods Movement Plan* (2017),[5] and *Maryland Statewide Freight Plan* (2009).[6] *The Northeast Corridor Infrastructure Master Plan* (2010).[7] Plans that are applicable to the Delaware Project sites include *Delaware Statewide Rail Plan* (2011),[8] *Delmarva Freight Plan* (2015),[9] *Delaware Freight and Goods*

Movement Plan Technical Report (2015).[10] There are two plans applicable to Project sites in Pennsylvania: *2015 Pennsylvania Rail Plan* (2016)[11] and *Pennsylvania Comprehensive Freight Movement Plan* (2016).[12]

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[4] Maryland Department of Transportation. 2015. *Maryland Statewide Rail Plan.* http://www.mdot.maryland.gov/newMDOT/Freight/index.html. Accessed July 3, 2020.

[5] Maryland Department of Transportation. 2017. *2017 Maryland Strategic Goods Movement Plan.* http://www.mdot.maryland.gov/newMDOT/Freight/index.html. Accessed July 3, 2020.

[6] Maryland Department of Transportation. September 2009. *Maryland Statewide Freight Plan.* http://www.mdot.maryland.gov/newMDOT/Freight/Documents/Freight_Plan_Final.pdf. Accessed July 3, 2020.

[7] The NEC (Northeast Corridor) Master Plan Working Group. May 2010. *The Northeast Corridor Infrastructure Master Plan*. https://cms8.fra.dot.gov/elibrary/northeast-corridor-infrastructure-master-plan. Accessed July 3, 2020.

[8] Delaware Department of Transportation. 2011. *Delaware Statewide Rail Plan.* https://deldot.gov/Publications/. Accessed July 3, 2020.

[9] Delaware Department of Transportation. May 2015. *Delmarva Freight Plan.* https://deldot.gov/Publications/. Accessed July 3, 2020.

[10] Delaware Department of Transportation. 2015. *Delaware Freight and Goods Movement Plan Technical Report*. https://deldot.gov/Publications/. Accessed July 2, 2020.

[11] Pennsylvania Department of Transportation. 2016. *2015 Pennsylvania Rail Plan.* https://www.penndot.gov/Doing-Business/RailFreightAndPorts/Planning/Pages/default.aspx. Accessed July 7, 2020.

[12] Pennsylvania Department of Transportation. 2016. *Pennsylvania Comprehensive Freight Movement Plan*. https://www.penndot.gov/ProjectAndPrograms/Planning/Documents/PennDOT-CFMP%20-%20FINAL%20August%202016.pdf. Accessed July 2, 2020.

Baltimore serves as a critical transportation hub on the Boston-Atlanta transportation corridor, with the Port of Baltimore (discussed in Section 3.5), the Baltimore-Washington International Thurgood Marshall Airport, two foreign trade zones,[13] rail connectivity, and access to interstates I-95, I-70, I-97, and I-83. Logistics in Baltimore are supported by the Tradepoint Atlantic site located approximately three miles east of Seagirt Marine Terminal. At 3,100 acres, the site is the largest privately-owned industrial site and terminal on the East Coast. The site includes deep water berths, a short rail network and Class 1 Rail connections, and proximity to major interstate highways. The full build out of the property will employ 10,000 workers include warehousing and distribution facilities for companies such as Under Armour, Amazon, Volkswagen and Home Depot, and a diverse set of marine terminals, including a new container terminal (Economic Alliance of Greater Baltimore, 2020).

The Port of Baltimore is directly connected to both I-95 and CSX's I-95 Railroad Corridor, which stretch from Florida to New England and connect all the major population centers on the East Coast. Additionally, the I-95 Railroad Corridor through Baltimore provides a critical connection from the Port of Baltimore's Seagirt Marine Terminal Intermodal Container Transfer Facility to consumer markets in the Midwest. CSX currently offers single-stack intermodal service on this freight corridor. It also runs double-stack trains on some portions of the corridor via more circuitous routes. CSX cannot supply the most competitive, direct double-stack service to connect the markets of the North and South due to the current clearance afforded by the Howard Street Tunnel. Previous construction projects have raised clearances at a number of locations south and west of Baltimore and north of Philadelphia, leaving the Project as the last obstacle remaining to double-stack intermodal service along CSX's primary intermodal network.

The I-95 Railroad Corridor is considered to be the last major underdeveloped intermodal rail-freight corridor in the U.S. Height-clearance restrictions in Maryland, Delaware, and Pennsylvania currently prevent modern double-stack service on the CSX lines in the corridor. The lack of clearance for double-stack service has contributed to congestion on I-95 and increased energy use, air pollution, and highway wear and tear. The primary obstacle to double-stack service is the Howard Street Tunnel. Previously, increasing the vertical clearance of the tunnel was considered extremely complex and prohibitively expensive (estimates were between $1 billion and $3 billion). The highway/rail overpasses north of the tunnel have not been previously modified to accommodate double-stack service, since the tunnel was an obstacle to such use.

3.5 Port of Baltimore

The Port of Baltimore consists of six Maryland Port Administration-owned public terminals (Seagirt, Dundalk, Fairfield/Masonville, North Locust Point, South Locust Point and Hawkins Point) and approximately 30 privately-owned terminals. The Port is ranked ninth in the U.S. in terms of the value of trade flow at $58.4 billion (Port of Baltimore, 2020). The vast majority of domestic waterborne cargo within the Port consists of coal, petroleum products, and sand and gravel. In the past year (2019), the Port experienced increases in general cargo (1.8 percent), containers (5 percent), roll-on/roll-off cargo (12.7 percent), and autos and trucks (8.7 percent). The Port of Baltimore handles more autos and trucks than any other U.S. port (Economic Alliance of Greater Baltimore, 2020). Much of the recent and planned

[13] Foreign trade zones help eligible U.S.-based companies improve their competitive position by allowing them to defer, reduce, or eliminate customs duties on products admitted to the zone.

growth at the Port of Baltimore can be directly attributed to investments being made by the private sector, in particular, Ports America Chesapeake and Tradepoint Atlantic (MDOT and CSX, 2019).

The Port of Baltimore is considered to have the majority of the requirements for a 21st Century port. Specific attributes of the Port include:

- 50-foot deep water channel,
- 50-foot deep water docking berth,
- modern equipment, including four Super-Post-Panamax Cranes,
- highly efficient and productive workforce,
- on-dock ship/truck/train transfer facility, and
- easy and convenient access to highway freight network.

The Port, however, lacks the ability to ship and receive containers via double-stack rail. This deficiency relative to other ports, increasingly places the region at a competitive disadvantage.

4 IMPACT ANALYSIS

This impact analysis evaluates the socioeconomic effects of the No Build and Build Alternatives, which are described briefly below and in more detail in the EA.

Potential impacts can be direct, indirect, or cumulative. Direct impacts occur as a result of the proposed action, at the same time and place of implementation. Indirect impacts occur as a result of the proposed action, but later in time or farther in distance from the action. Cumulative impacts result from the "incremental impact of the action when added to other past, present, or reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions" (40 Code of Federal Regulations Part 1508.7 (2019)).

The cumulative impacts analysis would assess the synergistic effect of combining the impacts of the Federal Actions, any indirect impacts following the Federal Actions, and the impacts of the past, present, or reasonably foreseeable actions that are unrelated to the Federal Actions

4.1 No Build Alternative

The No Build Alternative would involve no action to create a double-stack rail network to and from the Port of Baltimore and along CSX's I-95 Rail Corridor. The existing single-stack capable Railway Section would remain operational without improving the capacity constraint in the national freight rail network.

The No Build Alternative does not meet the Project's Purpose and Need for double-stack intermodal service along CSX's key intermodal network. As a result, the No Build Alternative would prevent CSX from running double-stack intermodal traffic through Baltimore on the most direct, lowest mileage rail route across its rail network, and prevents CSX from offering competitive double-stack service to current rail customers along this route.

4.1.1 Direct Impacts

There are no direct disproportionate or negative impacts to the socioeconomic resources in the Project Study Area associated with the No Build Alternative because the proposed actions would not occur.

4.1.2 Indirect Impacts

There are no indirect disproportionate or negative impacts to the socioeconomic resources in the Project Study Area associated with the No Build Alternative.

4.1.3 Cumulative Impacts

Other past, present, or reasonably foreseeable future projects near the Impact Study Area, unrelated to the Project, would have negligible impacts on the social and economic environment as a whole. The No Build Alternative would not contribute to any cumulative impacts because no activity would occur under this alternative.

4.1.4 Mitigation

There would be no direct, indirect, or cumulative impacts associated with the No Build Alternative; therefore, mitigation is not considered.

4.2 Build Alternative

With advances in engineering technology and the introduction of the Infrastructure for Rebuilding America (INFRA) grant program, the Build Alternative, as described below is now financially feasible to complete with far fewer impacts than the build options previously considered. The U.S. Department of Transportation announced a $125 million INFRA grant in July 2019. Additional funding has been received from the State of Maryland, CSX, a PennDOT grant, and Federal Highway Administration Formula Funds, totaling $443.5 million. FRA is the lead Federal agency for compliance with NEPA, 42 U.S.C. § 4321 et seq.

The Build Alternative consists of improvements that would remove all obstructions restricting passage of modern double-stack intermodal trains, allowing for a 21-foot clearance along the noted stretch of the corridor between Baltimore and Philadelphia. In general, the physical obstructions generally consist of a bridge or tunnel for which CSX has developed a tailored approach to achieve clearance. The proposed Project consists of 18 track lowering locations, one bridge modification, two bridge replacements, track lowering, arch and/or invert modification at two tunnel locations, and the relocation of an existing interlocking location to facilitate the track lowering work proposed at the Woodland Avenue site in Philadelphia. In addition, staging and storage activities are proposed at CSX's Bayview Rail Yard in Baltimore to support the project.

At the HST location, an alternate non-conventional option is being considered that involves the use of a tunnel enlargement system (TES) to gain clearance along 75 percent of the tunnel's approximately 8,700-foot length. The advantage of the TES over the conventional options previously described is that it would enable train traffic to flow through the work zone during active construction while resulting in a new tunnel structure along the length of its use upon completion. More information on the method options for HST is provided in Section 2.4.4 of the EA.

During the construction of the Project, a number of State of Good Repair issues would simultaneously be addressed, such as maintenance to the existing ballast and tracks, improving drainage along the corridor, and updates to structures such as retaining walls, thereby further increasing the overall reliability of the rail corridor. Proposed actions associated with the Build Alternative are described in more detail in Section 2.4 of the EA, "Alternatives."

4.2.1 Direct Impacts

Employment and Income Impacts[14]

The economic impact of the proposed Howard Street Project was evaluated by the Sage Policy Group and reported in the INFRA Grant Application. Although the scope of the Project evaluated has changed slightly from the one evaluated, the impacts found are illustrative of those that will occur with the scope of the current Howard Street Project. Impacts during the design and construction phase were calculated to include:

- employment of 6,859 person-year jobs, including 4,376 direct and indirect person-year jobs related to construction (CSX and MDOT, March 2019) and
- more than $392 million in associated employee compensation (Sage Policy Group, 2017).

The economic activity generated by the Project could provide a short-term increase in incomes and a subsequent decline in poverty rates in the communities in which the Project is located as construction workers purchase from local businesses. Local tax revenues would also be expected to have a short-term increase from the economic activity generated by construction of the Project.

When construction is completed and the improved Howard Street Tunnel becomes operational, permanent economic impacts will occur within the Baltimore region. These impacts include an estimated 7,872 net new jobs in the transportation sector, which are linked to over 60,000 jobs that are supported among port users in the Baltimore region. The created and supported jobs translate into an expenditure of approximately $6,500 per job (CSX and MDOT, March 2019). This estimate does not include the construction jobs that would be supported during the capital expenditure phase.

Transportation Impacts

When completed, the Howard Street Tunnel Improvements will allow CSX to run double-stack intermodal traffic through Baltimore on the most direct, lowest mileage rail route between the Southeast, Northeast, and Midwest. With the completion of the Project, the entirety of CSX's primary intermodal network will be accessible to double-stack containers. It is estimated that over the first 30 years of the Project's operation more than 2.5 million loaded units will be converted from long-haul trucking to rail. Each of the units would reduce long-haul truck travel by an average of 940 miles of long-haul truck travel. These miles are primarily traveled on the heavily congested I-95. Key transportation impacts during the Project's first 30 years are anticipated to include:

- avoiding 1.2 billion truck vehicle miles traveled;
- reducing fuel consumption by 137 million gallons of fuel; and
- eliminating an estimated 16 fatal crashes, 585 injury crashes and 1,561 damage crashes. (CSX and MDOT, March 2019)

The Project will result in lower costs for existing railroad traffic that is routed through the Project sites. The ability of CSX to handle this traffic as double-stacked containers, rather than single-stacked containers

[14] Additional details on the economic impact of the Project and the methodology used can be found in the report *The Economic Implications of Removing the Howard Street Tunnel Bottleneck* (Sage Policy Group, 2017).

will reduce costs to freight shippers and receivers where the traffic is originated and terminated, according to CSX's traffic and market data. (CSX and MDOT, March 2019).

Port of Baltimore Impacts

The Port of Baltimore is in closer proximity to several important inland markets than other ports in the mid-Atlantic. The Port also has competitive marine terminal handling costs. Currently some United States port users rely on other ports where double-stack service is available, despite the longer rail trips and higher handling costs. The port users may be able to reduce shopping costs and rail ton-mileage through the of use double-stack service from the Port of Baltimore after the Project's completion.

Total Anticipated Economic Impacts

A benefit-cost analysis (BCA) was complete for the Project.[15] The BCA takes a conservative approach, considering 50 percent of the anticipated effects from safety, state of good repair (from avoided pavement damage), and environmental protection (from reduced emissions). The benefits from avoided trucks are offset with the costs of added rail ton-mileage. No benefits for transportation cost or price savings were included. The benefits accrue in each state where truck vehicle mileage is avoided and rail ton-mileage is created. Although the Project will have a 100-year functional life, the BCA uses the 30-year period from 2024 through 2053 along with a 7-percent discount rate. The total Project benefit includes approximately $28.6 million in residual value, or the discounted value of the Project after 30 years.

As reported in the INFRA Grant Application, the Benefit Cost Ratio (BCR) was calculated for the Project. The results of these calculations are shown in Table 4.2-1 below.

Table 4.2-1 BCR, Howard Street Tunnel Project

Howard Street Tunnel Project	BCR
Discount Rate	7 percent
Project Benefit	$532,763,717
Project Cost	$349,901,927
Benefit-Cost-Ratio (BCR)	1.52

Source: CSX and MDOT, March 2019.
Assumes a 7-percent discount rate. Project costs and the BCR are based on slightly higher Project costs than are included in the current scope. The actual BCR would be higher under the Howard Street Project as currently proposed.

Over 30 years, the project will yield over $532 million in benefits (discounted at 7 percent). The BCR is 1.52.[16]

In addition to conducting the standard BCA outlined in the United States Department of Transportation guidance, MDOT used origin and destination data to develop a state-by-state analysis and determine how

[15] The BCA analysis is based on a project scope that includes work that has now already been complete and, thus, a somewhat higher project cost than the current Howard Street Project scope. The slight cost discrepancy only impacts the benefit-cost-ratio (BCR) and the costs. The actual benefits of the Howard Street Project and their state to state distribution are unaffected by the cost discrepancy.
[16] The actual BCR would be higher because costs under the current scope of the Howard Street Project would be lower than those considered previously. The benefits would be as shown, as benefits are not a function of the cost of the Project.

the public benefits would be distributed across the country. The completed Project's benefits associated with safety, economic competitiveness, environment, and state of good repair are anticipated to accrue to 17 states, as shown in Table 4.2-2 below.

Table 4.2-2 Public Benefits by State, Howard Street Tunnel Project

State	Safety	Economic Competitiveness	Environment	State of Good Repair
California	NA	$31,040,429	NA	NA
Delaware	$357,877	NA	$42,044	$89,330
Florida	$855,539	$60,890,852	$104,035	$220,867
Georgia	$2,833,725	NA	$332,915	$706,774
Illinois	$397,551	$103,357,434	$46,705	$100,303
Indiana	$3,900,968	NA	$458,297	$984,922
Maryland	$4,747,248	$173,016,922	$557,721	$1,191,141
Michigan	NA	$5,931,292	NA	NA
Minnesota	NA	$2,965,646	NA	NA
North Carolina	$4,757,928	NA	$558,623	$1,142,198
New Jersey	$2,904,376	$18,239,047	$800,366	$438,463
New York	$3,386,145	$18,239,047	$1,772,518	NA
Ohio	$5,988,109	$12,851,133	$703,501	$1,510,813
Pennsylvania	$4,579,502	$12,025,039	$538,014	$1,157,595
South Carolina	$5,034,923	NA	$591,518	$1,298,238
Virginia	$7,062,386	NA	$1,745,262	$1,198,902
Washington (State)	NA	$594,129	NA	NA
Total	**$46,806,277**	**$439,150,970**	**$8,251,519**	**$10,039,546**

Source: CSX and MDOT, March 2019. Assumes a 7-percent discount rate.

As shown above, the majority of the total public benefits will accrue outside the states in which the Project is located. Maryland, Illinois, Florida, and California are expected to receive the largest share of the Project benefits. Total public benefits, which exclude residual value, are expected to total $504 million.

Additional Considerations

Housing Availability and Costs

The Project is not expected to disrupt the local housing markets during its construction or operation. The larger cities in which the Project sites are located have vacancy rates that indicate short-term housing during construction should be readily available. During the operation and maintenance of the Project, permanent job growth is expected to occur. These jobs, however, are anticipated to be diffused over a rather large area. In certain areas, such as near the Port of Baltimore, there may be somewhat increased demand for housing as a result of economic growth spurred by the Project. With vacancy rates of 19.0 percent in the City of Baltimore (see Table 3.3-2), sufficient housing is expected to be available to meet these increased demands.

Housing costs can be influenced by numerous national and local factors. Examples of national factors include the overall economy of the United States, interest rates, and national political issues. Examples of

local factors include the local economy, local policies, accessibility to transportation, accessibility to jobs and educational facilities, availability of construction materials and labor, financing, and subsidies, as well as existing vacant housing and additional planned projects in the area. The construction of the Project may increase demand and, in turn, place pressure on housing prices in the vicinity of the Port. However, considering the City of Baltimore's vacancy rates and the many other factors that affect housing costs, the long-term impact of the Project on housing prices and rents is anticipated to be small.

Community Cohesion

Community cohesion is not anticipated to be negatively impacted by the Project. The proposed operations of the Project improvements will not geographically divide or isolate the residents or businesses within the Study Area. There will be no right-of-way acquisition or relocations of residential or commercial properties. The Project's operation will not encroach upon residential property or disrupt access to education and childcare facilities, community centers, or places of worship.

Construction Period Impacts

The construction activity associated with the Project will require limited disruption to traffic and vehicle access in the areas surrounding North Avenue, Guilford Avenue, and Harford Road bridges in Baltimore, Maryland. Additional disruptions may occur at HST (Baltimore, Maryland).[17] Traffic disruption is not expected to occur at the remaining sites in Baltimore or at the sites in Delaware and Pennsylvania.

Howard Street Tunnel: The Howard Street Tunnel (Baltimore, Maryland) improvements associated with the Build Alternative include a combination of track geometry optimization, track lowering, arch modification of the tunnel, and invert modification. Improvements of the existing drainage system would also be completed. CSX is evaluating options completing for the required modifications. Under the traditional method of construction, no traffic disruptions would occur. If a TES is used in construction, however, road closures and disruptions to MDOT Light rail would be required.[18] CSX will seek to minimize disruptions to local businesses if Howard Street is closed to accommodate construction.

North Avenue: The North Avenue Bridge located in Baltimore, Maryland, has an existing Amtrak B&P Tunnel which runs under the bridge. No track lowering is proposed in order to avoid any impact to the tunnel. The Project proposes the replacement of a portion of the North Avenue arch bridge with a single span, shallow girder bridge, with no change to the roadway profile of North Avenue. Phased maintenance of traffic would be required at this location. Traffic congestion resulting from phased maintenance of traffic would be affected by typical rush hour traffic patterns. Construction activity at this site would not disrupt access to homes, businesses, school, houses of worship, or medical facilities in the community. Recreational resources would not be adversely impacted by the construction.

Guilford Avenue: The existing arch bridge at Guilford Avenue in Baltimore, Maryland, is proposed to be replaced with a single span, shallow girder bridge. The stone walls are to remain as retaining walls for the new structure. The replacement of the bridge will require full closure of Guilford Avenue with detours due

[17] The method of construction will determine transportation impacts as HST. Studies are ongoing to determine the appropriate method of construction on the tunnel.

[18] At this time, it is unknown if closures to the Light Rail and to Howard Street will be required. If such closures are required, the exact locations and operational impacts may vary from those described here. CSX will coordinate with all relevant stakeholders and provide public updates if closures are necessary.

to existing utilities within the structure. Access to homes near the Project site on Guilford Avenue will be unaffected by the bridge closure. Recreational resources would not be adversely impacted by the construction.

Harford Road: The Harford Road arch bridge in Baltimore, Maryland, is proposed to be replaced with a single-span, shallow girder bridge. Additionally, a track profile adjustment is proposed. The modifications of the bridge are required due to an existing water main which would not allow for track lowering. Phased maintenance of traffic on Harford Road is proposed. Access to homes and businesses in the vicinity of the Project site on Harford Road will be unaffected by the bridge closure.

Boone Tunnel: The Boone Tunnel is located under Chester Pike in Sharon Hill. It is not feasible to lower the track in this location due to existing shallow tunnel footings; therefore, a tunnel modification and profile adjustment is proposed. Traffic would not be impacted by the construction at Boone Tunnel.

Community Resources

The Project's construction and operation will be limited to existing sites. Therefore, the Project is not anticipated to have a substantial impact on public facilities in the Project Study Area. The Project's construction and operation phases will generate tax revenue that would potentially provide support for existing public facilities in the states, counties, and municipalities in the Study Area.

4.2.2 Indirect Impacts

The competitiveness of the Port of Baltimore is anticipated to improve with the completion of the Project, which will allow double-stack trains to move freely along the I-95 Corridor and to markets in the Midwest. As noted in the INFRA Grant Application, the Port of Baltimore has the attributes of a "21st Century port," but currently lacks the ability to ship and receive containers via double-stack rail. Without this double-stack capability, the Port of Baltimore, which is a source of economic vitality for the region, would increasingly be at a competitive disadvantage. The double-stack access created by the Project will enable the Port to further capitalize on increased container volumes and will support the Port's importance as a major transportation hub and catalyst for economic growth in the region.

There are no indirect disproportionate or negative impacts to the socioeconomic resources in the Project Study Area associated with the Build Alternative.

4.2.3 Cumulative Impacts

The Project will build upon and enhance the socioeconomic impacts of other recent infrastructure investments in rail transportation and at the Port of Baltimore. These investments are described below.

- The $850 million National Gateway Initiative included 61 clearance projects designed to provide greater efficiencies through increased double-stack intermodal service between Mid-Atlantic ports and inland distribution facilities. The Howard Street Tunnel Project will allow CSX to leverage these improvements by running double-stack service throughout the rail network.
- Investments made by Ports America Chesapeake and Tradepoint Atlantic have supported much of the recent growth at the Port of Baltimore. The Howard Street Tunnel Project, coupled with the PAC, TPA and other public investments, will amplify the benefits associated with each individual project.

- The $22.5 million CSX Camden Street Storm Line Project has mitigated stormwater runoff. This previous effort will allow the Howard Street Project to advance significantly faster.

Other past, present, or reasonably foreseeable future projects near the Project Study Area, unrelated to the Project, would have negligible impacts on the socioeconomic resources in the Study Area as a whole.

4.2.4 Mitigation

There would be no long-term or major adverse direct, indirect, or cumulative impacts associated with the Build Alternative; therefore, mitigation related to socioeconomics is not considered.[19]

[19] A Memorandum of Agreement (MOA) will address mitigating impacts to Section 106 properties.

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