

# RIGHT OF WAY TECHNICAL MEMORANDUM





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Appendix A: Potential Parcels to be Impacted by Project's Proposed Build Alternatives



### **ACRONYMS**

EBL Express Bus Lanes

EIS Environmental Impact Statement

ETL Express Toll Lanes

FHWA Federal Highway Administration
GIS Geographic Information Systems

HOT High Occupancy/Toll HOV High Occupancy Vehicle

I Interstate

LOS Level of Service

MPO Metropolitan Planning Organization
SYIP Six-Year Improvement Program
TPO Transportation Planning Organization
VDOT Virginia Department of Transportation



### I. Introduction

The following report describes the existing right of way which may be impacted by the various alternatives within the study area of the Interstate 64 (I-64) Peninsula Study. The purpose of this report is to summarize baseline conditions along the corridor, provide a comparison of the impacts to the existing right of way parcels for the different alternatives, and summarize these potential impacts.

## A. Project Description

The Virginia Department of Transportation (VDOT), in cooperation with the Federal Highway Administration (FHWA), is evaluating options to improve the 75 mile long I-64 corridor from the Interstate 95 (I-95) (Exit 190) interchange in the City of Richmond to the Interstate 664 (I-664) (Exit 264) interchange in the City of Hampton. This study is known as the Interstate 64 Peninsula Study (hereinafter referred to as the I-64 Study in this document). As shown in **Figure 1**, the study area is located within seven localities, including the City of Richmond, Henrico County, New Kent County, James City County, York County, the City of Newport News, and the City of Hampton.

The number of lanes on existing I-64 varies through the study area. In the vicinity of the City of Richmond, from Exit 190 to Exit 197, there are generally three travel lanes in each direction. Between Exit 197 and mile marker 254, there are generally two travel lanes in each direction. Beginning at mile marker 254 and continuing east to the City of Hampton area, I-64 widens to four lanes in each direction with three general purpose lanes and one 2+ person High Occupancy Vehicle (HOV 2+) lane during the AM and PM peak periods. There are some additional lanes between closely spaced interchanges at the eastern end of the corridor to provide for easier merging of traffic on and off of the I-64 mainline.

#### **B.** Alternatives

There are a number of possible solutions to address the need for improvements along the I-64 corridor, as described in detail in the *Alternatives Development Technical Memorandum*. The goals are to develop the best and most cost effective solutions that meet the project purpose and needs while avoiding and/or minimizing impacts to the human and natural environments. The following are the alternatives being carried forward in this study:

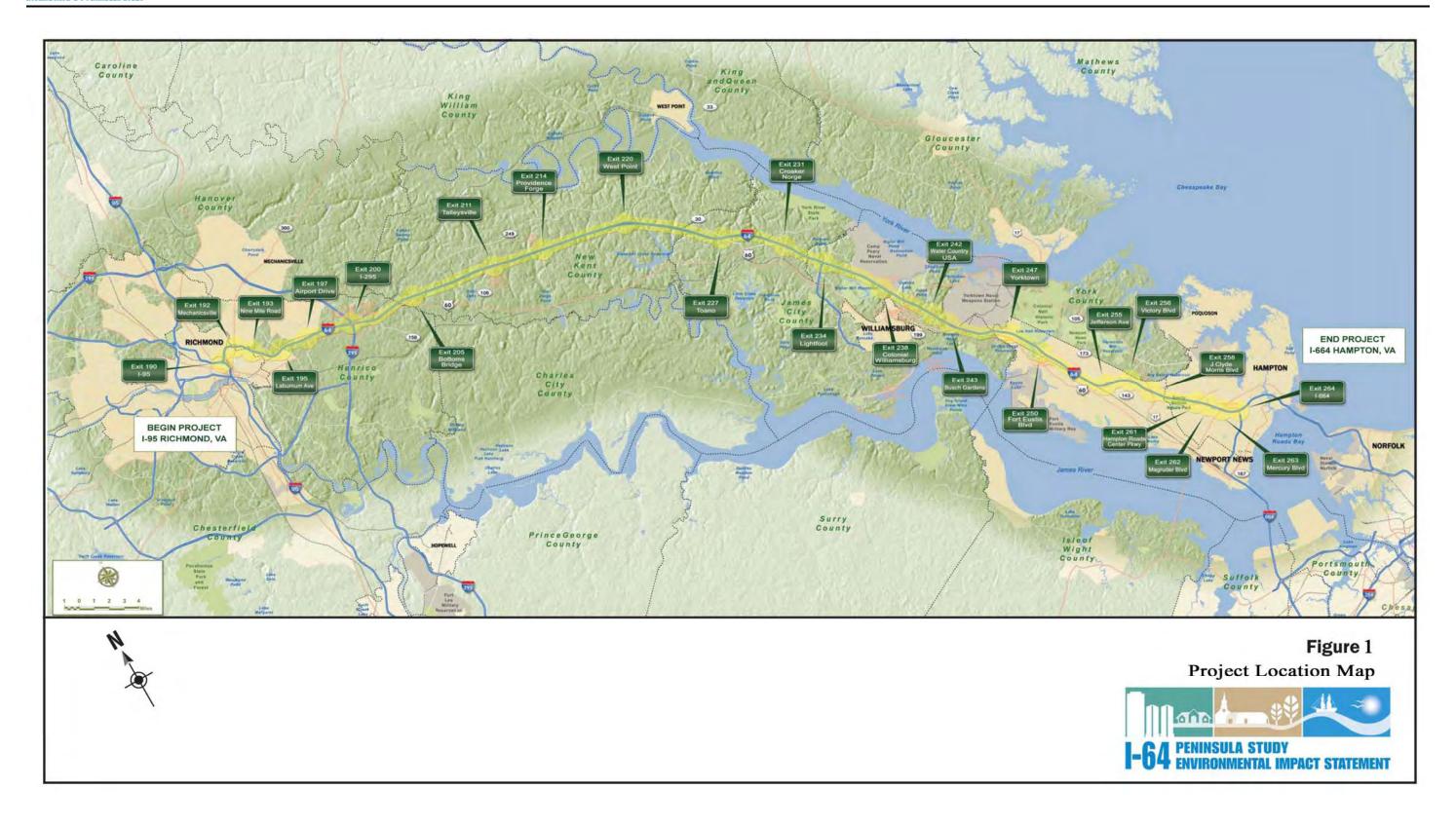
#### 1. No-Build Alternative

The No-Build Alternative serves as a baseline for the comparison of future conditions and impacts. The No-Build Alternative assumes that the projects currently programmed and funded in the VDOT Fiscal Year 2013-2018 Six-Year Improvement Program (SYIP) will be implemented. In addition to the programmed VDOT projects, the Tidewater Super-Regional Model developed by VDOT and used for this study includes other projects within the corridor that are part of the Richmond Area Metropolitan Planning Organization (MPO) or Hampton Roads Transportation Planning Organization's (TPO) Constrained Long Range Plans, as well as the Rural Long Range Transportation Plans (which are not fiscally constrained) for the Richmond and Hampton Roads Planning District Commissions. Those projects form a part of the Base Conditions and the effects of these projects on I-64 traffic are accounted for in all 2040 No-Build analyses.

### 2. Alternatives 1A/1B General Purpose Lanes

These alternatives involve adding additional general purpose travel lanes to the I-64 mainline to achieve a Level of Service (LOS) C or better in the design year 2040. Although there are numerous possible combinations for adding these lanes, the analysis focused on adding all needed lanes within the existing right of way, to the greatest extent practicable, to either the outside of the existing lanes, which is Alternative 1A, or to the inside of the existing lanes within the median, which is Alternative 1B. For Alternative 1B, the lanes are also proposed in the median to the greatest extent practicable. However, not all sections of the corridor have sufficient median area to accommodate the needed additional lanes so in







these areas the additional lanes are proposed to the outside. For the 25 existing interchanges within the study area corridor, geometric deficiencies were examined along with design year 2040 traffic volumes and resulting LOS at each interchange location. Conceptual designs were investigated that would accommodate the future traffic and assumptions were made and applied to each interchange to establish a study footprint that would allow for enough flexibility during the final design stage to accommodate other concepts not yet examined. Further engineering and traffic analyses would be performed at each interchange as the project progresses. During the Interchange Modification Report (IMR) process, which is required by FHWA before any changes can be made to Interstate interchanges, each of these interchange configurations would serve as a starting point to be further studied and refined with a more in-depth examination of the needs at each location, in order to produce a constructible design.

### 3. Alternatives 2A/2B Full Toll Lanes

These alternatives evaluate the impacts of tolling the entire facility. However, as of the time of this study, there is no federal or state agreement in place that would allow for tolling I-64 from I-95 in the City of Richmond to I-664 in the City of Hampton. Therefore, these alternatives that involve tolling may or may not ultimately be possible. Notwithstanding, because tolling could be an option in the future, alternatives that involve tolling were considered in the range of possible alternatives evaluated. For the purposes of this study, it was assumed that if the facility is tolled, the tolling would be for all vehicles, in both directions, and for the entire length of the corridor from I-95 in the City of Richmond to I-664 in the City of Hampton. It was also assumed that there would be toll collection stations, using overhead gantries and all-electronic tolling, for every interchange to interchange sections of I-64. If Alternative 2A or 2B is selected, subsequent studies will refine the specifics of the tolling, such as whether or not it would encompass the entire length of the I-64 corridor along with the number and placement of the toll collection stations. In order to determine the number of lanes needed for Alternatives 2A/2B, the traffic studies included a toll diversion analysis. As a result of this analysis, the tolling of I-64 is expected to have either a neutral effect or result in a decrease in traffic volumes on the I-64 mainline due to people choosing to avoid a tolled I-64 and using other parallel routes instead. The tolls are not expected to result in increased volumes at any location on the I-64 mainline. This analysis indicated possible reductions to traffic on the I-64 corridor, however these reductions are not projected to change the number of lanes needed to achieve a LOS C or better in the design year 2040 from those indicated for the General Purpose Lanes Alternatives. Therefore, the proposed disturbance limits for Alternatives 2A/2B would be the same as Alternatives 1A/1B, respectively. Although there are numerous possible combinations for adding these lanes, the analysis focused on adding all needed lanes within the existing right of way, to the greatest extent practicable, to either the outside of the existing lanes, which is Alternative 2A, or to the inside of the existing lanes within the median, which is Alternative 2B. For Alternative 2B, the lanes are also proposed in the median to the greatest extent practicable. However, not all sections of the corridor have sufficient median area to accommodate the needed additional lanes so in these areas the additional lanes are proposed to the outside. In addition to the mainline improvements, due to only modest changes in traffic volumes, as determined in the toll diversion analysis, Alternatives 2A/2B also includes the same improvements to the 25 interchanges as described with Alternatives 1A/1B.

#### 4. Alternative 3 Managed Lanes

This alternative involves the addition of separated, managed lanes located in the median. These managed lanes were examined for the entire length of the I-64 study area from I-95 in the City of Richmond to I-664 in the City of Hampton. As previously described, not all sections of the I-64 corridor have sufficient median area to accommodate the addition of any lanes. In these areas, the facility is proposed to be widened to the outside of the existing general purpose lanes in order to accommodate the managed lanes between the eastbound and westbound general purpose travel lanes. Managed lanes can refer to many different strategies, including:

- High Occupancy Vehicle (HOV) lanes.
- High Occupancy Toll (HOT) lanes.



- Express Toll Lanes (ETL).
- Express Bus Lanes (EBL).

For any of the managed lanes that involve toll collection (HOT or ETL lanes), traditional toll plazas were not included. All toll collection would be conducted by overhead gantries with all-electronic tolling used to collect all tolls at highway speeds. The Environmental Impact Statement (EIS) study does not identify what type of managed lanes would be constructed. Based on the results of the capacity analysis, the lane configurations developed for Alternative 3 along the I-64 corridor are described in the *Alternatives Development Technical Memorandum*. If Alternative 3 is selected, subsequent studies would refine the specifics of the managed lanes throughout the I-64 corridor.

### C. Right of Way Assessment

Construction of any of the proposed Build Alternatives would require the acquisition of additional right of way and the potential relocation of families, businesses and community facilities. This technical memorandum summarizes the analysis conducted on parcels adjacent to the project corridor that may be impacted by the project's proposed alternatives shown in the mapping in **Appendix A**. As this is a corridor level study with multiple proposed alternatives, the project team did not contact local citizens to determine such factors as population per household, minority status owner/rental status, or income. The project team also did not contact individual businesses or non-profit organizations to determine the number of employees, members, minority status or owner/rental status. This memorandum contains an estimate of the acreage of right of way that would be needed, the number of complete acquisitions (also called relocations) that would occur and the characteristics or types of those properties being relocated for each alternative.

# 1. Assumptions

The estimated acreage of additional right of way to be required was obtained by overlaying each alternative footprint onto VDOT Geographic Information Systems (GIS) right of way boundary and parcel data provided by each locality along the corridor. Parcels were separated by VDOT District (Richmond and Hampton Roads) and then categorized into the following four types, in accordance with the VDOT Planning Level Costs Estimation Process:

- Rural generally consists of low density land uses, including vacant or open space land used for agricultural and conservation purposes.
- Residential/Suburban Low Density generally consists of residential land uses, including single family and multi-family uses.
- Outlying Business/Suburban High Density generally consists of high density land uses, including commercial and industrial businesses.
- Central Business District generally consists of high density, urban land uses, including government, educational, institutional, and mixed use developments.

**Table 1** shows each of the original zoning classifications for each locality and how they were categorized into the four classifications.

Along the mainline, the acreage between the existing right of way and the proposed right of way was determined for each District, resulting in small fractions of parcels to be acquired, which totaled up to an overall acreage of mainline right of way to be acquired for each parcel type for each Build Alternative. Right of way acquisitions include total and partial property acquisitions and are defined for this study as follows:

• A total acquisition occurs when the primary improvement (house, business, non-profit, or farm) is within the right of way or access to the parcel is removed and cannot be restored. The owner is compensated for the fair market value of the entire parcel and provided relocation assistance.



			Table 1: Land Use / Zoning Clas	sifications			
	City of Richmond	Henrico (	County		New Kent County		James City County
Actual Classification	Right of Way and Cost Estimate Classification	Actual Classification	Right of Way and Cost Estimate Classification	Actual Classification	Right of Way and Cost Estimate Classification	Actual Classification	Right of Way and Cost Estimate Classification
Commercial	Outlying business/Suburban high density	COMMERCIAL ARTERIAL	Central business district	A1	Rural	A1	Rural
Duplex (2 Family)	Residential/Suburban low density	COMMERCIAL CONCENTRATION	Outlying business/Suburban high density	BUS	Outlying business/Suburban high density	B1	Outlying business/Suburban high density
Government	Central business district	ENVIRONMENTAL PROTECTION AREA	Rural	C1	Rural	B1AA	Outlying business/Suburban high density
Industrial	Outlying business/Suburban high density	GOVERNMENT	Central business district	CHDD	Central business district	LB	Outlying business/Suburban high density
Institutional	Central business district	HEAVY INDUSTRY	Outlying business/Suburban high density	EO	Outlying business/Suburban high density	M1	Outlying business/Suburban high density
Multi-Family	Residential/Suburban low density	LIGHT INDUSTRY	Outlying business/Suburban high density	IND	Outlying business/Suburban high density	M2	Outlying business/Suburban high density
Office	Outlying business/Suburban high density	MIXED USE DEVELOPMENT	Central business district	PUD	Central business district	MU	Central business district
Public-Open Space	Rural	MULTI FAMILY RESIDENTIAL	Residential/Suburban low density	R1	Residential/Suburban low density	PL	Rural
Single Family	Residential/Suburban low density	OFFICE	Outlying business/Suburban high density	R2	Residential/Suburban low density	PLAA	Rural
Vacant	Rural	OFFICE/SERVICE	Outlying business/Suburban high density	R3	Residential/Suburban low density	PUD-C	Central business district
		OPEN SPACE/RECREATION	Rural	ROA	Residential/Suburban low density	PUD-R	Central business district
		PLANNED INDUSTRY	Outlying business/Suburban high density			R1	Residential/Suburban low density
		PRIME AGRICULTURAL	Rural			R1AA	Residential/Suburban low density
		RURAL RESIDENTIAL	Residential/Suburban low density			R2	Residential/Suburban low density
		SEMI PUBLIC	Central business district			R2AA	Residential/Suburban low density
		SUBURBAN RESIDENTIAL 1	Residential/Suburban low density			R4	Residential/Suburban low density
		SUBURBAN RESIDENTIAL 2	Residential/Suburban low density			R4AA	Residential/Suburban low density
		URBAN MIXED USE	Central business district			R5	Residential/Suburban low density
		URBAN RESIDENTIAL	Residential/Suburban low density			R5AA	Residential/Suburban low density
				-		R6	Residential/Suburban low density
						R8	Residential/Suburban low density
						R8AA	Residential/Suburban low density



		Table 1: Land Use / Zoni	ng Classifications (continued)		
	York County	City of N	lewport News		City of Hampton
Actual Classification	Right of Way and Cost Estimate Classification	<b>Actual Classification</b>	Right of Way and Cost Estimate Classification	Actual Classification	Right of Way and Cost Estimate Classification
1	Residential/Suburban low density	C1	Outlying business/Suburban high density	R-15	Residential/Suburban low density
2	Rural	C2	Outlying business/Suburban high density	C-1	Outlying business/Suburban high density
3	Residential/Suburban low density	C2A	Outlying business/Suburban high density	C-2	Outlying business/Suburban high density
4	Residential/Suburban low density	C3	Outlying business/Suburban high density	C-3	Outlying business/Suburban high density
5	Central business district	C4	Outlying business/Suburban high density	HRCNC	Central business district
6	Central business district	C5	Outlying business/Suburban high density	M-1	Outlying business/Suburban high density
7	Central business district	M1	Outlying business/Suburban high density	M-2	Outlying business/Suburban high density
8	Outlying business/Suburban high density	M2	Outlying business/Suburban high density	M-3	Outlying business/Suburban high density
9	Rural	O1	Central business district	M-4A	Outlying business/Suburban high density
10	Outlying business/Suburban high density	O2	Central business district	M-4B	Outlying business/Suburban high density
11	Outlying business/Suburban high density	O3	Central business district	M-5A	Central business district
12	Outlying business/Suburban high density	P1	Rural	M-5B	Central business district
13	Outlying business/Suburban high density	R1	Residential/Suburban low density	M-5C	Central business district
14	Outlying business/Suburban high density	R1B	Residential/Suburban low density	M-5D	Central business district
15	Outlying business/Suburban high density	R1C	Residential/Suburban low density	MD-2	Residential/Suburban low density
16	Outlying business/Suburban high density	R2	Residential/Suburban low density	MD-3	Residential/Suburban low density
17	Outlying business/Suburban high density	R2A	Residential/Suburban low density	MD-4	Residential/Suburban low density
		R2B	Residential/Suburban low density	MD-T	Residential/Suburban low density
		R2C	Residential/Suburban low density	R-11	Residential/Suburban low density
		R3	Residential/Suburban low density	R-13	Residential/Suburban low density
		R4	Residential/Suburban low density	R-15	Residential/Suburban low density
		R5	Residential/Suburban low density	R-22	Residential/Suburban low density
		R6	Residential/Suburban low density	R-33	Residential/Suburban low density
		R7	Residential/Suburban low density	R-8	Residential/Suburban low density
		R8	Residential/Suburban low density	R-9	Residential/Suburban low density
		R9	Residential/Suburban low density	R-M	Residential/Suburban low density
				R-R	Residential/Suburban low density
				R-T	Residential/Suburban low density
				SPI-B	Central business district
				SPI-HRC	Central business district
				SPI-HRCW	Central business district
				SPI-OHB	Central business district
				SPI-OHR	Central business district
				SPI-OHW	Central business district
				SPI-PL	Central business district



- A partial acquisition occurs when a portion of a parcel is acquired and that portion does not include a primary improvement. The owner is compensated for the fair market value of the portion of their parcel and minor improvements that will be acquired. Some partial acquisitions result in uneconomic remnants of the remaining parcel.
- Residential relocations include any structure that was identified between the existing right of way
  line and the proposed right of way limits, and fell in the Residential/Suburban Low Density
  classification.
- Commercial and industrial impacts include any structure that was identified between the existing right of way line and the proposed right of way limits, and fell in the Outlying Business/Suburban High Density, and the Central Business District classification.
- Agricultural structures such as barns and out buildings include any structure identified between the existing right of way line and the proposed right of way limits, and fell in the Rural classification.
- There may be parcels which have structures which fall outside the proposed right of way limits but because of the placement of the structure on the parcel may result in a complete acquisition. This will be determined in the next phase of project development as more detailed design plans are developed.
- Individual displacements were determined using the average persons per household for each county within the respective District. For the Richmond District, the average persons per household is 2.43 and for the Hampton Roads District, the average persons per household is 2.50.

It was assumed that since the right of way would be from the back portion of each parcel along the mainline and access would not be affected, right of way negotiations would be limited to partial acquisitions and therefore no mainline impacts were considered complete acquisitions.

At the interchanges, there are areas where right of way would be needed, as well. However, there is the potential for access issues to businesses and commercial properties at the interchanges, and therefore, in order to assess a worst case scenario at this planning stage, it was determined that for those properties that are impacted, the entire property would be considered acquired. It should be noted that all of the interchange footprints are the same across all proposed Build Alternatives and therefore the impacts are also the same. However, these are conservative estimates and the actual numbers of acquisitions or relocations are expected to decrease as the project design is advanced and exact roadway right of way requirements are determined. The acreage of each type of parcel impacted at the interchanges within each District was added to the mainline right of way acreage for each type to yield a total acreage of anticipated right of way for each parcel category for each Build Alternative. **Table 3** depicts the calculation of right of way impacts for each alternative.

#### 2. Cost

A planning level construction cost estimate for the entire project was developed using the VDOT Planning Level Costs Estimation Process. Right of way/relocation and utility costs are shown as a percentage of construction costs and were determined for each alternative using the values in **Table 2** from the VDOT Planning Level Costs Estimation Process. For example, on a project with a construction cost of \$1,000,000, the right of way/relocation and utility costs in the Richmond District would fall between 25% and 35% of that \$1,000,000, which would be between \$250,000 and \$350,000 if 100% of the right of way to be impacted was classified as Rural.

												Table 3: I	Right of Way	Calculation	ıs													
	1 Alternative 1A	2	3	4	5	6 Richmond District	7	8	9	10	11	12	13	14 <b>Ha</b>	15 mpton Roads Dist	16	17	18	19	20	21	22	23 To	24 otal Project Corri	25 idor	26	27	28
1 2 3 4	Rural Residential/Suburban low density Outlying business/Suburban high density Central business district	Count of Mainline Parcels  27 5 24 4	Count of Interchange Parcels  38  130  74  15	Total Count of Parcels 65 135 98 19	Count of Mainline	Count of Interchange Displace-ments  6  77  34  2	Total Count of Displace- ments 6 77 35 3	Mainline Acreage 2.0 0.1 9.3 6.0	Interchange Acreage 26.6 30.0 65.2 24.2	Total Acreage 28.6 30.1 74.5 30.2	Count of Mainline Parcels  4 29 11 3	Count of Interchange Parcels  37  254  104  30	Total Count of Parcels 41 283 115 33	Count of Mainline	•	Total Count of Displace-	Mainline Acreage 1.9 1.2 0.3 0.1	Interchange Acreage 51.3 202.9 168.8 31.3	Total Acreage 53.2 204.1 169.1 31.4	Count of Mainline Parcels 31 34 35 7	Count of Interchange Parcels 75 384 178 45	Total Count of Parcels 106 418 213 52	Count of Mainline Displacements  0 9 2 1	Count of Interchange Displace-ments  11 205 66 11	Total Count of Displace-	Mainline Acreage 3.9 1.3 9.6 6.1	Interchange Acreage 77.9 232.9 234.0 55.5	Total Acreage 81.8 234.2 243.6 61.6
5	Totals for Alternative 1A	60	257	317	2	119	121	17.4	146.0	163.4	47	425	472	10	174	184	3.5	454.3	457.8	107	682	789	12	293	305	20.9	600.3	621.2
	Alternative 1B				1	Richmond District								Ha	mpton Roads Dist	rict							To	otal Project Corr	idor			
6 7 8 9	Rural Residential/Suburban low density Outlying business/Suburban high density Central business district	Count of Mainline Parcels  3 4 14 3	Count of Interchange Parcels  38 130 74 15	Total Count of Parcels 41 134 88 18	Count of Mainline Displacements  0 0 1	Count of Interchange Displace-ments  6 77 34 2	Total Count of Displace- ments 6 77 35 3	Mainline Acreage 0.3 0.1 6.5 6.0	Interchange Acreage 26.6 30.0 65.2 24.2	Total Acreage 26.9 30.1 71.7 30.2	Count of Mainline Parcels  3 22 9 3	Count of Interchange Parcels 37 254 104 30	Total Count of Parcels 40 276 113 33	Count of Mainline Displacements  0  7  1 0	Count of Interchange Displace-ments  5 128 32 9	Total Count of Displace- ments 5 135 33 9	Mainline Acreage 1.8 1.2 0.3 0.1	Interchange Acreage 51.3 202.9 168.8 31.3	Total Acreage 53.1 204.1 169.1 31.4	Count of Mainline Parcels (Partial Takes) 6 26 23 6	Count of Interchange Parcels 75 384 178 45	Total Count of Parcels 81 410 201 51	Count of Mainline Displacements  0  7  2  1	Count of Interchange Displace-ments 11 205 66 11	Total Count of Displace- ments 11 212 68 12	Mainline Acreage 2.1 1.3 6.8 6.1	Interchange Acreage 77.9 232.9 234.0 55.5	Total Acreage 80.0 234.2 240.8 61.6
10	Totals for Alternative 1B	24	257	281	2	119	121	12.9	146.0	158.9	37	425	462	8	174	182	3.4	454.3	457.7	61	682	743	10	293	303	16.3	600.3	616.6
	Alternative 2A				1	Richmond District								На	mpton Roads Dist	rict				Count of			Te	otal Project Corr	idor			
11 12 13 14	Rural Residential/Suburban low density Outlying business/Suburban high density Central business district	Count of Mainline Parcels 27 5 24 4	Count of Interchange Parcels  38 130 74 15	Total Count of Parcels 65 135 98 19	Count of Mainline Displacements  0  1 1	Count of Interchange Displace-ments  6  77  34  2	Total Count of Displace- ments 6 77 35 3	Mainline Acreage 2.0 0.1 9.3 6.0	Interchange Acreage 26.6 30.0 65.2 24.2	Total Acreage 28.6 30.1 74.5 30.2	Count of Mainline Parcels  4 29 11 3	Count of Interchange Parcels 37 254 104 30	Total Count of Parcels 41 283 115 33	Count of Mainline Displacements  0 9 1 0	Count of Interchange Displace-ments 5 128 32 9	Total Count of Displace- ments 5 137 33 9	Mainline Acreage 1.9 1.2 0.3 0.1	Interchange Acreage 51.3 202.9 168.8 31.3	Total Acreage 53.2 204.1 169.1 31.4	Mainline Parcels (Partial Takes) 31 34 35 7	Count of Interchange Parcels 75 384 178 45	Total Count of Parcels 106 418 213 52	Count of Mainline Displacements  0 9 2 1	Count of Interchange Displace-ments  11 205 66 11	Total Count of Displace- ments 11 214 68 12	Mainline Acreage 3.9 1.3 9.6 6.1	Interchange Acreage 77.9 232.9 234.0 55.5	Total Acreage 81.8 234.2 243.6 61.6
15	Totals for Alternative 2A	60	257	317	2	119	121	17.4	146.0	163.4	47	425	472	10	174	184	3.5	454.3	457.8	107	682	789	12	293	305	20.9	600.3	621.2
16 17 18 19	Alternative 2B  Rural Residential/Suburban low density Outlying business/Suburban high density Central business district	Count of Mainline Parcels 3 4 14 3	Count of Interchange Parcels 38 130 74 15	Total Count of Parcels 41 134 88 18	Count of Mainline	Count of Interchange Displace-ments  6 77 34 2	Total Count of Displacements 6 77 35 3	Mainline Acreage 0.3 0.1 6.5 6.0	Interchange Acreage 26.6 30.0 65.2 24.2	Total Acreage 26.9 30.1 71.7 30.2	Count of Mainline Parcels  3 22 9 3	Count of Interchange Parcels 37 254 104 30	Total Count of Parcels 40 276 113 33	Count of Mainline	Count of Interchange Displace-ments  5 128 32 9	Total Count of Displace- ments 5 135 33 9	Mainline Acreage 1.8 1.2 0.3 0.1	Interchange Acreage 51.3 202.9 168.8 31.3	Total Acreage 53.1 204.1 169.1 31.4	Count of Mainline Parcels (Partial Takes) 6 26 23 6	Count of Interchange Parcels 75 384 178 45	Total Count of Parcels 81 410 201 51	Count of Mainline Displacements  0  7  2	Count of Interchange Displace-ments  11 205 66 11	Total Count of Displace-	Mainline Acreage 2.1 1.3 6.8 6.1	Interchange Acreage 77.9 232.9 234.0 55.5	Total Acreage 80.0 234.2 240.8 61.6
20	Totals for Alternative 2B	24	257	281	2	119	121	12.9	146.0	158.9	37	425	462	8	174	182	3.4	454.3	457.7	61	682	743	10	293	303	16.3	600.3	616.6
	Alternative 3				1	Richmond District								На	mpton Roads Dist	rict				Count of			Te	otal Project Corri	idor			
22 23	Rural Residential/Suburban low density Outlying business/Suburban high density Central business district Totals for Alternative 3	Count of Mainline Parcels  27 8 22 3	Count of Interchange Parcels  38 130 74 15	Total Count of Parcels 65 138 96 18	Count of Mainline Displacements  0 0 1 1	Count of Interchange Displace-ments 6 77 34 2	Total Count of Displacements  6 77 35 3	Mainline Acreage 1.4 0.1 7.7 6.0	Interchange Acreage 13.5 30.0 65.2 24.3	Total Acreage 14.9 30.1 72.9 30.3	Count of Mainline Parcels  4 21 8 4	Count of Interchange Parcels 37 254 104 30 425	Total Count of Parcels 41 275 112 34	Count of Mainline Displacements  0 7 0 0	Count of Interchange Displace-ments 5 128 32 9	Total Count of Displace- ments 5 135 32 9	Mainline Acreage 1.9 1.1 0.1 0.1	Interchange Acreage 10.5 202.9 168.6 31.3	Total Acreage 12.4 204.0 168.7 31.4 416.5	Mainline Parcels (Partial Takes) 31 29 30 7	Count of Interchange Parcels 75 384 178 45	Total Count of Parcels 106 413 208 52	Count of Mainline Displacements 0 7 1 1	Count of Interchange Displace-ments 11 205 67 11 293	Total Count of Displace- ments 11 212 67 12	Mainline Acreage 3.3 1.2 7.8 6.1	Interchange Acreage 24.0 232.9 233.8 55.6	



Table 2: Right of Way/Relocation and Utilities Cost (% of Cost Estimate)
--

Classification	Richmon	d District	Hampton R	oads District
Range	LOW	HIGH	LOW	HIGH
Rural	25%	35%	30%	40%
Residential/Suburban Low Density	50%	65%	55%	70%
Outlying Business/Suburban High Density	60%	100%	75%	125%
Central Business District	100%	125%	125%	150%

Using the total right of way estimates obtained for each alternative along the corridor, per District and per category, percentages of the overall total were then determined. This percentage was then multiplied by the low and high right of way/relocation and utility cost percentages of the overall construction cost and totaled for each alternative. **Table 5** depicts the calculations utilized to develop right of way and utility costs for each alternative.

No property owners were contacted about the potential displacements, which are shown in **Table 4**.

**Table 4: Displacements by Type** 

Alternative	Land Use	Richmo	ond District	_	oton Roads istrict	Total Project Corridor		
	Type	Parcels	Individuals	Parcels	Individuals	Parcels	Individuals	
	Residential	77		137		214		
1A/2A	Business	38	187	42	343	80	530	
	Rural	6		5		11		
	Residential	77		137		212		
1B/2B	Business	38	187	42	338	80	525	
	Rural	6		5		11		
	Residential	77		135		212		
3	Business	38	187	41	338	79	525	
	Rural	6		5		11		

# II. Existing Conditions and Potential Impacts

#### A. No-Build Alternative

There are 1,112 total parcels adjacent to or intersecting the existing I-64 alignment within the study area corridor, which defines the footprint of the No-Build Alternative. The No-Build Alternative would not require the acquisition of any new right of way, including lands classified as Rural, Residential/Suburban Low Density, Outlying Business/Suburban High Density and Central Business, and therefore there would be no displacement of any residential structures and no impacts to the community anticipated.

#### B. Alternatives 1A/2A

There are 1,211 total parcels within the study area, which includes the proposed construction footprint for Alternatives 1A/2A. A total of 789 parcels would be impacted by the proposed improvements, of those, 106 are classified as Rural, 418 are classified as Residential/Suburban Low Density, 213 are classified as Outlying Business/Suburban High Density and 52 are classified as Central Business District. Of these parcels that would be impacted by Alternatives 1A/2A, 107 parcels are along the mainline and 682 parcels are adjacent to the interchanges, as shown in **Table 3** (Row 5, Columns 20, 21 and 22).

Alternatives 1A/2A would require an estimated total of 621.2 acres. An estimated 81.8 acres of right of way from the Rural classification, 234.2 acres of right of way from the Residential/Suburban Low

1									Table	e 5: Cost C	alculation	ne .								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	Alternative 1A			l l	Richmond	District							Hampton Ro	ads District		-			Total Project Corridor	
	Average Construction Estimate				\$1,274,4	88,405							\$2,134,2	207,650					\$3,408,696,055	
		Percentag	ge of Cost			ROW Take				Percenta	ge of Cost			ROW						
			according to			Acreage	% of Total				according to			Take	% of Total					
			nning Level	Cost % of Co	ost Estimate	within	Take	ROW Portion of	f Cost Estimate	VDOT Pla	nning Leve stimation	Cost % of C	Cost Estimate	Acreage within	Take	ROW Portion of	of Cost Estimate		Alternative 1A	
		Cost Estima	tion Process)			Corridor					cess)			Corridor						
		LOW	HIGH	LOW	HIGH			LOW	HIGH	LOW	HIGH	LOW	HIGH	Connuor		LOW	HIGH	LOW	HIGH	AVERAGE
1	Rural	25%	35%	\$318,622,101	\$446,070,942	28.6	17.5%	\$55,768,617	\$78,076,064	30%	40%	\$640,262,295	\$853,683,060	53.2	11.6%	\$74,403,569	\$99,204,759	\$130,172,187	\$177,280,824	\$153,726,505
2	Residential/Suburban low density	50%	65%	\$637,244,203	\$828,417,463	30.1	18.4%	\$117,387,090	\$152,603,217	55%	70%	\$1,173,814,208	\$1,493,945,355	204.1	44.6%	\$523,319,091	\$666,042,479	\$640,706,181	\$818,645,696	\$729,675,938
3	Outlying business/Suburban high density	60%	100%	\$764,693,043	\$1,274,488,405	74.5	45.6%	\$348,651,357	\$581,085,595	75%	125%	\$1,600,655,738	\$2,667,759,563	169.1	36.9%	\$591,242,650	\$985,404,417	\$939,894,007	\$1,566,490,012	\$1,253,192,009
4	Central business district	100%	125%	\$1,274,488,405	\$1,593,110,506	30.2	18.5%	\$235,554,161	\$294,442,701	125%	150%	\$2,667,759,563	\$3,201,311,475	31.4	6.9%	\$182,978,703	\$219,574,444	\$418,532,864	\$514,017,144	\$466,275,004
-	Totals for Alternative 1A					163.4		\$757,361,225	\$1,106,207,577					457.8		¢1 271 044 012	\$1,970,226,099	\$2,129,305,238	\$3,076,433,676	\$2,602,869,457
3	1 otals for Alternative 1A					103.4		\$757,361,225	\$1,100,207,577					457.8		\$1,371,944,013	\$1,970,226,099	\$2,129,305,238	\$3,070,433,070	\$2,002,809,457
	Alternative 1B				Richmond	District							Hampton Ro	ads District					Total Project Corridor	
	Construction Estimate				\$1,267,1								\$2,127,4						\$3,394,605,675	
		D	£ C+			DOW T. I				Percenta	ge of Cost			ROW						
			ge of Cost according to			ROW Take Acreage	% of Total				according to			Take	% of Total					
		,	nning Level	Cost % of Co	ost Estimate	within	Take	ROW Portion of	f Cost Estimate		nning Leve	Cost % of C	Cost Estimate	Acreage	Take	ROW Portion of	of Cost Estimate		Alternative 1B	
		Cost Estima	tion Process)			Corridor					stimation cess)			within Corridor						
$\vdash$		LOW	HIGH	LOW	HIGH			LOW	HIGH	LOW	HIGH	LOW	HIGH	Corridor		LOW	HIGH	LOW	HIGH	AVERAGE
6	Rural	25%	35%	\$316,790,881	\$443,507,234	26.9	16.5%	\$52,152,232	\$73,013,125	30%	40%	\$638,232,645	\$850,976,860	53.1	11.6%	\$74,028,295	\$98,704,393	\$126,180,527	\$171,717,518	\$148,949,023
7	Residential/Suburban low density	50%	65%	\$633,581,763	\$823,656,291	30.1	18.4%	\$116,712,430	\$151,726,159	55%	70%	\$1,170,093,183	\$1,489,209,505	204.1	44.6%	\$521,660,154	\$663,931,105	\$638,372,584	\$815,657,264	\$727,014,924
8	Outlying business/Suburban high density	60%	100%	\$760,298,115	\$1,267,163,525	71.7	43.9%	\$333,619,185	\$556,031,975	75%	125%	\$1,595,581,613	\$2,659,302,688	169.1	36.9%	\$589,368,394	\$982,280,656	\$922,987,579	\$1,538,312,631	\$1,230,650,105
9	Central business district	100%	125%	\$1,267,163,525	\$1,583,954,406	30.2	18.5%	\$234,200,358	\$292,750,447	125%	150%	\$2,659,302,688	\$3,191,163,225	31.4	6.9%	\$182,398,655	\$218,878,386	\$416,599,013	\$511,628,834	\$464,113,923
10	Totals for Alternative 1B					150.0		ф726 694 <b>2</b> 05	Φ1 072 521 70 <i>c</i>					457.7		¢1 267 455 400	\$1.062.704.541	Φ2 10 4 120 <b>7</b> 02	\$3,037,316,247	\$2.550.525.055
10	Totals for Alternative 1B					158.9		\$736,684,205	\$1,073,521,706					457.7		\$1,307,433,498	\$1,963,794,541	\$2,104,139,703	\$3,037,310,247	\$2,570,727,975
	Alternative 2A				Richmond	District							Hampton Ro	ads District					Total Project Corridor	
	Construction Estimate				\$1,301,2	55,605							\$2,170,6						\$3,471,876,055	
			ge of Cost			ROW Take				Percenta	ge of Cost			ROW						
			nccording to nning Level			Acreage	% of Total			,	according to			Take	% of Total					
			tion Process)	Cost % of Co	ost Estimate	within	Take	ROW Portion of	f Cost Estimate		nning Leve	Cost % of C	Cost Estimate	Acreage within	Take	ROW Portion of	of Cost Estimate		Alternative 2A	
			,			Corridor					cess)			Corridor						
		LOW	HIGH	LOW	HIGH			LOW	HIGH	LOW	HIGH	LOW	HIGH			LOW	HIGH	LOW	HIGH	AVERAGE
11	Rural	25%	35%	\$325,313,901	\$455,439,462	28.6	17.5%	\$56,939,887	\$79,715,842	30%	40%	\$651,186,135	\$868,248,180	53.2	11.6%	\$75,673,007	\$100,897,342	\$132,612,894	\$180,613,184	\$156,613,039
12	Residential/Suburban low density	50%	65%	\$650,627,803	\$845,816,143	30.1	18.4%	\$119,852,490	\$155,808,237	55%	70%	\$1,193,841,248	\$1,519,434,315	204.1	44.6%	\$532,247,703	\$677,406,168	\$652,100,193	\$833,214,405	\$742,657,299
13	Outlying business/Suburban high density	60%	100%	\$780,753,363	\$1,301,255,605	74.5	45.6%	\$355,973,841	\$593,289,734	75%	125%	\$1,627,965,338	\$2,713,275,563	169.1	36.9%	\$601,330,141	\$1,002,216,902	\$957,303,982	\$1,595,506,636	\$1,276,405,309
14	Central business district	100%	125%	\$1,301,255,605	\$1,626,569,506	30.2	18.5%	\$240,501,342	\$300,626,677	125%	150%	\$2,713,275,563	\$3,255,930,675	31.4	6.9%	\$186,100,596	\$223,320,715	\$426,601,938	\$523,947,392	\$475,274,665
15	Totals for Alternative 2A					163.4		\$773,267,560	\$1,129,440,491					457.8		\$1,395,351,447	\$2,003,841,126	\$2,168,619,006	\$3,133,281,617	\$2,650,950,312
	Alternative 2B				Richmond								Hampton Ro						Total Project Corridor	
	Construction Estimate	Damanta		I	\$1,293,9	30,725		T				T	\$2,163,8	T .					\$3,457,785,675	
			ge of Cost according to			ROW Take				Percenta Estimate (a	ge of Cost			ROW Take						
		,	nning Level	Cost % of Co	ost Estimate	Acreage	% of Total	ROW Portion of	f Cost Estimate		nning Leve		Cost Estimate	Acreage	% of Total	ROW Portion of	of Cost Estimate		Alternative 2B	
		Cost Estima	tion Process)			within	Take				stimation			within	Take					
						Corridor				Pro	cess)			Corridor						
		LOW	HIGH	LOW	HIGH			LOW	HIGH	LOW	HIGH	LOW	HIGH		-	LOW	HIGH	LOW	HIGH	AVERAGE
16	Rural	25%	35%	\$323,482,681	\$452,875,754	26.9	16.5%	\$53,253,881	\$74,555,433	30%	40%	\$649,156,485	\$865,541,980	53.1	11.6%	\$75,295,346	\$100,393,795	\$128,549,227	\$174,949,228	\$151,749,227
17	Residential/Suburban low density Outlying business/Suburban high density	50% 60%	65% 100%	\$646,965,363 \$776,358,435	\$841,054,971 \$1,293,930,725	30.1 71.7	18.4% 43.9%	\$119,177,830 \$340,666,461	\$154,931,179 \$567,777,436	55% 75%	70% 125%	\$1,190,120,223 \$1,622,891,213	\$1,514,698,465 \$2,704,818,688	204.1 169.1	44.6% 36.9%	\$530,588,767 \$599,455,885	\$675,294,794 \$999,093,141	\$649,766,597 \$940,122,346	\$830,225,973 \$1,566,870,577	\$739,996,285 \$1,253,496,461
18	Central business district	100%	125%		\$1,293,930,725	30.2	18.5%	\$340,666,461	\$298,934,424	125%	150%	\$1,622,891,213	\$2,704,818,688	31.4	6.9%	\$599,455,885 \$185,520,548	\$999,093,141	\$940,122,346	\$1,566,870,577 \$521,559,081	\$1,253,496,461 \$473,113,584
		-00/0	-2070	,-,0,,00,,120	,,,12,100	50.2	20.070	,1,557		12570	-20/0	,. 5 .,510,000	,- 10,7 52,123	51.1	21270	+	,02 1,007	÷ 12 1,000,007	72 = 1,000,001	÷,115,501
20	Totals for Alternative 2B					158.9		\$752,245,711	\$1,096,198,472					457.7		\$1,390,860,545	\$1,997,406,387	\$2,143,106,256	\$3,093,604,859	\$2,618,355,558
					***	D:													m . 15	
	43, ,, ,				Richmond								Hampton Ro \$2,264,1						Total Project Corridor \$3,610,721,537	
	Alternative 3  Construction Estimate				\$1 346 5	52 329							\$2,204,						φυ,υ10,141,001	
	Alternative 3  Construction Estimate	Percentas	ge of Cost		\$1,346,5					Percenta	ge of Cost			ROW						
	1	Estimate (a	according to		\$1,346,5	ROW Take	n/ CT -			Percenta Estimate (a	_	,		ROW Take	0/ 075 -					
	1	Estimate (a	according to nning Level	Cost % of Co		ROW Take Acreage	% of Total	ROW Portion of	f Cost Estimate	Estimate (a VDOT Pla	according to nning Leve		Cost Estimate	Take Acreage	% of Total	ROW Portion of	of Cost Estimate		Alternative 3	
	1	Estimate (a	according to	Cost % of Co		ROW Take	% of Total Take	ROW Portion of	f Cost Estimate	Estimate (a VDOT Pla Cost Es	according to anning Leve stimation		Cost Estimate	Take Acreage within	% of Total Take	ROW Portion of	of Cost Estimate		Alternative 3	
	1	Estimate (a VDOT Plan Cost Estima	naccording to nning Level tion Process)		ost Estimate	ROW Take Acreage within				Estimate (a VDOT Pla Cost Es Pro	according to anning Leve stimation cess)	Cost % of C		Take Acreage				LOW		AVERAGE
21	Construction Estimate	Estimate (a VDOT Plat Cost Estima	naccording to nning Level tion Process)	LOW	ost Estimate HIGH	ROW Take Acreage within Corridor	Take	LOW	HIGH	Estimate (a VDOT Pla Cost Es Pro	according to nning Leve stimation cess)	Cost % of C	HIGH	Take Acreage within Corridor	Take	LOW	HIGH	LOW \$49,095,337	HIGH	AVERAGE \$58.301.130
21 22	1	Estimate (a VDOT Plan Cost Estima	naccording to nning Level tion Process)		ost Estimate	ROW Take Acreage within				Estimate (a VDOT Pla Cost Es Pro	according to anning Leve stimation cess)	Cost % of C		Take Acreage within				LOW \$49,095,337 \$678,938,897		AVERAGE \$58,301,130 \$773,212,718
	Construction Estimate	Estimate (a VDOT Pla: Cost Estima  LOW 25%	cocording to nning Level tion Process)  HIGH 35%	LOW \$336,638,082 \$673,276,165	ost Estimate  HIGH \$471,293,315	ROW Take Acreage within Corridor	Take 9.1%	LOW \$30,697,108	HIGH \$42,975,951	Estimate (a VDOT Pla Cost Es Pro LOW 30%	according to nning Leve stimation cess) HIGH 40%	Cost % of C  LOW \$679,250,762	HIGH \$905,667,683	Take Acreage within Corridor	Take 2.7%	LOW \$18,398,229	HIGH \$24,530,973	\$49,095,337	HIGH \$67,506,924	\$58,301,130
22	Construction Estimate  Rural Residential/Suburban low density	Estimate (a VDOT Plan Cost Estima LOW 25% 50%	According to nning Level tion Process)  HIGH 35% 65%	LOW \$336,638,082 \$673,276,165 \$807,931,397	HIGH \$471,293,315 \$875,259,014	ROW Take Acreage within Corridor 14.9 30.1	9.1% 18.4%	LOW \$30,697,108 \$124,024,557	HIGH \$42,975,951 \$161,231,924	Estimate (a VDOT Pla Cost Es Pro LOW 30% 55%	eaccording to nning Leve stimation cess)  HIGH 40% 70%	Cost % of C  LOW \$679,250,762 \$1,245,293,064	HIGH \$905,667,683 \$1,584,918,446	Take Acreage within Corridor  12.4 204.0	2.7% 44.6%	LOW \$18,398,229 \$554,914,341	HIGH \$24,530,973 \$706,254,615	\$49,095,337 \$678,938,897	HIGH \$67,506,924 \$867,486,539	\$58,301,130 \$773,212,718
22 23	Construction Estimate  Rural Residential/Suburban low density Outlying business/Suburban high density	Estimate (a VDOT Plat Cost Estima LOW 25% 50% 60%	HIGH 35% 65% 100%	LOW \$336,638,082 \$673,276,165 \$807,931,397	HIGH \$471,293,315 \$875,259,014 \$1,346,552,329	ROW Take Acreage within Corridor 14.9 30.1 72.9	9.1% 18.4% 44.6%	LOW \$30,697,108 \$124,024,557 \$360,454,093 \$249,697,280	HIGH \$42,975,951 \$161,231,924 \$600,756,822	Estimate (a VDOT Plat Cost Estimate (a VDOT Plat	according to nning Leve stimation cess)  HIGH 40% 70% 125%	LOW \$679,250,762 \$1,245,293,064 \$1,698,126,906	HIGH \$905,667,683 \$1,584,918,446 \$2,830,211,510	Take Acreage within Corridor  12.4 204.0 168.7	2.7% 44.6% 36.9%	LOW \$18,398,229 \$554,914,341 \$625,762,361	HIGH \$24,530,973 \$706,254,615 \$1,042,937,269	\$49,095,337 \$678,938,897 \$986,216,455	HIGH \$67,506,924 \$867,486,539 \$1,643,694,091	\$58,301,130 \$773,212,718 \$1,314,955,273



Density classification, 243.6 acres of right of way from the Outlying Business/Suburban High Density classification, and 61.6 acres of right of way from the Central Business District classification. This includes a total of 20.9 acres along the mainline and 600.3 acres adjacent to the interchanges, as shown in **Table 3** (Row 5, Columns 26, 27 and 28).

Alternatives 1A/2A would result in the acquisition of 214 residences. The majority of these acquisitions would occur at the western end and at the eastern end of the corridor, in the most densely populated areas within the study area. These displacements would impact an estimated total of 530 individuals.

Alternatives 1A/2A would affect 80 commercial or industrial structures and 11 agricultural structures.

Alternatives 1A/2A would not have any divisive social impacts, such as separating a community from community facilities. Access to community facilities, residences, and businesses along the corridor would be unaffected. The interchanges on I-64 and the roadways associated with the interchanges would remain; therefore no change in access is anticipated.

The estimated right of way and utility costs for Rural, Residential/Suburban Low Density, Outlying/Business Suburban High Density and Central Business District land in Alternatives 1A/2A are shown in **Table 6**. This is based on project construction estimates, as shown in **Table 5** (Row 1, Columns 18 and 19). The overall right of way and utility costs for the entire Alternative 1A ranges from \$2,129,305,238 to \$3,076,433,676 as shown in **Table 5** (Row 5, Columns 18, 19 and 20), and for Alternative 2A ranges from \$2,168,619,006 to \$3,133,281,617 as shown in **Table 5** (Row 15, Columns 18, 19 and 20).

## C. Alternatives 1B/2B

There are 1,211 total parcels within the study area, which includes the proposed construction footprint for Alternatives 1B/2B. A total of 743 parcels would be impacted by the proposed improvements, of those, 81 are classified as Rural, 410 are classified as Residential/Suburban Low Density, 201 are classified as Outlying Business/Suburban High Density and 51 are classified as Central Business District. Of these parcels that would be impacted by Alternatives 1B/2B, 61 parcels are along the mainline and 682 parcels are adjacent to the interchanges, as shown in **Table 3** (Row 10, Columns 20, 21 and 22).

Alternatives 1B/2B would require an estimated total of 616.6 acres. An estimated 80.0 acres of right of way from the Rural classification, 234.2 acres of right of way from the Residential/Suburban Low Density classification, 240.8 acres of right of way from the Outlying Business/Suburban High Density classification, and 61.6 acres of right of way from the Central Business District classification. This includes a total of 16.3 acres along the mainline and 600.3 acres adjacent to the interchanges, as shown in **Table 3** (Row 10, Columns 26, 27 and 28).

Alternatives 1B/2B would result in the acquisition of 212 residences. The majority of these acquisitions would occur at the western end and at the eastern end of the corridor, in the most densely populated areas within the study area. These displacements would impact an estimated total of 525 individuals.

Alternatives 1B/2B would affect 80 commercial or industrial structures and 11 agricultural structures.

Alternatives 1B/2B would not have any divisive social impacts, such as separating a community from community facilities. Access to community facilities, residences, and businesses along the corridor would be unaffected. The interchanges on I-64 and the roadways associated with the interchanges would remain; therefore no change in access is anticipated.



Table 6: Potential Right of Way Impacts for Alternatives 1A/2A

			Alterna		Alterna	tive 2A
Classification	Number of	Acres	Right of Way a	nd Utility Costs	Right of Way ar	nd Utility Costs
	Parcels		Low	High	Low	High
Rural	106	81.8	\$130,172,187	\$177,280,824	\$132,612,894	\$180,613,184
Residential/Suburban Low Density	418	234.2	\$640,706,181	\$818,645,696	\$752,100,193	\$833,214,405
Outlying Business/Suburban High Density	213	243.6	\$939,894,007	\$1,566,490,012	\$957,303,982	\$1,595,506,636
Central Business District	52	61.6	\$418,532,864	\$514,017,144	\$426,601,938	\$523,947,392
Total Adjacent to Mainline	107	20.9	NA	NA	NA	NA
Total Adjacent to Interchanges	682	600.3	NA	NA	NA	NA
Total Right of Way and Utility Impacts & Cost for Alternatives 1A/2A	789	621.2	\$2,129,305,238	\$3,076,433,676	\$2,168,619,006	\$3,133,281,617



The estimated right of way and utility costs for Rural, Residential/Suburban Low Density, Outlying/Business Suburban High Density and Central Business District land in Alternatives 1B/2B are shown in **Table 7.** This is based on project construction estimates, as shown in **Table 5** (Row 1, Columns 18 and 19). The overall right of way and utility costs for the entire Alternatives 1B ranges from \$2,104,139,703 to \$3,037,316,247, as shown in **Table 5** (Row 10, Columns 18, 19 and 20), and Alternative 2B ranges from \$2,143,106,256 to \$3,093,604,859, as shown in **Table 5** (Row 20, Columns 18, 19 and 20).

#### D. Alternative 3

There are 1,211 total parcels within the study area, which includes the proposed construction footprint for Alternative 3. A total of 779 parcels would be impacted by the proposed improvements, of those, 106 are classified as Rural, 413 are classified as Residential/Suburban Low Density, 208 are classified as Outlying Business/Suburban High Density and 52 are classified as Central Business District. Of these parcels to be impacted by Alternative 3, 97 parcels are along the mainline and 682 parcels are adjacent to the interchanges, as shown in **Table 3** (Row 25, Columns 20, 21 and 22).

Alternative 3 would require an estimated total of 564.7 acres. An estimated 27.3 acres of right of way from the Rural classification, 234.1 acres of right of way from the Residential/Suburban Low Density classification, 241.6 acres of right of way from the Outlying Business/Suburban High Density classification, and 61.7 acres of right of way from the Central Business District classification. This includes a total of 18.4 acres along the mainline and 546.3 acres adjacent to the interchanges, as shown in **Table 3** (Row 25, Columns 26, 27 and 28).

Alternative 3 would result in the acquisition of 212 residences. The majority of these acquisitions would occur at the western end and at the eastern end of the corridor, in the most densely populated areas within the study area. These displacements would impact an estimated total of 525 individuals.

Alternative 3 would affect 79 commercial or industrial structures, 11 agricultural structures (barns, etc.).

Alternative 3 would not have any divisive social impacts, such as separating a community from community facilities. Access to community facilities, residences, and businesses along the corridor would be unaffected. The interchanges on I-64 and the roadways associated with the interchanges would remain; therefore no change in access is anticipated.

The estimated right of way and utility costs for Rural, Residential/Suburban Low Density, Outlying/Business Suburban High Density and Central Business District land in Alternative 3 is shown in **Table 8.** This is based on project construction estimates, as shown in **Table 5** (Row 1, Columns 18 and 19). The overall right of way and utility costs for the entire Alternative 3 ranges from \$2,158,069,074 to \$3,123,754,479, as shown in **Table 5** (Row 25, Columns 18, 19 and 20).



Table 7: Potential Right of Way Impacts for Alternatives 1B/2B

			Alterna		Alterna	tive 2B		
Classification	Number of	Acres	Right of Way a	nd Utility Costs	Right of Way and Utility Costs			
CAUSSALIUM	Parcels	110100	Low	High	Low	High		
Rural	81	80.0	\$126,180,527	\$171,717,518	\$128,549,227	\$174,949,228		
Residential/Suburban Low Density	410	234.2	\$638,372,548	\$815, 657,264	\$649,766,597	\$830,225,973		
Outlying Business/Suburban High Density	201	240.8	\$922,987,579	\$1,538,312,631	\$940,122,346	\$1,566,870,577		
Central Business District	51	61.6	\$416,599,013	\$511,628,834	\$424,668,087	\$521,559,081		
Total Adjacent to Mainline	61	16.3	NA	NA	NA	NA		
Total Adjacent to Interchanges	682	600.3	NA	NA	NA	NA		
Total Right of Way and Utility Impacts & Cost for Alternatives 1B/2B	743	616.6	\$2,104,139,703	\$3,037,316,247	\$2,143,106,256	\$3,093,604,859		



Table 8: Potential Right of Way Impacts for Alternative 3

Classification	Number of	Acres	Right of Way a	nd Utility Costs
Classification	Parcels	Acres	Low	High
Rural	106	27.3	\$49,095,337	\$67,506,924
Residential/Suburban Low Density	413	234.1	\$678,938,897	\$867,486,539
Outlying Business/Suburban High Density	208	241.6	\$986,216,455	\$1,643,694,091
Central Business District	52	61.7	\$443,818,384	\$545,066,925
Total Adjacent to Mainline	97	NA	NA	NA
Total Adjacent to Interchanges	682	NA	NA	NA
Total Right of Way and Utility Impacts & Cost for Alternative 3	779	564.7	\$2,158,069,074	\$3,123,754,479

# III. Relocation Assumptions and Plan

The acquisition of property and the relocation of residents, businesses, farms, and non-profit organizations, if needed, will be conducted in accordance with all applicable Federal laws, regulations and requirements, including but not limited to, 23 CFR Part 710, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended and its implementing regulations found in 49 CFR Part 24. All persons displaced on Federally-assisted projects will be treated fairly, consistently, and equitably so that they do not suffer disproportionate injuries as a result of projects that are designed for the benefit of the public as a whole. Relocation resources will be available to all residential and business relocatees without discrimination.

Due to the preliminary nature of the study, individual households and businesses were not contacted regarding potential displacements; therefore, it was not feasible to determine the specific relocation needs of each potential displacement. Relocation costs were estimated as a percentage of the construction cost estimate using VDOT Planning Level Costs Estimation Process and are included as part of the right of way and utility costs.

The project would not have a disproportionate negative impact on low-income or minority populations, and there is not a disproportionately high concentration of low-income or minority populations in the study area. The elderly population would not be disproportionately impacted in the long term; however, additional assistance may be necessary to provide for the relocation of elderly persons because of the potential physical limitations.

Sufficient properties exist on the market, according to the Multiple Listing Service, in various price ranges. Finding adequate replacement housing for the residential relocations would be possible as there is adequate housing available for each of the affected properties in the localities along the corridor. The businesses that would be relocated at the interchanges would also be able to find adequate replacement facilities in the region. Individuals and businesses in need of special relocation assistance may request such services. Specific impacts and relocation needs would be identified during final design. VDOT's Right of Way Specialists will see that the proper steps are taken to assess and negotiate impacts at that time.



## A. Utility Relocation Cost Assumptions

Utility costs were estimated as a percentage of the construction cost estimate using VDOT Planning Level Costs Estimation Process. Based on this methodology, it is not reasonable to disaggregate utility relocation cost below the corridor level. Utility costs include basic utilities such as telephone, water, natural gas distribution and electric power distribution.

## **B.** Tax Base Assumptions and Revenue Impacts

All of the proposed Build Alternatives would not have a major impact on the distribution of industries and businesses located within the corridor. Some property tax revenues would be lost due to direct property acquisitions; however, these property effects will be avoided and minimized to the greatest extent possible. Therefore, all of the Build Alternatives are expected to have a negligible effect on property tax revenues on both the state and local level.

