VDOT

Martinsville Southern Connector Study
Route 220 Environmental Impact Statement

JULY 2021

Socioeconomics and Land Use Technical Report

State Project #: 0220-044-052, P101; UPC: 110916
Federal Project #: STP-044-2(059)

Prepared in Coordination With:

U.S. Department of Transportation
Federal Highway Administration

SOCIOECONOMIC AND LAND USE TECHNICAL REPORT

Martinsville Southern Connector Study

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July 2021

Technical Report Organization

As described in Chapter 1.0 of the Final Environmental Impact Statement (EIS) for the Martinsville Southern Connector Study, updated analyses have been conducted since the Draft EIS to support the documentation of the Preferred Alternative. This memorandum has been prepared to document the updated analyses for the Preferred Alternative and supplement the previous technical report, prepared along with the Draft EIS. With this supplemental documentation incorporated into the technical report, it is comprised of the following two components. Each component has distinct formatting intended to help differentiate between them.

- The first section is the Socioeconomic and Land Use Supplemental Memorandum (introduced with a Table of Contents and formatted with orange headings). This memorandum describes any changes to the affected environment and rules or regulations since the publication of the Socioeconomic and Land Use Technical Report in March 2020 and describes the potential environmental consequences associated with the Preferred Alternative.
- The second section is the original March 2020 Socioeconomic and Land Use Technical Report (introduced with a Table of Contents and formatted with blue headings).

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1.0 INTRODUCTION

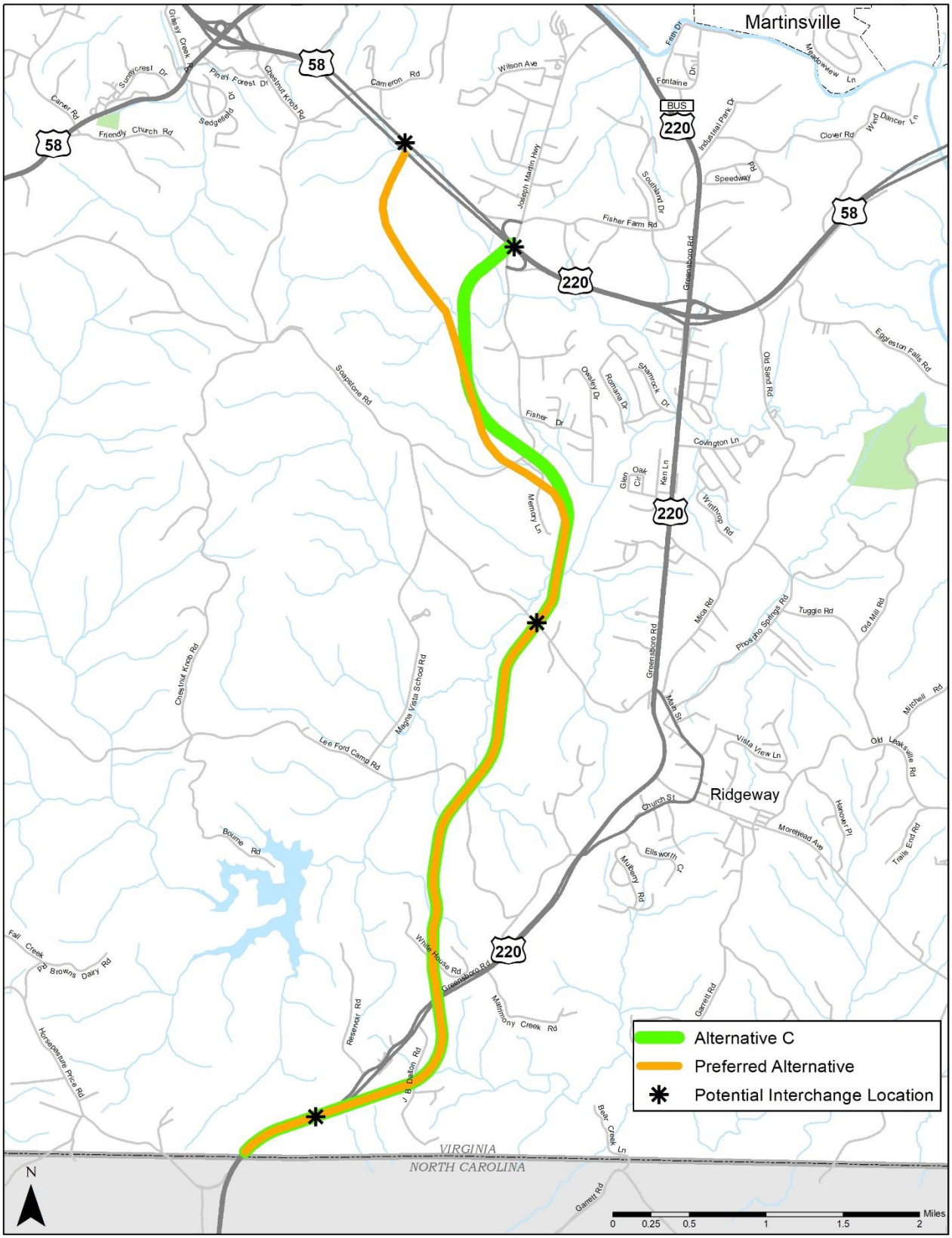
The Virginia Department of Transportation (VDOT), in coordination with the Federal Highway Administration (FHWA) as the Federal Lead Agency and in cooperation with the U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (EPA), has evaluated options for potential transportation improvements along the U.S. Route 220 (Route 220) corridor between the North Carolina state line and U.S. Route 58 (Route 58) in Henry County near the City of Martinsville (Martinsville), Virginia for the Martinsville Southern Connector Study.

In March 2020, a Draft Environmental Impact Statement (EIS) for the Martinsville Southern Connector Study was issued and evaluated three Build Alternatives and a No-Build Alternative. The Draft EIS identified a Preferred Alternative (Alternative C), which would be a four-lane, access-controlled roadway primarily on new alignment, west of existing Route 220. The Draft EIS also documented the Commonwealth Transportation Board's (CTB) January 2020 resolution approving the location of Alternative C as the Preferred Alternative, while directing VDOT to further analyze Alternative C to evaluate whether adjustments could measurably reduce impacts to properties and still result in a permittable project. As a result, VDOT has modified the Preferred Alternative. For more information on the study background and process and Purpose and Need, see **Chapter 1.0** of the Final EIS.

In accordance with the regulations for implementing National Environmental Policy Act of 1969 (NEPA) at 40 CFR §1502.9(c), a Final EIS has been prepared to address public and agency comments received on the identification of the Preferred Alternative as well as the Draft EIS and document the Preferred Alternative along with updated analyses. In support of the Final EIS, this memorandum has been prepared to supplement the ***Socioeconomic and Land Use Technical Report*** by discussing any changes to the affected environment, and assessing the socioeconomic resource effects of the Preferred Alternative. The methodology for identifying socioeconomic resources remains consistent with respective sections of the ***Socioeconomic and Land Use Technical Report***. The ***Socioeconomic and Land Use Technical Report*** is appended to this memorandum and remains unchanged since March 2020.

The Preferred Alternative would consist of an eight-mile new roadway alignment primarily to the west of existing Route 220, generally following the alignment of Alternative C evaluated in the Draft EIS (see **Figure 1-1**). Beginning at the North Carolina state line, the Preferred Alternative would reconstruct Route 220 for approximately one mile, where it would shift eastward on a new alignment before turning to the north to cross over the Norfolk Southern railroad. A new interchange to access a realigned existing Route 220 would be constructed near Reservoir Road and J.B. Dalton Road. After crossing the railroad, the new alignment would continue northward to cross White House Road and a tributary to Marrowbone Creek. The alignment would then shift to the northeast to cross Lee Ford Camp Road. The Preferred Alternative would then shift northward and continue east of Magna Vista High School and Marrowbone Creek and parallel the Pace Airport to the east. After passing Pace airport, the alignment would shift to the northeast and cross Soapstone Road to the east of Marrowbone Creek. A new interchange with the Preferred Alternative would be constructed at Soapstone Road. The alignment would continue northwest, cross three tributaries before shifting north to cross Little Marrowbone Creek and would connect to existing Route 58 at a new interchange between the existing Joseph Martin Highway interchange and the existing Route 58 interchange.

Figure 1-1: Preferred Alternative



2.0 SOCIOECONOMIC RESOURCES

2.1 COMMUNITY AND COMMUNITY FACILITIES

2.1.1 Affected Environment

Since the issuance of the Draft EIS, one additional cemetery was field confirmed for a total of ten cemeteries in the study area. The existence of an unnamed cemetery located at the Route 58 and Route 220 interchange, in the southeastern portion of the interior of the on-ramp from Fisher Farm Road to Route 220 west, was confirmed and documented in March 2020 (VDOT, 2020). The community facilities and newly confirmed cemetery within the study area are shown on **Figure 3-3** in the Final EIS.

2.1.2 Environmental Consequences

The Preferred Alternative alignment would connect to Route 58 with a new interchange. The new interchange of the Preferred Alternative with Route 58 would be located west of the existing interchange of Joseph Martin Highway and Route 58, where no community facilities or communities would be impacted.

The Preferred Alternative new alignment would be constructed west of Ridgeway in a primarily rural area. The Preferred Alternative could impact a sense of community between homes proximate to the new roadway. The Preferred Alternative new alignment roadway would be access controlled and would not function as a local access road, but instead would principally provide arterial service to regional through traffic movements. While the new roadway would be grade separated from the existing roadways it crosses, from south to north, including Greensboro Road (Route 220), White House Road, Lee Ford Camp Road (Route 688), Memory Lane and Route 641 (Joseph Martin Highway), allowing for local traffic to flow unimpeded, the new roadway would create a physical barrier between areas that were formerly adjacent to one another. The physical barrier of the roadway may result in a loss of community cohesion by separating these communities from their current surroundings; however, the level or intensity of potential impacts would be dictated by the final design and would vary based on the location of the community relative to the new roadway. The Preferred Alternative would also affect communities proximate to the new roadway through the introduction of a new noise source and visual intrusions. The Preferred Alternative would additionally include construction of a new interchange at Soapstone Road, therefore, the existing viewshed of the communities near Soapstone Road would be modified due to the introduction of a new roadway facility and the associated interchange access point. Additionally, the change to the viewshed has the potential to fragment the surrounding communities by the new roadway structure altering the existing viewshed between the communities.

By providing a new alignment for regional truck traffic, the Preferred Alternative would remove regional traffic from Route 220 compared to the No-Build Alternative. Presently, the combined traffic volume and truck percentages and associated traffic delays experienced by local residents hinders access and the ability to travel to community facilities and other local destinations, causing communities along the route to experience fragmentation effects and reduced community cohesion. By utilizing the Preferred Alternative, which would reduce the traffic on Route 220 and subsequently reduce delays at signalized intersections, local travelers would benefit from additional reliability to access schools and other community facilities, as well as allowing for

communities to experience connection to local destinations and other neighborhoods, enhancing community cohesion.

Accessibility and travel times would be improved for people traveling to and from communities and community facilities located along and near Route 220 due to the decrease in mainline traffic. The decrease in mainline traffic volumes would reduce the intersection travel delay times and queue lengths, improving access to Route 220 from side streets and businesses. The reduction in traffic would decrease community fragmentation through reduced delay times and would improve community cohesion. This travel time saving applies to emergency vehicles with improved access to and from communities along Route 220 through reduced delay times due to the lower volume of traffic. In addition, emergency response may be improved to the communities west of Route 220 through use of the new roadway and interchange provided at Soapstone Road. The Preferred Alternative would provide the benefit of a secondary north/south roadway for emergency vehicles to access points along and within the study area.

Two community facilities could potentially be affected by the Preferred Alternative. One community facility, an unnamed cemetery along White House Road, is located completely within the LOD of the Preferred Alternative and one community facility, the Pace Airport, is located adjacent to the interchange of the Preferred Alternative. As the design advances, VDOT would treat human remains in a manner consistent with the Advisory Council on Historic Preservation (ACHP)'s *Policy Statement Regarding Treatment of Burial Sites, Human Remains and Funerary Objects* and the Virginia Antiquities Act (Code of Virginia 10.1-2305) and its implementing regulation (17VAC5-20), adopted by the Virginia Board of Historic Resources and published in the Virginia Register on July 15, 1991. Additionally, the interchange of the Preferred Alternative and Soapstone Road would be located approximately 1,150 feet from the northern terminus of the private runway strip for the Pace Airport and is not expected to exceed a height of 200 feet above ground level, which is among Federal Aviation Administration (FAA)'s standards for determining an obstruction to air navigation [14 CFR §77.17(2)] (FAA, 2020). As a result, navigable airspace is not anticipated to be obstructed from the implementation of the Preferred Alternative. As a private-use airport, an airport airspace analysis would not be required under 14 CFR §77; however, should funding be identified and any improvements advance from the Martinsville Southern Connector Study, coordination with the airport sponsor would occur as part of the right of way acquisition process to ensure the continued safety of operations at the Pace Airport.

2.1.3 Mitigation

Impacts to the use and functionality of these potentially impacted community facilities would be coordinated during the right of way acquisition process for any improvements that advance from the Martinsville Southern Connector Study and would be minimized to the greatest extent practicable as part of more detailed design. The potential impacts were evaluated at a planning level, the final property impacts would be dictated by the final design and prior to the placement of construction features. Affected property owners would be compensated for the fair market value of the acquired portion of land and structures acquired for the construction of the Preferred Alternative in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act* of 1970 (as amended).

There is one unnamed cemetery along White House Road within the LOD of the Preferred Alternative. As the design advances, VDOT would treat human remains in a manner consistent

with the Advisory Council on Historic Preservation (ACHP)'s *Policy Statement Regarding Treatment of Burial Sites, Human Remains and Funerary Objects* and the Virginia Antiquities Act (Code of Virginia 10.1-2305) and its implementing regulation (17VAC5-20), adopted by the Virginia Board of Historic Resources and published in the Virginia Register on July 15, 1991. If relocation of a cemetery is required, disinterment of human burials would proceed under a court order for the removal of graves, a permit for the archaeological recovery of human remains issued by the Virginia Department of Historic Resources, or with a permit issued by the local health department. This latter permit, intended for disinterment, transport, and reinternment of recent bodies to and from active cemeteries has been used as an alternative to the court order and the archaeological permit processes. The decision on which permit to pursue would be made as part of more detailed design phases for any future improvements that may advance.

Amended and reenacted Virginia Code (§§ 57-36 and 57-38.1) requires local governments (any county, city, or town) to consider avoidance of adverse impacts to abandoned cemeteries on properties that are acquired by and intended to be developed by the local government prior to completion of development plans. The local governments are required to engage in active public notice and participation regarding efforts to avoid adverse impacts to the graveyard or to remove the remains interred in such graveyard to an alternative repository and make a good faith effort to identify and contact living descendants of the person buried in the graveyard. Public notification efforts would include at least one notice published in a locally circulating newspaper. Additionally, notice would be posted at the site of the graveyard and at least one public meeting would be held. Consultation with any local historic preservation commission and historical and genealogical societies would be required.

2.2 POPULATION AND HOUSING

2.2.1 Affected Environment

The Preferred Alternative intersects two additional block groups, Census Tract 108 Block Group 2 and Census Tract 107 Block Group 1 (see **Figure 3-4** in the Final EIS). The additional block groups were added to the Census-based study area and the associated population and housing characteristics data from the 2016 American Community Survey (ACS) 5-Year Estimates are shown in **Table 3-2** and **Table 3-3** in the Final EIS, respectively.

2.2.2 Environmental Consequences

The Preferred Alternative could potentially impact 58 acres of residential land within 52 residential properties. Of the 52 potentially impacted residential properties, 21 residential properties would require potential relocation (see **Table 2-1**). The majority of these potential relocations are estimated to be associated with the implementation of the southern interchange of the new roadway facility with existing Route 220 and are anticipated to be concentrated in the J.B. Dalton neighborhood and properties in the interchange vicinity along existing Route 220. The remaining relocations would be scattered along the alignment (from north to south): two residences along Route 58 as the Preferred Alternative ties into the existing roadway at the northern end of the study area, one residence along Ravenswood Lane, one residence along Red Fox Road, one residence along Soapstone Road, and one residence on White House Road as the alignment crosses Greensboro Road (Route 220).

Table 2-1: Estimated Residential Impacts

Residential Impact	Preferred Alternative
Estimated Number of Residential Properties Impacted	52
Estimated Residential Acres Impacted	58
Estimated Residential Relocations	21

2.2.3 Mitigation

Table 3-3 in the Final EIS indicates the amount of potential available housing in the study area corridors given the difference between total housing units and total occupied housing units identified, however, it is unknown if these available properties are suitable and comparable properties. A determination on the availability of adequate housing would be made during detailed design. The potential impacts were evaluated at a planning level, the final property impacts would be dictated by the final design and placement of construction features.

All affected property owners would be compensated for the fair market value of the acquired portion of land and any structures acquired for the construction of the Preferred Alternative. VDOT's *Right of Way Manual of Instructions*, updated January 2016, indicates that after any improvements have been planned and all requirements have been met, property owners would be notified, the property would be appraised accordingly, and just compensation would be offered and would never be less than the fair market value (VDOT, 2016). Any individual, family, business, farm, or non-profit organization displaced as a result of the acquisition of real property is also eligible to receive reimbursement for moving costs. This process is known as relocation assistance.

In accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act* of 1970 (as amended), displaced property owners would be provided relocation assistance advisory services together with the assurance of the availability of decent, safe, and sanitary housing. At the planning level, there is no specific information on whether there is a minority property owner or renter for any of the potential relocations; however, all relocation resources would be made available to all displaced persons without discrimination (see **Section 3.0**). Additionally, property owners would be able to consult VDOT's *A Guide for Property Owners and Tenants*, an information packet for property owners which provides information on VDOT's process of acquiring rights of way for public improvement projects.

2.3 ECONOMIC RESOURCES

2.3.1 Affected Environment

The two additional block groups associated with the Preferred Alternative were added to the Census-based study area to determine average study area income and employment totals. Income and employment data associated with the additional block groups is shown in **Table 3-5** and **Table 3-6** in the Final EIS, respectively.

2.3.2 Environmental Consequences

The Preferred Alternative would not impact any commercial properties but could result in three industrial property impacts, totaling 27 impacted acres; however, would not result in any industrial relocations.

The Preferred Alternative would likely change commuter patterns for both local and regional traffic with the introduction of the new roadway. For local traffic from north of Church Street and Lee Ford Camp Road, commuting patterns would remain similar to today, however, the commuting time would improve due to the decrease in regional through traffic on Route 220. For local traffic with origins or destinations south of Church Street and Lee Ford Camp Road, commuting patterns would likely change by utilizing the new roadway for improved access to destinations or origins, north or west of the study area with improved access to Route 58/Route 220. For commuters located in the middle of the study area in Ridgeway, some commuters may choose to use Soapstone Road to access the new roadway for destinations north and west of the study area.

For regional traffic that has commuting pattern origins or destinations south of the study area in North Carolina with destinations and origins north and west of the study area that currently utilize Route 58/Route 220, with the Preferred Alternative, commuters would likely use the new roadway to benefit from the improved travel times and avoidance of the signalized and unsignalized intersections and driveways along existing Route 220. The new interchange, where the new location of Route 220 would connect to existing Route 58, for the Preferred Alternative would be located approximately 3,000 feet west of Joseph Martin Highway[1] and would accommodate all movements from the new alignment onto Route 58 and the Route 58 traffic heading onto the new roadway. For commuting patterns north and east of the study area, commuters may choose to use Route 220 for a more local trip; however, for longer destination trips, commuters would likely use the new roadway to keep a continuous flow on the new roadway and minimize travel time delays on existing Route 220.

2.3.3 Mitigation

The potential impacts to commercial and industrial properties were evaluated at a planning level, the final property impacts would be dictated by the final design and placement of construction features. The potential acquisition from three industrial properties under the Preferred Alternative would receive reimbursement for the fair market value of property acquired in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act* of 1970 (as amended). Additionally, property owners would be able to consult VDOT's *A Guide for Property Owners and Tenants*, an information packet for property owners which provides information on VDOT's process of acquiring rights of way for public improvement projects.

2.4 LAND USE

2.4.1 Affected Environment

The existing and future land use in the study area remains consistent with **Section 2.4.2** of the ***Socioeconomic and Land Use Technical Report***, including the Growth Areas and Rural Areas indicated in the Henry County Comprehensive Plan (HCPC, 1995).

2.4.2 Environmental Consequences

The LOD of the Preferred Alternative includes 496 acres and would require an estimated 391 acres for conversion to transportation land use, not including the existing transportation land use (see **Figure 3-6** in the Final EIS). The acquisition would consist of an estimated 171 acres of undeveloped land (35 percent), an estimated 151 acres of agricultural land (31 percent), an

[1] Represents gore to gore measurement for westbound direction.

estimated 58 acres of residential land (12 percent), an estimated 10 acres of industrial land (two percent), and an estimated 0.4 acres of institutional land (0.1 percent) (see **Table 2-2**). The agricultural and undeveloped lands that would be converted to transportation land use are located throughout the new alignment portion of the planning level LOD of the Preferred Alternative and at the new interchange, where the new location of Route 220 would connect to existing Route 58. The residential land that would be converted is located around Soapstone Road and J.B. Dalton Road. The industrial land that would be converted to transportation land use within the planning level LOD of the Preferred Alternative is located primarily west of Memory Lane near the Radial Fulfillment Center (see **Figure 3-5** in the Final EIS) and along Route 220 in the southern portion of the study area. The conversion of 496 acres to transportation use would be a relatively small percentage (3.9) when compared to the 12,870 acres within the study area.

Table 2-2: Potential Impacts to Land Use within the Preferred Alternative LOD

Land Use Impact	Preferred Alternative
Undeveloped/ Water	171
Residential	58
Agricultural	151
ROW/Transportation	105
Industrial	10
Institutional/ Public Use	0.4
Commercial	0
Total	496

The majority of the planning level LOD for the Preferred Alternative, where the existing land uses would be converted to transportation use, and the adjacent areas are zoned for future agricultural land use (see **Figure 3-7** in the Final EIS). However, small portions of the planning level LOD for the Preferred Alternative and adjacent areas are zoned for industrial use. The new alignment portion of the planning level LOD of the Preferred Alternative is generally located within the western portion of the Ridgeway Growth Area, 61 percent (305 acres) of the planning level LOD for Preferred Alternative is within the Ridgeway Growth Area, which is identified in the Henry County Comprehensive Plan as areas having existing or planned road networks which can sustain traffic increases (HCPC, 1995). The construction of the Preferred Alternative would not disrupt future plans for growth in the area and could encourage the growth to stay within the designated growth area.

2.4.3 Mitigation

Impacts to land use are anticipated to be minor. Additionally, the conversion to transportation use would be relatively small when compared to the existing total acreage per land use class in the study area. The anticipated minor impacts to land use were determined at a planning level, final land use impacts would be determined during future design.

Coordination occurred between VDOT, Henry County, and the West Piedmont Planning District Commission (WPPDC) during the development of the Draft EIS to determine consistency with land use. Additionally, VDOT obtained agreement from WPPDC on future land use patterns (see **Appendix C** of the Draft EIS). However, the responsibility for land use planning lies with the local jurisdictions, such that jurisdictions manage zoning changes to accommodate local and regional goals and future zoning plans. Although the localities anticipate the future land use changes identified during the development of the Draft EIS, additional coordination with local jurisdictions

that manage zoning changes to mitigate extensive impacts to land use would be continued and addressed during final design. Mitigation measures to land use would be coordinated with localities, as necessary.

3.0 ENVIRONMENTAL JUSTICE

3.1 Affected Environment

The two additional block groups associated with the Preferred Alternative were added to the summary of racial and minority characteristics by Census block group with county and state percentages depicted for comparison, as depicted in **Table 3-1** and on **Figure 3-8** in the Final EIS. All census block groups that were determined to be Environmental Justice (EJ) communities based upon having "meaningfully greater" minority population percentages are highlighted and in bold in **Table 3-1**. One of the new block groups, Census Tract 108 Block Group 2, has a total minority population percentage above the "meaningfully greater" threshold (31.78 percent).

Neither of the new block groups has a median household income below the 2018 HHS poverty threshold. Additionally, **Table 3-11** in the Final EIS identifies persons with limited English proficiency or persons over five years old who responded "not well" or "not at all" for English proficiency for each Census block group in the study area and surrounding jurisdictions.

3.2 Environmental Consequences

The northern portion of the planning level LOD of the Preferred Alternative is located within three minority block groups, Census Tract 106.01 Block Group 1, Census Tract 107 Block Group 2 and Census Tract 108 Block Group 2. Of the 21 potential residential relocations that could occur within the Preferred Alternative, four relocations would occur in within the minority block groups. The interchange of the Preferred Alternative with Soapstone Road would be located outside of the minority block groups, minimizing potential impacts to minority populations and minimizing impacts associated with subsequent growth and development surrounding a new interchange.

Due to the new facility being access controlled, the impact to the surrounding area would be confined to the footprint of the alignment and associated interchanges as regional traffic, including trucks, would not be able to access the facility at all roadway crossings. Local access to neighborhoods would be maintained due to grade separation of the new roadway from the existing roadways, except for Soapstone Road where an interchange would be provided.

The decrease in mainline traffic volumes would reduce the intersection travel delay times and queue lengths, improving local connectivity and access to Route 220 from side streets and businesses. The improved local connectivity and access between communities, community facilities, and for emergency vehicles would include the Census block groups containing EJ populations. Therefore, the Preferred Alternative would not result in disproportionate and adverse impacts to EJ populations because any beneficial effects would equally affect the Census block groups containing and not containing EJ populations and the impacts to minority block groups would not be greater in magnitude than impacts to non-minority block groups.

In accordance with EO 12898 *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (1994) and FHWA Order 6640.23A *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (2012), any beneficial effects would equally affect the Census block groups containing and not containing

Table 3-1: Study Area Racial and Ethnic Characteristics

Census Block Group	Total Population	White[1]	Black or African American[1]	American Indian or Alaskan Native[1]	Asian[1]	Native Hawaiian or Other Pacific Islander[1]	Some Other Race[1]	Two or More Races[1]	Hispanic or Latino[2]	Total Block Group Minority Population[3]
106.01-1	1,512	877 (58.00%)	423 (27.98%)	4 (0.26%)	7 (0.46%)	0 (0%)	0 (0%)	28 (1.85%)	173 (11.44%)	**635 (42.00%)**
106.01-2	1,287	1,108 (86.09%)	127 (9.87%)	2 (0.16%)	27 (2.10%)	0 (0%)	0 (0%)	11 (0.85%)	12 (0.93%)	179 (13.91%)
106.02-1	1,030	794 (77.09%)	190 (18.45%)	1 (0.10%)	7 (0.68%)	0 (0%)	0 (0%)	9 (0.87%)	29 (2.82%)	236 (22.91%)
106.02-2	1,592	1,246 (78.27%)	248 (15.58%)	1 (0.06%)	15 (0.94%)	0 (0%)	1 (0.06%)	20 (1.26%)	61 (3.83%)	346 (21.73%)
106.02-3	1,403	1,139 (81.18%)	198 (14.11%)	9 (0.64%)	3 (0.21%)	0 (0%)	0 (0%)	18 (1.28%)	36 (2.57%)	264 (18.82%)
107-1	*1,282*	*886 (69.11%)*	*371 (28.94%)*	*1 (0.08%)*	*3 (0.23%)*	*0 (0%)*	*4 (0.31%)*	*17 (1.33%)*	*0 (0%)*	*396 (30.89%)*
107-2	612	343 (56.05%)	**255 (41.67%)**	1 (0.16%)	1 (0.16%)	0 (0%)	1 (0.16%)	2 (0.33%)	9 (1.47%)	**269 (43.95%)**
107-3	550	422 (76.73%)	91 (16.55%)	2 (0.36%)	0 (0%)	0 (0%)	0 (0 %)	13 (2.36%)	22 (4.00%)	128 (23.27%)
108-2	*921*	*434 (47.12%)*	***468 (50.81%)***	*2 (0.22%)*	*0 (0%)*	*0 (0%)*	*6 (0.65%)*	*11 (1.19%)*	*14 (1.52%)*	***501 (54.40%)***
Henry County	54,151	39,487 (72.92%)	11,841 (21.87%)	97 (0.18%)	237 (0.44%)	4 (0.01%)	1,643 (3.03%)	842 (1.55%)	2,545 (4.70%)	17,209 (31.78%)
Virginia	8,001,024	5,486,852 (68.58%)	1,551,399 (19.39%)	29,225 (0.37%)	439,890 (5.50%)	5,980 (0.07%)	254,278 (3.18%)	233,400 (2.92%)	631,825 (7.90%)	3,145,997 (39.32%)

[1] Regardless of Hispanic/Latino designation.

[2] The U.S. Census Bureau defines Hispanic or Latino as a person of Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race. Because Hispanic or Latino may be any race, data may overlap for other race categories and percentages were not calculated.

[3] Total minority population is the sum of all non-White races plus Hispanic or Latino - White; block groups with percentages of minority and/or Hispanic/Latino greater than the 31.78% threshold are highlighted and shown in bold.

Note: Additional block groups included in the Census-based study area since the issuance of the Draft EIS are indicated in italics.

Source: *U.S. Census Bureau, 2010 Decennial Census*.

EJ populations and the impacts to minority block groups would not be greater in magnitude than impacts to non-minority block groups. The Preferred Alternative would not result in disproportionate and adverse impacts to EJ populations.

3.3 Mitigation

VDOT right of way staff would coordinate with residents requiring relocation. The potential impacts were evaluated at a planning level, the final property impacts would be dictated by the final design and placement of construction features. Relocation resources would be made available without discrimination. VDOT's relocation policies provide an added benefit to low-income displaced persons (although no Census blocks were identified with a median household income lower than the poverty guidelines, individual property owners may qualify as low-income displaced persons). The relocation program outlines special cases where a displaced person is eligible for a price differential payment in addition to the fair market value of the property to help defray the costs necessary to purchase a comparable, decent, safe, and sanitary replacement dwelling. If appropriate housing cannot be found, VDOT can provide housing of last resort. Housing of last resort may include relocation in a rehabilitated dwelling, construction of an addition to a relocation dwelling, purchase of land and construction of a new replacement dwelling, a replacement housing payment in excess of the price differential, or a direct loan that would enable the displaced person to construct or contract the construction of a replacement dwelling. Additionally, public outreach and meaningful access to public information would continue to be provided to minority and/or low-income populations. Property owners would be able to consult VDOT's *A Guide for Property Owners and Tenants*, an information packet for property owners which provides information on VDOT's process of acquiring rights of way for public improvement projects. Specific outreach methods for inclusion of EJ communities and persons of limited English proficiency can be found in **Chapter 6.0 Comments and Coordination** of the Final EIS.

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ACS	American Community Survey
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CIM	Citizen Information Meeting
EDC	Martinsville / Henry County Economic Development Corporation
EIS	Environmental Impact Statement
EJ	Environmental Justice
EJSCREEN	Environmental Justice Screening and Mapping Tool
EO	Executive Order
EPA	United States Environmental Protection Agency
FHWA	Federal Highway Administration
FR	Federal Register
GDP	Gross Domestic Product
GIS	Geographic Information Systems
HCPC	Henry County Planning Commission
HHS	Health and Human Services
IRS	Internal Revenue Service
LEHD	Longitudinal Employer-Household Dynamics
LOD	Limit of Disturbance
MPH	Miles per hour
NEPA	National Environmental Policy Act
OFD	One Federal Decision
PART	Piedmont Area Regional Transit System
PTI	Piedmont Triad International (Airport)
TPO	Transportation Planning Organization
USACE	United States Army Corps of Engineers
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
VDHCD	Virginia Department of Housing and Community Development
VDOT	Virginia Department of Transportation
VEC	Virginia Employment Commission
WCCPS	Weldon Cooper Center for Public Service
WPPDC	West Piedmont Planning District Commission

1. INTRODUCTION

The Virginia Department of Transportation (VDOT), in coordination with the Federal Highway Administration (FHWA) as the Federal Lead Agency and in cooperation with the U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (EPA), have prepared a Draft Environmental Impact Statement (EIS) for the Martinsville Southern Connector Study – Route 220 EIS (Martinsville Southern Connector Study). This study evaluates potential transportation improvements along the U.S. Route 220 (Route 220) corridor between the North Carolina state line and U.S. Route 58 (Route 58) in Henry County near the City of Martinsville (Martinsville), Virginia.

The Draft EIS and supporting technical documentation have been prepared pursuant to the National Environmental Policy Act of 1969 (NEPA), codified in 42 United States Code §4321-4347, as amended, and in accordance with FHWA regulations, found in 23 Code of Federal Regulations (CFR) §771. As part of the Draft EIS, the environmental review process has been carried out following the conditions and understanding of the *NEPA and Clean Water Act (Section 404) Merged Process for Highway Projects in Virginia* (merged process)[1]. The Martinsville Southern Connector Study also follows the One Federal Decision (OFD) process, which was enacted by Executive Order (EO) 13807: *Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects* (82 FR 163)[2].

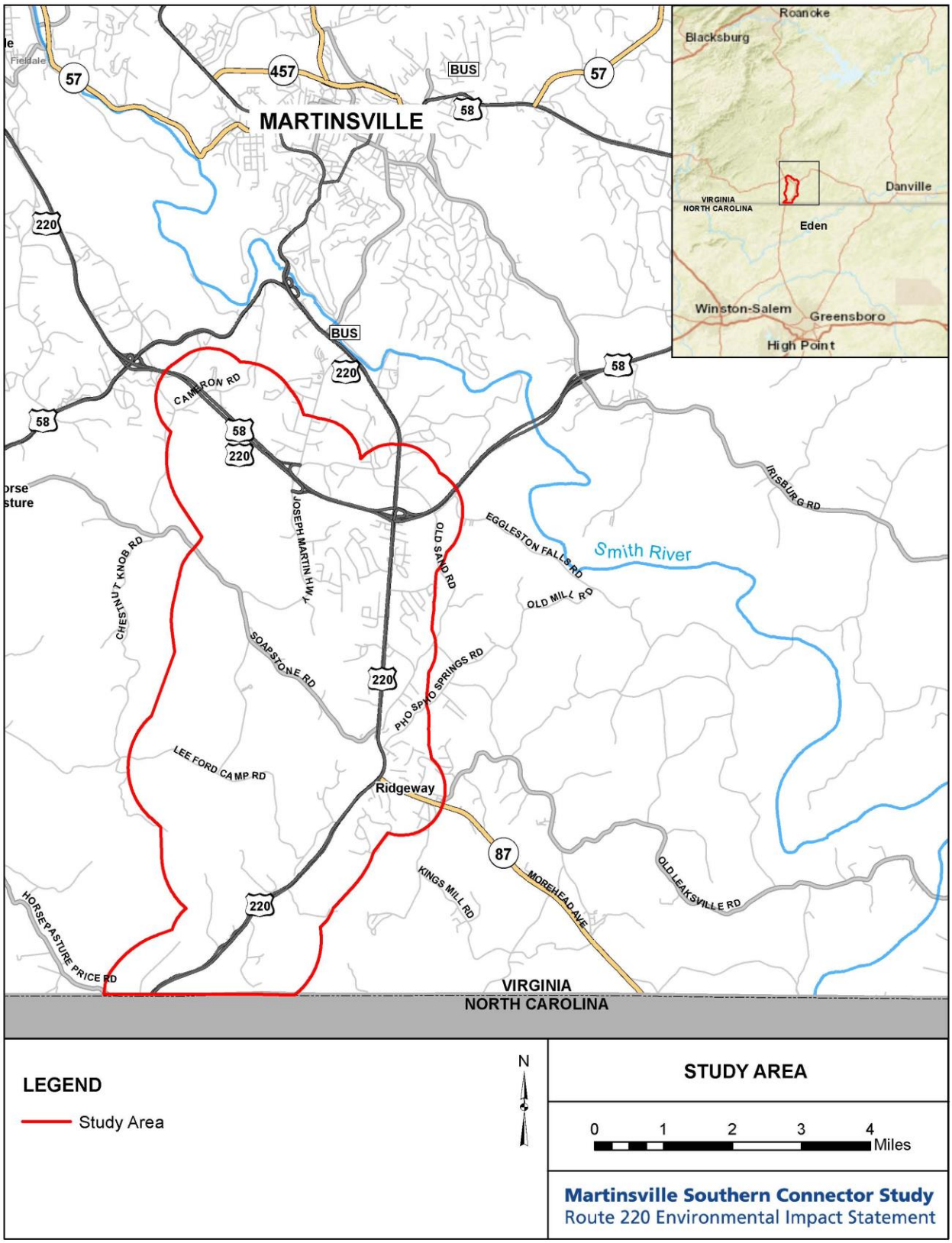
The study area for the Martinsville Southern Connector Study is located south of Martinsville in Henry County, Virginia (see **Figure 1-1**). Positioned on the southern border of Virginia, the study area is located approximately 60 miles southeast of the City of Roanoke (Roanoke) via Route 220, 30 miles west of the City of Danville via Route 58, and 40 miles north of the City of Greensboro in North Carolina via Interstate 73 and Route 220.

The study area encompasses approximately seven miles of the Route 220 corridor, between the interchange of Route 220 with the William F. Stone Highway and the North Carolina state line. Within the study area, existing Route 220 consists of a four-lane roadway, with two travel lanes in each direction. The William F. Stone Highway is signed as Route 58 to the east of its interchange with Route 220; west of the interchange, Route 220 is collocated with Route 58, as both bypass Martinsville. For the purposes of consistency in this study, portions of the William F. Stone Highway east and west of the Route 220 interchange are herein referred to as Route 58. The study area also includes the interchange of Route 58 at Route 641 (Joseph Martin Highway), approximately 1.25 miles west of Route 220. Additionally, the study area encompasses the Town of Ridgeway (Ridgeway), where Route 220 connects with Route 87 (Morehead Avenue), approximately three miles south of Route 58.

[1]Established under a memorandum of understanding between VDOT, FHWA, USACE, EPA, and the U.S. Fish and Wildlife Service (USFWS), the merged process establishes a procedure for coordinated environmental review and development of documentation in Virginia that complies with the requirements of NEPA and provides sufficient information to support Federal regulatory decision-making, including FHWA approval or permits issued by other Federal agencies.

[2]The Martinsville Southern Connector Study is following the OFD process, subsequent to receiving OFD designation by FHWA. OFD requires that major infrastructure projects have a single permitting timetable for synchronized environmental reviews and authorizations: www.permits.performance.gov/permitting-projects/us-route-58220-bypass-north-carolina-state-line-limited-access-study.

Figure 1-1: Study Area



The study area boundary for the Martinsville Southern Connector Study has been developed to assist with data collection efforts and the evaluation of alternatives retained for evaluation. The study area covers 12,873 acres and generally encompasses a one-half-mile buffer around the portion of existing Route 220, between the North Carolina state line and Route 58, and each alternative carried forward for evaluation. The study area was used in various instances during preliminary research and to establish an understanding of the potentially affected natural, cultural, and social resources that may be impacted by the improvements evaluated in the Draft EIS.

The purpose of this ***Socioeconomic and Land Use Technical Report*** is to identify and assess the socioeconomic resource effects of the alternatives retained for evaluation in the Draft EIS.

1.1 PURPOSE AND NEED

Working with FHWA and the Cooperating and Participating Agencies, the Purpose and Need for the study was concurred upon in November 2018. The purpose of the Martinsville Southern Connector Study is to enhance mobility for both local and regional traffic traveling along Route 220 between the North Carolina state line and Route 58 near Martinsville, Virginia.

The Martinsville Southern Connector Study addresses the following needs:

- **Accommodate Regional Traffic** – current inconsistencies in access, travel speeds, and corridor composition along Route 220 inhibit mobility and creates unsafe conditions considering the high volume of truck and personal vehicle traffic traveling through the corridor to origins and destinations north and south of the study area;
- **Accommodate Local Traffic** – numerous, uncontrolled access configurations along Route 220, combined with high through traffic movement, create traffic delays and contribute to high crash rates for travelers within the corridor accessing residences, commercial buildings, and schools; and
- **Address Geometric Deficiencies and Inconsistencies** – current geometric conditions along Route 220, such as lane widths, horizontal curves, and stopping sight distances, are below current design standards and vary along the length of the corridor, resulting in safety concerns for all users.

1.2 ALTERNATIVES CARRIED FORWARD FOR EVALUATION

1.2.1 Alternatives Retained

VDOT, in coordination with FHWA, the Cooperating and Participating Agencies, and the general public, initially considered a broad range of alignment options to address the established Purpose and Need of the Martinsville Southern Connector Study. A number of these alignment options were not carried forward based on their inability to meet the Purpose and Need. Other alignment options were developed into alternatives for evaluation, but were not retained based on anticipated impacts to private property. As part of the public involvement process during the development of the Draft EIS, additional alternatives were suggested for evaluation. These options were similar to the alignment options initially considered and were not carried forward for evaluation based on their inability to address the identified Purpose and Need for the study.

The alternatives carried forward for evaluation and retained for detailed study in the Draft EIS are listed below:

- No-Build Alternative;
- Alternative A – New access-controlled alignment west of existing Route 220 with a new interchange with Route 58 to the west of Route 641 (Joseph Martin Highway) and reconstruction of the existing Route 220 alignment for approximately 0.5 miles from the North

Carolina state line;

- Alternative B – New access-controlled alignment west of existing Route 220 and west of Magna Vista High School with reconstruction of the Joseph Martin Highway interchange at Route 58 and reconstruction of the existing Route 220 alignment for approximately 0.5 miles from the North Carolina state line; and
- Alternative C – New access-controlled alignment west of existing Route 220 and east of Magna Vista High School with reconstruction of the Joseph Martin Highway interchange at Route 58 and reconstruction of the existing Route 220 alignment for approximately 0.5 miles from the North Carolina state line.

These alternatives are described in the sections that follow. Additional information is included in the Draft EIS and supporting ***Alternatives Analysis Technical Report*** (VDOT, 2020a), including the process used to identify and screen alignment options, alternatives carried forward, and alternatives retained for detailed study.

Based on the detailed study of the alternatives retained for evaluation, Alternative C has been identified in this Draft EIS as the Preferred Alternative.

1.2.1.1 No-Build Alternative

In accordance with the regulations for implementing NEPA [40 CFR §1502.14(d)], the No-Build Alternative has been included for evaluation as a basis for the comparison of future conditions and impacts. The No-Build Alternative would retain the Route 220 roadway and associated intersections and interchanges in their present configuration, allowing for routine maintenance and safety upgrades.

This alternative assumes no major improvements within the study area, except for previously committed projects that are currently programmed and funded in VDOT's *Six Year Improvement Plan (SYIP) for Fiscal Year (FY) 2020-2025* (VDOT, 2019) and Henry County's *Budget for FY 2019-2020* (Henry County, 2019). As these other projects are independent of the evaluated alternatives, they are not evaluated as part of the Draft EIS and supporting documentation.

1.2.1.2 Alternative A

Alternative A would consist of a new roadway alignment that is primarily to the west of existing Route 220. Under Alternative A, access would be controlled and provided at three new interchanges. It is assumed that interchanges would be provided at both ends of the facility and one would be located along the corridor. For the purposes of the analyses in the Draft EIS and supporting documentation, it is assumed this third interchange would occur at Route 687 (Soapstone Road). The reconstructed portion of Route 220, along with the new alignment, would incorporate full access control.

Beginning at the North Carolina state line, Alternative A would reconstruct Route 220 for approximately one mile, where it would shift eastward on a new alignment before turning to the north to cross over the Norfolk Southern railroad. The wide curve in this location would allow for an adequate turning radius to meet design standards for the arterial facility with a 60 mph design speed and minimize potential impacts to residents in the vicinity of J.B. Dalton Road. A new interchange to access a realigned existing Route 220 would be constructed near Route 689 (Reservoir Road) and Route 971 (J.B. Dalton Road). After crossing the railroad, the new alignment would parallel White House Road along its south side and then shift to the northwest crossing Patterson Branch. The alignment would then shift to the north, following a small ridge between Patterson Branch and a tributary to Marrowbone Creek, before crossing Marrowbone Creek east of Marrowbone Dam. The alignment would continue north and to the west of a large farm/open field, crossing tributaries of Marrowbone Creek. The alignment would shift eastward

and cross over Route 688 (Lee Ford Camp Road), Stillhouse Run, and a floodplain. After crossing Stillhouse Run, the alignment would shift northward and continue for approximately one mile. The alignment would then continue north reaching Soapstone Road, where a new interchange would be provided, west of the intersection with Joseph Martin Highway. An interchange with Alternative A is proposed at Soapstone Road. The alignment would then turn to the northeast to cross three minor tributaries to Marrowbone Creek. The alignment continues in a northerly direction with a new interchange at Route 58, west of the interchange at Joseph Martin Highway.

1.2.1.3 Alternative B

Alternative B would consist of a new roadway alignment that is primarily to the west of existing Route 220. Under Alternative B, access would be controlled and provided at two new interchanges and a modified interchange at Route 58 and the Joseph Martin Highway. For the purpose of this study, it is assumed that new interchanges would be provided at the southern end of the facility and at Soapstone Road. If this alternative were to advance to a phase of more detailed design, the final interchange locations and configurations would be refined. The reconstructed portion of Route 220, along with the new alignment, would incorporate access control.

Beginning at the North Carolina state line, Alternative B would reconstruct Route 220 for approximately one mile, where it would shift eastward before turning to the north to cross over the Norfolk Southern railroad. The wide horizontal curve in this location would allow for an adequate turning radius to meet design standards for the arterial facility with a 60 mph design speed, as well as minimize potential impacts to residents in the vicinity of J.B. Dalton Road. A new interchange to access a realigned existing Route 220 would be constructed near Reservoir Road and J.B. Dalton Road. After crossing the railroad, the new alignment would parallel White House Road along its south side and then shift to the northwest prior to crossing Patterson Branch. The alignment would then gradually shift from the northwest to the northeast and cross three tributaries to Marrowbone Creek. The alignment would continue in a northeasterly direction over Lee Ford Camp Road, where it would pass to the east of the Marrowbone Plantation, shifting northwest to cross Marrowbone Creek. After crossing Marrowbone Creek, Alternative B would continue to the northwest, crossing Magna Vista School Road south of Magna Vista High School, then paralleling Magna Vista School Road west of the high school up to a new interchange with Soapstone Road. The new interchange at Soapstone Road would require the relocation of a portion of Magna Vista School Road. From the Soapstone Road interchange, the alignment would continue to the northeast and cross two minor tributaries before shifting to the north. The alignment would then shift to the northeast to cross Little Marrowbone Creek and tie in with Joseph Martin Highway at its interchange with Route 58, requiring modifications to the existing interchange configuration to provide a more direct connection between Route 58 and the new roadway. The reconstructed portion of Route 220 at the southern end, along with the new alignment, would be an access-controlled facility.

1.2.1.4 Alternative C (Preferred Alternative)

Alternative C would consist of a new roadway alignment that is primarily to the west of existing Route 220. Alternative C was developed as a modification of the initially considered Alignment Option 4C based on agency comments, with the primary changes occurring north of Soapstone Road. Alignment Option 4C originally included an interchange between Joseph Martin Highway and Route 220; however, adequate spacing could not be provided to accommodate all movements. Therefore, the alignment was shifted to tie in at the location of the existing Joseph Martin Highway interchange. Under Alternative C, access would be controlled and provided at two new interchanges and a modified interchange at Route 220/Route 58 and Joseph Martin

Highway. For the purposes of the analyses in this Draft EIS it is assumed that new interchanges would be provided at the southern end of the facility and at Soapstone Road. If this alternative were to advance to a phase of more detailed design, the final interchange locations and configuration would be refined. The reconstructed portion of Route 220, along with the new alignment, would incorporate access control.

Beginning at the North Carolina state line, Alternative C would reconstruct Route 220 for approximately one mile, where it would shift eastward on a new alignment before turning to the north to cross over the Norfolk Southern railroad. The wide curve in this location would allow for an adequate turning radius to meet design standards for the arterial facility with a 60 mph design speed, and minimize potential impacts to residents in the vicinity of J.B. Dalton Road. A new interchange to access a realigned existing Route 220 would be constructed near Reservoir Road and J.B. Dalton Road. After crossing the railroad, the new alignment would continue northward for approximately 1.5 miles, crossing White House Road and a tributary to Marrowbone Creek. The alignment would then shift to the northeast to cross Lee Ford Camp Road. Alternative C would then shift northward and continue east of Magna Vista High School and Marrowbone Creek and parallel the Pace Airport to the east. After passing Pace airport, the alignment would shift to the northeast and cross Soapstone Road to the east of Marrowbone Creek. A new interchange with Alternative C would be constructed at Soapstone Road. North of Soapstone Road, the alignment would shift west and cross Joseph Martin Highway. The alignment would continue to the northwest and cross two tributaries before shifting to the north. The alignment would then shift to the northeast to cross Little Marrowbone Creek and tie in with Joseph Martin Highway at the existing interchange location with Route 58. This would require modifications to the existing interchange to provide a more direct connection between Route 58 and the new roadway.

1.2.2 Alternatives Not Retained

As part of the alternatives development process for the Draft EIS, the following alternatives were carried forward for evaluation, but have not been retained for detailed study in the Draft EIS, based on their anticipated impacts to private properties. However, these alternatives were evaluated to a sufficient level of detail to eliminate them from further consideration and detailed study in the Draft EIS. While this Technical Report does not include the analysis of Alternatives D and E, other technical reports, such as the ***Natural Resources Technical Report*** (VDOT, 2020d), were prepared prior to the elimination of alternatives and thus include the following two alternatives, which are summarized in the sections that follow.

- Alternative D – Reconstruct Route 220 as an access-controlled roadway, with a spur on new alignment north of Ridgeway and reconstruct the Joseph Martin interchange at Route 58; and
- Alternative E – Reconstruct Route 220 as an access-controlled roadway, consolidating access to interchanges at select locations.

These alternatives, as well as those previously described that have been retained for detailed analysis in the Draft EIS, are illustrated on **Figure 1-2**.

1.2.2.1 Alternative D

Alternative D would consist of reconstructing existing Route 220 as an access-controlled roadway for approximately 5.6 miles from the North Carolina state line where it would then divert to the west on a new access-controlled roadway just north of Water Plant Road. Under Alternative D, access would be controlled and provided at three new interchanges and a modified interchange at Route 58 and the Joseph Martin Highway. South of Water Plant Road, access to the new roadway would be made via frontage roads and new interchanges near Reservoir Road and at Morehead Avenue. A new structure providing access to Route 220 would be located at Lee Ford

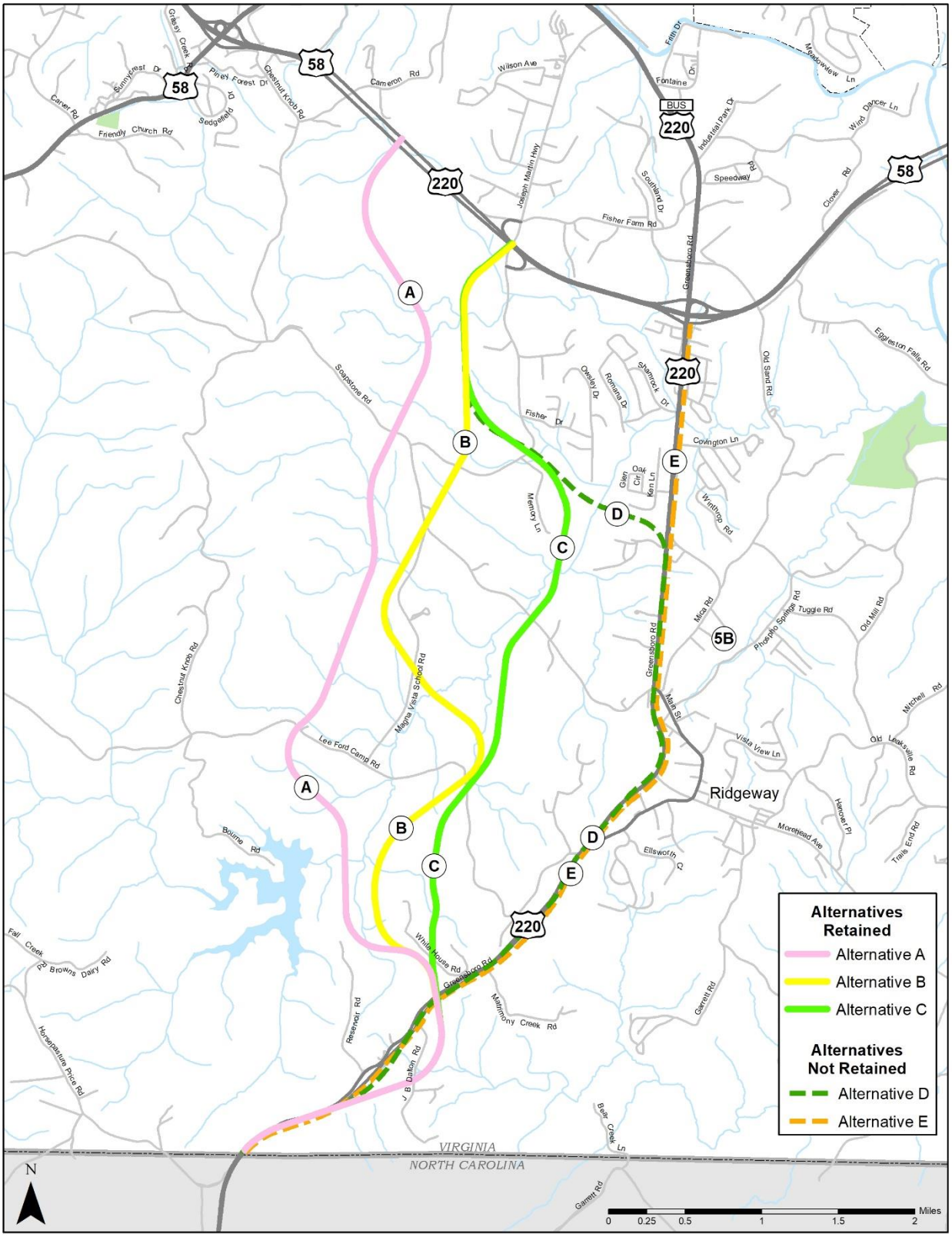
Camp Road/Church Street. At Water Plant Road an interchange is suggested where the new roadway branches from Route 220 to provide direct access between the new roadway and Route 220 to the north. From this interchange, the new alignment would proceed northwest, crossing Marrowbone Creek and then parallels a tributary of Marrowbone Creek to beyond Joseph Martin Highway. The alignment then shifts northward and follows the same alignments as Alternatives B and C just north of the Radial warehouse site to the tie-in location with Route 58. Modifications to the existing interchange at Route 58 and Joseph Martin Highway would be required with this alternative. The reconstructed portion of Route 220, along with the new alignment, would incorporate access control.

1.2.2.2 Alternative E

Alternative E would consist of fully reconstructing existing Route 220 as an access-controlled roadway between the North Carolina state line and Route 58, removing all direct connections of existing driveways and side streets to Route 220.

Under Alternative E, access would be controlled and provided only at interchanges at various locations in the corridor. Existing residential and commercial driveways would be directed to frontage roads that parallel the roadway, ultimately connecting to Route 220 at interchanges. New interchanges to provide frontage road access to Route 220 are located at Reservoir Road and at Morehead Avenue. Structures over or under the new Route 220 roadway are included at Lee Ford Camp Road/Church Street and Soapstone Road/Main Street to provide east-west connectivity. The Route 220 interchange at Route 58 would be modified to provide direct access between the new roadway, Route 58, and Business Route 220 to the north.

Figure 1-2: Route 220 Alternative Alignment Map



2. SOCIOECONOMIC RESOURCES

NEPA calls for integrated use of the social sciences in assessing impacts on the human environment. The Council on Environmental Quality (CEQ)'s regulations for implementing the procedural provisions of NEPA indicate the human environment shall be interpreted comprehensively to include not only the natural and physical environment, but the relationship of people with that environment (40 CFR §1508.14). Federal agencies need to assess not only ecological effects, but also "aesthetic…cultural, economic [or] social…effects", "whether direct, indirect, or cumulative" (40 CFR §1508.8). The FHWA Technical Advisory T6640.8A *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* indicates that NEPA documents would consider social impacts, to the extent they are distinguishable, for changes to neighborhoods or community cohesion; travel patterns and accessibility (e.g., vehicular, commuter, bicycle, or pedestrian); and impacts to school districts, recreation areas, places of worship, businesses, police and fire protection stations, etc.

2.1 COMMUNITIES AND COMMUNITY FACILITIES

Route 220 is the main transportation route connecting northern North Carolina to Martinsville, Virginia and surrounding communities in the Ridgeway area. Detailed demographic information of the communities within the study area can be found within **Section 2.2** and **2.3**.

2.1.1 Methods

The study area used for identifying communities and community facilities is a half- mile buffer from the boundary of the planning level Limits of Disturbance (LOD) for all the Build Alternatives retained for evaluation. The planning level LOD is used to evaluate potential impacts to communities and community facilities for each alternative. When the LOD crosses a structure or is within 10 feet of a structure, that structure is considered a displacement (relocation) and the entire property is acquired. If the LOD crosses into a property, but does not cross and is not within 10 feet of a structure, it is considered a partial acquisition and the structure remains (no relocation).

Communities and community facilities were identified through use of Geographic Information Systems (GIS) data, Federal, state, and local databases, field inventory, and secondary mapping sources such as Google Maps™ and Google Earth™. Various community facilities were verified by utilizing the Henry County Comprehensive Plan developed by the Henry County Planning Commission (HCPC) (HCPC, 1995).

The Environmental Analysis Methodologies were prepared and distributed to the Cooperating and Participating Agencies in May 2017, revisions were made to address the agencies' comments, and the methodologies were concurred upon following the June 2018 agency meeting.

2.1.2 Affected Environment

The study area is located in Henry County, Virginia, adjacent to Martinsville and Ridgeway. Businesses, hotels, gas stations, health services, and a local elementary school are located along the Route 220 (Joseph Martin Highway) corridor. West of Route 220, along with residential neighborhoods, the study area contains the Marrowbone Reservoir, Pace Aviation (a private airport), various churches, and the Magna Vista High School (see **Figure 2-1**).

The neighborhoods in the northern portion of the study area, within approximately two miles of Route 58, are suburban in nature, with several streets leading off the main access roads to Route 58 and Route 220. The primary neighborhoods identified in this study include: Shannon Hills, Marrowbone Heights, Glen Court, Sheffield Terrace, and Deerfield Village. These neighborhoods are illustrated on **Figure 2-1**; however, they do not represent a comprehensive list of all the individual neighborhoods within the study area and some smaller neighborhoods may be omitted.

The Piedmont Area Regional Transit (PART) shuttle system follows a fixed route system through parts of Martinsville and Henry County in the northern portion of the study area, with stops at high traffic retail areas, industrial parks, college campuses, medical facilities and government offices. According to the PART's 2017 map of bus routes, two stops fall within the study area: the Southside Route stops at the Sheffield Square/Tractor Supply and at the intersection of Fisher Farm Road and Joseph Martin Highway (Martinsville, 2017).

In the center of the study area, adjacent to the east of existing Route 220, is the more populated area of Ridgeway, with several neighborhoods accessed from Route 220 or Route 87 (Morehead Avenue). Ridgeway and the surrounding vicinity include various churches and grocery stores, a post office, a library, Drewry Mason Elementary School, and local rescue and fire services.

The southern portion of the study area is less dense, with neighborhoods interspersed along existing Route 220, with access provided via Lily Road and J.B. Dalton Road. Further from existing Route 220, the study area is rural in nature, with large residential lots interspersed along the local roadways that intersect the study area.

Local rescue and fire services are located in Ridgeway; however, there are no hospitals within the study area. The closest hospital is Sovah Health in Martinsville, which is accessible from Route 58 and Irisburg Road, approximately eight miles (15 minutes) north of the study area. The community facilities within the study area are shown in **Figure 2-1**. An inventory of community facilities within the study area can be found in **Table 2-1**.

Table 2-1: Community Facilities Within the Study Area

Facility Type[1]	Number of Facilities within the Study Area
Airports	1
Cemeteries	9
Community Centers	1
Fire/ Rescue Services	3
Government Offices	1
Hospitals	0
Libraries	1
Parks and Recreation	1
Places of Worship	15
Post Offices	1
Reservoirs	1
Public Schools	2
Transit Bus Stops	2
Transit Services	1
Waste Disposal Facilities	1

[1] *See **Figure 2-1** for locations of the community facilities*
Sources: *Henry County GIS Database, Federal/State/Local Databases, Google Maps™*

Figure 2-1: Communities and Community Facilities

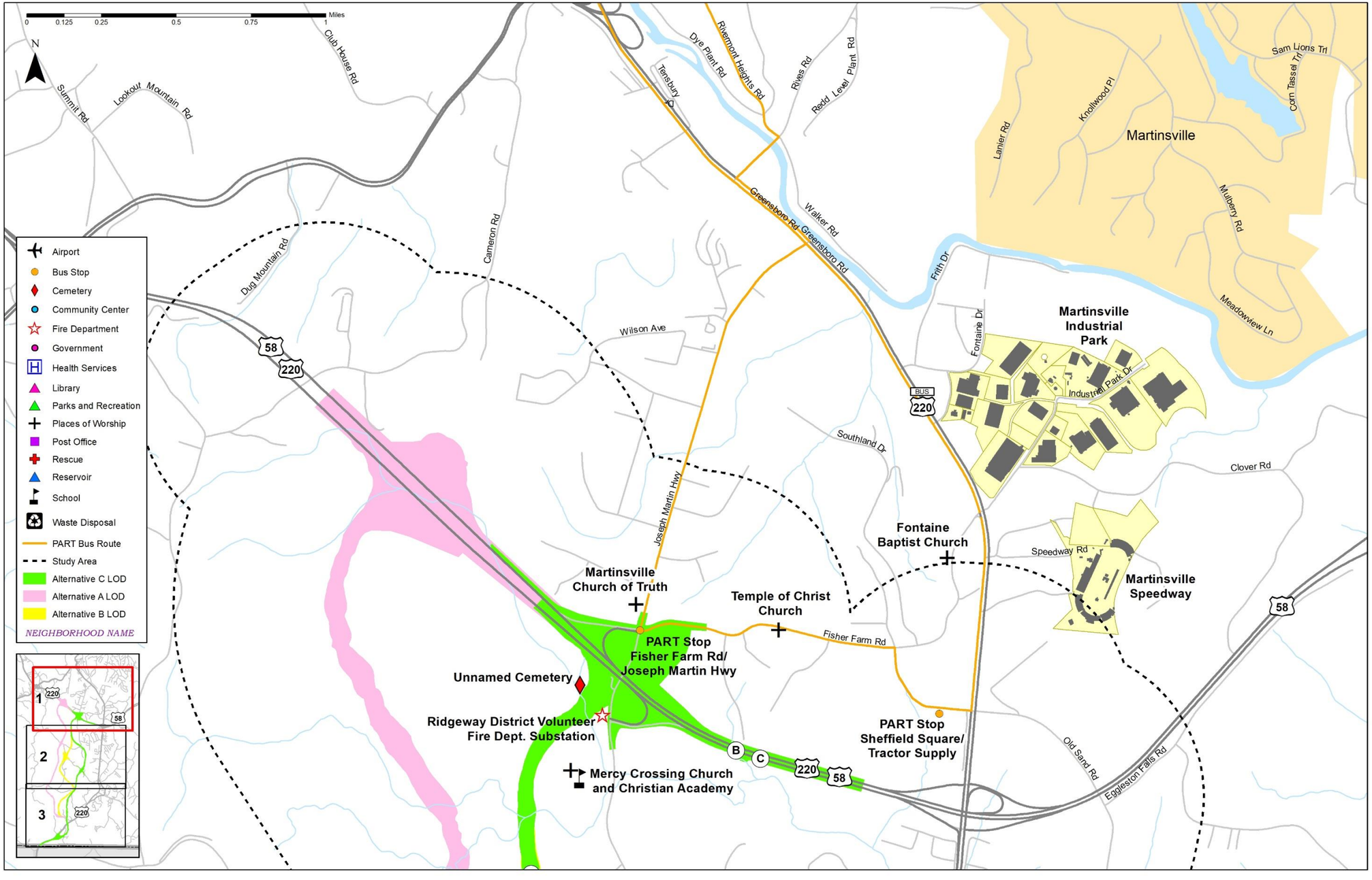


Figure 2-1: Communities and Community Facilities (cont'd)

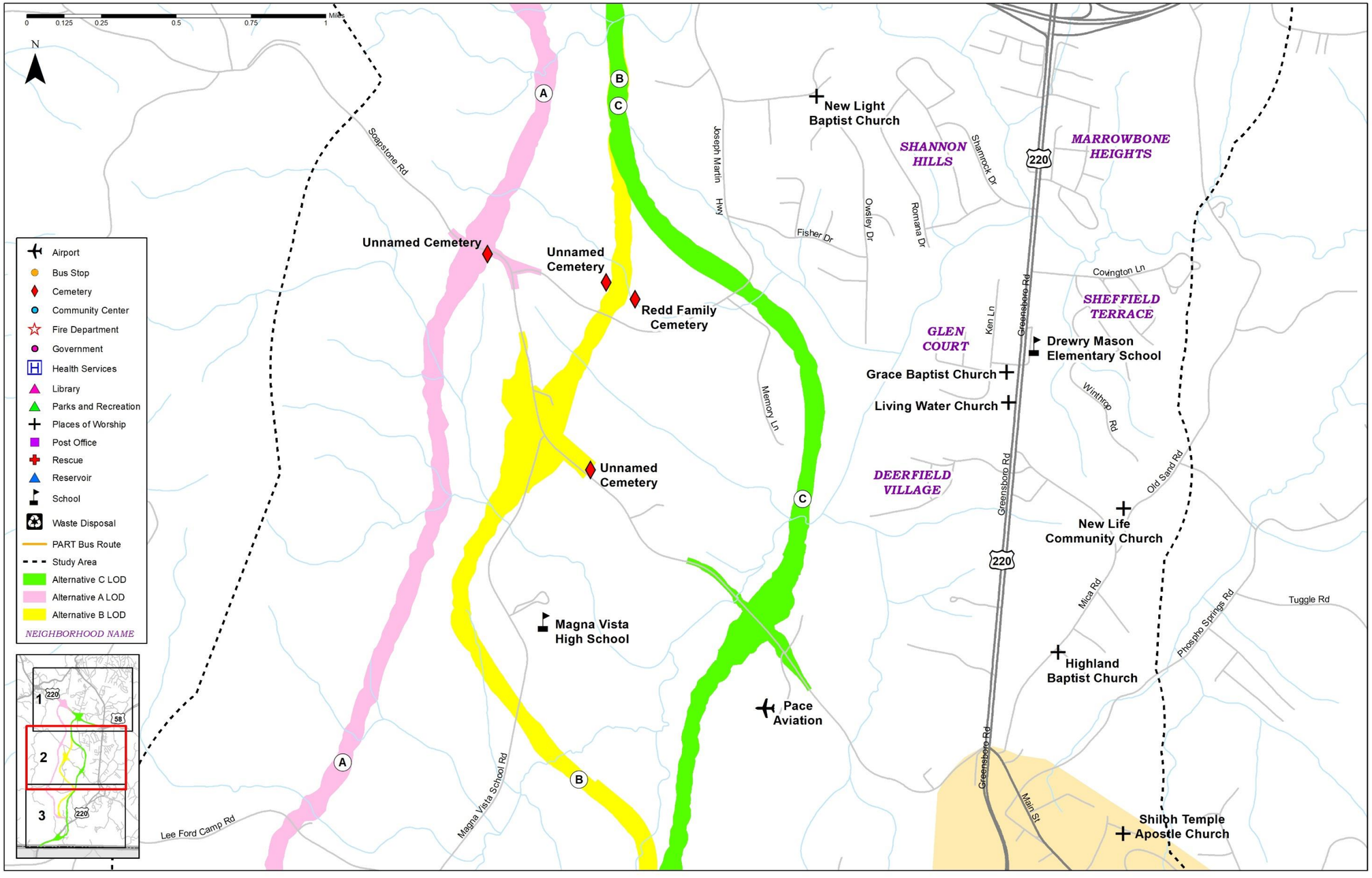
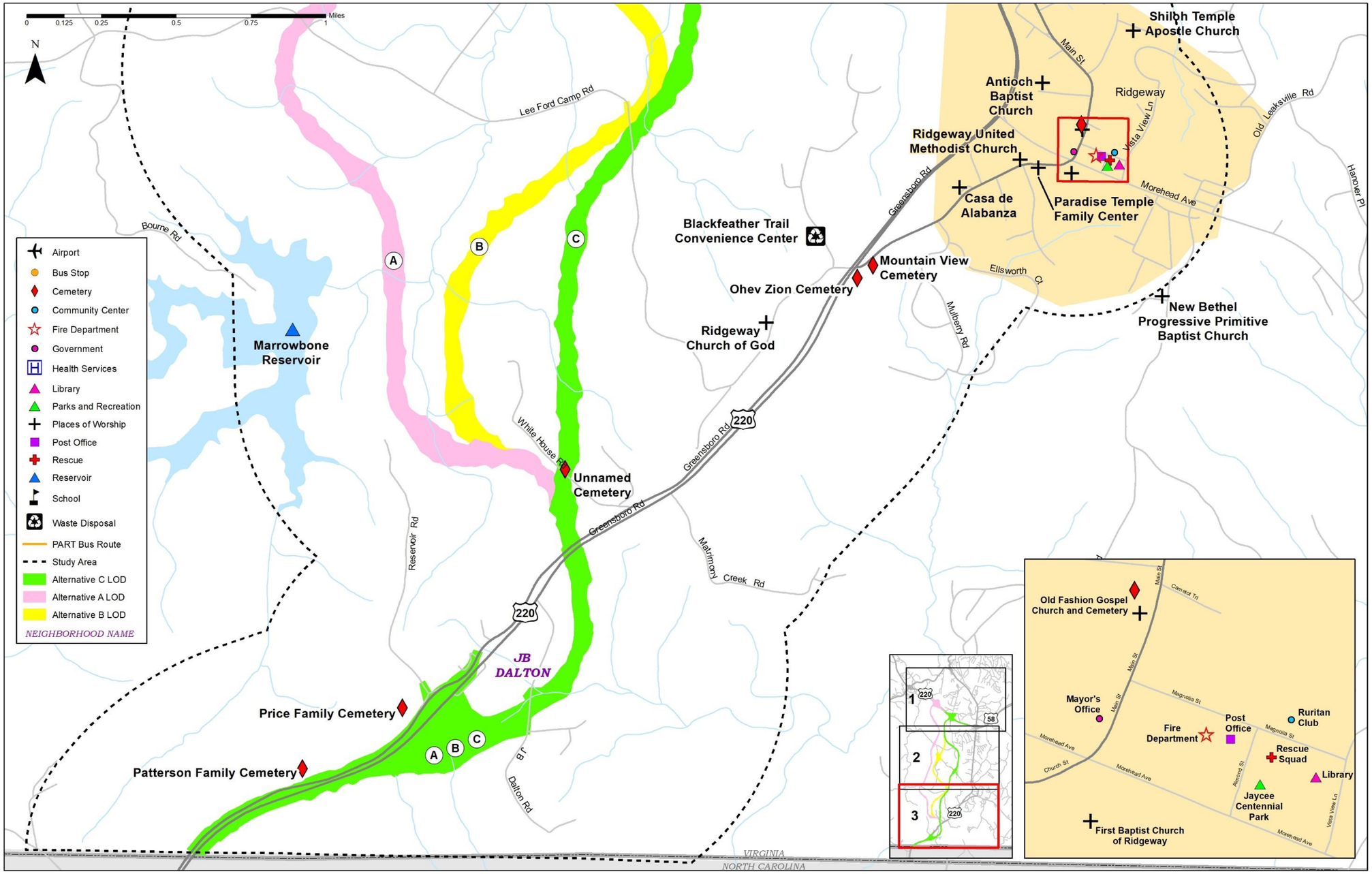


Figure 2-1: Communities and Community Facilities (cont'd)



There are several communities located along side roads adjacent to existing Route 220. These communities are named on **Figure 2-1**. The residents of these communities are connected to other communities and community facilities primarily by Route 220. Currently, a high amount of regional traffic from trucks traveling from/to areas south and north, outside of the study area, utilize Route 220. This leads to a heavy mix of local and regional truck traffic that hinders accessibility to communities and community facilities located along and west of Route 220. The presence of Route 220 between the communities, coupled with the existing local and regional traffic volumes, create a barrier and fragment the communities. The fragmentation is further indicated by the travel delays on Route 220. The combined traffic adds to local delays in travel on Route 220; including delays or queue lengths at intersections with local roads (VDOT, 2020a). For example, people from the Shannon Hills community located along the west side of Route 220 at Shamrock Drive, experience a 552 second delay (over 9 minutes) in the morning turning from Shamrock Drive to Route 220. In addition, there is an observable queue of cars backed up onto Route 220 in the afternoon waiting to pick up children at the Drewry Mason Elementary School. These travel delays and backups impair cohesion of communities and connectivity of communities and community facilities. Additionally, residences and community facilities near Route 220 experience the associated traffic noise that can be disruptive to community cohesion. The assessment of noise is discussed in the ***Noise Analysis Technical Report*** (VDOT, 2020g).

2.1.3 Environmental Consequences

No-Build Alternative

The No-Build Alternative would have no direct impacts on the communities and community facilities within the study area. Since Route 220 serves both as a freight route and a route to businesses, homes, schools, and recreational areas, it is utilized by both local and regional traffic. Route 220 would continue to represent a physical barrier between the communities and community facilities and the increased traffic volume would emphasize the fragmentation and further contribute to traffic delays. The combined traffic volumes and truck percentages and associated traffic delays experienced by local people would additionally continue to hinder access and the ability to travel to community facilities and other local destinations, causing communities along the route to further experience community fragmentation effects and reduced community cohesion. Subsequently, the heavy mix of local and regional truck traffic that exists today and fragments the communities and community facilities, in addition to the associated traffic delays and backups, which adversely impact community cohesion and accessibility, would continue and worsen under the No-Build condition.

Alternative A

Alternative A would be constructed west of Ridgeway in a primarily rural area and may impact a sense of community between homes. Under Alternative A, the new alignment roadway would be access controlled and would not function as a local access road, but instead would principally provide arterial service to regional through traffic movements. While the new roadway would be grade separated from existing roadway facilities in the study area, including Route 688 (Lee Ford Camp Road) and J.B. Dalton Road, allowing for local traffic to flow unimpeded, the new roadway would create a physical barrier between areas that were formerly adjacent to one another. The physical barrier of the roadway may result in a loss of community cohesion by separating these communities from their current surroundings. Alternative A would also affect communities proximate to the new roadway through the introduction of a new noise source and visual intrusions. Under Alternative A, a new interchange would be constructed at Soapstone Road, therefore, the existing viewshed of the communities near Soapstone Road would be modified due to the introduction of a new roadway facility and the associated interchange access point. Additionally, the change to the viewshed has the potential to fragment the surrounding communities.

By providing a new alignment for regional truck traffic, Alternative A would remove regional traffic from Route 220. By reducing the traffic on Route 220 and subsequently reducing delays at signalized intersections, local travelers would benefit from additional reliability to access schools and other community facilities, allowing for communities to experience connection to local destinations and other neighborhoods, enhancing community cohesion. Accessibility and travel times would be improved for people traveling to and from communities and community facilities located along and near Route 220, because the amount of mainline traffic would decrease. The decrease in mainline traffic volumes would reduce the intersection travel delay times and queue lengths, improving access to Route 220 from side streets and businesses. The reduction in traffic would decrease community fragmentation through reduced delay times and would improve community cohesion. This travel time saving applies to emergency vehicles as well with improved access to and from communities along Route 220 through reduced delay times due to the lower volume of traffic. In addition, emergency response may be improved to the communities west of Route 220 through use of the new roadway and interchange provided at Soapstone Road. Alternative A would provide a secondary north/south roadway for emergency vehicles to access points along and within the study area.

Alternative A would potentially impact an unnamed cemetery along Soapstone Road. **Table 2-2** summarizes the potential community facility relocations associated with the Build Alternatives. Detailed potential residential relocations are described in **Section 2.2.3**.

Table 2-2: Potential Community Facilities Relocations

Facility Type	Alternative A	Alternative B	Alternative C
Cemeteries	1	1	1
Total	**1**	**1**	**1**

Note: Community facilities that would not require potential relocations are not listed in the table.

If any improvements from the Martinsville Southern Connector Study advance to design, efforts to minimize and reduce right of way impacts to these properties, in addition to other private properties, would be made. Additionally, compensation in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act* of 1970 (as amended) would be provided, if necessary.

Alternative B

Alternative B would be constructed west of Ridgeway in a primarily rural area and may impact a sense of community between homes. Under Alternative B, the new alignment roadway would be access controlled and would not function as a local access road, but instead would principally provide arterial service to regional through traffic movements. While the new roadway would be grade separated from the existing roadways it crosses, including Joseph Martin Highway, Magna Vista School Road, Lee Ford Camp Road, and J.B. Dalton Road, allowing for local traffic to flow unimpeded, the new roadway would create a physical barrier between areas that were formerly adjacent to one another. The physical barrier of the roadway may result in a loss of community cohesion by separating these communities from their current surroundings. However, the new roadway facility would maintain access to Magna Vista High School. Alternative B would also affect communities proximate to the new roadway through the introduction of a new noise source and visual intrusions. Under Alternative B, a new interchange would be constructed at Soapstone Road, therefore, the existing viewshed of the communities near Soapstone Road would be modified due to the introduction of a new roadway facility and the associated interchange access point. Additionally, the change to the viewshed has the potential to fragment the surrounding communities.

By providing a new alignment for regional truck traffic, Alternative B would remove regional traffic from Route 220. Presently, the combined traffic volume and truck percentages and associated traffic delays experienced by local people hinders access and the ability to travel to community facilities and other local destinations, causing communities along the route to experience fragmentation effects and reduced community cohesion. By utilizing Alternative B which would reduce the traffic on Route 220 and subsequently reduce delays at signalized intersections, local travelers would benefit from additional reliability to access to schools and other community facilities, additionally allowing for communities to experience connection to local destinations and other neighborhoods, enhancing community cohesion. Accessibility and travel times would be improved for people traveling to and from communities and community facilities located along and near Route 220 due to the decrease in mainline traffic. The decrease in mainline traffic volumes would reduce the intersection travel delay times and queue lengths, improving access to Route 220 from side streets and businesses. The reduction in traffic would decrease community fragmentation through reduced delay times and would improve community cohesion. This travel time saving applies to emergency vehicles as well with improved access to and from communities along Route 220 through reduced delay times due to the lower volume of traffic. In addition, emergency response may be improved to the communities west of Route 220 through use of the new roadway and interchange provided at Soapstone Road. Alternative B would provide a secondary north/south roadway for emergency vehicles to access points along and within the study area.

Alternative B could impact portions of the Ridgeway District Volunteer Fire Department Substation property and Mercy Crossing Church/Christian Academy property, but would not require relocation of either of the properties. There also could be a minor property impact to the southwest corner of the Magna Vista High School property, which would not impact school activities/functions. Alternative B would impact an unnamed cemetery along Soapstone Road (see **Table 2-2**). If any improvements from the Martinsville Southern Connector Study advance to design, efforts to minimize and reduce right of way impacts to these properties, in addition to other private properties, would be made. Additionally, compensation in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act* of 1970 (as amended) would be provided, if necessary.

Alternative C

Alternative C would be constructed west of Ridgeway in a primarily rural area. There are several homes surrounding the interchange of Joseph Martin Highway and Route 58 that would potentially be relocated as part of the reconfiguration of this interchange under Alternative C. However, the reconfiguration of this interchange would not cause a disruption in community cohesion beyond what is already experienced by the existing communities in proximity to the existing interchange. Alternative C could impact a sense of community between homes proximate to the new roadway. Under Alternative C, the new alignment roadway would be access controlled and would not function as a local access road, but instead would principally provide arterial service to regional through traffic movements. While the new roadway would be grade separated from the existing roadways it crosses, including Joseph Martin Highway, Lee Ford Camp Road and J.B. Dalton Road, allowing for local traffic to flow unimpeded, the new roadway would create a physical barrier between areas that were formerly adjacent to one another. The physical barrier of the roadway may result in a loss of community cohesion by separating these communities from their current surroundings. Alternative C would also affect communities proximate to the new roadway through the introduction of a new noise source and visual intrusions. Under Alternative C, a new interchange would be constructed at Soapstone Road, therefore, the existing viewshed of the communities near Soapstone Road would be modified due to the introduction of a new roadway facility and the associated interchange access point. Additionally, the change to the viewshed has the potential to fragment the surrounding communities.

By providing a new alignment for regional truck traffic, Alternative C would remove regional traffic from Route 220. Presently, the combined traffic volume and truck percentages and associated traffic delays experienced by local residents hinders access and the ability to travel to community facilities and other local destinations, causing communities along the route to experience fragmentation effects and reduced community cohesion. By utilizing Alternative C, which would reduce the traffic on Route 220 and subsequently reduce delays at signalized intersections, local travelers would benefit from additional reliability to access to schools and other community facilities, as well as allowing for communities to experience connection to local destinations and other neighborhoods, enhancing community cohesion.

Accessibility and travel times would be improved for people traveling to and from communities and community facilities located along and near Route 220 due to the decrease in mainline traffic. The decrease in mainline traffic volumes would reduce the intersection travel delay times and queue lengths, improving access to Route 220 from side streets and businesses. The reduction in traffic would decrease community fragmentation through reduced delay times and would improve community cohesion. This travel time saving applies to emergency vehicles as well with improved access to and from communities along Route 220 through reduced delay times due to the lower volume of traffic. In addition, emergency response may be improved to the communities west of Route 220 through use of the new roadway and interchange provided at Soapstone Road. Alternative C would provide a secondary north/south roadway for emergency vehicles to access points along and within the study area.

Alternative C would impact portions of the Ridgeway District Volunteer Fire Department Substation property and Mercy Crossing Church/Christian Academy property, but would not require relocation of either of the properties. Alternative C would be located parallel to Pace Aviation and would avoid impacts to the runway; however, if this alternative is selected, additional coordination would be needed to ensure that all safety and operational requirements for the airport are met. Alternative C would impact an unnamed cemetery along White House Road (see **Table 2-2**). If any improvements from the Martinsville Southern Connector Study advance to design, efforts to minimize and reduce right of way impacts to these properties, in addition to other private

properties, would be made. Additionally, compensation in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act* of 1970 (as amended) would be provided, if necessary.

2.1.4 Mitigation

Impacts to the use and functionality of these impacted community facilities would be coordinated during the right of way acquisition process for any improvements that advance from the Martinsville Southern Connector Study and would be minimized to the greatest extent practicable as part of more detailed design. The potential impacts were evaluated at a planning level, the final property impacts would be dictated by the final design and prior to the placement of construction features. Affected property owners would be compensated for the fair market value of the acquired portion of land and structures acquired for the construction of the Preferred Alternative in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act* of 1970 (as amended).

Since all of the Build Alternatives would impact a cemetery, there is potential that the relocation of a cemetery would be required. In instances where an alternative would relocate a cemetery, disinterment of human burials would proceed under a court order for the removal of graves, a permit for the archaeological recovery of human remains issued by the Virginia Department of Historic Resources, or with a permit issued by the local health department. This latter permit, intended for disinterment, transport, and reinternment of recent bodies to and from active cemeteries has been used as an alternative to the court order and the archaeological permit processes.

Amended and reenacted Virginia Code (§§ 57-36 and 57-38.1) requires local governments (any county, city, or town) to consider avoidance of adverse impacts to abandoned cemeteries on properties that are acquired by and intended to be developed by the local government prior to completion of development plans. The local governments are required to engage in active public notice and participation regarding efforts to avoid adverse impacts to the graveyard or to remove the remains interred in such graveyard to an alternative repository and make a good faith effort to identify and contact living descendants of the person buried in the graveyard. Public notification efforts would include at least one notice published in a locally circulating newspaper. Additionally, notice would be posted at the site of the graveyard and at least one public meeting would be held. Consultation with any local historic preservation commission and historical and genealogical societies would be required.

2.2 POPULATION AND HOUSING

2.2.1 Methods

Resident population and housing characteristics have been estimated based on data from the U.S. Census Bureau's American Community Survey (ACS). For this analysis, 2012-2016 ACS 5-Year Estimates were used. Although the ACS data is less accurate than the census; however, because the most recent census (2010) is ten years old, the more recent data is appropriate to use (2012-2016). The ACS data sources are more recent, are the most comprehensive published data sources, and are relied on by VDOT and FHWA for comprehensive analyses. The data for all block groups that have the potential to be impacted by the alternatives retained for evaluation have been combined to create a Census-based study area for comparing against individual block group data during analysis.

Although 2013-2017 ACS 5-Year data profiles are available through the U.S. Census Bureau website, EPA's Environmental Justice Screening and Mapping Tool (EJSCREEN) was used to obtain specific block group summary reports, which utilizes 2012-2016 ACS data. Additionally, data from the 2017 West Piedmont Economic Development District's 2017 Regional Comprehensive Economic Development Strategy is used to illustrate population projections in Henry County.

The planning level LOD for each alternative was used to evaluate potential impacts to population and housing. When the LOD intersects or is within 10 feet of a structure, that structure was considered a displacement (relocation) and the entire property was assumed to be acquired. If the LOD encompassed a portion of a property but did not intersect or fall within 10 feet of a structure, it was considered a partial property acquisition and the structure was assumed to remain (no displacement or relocation). The planning level LOD is based on the illustrative planning level design of the Build Alternatives; therefore, the potential relocations and property acquisitions identified as part of this analysis are intended to represent worst-case impacts to resources. Opportunities to minimize these potential environmental consequences could be evaluated as part of more detailed design phases for any future improvements that may advance from the Martinsville Southern Connector Study. Any alternative requiring acquisition would require compensation in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act* of 1970 (as amended).

The Environmental Analysis Methodologies were prepared and distributed to the Cooperating and Participating Agencies in May 2017, revisions were made to address the agencies' comments, and the methodologies were concurred upon following the June 2018 agency meeting.

2.2.2 Affected Environment

The Build Alternatives are located within seven Census block groups (see **Figure 2-2**). Data has been collected for these block groups, as well as Ridgeway, Martinsville, Henry County, and Virginia for comparison.

According to ACS 5-Year Estimates (2012-2016), the current resident population within the study area is 7,849. **Table 2-3** presents population information for each Census block group within the study area, as well as several localities and statewide information for reference. The most populated Census block group (Census Tract 106.02 Block Group 2) is located along Route 220 and includes the Marrowbone Heights and Sheffield Terrace neighborhoods, as well as a large portion of Ridgeway. The lowest populated Census block group (Census Tract 107 Block Group 2) is located west of Route 220 and is mainly rural. The Census-based Study Area population (7,849) is approximately 15 percent of the population of Henry County (52,209) and less than one percent of the statewide population (8,310,301).

Table 2-3: Population by Census Block Group and Locality

Location	Total Population
Census Tract 106.01 Block Group 1	1,303
Census Tract 106.01 Block Group 2	1,479
Census Tract 106.02 Block Group 1	807
Census Tract 106.02 Block Group 2	1,614
Census Tract 106.02 Block Group 3	1,562
Census Tract 107 Block Group 2	517
Census Tract 107 Block Group 3	567
Study Area Total	**7,849**
Town of Ridgeway	813
City of Martinsville	13,551
Henry County	52,209
Virginia	8,310,301

Source: *U.S. Census Bureau, American Community Survey 2012-2016*.

Additionally, according to the Weldon Cooper Center for Public Service's Demographics Research Group, between 2010 and 2018, the estimated population of Henry County and Martinsville declined to 64,557, a five percent decrease. The population of Henry County and Martinsville is projected to further decrease to 53,744 by 2040. The population is expected to continue to decrease in both Henry County and Martinsville (WCCPS, 2019). For more information on population projections, refer to the ***Indirect and Cumulative Effects Technical Report*** (VDOT, 2020b).

Table 2-4 presents housing information for each Census block group within the study area, as well as several localities and statewide information for reference. Approximately 3,869 total housing units are within the Census-based study area, with 88 percent of homes being occupied (3,387). The largest amount of total housing units within the Census-based study area are within Census Tract 106.01 Block Group 1. Of the occupied houses, 76 percent are owner-occupied (2,561) and 24 percent are renter-occupied (826). No block groups have more renters than owners. There are approximately 22,136 occupied housing units within Henry County and 3,090,178 occupied housing units statewide. Total occupied housing units within the study area account for 15 percent of Henry County and less than one percent of all occupied housing units in Virginia.

Figure 2-2: Census Block Groups and Alternatives

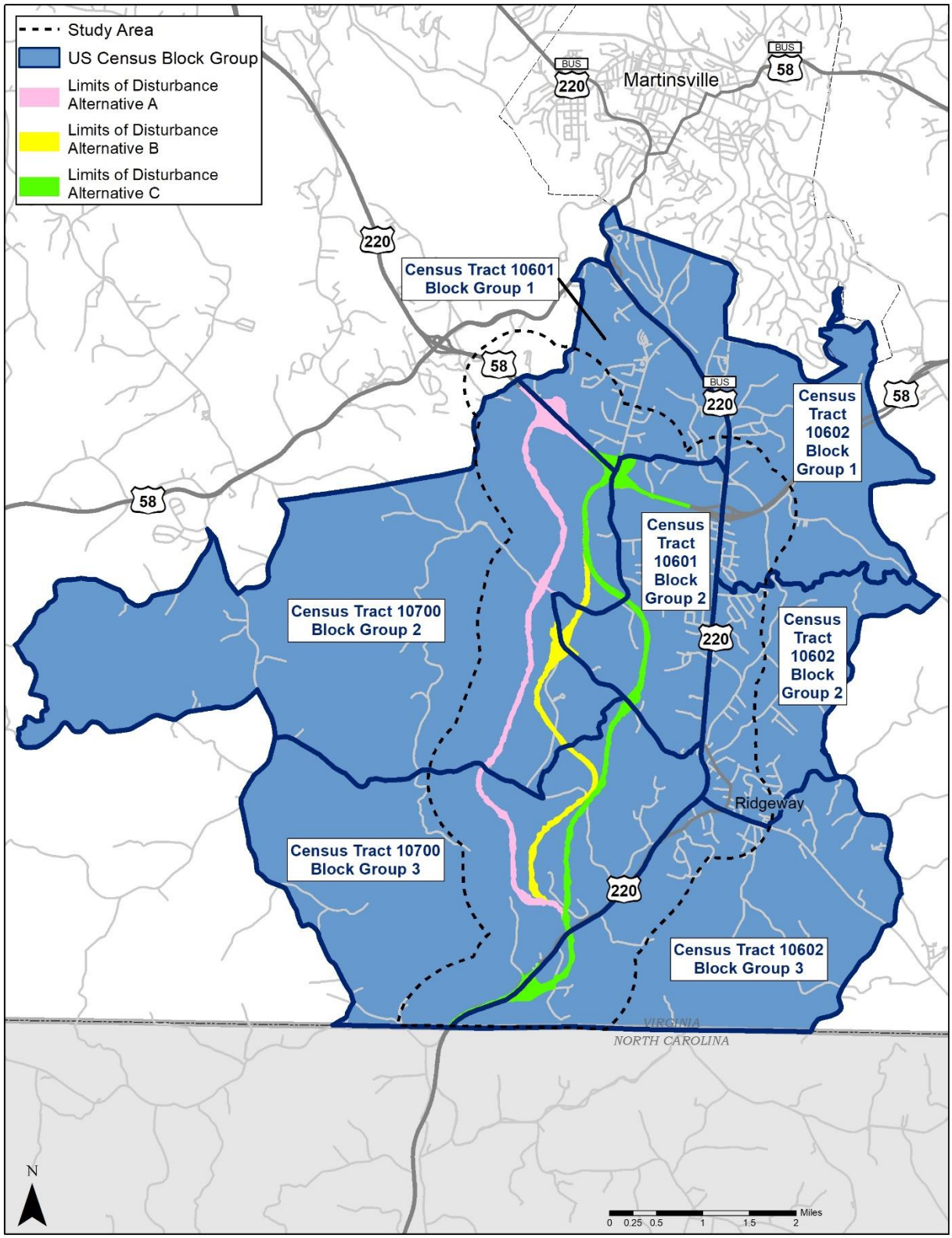


Table 2-4: Housing Characteristics

Location	Total Housing Units	Total Occupied Housing Units	Owner-Occupied	Renter-Occupied
Census Tract 106.01 Block Group 1	744	646	445	201
Census Tract 106.01 Block Group 2	645	591	481	110
Census Tract 106.02 Block Group 1	525	423	293	130
Census Tract 106.02 Block Group 2	648	621	505	116
Census Tract 106.02 Block Group 3	728	602	415	187
Census Tract 107 Block Group 2	292	264	251	13
Census Tract 107 Block Group 3	287	240	171	69
Study Area Total	**3,869**	**3,387**	**2,561**	**826**
Ridgeway	360	320	242	78
Martinsville	7,159	5,787	3,061	2,726
Henry County	26,117	22,136	16,253	5,883
Virginia	3,445,357	3,090,178	2,032,761	1,057,417

Source: *U.S. Census Bureau, American Community Survey 2012-2016*

2.2.3 Environmental Consequences

No-Build Alternative

The No-Build Alternative would not result in any project-related construction and would therefore have no direct impacts on population or housing. However, as discussed above, the population of Henry County and Martinsville is projected to decrease between 2018 and 2040 (WCCPS, 2019). The existing conditions that are impacting the population and housing in the area, including traffic delays associated with the lack of accommodation for regional and local traffic, would continue to worsen in the No-Build condition and could contribute to the projected decrease in population.

Alternative A

Alternative A could potentially impact 64 acres of residential land within 50 residential properties. Of the 50 potentially impacted residential properties, 17 residential properties would require potential relocation due to the planning level LOD of Alternative A crossing within 10 feet of the structure on the property. **Table 2-5** summarizes the potential residential property impacts, potential total residential land acres impacted, and potential residential relocations associated with the Build Alternatives. Potential total residential acres impacted represent the area where the planning level LOD of each alternative overlaps a residential parcel. Relocations were assumed where the planning level LOD encompasses a structure or is within 10 feet of an existing structure. The planning level LOD is based on the illustrative planning level design of alternatives retained for evaluation and accounts for the worst-case impacts to resources.

Table 2-5: Estimated Residential Impacts

Residential Impact	Alternative A	Alternative B	Alternative C
Estimated Number of Residential Properties Impacted	50	119	121
Estimated Residential Acres Impacted	64	82	85
Estimated Residential Relocations	17	26	25

Eight of the potential relocations under Alternative A are estimated to be concentrated in two locations: six within the J.B. Dalton neighborhood and two are at the new interchange with Soapstone Road. The remaining nine are scattered along the alignment and at the two tie in locations: one residence adjacent to Lee Ford Camp Road, two residences adjacent to White House Road, and six residences along Route 220 as Alternative A ties into the existing roadway.

Alternative B

Alternative B could potentially impact 82 acres of residential land within 119 residential properties. Of the 119 potentially impacted residential properties, 26 residential properties would require potential relocation due to the planning level LOD of Alternative B crossing within 10 feet of the structure on the property (see **Table 2-5**). Of the potential relocations, 10 are estimated to be concentrated in two locations: six within the J.B. Dalton neighborhood and four residences at the new interchange with Soapstone Road. The remaining 16 are scattered along the alignment and at the two tie in locations: one residence along Ravenswood Lane, one along Lee Ford Camp Road, two residences along White House Road, six (residences along Route 220 as Alternative B ties into the new alignment at the southern end of the study area, and six residences along Route 58 as Alternative B ties into the existing roadway at the northern end of the study area.

Alternative C

Alternative C could potentially impact 85 acres of residential land within 121 residential properties. Of the 121 potentially impacted residential properties, 25 residential properties would require potential relocation due to the planning level LOD of Alternative C crossing within 10 feet of the structure on the property (see **Table 2-5**). Six of the potential relocations are estimated to be concentrated in the J.B. Dalton neighborhood. The remaining 19 are scattered along the alignment and at the two tie in locations: one residence along Ravenswood Lane, two residences along Memory Lane, one residence along Red Fox Road, one residence along Soapstone Road, two residences along Fisher Farm Road, six residences along Route 220 as Alternative C ties into the new alignment at the southern end of the study area, and six residences along Route 58 as Alternative C ties into the existing roadway at the northern end of the study area.

2.2.4 Mitigation

Table 2-4 indicates the amount of potential available housing in the study area corridors given the difference between total housing units and total occupied housing units identified, however, it is unknown if these available properties are suitable and comparable properties. A determination on the availability of adequate housing would be made during detailed design. Additionally, refinements made in the Final EIS or following the NEPA process could further reduce property impacts as the detailed design for the Preferred Alternative is completed. The potential impacts were evaluated at a planning level, the final property impacts would be dictated by the final design and placement of construction features.

All affected property owners would be compensated for the fair market value of the acquired portion of land and any structures acquired for the construction of the Preferred Alternative. VDOT's *Right of Way Manual of Instructions*, updated January 2016, indicates that after any

improvements have been planned and all requirements have been met, property owners would be notified, the property would be appraised accordingly, and just compensation would be offered and would never be less than the fair market value (VDOT, 2016). Any individual, family, business, farm, or non-profit organization displaced as a result of the acquisition of real property is also eligible to receive reimbursement for moving costs. This process is known as relocation assistance.

In accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act* of 1970 (as amended), displaced property owners would be provided relocation assistance advisory services together with the assurance of the availability of decent, safe, and sanitary housing. Relocation resources would be made available to all displaced persons without discrimination. Additionally, property owners would be able to consult VDOT's *A Guide for Property Owners and Tenants*, an information packet for property owners which provides information on VDOT's process of acquiring rights of way for public improvement projects.

2.3 ECONOMIC RESOURCES

2.3.1 Methods

Economic data, including industry sectors, revenue, employment, median family income, and commuting patterns, was compiled from the Virginia Employment Commission (VEC) and associated applications (*OnTheMap* U.S. Census Bureau application for commuting patterns), the U.S. Census Bureau's 2012-2016 ACS 5-Year Estimates, and the Virginia Department of Taxation, when necessary.

2012-2016 data was used for population and housing since pertinent information was available via EJSCREEN (EPA, 2019), which utilized the 2012-2016 ACS 5-Year dataset. For consistency, 2012-2016 data for employment and income based on individual block groups was also used in this section. VEC data from 2018 was utilized to identify the most current top five largest employers in Henry County. A majority of the economic data is based on Henry County as a whole. Individual block group data was reported, if available.

The data for all block group locations that have the potential to be impacted by new alternatives have been combined to create a Census-based Study Area for income and employment.

The planning level LOD for each alternative was used to evaluate potential impacts to commercial and industrial properties and economic resources. The planning level LOD for each alternative was used to evaluate potential impacts to commercial and industrial properties and economic resources. When the planning level LOD crosses a structure or is within 10 feet of a structure, that structure is considered a displacement (relocation) and the entire property is acquired. If the LOD crosses into a property but does not cross and is not within 10 feet of a structure, it is considered a property impact but with partial acquisition and the structure remains (no displacement or relocation).

The Environmental Analysis Methodologies were prepared and distributed to the Cooperating and Participating Agencies in May 2017, revisions were made to address the agencies' comments, and the methodologies were concurred upon following the June 2018 agency meeting.

2.3.2 Affected Environment

Income

Table 2-6 identifies the median household income for each block group within the study area, as well as Henry County, Martinsville, and Virginia to serve as a measure of comparison. The median household income of the study area census block groups ranges from $26,597 to $47,171. The

average income of the study census block groups is $39,111, which is higher than the median household income of both Henry County ($34,992) and Martinsville ($31,719), but less than the statewide median household income ($66,149).

Table 2-6: Median Household Income

Location	Estimated Household Income
Census Tract 106.01 Block Group 1	$26,597
Census Tract 106.01 Block Group 2	$47,171
Census Tract 106.02 Block Group 1	$28,967
Census Tract 106.02 Block Group 2	$45,906
Census Tract 106.02 Block Group 3	$43,955
Census Tract 107 Block Group 2	$43,125
Census Tract 107 Block Group 3	$38,056
Average Study Area Income	**$39,111**
Henry County	$34,992
Martinsville	$31,719
Virginia	$66,149

Source: *U.S. Census Bureau, American Community Survey 2012-2016*.

Employment

According to ACS 5-Year Estimates, more residents were in the labor force (3,541 residents) than not (2,860) in the study area census block groups (see **Table 2-7**), with an average median household income of $39,111. The number of residents in the labor force within the study area is 15 percent of all Henry County residents in the labor force (22,770). Based on a public survey VDOT conducted in the October 2018, approximately 30 percent of the respondents said that they use Route 220 for business or commuting to and from work.

Table 2-7: Employed Population

Location	In Labor Force	Civilian Employed in Labor Force	Civilian Unemployed in Labor Force	Not in Labor Force
Census Tract 106.01 Block Group 1	504	482	22	581
Census Tract 106.01 Block Group 2	629	561	68	441
Census Tract 106.02 Block Group 1	438	419	19	290
Census Tract 106.02 Block Group 2	784	735	49	603
Census Tract 106.02 Block Group 3	695	686	9	494
Census Tract 107 Block Group 2	260	252	8	207
Census Tract 107 Block Group 3	231	202	29	244
Study Area Total	**3,541**	**3,337**	**204**	**2,860**
Henry County	22,770	20,623	2,147	20,098
Virginia	4,403,124	4,036,456	255,340	2,249,987

Source: *U.S. Census Bureau, American Community Survey 2012-2016*.

Business

Based on the number of employees, the top five business sectors within Henry County are manufacturing (4,015 employees), retail trade (2,127 employees), administrative support and waste management (1,267 employees), health care and social assistance (1,245 employees), and transportation and warehousing (1,179 employees). This is reinforced by the Henry County Comprehensive Plan (HCPC, 1995), which states that 'manufacturing serves as the cornerstone of the County's economy'. Information for the top nine business sectors are shown in **Table 2-8**.

Table 2-8: Industry Employment Distribution in Henry County

Rank (Based on Number of Employees)	Industry Sector	North American Industry Classification System Sector Code	Number of Establishments	Number of Employees
1	Manufacturing	31-33	74	4,015
2	Retail Trade	44-45	167	2,127
3	Administrative Support and Waste Management	56	68	1,267
4	Health Care and Social Assistance	62	555	1,245
5	Transportation and Warehousing	48-49	50	1,179
6	Accommodation and Food Services	72	62	960
7	Construction	23	78	662
8	Other Services (except Public Administration)	81	352	633
9	Public Administration	92	26	484

Source: *Virginia Employment Commission, Quarterly Census of Employment and Wages (VEC 2019)*

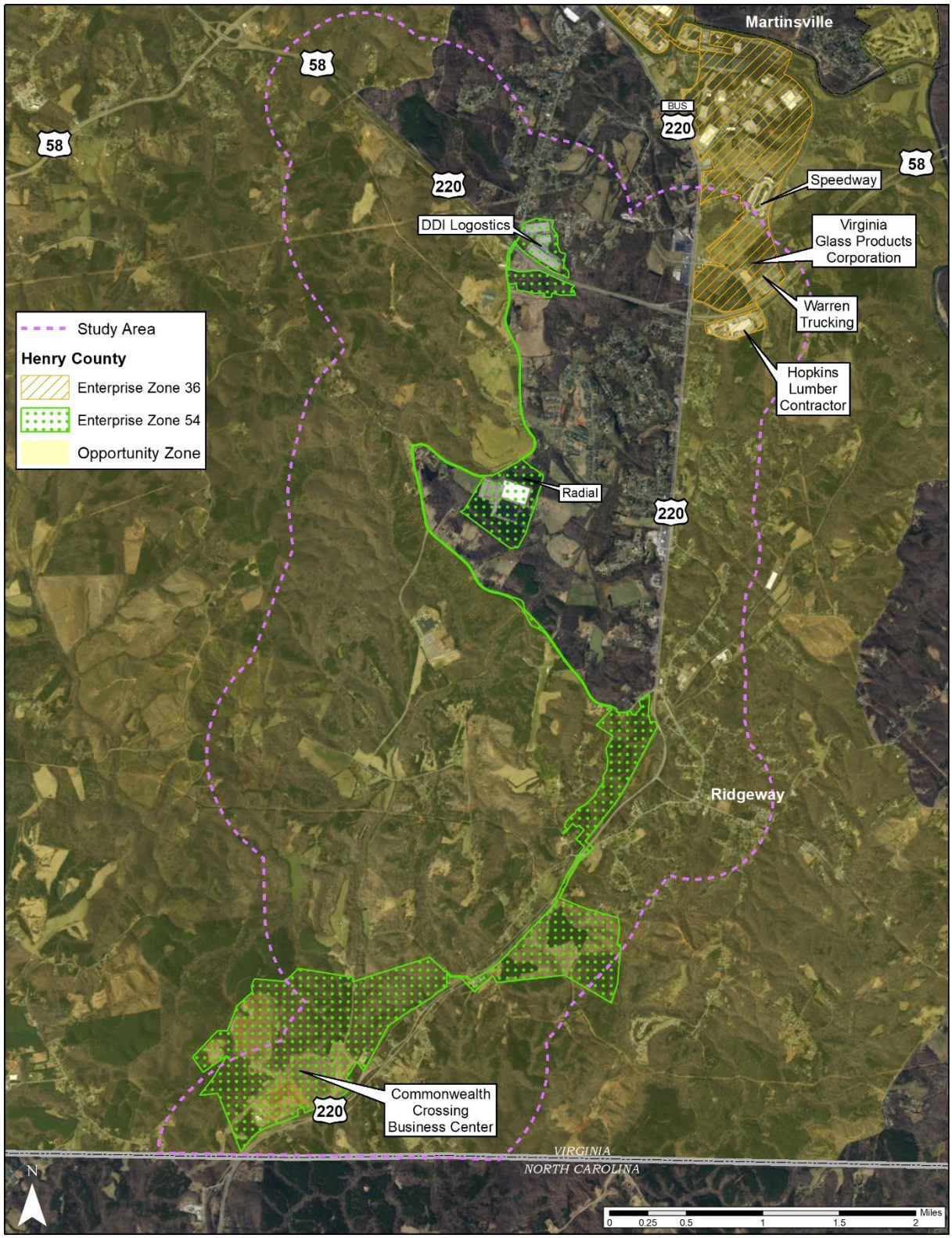
The following ten businesses and organizations are the top employers in Henry County (VEC, 2019a):

1. Henry County School Board
2. Eastman Chemical Co., formerly known as CPFilms, Inc.
3. Monogram Management Services
4. GSI Solutions
5. Results Customer Solution
6. Hanesbrands Inc.
7. Springs Global U.S. Inc.
8. County of Henry
9. Patrick Henry Community College
10. Bassett Furniture Industries

The Henry County School Board, the top employer, has two public schools within the study area: Drewry Mason Elementary School and Magna Vista High School. Additionally, along Route 220 within the study area, the corridor is lined with homes and businesses. Based on site observations, the main businesses are gas stations, hotels, fast food restaurants, and medical offices. The main access to and from these schools in the study area and businesses in Martinsville is along Route 220, highlighting the importance of Route 220 for travel to employment for the population of Henry County and business destinations for local and regional travelers and commuters.

Additionally, the only current access to and from the Commonwealth Crossing Business Centre, located north of the Virginia-North Carolina State line and west of Route 220, is on Route 220 (see **Figure 2-3**). The current entrance to the Commonwealth Crossing Business Centre is located in North Carolina. Commonwealth Crossing is an advanced, pad-ready manufacturing industrial site (EDC, 2019). Commonwealth Crossing is located in a Henry County Enterprise Zone (see **Figure 2-3**), which is an area designated to encourage investment through tax concessions and fewer government regulations and provide jobs for surrounding residents.

Figure 2-3: Enterprise Zones and Industries Within the Study Area



In addition to Enterprise Zones, a large portion of the study area also is a designated Opportunity Zone (see **Figure 2-3**), which is an economically-distressed community where new investments may be eligible for preferential tax treatment (IRS, 2019). According to the Virginia Department of Housing and Community Development, within the study area, Census Tracts 106.02 and 107 are identified as Designated Qualified Opportunity Zones in Virginia (VDHCD, 2019). Additionally, the Commonwealth Crossing Business Centre is also located the designated Opportunity Zone, specifically, in Census Tract 107, where investment in low-income census tracts is encouraged. Although there are currently no businesses situated within the business park, the site's first client, Press Glass, announced in early March 2019 their plan to invest $43.55 million to establish a factory (EDC, 2019). Press Glass is the largest flat glass processing operation in Europe and would create 212 new jobs for the area (EDC, 2019). The business center would also house an on-site advanced manufacturing training facility for tenants, with workforce training provided by Patrick Henry Community College, one of the top ten employers in Henry County (sixth).

Other large industries within the Henry County Enterprise Zone within the study area, based on Henry County GIS and Google Maps™, are (see **Figure 2-3**):

- Radial, a warehouse located adjacent to Joseph Martin Highway and Memory Lane;
- DDI Logistics, a warehouse located north of Route 58 and east of Fisher Farm Road;
- Hopkins Lumber Contractor, located south of Route 58 and adjacent to Old Sand Road to the west;
- Warren Trucking and Virginia Glass Products Corporation, located north of Route 58 and east of Old Sand Road; and
- Martinsville Speedway, located north of Route 58.

Revenue generated by businesses within Henry County was approximately $377,008,979 in 2018 (WCCPS, 2019) (see **Table 2-9**). Taxable sales were generated mainly by retail, food services, manufacturing, and other services. In addition to revenue, from 2012-2015, Henry County and Martinsville combined ranked 39 out of 105 for Real Gross Domestic Product (GDP) in Virginia and from 2013-2015 had an overall 10 percent increase in GDP, ranking eighth out of 105 for percent change over the time period (U.S. Department of Commerce, 2018).

Table 2-9: Taxable Sales by Business Classification

Industry Sector	Taxable Sales During Calendar Year Ending December 31, 2018
Manufacturing	$6,571,542
Retail Trade	$251,468,343
Administrative and Support and Waste Management	$326,791
Health Care and Social Assistance	$127,182
Transportation and Warehousing	N/A
Accommodation and Food Services	$41,031,519
Construction	$686,077
Other Services (except Public Administration)	$7,739,093
Public Administration	N/A
Miscellaneous and Unidentifiable Total	$31,963,196
Total	**$377,008,979**
Taxable Sales for Virginia	$106,075,146,508

Source: *Virginia Department of Taxation; Annual Taxable Sales, Center for Economic Policy Studies- Weldon Cooper Center for Public Service at University of Virginia, 2019.*

Commuting Patterns

Commuting pattern data from the VEC shows that Henry County residents are primarily commuting to Martinsville (3,554 workers), Danville (1,167 workers), Franklin County (1,006), and Rockingham County, North Carolina (859) (see **Table 2-10**).

Table 2-10: Top 10 Places Henry County Residents are Commuting

Location	Number of Workers
Martinsville, Virginia	3,554
Danville, Virginia	1,167
Franklin County, Virginia	1,006
Rockingham County, North Carolina	859
Roanoke, Virginia	754
Patrick County, Virginia	476
Roanoke County, Virginia	440
Pittsylvania County, Virginia	366
Guilford County, North Carolina	347
Montgomery County, Virginia	338

Source: *Virginia Employment Commission, U.S. Census Bureau, OnTheMap Application and Longitudinal Employer Household Dynamics (LEHD) Origin-Destination Employment Statistics, 2014.*

Martinsville is located directly north of the study area. Danville is located east of the study area and commuters within the study area may not necessarily utilize this portion of Route 220 to get to Danville. Route 220 is the main route that travels through Franklin County, which is located north of Martinsville. See **Table 2-11** for additional commuting pattern data to reinforce the number of people commuting in and out of Henry County.

Table 2-11: Documented Commuting Patterns for Henry County

Commuting Patterns	Number of People
People who live and work in the area	7,561
People who commute in	8,341
People who commute out	12,927
Net commuters (commuters in minus commuters out)	-4,586

Source: *Virginia Employment Commission, U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics, 2014.*

Route 220 is an important regional north/south connection linking employment, shopping, manufacturing, recreational, and research centers to the south, including the Cities of Winston-Salem, Eden, and Greensboro, North Carolina, with those to the north, such as Martinsville, Town of Blacksburg (Blacksburg), and Roanoke, Virginia. Other north/south connections, such as Interstate-77 (I-77), Interstate-81 (I-81), Interstate-85 (I-85), and Route 29 from North Carolina to south-central Virginia are less direct with longer travel times between these locations.

Route 220 is an important freight link, with most freight movement accomplished via trucks. Trucking accounts for 77 percent of freight tonnage, and over 99 percent of the freight value along Route 220. Freight rail accounts for the remainder of the total freight movement, on Norfolk Southern rail lines which run parallel to Route 220 in the study area (WPPDC, 2013). Route 220 within the study area has high truck volumes that are greater than other Corridors of Statewide Significance in Virginia. North of the North Carolina state line the existing truck percentages for Route 220 are approximately 26 percent for both the northbound and southbound directions. As a comparison, along I-81, another primary north/south connection between North Carolina and Virginia, the truck percentages in Washington and Smyth Counties are approximately 21 to 22 percent (VDOT, 2020c).

Route 220 freight traffic comes from a variety of sources, both within and beyond the study area. Local intermodal facilities within Martinsville and the study area, including the Radial Fulfillment Centers on Joseph Martin Highway and in Martinsville; DDI Logistics; KBEL Transport; and Warren Trucking contribute to the high truck volumes seen on Route 220. Manufacturing centers including Nationwide Homes, Hopkins Lumber, and the multiple businesses in the Martinsville Industrial Park, North Bowles Industrial Park, and Patriot Centre at Beaver Creek are major truck traffic generators as well.

Beyond the study area and Martinsville, there are several intermodal facilities that support the transition from air and rail-based cargo to trucks. These intermodal facilities are also major truck generators for the Route 220 corridor. Norfolk Southern operates rail intermodal facilities in the Cities of Greensboro, Winston-Salem, High Point and Walkersville, North Carolina. The Walkersville site is primarily used to transfer vehicles between trains and car carriers, and the three other yards are primarily for transfers of containers to or from tractor-trailers.

The Piedmont Triad International Airport (PTI) in Greensboro, south of the study area, offers many commercial flights and air cargo services and is described as “a multi-modal cargo facility with nearly all major trucking lines operating terminals near the airport” (PTI, 2018a). Cargo services are growing at the airport. As an example, FedEx announced in September 2018 that it would be expanding its operations at its Greensboro hub from 10 to 18 flights per day (PTI, 2018b). This would result in an increase in the already high number of truck trips travelling from this hub to regional destinations.

Given these destinations north and south of the corridor, the majority of trips taken on Route 220 within the study area are trips that both begin and end outside of the study area. These are called through trips as opposed to local trips. Additional discussion of the traffic analysis methodology and data appears in the ***Traffic and Transportation Technical Report*** (VDOT, 2020c).

The public survey conducted in the Fall of 2018 identified three themes related to regional traffic. First, over 40 percent of those who responded to Fall 2018 the public survey indicated they are passing through the study area on Route 220. Nearly half of the respondents use the corridor enough to participate in the survey but are only passing through the area. Approximately 32 percent of the survey respondents use Route 220 daily, while just over 32 percent use Route 220 about once a week. This suggests that nearly a third of the respondents only pass through the corridor once a week, rather than daily travel conducted by local travelers. Finally, a large number of respondents indicated they travel Route 220 to reach doctors, family, churches, and other destinations, that are outside the corridor. Therefore, it can be deduced that local trips contribute to the regional traffic.

2.3.3 Environmental Consequences

No-Build Alternative

The No-Build Alternative would have no direct impact on the economic environment, including on income or the distribution of business establishments. The No-Build Alternative would not change the current travel time for local and regional commuters. However, the heavy mix of local and regional truck traffic that exists today would continue and worsen in the No-Build condition.

Alternative A

Alternative A would not impact any commercial properties and could potentially result in three industrial property impacts, affecting two total acres of industrial land, but with no industrial relocations required. **Table 2-12** illustrates the number of industrial properties that would be impacted, the acreage of potential impacts, and the number of potential relocations associated with each alternative. Alternative A would not cause potential relocations or impacts to businesses. Any alternative requiring acquisition would require compensation in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act* of 1970 (as amended).

Table 2-12: Potential Industrial Impacts

Impact	Alternative A	Alternative B	Alternative C
# of Industrial Properties Impacted	3	6	6
Total Industrial Acres Impacted	2	48	48
Industrial Relocations	0	4	3

Alternative A would not require any commercial or industrial relocations and would not have a direct effect on long-term employment, but construction could result in temporary jobs. Under Alternative A, commuter patterns would likely change for both local and regional traffic with the introduction of the new roadway. For local traffic from north of Church Street and Lee Ford Camp Road, commuting patterns would remain similar to today; however, the commuting time would improve due to the decrease in regional through traffic on Route 220. For commuters located in the middle of the study area in Ridgeway, some may choose to use Soapstone Road to access the new roadway for destinations north and west of the study area.

For regional traffic that has commuting pattern origins or destinations south of the study area in North Carolina with destinations and origins north and west of the study area that currently utilize Route 58/Route 220, under Alternative A, commuters would likely use the new roadway to benefit from the improved travel times and avoidance of the signalized and unsignalized intersections and driveways along existing Route 220. For commuting patterns north and east of the study area, commuters may choose to use existing Route 220 for a more local trip; however, for longer destination trips, commuters would likely use the new roadway to keep a continuous flow on the new roadway and minimize travel time delays on existing Route 220.

Alternative B

Alternative B would not impact any commercial properties, but could potentially result in six industrial property impacts, affecting 48 total acres of industrial land, resulting in three potential industrial relocations near the northern interchange with Route 58 and one potential industrial relocation to the east of Magna Vista School Road (see **Table 2-12**). The potential industrial relocations that would occur under Alternative B would impact the employees who work for the relocated industries. The industrial relocations could directly affect the employees' long-term employment depending on the location the business owner chooses to relocate to. The relocation could also affect the employees' commute patterns and travel times to the relocated businesses. The change in location to the industrial businesses would affect where industrial job opportunities are located. However, construction could result in temporary jobs.

Under Alternative B, commuter patterns would likely change for both local and regional traffic with the introduction of the new roadway. For local traffic from north of Church Street and Lee Ford Camp Road, commuting patterns would remain similar to today, however, the commuting time would improve due to the decrease in regional traffic on Route 220. For local traffic with origins or destinations south of Church Street and Lee Ford Camp Road, commuting patterns would likely change by utilizing the new roadway for improved access to destinations or origins, north or west of the study area with improved access to Route 58/Route 220. For commuters located in the middle of the study area in Ridgeway, some commuters may choose to use Soapstone Road to access the new roadway for destinations north and west of the study area.

For regional traffic that has commuting pattern origins or destinations south of the study area in North Carolina with destinations and origins north and west of the study area that currently utilize Route 58/Route 220, under Alternative A, commuters would likely use the new roadway to benefit from the improved travel times and avoidance of the signalized and unsignalized intersections and driveways along existing Route 220. For commuting patterns north and east of the study area, commuters may choose to use Route 220 for a more local trip; however, for longer destination trips, commuters would likely use the new roadway to keep a continuous flow on the new roadway and minimize travel time delays on existing Route 220.

Alternative C

Alternative C would not impact any commercial properties but could result in six industrial property impacts, totaling 48 impacted acres and resulting in three potential industrial relocations near the northern interchange with Route 58 (see **Table 2-12**). The potential industrial relocations that would occur under Alternative C would impact the employees who work for the relocated industries. The industrial relocations could directly affect the employees' long-term employment depending on the location the business owner chooses to relocate to. The relocation could also affect the employees' commute pattern and travel time to the relocated businesses. The change in location to the industrial businesses would affect where industrial job opportunities are located. However, construction could result in temporary jobs.

Under Alternative C, commuter patterns would likely change for both local and regional traffic with the introduction of the new roadway. For local traffic from north of Church Street and Lee Ford Camp Road, commuting patterns would remain similar to today, however, the commuting time would improve due to the decrease in regional through traffic on Route 220. For local traffic with origins or destinations south of Church Street and Lee Ford Camp Road, commuting patterns would likely change by utilizing the new roadway for improved access to destinations or origins, north or west of the study area with improved access to Route 58/Route 220. For commuters located in the middle of the study area in Ridgeway, some commuters may choose to use Soapstone Road to access the new roadway for destinations north and west of the study area.

For regional traffic that has commuting pattern origins or destinations south of the study area in North Carolina with destinations and origins north and west of the study area that currently utilize Route 58/Route 220, under Alternative C, commuters would likely use the new roadway to benefit from the improved travel times and avoidance of the signalized and unsignalized intersections and driveways along existing Route 220. For commuting patterns north and east of the study area, commuters may choose to use Route 220 for a more local trip; however, for longer destination trips, commuters would likely use the new roadway to keep a continuous flow on the new roadway and minimize travel time delays on existing Route 220.

2.3.4 Mitigation

The potential impacts to commercial and industrial properties were evaluated at a planning level, the final property impacts would be dictated by the final design and placement of construction features. The potential acquisition from three properties under Alternative A and six properties under Alternatives B and C would receive reimbursement for the fair market value of property acquired in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act* of 1970 (as amended). Additionally, the owners of the three industrial facilities that would be relocated under Alternative C and four industrial facilities that would be relocated under Alternative B would be provided relocation assistance advisory services and would be eligible to receive reimbursement for moving costs . Relocation resources would be provided without discrimination. Additionally, property owners would be able to consult VDOT's *A Guide for Property Owners and Tenants*, an information packet for property owners which provides information on VDOT's process of acquiring rights of way for public improvement projects.

2.4 LAND USE

2.4.1 Methods

Existing land use was mapped by extrapolating zoning information and reviewing against the use and class codes provided by County Tax Assessor data. Where there was conflicting information, visual interpretation of 2016 County aerial imagery was used to determine existing land use. Information on growth areas was gathered from the Henry County Comprehensive Plan. Specific growth areas were identified as areas having existing or planned road networks which can sustain traffic increases (HCPC, 1995). Zoning information was used to interpret the land use designation, Zoned (Future) Land Use, by combining similar classifications (e.g., commercial future land use is a combination of General Commercial, Neighborhood Commercial, and Office/Professional zoning districts). Future land use was compared to existing land use to analyze the changes anticipated by the County within the study area and how the alternatives could affect those changes.

The study area used for resource identification is a half-mile buffer from the boundary of the combined planning level LODs for all of the Build Alternatives retained for evaluation. Each alternative planning level LOD was used to evaluate potential impacts to land use. The Environmental Analysis Methodologies were prepared and distributed to the Cooperating and Participating Agencies in May 2017, revisions were made to address the agencies' comments, and the methodologies were concurred upon following the June 2018 agency meeting.

2.4.2 Affected Environment

Existing Land Use

Most development in the study area traditionally occurred either near Martinsville or within Ridgeway. In 1980, the Route 58/220 Bypass around Martinsville was completed, connecting Route 220 south of the city with Route 220 North. Completion of this connection and provision of public water and sewer services by the Henry County Public Service Authority opened the greater Route 220 corridor south of Martinsville to increased development.

Within the study area, concentrations of commercial activity can be found south of Martinsville limits, immediately north and south of the intersection of Route 220 and Route 58, at the intersection of Route 220 and Route 902, and along Main Street in Ridgeway. The Henry County Comprehensive Plan indicated that the increase of commercial growth within this segment of the Route 220 corridor was a result of the full access control on Route 58 around Martinsville, which opened the area to more traffic (HCPC, 1995). Further south, strip commercial development also occurred, north of Ridgeway.

Several subdivisions are located on interior streets within the study area. Areas directly south of Martinsville limits contain older residential neighborhoods. Most manufactured homes are located within manufactured home parks. Limited multi-family housing exists in the area. Several small developments exist near the Route 58/Route 220 South interchange and in areas further south. Except for the apartment complexes near the intersection of Route 58 and 220, most can be found in closer proximity to single-family detached residential units. Aside from residential uses, undeveloped lands (including forested) and agricultural lands comprise the largest land uses in both the study area and Henry County.

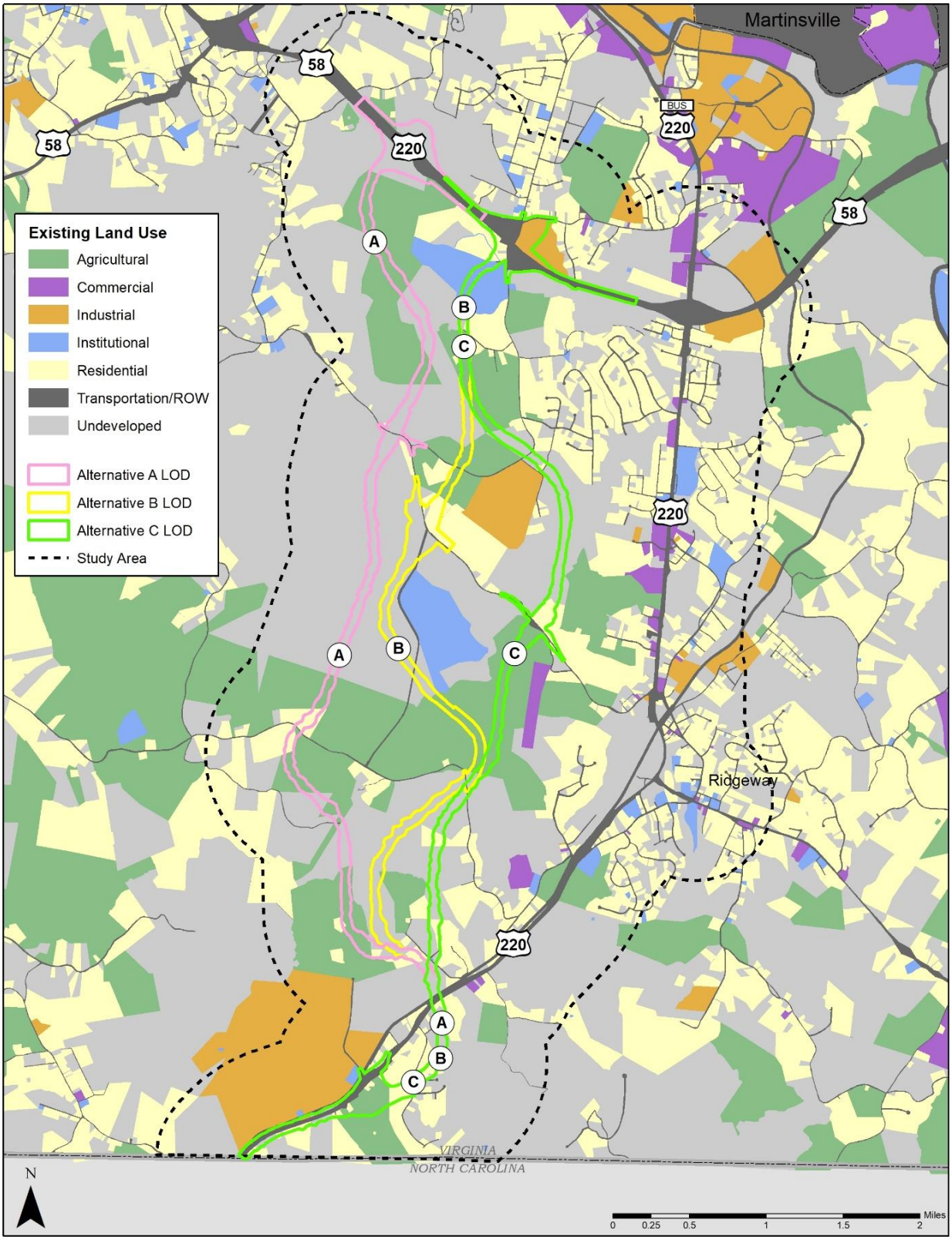
Of the 12,870 acres within the study area, the land use with the highest percentage is undeveloped/covered by water, with 46 percent (5,876 acres) (see **Table 2-13**). However, it is possible that portions of the land identified as undeveloped may have utility infrastructure present and may be available for near-term development. The next greatest use is residential, with 22 percent (2,848 acres), primarily due to a majority of the residential properties being located on large areas of land. The remaining land uses in order of percentage are agricultural with 17 percent (2,171 acres), right of way with six percent (730 acres), industrial with five percent (705 acres), institutional or public use with three percent (367 acres) and commercial with one percent (173 acres). See **Table 2-13** for existing land uses within the study area and **Figure 2-4** for mapping of existing land use.

Table 2-13: Existing Land Use within the Study Area

Land Use	Study Area Total	Percent of Study Area Covered
Undeveloped/Water	5,876	46
Residential	2,848	22
Agricultural	2,171	17
ROW	730	6
Industrial	705	5
Institutional/Public Use	367	3
Commercial	173	1
Study Area Total	**12,870**	**100**

Note: *Acreages and percentages are rounded.*
Source: *Land Use Data was interpreted from Henry County Zoning and Assessor Data, and Aerial Images as described in* ***Section 2.4.1****.*

Figure 2-4: Existing Land Use



Future Land Use

The Comprehensive Plan categorizes all areas in Henry County into one of two areas: growth or rural areas (HCPC, 1995). Growth areas are established to accommodate growth with public infrastructure while maintaining protection of environmentally sensitive areas. Growth areas in Henry County include many areas that are already developed, and where redevelopment and infill are encouraged by the Comprehensive Plan (HCPC, 1995).

The Comprehensive Plan establishes Growth Areas and Rural Areas, which serve as the basis for its Future Land Use Plan and associated Growth Areas Map. Bordered on the north by Martinsville's southern limits, extending south along the Route 220 and Morehead Ave corridors, and encompassing Ridgeway, the DuPont facility, and the Martinsville Industrial Park is the Ridgeway Growth Area (see **Figure 2-5**). The Future Land Use Plan calls for industrial land uses in several areas including several areas off Route 782 (Lakeridge Parkway) and Route 641 (Joseph Martin Highway). The Route 220 South corridor is designated for commercial growth. The Comprehensive Plan recommends the adoption of a Highway Corridor Overlay to help protect the functional and visual integrity of the corridor; however, this does not appear to have been accomplished to date. Commercial Activity Areas are located at the Route 220 South/Route 902 intersection. The Comprehensive Plan calls for medium to high residential growth in the remainder of the growth area (HCPC, 1995).

Areas outside of the Ridgeway Growth Area fall within a Rural Area. Designation as a Rural Area does not mean that development cannot occur; rather, the Comprehensive Plan allows for certain types of development in these areas that is consistent with County goals (HCPC, 1995). A primary reason for establishing Rural Areas involved maintaining rural character as a loss of traditional rural character accompanied the decline of agricultural activity and the County recognized a need for new approaches to promote more attractive and sustainable land development.

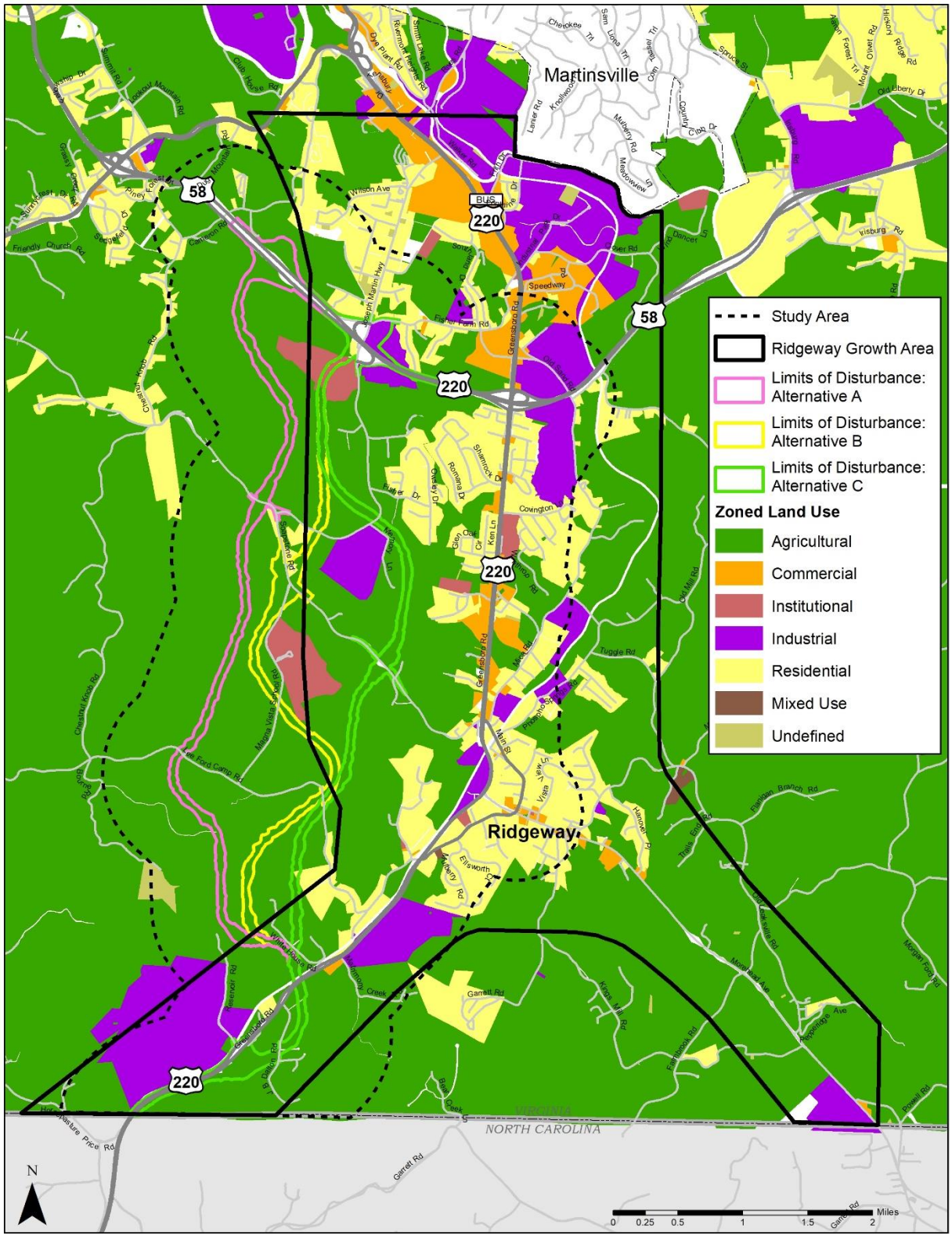
The majority of the 12,870 acres within the study area is within a Growth Area, 8,535 acres or 66 percent. The remaining 3,605 acres (28 percent) of land that is not currently used for right of way purposes are within the Rural Area. See **Table 2-14** for a breakdown of Growth and Rural Areas within the study area.

Table 2-14: Growth and Rural Areas within the Study Area

Land Use	Area	Percent of Study Area Covered
Growth Area	8,535	66
Rural Area	3,605	28
ROW	730	6
Study Area Total	**12,870**	**100**

Source: *Henry County GIS Database, Henry County Comprehensive Plan (HCPC, 1995)*

Figure 2-5: Zoned (Future) Land Use



In addition to the designated Growth and Rural Areas, zoned (future) land use shows that the majority of the land in the study area (8,324 acres or 64 percent) is intended to be used for agricultural purposes. Agricultural purposes include traditional farming, dairy, and forestry operations, as well as lands intended for preservation and conservation. The next greatest intended use is residential, comprising 16 percent (2,049 acres) of the study area, followed by industrial (1,146 acres or 9 percent), right of way (730 acres or 6 percent), institutional or public use (293 acres or 2 percent), commercial (235 acres or 2 percent), and mixed use (48 acres or 0.5 percent). The remaining 46 acres (0.5 percent) did not have zoning information provided and are listed as unknown. See **Figure 2-5** for mapping of Zoned (Future) Land Use and **Table 2-15** for a breakdown of Zoned (Future) Land Use within the Study Area.

Table 2-15: Zoned (Future) Land Use within the Study Area

Land use	Acres within Study Area	Percent of Study Area Covered
Agricultural	8,324	64
Residential	2,049	16
Industrial	1,146	9
ROW	730	6
Institutional/Public Use	293	2
Commercial	235	2
Mixed	48	0.5
Unknown (Zoning not provided)	46	0.5
Study Area Total	**12,870**	**100**

Note: *Acreages and percentages are rounded.*
Source: *Data was interpreted from Henry County Zoning Data.*

2.4.3 Environmental Consequences

No-Build Alternative

The No-Build Alternative would not result in any project-related construction and would therefore not directly require any right of way acquisitions. The No-Build Alternative would have no direct impacts on land use and would not affect any parcels within the study area. The change in land use and development consistent with the Comprehensive Plan would continue regardless of the conditions of the roadway network.

Alternative A

Alternative A would require the conversion of an estimated 574 acres of land from 162 parcels for conversion to transportation land use. The acquisition would consist of an estimated 279 acres of undeveloped land (49 percent), an estimated 64 acres of residential land (11 percent), an estimated 144 acres of agricultural land (25 percent), an estimated 84 acres of right of way/ transportation (15 percent), an estimated two acres of industrial land, and an estimated one acre of institutional/public land (see **Table 2-16**). The agricultural land that would be converted to transportation land use within the planning level LOD of Alternative A is located immediately south of Route 58. The undeveloped land that would be converted to transportation land use is located in the northern half of the planning level LOD of Alternative A. The conversion of land use would occur where new roadway would be constructed including potential interchange locations, as well as for improvements to expand existing roadways. The land conversion to transportation

use was calculated based on a worst-case planning level LOD. The final impacts to land uses would be determined as the final design and engineering is further developed. The conversion of 574 acres to transportation use would be a relatively small percent (4.4) when compared to the 12,870 acres within the study area.

Table 2-16: Potential Impacts to Land Use (by acreage of parcel)

Land Use Impact	Alternative A	Alternative B	Alternative C
Undeveloped/ Water	279	239	176
Residential	64	82	85
Agricultural	144	100	115
ROW/Transportation	84	101	102
Industrial	2	48	48
Institutional/ Public Use	1	14	15
Commercial	0	0	0
Total	**574**	**584**	**541**

The majority of the planning level LOD of Alternative A where the existing land uses would be converted to transportation use and the adjacent areas are zoned for future agricultural land use. The new alignment portion of the planning level LOD generally parallels the Ridgeway Growth Area, which is identified in the Henry County Comprehensive Plan as areas having existing or planned road networks which can sustain traffic increases. The majority of the planning level LOD for Alternative A (69 percent) is located west of the Ridgeway Growth Area, 31 percent of the planning level LOD for Alternative A is within the Ridgeway Growth Area (154 acres) (HCPC, 1995). While the construction of Alternative A would not disrupt future plans for growth in the area, it could extend potential future growth outside of the designated growth area.

Although the Henry County Comprehensive Plan does not identify the Martinsville Southern Connector as a future project, the alternatives evaluated in the Draft EIS, including Alternative A, are present on the Henry County GIS mapping service (Henry County, 2019).

Alternative B

Alternative B would require the acquisition of an estimated 584 acres from 240 parcels for conversion to transportation land use. The acquisition would consist of an estimated 239 acres of undeveloped land (41 percent), an estimated 82 acres of residential land (14 percent), an estimated 100 acres of agricultural land (17 percent), an estimated 101 acres of right of way/ transportation (17 percent), an estimated 48 acres of industrial land (8 percent), and an estimated 14 acres of institutional land (2 percent) (see **Table 2-16**). The potential industrial land that would be converted to transportation land use within the planning level LOD of Alternative B is located north of Route 58 and the agricultural and undeveloped lands that would be converted to transportation land use are located in the central portion of the planning level LOD of Alternative B. Right of way and transportation land use accounts for an estimated 101 acres within the planning level LOD of Alternative B (17 percent). The conversion of 548 acres to transportation use would be a relatively small percent (4.5) when compared to the 12,870 acres within the study area.

The majority of the planning level LOD for Alternative B where the existing land uses would be converted to transportation use and the adjacent areas are zoned for future agricultural land use. However, small portions of the planning level LOD of Alternative B and adjacent areas are zoned for residential use, industrial use, and institutional/public use. Generally, residential and institutional land uses are not compatible with transportation uses. The new alignment would generally not be compatible with institutional and residential uses due to associated potential

increases in noise and potential for community fragmentation. The new alignment portion of the planning level LOD is partially located west of the Ridgeway Growth Area and partially within the western edge of the area, 67 percent of the planning level LOD for Alternative B is within the Ridgeway Growth Area (321 acres), which is identified in the Henry County Comprehensive Plan as areas having existing or planned road networks which can sustain traffic increases (HCPC, 1995). While the construction of Alternative B would not disrupt future plans for growth in the area, it could extend potential future growth outside of the designated growth area south of Soapstone Road.

Although the Henry County Comprehensive Plan does not identify the Martinsville Southern Connector as a future project, the alternatives evaluated in the Draft EIS, including Alternative B, are present on the Henry County GIS mapping service (Henry County, 2019).

Alternative C

Alternative C would require the acquisition of an estimated 541 acres from 248 parcels for conversion to transportation land use. The acquisition would consist of an estimated 176 acres of undeveloped land (33 percent), an estimated 85 acres of residential land (16 percent), an estimated 115 acres of agricultural land (21 percent), an estimated 102 acres of right of way/ transportation (19 percent), an estimated 48 acres of industrial land (nine percent), and an estimated 15 acres of institutional land (3 percent) (see **Table 2-16**). The industrial land that would be converted to transportation land use within the planning level LOD of Alternative C is located north of Route 58 and the agricultural and undeveloped lands that would be converted to transportation land use are located in the central portion of the planning level LOD of Alternative C. The conversion of 541 acres to transportation use would be a relatively small percent (4.2) when compared to the 12,870 acres within the study area.

The majority of the planning level LOD for Alternative C where the existing land uses would be converted to transportation use and the adjacent areas are zoned for future agricultural land use. However, small portions of the planning level LOD for Alternative C and adjacent areas are zoned for industrial and institutional/public use. Generally, institutional land use is not compatible with transportation uses. The new alignment would generally not be compatible with institutional uses due to associated potential increases in noise and potential for fragmentation. The new alignment portion of the planning level LOD is generally located within the western portion of the Ridgeway Growth Area, 92 percent of the planning level LOD for Alternative C is within the Ridgeway Growth Area (412 acres), which is identified in the Henry County Comprehensive Plan as areas having existing or planned road networks which can sustain traffic increases (HCPC, 1995). The construction of Alternative C would not disrupt future plans for growth in the area and could encourage the growth to stay within the designated growth area.

Although the Henry County Comprehensive Plan does not identify the Martinsville Southern Connector as a future project, the alternatives evaluated in the Draft EIS, including Alternative C, are present on the Henry County GIS mapping service (Henry County, 2019).

2.4.4 Mitigation

Impacts to land use are anticipated to be minor. Additionally, the conversion to transportation use would be relatively small when compared to the existing total acreage per land use class in the study area. The anticipated minor impacts to land use were determined at a planning level, final land use impacts would be determined during future design.

Coordination occurred between VDOT, Henry County, and the West Piedmont Planning District Commission (WPPDC) during the development of this Draft EIS to determine consistency with land use; however, the responsibility for land use planning lies with the local jurisdictions, such

that jurisdictions manage zoning changes to accommodate local and regional goals and future zoning plans. Although the localities anticipate the future land use changes identified during the development of this Draft EIS, additional coordination with local jurisdictions that manage zoning changes to mitigate extensive impacts to land use would be continued and addressed during final design. Mitigation measures to land use would be coordinated with localities, as necessary.

3. ENVIRONMENTAL JUSTICE

This section focuses on the existing conditions and potential impacts on Environmental Justice (EJ) populations in the study area.

3.1 REGULATORY CONTENT

Title VI of the Civil Rights Act of 1964 (Public Law 88-352 78 Statute 241), as amended, requires no person in the United States shall, on the ground of race, color, or national origin (including individuals with Limited English Proficiency), be excluded from participating in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. The FHWA Technical Advisory T6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents*, implements Title VI in assessing environmental effects.

The FHWA Title VI Program is broader than the Title VI statute and encompasses other nondiscrimination statutes and authorities, including EO 12898 *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (1994).

EO 12898 *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (1994) requires, among other things, identification of minority and low-income populations to ensure that Federal programs do not result in disproportionately high and adverse environmental or health impacts to minority populations or low-income populations. A disproportionately high and adverse effect on minority and low-income population locations occurs, as defined by the FHWA Environmental Justice Order, when the impact:

- Would be predominately borne by a minority and/or low-income population, or
- Would be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that would be suffered by the non-minority population and/or non-low-income population.

The strategies developed under EO 12898 and the United States Department of Transportation (USDOT)/FHWA policies on Environmental Justice (EJ) take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal transportation projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law, while ensuring EJ communities are proactively provided meaningful opportunities for public participation in project development and decision-making.

The terms minority and low-income, utilized in this study, have been defined in the USDOT Order 5610.2(a), *USDOT Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (2012) and FHWA Order 6640.23A, *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (2012) as below:

- Minority Individual – the USDOT and FHWA EJ Orders define a minority individual as belonging to one of the following groups:
    - (1) Black: a person having origins in any of the black racial groups of Africa;
    - (2) Hispanic or Latino: a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race;
    - (3) Asian American: a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent;
    - (4) American Indian and Alaskan Native: a person having origins in any of the original people of North America, South America (including Central America), and who maintains a cultural identification through Tribal affiliation or community recognition; or

  - (5) Native Hawaiian and Other Pacific Islander: a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.
- Low-Income Individual – the FHWA and USDOT Orders define a low-income individual as a person whose median household income is at or below the Department of Health and Human Services (HHS) poverty guidelines.

3.2 METHODS

3.2.1 Identification of Minority and Low-Income Populations

EO 12898, USDOT Order 5610.2(a), *USDOT Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (2012), and FHWA Order 6640.23A *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (2012) are aimed at identifying minority and low-income populations and addressing any disproportionately high and adverse effects from federal actions to minority and low-income populations. VDOT, working with FHWA and the EPA, developed a methodology for identifying EJ populations for transportation studies in Virginia. The Environmental Analysis Methodologies were prepared and distributed to the Cooperating and Participating Agencies in May 2017, revisions were made to address the agencies' comments, and the methodologies were concurred upon following the June 2018 agency meeting. Using these approved methods, the following definitions apply to this study:

- Minority Populations – Any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who would be similarly affected by a USDOT/FHWA program, policy or activity (USDOT and FHWA EJ Orders).

A minority population is present when: (a) the minority population of the affected area exceeds 50 percent of the total population, or (b) the minority population percentage in the affected area is "meaningfully greater" than the minority population percentage in the general population or other appropriate unit of geographical analysis (CEQ, 1997). The appropriate geographic area used for analysis (block group, Census tract, etc.) would be determined based on the size and scope of the proposed action. The minority population for the geographic area used for analysis would be found to be "meaningfully greater" than surrounding geographic areas in the study area if its minority population is greater than the average minority population percentage of the Transportation Planning Organization (TPO) member localities, for the TPO boundary in which the study area occurs (if applicable), or the minority population percentage of the surrounding cities and/or counties in which the study area occurs, whichever establishes the lower and more conservative threshold.

For the purposes of this study, the unit of geographic analysis utilized was the block group, with boundaries defined by the U.S. Census Bureau, and the surrounding geographic areas in the study area are defined by the Henry County boundary. The average minority population percentage of Henry County is used to determine the threshold for "meaningfully greater" minority population percentages within block groups in the study area. Using this data from Henry County, the minority population for each census block group would be found to be "meaningfully greater" than the surrounding geographic areas in the study area if its minority population exceeds 31.78 percent.

- Low-Income Population – Any readily identifiable group of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons (such as migrant works or Native Americans) who would be similarly affected by a proposed USDOT/FHWA program, policy, or activity (USDOT/FHWA EJ Orders).

Data from the 2012-2016 ACS 5-Year Estimates, Median Household Income in the Past 12 Months (in 2016 Inflation-Adjusted Dollars) were used to generate median household income data for each of the Census block groups within the study area. These data were compared to the HHS 2018 poverty level for the average household size (HHS, 2019). The HHS poverty guidelines were used for the study as they are most appropriate for comparing the latest available median household income to the most recent 5-Year ACS data (HHS, 2019).

Considering the diverse demographic composition of the study area, a variety of outreach techniques and materials were used to inform citizens and other interested parties about the details of the study and to solicit their comments and concerns, including a study website, monthly study newsletters, online surveys, social media advertisements, citizen information meetings and public hearings. Additionally, in accordance with EO 13166 - *Improving Access to Services for Persons with Limited English Proficiency*, VDOT made public involvement materials available in the Spanish language. Translation assistance was made available for public outreach materials and presentations and associated materials from various meetings were made available in Spanish to provide opportunities for limited English proficiency persons to provide input and feedback during the study public involvement process.

3.3 MINORITY POPULATIONS

3.3.1 Affected Environment

Table 3-1 provides a summary of racial and minority characteristics by Census block group. . All census block groups that were determined to be EJ communities based upon having "meaningfully greater" minority population percentages are in bold in **Table 3-1** and are shown on **Figure 3-1**. County and state percentages are also depicted for comparison in **Table 3-1**.

Of the seven Census block groups within the study area, two block groups, Census Tract 106.01 Block Group 1 and Census Tract 107 Block Group 2, are identified as having meaningfully greater minority population percentages. These block groups are Census Tract 106.01 Block Group 1 and Census Tract 107 Block Group 2. Both block groups within the study area are located to the northwest of Ridgeway. Of the percentage of minority populations in both block groups, the highest percent of the minority population is Black or African American individuals (approximately 18 percent and 42 percent, respectively). Additionally, Census Tract 106.01 Block Group 1 has a relatively high percent of Hispanic or Latino populations (11 percent) compared to Henry County (5 percent). In accordance with EO 13166 - *Improving Access to Services for Persons with Limited English Proficiency*, VDOT made public involvement materials available in the Spanish language. Presentations from the January 23, 2019 Citizen Information Meeting (CIM) and the August 15, 2019 Location Public Hearing were published with Spanish language captioning available. The information brochure for the August 2019 Location Public Hearing was fully translated to Spanish and made available on the study website. For other considerations to include limited English proficiency persons in the study process, see **Section 3.5.2**.

The two block groups (Census Tract 106.01 Block Group 1 and Census Tract 107 Block Group 2) that have been identified as having "meaningfully greater" minority population are referred to as minority block groups. At this stage, there is no specific information on whether there is a minority property owner for any of the potential relocations. Alignment Options 5A-D (east of Route 220) were evaluated early in the study which would have avoided impacts to these two blocks groups, however they were not carried forward because they did not meet the Purpose and Need.

Table 3-1: Study Area Racial and Ethnic Characteristics

Location (Census Tract Block Group)	Total Population	White	Black or African American	American Indian or Alaskan Native	Asian	Native Hawaiian or Other Pacific Islander	Some Other Race	Two or More Races	Hispanic or Latino	Total Block Group Minority Population
106.01-1	1,512	877 (58.00%)	423 (27.98%)	4 (0.26%)	7 (0.46%)	0 (0.00%)	0 (0.00%)	28 (1.85%)	173 (11.44%)	**635 (42.00%)**
106.01-2	1,287	1,108 (86.09%)	127 (9.87%)	2 (0.16%)	27 (2.10%)	0 (0.00%)	0 (0.00%)	11 (0.85%	12 (0.93%)	179 (13.91%)
106.02-1	1,030	794 (77.09%)	190 (18.45%)	1 (0.10%)	7 (0.68%)	0 (0.00%)	0 (0.00%)	9 (0.87%)	29 (2.82%)	236 (22.91%)
106.02-2	1,592	1,246 (78.27%)	248 (15.58%)	1 (0.06%)	15 (0.94%)	0 (0.00%)	1 (0.06%)	20 (1.26%)	61 (3.83%)	346 (21.73%)
106.02-3	1,403	1,139 (81.18%)	198 (14.11%)	9 (0.64%)	3 (0.21%)	0 (0.00%)	0 (0.00%)	18 (1.28%)	36 (2.57%)	264 (18.82%)
107-2	612	343 (56.05%)	**255 (41.67%)**	1 (0.16%)	1 (0.16%)	0 (0.00%)	1 (0.16%)	2 (0.33%)	9 (1.47%)	**269 (43.95%)**
107-3	550	422 (76.73%)	91 (16.55%)	2 (0.36%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	13 (2.36%)	22 (4.00%)	128 (23.27%)
Henry County	54,151	39,487 (72.92%)	11,841 (21.87%)	97 (0.18%)	237 (0.44%)	4 (0.01%)	1,643 (3.03%)	842 (1.55%)	2,545 (4.70%)	17,209 (31.78%)
Virginia	8,001,024	5,486,852 (68.58%)	1,551,399 (19.39%)	29,225 (0.37%)	439,890 (5.50%)	5,980 (0.07%)	254,278 (3.18%)	233,400 (2.92%)	631,825 (7.90%)	3,145,997 (39.32%)

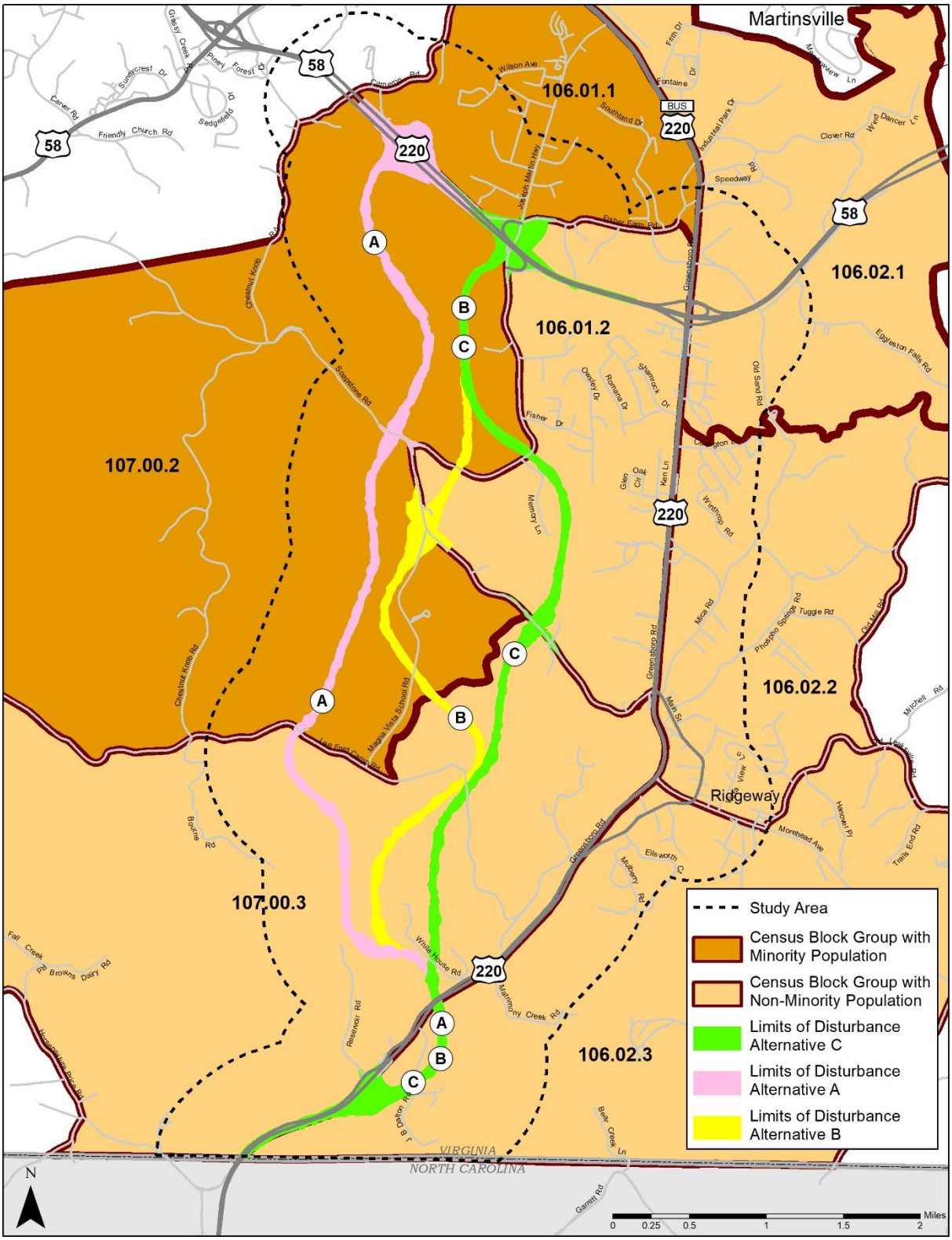
1 Regardless of Hispanic/Latino designation.

2 The U.S. Census Bureau defines Hispanic or Latino as a person of Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race. Because Hispanic or Latino may be any race, data may overlap for other race categories and percentages were not calculated.

3 Total minority population is the sum of all non-White races plus Hispanic or Latino - White; block groups with percentages of minority and/or Hispanic/Latino greater than the 31.78% threshold are shown in bold.

Source: *U.S. Census Bureau, 2010 Decennial Census*

Figure 3-1: Minority Population Census Block Groups in the Study Area



3.3.2 Environmental Consequences

No-Build Alternative

The No-Build Alternative would not impact any residences within the minority block groups. Additionally, the impacts resulting from the lack of improvements would be felt by all residents, including minority and low-income populations, and thus would not result in a disproportionate and adverse impact to EJ populations.

Alternative A

Over two-thirds of the planning level LOD of Alternative A is located within the two minority block groups. Additionally, two of the potential interchanges, Route 58 and Soapstone Road, are within the two minority block groups. However, a majority of the land within the minority block groups is agricultural with few residential properties and homes. Of the seventeen potential residential relocations that would occur with Alternative A; three would occur within the minority block groups.

Due to the new facility being access controlled, the impact to the surrounding area would be confined to the footprint of the alignment and associated interchanges as regional traffic, including trucks, would not be able to access the facility at all roadway crossings. Local access to neighborhoods would be maintained due to grade separation of the new roadway from the existing roadways, except for Soapstone Road where an interchange would be provided.

The decrease in mainline traffic volumes would reduce the intersection travel delay times and queue lengths, improving local connectivity and access to Route 220 from side streets and businesses. The improved local connectivity and access between communities, community facilities, and for emergency vehicles would include the Census block groups containing EJ populations. Therefore, Alternative A would not result in disproportionate and adverse impacts to EJ populations because any beneficial effects would equally affect the Census block groups containing and not containing EJ populations and the impacts to minority block groups would not be greater in magnitude than impacts to non-minority block groups.

Alternative B

The northern portion of the planning level LOD of Alternative B and the potential interchange with Soapstone Road would be located within the two minority block groups. Of the 26 potential residential relocations that would occur with Alternative B; nine would occur within the minority block groups.

Due to the new facility being access controlled, the impact to the surrounding area would be confined to the footprint of the alignment and associated interchanges as regional traffic, including trucks, would not be able to access the facility at all roadway crossings. Local access to neighborhoods would be maintained due to grade separation of the new roadway from the existing roadways, except for Soapstone Road where an interchange would be provided.

The decrease in mainline traffic volumes would reduce the intersection travel delay times and queue lengths, improving local connectivity and access to Route 220 from side streets and businesses. The improved local connectivity and access between communities, community facilities, and for emergency vehicles would include the Census block groups containing EJ populations. Therefore, Alternative B would not result in disproportionate and adverse impacts to EJ populations because any beneficial effects would equally affect the Census block groups containing and not containing EJ populations and the impacts to minority block groups would not be greater in magnitude than impacts to non-minority block groups.

Alternative C

The northern portion of the planning level LOD of Alternative C is located within the two minority block groups. Of the 25 potential residential relocations that would occur with Alternative C, nine would occur in within the minority block groups. The interchange of Alternative C with Soapstone Road would be located outside of the minority block groups, minimizing potential impacts to minority populations and minimizing impacts associated with subsequent growth and development surrounding a new interchange.

Due to the new facility being access controlled, the impact to the surrounding area would be confined to the footprint of the alignment and associated interchanges as regional traffic, including trucks, would not be able to access the facility at all roadway crossings. Local access to neighborhoods would be maintained due to grade separation of the new roadway from the existing roadways, except for Soapstone Road where an interchange would be provided.

The decrease in mainline traffic volumes would reduce the intersection travel delay times and queue lengths, improving local connectivity and access to Route 220 from side streets and businesses. The improved local connectivity and access between communities, community facilities, and for emergency vehicles would include the Census block groups containing EJ populations. Therefore, Alternative C would not result in disproportionate and adverse impacts to EJ populations because any beneficial effects would equally affect the Census block groups containing and not containing EJ populations and the impacts to minority block groups would not be greater in magnitude than impacts to non-minority block groups.

3.3.2.1 Summary of Findings

Based on traffic analyses, it was determined that any alternative that would accommodate regional traffic would need to facilitate the primary regional through traffic movements to the south and west of the study area; therefore, the eastern alignment options investigated previously were not carried forward (see **Section 2.3**). Further, based on the distance required between interchanges, any interchange would need to be located west of the existing interchange of Route 58 and Route 220 to accommodate all movements. A more detailed discussion is available in the ***Alternatives Analysis Technical Report*** (VDOT, 2020a). Therefore, due to the portion of the study area with the identified minority block groups, any alternative able to meet the purpose and need of the study would require intersection with the identified minority block groups, and therefore, potentially require relocations.

In accordance with EO 12898 *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (1994) and FHWA Order 6640.23A *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (2012), no alternatives would result in disproportionate and adverse impacts to EJ populations because any effects would equally affect the Census block groups containing and not containing EJ populations and the impacts to minority block groups would not be greater in magnitude than impacts to non-minority block groups.

3.4 LOW INCOME POPULATIONS

3.4.1 Affected Environment

According to the ACS 2016 data, the average household size of Henry County is 2.33 family members. A family of three was used as the poverty threshold to be conservative for identifying Census block groups with a low median household income within the study area. The 2018 HHS Poverty Guidelines of the 48 Contiguous States and the District of Columbia identifies the poverty threshold as $20,780 for a family of three (HHS, 2019).

Table 2-6 in **Section 2.3** identifies the median household income for each block group within the study area, as well as Henry County, Martinsville, and Virginia to serve as a measure of comparison. No census block groups within the study area have a median household income below the 2018 HHS poverty threshold of $20,780 for a family of three. Therefore, no low-income populations have been identified within the study area.

While the census data does not identify any low-income block groups, all of the elementary schools with Henry County are identified as Title I schools, which qualifies them for receiving Federal financial assistance administered through the U.S. Department of Education's Elementary and Secondary Education Act. The Title I program is intended to ensure that all children have a fair, equal, and significant opportunity to obtain a high-quality education and reach, at a minimum, proficiency on challenging State academic achievement standards and state academic assessments, according to the U.S. Department of Education. To be eligible to use Title I funds to upgrade the entire educational program in a Title I school, the school must serve a population where at least 40 percent of their students are considered low-income.

3.4.2 Environmental Consequences

There are no Census block groups within the study area that have a median household income below the 2018 HHS Poverty threshold poverty threshold of $20,780 for a family of three and therefore no further assessment of impacts to a low-income population is required.

3.4.3 Mitigation

VDOT right of way staff would coordinate with residents requiring relocation. The potential impacts were evaluated at a planning level, the final property impacts would be dictated by the final design and placement of construction features. Relocation resources would be made available without discrimination. VDOT's relocation policies provide an added benefit to low-income displaced persons (although no Census blocks were identified with a median household income lower than the poverty guidelines, individual property owners may qualify as low-income displaced persons). The relocation program outlines special cases where a displaced person is eligible for a price differential payment in addition to the fair market value of the property to help defray the costs necessary to purchase a comparable, decent, safe, and sanitary replacement dwelling. If appropriate housing cannot be found, VDOT can provide housing of last resort. Housing of last resort may include relocation in a rehabilitated dwelling, construction of an addition to a relocation dwelling, purchase of land and construction of a new replacement dwelling, a replacement housing payment in excess of the price differential, or a direct loan that would enable the displaced person to construct or contract the construction of a replacement dwelling. Additionally, public outreach and meaningful access to public information would continue to be provided to minority and/or low-income populations. Property owners would be able to consult VDOT's *A Guide for Property Owners and Tenants*, an information packet for property owners which provides information on VDOT's process of acquiring rights of way for public improvement projects.

3.5 OUTREACH TO EJ COMMUNITIES

3.5.1 Outreach Methods and Meetings

Scoping letters were sent to local governments, including Henry County and Martinsville, to request information regarding transportation needs as well as issues or concerns regarding social or economic resources. In addition to fulfilling NEPA public outreach requirements, public meetings, including citizen information meetings and public hearings, have been and would be advertised throughout the study area, including to areas with minority and low-income persons, in addition to other widely disseminated sources of news in the study area.

A variety of outreach techniques and materials were used to inform citizens and other interested parties about the details of the study and to solicit their comments and concerns, including a study website, monthly study newsletters, online surveys, social media advertisements, citizen information meetings and public hearings. The website was developed to provide information to the public concerning the status of the Draft EIS process, which was updated several times throughout the study process and would continue to be updated as the study process progresses. The website includes background information, the environmental review process, the anticipated tentative study schedule, information and materials from previous public meetings, and contact information for obtaining more information on the study. Monthly study newsletters were prepared during the course of the development of the Draft EIS to keep interested parties informed about the status and progress of the study and were distributed via email to all individuals; organizations; and Federal, state, and local agencies on the study email list, and were made available at public meetings and on the study website.

Additional outreach techniques included an online survey and social media advertisements. Between September 10, 2018 and October 10, 2018; in January 2019, as part of the citizen information meeting; and between March 1, 2019 and March 31, 2019, online surveys were conducted for participation as part of the public outreach effort to gather input from the public regarding the study. The online surveys focused on feedback on how and why they use the Route 220 corridor and how to improve travel within the corridor, feedback on alignment options preferences, and to collect data on the impacts of events at the Martinsville Speedway, respectively. VDOT also conducted an online survey between July 15, 2019 and August 25, 2019 to receive public input on the Preferred Alternative for the study. Social media advertisements were used to promote the online survey for the citizen information meeting to the public in January and August 2019. The audience was geotargeted and behaviorally targeted to areas surrounding the study area, including areas with minority and low-income persons. For the January 2019 CIM, a total of 7,614 devices were reached with 445 links clicked and a total of 48 like, reactions or shares.

Two CIMs were held, one in May 2018 and one in January 2019. The first CIM to discuss the Martinsville Southern Connector Study was held on Tuesday, May 8, 2019 from 4:30 p.m. to 6:30 p.m. at Magna Vista High School in Martinsville and the second CIM was held on Wednesday, January 23, 2019 from 6:00 p.m. to 8:00 p.m. at Drewry Mason Elementary School in Ridgeway. These CIMs were conducted in an open house format, and offered an opportunity for interested stakeholders, business owners and all residents to learn more about the study and participate in the environmental review process. The meetings were advertised in the following local newspapers: Martinsville Bulletin and Henry County Enterprise. The CIMs have been and would be advertised in minority, and low-income media outlets, in addition to other widely disseminated sources of news in the study area.

To announce the meetings, VDOT administered press releases, and meetings were also advertised using the study website, post card mailers, newsletters, social media, and via email listserv. Additionally, public meetings have been and would be held at times convenient for the public to attend and at facilities which are compliant with the Americans with Disabilities Act.

Public hearings were held in addition to the CIMs. The first public hearing on VDOT's recommendation of a preferred alternative was held on Thursday, August 15, 2019 from 5:00 p.m. to 7:00 p.m. at Drewry Mason Elementary School in Ridgeway.

3.5.2 Inclusive Notification and Participation

Considering the diverse demographic composition of the study area described in **Section 3.3.1**, translation assistance was offered for public outreach materials. In accordance with EO 13166 - *Improving Access to Services for Persons with Limited English Proficiency*, VDOT made public involvement materials available in the Spanish language. VDOT conducted additional outreach efforts to improve communication and increase participation and feedback from limited English proficiency persons within the study area. Specific efforts were and would continue to be directed toward limited English proficiency persons.

Materials and presentations from various meetings were made available in Spanish to provide opportunities for limited English proficiency persons to provide input and feedback during the study public involvement process. Presentations from the January 23, 2019 CIM and the August 15, 2019 location public hearing were published with Spanish language captioning available. The public involvement materials for the January 2019 CIM and the August 2019 public hearing were also available in Spanish language. The information brochure for the August 2019 public hearing was fully translated to Spanish and made available on the study website. A second public hearing is scheduled for January 2020 at Drewry Mason Elementary School, materials presented at the hearing would be available one month prior to the public hearing on the study website; this material would also be available in the Spanish language. Presentations from this meeting would also be published with Spanish language captioning available.

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