



This chapter describes the current conditions, estimates foreseeable future changes, evaluates past effects, and describes the impacts and benefits that could be expected with and without the project.

Chapter 3: Existing Conditions and Environmental Consequences

Human Environment

The human environment can be defined as a set of natural, social, and cultural values that exist in a given place. The following topics will be discussed under the human environment: land use, communities, considerations for bicyclists and pedestrians, environmental justice, Section 4(f) resources, Section 6(f) resources, historic resources, hazardous materials, noise, and air quality.

Definition

“Human environment” shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment.

**Council on Environmental Quality
40 CFR §1508.14**

3.1 Land Use

3.1.1 What is the existing land use in the project study area?

The project study area, which includes Dillon and Marlboro Counties in South Carolina and Richmond and Scotland Counties in North Carolina, is comprised of approximately 400,000 acres, most of which is rural in character. It is dotted with small towns and cities such as Hamlet, Clio, Blenheim, and Bennettsville, along with small communities such as Aarons Temple, Minturn, Bingham, and Newtonville. Based on NWI and North Carolina Gap Analysis Program (GAP) data, natural areas comprise 61.4 percent, while agricultural activities comprise 35 percent of the land use. Urban or suburban development uses, including residential, commercial, and industrial activity, comprise only 3.6 percent of the project study area.^{1,2} Dillon County has the highest percent of agricultural land use in the project study area.

Planning and development regulations are limited in the project study area, which is typical for rural municipalities and counties. Dillon and Marlboro Counties both have comprehensive plans

¹ USGS, North Carolina GAP Analysis Project, “Land use coverage map,” <http://www.basic.ncsu.edu/ncgap/Index.html> (May 12, 2008).

² USFWS, National Wetland Inventory, “Wetlands Digital Data,” <http://wetlandsfws.er.usgs.gov/NWI/index.html> (May 12, 2008).



that were completed in 2001, while Richmond County adopted a strategic land use plan in 2000. Scotland County has a comprehensive plan that will be updated in the near future. All four counties in the project study area, Dillon, Marlboro, Richmond, and Scotland have countywide zoning.

3.1.2 What are the natural land areas in the project study area?

Natural land areas comprise a majority of the project study area. In total, 245,458 acres in the project study area are made up of upland forests, wetlands, rangelands, and other natural areas. Several mill ponds are located throughout the project study area including Goodwins Mill Pond and McCalls Mill Pond, both located on Crooked Creek. Natural land areas comprise 55.3 percent of Dillon County, 59.5 percent of Marlboro County, 78.7 percent of Richmond County, and 86.3 percent of Scotland County.³



McCalls Mill Pond

3.1.3 What is the agricultural land use in the project study area?

As stated previously, agricultural land uses, which include farms, ranches, orchards, vineyards, pastures, and croplands, comprise 35 percent of the project study area.^{4,5} The four counties have a rich history of agriculture and it is still an important part of the project study area. More information about farmlands can be found in Section 3.10 (refer to page 3-137).

3.1.4 What are the residential land uses in the project study area?

Approximately 11,600 acres or 2.9 percent of the total land use in the project study area is categorized as residential. Residential activity represents roughly 1.3 percent in Dillon County, 3.8 percent of the acreage within Marlboro County, 1.6 percent of land use in Richmond County, and 0.1 percent in Scotland County.⁶ The small percentage of land used for residential activities is reflective of the rural character of the project study area.

³ USGS, North Carolina GAP Analysis Project, “Land use coverage map,” <http://www.basic.ncsu.edu/ncgap/Index.html> (May 12, 2008).

⁴ *Ibid.*

⁵ USFWS, National Wetland Inventory, “Wetlands Digital Data,” <http://wetlandsfws.er.usgs.gov/NWI/index.html> (May 12, 2008).

⁶ *Ibid.*



According to the 2000 U.S. Census, 59,152 housing units are located in the project study area.⁷ There are relatively few homes located in subdivisions or neighborhoods in the rural, unincorporated portions of the project study area. Rather, rural housing appears to be mostly linear development along county or state roadways. This linear development is located along roadways within the project study area, and could be attributable to the value of the property increasing and farmers choosing to sell small portions, as well as due to efficient access from existing roadways.



Example of Linear Residential Development

Of the housing units in the four-county area, approximately 63 percent are single-family homes. Mobile homes or manufactured housing makes up 26 percent of housing units, while 11 percent of all housing is multi-family structures such as duplexes or apartments. The breakdown of housing types is fairly similar throughout the project study area. The highest percentage of single-family homes and lowest percentage of mobile homes are both in Richmond County (66 and 23 percent, respectively) while the highest percentage of multi-family housing is in Scotland County (11.5 percent).⁸

Residential activity in the project study area is primarily new construction on single, small lots, mainly taking place near small cities and towns. As the value of land continues to increase, it is expected that additional property owners would take advantage of the opportunity to divide parcels and sell the land for development, particularly those who are in closer proximity to I-95 and Bennettsville.

3.1.5 What are the commercial land uses in the project study area?

Approximately 1,352 acres within the project study area are used for commercial activity, including hotel/motel space, industrial, institutional, public, and semi-public uses. Substantial commercial activity occurs within or near the municipalities of Bennettsville and Hamlet.⁹ Local commercial activity occurs near or within the city limits of Little Rock, Blenheim, Clio, McColl, and Wallace. Commercial nodes and “strip development” have gradually developed, most noticeably at or near interchanges with I-95 in Dillon County. Additional development has occurred at crossroads or within communities located along S.C. Route 38 stretching from the interchange with I-95 north to the interchange with I-74. Similar development has occurred along U.S. Route 15/401 as it passes

⁷ U.S. Census Bureau, 2000 U.S. Census, “American Factfinder,” <http://factfinder.census.gov/home/saff/main.html?lang=en> (May 12, 2008).

⁸ *Ibid.*

⁹ *Ibid.*



through Bennettsville and McColl, and along S.C. Route 9 as it passes through Wallace and joins U.S. Route 1.

Approximately 639 commercial establishments occur in the project study area,¹⁰ with the majority of uses providing services for area residents and employees. Among the commercial uses, approximately 264 establishments are considered retail activities such as convenience stores, grocery stores, and auto dealerships. An additional 133 establishments serve as offices for professionals including lawyers, doctors, dentists, and engineers. The remaining 242 establishments are considered “general” commercial activity such as automobile repair shops and beauty salons.



Local Grocery Store in Project Study Area

3.1.5.1 Hotel/Motel

The project study area has 10 establishments dedicated to lodging, which range from several nationally recognized hotels to campgrounds. Of the seven hotels/motels found in the project study area, two are national chain hotels. One is located in Bennettsville and the other is located along S.C. Route 38 just northwest of the I-95/S.C. Route 38 interchange. The five remaining hotels are local establishments located along U.S. Route 15/401 Bypass and Main Street in Bennettsville. Two camping accommodations are located in Bennettsville and one bed and breakfast is located on Main Street in Bennettsville.¹¹

3.1.5.2 Industrial

Activities in the project study area related to industry comprise 1,308 acres, roughly 0.3 percent of the project study area. Of the total industry in the project study area, approximately 18.3 percent is located within Dillon County, 81.3 percent in Marlboro County, and an undeterminable amount of industrial uses are located in Richmond and Scotland Counties (refer to Figure 3-1).^{12,13}

One industrial park is located within the South Carolina portion of the project study area, the 236-acre Marlboro County Industrial Park in Bennettsville. The Marlboro County Industrial Park is located near the intersection of S.C. Route 9 and S.C. Route 38 and is 42 miles from the

¹⁰ Claritas Research Company, <http://www.claritas.com/claritas/Default.jsp> (May 12, 2008).

¹¹ *Ibid.*

¹² USGS, North Carolina GAP Analysis Project, “Land use coverage map,” <http://www.basic.ncsu.edu/ncgap/Index.html> (May 12, 2008).

¹³ USFWS, National Wetland Inventory, “Wetlands Digital Data,” <http://wetlandsfws.er.usgs.gov/NWI/index.html> (May 12, 2008).

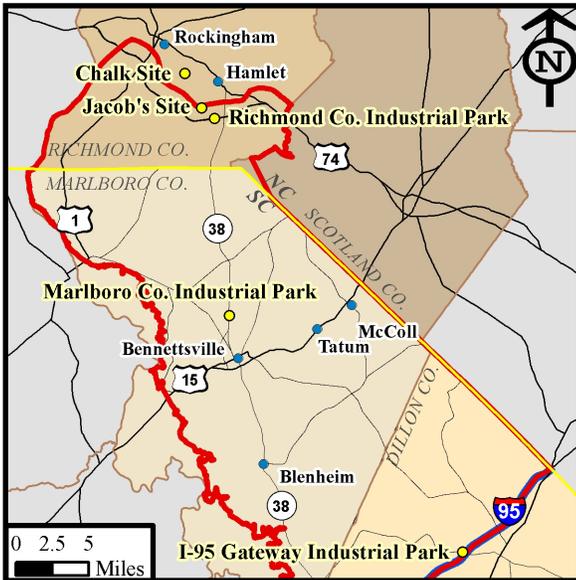


Figure 3-1 Industrial Parks within the Project Study Area

Florence Regional Airport, in Florence, South Carolina. Two major industries, Musashi of South Carolina and Ox Bodies, are located at this park. In addition, to the south of the project study area, Marlboro County has collaborated with Dillon and Marion Counties to establish the I-95 Gateway Industrial Park. It is a 400-acre park located in Dillon, South Carolina at the interchange of I-95 at S.C. Route 34 and currently has one major company, Harbor Freight Tools.

The North Carolina Southeast Commission, the regional economic development organization for Southeastern North Carolina, lists three industrial park locations in the North Carolina portion of the project study area.¹⁴ The Chalk Site is a 139-acre site located two miles from I-74 and 32 miles from the Moore County Airport, in Pinehurst, North Carolina. Currently there are no tenants, but water, sewer, gas, electric, and telecom utilities are available

along with railroad access. Another available industrial park site is the 350-acre Richmond County Industrial Park located adjacent to I-74 and Freeman Mill Road (N.C. State Route 1812). Water, sewer, gas, electric, and telecom utilities are all available at this site. A 52-acre industrial park site known as Jacob's Site is located 10 miles from N.C. Route 177 situated at the intersection of Gin Mill Road (N.C. State Route 1811) and Freeman Mill Road, and offers railroad access as well as gas, water, sewer, and electric utilities.

3.1.5.3 Institutional

There are 15 childcare service centers and nursing homes located throughout the project study area, along with 27 nonprofit organizations, fraternal organizations, and other institutional organizations. The majority of institutional establishments, as expected, are located in or near the municipalities, specifically in Bennettsville, Hamlet, McColl, Clio, and Blenheim. There are 101 churches and other religious organizations located throughout the project study area, and one hospital, the Marlboro Park Hospital, located in Bennettsville.¹⁵



Salem Baptist Church

¹⁴ North Carolina's Southeast, Regional Economic Development Marketing Organization, "Available Richmond County Industrial Sites," http://www.ncse.org/get_sites.php?county=Ric&acreage_select=*&other=no (May 12, 2008).

¹⁵ Claritas Research Company, <http://www.claritas.com/claritas/Default.jsp> (May 12, 2008).



3.1.5.4 Public & Semi-Public

Land use information indicates 145 establishments in the project study area that are considered public or semi-public such as schools, government offices, utilities, post offices, libraries, courts, and police stations. The majority of these activities are located in the larger communities such as Bennettsville, Hamlet, McColl, and Clio. The cities of Dillon, Bennettsville, Rockingham, and Laurinburg serve as the county seats of Dillon, Marlboro, Richmond, and Scotland Counties, respectively, and include numerous county offices and activities.¹⁶



Blenheim Post Office

3.1.5.5 Schools

Dillon County District 2 is the school district that serves the Dillon County portion of the project study area. The district is made up of nine schools, none of which are located within the project study area.

Marlboro County has one school district composed of nine public schools, all within the project study area. Of these nine schools, two are elementary schools, three are elementary/middle schools, two are middle schools, one is a high school, and one is a magnet school. Marlboro Academy is a private school located east of Bennettsville that was chartered in 1969. The school currently enrolls approximately 300 students in grades kindergarten through grade 12.



Marlboro County School of Discovery

Richmond County has one school district consisting of 18 schools. Two of these schools, Ashley Chapel and Cordova Elementary, are located within the project study area. In addition, two private schools, Waymon Chapel School and Morrison Grove School are also located within the project study area.

¹⁶ *Ibid.*



The Scotland County School System serves the Scotland County portion of the project study area and is comprised of nine elementary schools, three middle schools, one high school, and one alternative school, none of which are located in the project study area. The Scotland Accelerated Academy serves grades pre-kindergarten through second grade.

3.1.6 Do the affected counties have plans for development and future growth?

Dillon and Marlboro Counties both have current comprehensive plans completed in 2001, while Richmond County has a current strategic land use plan. Scotland County has a Comprehensive Plan that was adopted in the early 1970's, which is scheduled to be updated in the near future.¹⁷ Therefore, details from the Scotland County Comprehensive Plan are not included in the following discussion. Each of the counties in the project study area has zoning ordinances and zoning maps. The discussion below summarizes current plans for development for the project study area.

3.1.6.1 Dillon County

Comprehensive Plan

The 2001 Dillon County Comprehensive Plan estimates the historic trend of a declining population will be replaced with one of limited future growth, so that by 2020 the total population of the county is expected to have grown by 2,400 persons.¹⁸ The Plan estimated that 28 acres of new land would be developed for every 100 new residents. Based on population forecasts, this would total 672 acres of new development by 2020. Specifically, the 672 acres would consist of 360 acres of new residential development, 72 acres each of commercial and industrial space, and 168 acres of public and semi-public space.¹⁹ According to the Comprehensive Plan, future land use growth is anticipated near the urban areas of Latta and Dillon, as well as along major corridors such as I-95, where development is already occurring.

Zoning

Dillon County recently adopted a new countywide zoning ordinance and zoning map in February 2007. The new ordinance includes the establishment of 13 districts, four of which function as overlay districts to address special situations such as flood protection, agricultural conservation, the airport, and a planned development district. The following zoning classifications fall within the project study area; single family residential, single and two family residential, general commercial, light industrial, and rural.

¹⁷ Jim Blackwell, Scotland County Engineering Office, personal communication, May 27, 2007.

¹⁸ Dillon County, South Carolina, *Dillon County Comprehensive Plan: 2001*.

¹⁹ *Ibid* at p. 49.



3.1.6.2 Marlboro County

Comprehensive Plan

The 2001 Marlboro County Comprehensive Plan indicates that Marlboro County had a population of 29,361 persons in 1990, which was an approximate seven percent decline from the 31,634 persons residing in the County in 1980.²⁰ The Comprehensive Plan divided land cover into the following categories: urban/built-up, agricultural, forest, wetlands, barren lands, and water. The Plan states that forest and agricultural land coverage dominates the County with a very small portion of developed lands located within the City of Bennettsville and Towns of Blenheim, Clio, McColl, and Tatum. The Comprehensive Plan does not predict the exact amount of growth anticipated or specifically where it would occur. In general, the Comprehensive Plan predicts more growth near the municipalities and “leapfrog” or strip development along major transportation corridors near municipalities.

Zoning

Marlboro County adopted a countywide zoning ordinance in 2002, which includes five district zoning classifications with no overlay districts. The zoning classifications are General Development District, Industrial Development District, Residential Conservation District, Residential Multi-use District, and Rural Resource District.

3.1.6.3 Richmond County

Strategic Land Use Plan

The Richmond County Strategic Land Use Plan was adopted in July 2000 and focuses on farm protection, environmental priorities, citizen input and involvement, governmental transportation links, and economic principles as they relate to land use.²¹ The purpose of the Plan was to provide direction for the County on defining development areas, protecting farming rights and integrity, and implementing land use regulations and guidelines. The proposed project would be in accordance to the goals and objectives of the adopted plan by supporting Richmond County’s commitment to developing transportation services to meet current and future needs, as well as demands of the surrounding region.

Zoning

Richmond County has adopted a countywide zoning ordinance that identifies eight distinct zoning classifications and three overlay districts. Three of the zoning classifications fall within

²⁰ Marlboro County, South Carolina, *Marlboro County Comprehensive Plan: 2001*.

²¹ Richmond County, North Carolina, *Strategic Land Use Plan: 2000*.



the project study area including Agricultural Residential, Rural Residential, and Heavy Industrial. One overlay district, the Highway Commercial Overlay District, is within the project study area.

3.1.7 What are the trends and key indicators of future land use in the four-county area?

The following are general trends or other important indicators of future land use within the project study area. Trends and indicators were compiled from a variety of sources including the land use and development plans and examination of aerial imagery. Some trends have evolved that were not anticipated by the comprehensive plans.

The plan for Dillon County anticipated a continuing trend of population loss that would only be overcome in the year 2020; however, the most recent projections by the South Carolina Office of Research and Statistics indicate that the county's population has assumed a positive growth trend and is gaining population.

The Marlboro County Plan indicates the county's population was likely to exceed 31,000 by the year 2020. However, the most recent population projections in accordance with the 2000 U.S. Census Population Estimates indicate that the county's population growth rate is now projected to drop by 13.6 percent.

Dillon and Richmond Counties are not expecting exponential growth through the year 2030. However, Scotland County is expected to grow substantially. The U.S. Census population projections indicate that the Scotland County population will increase by more than 3,400 people or 9.5 percent while Dillon and Richmond Counties will grow by nearly 1.4 percent and 1.8 percent, respectively.

Historic aerial photography supports the trend that growth in the project study area occurs within the existing communities, supplemented with slow encroachment of development activity into the surrounding natural areas and farmland.

As noted in the Dillon Comprehensive Plan, the land most attractive to development are sites that "(1) has[ve] soils that can easily support development; (2) [are] not subject to flooding; (3) [are] near major transportation routes; (4) [are] served by water and perhaps sewer, or [are] capable of being served; and (5) [are] cleared." As further noted, "this description of prime development land often also describes prime agricultural land and/or existing farmland adjacent to municipalities."



3.1.8 How is land use expected to change in the project study area?

As discussed in Chapter 1, Section 1.3.4.1 (refer to page 1-14), Dillon, Richmond, and Scotland Counties are expected to gain population while Marlboro County is expected to see a reduction in population. As a result, land in Dillon, Richmond, and Scotland Counties is projected to develop without the proposed interstate. In total, the population in the four counties is projected to grow by less than one percent between 2000 and 2030²² (refer to Table 3.1), with the vast majority of population growth (3,362 persons) expected to occur in Scotland County (for further information on population characteristics, refer to Chapter One, Section 1.3.4.1, page 1-14). The addition of a new interstate is very likely to alter development patterns in each of the four counties, positively impact the population reduction in Marlboro County, and increase growth expected in the remaining three counties.

Table 3.1
Projected Population Growth by County, 2000 to 2030

County	Population		Change 2000 to 2030	
	2000	2030	Number	Percentage
Dillon	30,722	31,150	428	1.4%
Marlboro	28,818	24,890	-3,928	-13.6%
Richmond	46,564	47,390	826	1.8%
Scotland	35,998	39,360	3,362	8.6%
Total	142,102	142,790	688	0.5%

3.1.9 How would the No-build Alternative affect land development?

The No-build Alternative considers the amount of land to be developed as well as the location of development if existing conditions prevail and population changes to the extent projected by the U.S. Census, 2000 Census Data. Both the amount of new development and its location are important in establishing a baseline upon which to consider the impact of the proposed project.

Numerical growth for the No-build Alternative was established by:

1. Dividing the projected population to 2030 for each county into smaller Census Tract Block Groups;
2. Projecting employment growth by Census Tract Block Group at a rate similar to population growth;
3. Projecting land use requirements based upon anticipated population and employment growth; and,
4. Conducting a geographic suitability analysis for locations within the four-county area where development is most likely to occur.

²² U.S. Census Bureau, 2000 U.S. Census, "American Factfinder," http://factfinder.census.gov/home/saff/main.html?_lang=en (May 12, 2008).



Physical growth for the No-build Alternative was established by determining the initial suitability of sites within the project study area for development and establishing general locations for new development utilizing typical market considerations. Suitability of sites for development was established through examination of various constraints and considerations commonly used in market site selection including natural amenities, infrastructure, and proximity to resources. In this manner, the analysis allowed for identification of land most suited for development, as well as those areas in which development should be avoided.

Constraints prohibiting or limiting new development included proximity to wetlands, open water, landfills, and hazardous material areas. Incentives for new development included access to roads as well as proximity to urban areas and intersections. Particular emphasis was placed on access to major roadways and U.S. highways and interstates.

3.1.9.1 How would overall growth be impacted by the No-build Alternative?

The project study area encompasses approximately 400,000 acres that includes portions of Dillon and Marlboro Counties in South Carolina and Richmond and Scotland Counties in North Carolina. An analysis of land development patterns was conducted for each of these counties, except Scotland County.

The following criteria were the basis for the decision to exclude Scotland County from the analysis:

- There are no significant attractors identified in the portion of the project study area within Scotland County, and development impacts upon the county are very likely to be minimal.
- The acreage of the project study area located within Scotland County totaled only 1,313 acres (0.33 percent of the project study area).

Population growth between 2000 and 2030 within the remaining three-county area is substantially impacted by the anticipated decline of the population of Marlboro County, resulting in a net loss of 3,928 residents (refer to Table 3.1). In terms of potential for land development in the No-build Alternative, Dillon and Richmond Counties are expected to grow by 1,284 persons resulting in a need for nearly 437 acres of new homes, businesses, industries, and civic facilities such as schools and government buildings (refer to Table 3.2, page 3-12). The majority of new development is projected to occur in Richmond County (291 acres) where the majority of population is expected to reside. On the other hand, the loss in population in Marlboro County is expected to result in negative growth. As a result, while Marlboro County would also be seeking new development, it would simultaneously be seeking redevelopment of the 1,292 acres of vacant, previously developed property made available through population decline.



Table 3.2
No-build Alternative Summary of Land Use Requirements in Acres

County	Residential	Commercial	Industrial	Public & Semi-Public	Total
Dillon	89.90	4.28	34.25	17.12	145.55
Marlboro	-798.24	-38.01	-304.09	-152.04	-1,292.38
Richmond	179.82	8.56	68.50	34.25	291.13
Total	-528.52	-25.17	-201.34	-100.67	-855.70

Suitability analysis for the No-build Alternative indicates a large number of sites throughout the project study area with limited suitability for development. As shown in Figure 3-2, sites most suitable for development are located in the northern section of the project study area, particularly near Rockingham and Hamlet. Additional sites relatively suitable for development appear in north Dillon County along and between S.C. Route 38 and S.C. Route 9.

3.1.9.2 How would the No-build Alternative impact development in Dillon County?

As the southernmost county, the portion of Dillon County located within the project study area is expected to experience very moderate growth despite immediate access to an existing interstate (I-95). Between 2000 and 2030, new non-agricultural land development in Dillon County is expected to grow by approximately 146 acres. While the limited growth is expected to occur throughout the county, some growth is anticipated to occur within the census tracts that contain the communities of Oak Grove and Centerville (970600) (refer to Figure 3-3, page 3-14). Table 3.3 (refer to page 3-15), describes anticipated land development for census tracts within the project study area, as well as each county as a whole.

Characteristics of growth in Dillon County would likely include growth occurring closer to communities, but not necessarily within municipal boundaries. There would be a limited and continued drift of growth toward roadways that offer quick access to the interstate. In addition, linear lot development of agricultural and forested lands is expected to continue to be more prominent than development of residential subdivisions in the county. This expectation is due to the current sparse linear development patterns observed along existing roadways and the anticipation that future predicted growth would not necessitate residential subdivisions being developed.



FIGURE 3-2
PREFERRED ALTERNATIVE
YEAR 2030 POTENTIAL
LAND USE CHANGE AREAS

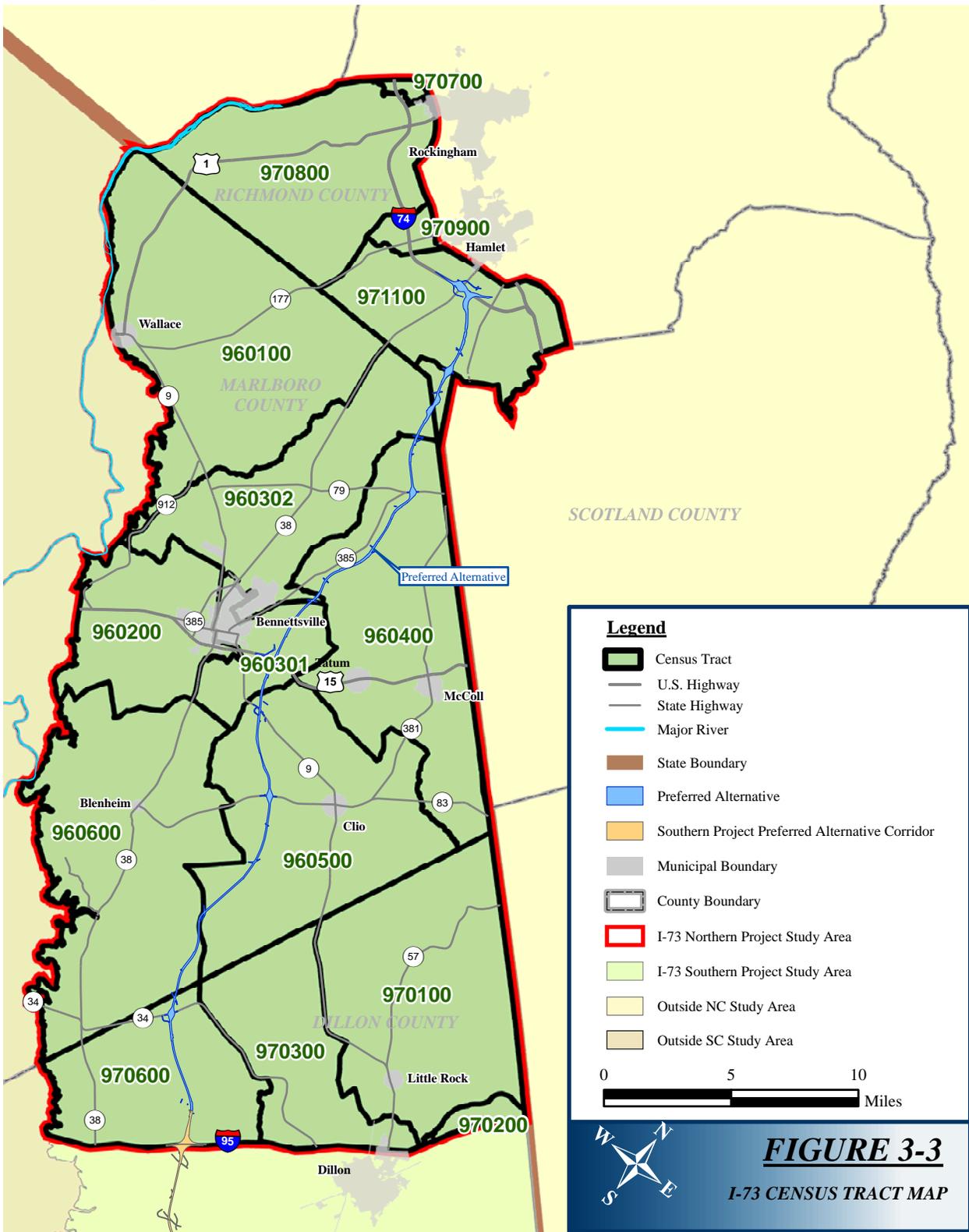




Table 3.3
No-build Alternative, Detailed Land Use Requirements in Acres

Census Tract	County	Residential	Commercial	Industrial	Public & Semi-Public	Total
Dillon County		89.90	4.28	34.25	17.12	145.55
970100	Dillon	10.31	0.49	3.93	1.96	16.69
970200	Dillon	15.70	0.75	5.98	2.99	25.42
970300	Dillon	15.02	0.72	5.72	2.86	24.32
970400	Dillon	15.44	0.74	5.88	2.94	25.00
970600	Dillon	20.11	0.96	7.66	3.83	32.56
Marlboro County		-798.24	-38.01	-304.09	-152.04	-1,292.38
960100	Marlboro	-136.17	-6.48	-51.87	-25.94	-220.46
960200	Marlboro	-151.35	-7.21	-57.66	-28.83	-245.05
960301	Marlboro	-155.34	-7.40	-59.18	-29.59	-251.10
960302	Marlboro	-66.59	-3.17	-25.37	-12.68	-107.81
960400	Marlboro	-146.36	-6.97	-55.76	-27.88	-236.97
960500	Marlboro	-94.76	-4.51	-36.10	-18.05	-153.42
960600	Marlboro	-47.67	-2.27	-18.16	-9.08	-77.18
Richmond County		179.82	8.56	68.50	34.25	291.13
970700	Richmond	12.62	0.60	4.81	2.40	20.43
970800	Richmond	20.11	0.96	7.66	3.83	32.56
970900	Richmond	19.57	0.93	7.45	3.73	31.68
971100	Richmond	17.35	0.83	6.61	3.30	28.09
Total		-528.52	-25.17	-201.34	-100.67	-855.70

3.1.9.3 How would development in Marlboro County be impacted by the No-build Alternative?

As previously discussed, the population loss historically seen in Marlboro County is projected to continue through 2030 resulting as people and businesses move out of the area. In fact, population loss is significant enough that 1,292 acres of previously developed land is expected to become vacant (refer to Table 3.3). The area that would experience the greatest decrease of development is comprised of the two census tracts (960200 and 960301) that encompass Bennettsville. This area would account for over 38 percent of the overall decrease in development in Marlboro County.



3.1.9.4 How would the No-build Alternative influence development in Richmond County?

Richmond County, the northernmost county in the project study area, is expected to receive the greatest amount of development among the three counties (refer to Table 3.3, page 3-15). Of the 291 acres of anticipated growth in the county, roughly 39 percent is expected to occur in areas south of Hamlet and Rockingham. Both communities benefit from the ability to provide greater resources and services, as well as the presence of I-74.

Characteristics of growth in Richmond County are anticipated to include more growth near and within the communities of Hamlet and Rockingham. Suitability of sites in Richmond County tends to diminish as distance from these two major communities increases. Commercial and industrial development in the County is likely to occur along major roadways such as I-74, N.C. Route 38, N.C. Route 177, and U.S. Route 1, due to better accessibility along these corridors.

3.1.10 How would the Preferred Alternative impact development in the four-county area?

Construction of an interstate between I-95 in South Carolina and I-74 in North Carolina may have the following impacts upon the project study area.

3.1.10.1 Would land used for right-of-way be lost for development?

Existing development that would be within the right-of-way of the Preferred Alternative would be removed and relocated. Relocations will be conducted in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970*, as amended. Relocation resources will be available to all relocates without discrimination; for further information, please refer to Communities, Section 3.2.16, page 3-86. Future development, such as housing, commercial, industrial, or other facilities would also not have the opportunity to develop on property that is within the right-of-way. This is likely to be the only impact that would occur to the property located in Scotland County. For the remaining three counties, the project is expected to offset the loss of developable land over time.

3.1.10.2 How would development shift as a result of I-73?

The addition of I-73 to the project study area would have a definite impact upon local investment decisions. The change would make certain areas comparably more attractive for land development. Due to this, development that was already expected to occur in the four-county area may shift in the general direction of I-73. More specifically, a portion of anticipated



development would shift to areas with improved access and proximity to the interstate, in addition to available resources such as cities, towns, and nearby roadway corridors.

A number of variables are considered in the development of any parcel of land such as proximity to resources, accessibility, availability of infrastructure, environmental constraints and, of course, availability of land. Ability to meet zoning and planning requirements is also a consideration, although limited development regulation in the project study area currently makes this less of a factor. The addition of I-73 would add a new dimension, particularly in terms of proximity and access. While it is possible that some developers may seek sites immediately adjacent to the interstate, it is more likely that development would seek a balance between access to resources and to I-73. Commercial and industrial development would more likely locate along roadway corridors within the project study area and possibly near cities and towns where resources are often more readily available. Single-family residential development would also drift toward the interstate, but would continue to be located just beyond major roadway connectors.

For the purposes of this report, the shift of land development from one location to another within the project study area as a result of I-73 separates the census tract block groups into the following classifications:

- “Receivers” – those block groups that include an interstate interchange and are projected to witness increased growth as development shifts to gain proximity to the interstate interchange.
- “Donors” – those block groups without an interstate interchange and are anticipated to see growth below the projections from the No-build Alternative as development drifts toward the interstate.

3.1.10.3 Would additional new development occur in Dillon, Marlboro, Richmond, and Scotland Counties?

A new interstate by itself is generally not sufficient to lure new residential, commercial, or industrial development. However, the proximity and efficiency offered by a location near an interstate certainly increases suitability for new development if demand already exists. Projections indicate that limited demand does already exist in Dillon and Richmond Counties. Moreover, new industrial development is reported in Marlboro County, despite the anticipated population loss (refer to Chapter 1, Section 1.3.4.1, page 1-14). The addition of the interstate would very likely increase the desirability of all three counties although, at least in the short term, it would likely be insufficient to stop the losses expected in Marlboro County.



3.1.11 How were land use impacts resulting from the Preferred Alternative determined?

The No-build Alternative was used as a baseline to measure potential land use impacts. Impacts associated with the Preferred Alternative were established by determining the shift of development that would be expected to occur and calculating the likely amount and location of new development.

Determining the extent of the shift in development involved establishing criteria and weighing each criterion according to its importance in making a decision regarding location. A similar approach was taken to determine the location and amount of new development. Criteria included the consideration of proximity to an interchange, proximity to an urban area, proximity to I-95 or I-74, availability of infrastructure, new employment, and suitability of sites.

3.1.11.1 How does the proximity to an I-73 interchange affect development?

Proximity to an interstate is largely irrelevant unless it is within a short distance to an interchange. Along the Preferred Alternative, census tract block groups that included an interstate interchange (Receivers) were expected to attract development at a faster rate while those without an interstate interchange (Donors) were expected to grow more slowly. The amount of draw a census tract block group with an interstate interchange could expect depends upon additional factors such as proximity to an urban area or availability of land. As shown in Table 3.4, of the 16 census tracts in Dillon, Marlboro, and Richmond Counties, five include block groups with an interstate interchange. The interchange with Ghio Road (N.C. State Route 1803) is located on the Richmond/Scotland County border, or the border of census tracts 971100 (Richmond County) and 010500 (Scotland County). Because this interchange in Scotland County is consistent with the criteria listed in Section 3.1.9.1 (refer to page 3-11) and does not have the variables listed in Section 3.1.10.2, (refer to page 3-16) that would be favorable for development, then census tract 010500 was excluded in this analysis.

The Preferred Alternative includes five interchanges that occur in block groups within census tracts 970600, 960301, 960400, 960500, and 971100 (refer to Table 3.4, and Figure 3-3, page 3-14). The block groups within each of the five census tracts with interstate interchanges along the Preferred Alternative would receive a larger portion of anticipated development when compared to the remaining census block groups.

3.1.11.2 How does proximity to an existing urban area influence development?

An interstate interchange would draw development from other areas only if the site was equally desirable in terms of access to resources and infrastructure. Proximity to urban areas was



**Table 3.4
Proposed I-73 Interchanges along the Preferred Alternative**

Census Tract	County	Preferred Alternative
Dillon County		
970100	Dillon	No Interchanges
970200	Dillon	No Interchanges
970300	Dillon	No Interchanges
970400	Dillon	No Interchanges
970600	Dillon	S.C. Route 34
Marlboro County		
960100	Marlboro	No Interchanges
960200	Marlboro	No Interchanges
960301	Marlboro	U.S. Route 15/401
960302	Marlboro	No Interchanges
960400	Marlboro	S.C. Route 79
960500	Marlboro	S.C. Route 381
960600	Marlboro	No Interchanges
Richmond County		
970700	Richmond	No Interchanges
970800	Richmond	No Interchanges
970900	Richmond	No Interchanges
971100	Richmond	I-74/N.C. Route 38

considered among the most advantageous factors due to availability of jobs, labor pool, additional services and facilities, and increased likelihood of existing infrastructure. Existing development patterns confirmed that the majority of commercial and industrial development has located either in or within proximity to one of the communities or towns. Residential development can be farther from urban areas, as some residents would rather live in more rural areas.

3.1.11.3 How does proximity to I-95 and/or I-74 impact development?

The Preferred Alternative connects to I-95 in South Carolina and I-74 in North Carolina. Incorporating the access to two interstates recognizes the potential draw that I-95 and I-74 can have on development.



3.1.11.4 Do infrastructure and availability of land influence development?

Availability of water, wastewater, and land were considered of equal importance in their potential to draw anticipated development away from other areas. As in most instances, preservation of agriculture or woodlots was not a general consideration for development.

3.1.11.5 How do new employment opportunities influence development?

The amount of additional new land development likely to occur due to I-73 was calculated based upon potential new jobs. In a manner similar to the determination of the No-build Alternative, employment and population growth were considered to occur at the same rate. Land use requirements were established based upon acreage needed for new homes, businesses, and public facilities. Determining the location of new development followed the same process as was used in determining growth patterns in the No-build Alternative, coupled with shift factors for the presence of the interstate. However, since new development would likely be drawn to the area largely due to the presence of I-73, the weight of the shift factors was increased.

3.1.11.6 Does site suitability play a role in influencing development?

Physical growth along an interstate was examined in a manner similar to that presented for the No-build Alternative to determine the initial suitability of sites within the project study area for development and establish general locations for new development utilizing typical market considerations.

Table 3.5 shows the shift in growth for the Preferred Alternative while Table 3.6 (refer to page 3-22), illustrates the new growth anticipated for the Preferred Alternative. In total, the Preferred Alternative is expected to spur approximately 1,069 acres of new growth, (refer to Table 3.6, page 3-22). Table 3.7 (refer to page 3-23), shows the total growth to be expected in the three-county area by combining the No-build Alternative with new growth from the Preferred Alternative. In each case, the growth resulting from I-73 is exceeded by the loss of population anticipated in Marlboro County. However, in all instances growth is expected to occur that would result in a positive impact upon the counties. The impact of the Preferred Alternative is approximately a 125 percent improvement above the No-build Alternative. In the case of Marlboro County, the positive impact will constitute a smaller overall loss, as growth created by I-73 improves the area's suitability for development.



Table 3.5
Total Shift in Anticipated Development Resulting from the Preferred Alternative by Census Tract (in acres of new development)

Census Tract	County	Preferred Alternative
Dillon County Total*		-0.43
970100	Dillon	-0.06
970200	Dillon	-0.09
970300	Dillon	-0.08
970400	Dillon	-0.09
970600	Dillon	-0.04
Marlboro County Total*		1.11
960100	Marlboro	0.77
960200	Marlboro	0.85
960301	Marlboro	0.27
960302	Marlboro	0.00
960400	Marlboro	0.82
960500	Marlboro	-1.87
960600	Marlboro	0.27
Richmond County Total*		-0.68
970700	Richmond	-0.07
970800	Richmond	-0.11
970900	Richmond	-0.11
971100	Richmond	0.23
Total		0.00

*Totals represent entire county, but Census Tracts shown are for project study area.

3.1.11.7 How would development in Dillon County be impacted by the Preferred Alternative?

As was the case with the No-build Alternative, Dillon County, north of I-95, is projected to see very marginal growth between 2000 and 2030 regardless of construction of the Preferred Alternative. Development in Dillon County may increase 165 acres by 2030 as a result of the presence of the I-73 Preferred Alternative (refer to Table 3.6, page 3-22). Given that Dillon County already has access to one of the major interstates in the U.S. (I-95), it is not surprising that I-73 would have less positive impact.

While numerical analysis indicates that I-73 alone would not cause substantial new growth in Dillon County through 2030, the physical analysis indicates that I-73 is anticipated to increase the suitability or likelihood for development once market forces in the area improve. As shown



Table 3.6
Anticipated Development Resulting from the
Preferred Alternative by Census Tract
(in acres of new development)

Census Tract	Preferred Alternative
Dillon County Total*	165.45
970100	17.82
970200	27.14
970300	25.96
970400	26.68
970600	44.86
Marlboro County Total*	830.76
960100	82.89
960200	159.16
960301	195.96
960302	79.72
960400	140.97
960500	126.42
960600	45.63
Richmond County Total*	72.29
970700	4.43
970800	7.05
970900	6.86
971100	15.33
Total	1,068.50

*Totals represent entire county, but Census Tracts shown are for project study area.

in Figure 3-2 (refer to page 3-13), the Preferred Alternative proposes an interchange with S.C. Route 34 that results in increased suitability for development in Dillon County. It should be noted that S.C. Route 34 is located along the boundary line of two census tracts (970300 and 970600).

3.1.11.8 How would the Preferred Alternative impact development in Marlboro County?

As previously indicated, under the No-build Alternative, Marlboro County is projected to lose a substantial portion of its population between 2000 and 2030. The construction of an interstate in the county could help to stem the negative growth, but it is anticipated to be insufficient to



Table 3.7
Total Growth by 2030 including Impact of Preferred
Alternative by Census Tract (in acres of new development)

Census Tract	County	Preferred Alternative
Dillon County		311.00
970100	Dillon	34.52
970200	Dillon	52.57
970300	Dillon	50.27
970400	Dillon	51.68
970600	Dillon	77.42
Marlboro County		-461.62
960100	Marlboro	-137.57
960200	Marlboro	-85.88
960301	Marlboro	-55.54
960302	Marlboro	-28.09
960400	Marlboro	-96.00
960500	Marlboro	-27.00
960600	Marlboro	-31.55
Richmond County		363.43
970700	Richmond	24.87
970800	Richmond	39.61
970900	Richmond	38.54
971100	Richmond	43.41
Total		212.81
Percent Above No-build		124.87%

completely reverse current trends. Development in Marlboro County resulting from the Preferred Alternative is expected to attract approximately 831 acres of new development that would substantially offset negative growth (refer to Table 3.6). The Preferred Alternative has three interchanges proposed in Marlboro County: at S.C. Route 381, U.S. Route 15/401 and S.C. Route 79. Each of the census tracts in Marlboro County is expected to benefit from I-73. The census tracts bordering North Carolina and Dillon County (960100, 960302, 960500, and 960600) would be expected to have 40 percent of the projected new growth from the Preferred Alternative. The census tracts that include Bennettsville, Tatum, and McColl (960200, 960301, and 960400) are projected to account for the remaining 60 percent of new growth expected in the project study area from the proposed project.



The Preferred Alternative is projected to have a higher amount of new developed acreage in Marlboro County in comparison to the other three counties due to the number of interchanges in proximity to Bennettsville, which makes the area surrounding Bennettsville particularly attractive for future growth. Land whose suitability for development is enhanced by the Preferred Alternative is scattered throughout the Bennettsville area with concentrations of developable land along S.C. Route 381 and in southeastern and southwestern Bennettsville (refer to Figure 3-2, page 3-13).

3.1.11.9 How would development in Richmond County be impacted by the Preferred Alternative?

The presence of I-73 would result in moderate growth in Richmond County. Growth resulting from the Preferred Alternative beyond that of the No-build Alternative is estimated to be approximately 72 acres (refer to Table 3.6, page 3-22). When coupled with already anticipated growth, Richmond County could achieve 363 acres of new growth by 2030 (refer to Table 3.7, page 3-23).

The Preferred Alternative includes one interchange with I-74 located south of Hamlet and one interchange with Ghio Road (N.C. State Route 1803) on the Richmond/Scotland County border. The interchange with I-74 also provides access to N.C. Route 38, resulting in a shift in suitability for development in comparison to the No-build Alternative. Because the interchange at N.C. State Route 1803 does not have the variables listed in Section 3.1.10.2, (refer to page 3-16) it is not anticipated that it would shift development away from the I-74 interchange.

The combination of growth already anticipated in Richmond County and the new growth from the Preferred Alternative would be enough to alter development patterns in southern Richmond County. In areas of southern Richmond County, industrial development is likely to increase, resulting in enhanced land prices and strong demand.

3.1.12 What other factors influence growth and development?

The modest growth in Dillon and Richmond Counties along with the anticipated population loss in Marlboro County is largely a reflection of current conditions. While an interstate has the capability to attract development and improve growth, substantial development requires substantive demand as well as the presence of other factors. For example, in commercial or industrial development, additional factors may include an appropriate and available labor pool, access to resources, and incentives.



Externalities are items beyond existing or future features considered in this analysis that have the ability to impact growth in the area. Given that this analysis is intended to project growth over the course of 30 years, it is safe to assume that unforeseen events would occur and that they would positively or negatively impact development patterns. Several externalities that are either in place or are anticipated, have the potential to combine with the presence of I-73 to cause significant new growth to occur in the four-county area. These include a new landfill project, a defense security training facility, an expansion project for the federal prison, and the addition of two new businesses, which are all within Marlboro County.

Marlboro County has recently been approved for the location and development of a new waste facility dumpsite. The new facility is anticipated to create approximately 30 to 40 new jobs. A primitive security training area has been installed in northern Marlboro County near the Wallace community, but has not greatly changed the land use in the area. The federal prison, located north of Bennettsville on S.C. Route 9, is proposing an expansion project to increase the current capacity of the facilities. This project is expected to provide approximately 90 to 120 jobs for Marlboro County. Additionally, two new businesses have been proposed in the county, which could add over 200 new jobs to the area. Each of these projects is currently planned for development under the No-build Alternative so, independent of the proposed project, they will contribute economically to the project study area.

3.1.13 Conclusion

Between 2000 and 2030, the project study area should see new development in Dillon, Richmond and Scotland Counties. Marlboro County's land use development is anticipated to decline approximately 1,292 acres without the development of I-73 (refer to Table 3.2, page 3-12). However, if access and convenience are as relevant as anticipated, I-73 is projected to curtail or reduce the amount of the decline in development by 64 percent (refer to Table 3.6, page 3-22). With the addition of interchanges and improved access, a new interstate could result in a 125 percent increase in development within the project study area, relative to the No-build Alternative.

In regards to impacting development potential, construction of a new interstate route connecting I-95 to I-74, would have a positive impact on growth and development potential by 2030. As indicated by the land use study and analysis, the location of an interstate in the project study area would provide new access that would enhance the suitability or opportunity for development to occur. The Preferred Alternative is predicted to be particularly important in the ability to enhance the suitability for development near Bennettsville.



While substantial physical development may not occur within the project study area by 2030, enhanced suitability for development due to the interstate would make the area more attractive as market forces change or as additional steps are taken to promote development.

3.2 Communities

3.2.1 How many communities compose the project study area?

Nineteen communities have been identified in the four counties within the project study area, which include Dillon and Marlboro Counties in South Carolina, and Richmond and Scotland Counties in North Carolina. Of these 19 communities, 15 would be impacted by the Preferred Alternative, and are described in this section along with the potential impacts from the proposed project.

3.2.2 What is a community impact assessment?

A Community Impact Assessment (CIA) focuses on early and continuous gathering of information from communities and other sources as input into transportation decision making throughout project development, design, mitigation, and construction. The CIA process contributes to and strengthens transportation decision making with the goals of:

- Formulating projects that are based on community values;
- Identifying community issues/concerns early and accommodating community needs in project planning, where feasible; and,
- Ensuring human values and concerns receive consideration with other environmental impacts during project development.

A CIA should consider items of importance to people such as mobility, safety, economic effects, relocation, and separation. Aesthetics is another important issue to people and is addressed in reference to each community that was identified during the CIA, as well as a general discussion concerning potential noise impacts.

In addition, the CIA should keep community goals in mind when identifying potential alternatives and analyze both

Community

A “community” may be defined by the geographic boundaries of a region, a municipality, or a neighborhood, as well as specific social characteristics that members may have in common, such as religious, political or ethnic affiliation.

Source: Community Impact Assessment Handbook, prepared by Center for Transportation Research for Florida Department of Transportation

Community Impact Assessment

Community Impact Assessment (CIA) is a process to evaluate the effects of a transportation action on communities and their quality of life – the human environment.

Source: FHWA’s Community Impact Assessment, A Quick Reference for Transportation



the positive and negative impacts, as well as the magnitude of potential impacts. This variation is due to the differing degrees of sensitivity toward a particular issue or impact (i.e., an impact may be perceived by one community as adverse, but might be tolerated or desirable to another).

The CIA for this project involved gathering information from communities in the project study area that was used to define communities, develop an understanding of community values and issues, gauge opinions about the project, and determine potential impacts.

3.2.3 How were communities identified within the project study area?

Communities and residential developments were identified using topographic maps and aerial photography of the project study area, which were later field verified (refer to Figure 3-4, page 3-29). To better define and understand the communities in the project study area, several methods were used to collect information from local residents. The methods used for each area were based on preliminary information, including 2000 U.S. Census Data, to determine the demographic characteristics of the counties. It was determined from the 2000 U.S. Census that non-English speaking populations composed between 1.8 and 4.5 percent of the population in the four counties.²³ Based on the U.S. Census Data combined with information from field surveys and public involvement, it was determined that there was a low occurrence of non-English speaking populations in the project study area and the need for surveys in other languages was not warranted.

At the Public Information Meetings, those attending were requested to define their own community on a large aerial photograph. Comments from the Public Information Meetings were reviewed to learn more about the character

CIA Process

The Community Impact Assessment Process involved:

- gathering information to define communities;
- developing an understanding of community values and issues;
- gauging opinions about the project; and,
- determining potential impacts.



CIA Process at the Public Information Meetings

²³ U.S. Census Bureau, 2000 U.S. Census.



of the communities and the concerns of the residents. In addition, surveys were mailed to residents within four zip codes in Marlboro and Richmond Counties that covered the project study area. Survey packets were also distributed to fifth grade classes at schools within the entire project study area. In specific areas where no survey responses had been collected, door-to-door interviews were conducted or surveys were mailed to additional postal routes. The methods used to obtain community input are explained further in Chapter 4 under Public Involvement (refer to Section 4.1, page 4-1).

Communities in proximity to the Preferred Alternative were evaluated. The community boundaries used in the Draft EIS were defined by survey respondents who associated themselves with a particular community as well as from information gathered during the Public Information Meetings (refer to Figure 3-5, page 3-30). Of the 19 communities identified in the Draft EIS, 15 would be impacted by the Preferred Alternative. While the communities of Aarons Temple, Fletcher, Free State, and Salem were discussed in the Draft EIS, they are no longer being impacted by the proposed project due to their distance away from the Preferred Alternative. For further information about these communities, please refer to *The Community Impact Analysis Technical Memorandum* or Appendix C.

A summary of the direct impacts to communities by the Preferred Alternative can be found in Table 3.8. The Preferred Alternative would relocate 24 residences, 16 of which are located within communities. There would be no churches displaced, but four businesses within communities would be displaced. The Preferred Alternative would impact five noise receptors within community boundaries, three of which are residential, and visually impact 10 communities. Five of the 15 communities would not be directly impacted by the Preferred Alternative, but could experience induced development from the presence of I-73.

Table 3.8
Summary of Direct Impacts to Communities
in the Project Study Area by the Preferred Alternative

	Preferred Alternative
Residential Relocations within Communities	16
Business Relocations within Communities	4
Church Relocations within Communities	0
Impacted Noise Receivers within Communities	5
Visual Impacts within Communities	10
Minor Changes in Travel Patterns/Accessibility within Communities	6
Potential Community Cohesion Impacts within Communities	0
Total Number of Communities Directly Impacted	15

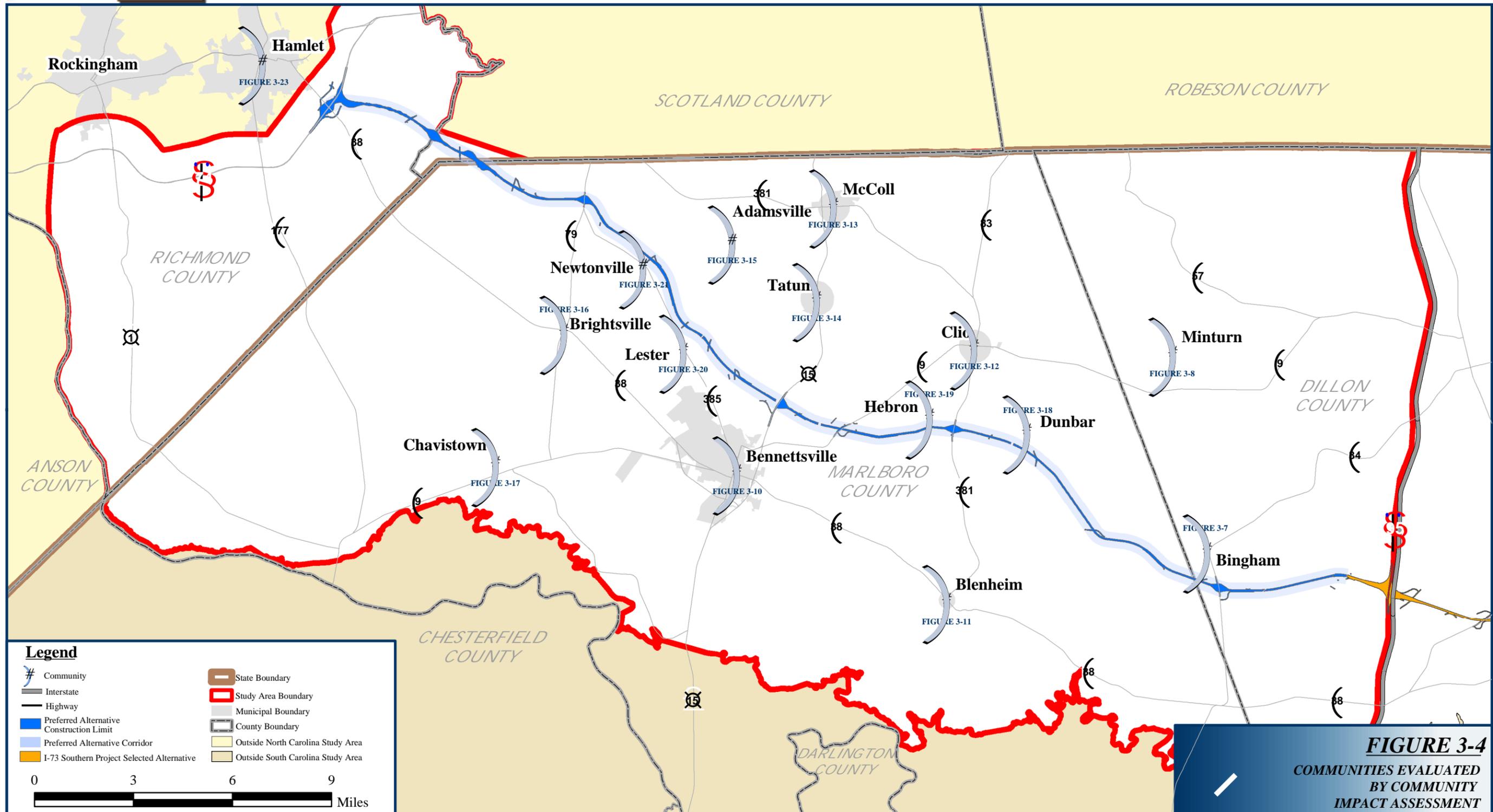


FIGURE 3-4
COMMUNITIES EVALUATED
BY COMMUNITY
IMPACT ASSESSMENT

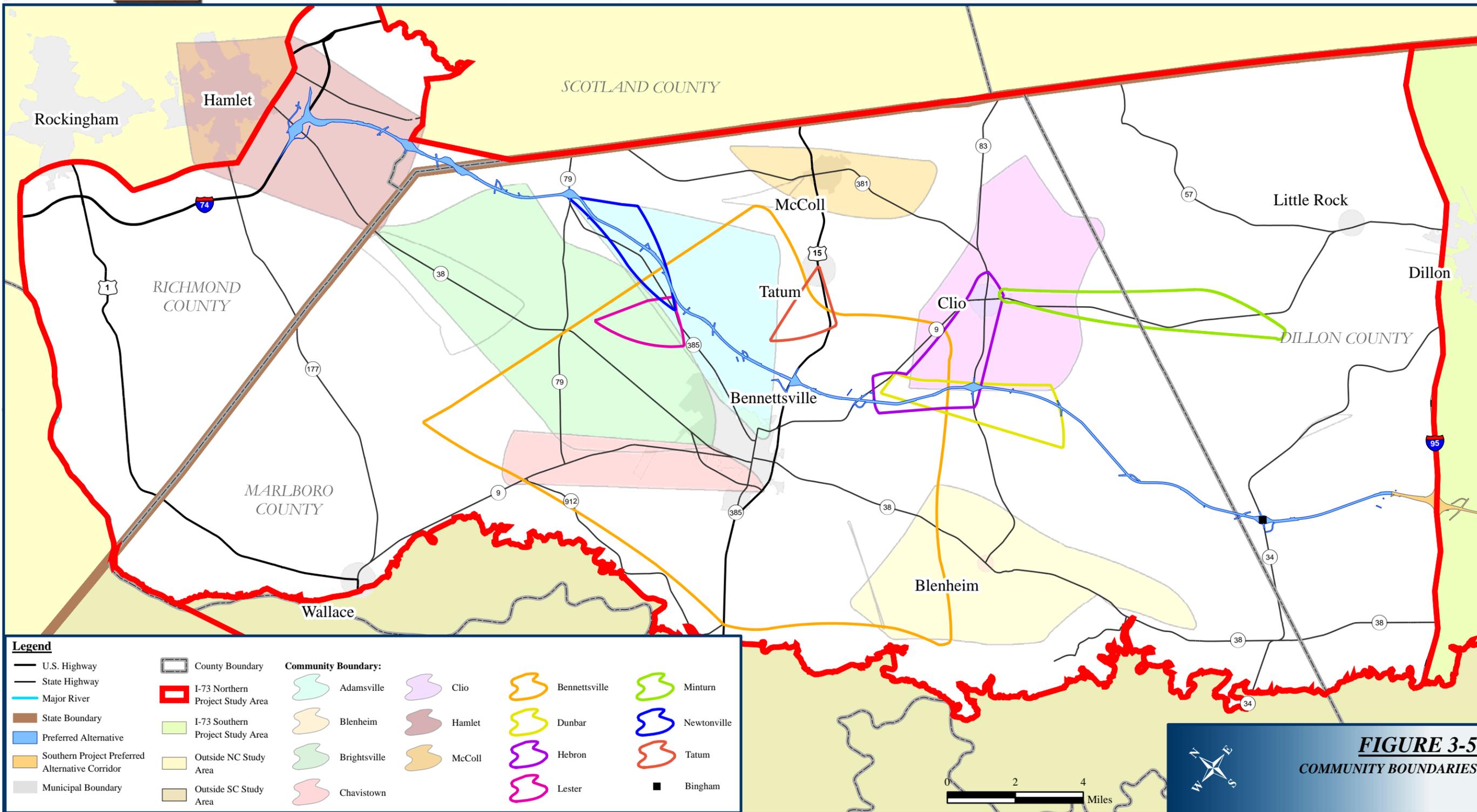


FIGURE 3-5
COMMUNITY BOUNDARIES