

## CH. 3 HUMAN ENVIRONMENT



*Chapter 3 summarizes the potential effects on the human environment, including impacts to land use, neighborhoods, and community facilities. Project impacts addressed in this section are based upon the preliminary engineering designs for the Detailed Study Alternatives. Where applicable, the impacts of the No-Build Alternative are discussed.*

### 3.1 LAND USE AND PLANNING

This section summarizes information contained in the *Final Community Impact Assessment for the Gaston East-West Connector* (PBS&J, October 2008), incorporated by reference, and available on the NCTA Web site ([www.ncturnpike.org/projects/gaston](http://www.ncturnpike.org/projects/gaston)).

#### 3.1.1 EXISTING LAND USE

Land use in the Project Study Area is of mixed intensity and density, and includes farmland, estate homes, single-family neighborhoods, rural housing clusters, manufactured/mobile homes, and multi-family housing. Pockets of commercial, office, and industrial uses are concentrated generally in the cities and towns, near Charlotte-Douglas International Airport, and along major transportation routes such as I-85, US 321, US 29-74, NC 274 (Union Road), NC 279 (South New Hope Road), and NC 273 (Southpoint Road), particularly where water and sewer services are provided. Other land uses include places of worship and public and private recreational areas.

The Project Study Area's proximity to Charlotte has resulted in much of it transitioning from a traditionally agricultural area to a suburban area. With the exception of the City of Gastonia, the municipalities in the Gaston County portion of the Project Study Area (Bessemer City, McAdenville, Cramerton, and Belmont) generally serve as bedroom communities for the Charlotte-Mecklenburg County area and for the City of Gastonia. These municipalities are experiencing continued pressure for new development, mostly residential.

Outside the municipal boundaries, the land uses in southern Gaston County are predominantly rural, with residential subdivisions scattered among large tracts of undeveloped and agricultural land. The shores of the Catawba River and the South Fork Catawba River in both Gaston and Mecklenburg counties have attracted high-end residential development. The west bank of the Catawba River also is home to the Allen Steam Station, a major coal-fired power plant owned and operated by Duke Energy Corporation.

The most prominent land use in western Mecklenburg County is Charlotte-Douglas International Airport, at the eastern project terminus. Business and commercial uses are concentrated in areas surrounding the airport and along I-85. Land between the airport and the Mecklenburg County/Gaston County line is mainly rural, with scattered residences, forests, and pastures.

There are numerous neighborhoods within southern Gaston County, varying from small to large, and from newer construction to older subdivisions and mobile home parks. As expected, the concentration of neighborhoods decreases farther out from the urban areas, particularly near the North Carolina/South Carolina border. Communities within and near the Detailed Study Alternatives (DSAs) are discussed in **Section 3.2.2**.

### 3.1.2 LAND USE TRENDS

The population of the Project Study Area is growing, and rural areas have been transitioning to suburban uses. This transition from rural to more of a suburban nature is generally consistent with what Gaston County and municipalities near the DSAs (Bessemer City, Gastonia, Cramerton, and Belmont) have envisioned in their land use plans. The land use trends for these areas, as well as for McAdenville, City of Charlotte, and Mecklenburg County are discussed below.

**Gaston County.** There are two proposed interchange sites identified by the *Gaston County Comprehensive Plan* as “hot spots” with regard to current and near-future development (Gaston County, July 2002). The interchange of the future Gaston East-West Connector and NC 279 (South New Hope Road) is one of the two sites. Located just north of the Daniel Stowe Botanical Garden, this area is currently a combination of vacant land and land developed for agricultural uses, plant nurseries, single-family housing, and a few commercial uses.

#### ***Development “Hot Spots”***

*The Gaston County Comprehensive Plan identifies the Gaston East-West Connector interchanges with NC 279 and US 321 as development hot spots.*

The other identified hot spot for development is at the intersection of the future Gaston East-West Connector and US 321 in Gastonia. Existing conditions in this area are a combination of primarily industrial and residential uses surrounded by agricultural land.

A majority of proposed land development projects in Gaston County are scheduled for the unincorporated area and southern portion of Gaston County. Southern Gaston County is sparsely developed, with the existing development patterns being residential and open space. The area presently contains limited water and sewer infrastructure. However, this area is projected to see a higher percentage of Gaston County’s growth over the next 10 to 20 years.

**Bessemer City.** A large portion of Bessemer City is undeveloped, and there is also room for expansion by annexation in most directions. Bessemer City is the largest industrial area in Gaston County. In the spring of 2007, Dole Food Company, Inc. opened a fruit/salad plant south of downtown. Future growth is anticipated to be a mix of residential and industrial/commercial, outside of and north of the western project terminus at I-85.

**Gastonia.** Future growth in Gastonia is anticipated to be a mix of residential, commercial, and industrial uses. Land use in downtown Gastonia is characterized as mixed use with modern retail and civic uses. Gastonia’s central business district is in the early stages of redevelopment with the City investing an increasing amount of resources to encourage the area to redevelop faster. Outside of the downtown area, non-residential development transitions into strip commercial along major arterial roads. Single-family residential neighborhoods are located behind the commercial uses. Areas around the outskirts of Gastonia are relatively rural and characterized by low-density residential and agricultural areas. Areas in or adjacent to the city limits of Gastonia are characterized by moderate-to-high-density residential areas or areas of small businesses.

**Cramerton.** Although limited growth is possible to the north, west, and east, the greatest potential for growth in Cramerton is to its south due to land availability, which could include undeveloped land in the Project Study Area. Most future growth is anticipated to be residential in nature.

**Belmont.** Belmont is bordered by Mecklenburg County and the Catawba River to the east, the City of Mount Holly to the north and McAdenville to the west. Most future growth is anticipated to take place to the south, along the peninsula formed by the Catawba and South Fork Rivers. This is evidenced by recent annexations, growth of subdivisions, and the recent extension of a water line to the southern end of the peninsula. Growth is anticipated to be mainly residential in nature.

There are no major employment centers in Belmont within or near the DSAs. Large subdivisions with one acre or larger lots are being developed, and most of these developments do not have public water and sewer services.

**McAdenville.** McAdenville is approximately 1.5 square miles of sparsely developed land. The population of the area has steadily declined since 1980 when the population was 947 persons to 830 persons in 1990 to the current population of 619 persons.

**City of Charlotte and Mecklenburg County.** According to the Charlotte-Mecklenburg Planning Commission (CMPC) (Telephone interview, CMPC staff, July 30, 2007), the vision for the area around West Boulevard south of Charlotte-Douglas International Airport is a collection of mostly office employers, flex space, businesses and retail, as Charlotte-Douglas International Airport noise contours will limit or preclude residential development within the eastern section of the Project Study Area.

### 3.1.3 CONSISTENCY WITH LAND USE AND TRANSPORTATION PLANS

The following list provides a brief summary of the project's consistency with local and regional plans. Generally, each of the DSAs would be consistent with area land use and transportation plans, and the No-Build Alternative would not be consistent.

**Gaston County.** The project is consistent with the *Gaston County Comprehensive Plan*. The plan recommends that Gaston County protect/preserve future transportation corridors and includes a recommendation to, "Promote a proactive means to protect critical transportation corridors (e.g., the proposed Garden Parkway) through a combination of right-of-way dedication/reservation, construction requirements, and improved communication to the greater community about future facilities" (Gaston County, July 2002).

**Bessemer City.** According to Bessemer City, the *1995 Land Use Plan* is obsolete and outdated (Telephone interview, Planning Director, July 12, 2007). The City is working on an update to its plan, which is scheduled to be completed in late 2009 (Telephone interview, Planning Director, October 2, 2008).

**Gastonia.** The project is included in Gastonia's *City Vision 2010: Gastonia's Comprehensive Plan* (City of Gastonia, July 1995) and is consistent with land use strategies to manage existing and anticipated new growth in Gastonia.

**Cramerton.** The Town has a 5-year *Unified Land Development Code*, adopted in 2002, but town staff has noted that an update is needed. An update is planned for fiscal year 2010 (Telephone interview, Town of Cramerton planning staff, October 6, 2008).

**Belmont.** *The Belmont Comprehensive Land Use Plan* (City of Belmont, August 2007) is Belmont's guide to manage growth. The plan includes where future residential, business,

recreational facilities, roads, schools, and other land uses should be planned in the city. The plan also contains alternate scenarios with and without the Gaston East-West Connector. The comprehensive plan indicates that the project is being studied as a controlled-access toll road. The Gaston East-West Connector DSAs are consistent with Belmont's land use plan.

**City of Charlotte and Mecklenburg County.** The project is consistent with the Charlotte-Mecklenburg *2015 Plan: Planning for our Future* (City of Charlotte and Mecklenburg County, November 1997) and Mecklenburg County's *2008–2010 Strategic Business Plan*, as it would contribute to the accommodation of transportation needs anticipated to occur with expected growth in the western portion of the county, including non-residential construction plans.

**Gaston Urban Area Metropolitan Planning Organization.** The Gaston East-West Connector DSAs are consistent in concept with the stated need in the Gaston Urban Area Metropolitan Planning Organization (GUAMPO) *2030 Long Range Transportation Plan* (LRTP) to provide a new crossing of the Catawba River to accommodate existing and future growth (GUAMPO, May 2005). The GUAMPO *2030 LRTP* does not list the Gaston East-West Connector as a toll facility, but in September 2000, the GUAMPO Transportation Advisory Committee (TAC) passed a resolution stating it supports the use of alternative funding methods for the project, including methods that would require the payment of a toll by motorists (GUAMPO, *2030 LRTP*, p. 74). The updated 2035 LRTP will include the Gaston East-West Connector project as a toll facility.

**Mecklenburg-Union Metropolitan Planning Organization.** The Gaston East-West Connector (Garden Parkway) is included in the Mecklenburg-Union Metropolitan Planning Organization (MUMPO) *2030 LRTP* (MUMPO, September 2005).

**North Carolina State Transportation Improvement Program.** The project is included in the *2009–2015 State Transportation Improvement Program* (STIP) as project U-3321.

### 3.1.4 LAND USE IMPACTS

Since the DSAs are on new location, direct land use changes from any of the DSAs include converting the land needed for right of way from its existing use to a transportation use. The land needed for right of way includes a wide variety of uses, such as industrial, commercial, residential, recreational, agricultural, and undeveloped.

The *Indirect and Cumulative Effects Assessment, Gaston East-West Connector* (Louis Berger Group, March 2009), incorporated by reference and available on the NCTA Web site ([www.ncturnpike.org/projects/gaston](http://www.ncturnpike.org/projects/gaston)), documents the potential for indirect and cumulative land use impacts as a result of implementing the proposed project. A summary of the report is included in this Draft EIS as **Chapter 7**. The study included a spatial grid analysis, which considered the sensitivity of the human and natural environment in the area to change, and the potential for future growth as a result of the proposed project. A complete description of the methodology and assumptions used in this analysis can be found in the report referenced above.

The *Indirect and Cumulative Effects Assessment* concluded that the project may induce residential, industrial, and commercial growth within the southern and western portions of Gaston County and southwestern portions of Mecklenburg County, particularly at proposed

interchange locations. There is also moderate potential for induced development in York County, South Carolina.

Even without the construction of the Gaston East-West Connector, southern Gaston County and western Mecklenburg County are generally planned for continued suburban development, with much of the undeveloped land slated for residential use. It is conceivable that the Gaston East-West Connector could influence a transition to other types/mixes of land uses, as well the timing of these potential transitions. For example, the project could encourage more commercial/retail land uses around potential interchange locations, as opposed to residential uses.

The project also could continue to play a role in the transition of the overall character within southern Gaston County from rural to suburban, which is consistent with the *Gaston County Comprehensive Plan*. This transition is more likely to occur in areas that are most rural in character, such as around Bud Wilson Road, Robinson Road, Lewis Road, and Linwood Road in Gaston County.

## 3.2 SOCIAL AND ECONOMIC RESOURCES

This section summarizes information contained in the *Final Community Impact Assessment for the Gaston East-West Connector* (PBS&J, October 2008), and the *Community Characteristics Report for the Gaston East-West Connector* (PBS&J, November 2007), incorporated by reference.

### 3.2.1 POPULATION CHARACTERISTICS

The following sections provide an overview of the demographic characteristics of the Project Study Area, based on 2000 Census data (unless otherwise noted). **Figure 3-1** shows the Demographic Area (DA) boundary for which demographic data was collected. This information was tabulated and documented for specific block groups and other geographic areas in the *Community Characteristics Report for the Gaston East-West Connector*. Comparisons were made to the state, county, and town (where available) demographic data in order to uncover notable trends and draw general conclusions about the area.

**Population Trends.** **Figure 3-2** presents a summary of the population changes between 1990 and 2000 in the project's DA. The DA is the area comprised of US Census tract block groups within and immediately around the DSAs. All areas experienced population growth between 1990 and 2000. Mecklenburg County, Charlotte, and Cramerton grew at a rate higher than that of North Carolina (21.4 percent). The City of Gastonia grew at a rate about equal to the state. The project's DA experienced less growth than the state's, but still achieved a notable 13 percent increase. Gaston County and Belmont grew the slowest, at about a 9 percent increase and 3 percent increase, respectively.

#### **Population Growth**

*The region's population is growing. The population of the area immediately around the DSAs grew by 13 percent between 1990 and 2000.*

Between 1990 and 2000, the largest percent increases in population generally occurred south of Gastonia, along the edge of the municipal limits, followed by southeast and southwest Gaston County and the southern end of the DA in Mecklenburg County. The areas having the most block groups with negative or smaller growth increases are located west of Gastonia and within and around Bessemer City.

**Race/Ethnicity.** Whites, blacks (African-American), and Hispanics are the three largest racial/ethnic groups within the DA. Gaston County is approximately 83 percent white, 14 percent black, 3 percent Hispanic/Latino, 1 percent Asian, and less than 1 percent other. Mecklenburg County is approximately 64 percent white, 28 percent black, 6 percent Hispanic/Latino, 3 percent Asian, and less than 1 percent other. Please note some Hispanics/Latino, which is an ethnic category, may also be counted within the black or white racial groups, so the percentages may add up to greater than 100 percent.

In comparison, the portion of the DA in Gaston County is similar to Gaston County at approximately 81 percent white, 16 percent black, 3 percent Hispanic/Latino, 1 percent Asian, and less than 1 percent other. The portion of the DA in Mecklenburg County has slightly higher percentages of Hispanics/Latinos and Asians than Mecklenburg County, having 68 percent white, 22 percent black, 6 percent Hispanic/Latino, 4 percent Asian, and less than 1 percent other.

**Figure 3-3** and **Figure 3-4** show the percentages of African-American (black) population and Hispanic population, respectively, by block group in the DA based upon the 2000 Census. Block groups with black populations that are higher in comparison to county and state percentages are generally located west of Bessemer City, west of Gastonia, and around Charlotte-Douglas International Airport. These are generally the same locations where higher than average Hispanic/Latino populations also are located.

Locations with higher than average white populations are scattered throughout the DA, and include the areas north of Bessemer City, areas south of the DSAs on either side of US 321, residential developments north of the Gastonia Municipal Airport, along the west side of the South Fork Catawba River, and the southwestern portion of the DA in Mecklenburg County.

**Age.** When looking at the percentages of population within various age groups, approximately 27 percent of the population of Gaston and Mecklenburg Counties and the municipalities in the DA are age 19 or younger, approximately 40 percent are age 20 to 44, approximately 22 percent are age 45 to 64, and approximately 11 percent are age 65 or older. The DA has a similar age distribution at approximately 28 percent age 19 or younger, 37 percent age 20 to 44, 24 percent age 45 to 64, and 10 percent age 65 or older. Block groups with higher than average values for these populations are scattered throughout the DA, with no general area of concentration.

**Income.** The 1999 median family incomes for Mecklenburg County (\$60,608), Charlotte (\$56,517), and Cramerton (\$56,071) are substantially higher than the state average (\$46,335). Gaston County (\$46,271), Belmont (\$46,765), and Gastonia (\$44,873) have about the same median family income compared to the state average. The median family income for Bessemer City is the lowest at \$39,759.

***Areas of Highest Incomes***

*The areas with the highest reported median incomes in the 2000 Census in the vicinity of the DSAs are generally located around the Catawba River, South Fork Catawba River, and the southern municipal limits of Gastonia and Cramerton.*

**Figure 3-5** shows the percentages of population in poverty by block group within the DA, based upon the 2000 Census. The lowest reported median incomes are generally located in block groups concentrated north and west of Bessemer City, west of Gastonia, and around Charlotte-Douglas International Airport. These are the same locations where there are higher than average black and/or Hispanic/Latino populations. The highest reported median incomes generally are located in block groups around the Catawba River and South Fork Catawba River and the southern boundaries of Gastonia and Cramerton.

**Housing Characteristics.** The DA consists of a widespread mix of new and older housing stock. New home construction has occurred within the DA in the last five years and still continues, particularly within the eastern portion of the DA.

The percentage of renter-occupied housing units is approximately 38 percent in Mecklenburg County, 31 percent in Gaston County, and 31 percent statewide. The percentage of the renter-occupied housing units in Cramerton (approximately 28 percent) is lower than the state average, while the other municipalities contain a higher percentage of renter-occupied housing units. The percentage of owner-occupied housing units within the state is approximately 69 percent. The percentage of the owner-occupied housing units in Cramerton (approximately 72 percent) is higher than the state average, while the other municipalities contain a lower percentage of owner-occupied housing units.

The median value of owner-occupied housing units for the state is \$108,300. The median value of owner-occupied housing units for Mecklenburg County (\$141,800) and Charlotte (\$134,300) is higher than the state, while the value is less for Gaston County (\$90,300), Belmont (\$94,400), Bessemer City (\$71,900), and Gastonia (\$93,000). Median home values in Cramerton (\$104,000) were about the same as the state average.

Block groups having approximately one-half or more of their units renter-occupied are located around Charlotte-Douglas International Airport, in central Belmont, just south and west of Gastonia, and northeast of Bessemer City. Approximately one-half of all block groups in the DA have 80 percent or more of their units owner-occupied. These are generally located within the unincorporated areas of Gaston County, north of the Gaston Municipal Airport, south of Cramerton, and most of the block groups in the Mecklenburg County portion of the DA.

**Economic Characteristics.** According to the GUAMPO 2030 LRTP, Gaston County is the pre-eminent manufacturing area of the Charlotte region. Historically a textile manufacturing center with an emphasis on yarn and thread mills, Gaston County's manufacturing base has diversified over the past 20 years to include machinery, transportation equipment, precision equipment, and other industries. Mecklenburg County is the hub of the 13-county Charlotte region and is the primary center for employment, shopping, and other economic activities.

**Table 3-1** provides employment information by super sector, or domain, for industries in North Carolina, Gaston and Mecklenburg Counties, and the Charlotte-Gastonia-Concord Metropolitan Statistical Area (MSA).

Between 1990 and 2006, the percentage of manufacturing decreased. However, the other two goods-producing domains (natural resources/mining and construction) slightly increased during the 16-year period. Between 1990 and 2006, the percentage of Service-Producing Domains varied. However, the percentage of financial activities, leisure and hospitality, and public administration increased slightly, whereas the percentage of education and health services increased dramatically.

Major employers in Gaston County include Gaston County Schools, Caromount Health, Freightliner Corporation (manufacturing), Wix Filtration Corporation (manufacturing), and Gaston County, each of which employ more than 1,000 people (based upon September 2006 employment figures from the North Carolina Employment Security Commission Web site: [www.ncesc.com](http://www.ncesc.com)).

**TABLE 3-1: Annual Employment Distribution – 1990 and 2006**

Employment Industry	1990 – Percent of Workforce				2006 – Percent of Workforce			
	North Carolina	Gaston County	Meck. County	Charlotte-Gastonia-Concord MSA	North Carolina	Gaston County	Meck. County	Charlotte-Gastonia-Concord MSA
<b>Goods-Producing Domain</b>								
Natural Resources/Mining	0.8	0.1	0.1	0.4	0.8	0.1	0.2	0.4
Construction	5.4	3.4	6.1	6.0	6.1	5.0	6.4	7.0
Manufacturing	26.6	46.8	13.2	22.8	14.0	22.9	6.5	9.8
<b>Service-Producing Domain</b>								
Trade/Transportation/Utilities	21.1	18.9	27.8	24.8	19.8	20.1	22.7	22.0
Information	1.9	1.1	3.9	3.0	1.9	0.8	3.6	2.8
Financial Activities	4.4	2.5	8.7	6.8	5.1	3.1	12.0	9.4
Professional/Business	7.7	4.1	14.1	10.7	12.1	9.1	18.5	15.9
Education and Health	16.1	11.3	12.0	12.3	21.7	22.4	14.6	16.5
Leisure and Hospitality	7.7	5.7	7.7	7.0	9.6	8.5	9.6	9.5
Other Services	2.6	2.6	3.1	2.9	2.5	2.7	2.9	2.8
Public Administration	5.6	3.5	3.2	3.3	5.6	5.0	2.8	3.4
Unclassified	0	0	0	0	0.6	0.4	0.4	0.4
<b>Total Government Sector</b>	<b>15.5</b>	<b>9.5</b>	<b>10.1</b>	<b>10.7</b>	<b>16.7</b>	<b>12.9</b>	<b>10.9</b>	<b>12.5</b>
<b>Total Private Sector</b>	<b>84.5</b>	<b>90.5</b>	<b>89.9</b>	<b>89.3</b>	<b>83.3</b>	<b>87.1</b>	<b>89.1</b>	<b>87.5</b>

Source: North Carolina Employment Security Commission ([www.ncesc.com](http://www.ncesc.com)).

Notes: Employment numbers reflect Annual Average Employment for aggregate of all types by super sector or domain. Year 2006 is the most recent year for which annual data is available. Rounding may result in values in each column that do not add up to 100 percent.

MSA – Metropolitan Statistical Area

Major employers in Mecklenburg County include International Business Machines, Lance Manufacturing Corporation, Microsoft Corporation, Carolinas Health Care Systems, Wachovia Bank and Bank of America (based on 2<sup>nd</sup> Quarter 2007 employment figures from the North Carolina Employment Security Commission Web site: [www.ncesc.com](http://www.ncesc.com)).

Charlotte-Douglas International Airport employs more than 16,000 people and is expanding through construction of a third runway. In the future, the airport is planned to have an intermodal facility combining rail, truck and air cargo transport that would generate employment opportunities and substantial numbers of regional truck trips.

The linkage between Gaston County and Mecklenburg County is demonstrated by commuting patterns, as discussed in **Section 1.5.1.2**. In 2000, more than 33,000 people left Gaston County daily to go to work, with the overwhelming majority (23,101 commuters, or 70 percent) travelling to Charlotte or elsewhere in Mecklenburg County. Conversely, nearly 4,000 people commuted from Mecklenburg County to Gaston County each work day. Altogether, there were more than 27,000 workers commuting between Gaston and Mecklenburg Counties each day.

### 3.2.2 COMMUNITY CHARACTERISTICS

A qualitative overview of several neighborhoods located wholly or partially within the DSAs was undertaken for this study. Neighborhood information was derived from county GIS data, street maps, interviews with local agencies and planning staff, and extensive field reviews.

#### 3.2.2.1 Named Neighborhoods

There are 59 named existing neighborhoods/communities within the DSAs, varying from small to large, and from newer construction to older subdivisions. **Figure 3-6a-b** depicts the general location of the existing neighborhoods in relation to the DSAs. A complete list of these neighborhoods is included in the *Final Community Impact Assessment for the Gaston East-West Connector* (PBS&J, October 2008). Forty-five of these are single-family home subdivisions and 14 are mobile home parks. New subdivisions are continually being developed.

Examples of subdivisions with site plans approved by local jurisdictions that are partially within the DSAs include Presley (mixed use), The Peninsula at Bayshore (residential), and Morgan's Branch (residential). These planned future developments are shown in **Figure 3-6a-b**.

#### 3.2.2.2 Other Communities

**Garrison Road/Dixie River Road Community.** The Garrison Road/Dixie River Road community, which crosses all DSAs, is defined roughly by Mt. Olive Church Road (SR 1184) on the north, Dixie River Road (SR 1155) on the west/south, Sadler Road (SR 1150) on the north/west, and I-485 on the east (Telephone interview, Dixie River Community Association president, December 7, 2007). Garrison Road essentially serves as the center of the community. The Dixie Community Center, a meeting place for the community, is located at 9814 Garrison Road in Charlotte, just west of I-485 (**Figure 2-9ii**).

Approximately 25 members of the Garrison Road/Dixie River Road community attended a small group meeting held on November 17, 2007, to discuss the project. As a follow-up to this meeting, a telephone interview with the president of the Community Association (December 7, 2007) revealed details about the history of this predominantly African-American community, the importance of the community center for the area, and concerns related to the proposed project. According to the Community Association president, the construction of I-485 and expansion of Charlotte-Douglas International Airport in this area had essentially split and reduced the extent of this neighborhood, with I-485 reducing the extent of the overall community. The president stressed the importance of the community center, which provides a forum for interaction among existing and former Garrison Road/Dixie River Road community residents.

**Other Rural Communities.** Within and near the DSAs are housing "clusters" that are not identified as named communities in available GIS data. Because these could represent rural communities in which there are social interconnections, they are identified in **Figure 3-6a-b** (and location described later in **Table 3-6**) and were evaluated for impacts.

### 3.2.2.3 Community Resources and Services

Community resources discussed in this section are shown in **Figure 3-7a-b**. Community resources in the Project Study Area are concentrated generally in the urban areas. As expected, the number of community facilities decreases outward from the city and town centers.

Community resources described below include churches and cemeteries, schools, police/fire/emergency services, post offices, libraries, parks and recreation areas, medical centers and hospitals, bicycle routes, and public transit routes.

**Churches and Cemeteries.** As shown on **Figure 3-7a-b**, there are seventeen churches within or adjacent to the DSA Corridor Segments. Most of the cemeteries are located on church properties, but five are located on separate properties.

**Schools.** As shown on **Figure 3-7a-b**, there are four public schools located within or immediately adjacent to the DSA corridor segments:

- Edward D. Sadler Jr. Elementary – 3940 Kings Mountain Highway (US 29-74), Gastonia (Corridor Segment H1A)
- Forest Heights Elementary – 2500 Sedgefield Drive, Gastonia (Corridor Segment J5a)
- Forestview High School and WA Bess Elementary (located next to each other) – 5545 Union Road, Gastonia (Corridor Segment J5a)

According to Gaston County Schools, schools in the area are operating at levels over their capacities. Gaston County Schools is in the process of determining where growth is anticipated and where new schools should be considered. According to Gaston County Schools Physical Facilities Director, there are two preliminary sites being considered for a future middle/high school campus. These are located in Corridor Segment K2A (DSAs 4, 22, 58, and 78) and Corridor Segment K3A (DSAs 9, 27, 68, and 81). The process to determine the actual location has been delayed, and there is no final decision on where the new school will be located (Telephone interview, Gaston County Schools Physical Facilities Director, April 11, 2008).

**Police/Fire/Emergency Services.** There are no police stations within or adjacent to the DSAs. Police stations within the region are located in the downtowns of Bessemer City, Gastonia, Cramerton, and Belmont. There is also a police station at Charlotte-Douglas International Airport. The NC Highway Patrol has a facility on US 29-74 just west of Myrtle School Road.

Fire stations and emergency medical services (EMS) stations typically are co-located. There are several scattered outside of the Project Study Area, as shown on **Figure 3-7a-b**. Stations within or adjacent to the DSAs are listed below:

- F1 – Crowders Mountain Central Volunteer Fire Department (VFD) (or Chapel Grove) – 4416 Linwood Road, Gastonia (Corridor Segment H1A)
- F2 – Crowders Mountain #2 VFD and Rescue – 480 Bethany Road, Gastonia (Corridor Segment H1C)
- F3 – Crowders Mountain South VFD – 4802 York Highway, Gastonia (between Corridor Segments J1a and J2a).

**Post Offices.** There are no post offices located within or adjacent to the DSAs. Post offices are located near the centers of the municipalities, outside of the DSAs.

**Libraries.** One library, the Union Road Branch Library, is located near the DSAs. This library is located south of Forestview High School on NC 274 (Union Road), just north of Corridor Segment J5a.

**Parks and Recreation Areas.** As shown in **Figure 3-7a-b** and described below, there are two existing publicly-owned parks and several privately-owned recreational facilities within or adjacent to the DSAs. Publicly-owned parks with public access include Crowders Mountain State Park, the Park at Forestview High School, and land owned by Mecklenburg County northwest of the crossing of Dixie River Road and I-485 (proposed as Berewick District Park).

**Public Parks**

*Public parks near the DSAs include Crowders Mountain State Park, the Park at Forestview High School, and Berewick District Park.*

Privately-owned recreational facilities include Camp Rotary Girl Scout Camp, Karyae Park, Linwood Springs Golf Course, Carolina Speedway, Daniel Stowe Botanical Garden, Allen Fishing Access Area (owned by Duke Energy Corporation), and another area owned by Duke Energy Corporation that has a baseball field and a general recreational field.

There are also planned greenways within the Project Study Area.

**Crowders Mountain State Park.** Crowders Mountain State Park is located just west of the DSAs, near the Gaston County/Cleveland County line and the North Carolina/South Carolina state line in southwest Gaston County. Regional access to Crowders Mountain State Park is provided primarily by I-85, which is approximately three miles north. The main park entrance is located on Sparrow Springs Road (SR 1125) at the south end of the park.

Crowders Mountain State Park is publicly-owned and administered by the NC Department of Environment and Natural Resources (NCDENR), Division of Parks and Recreation and is open to the public. Crowders Mountain State Park encompasses 5,096 acres, including the peaks of Crowders Mountain and Kings Pinnacle. These peaks rise approximately 800 feet above the surrounding countryside. Numerous locations offer views of the panoramic Piedmont plateau from the park's cliffs.

Park attendance in 2007 was 404,143, which represents a 19 percent increase from attendance in 2005 and a nearly 10 percent increase from 2006 (Telephone interview, Crowders Mountain State Park superintendent, April 11, 2008).

**Park at Forestview High School.** The Gaston County Parks and Recreation Department maintains shared-use parks at many schools in the county, including Forestview High School. The public park includes the recreational fields behind the school buildings and parking lot.

**Berewick District Park (future).** Mecklenburg County owns approximately 203 acres off of Dixie River Road, just west of I-485, designated for the future Berewick District Park. This public park will be located just south of Corridor Segments K3C and K4A (all DSAs).

In a meeting on April 28, 2008, Mecklenburg County Park and Recreation Department (MCPR) stated that Berewick District Park is envisioned to be a multi-use public park with tournament-quality soccer and baseball fields, passive uses, and a dog park. The MCPR also has joined with the Charlotte-Mecklenburg Schools to co-locate an elementary school on the site. The school's recreational facilities, such as its gym, will be sized so that they can be used after school hours for park activities.

Phase 1 of the park development will include the elementary school and three adjacent baseball fields. Phase 1 construction is expected to be completed in Winter 2010 (City of Charlotte – Mecklenburg County Web site:

[www.charmeck.org/Departments/Park+and+Rec/Inside+The+Department/Divisions/Park+Plannin+g/Berewick.htm](http://www.charmeck.org/Departments/Park+and+Rec/Inside+The+Department/Divisions/Park+Plannin+g/Berewick.htm)). There is currently no funding for any additional phases of park construction.

*Camp Rotary Girl Scout Camp.* Camp Rotary is situated in the forest at the foot of Crowders Mountain, off of Camp Rotary Road. It is west of Corridor Segment H1A (DSAs 58, 64, 68, 76, 77, and 81). The camp is privately-owned for use by the Girl Scouts. The camp is accessed from Linwood Road and Camp Rotary Road. Facilities include a lodge, cabins, swimming pool, lake, nature center, and trails (Girl Scouts of the Pioneer Council Web site: [www.girlscoutspc.org/camp/camp\\_rotary/index.php](http://www.girlscoutspc.org/camp/camp_rotary/index.php)).

*Karyae Park.* The Karyae Park YMCA Outdoor Family Center is located east of Camp Rotary Girl Scout Camp on the south side of Linwood Road, within Corridor Segment H1A (DSAs 58, 64, 68, 76, 77, and 81). The park, which is privately owned and run by the Adelphotis Arahovitan Karyae fraternal order of the Carolinas Greek organization, is designed to host family reunions, corporate functions, and other events by reservation. The center has a conference room, ball fields, playground, pond, chapel, large shelter, full kitchen, gymnasium/pavilion, outdoor basketball and volleyball courts, hiking trails, horseshoes, bocce ball court, picnic areas, and a low ropes teambuilding course (Gaston County YMCA Web site: [www.gastonymca.org/karyae](http://www.gastonymca.org/karyae)).

*Linwood Springs Golf Course.* Linwood Springs Golf Club is an 18-hole golf course located at 2900 Linwood Road in Gastonia. While it is privately-owned, it is open to the public. It is located between Corridor Segment H2C (DSAs 22, 23, and 27) and H3 (DSAs 4, 5, and 9) at the western end of the project.

*Carolina Speedway.* Carolina Speedway is a privately-owned 0.4-mile clay oval vehicular race track built in 1962. The speedway is located on Union Road in Gastonia within Corridor Segment J1f (DSAs 5, 9, 23, 27, 64, 68, 77, and 81) (Carolina Speedway Web site: [www.carolinaspeedway.net/trackinfo.php](http://www.carolinaspeedway.net/trackinfo.php)).

*Daniel Stowe Botanical Garden (DSBG).* In 1991, retired Belmont textile executive Daniel Jonathan Stowe set aside 450 acres of rolling meadows, woodlands, and lakefront property, as well as a \$14 million endowment for the development of a world-class botanical garden (DSBG Web site: [www.dsbg.org/visitsdbg\\_masterplan.php](http://www.dsbg.org/visitsdbg_masterplan.php)). The DSBG is in southeast Gaston County, on the east bank of Catawba Creek, off of NC 279 (South New Hope Road) and south of Corridor Segment K1C (DSAs 5, 23, 64, and 77). The visitor's entrance is located off NC 279 (South New Hope Road), approximately 2,700 feet north of Armstrong Road. There is also a truck entrance at the northern end of the property.

The DSBG is a major tourist attraction in Gaston County. In 2006, the botanical garden attracted approximately 84,000 visitors. With planned improvements to the Daniel Stowe Botanical Garden, visitor attendance is expected to reach 250,000 by 2011 (Daniel Stowe Botanical Garden Annual Report, 2006). The botanical garden employs about 40 people (Telephone interview, DSBG Human Resources, April 22, 2008).

*Allen Fishing Access Area.* The Allen Fishing Access Area is located on the east bank of the South Fork Catawba at the end of Canal Road and The Hot Hole. It is between Corridor Segment K3A (DSAs 9, 27, 68, and 81) and Corridor Segment K4A (DSAs 5, 23, 64, and 77), on land owned by

Duke Energy Corporation, where the Allen Steam Station's water discharge canal flows into the South Fork Catawba River. This public-access area has a parking lot, picnic sites, and fishing access.

*Duke Energy Corporation Recreational Fields.* These recreational fields, owned by Duke Energy Corporation, are located northwest of Allen Steam Station on Boat Club Road in Corridor Segment K3B (DSAs 4, 9, 22, 27, 58, 68, 76, and 81). The fields are under a long-term lease being managed by the Belmont Optimist Club and are used for youth sports and recreational organized programs. The Belmont Optimist Club is constructing upgrades to the fields, including lighting and irrigation (Telephone interview, Belmont Optimist Club, November 18, 2008).

*Dixie Community Center.* As discussed in **Section 3.2.2.2**, the Dixie Community Center (**Figure 2-9ii**) is an important forum that provides opportunities for interaction among existing and former Garrison Road/Dixie River Road residents. It is privately-owned and not open for general public use.

*Greenways.* There are no existing greenways within or crossing the DSAs. Planned greenways are shown in **Figure 3-8a-b**. Fifteen of these potential future greenways cross various DSA's. Along with greenways proposed by the GUAMPO, the Carolina Thread Trail is a proposed interconnected regional network of greenways and trails that is expected to reach fifteen counties and 2.3 million citizens. The Catawba Lands Conservancy and Trust for Public Land are partners in this initiative, with the Catawba Lands Conservancy serving as the lead agency.

The trail is planned to help preserve natural areas and provide a place for exploration of nature, culture, science, and history. The regional network is intended to be developed over time as communities build trails that will eventually link parks, green spaces, and attractions throughout the region. The Carolina Thread Trail is envisioned as a "green interstate," focused on linking local trails and regionally significant attractions (Carolina Thread Trail Web site: [www.carolinathreadtrail.org](http://www.carolinathreadtrail.org)).

**Medical Centers and Hospitals.** As shown in **Figure 3-7a-b**, there is one social service medical clinic located nearby, outside of the immediate vicinity of the DSAs. This clinic, operated by Gaston Family Health Services (GFHS) is located west of US 321 near Hudson Boulevard. GFHS operates three medical and two dental clinics to serve Gaston County residents.

The regional hospital in the area is Gaston Memorial Hospital, located outside of the Project Study Area, north of I-85 in north Gastonia.

**Bicycle Routes.** There are five bicycle routes in Gaston County (NCDOT Web site: [www.ncdot.org/it/gis/DataDistribution/BikeMaps/default.html](http://www.ncdot.org/it/gis/DataDistribution/BikeMaps/default.html)). One of these bicycle routes, (Route 1: High Shoals – Crowders Mountain), crosses all of the DSAs. It crosses east-west through the area along Linwood Road, across Corridor Segments H1A, H2C, and H3. This route begins in the southwestern corner of Gaston County, passes through Crowders Mountain State Park, along Linwood Road, through downtown Gastonia, then northward east of US 321 to High Shoals Road.

**Public Transit Routes.** Information on transit routes is included in **Section 1.5.2.3**.

### 3.2.3 RELOCATIONS AND DISPLACEMENTS

Potential residential and business relocation impacts within each of the DSAs are presented in **Table 3-2**. The *Relocation Reports for the Gaston East-West Connector* (Carolina Land Acquisitions, Inc., April 2008) are included in **Appendix F**. These are referred to in this section as the *Relocation Reports*.

#### 3.2.3.1 Residential and Business Relocations by Detailed Study Alternative

**Residential Relocations.** As shown in **Table 3-2**, the total number of residential relocations estimated for each DSA ranges from 326 residences (DSA 68) to 384 residences (DSA 76). Eight of the DSAs would include one to two farm relocations. The highest percentages of tenants (approximately 30 percent) would be relocated by DSAs 5 and 9, followed by DSA 4, with approximately 27 percent tenant relocations.

**Relocations**  
 Residential relocations range from 326 residences (DSA 68) to 384 residences (DSA 76).  
 Business relocations range from 24 businesses (DSA 77) to 40 businesses (DSA 22).

**TABLE 3-2: Residential and Business Relocations by Detailed Study Alternative**

DSA	Business Relocations	Residential Relocations				Farms	Non-Profit*
		Total Residential	Owners	Tenants	Minorities		
4	38	377	277	100	97	0	4
5	33	358	252	106	94	1	4
9	37	348	245	103	97	1	3
22	40	373	309	64	76	0	2
23	35	354	284	70	73	1	2
27	39	344	277	67	76	1	1
58	30	359	299	60	39	0	3
64	26	336	261	75	28	2	3
68	30	326	254	72	31	2	2
76	29	384	323	61	34	0	1
77	24	365	298	67	31	1	1
81	28	355	291	64	34	1	0

Source: *Relocation Reports for the Gaston East-West Connector* (Carolina Land Acquisitions, Inc., April 2008).

\* Non-profit – For this project, the relocated non-profits are churches.

**Table 3-3** shows the income levels of households to be relocated in each DSA. The columns for incomes of \$25,000 or less are intended to represent low-income households. None of the DSAs are estimated to relocate more than one household with an annual income less than \$15,000. DSAs 4, 5, and 9 would relocate the highest numbers of households with annual incomes between \$15,000 and \$25,000 (82–87 households, or 22–25 percent of relocations). DSAs 58, 64, and 68 would relocate the lowest numbers of households with annual incomes in this range (approximately 2 percent each).

**TABLE 3-3: Income Levels of Relocated Households by Detailed Study Alternative**

DSA	Income Level				
	\$0–\$15,000*	\$15,000–\$25,000*	\$25,000–\$35,000	\$35,000–\$50,000	\$50,000+
4	1	82	94	69	131
5	1	82	66	74	135
9	1	87	98	63	99
22	1	31	90	57	194
23	1	31	62	62	198
27	1	36	94	51	162
58	1	7	72	98	181
64	0	6	45	96	189
68	0	11	77	85	153
76	1	34	63	100	186
77	1	34	35	105	190
81	1	39	67	94	154

Source: *Relocation Reports for the Gaston East-West Connector* (Carolina Land Acquisitions, Inc., April 2008).

\* Columns for incomes of \$25,000 or less intended to represent low-income households. The US Department of Health and Human Services 2008 Poverty Guidelines (Federal Register, Vol. 73, No. 15, January 23, 2008) list the poverty thresholds as \$14,000 for a 2-person household and \$24,800 for a 5-person household.

The values of homes to be relocated in each DSA are shown in **Table 3-4**. The majority of homes in each DSA are valued at more than \$100,000, while very few homes were valued at under \$20,000. DSAs 4, 5, and 9 have the highest number of dwellings valued under \$100,000.

**TABLE 3-4: Values of Relocated Homes by Detailed Study Alternative**

DSA	Value of Dwelling (Owners)				
	\$0–\$20,000	\$20,000–\$40,000	\$40,000–\$70,000	\$70,000–\$100,000	\$100,000+
4	1	22	37	90	127
5	1	20	29	66	136
9	1	23	39	75	107
22	1	8	36	77	190
23	1	6	28	53	199
27	1	9	38	62	170
58	1	3	33	76	186
64	0	19	26	41	201
68	0	22	36	50	172
76	3	12	31	67	213
77	3	10	23	43	222
81	3	10	17	32	146

Source: *Relocation Reports for the Gaston East-West Connector* (Carolina Land Acquisitions, Inc., April 2008).

**Business Relocations.** The *Relocation Reports* provide an estimate of business relocations, including those that are within the right-of-way limits and those assumed to be denied access based upon the preliminary engineering designs for the DSAs. The DSAs would relocate between 24 businesses (DSA 77) and 40 businesses (DSA 22). It should be noted that the reports include churches as “non-profit” businesses. Impacts to churches are discussed in **Section 3.2.6**.

For all DSAs, most of the business relocations are concentrated around US 321, US 29-74, and I-85. The highest number of business relocations would occur with DSA 22, which would relocate 40 businesses and two non-profits/churches. These businesses employ a total of 327 employees. The lowest number of business relocations would occur with DSA 77, which would relocate 24 businesses, one non-profit church, and one farm. These businesses employ a total of 119 employees.

Segment H2A alone includes 14 business relocations and one non-profit/church relocation, which would impact a total of 198 employees. Five of the businesses to be relocated within this segment employ 20 or more people, including an office of the North Carolina Employment Security Commission that employs approximately 25 people. This segment includes the area around I-85 and south along Shannon Bradley Road and makes up a portion of six of the twelve DSAs (DSAs 4, 5, 9, 22, 23, and 27).

Segment H1A makes up a portion of the other six DSAs (DSAs 58, 64, 68, 76, 77, and 81) and includes areas around I-85, US 29-74, and Linwood Road (just to the east of Crowders Mountain State Park). This segment would relocate 15 businesses with a total of approximately 64 employees, including the Karyae Park YMCA Outdoor Family Center, American Veteran's Post 920, and Carolina Specialty Transport, which provides handicapped and other special types of transport.

The *Relocation Reports* included in **Appendix F** list the businesses anticipated to be displaced by each DSA. A review of the reports suggests that none represent a unique type of business in the area. Accordingly, temporary disruption in their services during relocation is not anticipated to create any severe hardships to patrons in the area, as the reports note that similar business services would remain available. However, particular consideration should be given to the relocation of Carolina Specialty Transport (4217 South Linwood Road in Gastonia) so that disruptions of service to special-needs groups are minimized.

### 3.2.3.2 Relocation Assistance

According to the *Relocation Reports*, there is comparable replacement housing in the area for displaced homeowners and tenants (**Appendix F**).

NCTA follows the relocation policies of the North Carolina Department of Transportation (NCDOT). The policies ensure that comparable replacement housing is available for relocatees prior to construction of state and/or federally assisted projects. Furthermore, the NCTA will use three programs NCDOT has to minimize the inconvenience of relocation: Relocation Assistance, Relocation Moving Payments, and Relocation Replacement Housing Payments or Rent Supplement. The relocation program for the proposed action will be conducted in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646) and the North Carolina Relocation Assistance Act (NCGS 133-5 through 133-18).

More information on right of way acquisition and relocation is available in the following two NCDOT brochures: *Answers to the Questions Most Often Asked About Right of Way Acquisitions* and *Relocation Assistance* and *Relocation Assistance* (NCTA Web site: [www.ncturnpike.org/pdf/Right-of-Way%20Acquisition%20Brochure.pdf](http://www.ncturnpike.org/pdf/Right-of-Way%20Acquisition%20Brochure.pdf) and [www.ncturnpike.org/pdf/Relocation%20Assistance%20Brochure.pdf](http://www.ncturnpike.org/pdf/Relocation%20Assistance%20Brochure.pdf)).

### 3.2.4 IMPACTS TO NEIGHBORHOODS

#### 3.2.4.1 Neighborhood and Community-Level Project Effects

The environmental planning process has given high priority to the avoidance and minimization of neighborhood disruption during the development, evaluation, and selection of the DSAs and creation of the preliminary engineering designs within these DSA corridors. The initial land suitability mapping process identified residential areas, and natural and historic resources within the Project Study Area.

Alternatives were developed to achieve a balance between impacts to communities and community resources (such as residential developments, businesses, schools, fire stations, etc.); and sensitive, regulated natural and cultural features (such as wetlands, floodplains, parks, and historic resources). None of the DSAs could entirely avoid impacts to neighborhoods because of the timing and density of development in proximity to sensitive natural and historic resources in key geographic areas.

Due to the large project size and number of neighborhoods affected by the preliminary engineering designs for the DSAs, a matrix was developed in order to better organize and describe impacts to neighborhoods. The matrix is presented in **Table 3-5** for named neighborhoods and **Table 3-6** for rural communities (unnamed neighborhoods).

Impacts in the matrix are divided into areas where relocations would occur and whether access would be modified. The type of relocation effect is divided into categories “A” through “E,” and the type of access effect is divided into qualifiers “1” or “2” for each impact category “A” through “E.” For example, when comparing impact categories “C1” and “C2”, the “C” indicates the location of impacted homes in a neighborhood, and the number (“1” or “2”) following the letter denotes if there is an access change (denoted by “2”) or if there is not an access change (denoted by “1”) associated with a particular Corridor Segment and DSA. The footnotes in **Table 3-5** and **Table 3-6** describe the categories in detail.

**Named Neighborhoods.** Impacts to named neighborhoods associated with each DSA are listed in **Table 3-5**. Impacts are based upon the preliminary engineering designs. The locations of these neighborhoods are shown in **Figure 3-6a-b**. The number of named neighborhoods impacted by the DSAs range from 15 (DSAs 68 and 81) to 24 (DSA 5). The type of effect ranges from a minor right-of-way encroachment with no relocations or access changes (listed as Category “B1” in **Table 3-5**) to total displacement of a neighborhood (listed as Category “E” in **Table 3-5**).

**Named Neighborhoods**  
 The number of named neighborhoods impacted range from 15 (DSAs 68 and 81) to 24 (DSA 5).

**TABLE 3-5: Impacts to Named Neighborhoods**

Segment	Affected Neighborhood	Type of Effect	Detailed Study Alternative											
			4	5	9	22	23	27	58	64	68	76	77	81
<b>Named Neighborhoods from I-85 to US 321</b>														
H1A	Brentwood MHP	C2							•	•	•	•	•	•
	Edgewood Acres	C1							•	•	•	•	•	•
	Erskine Woods	A							•	•	•	•	•	•
	ED’s No. 1 MHP	E							•	•	•	•	•	•
	ED’s No. 2 MHP	B1							•	•	•	•	•	•

TABLE 3-5: Impacts to Named Neighborhoods

Segment	Affected Neighborhood	Type of Effect	Detailed Study Alternative												
			4	5	9	22	23	27	58	64	68	76	77	81	
	Silverstone	D2								•	•	•	•	•	•
H2A	Brookhaven	B2	•	•	•	•	•	•							
	Edgewood Acres	A	•	•	•	•	•	•							
	Erskine Woods	A	•	•	•	•	•	•							
	Matthews Acres	C2	•	•	•	•	•	•							
	Spring Valley	C2	•	•	•	•	•	•							
	Myrtle Mill	A	•	•	•	•	•	•							
H2B	Crowders Woods	B2				•	•	•							
	Crowders View (platted)	C1				•	•	•							
	Laurel Woods	B2				•	•	•							
H1C	Berkley Oaks MHP	A								•	•	•			
	Ferguson Acres	A								•	•	•			
	Hannaford Place	D1								•	•	•			
	Jack A. Shell MHP	C1								•	•	•			
	Oakley Park	B1								•	•	•			
	Sparrow MHP	A								•	•	•			
	Stoney Oaks	C1								•	•	•			
	West Palm Acres	B1								•	•	•			
H2C	Fallscrest	A				•	•	•							
	Ferguson/Forest Estates	C1				•	•	•							
	Suburban Heights	C2				•	•	•							
	Mt. Brooke	C1				•	•	•							
H3	Lakewood Forest	C2	•	•	•										
	Stablegate Farms	C2	•	•	•										
HX2	Fallscrest	D2										•	•	•	
	Fallsdale	C2										•	•	•	
	Ferguson/Forest Estates	D1										•	•	•	
	Old Providence	A										•	•	•	
J4a	Fall Estates	D1	•	•	•										
	Levi's MHP	E	•	•	•										
	Orion Oaks MHP No.1	D2	•	•	•										
	Orion Oaks MHP No.2	D2	•	•	•										
	Orion Oaks MHP No.3	D2	•	•	•										
	Orion Oaks MHP No.4	D2	•	•	•										
<b>Named Neighborhoods from US 321 to NC 279 (South New Hope Rd)</b>															
J1d	Bridgestone Estates	A										•	•		
	White Oak	B1										•	•		
J2c	Brittany Woods	C1	•	•	•	•	•	•				•	•	•	
	Forbes Cove	B1	•	•	•	•	•	•				•	•	•	
	Saddlewood	B2	•	•	•	•	•	•				•	•	•	
	Wesley Acres	C1	•	•	•	•	•	•				•	•	•	

TABLE 3-5: Impacts to Named Neighborhoods

Segment	Affected Neighborhood	Type of Effect	Detailed Study Alternative											
			4	5	9	22	23	27	58	64	68	76	77	81
J1c	Cedar Grove	C1								•	•			
	Popular Downs MHP	C1								•	•			
	Saddlewood	A								•	•			
K2A	Cameron Pointe	C2	•			•			•			•		
	Farmwood	A	•			•			•			•		
JX1	Brittany Woods	D1							•					
J1b	Brittany Woods	A								•	•			
J3	Charleston	A				•	•	•						
J2b	Charleston	A		•	•							•	•	•
J4b	Charleston	A	•											
J1e	Forest Pointe	A		•	•		•	•		•	•		•	•
J5a	Keltic Meadows	C1	•			•			•			•		
	White Oak	B1	•			•			•			•		
J2d	Saddlewood	B2	•	•	•	•	•	•	•			•	•	•
<b>Named Neighborhoods from NC 279 (South New Hope Rd) to I-485</b>														
KX1	Belle Meade	A	•			•			•			•		
	Brook Forest/ South Forest	C1	•			•			•			•		
K3A	Brook Forest/ South Forest	C1			•			•			•			•
K4A	Ellington MHP	D1		•			•			•			•	
	Forest Bay	D1		•			•			•			•	
	River Lakes	D1		•			•			•			•	
	Misty Waters	C1		•			•			•			•	
	Southpoint Landing	C2		•			•			•			•	
	Wilson Estates MHP	B2		•			•			•			•	
K3B	Joye MHP	D2	•		•	•		•	•		•	•		•
K1C	Minnie Queen Estates	E		•			•			•			•	
	Woodland Bay	B1		•			•			•			•	
Total Number of Category B Impacts			5	6	4	7	8	6	5	6	4	5	6	4
Total Number of Category C Impacts			9	8	7	11	10	9	7	8	7	8	7	6
Total Number of Category D Impacts			6	8	6	1	3	1	4	5	3	4	6	4
Total Number of Category E Impacts			1	2	1	0	1	0	1	2	1	1	2	1
<b>Total Number of Neighborhood Impacts</b>			<b>21</b>	<b>24</b>	<b>18</b>	<b>19</b>	<b>22</b>	<b>16</b>	<b>17</b>	<b>21</b>	<b>15</b>	<b>18</b>	<b>21</b>	<b>15</b>

Notes: A – No impact.  
 B1 – No relocations, but right-of-way encroachment and existing access maintained.  
 B2 – No relocations, but change in access (could include right-of-way encroachment).  
 C1 – Relocation of homes on end of road or at edge of neighborhood.  
 C2 – Relocation of homes on end of road or at edge of neighborhood and change in access.  
 D1 – Relocation of homes in midst of neighborhood.  
 D2 – Relocation of homes in midst of neighborhood and change in access.  
 E – Total displacement of a neighborhood.  
 MHP - mobile home park. Letter denotes type of direct impact. Number denotes access change.

The most impacts to neighborhoods would be found in the area between I-85 and US 321. This area is relatively highly developed, and there are numerous other constraints, such as Crowders Creek and its floodplain and Crowders Mountain State Park. Designing an alternative that would not impact existing development was not possible.

Planned future subdivisions with site plans recently approved by local jurisdictions also would be impacted by the DSAs. The preliminary engineering designs for DSAs using Corridor Segment J5a (DSAs 4, 22, 58, and 76) pass through the center of the planned Presley development, with the eastern half of the NC 274 (Union Road) interchange within the planned site, as well as the mainline. The Presley development also is partially located within Corridor Segments J1e and J1f. The preliminary engineering designs within these corridors (DSAs 5, 9, 23, 27, 64, 68, 77, and 81) may have minor encroachments on the areas of the site plan labeled for a future commercial village.

DSAs 5, 23, 64, and 77 would pass through the southern end of The Peninsula at Bayshore, adversely impacting several lots. DSAs 5, 23, 64, and 77 also would pass through the southern end of Morgan’s Branch, adversely impacting several lots.

**Rural Communities.** As discussed in Section 3.2.2, there are areas with housing clusters that are not identified or named through available GIS data. However, because these could represent rural communities in which there may be social interconnections, they are shown in Figure 3-6a–b, listed in Table 3-6, and evaluated for potential impacts. Similar to the named neighborhoods listed in Table 3-5, the type of effect ranges from a minor right-of-way encroachment with no relocations or access changes (listed as Category “B1”) to total displacement of a neighborhood (listed as Category “E”). The numbers of rural communities impacted by the DSAs range from 5 (DSA 27) to 10 (DSAs 58 and 64).

**Rural Communities**  
 The numbers of rural communities impacted by the DSAs range from 5 (DSA 27) to 10 (DSAs 58 and 64).

**TABLE 3-6: Impacts to Rural Communities (Unnamed Neighborhoods\*)**

DSA Corridor Segment	Affected Area	Type of Effect	Detailed Study Alternative												
			4	5	9	22	23	27	58	64	68	76	77	81	
<b>Unnamed Neighborhoods from I-85 to US 321</b>															
H1A	N1 located on SR 1122 northeast of Linwood Rd	D2								•	•	•	•	•	•
H1B	N4 located east of Camp Rotary Rd south of Linwood Rd	D1								•	•	•			
H1C	N5 located on Old Church Rd Northeast of SR 1106	D2								•	•	•			
	N6 located off Grissom Rd southeast of Crowders Creek Road	E								•	•	•			
H3	N2 located west of Stagecoach Rd south of Linwood Rd	C1	•	•	•										
	N3 located west of Stagecoach Rd south of Linwood Rd	C1	•	•	•										
<b>Unnamed Neighborhoods from US 321 to NC 279 (South New Hope Rd)</b>															
J1C	N17 located west of Bud Wilson Rd	C2									•	•			

**TABLE 3-6: Impacts to Rural Communities (Unnamed Neighborhoods\*)**

DSA Corridor Segment	Affected Area	Type of Effect	Detailed Study Alternative											
			4	5	9	22	23	27	58	64	68	76	77	81
K2a	N8 located off Union New Hope Rd and west of NC 279	C2	•			•				•			•	
	N9 located off Union New Hope Rd and west of NC 279	B1	•			•				•			•	
	N10 Located along South Fork Catawba River east of NC 279	D2	•			•				•			•	
J1F	N7 located on Union Rd south of Union New Hope Rd	C2		•	•		•	•		•	•		•	•
J2d	N17 located west of Bud Wilson Rd	C2	•	•	•	•	•	•	•			•	•	•
<b>Unnamed Neighborhoods from NC 279 (South New Hope Rd) to I-485</b>														
K3A	N11 located on Dixon Rd east of NC 279	B2			•			•			•			•
K4A	N13 located east of Southpoint Rd west of Catawba River	C2		•			•			•			•	
	N14 located southwest of Dixie River Rd east of Catawba River	B2		•			•			•			•	
	N15 located along Dixie River Road	E		•			•			•			•	
	N16 located along Garrison Rd east of Dixie River Rd	D2		•			•			•			•	
K3B	N12 located off of South Point Rd.	D2	•		•	•		•	•		•	•		•
K3C	N16 located along Garrison Rd east of Dixie River Rd	D2	•		•	•		•	•		•	•		•
Total Number of Category B Impacts			1	1	1	1	1	1	1	1	1	1	1	1
Total Number of Category C Impacts			4	5	4	2	3	2	2	3	2	2	3	2
Total Number of Category D Impacts			3	1	2	3	1	2	6	4	5	4	2	3
Total Number of Category E Impacts			0	1	0	0	1	0	1	2	1	0	1	0
<b>Total Number of Neighborhood Impacts</b>			<b>8</b>	<b>8</b>	<b>7</b>	<b>6</b>	<b>6</b>	<b>5</b>	<b>10</b>	<b>10</b>	<b>9</b>	<b>7</b>	<b>7</b>	<b>6</b>

Notes: A – No impact.

B1 – No relocations, but right-of-way encroachment and existing access maintained.

B2 – No relocations, but change in access (could include right-of-way encroachment).

C1 – Relocation of homes on end of road or at edge of neighborhood.

C2 – Relocation of homes on end of road or at edge of neighborhood and change in access.

D1 – Relocation of homes in midst of neighborhood.

D2 – Relocation of homes in midst of neighborhood and change in access.

E – Total displacement of a neighborhood.

MHP - mobile home park. Letter denotes type of direct impact. Number denotes access change. \*Unnamed Neighborhoods are not named/identified in available GIS data, but are areas containing "clusters" of homes considered to be rural communities.

Garrison Road/Dixie River Road Community. The construction of I-485 and expansion of Charlotte-Douglas International Airport in this area has split and reduced the extent of this

neighborhood. The proposed project would further impact this predominantly African-American community.

The Dixie Community Center is an important forum that provides a location and opportunities for interaction among existing and former residents of the Garrison Road/Dixie River Road area. Preliminary engineering designs in Corridor Segment K3C (DSAs 4, 9, 22, 27, 58, 68, 76, and 81) would not displace the community center, but would result in the acquisition of several homes along Garrison Road, and would be located approximately 150 feet east of the community center (**Figure 2-9ii**). It could likely further affect community cohesion and interaction among persons/groups in this area by altering social relationships and patterns for these residents.

Preliminary engineering designs in Corridor Segment K4A (DSAs 5, 23, 64, and 77) are farther from the community center (the nearest ramp is approximately 570 feet) and they also would not result in displacement of the community center. However, an interchange at Dixie River Road would require the acquisition of several homes along Dixie River Road. This would potentially contribute to the perceived negative impact on quality of life, affect community cohesion by further isolating Garrison Road/Dixie River Road community residents, and could encourage additional loss of population within this once tight-knit community.

In addition, Corridor Segment K4A (DSAs 5, 23, 64, and 77) would result in the acquisition of the Ramoth AME Zion Church and cemetery located at 6800 Dixie River Road (**Figure 2-9ff**). Because this church plays an important part in the life of the community, this could also impact the community cohesion of the Garrison Road/Dixie River Road area.

**Social and Physical Environment.** The project would result in population changes in neighborhoods due to displacements/relocations. Redistribution of population is most likely to occur with DSAs that displace a greater number of residents in a neighborhood, as well as DSAs that displace residents in the midst of the neighborhood (as opposed to its edge).

**Community/Neighborhood Stability and/or Cohesion.** Relocations at the edge of neighborhoods are less likely to have substantial negative impacts on community cohesion, social interaction, and/or change in neighborhood social patterns. Residents of neighborhoods with displacement impacts in the midst (Category D in **Tables 3-5** and **3-6**) are more likely to feel isolated and perceive that their quality of life is negatively impacted by the project. **Table 3-5** shows that DSA 5 would result in the most Category D impacts to named neighborhoods. DSA 5 would also result in the highest number of total impacts to named neighborhoods. **Table 3-6** shows that DSA 58 would result in the most Category D impacts to unnamed neighborhoods. However, DSA 58 and DSA 64 would result in the highest number of total impacts to unnamed neighborhoods. DSAs 22, 23, and 27 would be less likely to impact community cohesion.

Social interconnectivity among rural communities also could potentially be impacted by the DSAs. An example would be Rural Community N1 which is located on Archie Whitesides Road (SR 1122) northeast of Linwood Road. The existing road (Archie Whitesides Road) would be severed by Corridor Segment H1A (DSAs 58, 64, 68, 76, 77, and 81), with a cul-de-sac on each side, separating homes on the west and east side of the proposed project.

**Accessibility/Access.** The project would increase overall east-west accessibility within and outside of the Project Study Area.

Each of the DSAs would result in access changes to existing neighborhoods, with some resulting in notable changes in travel patterns to and from neighborhoods. The degree of impact varies from minor to major access modifications. Neighborhoods with access changes are defined in **Tables 3-5** and **3-6** with a “2” following the impact category letter. The number of neighborhoods that would be subject to minor or major access changes ranges from 10 (DSA 68) to 19 (DSA 5). DSAs 4, 5, and 9 would result in the most impacts to neighborhood access, while DSAs 58, 64, 68, and 81 would create less neighborhood access impacts.

Modifications range from closing off existing access and creating new access/service roads (i.e., Corridor Segment H3 at Lakewood Forest neighborhood) to more severe impacts, such as where no grade separation is provided and access across the Gaston East-West Connector would not be available (i.e., Corridor Segment H1A at Rural Community N1). In such instances, the existing roadway would dead-end into a cul-de-sac on both sides of the project.

*Noise.* Most of the area within and near the DSAs is rural or suburban in nature, with relatively low existing noise levels since there are few major noise sources in areas such as these. Communities located adjacent to the proposed project in rural and suburban areas would experience a general increase in noise levels.

Significant noise increases (as defined in 23 CFR Part 772) are most likely to occur within 190-380 feet of the nearest travel lanes, based upon year 2030 project-generated traffic (*Final Traffic Noise Technical Memorandum*, PBS&J, July 2008, incorporated by reference and available on the NCTA Web site [www.ncturnpike.org/projects/gaston](http://www.ncturnpike.org/projects/gaston)). However, it should be noted that traffic noise from the project may be audible farther than 380 feet away from the road.

In areas where significant noise impacts were predicted to occur, preliminary reasonable and feasible noise mitigation measures were developed for the project in accordance with Federal Highway Administration (FHWA) and NCDOT noise abatement criteria. Preliminary noise barriers were recommended in several locations. **Section 4.1** discusses noise and noise mitigation in more detail.

### 3.2.4.2 Summary of Neighborhood/Community Impacts

The following lists general conclusions regarding the impacts of the Gaston East-West Connector DSAs on communities:

- Communities in the Project Study Area would benefit from the project through its enhancement of the existing transportation network by improving regional connectivity and east-west mobility within the region.
- All DSAs would have a negative impact to some existing neighborhoods. Impacts range from minor right-of-way encroachments on neighborhood properties to complete acquisition of a neighborhood.
- All DSAs would result in access changes to some existing neighborhoods.
- All DSAs would likely impact neighborhoods that contain low-income and/or minority populations. However, none of the DSAs are expected to result in disproportionately high and adverse impacts to these populations.

- All of the DSAs could subject neighborhoods adjacent to the Gaston East-West Connector to an increase in noise levels.

### 3.2.5 ENVIRONMENTAL JUSTICE

This section summarizes information contained in the *Final Community Impact Assessment for the Gaston East-West Connector* (PBS&J, October 2008), and the *Community Characteristics Report for the Gaston East-West Connector* (PBS&J, November 2007).

#### 3.2.5.1 Environmental Justice Regulations

Federal laws and regulations require the evaluation of effects of transportation actions on minority and low-income populations, which in the past have been underserved in the decision-making process.

##### **Definition of Environmental Justice**

*The fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income within the development, implementation, and enforcement of environmental laws.*

The need to identify low-income and minority populations and incorporate their input into the project's decision making process gained greater emphasis as a result of Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations* (February 11, 1994) (US Department of Transportation [USDOT] Office of Civil Rights Web site: [www.dotcr.ost.dot.gov/documents/ycr/eo12898.pdf](http://www.dotcr.ost.dot.gov/documents/ycr/eo12898.pdf)). This order directs all Federal agencies to determine whether a proposed action would have a disproportionately high and adverse impact on minority and/or low-income populations.

In April 1997, the USDOT issued the *USDOT Order on Environmental Justice to Address Environmental Justice in Minority Populations and Low-Income Populations* (USDOT Order 5610.2) to summarize and expand upon the requirements of Executive Order 12898 on environmental justice (FHWA Web site: [www.fhwa.dot.gov/environment/ejustice/dot\\_ord.htm](http://www.fhwa.dot.gov/environment/ejustice/dot_ord.htm)). The order generally describes the process for incorporating environmental justice principles into all USDOT existing programs, policies, and activities that are undertaken, funded, or approved by FHWA, Federal Transit Administration (FTA), or other USDOT entities.

The three fundamental environmental justice principles are:

- 1) To avoid, minimize, or mitigate disproportionately high and adverse human health or environmental effects (including social and economic effects) on minority and low-income populations.
- 2) To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- 3) To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

The USDOT Order 5610.2 defines "minority" in the definition section of its appendix and provides definitions of four minority groups addressed by Executive Order 12898. These groups are:

- 1) Black – Person having origins in any of the black racial groups of Africa.
- 2) Hispanic – Person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.

- 3) Asian – Person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands.
- 4) American Indian and Alaskan Native – Person having origins in any of the original people of North America and who maintains tribal affiliation or community attachment.

It also defines “low-income” as a person (of any race) whose household income (or median household income, in the case of a community or group) is at or below the US Department of Health and Human Services’ poverty guidelines. The 2008 poverty guidelines establish household income thresholds based on the number of persons in the household. For example, the poverty threshold is \$10,400 for a 1-person household, and \$21,200 for a 4-person household (Federal Register, Volume 73, No. 15, January 23, 2008).

**3.2.5.2 Environmental Justice Discussion**

Public involvement and outreach to all special groups has been made throughout the study process, including Hispanic and African-American communities. The outreach included the use of a consultant to provide assistance in identifying Hispanic leaders and techniques/forums to optimize outreach to Hispanic communities. Information on the series of workshops held in January/February 2006 and in August 2008 was advertised in Hispanic newspapers (*La Noticia* for the 2006 workshops and *La Noticia, Que Pasa, and Hola Noticias* for the 2008 workshops) and discussed in a news article published in *La Noticia* (2006 and 2008 workshops). Public meeting materials were also available in Spanish at all workshops.

Meetings were held with the predominantly African-American Garrison Road/Dixie River Road community and the president of the Dixie Community Center to provide information and solicit input about the project. At these meetings, residents and the president of the community center expressed concerns about potential impacts to the community center.

The consideration of environmental justice impacts in the development of toll projects is a relatively new realm. Research revealed that Texas is the only state that has guidance to assist in assessing such effects for toll projects (*Guidance on Environmental Justice for Toll Roads*, Texas DOT, March 2005) [referred to as the *Guidance* in this section].

The *Guidance* lists potential issues that could apply to all toll road scenarios, including a toll road on new location. These potential issues (as they relate to the proposed Gaston East-West Connector DSAs) are listed and evaluated in **Table 3-7**.

**TABLE 3-7: General Environmental Justice Evaluation for Toll Facility**

Project Consideration	Comment
Availability of non-toll facilities	No potential for disproportionately high and adverse impact. Non-toll facilities remain available as alternate routes, including existing I-85.
Adequate north-south and east-west corridors to serve as alternate routes	No potential for disproportionately high and adverse impact. Non-toll corridors for north-south and east-west travel are available to continue to serve as alternate routes.

**TABLE 3-7: General Environmental Justice Evaluation for Toll Facility**

Project Consideration	Comment
Non-toll alternative equitable in terms of travel time or distance	No potential for disproportionately high and adverse impact. The non-toll alternative would include existing roadways. Major existing roadways include I-85, US 29-74 and US 321. All travelers would still have access to these existing routes, as they do today. If travelers choose to use existing routes, their travel distance would remain the same as it is today. Travel time may be slightly better on the existing roadways with any of the DSAs in place compared to the No-Build Alternative since the DSAs would be diverting traffic from the existing routes.
Tolling affect on transit	No potential for disproportionately high and adverse impact. The transit system in Gaston County is limited to Gastonia. The DSAs would not negatively impact existing transit service. The project could provide opportunities for transit service enhancement by providing a potential new route.
Cost of toll	No potential for disproportionately high and adverse impact. Although the <i>Proposed Gaston East-West Connector Preliminary Traffic and Revenue Study</i> (Wilbur Smith Associates, October 12, 2006) estimates a passenger car cash rate of \$2.50 in 2015 (\$0.11 per mile for a full-length trip on the facility at a length of 22.3 miles), this estimate is preliminary and subject to change. Non-toll facilities are also available as alternate routes, including existing I-85.
100% Electronic Tolling	No potential for disproportionately high and adverse impact. Specific payment options have not yet been determined, but electronic toll collection options that do not require an account are planned to be available. Users will have the option of prepaying their tolls by establishing a registered transponder or video account. In addition, in accordance with State law (NCGS 136-89.213), NCTA will operate a facility in the immediate vicinity of the project that accepts cash payment for prepaid tolls. All commuters, including low-income commuters, would have the option to use a non-toll alternative route, such as I-85.
Diversion of traffic through neighborhoods	No potential for disproportionately high and adverse impact. Very limited potential for diverted traffic through neighborhoods containing special populations.
Increased air quality/noise issues in neighborhoods	Although some neighborhoods with special populations would experience noise-level increases, there are no disproportionately high and adverse impacts.
Access to businesses	No potential for disproportionately high and adverse impacts based upon the preliminary engineering designs for the DSAs and relocation reports.
Impact to businesses	No potential for disproportionately high and adverse impacts based upon the <i>Relocation Reports</i> .
Denial of benefits or disproportionate impacts to low-income drivers	No potential for disproportionately high and adverse impacts. Specific payment options have not yet been determined, but electronic toll collection options that do not require an account are planned to be available. Users will have the option of prepaying their tolls by establishing a registered transponder or video account. In addition, in accordance with State law (NCGS 136-89.213), NCTA will operate a facility in the immediate vicinity of the project that accepts cash payment for tolls. All commuters, including low-income commuters, would have the option to use a non-toll alternative route, such as I-85.

The *Guidance* lists potential issues that could apply to toll road scenarios, including a toll road on new location and suggests that:

When a single toll facility or a system of toll roads are placed within a mature local transportation network, the potential for disproportionate user impacts appears to be less than those for a less developed transportation network.

In addition, the *Guidance* also suggests that:

Using tolling as a funding source to provide accelerated project delivery may provide benefits such as congestion relief on non-toll facilities in adjacent Environmental Justice communities and on local arterials sooner than through traditional funding methods.

Any of the Gaston East-West Connector DSAs would provide a new, limited-access, east-west route in the region. A result of the project would be reduced traffic on the existing alternate non-toll route; I-85. Completing the project would benefit all motorists, including low-income motorists who may choose not to use the toll facility or may tend to use it less frequently.

The project as a non-toll project is not funded in the *2009–2015 STIP*, and it is not likely to be constructed in the foreseeable future without use of innovative financing, such as tolling. Implementing the project as a toll facility would expedite the construction of this needed transportation improvement, and the accelerated construction schedule would improve mobility within the region and in southern Gaston County. In September 2000, GUAMPO Transportation Advisory Committee (TAC) passed a resolution stating that it “*supports the use of alternative funding methods to accelerate construction of the US 321/74 Bypass, including methods that would require the payment of a toll by motorists (GUAMPO, 2030 LRTP, p. 74).*”

Neighborhoods within the Project Study Area could contain special groups, particularly low-income and minority populations. As shown in **Figures 3-3, 3-4 and 3-5**, all DSAs pass through areas of Gaston and Mecklenburg Counties that could contain minority or low-income populations. All DSAs would impact the predominantly African-American Garrison Road/Dixie River Road community (impacts discussed in **Section 3.2.4**). DSAs that use Corridor Segment H2A (DSAs 4, 5, 9, 22, 23, and 27) pass through an area of single family subdivisions along Shannon Bradley Road that have predominantly African-American populations (Matthews Acres and Spring Valley). The preliminary designs in this area were developed to minimize relocation impacts (**Figure 2-9b**). Residents of these communities have attended the Citizens Informational Workshops.

All DSAs would also directly impact mobile home parks, which could represent low-income populations. As listed in **Table 3-5**, the numbers of mobile home parks with projected relocations range from one (DSAs 22, 23, and 27) to six (DSAs 4, 5, and 9).

When the facility opens, cash toll collection will not be available. At the time of this Draft EIS, no decision has been made regarding the sale of transponders or if discounts would be available to special groups. Specific payment options have not yet been determined, but electronic toll collection options that do not require an account are planned to be available. For example, users will have the option of prepaying their tolls by establishing a registered transponder or video account. These accounts will have the tolls deducted directly from their account balance based on the transponder or license plates associated with their account. These account types may be established and maintained using credit card, check or cash as the payment method. In addition, in accordance with State law (NCGS 136-89.213), NCTA will operate a facility in the immediate

vicinity of the project that accepts cash payment for prepaid tolls, so establishing an account is not required. It is anticipated that this facility will operate from an existing commercial building within the project area. All commuters, including low-income commuters, would have the option to use a non-toll alternative route, such as I-85.

The *Relocation Reports* discussed in **Section 3.2.3** provide information on the income level of households that would be displaced as a result of the Gaston East-West Connector. A review of these reports revealed that no disproportionate impacts to households with lower income levels would occur, as all DSAs impact a wide range of neighborhoods, from mobile home parks to high-end residential development.

The *Relocation Reports* also provide an estimate of minority relocations. The highest percentages of minorities would be relocated with DSAs 4, 5, and 9 (26-28 percent). The higher percentages for these DSAs can be attributed to Corridor Segments on the western end of the project, which pass through minority block groups around west Gastonia. DSAs 58, 64, 68, 76, 77, and 81 would displace the least number of minorities at approximately 8-10 percent.

All reasonable efforts have been made to include low-income and minority groups in the decision-making process to date. The project will not deny, reduce, or delay receipt of project benefits to low-income and minority groups. Impacts to low-income and/or minority populations resulting from implementing the Gaston East-West Connector as a toll facility are not anticipated to be “disproportionately high and adverse.”

**3.2.6 IMPACTS TO COMMUNITY RESOURCES AND SERVICES**

**3.2.6.1 Project Effects on Community Resources and Services**

Community resources and services include churches, cemeteries, schools, fire stations, libraries, community centers, hospitals, parks, and recreation areas. There are no hospitals within or adjacent to the DSAs.

**Churches and Cemeteries.** Table 3-8 shows the estimated impacts to churches and cemeteries. All of the DSAs (except for DSA 81) would result in an impact to at least one church and/or cemetery. DSAs 4, 5, and 23 would result in the most impacts. DSAs 27, 76, and 77 would have the least impacts to these facilities, after DSA 81. All applicable state and local regulations and requirements for relocating or mitigating the impact to cemeteries will be met.

**TABLE 3-8: Church and Cemetery Impacts**

Name and Location	DSA Segment	DSAs	Buildings Taken?	Acres (Taken%)	Notes
St. Titus AME Zion 437 Shannon Bradley Road, Gastonia	H2A/H2B H2A/H3	4, 5, 9, 22, 23, 27	No	1.4 (70)	Construction would not take main church building, but due to amount of right-of-way required, relocation of the church would be necessary.
Carolina Conf. Christian Meth. Episcopal Church, Inc. 937 Shannon Bradley Road, Gastonia	H2A	4, 5, 9, 22, 23, 27	Yes	17.6 (46)	Medium-size building in back of property would be impacted. Main church building would not be impacted.

**TABLE 3-8: Church and Cemetery Impacts**

Name and Location	DSA Segment	DSAs	Buildings Taken?	Acres (Taken%)	Notes
Pisgah Associate Reformed Presbyterian Church & Cemetery 3600 Linwood Road, Gastonia	H2C	22, 23, 27	Yes	72.6 (40)	Small auxiliary buildings and an athletic field would be impacted. Some impacts would occur to the church cemetery.
Charity Independent Baptist 2425 Hillmont Street, Gastonia	H3	4, 5, 9	Yes	8.9 (60)	Main church building would be impacted.
True Vine Church of God 5348 Lewis Road, Gastonia	H1C	58, 64, 68	Yes	11.29 (23)	Smaller of two main buildings would be impacted.
Union Presbyterian Church of Gastonia 5615 Union Road, Gastonia	J5a	4, 22, 58, 76	No	16.5 (11)	Right-of-way encroachment in parking lot (~1500 sq. ft.) and wooded area near road would be impacted.
Grace Wesleyan 6014 S New Hope Road, Gastonia	K1C	5, 23, 64, 77	No	21.2 (10)	Property from front and rear and possibly some parking would be impacted.
Gaston Christian 5339 New Hope Road, Gastonia	K2A	4, 22, 58, 76	Yes	4.6 (26)	Two of three buildings in complex (main church structure not within right of way) would be impacted.
Church of Christ Directly east of 6834 Dixie River Road, Charlotte	K4A	5, 23, 64, 77	No	0.2 (100)	Undeveloped property.
Glenn-Ragan Cemetery Union Road, southeast of Forestview High School, Gastonia	J5a	4, 22, 58, 76	n/a	Size unknown	Complete take of cemetery.
Mt. Pleasant Cemetery South side of Tucker Rd near Southpoint Road, Belmont	KX1	4, 22, 58, 76	No	2.1 (60)	Wooded area on south and east side of property would be impacted. Area of cemetery with gravestones would not be impacted.
Ramoth AME Zion Church and Cemetery 6800 Dixie River Road, Charlotte	K4A	5, 23, 64, 77	Yes	1.5 (100)	Complete take (including cemetery).

**Schools.** Two schools would have minor impacts from DSAs that include Corridor Segments H1A and J5a. DSAs 5, 9, 23, and 27 would not impact either school. Two schools would have minor impacts from DSAs that include Corridor Segments H1A and J5a.

Sadler Elementary School is located at 3940 West Franklin Boulevard (US 29-74). It is located just east of the preliminary engineering design alignment in Corridor Segment H1A (DSAs 58, 64, 68, 76, 77, and 81). A minor encroachment onto school property is anticipated with the improvements to US 29-74 needed around the proposed interchange. The impact would involve approximately 0.36 acres of land along US 29-74 (approximately 2 percent of the 21.2-acre parcel). However, normal use of the school and its access would not be impacted.

Forest Heights Elementary School is located at 2500 Sedgefield Drive. It is near Corridor Segment J5a; however, this segment would not require land from this property, nor would it directly impact any school buildings.

Forestview High School is located at 5545 Union Road. It is near Corridor Segment J5a (DSAs 4, 22, 58, and 76). DSAs that use this segment could require land from the southeast corner and the front of the Forestview High School property to construct the relocation of NC 274 (Union Road).

All access points to the school would remain. A maximum of approximately 20 parking spaces in the visitor lot in front of the school and approximately 20 parking spaces in the student lot south of the school could be impacted. Any encroachments onto the site can be minimized during final design if DSA 4, 22, 58, or 76 is selected as the Preferred Alternative. It appears likely that construction limits and right of way can be minimized during final design to avoid impacting the visitor parking lot. Impacts to the student lot also likely could be reduced substantially (less than approximately 10 impacted parking spaces).

As stated previously, the potential new middle/high school campus site (in K2A or K3A) has not been determined at this time. Therefore, impacts cannot be determined. The NCTA will continue to coordinate with Gaston County Schools to share information and aid in planning.

It is anticipated that no matter which DSA is selected as the Preferred Alternative, the project would temporarily impact school bus routes during construction, as well as result in modifications of existing routes and/or promote new bus routes. Once a Preferred Alternative is identified, the NCTA will coordinate with Gaston County Schools to minimize impacts to school bus routes.

**Fire Stations.** Fire stations within or near the DSAs include Crowders Mountain Central VFD (also referred to as Chapel Grove), located at 4416 Linwood Road in Gastonia (Station F1 on **Figure 3-7a**); Crowders Mountain #2 VFD and Rescue, located at 480 Bethany Road in Gastonia (Station F2 on **Figure 3-7a**); and Crowders Mountain South VFD, located at 4802 York Highway (US 321) in Gastonia (Station F3 on **Figure 3-7a**). Implementation of any of the DSAs would result in short-term impacts during construction. Such impacts could include re-routing of existing service routes. Maintenance of traffic along these routes will be important during construction. NCTA will coordinate with the fire stations located near the Preferred Alternative to ensure continuation of services during construction.

In addition, the preliminary engineering designs in Corridor Segment H1C (DSAs 58, 64, 68) could require a maximum of 0.64 acres of right of way from the front of the Crowders Mountain #2 VFD and Rescue along Bethany Road. A review of the construction limits show that it is unlikely that any impacts to parking or other uses on the site would occur. Any encroachments onto the site can be minimized during final design if DSA 58, 64, or 68 is selected as the Preferred Alternative.

**Libraries/Community Centers.** The existing Union Road Branch Library would not be impacted by any of the DSAs.

As discussed previously, the Dixie Community Center is an important forum that provides a location and opportunities for interaction among existing and former residents of the Garrison Road/Dixie River Road area. The construction of I-485 and expansion of Charlotte-Douglas International Airport in this area has split and reduced the extent of this neighborhood. The DSAs would further impact this community. None of the DSAs would displace the Dixie Community Center. However, as Corridor Segment K3C (DSAs 4, 9, 22, 27, 58, 68, 76, and 81) would be located approximately 150 feet east of the center, it could likely further affect community cohesion and interaction among persons/groups in this area by altering social relationships and patterns for these last remaining residents.

Corridor Segment K4A (DSAs 5, 23, 64, and 77) also would not result in displacement of the community center, but would potentially contribute to the perceived negative impact on quality of life, affect community cohesion by further isolating Garrison Road/Dixie River Road community

residents, and could encourage additional loss of population within this once tight-knit community.

**Parks and Recreation Areas.** Publicly and privately-owned facilities/areas are described in **Section 3.2.2.3.** Impacts to these resources are described below. The publicly-owned facilities are Crowders Mountain State Park, the Park at Forestview High School, and the future Berewick District Park. Future greenways planned for the area likely would be publicly owned. The remaining facilities listed below are privately owned.

*Crowders Mountain State Park.* None of the DSAs would directly impact Crowders Mountain State Park, a publicly-owned, natural, forested park that offers the public hiking and other nature-related activities. The nearest corridor is Corridor Segment H1A (DSAs 58, 64, 68, 76, 77, and 81), located approximately 1 mile (as the crow flies) from the top of Crowders Mountain. Potential indirect impacts related to visual effects are discussed in **Section 4.5.3.** Noise issues related to the park are discussed in **Section 4.1.5.2.** No noise impacts to the park are anticipated.

*Park at Forestview High School.* None of the DSAs would directly impact this public park owned by Gaston County.

*Future Berewick District Park.* All DSAs would involve a minor encroachment into the undeveloped parcels owned by Mecklenburg County designated as the future location of Berewick District Park. DSAs that use Corridor Segment K3C (DSAs 4, 9, 22, 27, 58, 68, 76, and 81) would acquire approximately 1.6 acres of this public park site west of and adjacent to I-485. DSAs that use Corridor Segment K4A (DSAs 5, 23, 64, and 77) would acquire approximately 3.3 acres (2.1 acres on the west of and adjacent to I-485, 0.6 acres from the northernmost parcel, and 0.6 acres on the southwest side of the property along Dixie River Road). These minor encroachments on the edges of the property owned by Mecklenburg County are not anticipated to impact access or any future uses.

Mecklenburg County Park and Recreation Department stated its belief that all DSAs would provide improved access to the future Berewick District Park, which would benefit the park. The Department did not believe that the proposed right of way needed from Mecklenburg County property for any of the DSAs would detract from the planned function and use of the site as a park. However, the Department would like to continue coordinating with NCTA to ensure that, for the Preferred Alternative, right of way and construction limits within the property boundaries are minimized as necessary to ensure that significant activities, features, and attributes of the proposed park are not adversely affected (Letters from Mecklenburg County Park and Recreation Department dated September 25, 2008 and December 5, 2008, **Appendix A-5**). Additional discussion about the future Berewick District Park as a Section 4(f) resource is included in **Section 5.4.3.1** (Section 4(f) Resources).

*Camp Rotary Girl Scout Camp.* The project is not expected to negatively affect this privately-owned camp. Access to this facility would be enhanced with an interchange at Linwood Road by any of the DSAs.

*Karyae Park.* The uses and functions of this privately-owned YMCA facility would be adversely impacted by DSAs (58, 64, 68, 76, 77, and 81) that include Corridor Segment H1A. Approximately 12 acres of the facility (27 percent of the 46.5-acre site) would be impacted, including impacts to the entrance, one-half of the building complex, a chapel, parking, a ball field, an alpine tower, and most of the courtyard.

Linwood Springs Golf Course. None of the DSAs would directly encroach on this privately-owned golf course. Under DSAs that use Corridor Segment H3 (DSAs 4, 5, and 9), access to the golf course entrance would change slightly with the construction of an interchange at Linwood Road, but would remain off of Linwood Road.

Carolina Speedway. Approximately 7.7 acres of the northern and western sides of this privately-owned speedway property would be impacted by DSAs that include Corridor Segment J1f (DSAs 5, 9, 23, 27, 64, 68, 77, and 81). Although no structures would be acquired, it appears there would be probable impacts to the parking area.

Daniel Stowe Botanical Garden. None of the DSAs are anticipated to negatively impact the privately-owned Daniel Stowe Botanical Garden (DSBG). All the DSAs pass to the north of DSBG. The nearest DSAs are those that use Corridor Segment K1C (DSAs 5, 23, 64, and 77). The mainline of these DSAs passes approximately one-quarter mile north of the northern boundary of DSBG, and each include an interchange with NC 279 (South New Hope Road) (**Figure 2-9bb**). The nearest interchange ramps are approximately 600 feet north of the northern boundary of DSBG.

Construction of the NC 279 (South New Hope Road) interchange in Corridor Segment K1C (DSAs 5, 23, 65, and 77) would require widening and realigning NC 279 (South New Hope Road). Near DSBG, these improvements would occur to the east, away from the DSBG property. However, there could be a minor right-of-way encroachment of approximately 0.6 acres required at the northeastern end of the DSBG property. The new right of way would encroach a maximum distance of approximately 45 feet into the DSBG property. Within the new right of way, the construction footprint would have an area of approximately 0.3 acres. It is likely that these encroachments could be minimized during final design, if DSA 5, 23, 64, or 77 is identified as the Preferred Alternative.

These minor encroachments would not impact the use and function of the DSBG property. Access to the truck entrance at the northern end of the property would be maintained.

In a letter dated May 19, 2003 (**Appendix A-3**), the DSBG Board of Directors stated its belief that the project, in concept, would improve access to the DSBG, and they also stated their support for the project. The DSBG Board of Directors reaffirmed their continued support of the project in a letter dated October 8, 2008 (**Appendix A-5**), stating:

...we [DSBG] would prefer the northern route of the Garden Parkway that crosses over New Hope Road. However, both routes would have a beneficial impact on the Garden, and we welcome development of the project in whatever form it may take.

Allen Fishing Access Area. None of the DSAs would directly impact this fishing area owned by Duke Energy Corporation. DSAs that include Corridor Segments K4A (DSAs 5, 23, 64, and 77) could indirectly impact the site. Impacts could include visual changes due to the bridge crossing over the Catawba River and possible short-term fishing disturbances during construction activities.

Duke Energy Corporation Recreational Fields. DSAs that include Corridor Segment K3B (DSAs 4, 9, 22, 27, 58, 68, 76, and 81) would impact the recreational ball fields owned by Duke Energy Corporation and leased by the Belmont Optimist Club. The recreational fields have a total area of approximately 4.9 acres. The preliminary engineering designs for Corridor Segment K3B would

impact the edge of the baseball field’s outfield and the north corner of the general recreational field. The current right-of-way limits require approximately 0.3 acres, while the construction limits impact approximately 0.1 acres. It may be possible to avoid or further minimize impacts to the recreational fields. Minimization measures will be investigated during final design if DSA 4, 9, 22, 27, 58, 76, or 81 is selected as the Preferred Alternative.

*Planned Greenways.* As seen in **Figure 3-8a-b**, both private groups (Carolina Thread Trail led by the Catawba Lands Conservancy) and public entities (GUAMPO) are planning a system of greenway trails in the area and/or region. Corridor Segments H1A, H2A, H3, H2B, H1B, H1C, HX2, J3, J2a, Jx1, J1b, J2b, and J4b have the potential to cross greenways that have yet to be constructed. Although both greenway plans are conceptual at this time, there is the potential for several greenway crossings along the DSAs, particularly west of US 321. During final design of the Preferred Alternative, NCTA will coordinate with these groups to identify needed accommodations for any existing and funded greenways that cross the Preferred Alternative.

**Table 3-9** shows the estimated impacts to publically- and privately-owned parks and recreation facility area. All of the DSAs would impact one or more of these facilities. DSAs 9, 68, and 81 would directly impact the most facilities (four each), while DSAs 22 and 23 would impact the least (two each). Impacts to the Dixie Community Center are discussed in the neighborhood section (**Section 3.2.4**) due to its importance within the Garrison Road/Dixie River Road community.

**TABLE 3-9: Parks and Recreational Facilities Impacts**

Name	Ownership	Address (County)	Segment (DSAs)	Buildings Taken?	Acres (Taken %)	Notes
Karyae Park (YMCA)	Private	4227 Linwood Road (Gaston)	<u>H1A</u> (58, 64, 68, 76, 77, 81)	Yes	46.5 (27)	Impacts to entrance, half of building complex, chapel, parking, ball field, alpine tower, and most of courtyard.
Linwood Springs Golf Course	Private	2900 Linwood Road (Gaston)	<u>H3</u> (4, 5, 9)	No	144.4 (0)	Access change.
Carolina Speedway	Private	6335 Union Road (Gaston)	<u>J1f</u> (5, 9, 23, 27, 64, 68, 77, 81)	No	28.8 (27)	Probable impacts to parking area.
Daniel Stowe Botanical Garden	Private	6500 South New Hope Road (Belmont)	<u>K1C</u> (5, 23, 64, 77)	No	450 (0.12)	Minor right-of-way encroachment at northeast corner. Likely can be minimized during final design.
Duke Energy Corporation Recreational Fields	Private	Boat Club Road (Gaston)	<u>K3B</u> (4, 9, 22, 27, 58, 68, 76, 81)	No	4.9 (9)	Impacts to one of two ball fields. Likely can be minimized during final design.
Berewick District Park	Public	Dixie River Road (Mecklenburg)	<u>K3C</u> (4, 9, 22, 27, 58, 68, 76, 81)	N/A	199.4 (1.6)	Undeveloped property. Impact on edges of property.
			<u>K4A</u> (5, 23, 64, 77)	N/A	199.4 (0.81)	Undeveloped property. Impact on edges of property.

### 3.2.6.2 Community Safety

**Emergency Response.** The Gaston East-West Connector would have a long-term positive impact on emergency response times within the Project Study Area. The project is likely to quicken some response times for services by decreasing travel times, and by providing improved east-west connectivity in southern Gaston County. There are not likely to be considerable differences among the DSAs with regard to response times.

**Pedestrian and Bicycle.** The proposed project does not include pedestrian and bicycle provisions since it is a controlled-access freeway.

As previously noted in **Section 3.2.2.3**, one of Gaston County's bicycle routes (Route 1: High Shoals – Crowders Mountain) runs east-west through the area along Linwood Road, and crosses Corridor Segments H1A, H2C and H3 (i.e., all of the DSAs). As such, the project may impede or block pedestrian and bicycle traffic desiring to travel from one side of the highway to the other, because travel over/under the roadway would only be possible at interchanges and grade-separated crossings. For established and planned bicycle routes and existing and funded greenways, NCTA will coordinate with the entities having jurisdiction over these facilities during the final design of the Preferred Alternative to provide appropriate and safe crossing of these facilities.

**Maintenance of Traffic During Construction.** Maintenance of traffic and sequencing of construction would be planned and scheduled in order to minimize traffic delays throughout the Project Study Area. Signs would be used (as appropriate) to provide notice of road closures and other pertinent information to the traveling public. The local news media would be notified in advance of road closings and other construction-related activities that could excessively inconvenience the public. Access to all businesses and residences would be maintained to the extent possible through controlled construction scheduling.

Truck traffic in the Project Study Area would increase during construction. If access to construction staging areas and the construction site requires temporary access roadways, a traffic plan will be developed during the final engineering design phase to define designated truck routes and parking areas for construction vehicles.

If there are places where pedestrian travel will be temporarily impeded by the work zone (in the case of an off-site traffic detour, for example) consideration must be given to whether or not a work zone pedestrian detour is necessary. This will be included as part of the traffic plan developed during final design of the Preferred Alternative.

**Fog.** Dense fog may occur at certain times of the year along the major rivers in the Project Study Area, including the Catawba River and the South Fork Catawba River. NCTA and NCDOT do not have a written policy regarding procedures for designing projects in fog-prone areas. Projects are studied on a case-by-case basis, typically after a project has been constructed. For example, NCDOT evaluated the conditions on the I-95 bridge over the Roanoke River near Roanoke Rapids. In this location, NCDOT installed a weather station to assess weather conditions, such as fog, and to prompt a variable message sign warning travelers of thick fog and limited visibility. Additional devices used to enhance safety in fog-prone areas can include reflective pavement markers and lighting. In accordance with NCDOT normal operating procedures, fog-related safety issues will be evaluated on a case-by-case basis after construction, and measures installed where warranted.

3.2.6.3 Summary of Impacts to Community Resources

**Impacts.** Tables 3-8 and 3-9 provide details on the type and/or amount of project impacts. Table 3-10 summarizes impacts to community resources. Based upon the summary provided in Table 3-10:

- DSAs 27 and 81 would have the least total impacts on community facilities. However, DSA 81 would not impact any churches, while DSA 27 would impact three churches.
- DSAs 4, 5, 58, and 64 would have the highest total number of community facilities impacted.
- All DSAs would require a minor amount of property from the edges of the property owned by Mecklenburg County planned for the future Berewick District Park, but would not affect the use of the park (Letters dated September 25, 2008 and December 5, 2008 from Mecklenburg County Park and Recreation Department in Appendix A-5).
- DSAs 5, 9, 64, 68, 77, and 81 would have the most impacts on recreational facilities. However, most impacts to recreational facilities are anticipated to be minor property encroachments that would not affect the uses of the sites, with the exception of impacts to Karyae Park. DSAs 58, 64, 68, 76, 77, and 81 would adversely affect this site.

TABLE 3-10: Summary of Impacts to Community Resources

DSA	Churches		Cemeteries <sup>1</sup>	Schools <sup>2</sup>	Fire Stations <sup>3</sup>	Parks & Recreational Facilities <sup>4</sup>	Total Impacts to Community Facilities
	# of Churches with Impacts to Main Buildings	Impact to Property and/or Outbuildings Only					
4	2	3	1	1	0	3 <sup>a,c,e</sup>	10
5	3	3	1	0	0	4 <sup>a,c,d,f</sup>	10
9	2	1	0	0	0	4 <sup>a,c,d,e</sup>	7
22	1	4	1	1	0	2 <sup>a,e</sup>	9
23	2	4	1	0	0	3 <sup>a,d,f</sup>	9
27	1	2	0	0	0	3 <sup>a,d,e</sup>	6
58	1	2	1	2	1	3 <sup>a,b,e</sup>	10
64	2	2	1	1	1	4 <sup>a,b,d,f</sup>	10
68	1	0	0	1	1	4 <sup>a,b,d,e</sup>	7
76	0	2	1	2	0	3 <sup>a,b,e</sup>	8
77	1	2	1	1	0	4 <sup>a,b,d,f</sup>	8
81	0	0	0	1	0	4 <sup>a,b,d,e</sup>	5

1. The cemeteries included are those that would require relocation.
2. DSAs 4, 22, 58, and 76 encroach on Forestview High School property fringe and some parking areas. DSAs 58, 64, 68, 76, 77 and 81 encroach on Sadler Elementary School property with no impact on school use or access.
3. Encroachment on property of Crowders Mountain South VFD. Use of site not affected.
4. a. – Future Berewick District Park, publicly-owned, public access - Minor right-of-way encroachment not affecting use and function.  
 b. – Karyae YMCA Facility, privately-owned - Impacts to several buildings and courtyard.  
 c. – Linwood Springs Golf Course, privately-owned - Access change only.  
 d. – Carolina Speedway, privately-owned - Right-of-way encroachment and probable impacts to parking area.  
 e. – Duke Energy Corporation recreational fields, privately-owned - Right-of-way encroachment at northern boundary of fields.  
 f. – Daniel Stowe Botanical Garden (DSBG), privately-owned - Minor right-of-way encroachment not affecting use and function.