

# Final

## COMMUNITY IMPACT ASSESSMENT

For

### ADMINISTRATIVE ACTION ENVIRONMENTAL IMPACT STATEMENT

**Monroe Connector/Bypass  
Union and Mecklenburg Counties**

STIP Project Nos. R-3329 and R-2559

Prepared for:



**North Carolina Turnpike Authority  
5400 Glenwood Avenue, Suite 400  
Raleigh, NC 27612**

Prepared by:



**5200 77 Center Dr, STE 500  
Charlotte, NC 28217**

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## EXECUTIVE SUMMARY

The purpose of the Community Impact Assessment (CIA) is to evaluate the effects of State Transportation Improvement Program (STIP) Project Number R-3329 and R-2559 on the surrounding communities and their respective quality of life. The CIA assesses potential direct impacts on several aspects of the human environment, including:

- Social
- Physical
- Land use
- Visual
- Economic issues
- Mobility/access
- Displacements

The Monroe Connector/Bypass is designated as Projects R-3329 (Monroe Connector) and R-2559 (Monroe Bypass) in the North Carolina Department of Transportation (NCDOT)'s *2009-2015 State Transportation Improvement Program* (STIP). **Figure 1** shows the general project location.

The purpose of the project is to improve mobility and capacity within the project study area by providing a facility in the US 74 corridor between I-485 in Mecklenburg County and the Town of Marshville in Union County that allows for high-speed regional travel consistent with the designations of the North Carolina Strategic Highway Corridor and the North Carolina Intrastate System, while maintaining access to properties along existing US 74.

US 74 is the primary transportation connection between Union County, the fastest growing county in North Carolina, and Mecklenburg County/City of Charlotte, the economic hub of the region. Union County is the only county surrounding Mecklenburg County that does not have a controlled-access facility connecting it to Mecklenburg County. The proposed project would be a controlled-access toll facility on new alignment.

As shown in **Figures 2a-c**, there are sixteen new location Detailed Study Alternatives (DSAs) under consideration. The corridor segments comprising these sixteen DSAs are shown in **Figures 2b and 2c**. Generally, there are two corridor options in any one area. Combinations of these options add up to the sixteen DSAs.

### KEY COMMUNITY CHARACTERISTICS (DEMOGRAPHIC)

- The DA experienced population growth between 1990 and 2000, as shown in **Figure 5**. Mecklenburg and Union Counties grew (36.0 and 46.9 percent, respectively) at a rate higher than that of the State (21.4 percent). The largest percent increases in population generally occurred in and around the communities of Stallings and Indian Trail at the western side of Union County, and near Matthews within Mecklenburg County. Approximately 90 percent of the Block Groups within Union County experienced population growth. The areas having smaller growth increases are located within and around Monroe and Wingate.

- Block Groups with Black populations that are high in comparison to county percentages are generally located throughout Monroe and west of Wingate, as shown in **Figure 6a**. The highest concentration of Black or African-American populations in the DA occurs in Census Tract 204.02 Block Group 1 (71.0 percent) and adjacent Census Tract 207 Block Group 3 (46.0 percent) and Census Tract 208 Block Group 4 (45.8 percent). In comparison, the population of Mecklenburg County is 28 percent African American while the population of Union County is thirteen percent African American.
- The highest concentrations of Hispanic/Latino population occur in Monroe, as shown in **Figure 6b**. Census Tract 204.02 Block Group 2 (46.5 percent) located within Monroe, near US 601 and south of US 74 has the highest Hispanic/Latino population. Two nearby block groups also have high Hispanic/Latino populations, Census Tract 206 Block Group 2 (41.2 percent) and Census Tract 205 Block Group 2 (35.5 percent). In comparison, the populations of Mecklenburg County and Union County are both six percent Hispanic/Latino.
- Block groups that have relatively high percentages of low-income populations are concentrated in and around Monroe, especially east of NC 200, as shown in **Figure 7**.

## **KEY COMMUNITY CHARACTERISTICS (LAND USE/GROWTH TRENDS)**

- The DSAs are located within two towns in Mecklenburg County (Matthews, Mint Hill) and eight municipalities in Union County (Hemby Bridge, Lake Park, Stallings, Indian Trail, Monroe, Unionville, Wingate, and Marshville).

The Town of Matthews covers 17.18 square miles and is comprised of mainly low-density single-family housing with a population of approximately 25,000 people.

Mint Hill is also a low-density community with a population of approximately 18,000 persons.

Hemby Bridge is a rural town with a sparse population of 847 people and a land area of 1.4 miles.

Lake Park is predominantly residential and is sparsely populated with 2,444 people.

The Town of Stallings has a current population of 8,382 people and 400 businesses.

The current population of Indian Trail is approximately 15,610 with several business and industrial parks under way or planned.

Monroe, with a population of 30,392 is the county seat of Union County. Monroe has a diverse mix of industries that include: aviation, transportation, service, retail and government.

Unionville encompasses about 15,000 acres with a population of approximately 6,053 people.

Wingate consists of low density development with a population of 2,728 people. The Town is home to Wingate University, which has an enrollment at just over 2000 students.

The Town of Marshville is located east of Wingate at the eastern terminus of the project and is sparsely developed with a population of 3,094 people.

- Generally, the area within and surrounding the Direct Community Impact Area (DCIA) in Union County has residential uses concentrated in Indian Trail, Stallings, Hemby Bridge, and Lake Park. Land uses along existing US 74 between I-485 and Marshville chiefly include commercial and industrial businesses. Commercial and industrial uses are also concentrated around the Monroe Regional Airport (off of Old Charlotte Highway).
- Generally, the unincorporated area east of US 601 is undeveloped, and contains scattered residential and institutional uses throughout the area. The eastern part of the DCIA and county overall has active agricultural uses.
- Local officials representing the communities along the project corridor are very supportive of growth, but they are concerned with existing infrastructure limitations, specifically the lack of water and wastewater treatment capacity in Union County. They are working on solutions to provide additional capacity for both existing demand and future development. The Towns of Wingate and Marshville are working with Partnership through Progress, a non-profit economic development agency, to seek out opportunities for their communities.
- Monroe, Stallings, and Indian Trail have all expressed a strong desire to increase their commercial and employment base, stating that there is considerable residential development in place. Matthews and Mint Hill are mostly built out and are conscious of maintaining the integrity of their existing uses while providing opportunity for amenities for the residents of their communities, such as parks and retail.
- Community resources located within the DA are shown in **Figures 8a-c**. These resources provide basic needs and services to communities and neighborhoods in the area. Community resources inventoried for the DA include educational facilities, post offices, churches and cemeteries, parks and recreational facilities, medical facilities, public safety facilities, bike and pedestrian routes, and transit routes.

## **IMPACT ASSESSMENT METHOD AND CRITERIA**

- In accordance with the NCDOT method for CIA, a DCIA was defined to identify the area with the most potential for project-induced community-related effects. **Figures 4a-c** shows the DCIA. Generally, the DCIA boundary was drawn considering such factors as whether a neighborhood would have relocations or property acquisition as a result of the project, or whether an area would experience major changes in access, such as a new service road connection, closing of a street, etc. In most cases, if a portion of a neighborhood would be impacted, the entire neighborhood was included in the DCIA.
- A transportation improvement can have an effect on the social environment at a broad scale (i.e. regional level) as well as bring localized changes to communities. **Section 3** begins with a summary of social impacts at a broad level, such as impacts to the transportation network, economic impacts, and land use impacts. Since the project has considerable potential to directly impact existing communities, probable impacts have been determined at the neighborhood level. Impacts to neighborhoods/communities, including community facilities impacts, neighborhood impacts and relocations/displacements, are based on functional engineering designs within the DSAs (August 2008) and are discussed in **Section 3**.

## **ESTIMATED IMPACTS (VISUAL/AESTHETIC)**

- There are no unique manmade or natural features with significant aesthetic value that exist in the vicinity of the DSAs. All of the DSAs have the potential to offer visually pleasing views from the proposed roadway. Conversely, the DSAs have the potential to detract from existing views of rural and natural areas enjoyed by residents adjacent to the proposed roadway. Groups that may experience negative visual impacts include those with a view of the roadway, such as users of adjacent property (residents, employees, recreational users, etc.).
- Portions of the DSAs, especially around Hemby Bridge, Wingate and the proposed interchanges at US 601 and NC 200, run through or very near existing residential developments and could have a range of visual impacts on residents. The degree of visual impact may be minimized in some areas by natural changes in elevation (especially in the western portion of the study area) and wooded areas that would shield the roadway from adjacent properties.
- If a DSA that includes Corridor Segment 2 (DSAs C,D, C1, D1, C2, D2, C3, D3) is selected as the Preferred Alternative, unique visual impacts could occur because of the approximately one mile of elevated roadway that would run along the existing US 74 alignment, from just east of I-485 to just east of Stallings Road. Aesthetic treatments to this elevated roadway would be identified and coordinated with local municipalities to minimize any visual impacts through this primarily commercial area.
- Overall, the Monroe Connector/Bypass would diminish the rural, pastoral environment that is found in most of the area that the DSAs pass through. This is particularly likely to happen in the less developed areas, such as the area east of US 601. Generally, DSAs that would have the least visual impacts are those that are farther from existing development and DSAs that would have the most visual impacts are those that pass through or adjacent to existing development. Overall, visual changes would be intermittent, with some residents subjected to a view of the roadway, and other shielded from the roadway by topography and vegetation. Some areas affected by the DSAs are urban or industrial and generally not scenic, so the degree of visual impact would be less. These areas are mostly found along existing US 74, near I-485, and along some of the major roads that would be served by interchanges.
- Overall, the DSAs that have a higher number of neighborhoods exposed to the roadway (i.e. impact a greater number of neighborhoods with residential relocations) are expected to have a greater amount of visual impacts. All of the DSAs have similar numbers and types of relocation impacts to neighborhoods. As such, visual impacts as a result of the project are not expected to vary significantly by DSA.

## **ESTIMATED IMPACTS (TRANSPORTATION NETWORK)**

- The project should enhance mobility and connectivity within Mecklenburg and Union counties, and in the US 74 corridor overall.
- The proposed project would improve overall mobility and accessibility in the US 74 corridor by providing an additional transportation corridor between I-485 and US 74 near Marshville. The project would subsequently reduce traffic volumes on existing US 74 and the local street

network, and provide a high-speed regional facility to promote east-west travel in Union County. The proposed project would provide direct access between eastern Union County and I-485 and the Charlotte-Mecklenburg urban area employment center, as well as provide improved connectivity between Charlotte and the port in Wilmington.

- STIP Project R-3329/R-2559 could have a potentially positive impact to public transportation services by providing more opportunity for regional east-west transit routes. Enhancement of public transportation could be in the form of additional express bus service between Union and Mecklenburg Counties.

## ESTIMATED IMPACTS (ECONOMIC, COMMUNITY SAFETY, LAND USE, FARMLAND)

- The Monroe Connector/Bypass project does not serve a specific economic development purpose, but local planners believe that the project is vital to the economic well-being of Union County. Furthermore, local planners believe the project would benefit them in their goal to actively seek to attract commercial and industrial growth to boost the local tax base.

- Business relocations are concentrated along US 74 (associated with Corridor Segment 2). As shown in **Table ES-1**, the highest number of business relocations would occur with DSAs C2, D2, C3 and D3, which would each relocate 46 businesses. The lowest number of business relocations would occur with DSAs A, B, A1 and B1 which would each relocate 14 businesses.

**TABLE ES-1: SUMMARY OF RELOCATIONS**

DSA	Residential Relocations	Business Relocations
A	94	14
B	97	14
C	104	45
D	107	45
A1	112	14
B1	115	14
C1	122	45
D1	125	45
A2	118	15
B2	121	15
C2	128	46
D2	131	46
A3	136	15
B3	139	15
C3	146	46
D3	149	46

- Segment 2 alone includes 41 business relocations, which impact a total of 328 employees. Six of the businesses to be relocated in this segment each employ 20 or more people. This segment includes the area around US 74 and makes up a portion of eight of the sixteen DSAs (C, D, C1, D1, C2, D2, C3, and D3).

- None of the impacted businesses represent a unique type of business in the area. Accordingly, temporary disruption in their services during relocation is not anticipated to create any severe hardship to patrons in the area, as the reports note that business services will remain available.

- The project would have a long-term positive impact on emergency response times in the DCIA. The project is likely to quicken some response times for services by decreasing travel times within as well as outside of the DCIA, and by providing improved east-west mobility in the area. There are not likely considerable differences among the DSAs with regard to response times. None of the DSAs would impact police stations or fire stations.

- The proposed project does not include pedestrian and bicycle amenities since it would be a controlled-access toll facility. None of the DSAs are anticipated to affect the overall safety of non-motorist access to businesses, public services, schools, and other facilities in consideration of general pedestrian and bicycle access and safety within the DCIA, as there are no existing or planned bicycle routes.
- Implementation of DSAs A, B, A1, B1, A2, B2, A3, or B3 would result in a minimal direct impact to the Central Piedmont Community College property within the southeast quadrant of the existing I-485/US 74 interchange to accommodate improvements to that interchange. In addition, for all DSAs, CPCC Lane (SR 3453), which provides access to the campus from US 74, would be closed to allow for control of access within the vicinity of the I-485 interchange. New access would be provided from US 74 via the proposed McKee Road.
- The newly constructed Stallings Elementary School is located at 3501 Stallings Road, just north of the functional design alignment in Corridor Segment 18A (DSAs A, B, A1, B1, A2, B2, A3, and B3). There would be no direct impacts to the school property, although traffic patterns would be changed around the proposed interchange with Stallings Road (SR 1365). Throughout the project development process, numerous citizens have expressed a safety concern for students, including air quality concerns and overall safety as a result of the project's proximity to the new school. Coordination and communication with Union County Public Schools has been ongoing throughout the project development process and NCTA will continue to coordinate with the school system and the Town of Stallings to determine the safest and most efficient traffic patterns for the Stallings Elementary School campus.
- It is anticipated that the project, no matter which DSA is selected as the Preferred Alternative, will temporarily impact school bus routes during construction, as well as result in modifications of existing routes and/or require new bus routes. Once a Preferred Alternative is identified, the NCTA will coordinate/initiate discussions with Union and Mecklenburg County Schools regarding minimizing impacts to school bus routes.
- The project will introduce a suburban element into what is generally a rural environment.
- The project is part of the Mecklenburg-Union Metropolitan Planning Organization *2030 Long Range Transportation Plan*. It is referenced in the following land use plans or ordinances: *Matthews Land Use Plan, A Guide for Growth 2002-2012* (October 2002); *Mint Hill's 2000 Land Use Plan* (June 2000); the *Transportation Analysis and Strategies* section of the Union County Comprehensive Plan Update (September 2008); and *Villages of Indian Trail – A Plan for Managed Growth and Livability* (November 2005).

The project is *not* referenced in the following land use plans or ordinances: *Mint Hill Comprehensive Transportation Plan* (May 2008); *Stallings Land Use Plan* (April 2006); and *Town of Marshville Land Use Plan* (August 2004).

The Town of Hemby Bridge, the Village of Lake Park, the Town of Wingate, and the Town of Unionville do not have current land use plans.

- All proposed DSAs would involve the use of prime, statewide, and locally important farmland, and other existing agricultural lands. None of the DSAs involve lands within the voluntary agricultural districts.

- Indirect and cumulative effects and changes in land use as a result of the project will be further evaluated in the Indirect and Cumulative Effects Assessment.

## **ESTIMATED IMPACTS (COMMUNITY SERVICES AND FACILITIES)**

- Up to five churches may be impacted by the DSAs. There are no impacts to churches associated with Corridor Segments 2, 21, 30, 34A, 34B, 36A, 36B, 40, and 41. However, all of the DSAs would impact Benton Heights Presbyterian Church and Trinity Baptist Church (Corridor Segment 31). Impacts to these two churches are anticipated to be minimal, and include minor right-of-way encroachments, minor parking impacts, and access changes.
- Forest Hills Baptist Church would be most impacted with Corridor Segment 22A (DSAs A, C, A1, C1, A2, C2, A3, and C3). The DSAs would result in a loss of about half of the parking and of access to both entrances of the church property.
- The DSAs that use Corridor Segment 18A (DSAs A, B, A1, B1, A2, B2, A3, and B3) would involve a minor encroachment into the undeveloped parcels owned by Mecklenburg County and designated for a future recreational/sportsplex use. The DSAs that use Corridor Segments 18A would acquire 2.25 acres on the southwest corner of the property, adjacent to the I-485/US 74 interchange. These minor encroachments on the edges of the parcel are not anticipated to impact access or any future uses. County staff does not perceive the proposed encroachment as a substantial impact. They did note that they typically prefer to maintain a 100-foot setback from major facilities and may be interested in additional landscaping to assist in shielding the view of US 74/I-485. MCPR would like to continue coordinating with the NCTA to ensure that, for the Preferred Alternative, right-of-way and construction limits within property boundaries are minimized to the extent feasible.

## **ESTIMATED IMPACTS (RELOCATION/DISPLACEMENTS, NEIGHBORHOOD IMPACTS, ENVIRONMENTAL JUSTICE, COMMUNITY COHESION)**

- The total number of residential relocations estimated for each DSA ranges from 94 residences (DSA A) to 149 residences (DSA D3) (**Table ES-1**). All of the DSAs would include three farm relocations.
- The total numbers of neighborhood impacts are the same for each DSA. Eleven neighborhoods would be impacted by each of the DSAs. The majority of these impacts would involve category B impacts (right-of-way encroachment and/or change in access type of impacts). For each DSA, two neighborhoods would require Category D impacts (relocation of homes in the midst of a neighborhood). None of the DSAs would result in total displacement of a neighborhood. Generally, more impacts to neighborhoods would occur in the western portion of the project between Stallings and Indian Trail. This area is generally more densely developed and suburban in nature.
- The *Relocation Reports* provide an estimate of minority relocations. Overall, the DSAs would relocate a low percentage of minorities. The highest percentages of minorities would be relocated with DSAs C1, D1, C3, and D3 (between 3 and 4 percent). DSAs A, B, A2, and B2 would not result in any minority relocations. The *Relocation Reports* also provide information

on the income level of households that would be displaced as a result of STIP R-3329/R-2559. 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.

- 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 the edge.
- DSAs that result in 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. Neighborhoods with displacement impacts in the midst are more likely to feel isolated and perceive that their quality of life is negatively impacted by the project. All of the DSAs would have minor community cohesion issues. In addition, all of the DSAs would have about the same effect on community cohesion. Specifically, all of the DSAs would have negative impacts on the Acorn Woods (Segments 2 and 18A) and Poplin Farms (Segments 22A and 30) neighborhoods.
- All of the DSAs would result in access changes to existing neighborhoods, including notable changes in travel patterns to and from neighborhoods. All of the DSAs would result in access changes to the Acorn Woods and Windward Oaks neighborhoods. The Forest Park neighborhood would experience access changes with DSAs C, D, C1, D1, C2, D2, C3, and D3.
- Acorn Woods – The current functional engineering designs for the DSAs include bridging Beverly Drive over the Monroe Connector/Bypass. Bridging of Beverly Drive over the project would maintain existing access to the Acorn Woods neighborhood. The bridging option would remove access for several residents along Beverly Drive north and south of the Monroe Connector/Bypass. Should the bridging option decision not be carried through, residences along Beverly Drive would keep their existing access, and there would be no available access of Beverly Drive across the Monroe Connector/Bypass (i.e. possible cul-de-sac) for Acorn Woods residents. Approximately 43 homes in the Acorn Woods neighborhood would experience a change in access under any of the DSAs, in addition to the homes that would be purchased for right of way.
- Windward Oaks – Existing access to this neighborhood is provided via McIntyre Road. Corridor Segments 34 and 36 would not provide access over the Monroe Connector/Bypass. The functional engineering designs for the DSAs include a cul-de-sac of McIntyre Road on both sides of the Connector/Bypass. This will require neighborhood residents to use Austin Chaney Road, then Monroe Ansonville Road, and then McIntyre Road to enter their neighborhood from the south. All 146 homes in the Windward Oaks neighborhood would experience a change in access under any of the DSAs.
- Forest Park – Existing access to this neighborhood is provided via Forest Park Road off US 74. This connection would be removed under Corridor Segment 2 and Forest Park Road would then be given a new connection to Stallings Road. Union West Boulevard would be severed and cul-de-saced under Corridor Segment 2, and this would limit access to Forest Park. Oak Spring Road also would be severed and cul-de-saced under Corridor Segment 2. This road runs between Forest Park and Fairhaven and currently ends in a “T” intersection in front of Next Level Church. Only DSAs C, D, C1, D1, C2, D2, C3, and D3 would result in

changes in access to the Forest Park neighborhood. Approximately 215 homes in the Forest Park neighborhood would experience a change in access under these DSAs, in addition to the homes that would be purchased for right of way.

- With the exception of areas near existing US 74 and I-485, most of the Project Study Area 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.
- In areas where significant noise impacts were predicted to occur, preliminary reasonable and feasible noise mitigation measures were developed for the DSAs in accordance with FHWA and NCDOT noise abatement criteria. Three locations along the DSAs were recommended to have noise barriers to reduce noise levels.

## CONCLUSIONS

- All DSAs would have a negative impact to existing neighborhoods. Impacts range from minor right-of-way encroachments on neighborhood properties to acquisition of portions of neighborhoods.
- All of the DSAs would result in access changes to existing neighborhoods, including notable changes in travel patterns to and from some neighborhoods.
- Overall, the DSAs would relocate a low percentage of minorities. Impacts to low-income and/or minority populations resulting from implementing the Monroe Connector/Bypass as a toll facility are not anticipated to be “disproportionately high and adverse”.
- The project would provide opportunities for aesthetically pleasing views from the highway, but could also detract from the existing views of rural areas from adjacent properties.
- Up to five churches would be impacted by the DSAs. All of the DSAs would impact Benton Heights Presbyterian Church and Trinity Baptist Church (Corridor Segment 31). However, these impacts are anticipated to be minimal and limited to parking areas.
- CPCC would have minor encroachment impacts from DSAs that include Segment 18A (DSAs A, B, A1, B1, A2, B2, A3, and B3).
- The DSAs that use Corridor Segment 18A (DSAs A, B, A1, B1, A2, B2, A3, and B3) would involve a minor encroachment into the undeveloped parcels owned by Mecklenburg County that are designated for the future Matthews Sportsplex, located southwest of the existing US 74/I-485 interchange. The DSAs that use Corridor Segment 18A would acquire 2.25 acres adjacent to the I-485/US 74 interchange. These minor encroachments on the edges of the parcel are not anticipated to impact access or any future uses.
- All of the DSAs would subject neighborhoods adjacent to the Monroe Connector/Bypass to an increase in noise levels.

- Temporary impacts associated with construction and operation of the proposed project are anticipated for adjacent neighborhoods and businesses. These effects may include changes in traffic patterns to community services/facilities through temporary detours, changes in access points, and increases in noise. The disruptions will be mitigated with the development of traffic control plans for the duration of construction. These plans will be developed in coordination with affected communities and businesses.

**Table ES-2** summarizes impacts to community resources.

**TABLE ES-2: SUMMARY OF IMPACTS TO COMMUNITY RESOURCES**

DSA	Churches <sup>1</sup>	Cemeteries	Schools <sup>2</sup>	Fire Stations	Parks & Recreational Facilities <sup>3</sup>	Total Impacts to Community Facilities
A	5 <sup>a-e</sup>	0	1	0	1	7
B	4 <sup>a,c,d,e</sup>	0	1	0	1	6
C	4 <sup>a,c,d,e</sup>	0	0	0	0	4
D	3 <sup>c,d,e</sup>	0	0	0	0	3
A1	5 <sup>a-e</sup>	0	1	0	1	7
B1	4 <sup>a,c,d,e</sup>	0	1	0	1	6
C1	4 <sup>a,c,d,e</sup>	0	0	0	0	4
D1	3 <sup>c,d,e</sup>	0	0	0	0	3
A2	5 <sup>a-e</sup>	0	1	0	1	7
B2	4 <sup>a,c,d,e</sup>	0	1	0	1	6
C2	4 <sup>a,c,d,e</sup>	0	0	0	0	4
D2	3 <sup>c,d,e</sup>	0	0	0	0	3
A3	5 <sup>a-e</sup>	0	1	0	1	7
B3	4 <sup>a,c,d,e</sup>	0	1	0	1	6
C3	4 <sup>a,c,d,e</sup>	0	0	0	0	4
D3	3 <sup>c,d,e</sup>	0	0	0	0	3

- 1) a. – Next Level Church – Frontage from property and realigning access (Stevens Mill Road)  
b. – Forest Hills Baptist Church – Impacts to about half of parking and both entrances  
c. – Benton Heights Presbyterian Church – Encroachment (US 601) and impacts to both entrances and about one-tenth of parking  
d. – Trinity Baptist Church – Frontage from property and impacts to both entrances. Minimal parking impacts  
e. – Morgan Mill Road Baptist Church – Frontage from property and impacts to both entrances
- 2) DSAs A, B, A1, B1, A2, B2, A3, and B3 encroach on CPCC property fringe with no impact on school use or access.
- 3) Proposed Matthews Sportsplex – minor right-of-way encroachment not affecting use and function.

Based on the summary provided in **Table ES-2**:

- DSAs D, D1, D2, and D3 would have the least impacts to community facilities in the DCIA. These DSAs would each have minor impacts to three churches, but would not impact any other community facilities.
- DSAs A, A1, A2, and A3 would have the highest total number of community facilities impacted. These DSAs would impact five churches, CPCC, and the proposed Matthews Sportsplex, although all of these impacts are considered minor.

- The DSAs would not significantly affect community resources within the DCIA, as no relocations would be necessary for any community resources.
- The DCIA includes three 303(d)-listed streams (North Fork Crooked Creek, South Fork Crooked Creek, and Richardson Creek) and one water supply watershed (Lake Twitty). The DCIA does not include any Section 4(f) or 6(f) resources, high-quality waters, outstanding water resources, trout streams, or Class SA waters.

## RECOMMENDATIONS

- Once a Preferred Alternative is selected, the NCTA should consider additional mitigation measures for community impacts, based on final designs and comment/input from affected communities. Mitigation options for lessening neighborhood impacts were incorporated into the functional engineering designs, where practicable.
- The aesthetic quality of the proposed project areas could be enhanced by the following measures, which can be considered during final design:
  1. Implementation of a roadside landscaping plan.
  2. Structural design (such as drainage structures and bridges) consideration to enhance visual appearance.
  3. Bifurcated roadways (opposing lanes of roadways on different grades) to blend better with existing topographical features.
  4. Natural earth berms for mitigation of noise and visual impacts where space permits.
- Project Coordination should commence between the Town of Stallings and the NCTA if a DSA that uses Corridor Segment 2 (DSAs C, D, C1, D1, C2, D2, C3, D3) is selected as the Preferred Alternative in order to identify possible aesthetic treatments to the elevated roadway that would run along existing US 74 for approximately one mile from just east of I-485 to just east of Stallings Road.
- Project coordination should continue between Union County Schools, the Town of Stallings, and the NCTA if a DSA that uses Corridor Segment 18A is selected (DSA A, B, A1, B1, A2, B2, A3, or B3) as the Preferred Alternative in order to determine the safest and most efficient traffic patterns for the Stallings Elementary School campus.
- Since municipalities are generally encouraging and/or have adopted master plans that address interest and need for pedestrian and bicycle provisions, the NCTA should coordinate with local jurisdictions to accommodate sidewalks where appropriate and feasible.
- As all DSAs would temporarily impact school bus routes during construction and result in modifications of existing routes and/or require new bus routes, the NCTA should coordinate with Union and Mecklenburg County Schools regarding impacts to school bus routes once a Preferred Alternative is identified.

- In the future, the NCTA should coordinate/initiate discussions with public safety departments to ensure response times are maintained during project construction.
- To avoid disruptions in utility service and delivery, the NCTA should coordinate any required relocation of utility lines with the utility providers, prior to construction.

# 1 INTRODUCTION

## 1.1. CIA Purpose

The National Environmental Policy Act (NEPA) requires agencies to consider how their actions may impact the human environment. The North Carolina Turnpike Authority (NCTA), in cooperation with the Federal Highway Administration (FHWA) and the North Carolina Department of Transportation (NCDOT), proposes to make improvements to the approximately 20-mile segment of the US 74 corridor from near I-485 in Mecklenburg County to the area between the towns of Wingate and Marshville in Union County. The proposed action is included in the NCDOT's 2009-2015 State Transportation Improvement Program (STIP) as Projects R-3329 (Monroe Connector) and R-2559 (Monroe Bypass).

The purpose of this Community Impact Assessment (CIA) is to evaluate the effects of the proposed Monroe Connector/Bypass project (STIP Projects R-3329 and R-2559) on the surrounding community and its quality of life. The CIA assesses potential impacts on several aspects of the human environment, including:

- Social
- Physical
- Land-use
- Visual
- Economic issues
- Mobility/access
- Displacements

Another component of the CIA is to identify and assess the potential for the project to have disproportionately high adverse effects on environmental justice populations. Environmental justice populations are populations of minority and/or low-income people. These populations have, in the past, been underserved in the decision-making process.

## 1.2. Project Description and Background

### 1.2.1. *Project Purpose and Need*

The purpose of the project is to improve mobility and capacity within the project study area by providing a facility in the US 74 corridor that allows for high-speed, regional travel consistent with the designations of the North Carolina Strategic Highway Corridor Program and the North Carolina Intrastate System, while maintaining access to properties along existing US 74. The proposed project would be a new location controlled-access toll facility in the US 74 corridor from near I-485 in Mecklenburg County to between the towns of Wingate and Marshville in Union County. **Figure 1** shows the general project location.

US 74 in the Project Study Area has statewide, regional and local importance. US 74 is the major east-west route connecting the Charlotte region, a major population center and freight

distribution point, to the North Carolina coast and the seaport at Wilmington (the State's largest seaport). **Figure 1** shows US 74 in relation to central North Carolina, the Piedmont Region.

US 74 is the primary arterial between Union County, the fastest growing county in North Carolina, and Mecklenburg County/City of Charlotte, the economic hub of the region. **Figure 1** shows the project location in relation to Union and Mecklenburg Counties. Union County is the only county adjacent to Mecklenburg County that does not have a controlled-access facility connecting it to Mecklenburg County. This limits efficient connectivity from the seaport to the urbanized metro area of Charlotte.

US 74 also serves as an important commercial corridor for Union County residents and businesses with many retail, commercial, and employment centers having direct access to/from US 74. In Union County, most employment is concentrated in the City of Monroe or along existing US 74.

There are two closely related needs in this 20-mile section of the US 74 corridor:

- **Existing and Projected Roadway Capacity Deficiencies:**

The existing US 74 lacks sufficient capacity to handle existing and projected traffic volumes. There is a need to provide increased roadway capacity to accommodate existing and projected traffic volumes in this corridor.

- **Inability to Serve High-Speed Regional Travel Consistent with the Designations and Goals of State and Local Transportation Plans:**

The existing US 74 does not have the capacity or the design features necessary to provide for high-speed regional travel in a manner consistent with the designation of this corridor as a North Carolina Strategic Highway Corridor and as part of the North Carolina Intrastate System.

### ***1.2.2. Project Schedule***

The proposed schedule for the Monroe Connector/Bypass is currently as follows:

- Issue Draft Environmental Impact Statement (EIS) – 1<sup>st</sup> Quarter 2009
- Complete Final Environmental Impact Statement – 3<sup>rd</sup> Quarter 2009
- Obtain Record of Decision (ROD) – 1<sup>st</sup> Quarter 2010

### ***1.2.3. Project Alternatives***

There are 16 new location Detailed Study Alternatives (DSA) under consideration. The Corridor Segments comprising these 16 DSAs are shown in **Table 1**. Generally, there are two Corridor Segments in any one area. Combinations of these options add up to the 16 DSAs. The DSAs that are under consideration are proposed to be toll facilities. The Corridor Segments comprising the DSAs are shown in **Figures 2a-c**.

The functional engineering designs for the DSAs are for a four-lane, median-divided, controlled-access highway. The proposed design speed is 70 mph for the main lines of the DSAs. Two 12-foot lanes are proposed for each direction of travel, separated by a 70-foot median. The total right-of-way is proposed to be a minimum of 300 feet, with right-of-way requirements greater around interchanges.

Interchanges are proposed at nine locations along the DSAs, listed below from west to east.

- I-485 at US 74/Stallings Road (SR 1365), with DSAs A, B, A1, B1, A2, B2, A3, B3
- US 74 east of Stallings Road (SR 1365), with DSAs C, D, C1, D1, C2, D2, C3, D3
- Indian Trail - Fairview Road (SR 1520), all DSAs
- Unionville - Indian Trail Road (SR 1537), all DSAs
- Rocky River Road (SR 1514), all DSAs
- US 601, all DSAs
- NC 200, all DSAs
- Austin Chaney Road (SR 1758), all DSAs
- Forest Hills School Road (SR 1754) - partial interchange, all DSAs
- US 74 - partial interchange, all DSAs

**TABLE 1: CORRIDOR SEGMENTS COMPRISING EACH DETAILED STUDY ALTERNATIVE**

DSA	Corridor Segments
A	18A, 21, 22A, 31, 36, 36A, 40
B	18A, 21, 30, 31, 36, 36A, 40
C	2, 21, 22A, 31, 36, 36A, 40
D	2, 21, 30, 31, 36, 36A, 40
A1	18A, 21, 22A, 31, 34, 34B, 40
B1	18A, 21, 30, 31, 34, 34B, 40
C1	2, 21, 22A, 31, 34, 34B, 40
D1	2, 21, 30, 31, 34, 34B, 40
A2	18A, 21, 22A, 31, 36, 36B, 41
B2	18A, 21, 30, 31, 36, 36B, 41
C2	2, 21, 22A, 31, 36, 36B, 41
D2	2, 21, 30, 31, 36, 36B, 41
A3	18A, 21, 22A, 31, 34, 34A, 41
B3	18A, 21, 30, 31, 34, 34A, 41
C3	2, 21, 22A, 31, 34, 34A, 41
D3	2, 21, 30, 31, 34, 34A, 41

See Figure 2b-c for a map of the Detailed Study Alternatives and their corridor segments.

The NCTA is evaluating different options available for toll collection, but none include cash lanes. An open road (highway speed) transponder-based system will likely be used as the primary means of collection. This would allow drivers to drive unobstructed through the toll collection points at highway speeds.

### 1.2.4. Project History

The NCDOT previously studied two projects in this area – the Monroe Bypass (R-2559) and Monroe Connector (R-3329). They are now being advanced by the NCTA as a single project.

#### 1.2.4.1 Previous Studies of the Monroe Bypass

The Monroe Bypass project was the first of the two projects. The western terminus of this project was US 74 near Rocky River Road. From there, the project extended around the north side of Monroe, and connected to US 74 between the towns of Wingate and Marshville.

The NCDOT completed the original planning and environmental process for the Monroe Bypass in 1997. The process included an Environmental Assessment (EA) issued on March 14, 1996, and a Finding of No Significant Impact (FONSI) issued on June 20, 1997, in accordance with NEPA. The process resulted in the selection of a Preferred Alternative.

For right-of-way and construction purposes, the Preferred Alternative was divided into three sections. Section A extended from US 74 near Rocky River Road (SR 1514) east to US 601; Section B extended from US 601 to just east of Walkup Avenue (SR 1751); and Section C completed the alignment, connecting with US 74 west of Marshville.

In May 1997, a Public Hearing was held to present final designs for Sections B and C. Section A was put on hold at that time while feasibility studies for the Monroe Connector were initiated by NCDOT. In 2000 and 2001, right of way was purchased for Sections B and C. However, during the permitting process, prior to construction, issues arose regarding the federally endangered Carolina heelsplitter mussel, and construction was postponed.

#### 1.2.4.2 Previous Studies of the Monroe Connector

NCDOT began the planning process for the Monroe Connector in 1999. As the name suggests, the Monroe Connector would ‘connect’ the Monroe Bypass (Sections B and C) from US 601 west to I-485. A Draft EIS for the Monroe Connector was issued on October 17, 2003 and released for review and comment by the public and environmental resource and regulatory agencies in November 2003. A Public Hearing was not held following completion of the Draft EIS.

The 2003 Draft EIS was rescinded on January 30, 2006 by notice in the Federal Register. The notice stated: “Based on the comments received from various Federal and state agencies and the public, and a recent decision to change the eastern terminus of the project from US 601 to the proposed Monroe Bypass, the FHWA and NCDOT have agreed not to prepare a Final EIS for the proposed US 74 improvements from I-485 to US 601. FHWA, NCDOT, and the North Carolina Turnpike Authority (NCTA), plan to prepare a new Draft EIS for the proposed project. A notice of intent to prepare the EIS will be issued subsequent to this rescinding notice. The new Draft EIS will include a toll alternative among the full range of alternatives that will be analyzed as well as a change in the location of the eastern terminus.” (Federal Register, Vol. 71, No. 19, page 4958).

#### 1.2.4.3 Monroe Bypass and Monroe Connector Combined

In February 2005, the NCTA adopted the Monroe Connector as a candidate toll facility. At that time, the NCDOT was moving forward with the Monroe Bypass as a separate project, since the STIP current at the time included funding for construction of Sections B and C of the Bypass. However, due to the age of the original EA/FONSI for the Monroe Bypass (about 10 years), a reevaluation of the document was required by the FHWA prior to the start of construction. All sections of the Bypass (A, B, and C) needed to be considered in the reevaluation because they provide the logical endpoints for the project, enabling it to function as a stand-alone bypass.

During the course of the reevaluation, it was discovered that the Mecklenburg-Union Metropolitan Planning Organization’s (MUMPO) Long Range Transportation Plan (LRTP) did not include Section A of the Bypass; it listed the Monroe Connector instead. A project must be in the LRTP in order for it to receive FHWA approval and funding. As originally envisioned, the

Monroe Connector was meant to function as a replacement or extension of Section A of the Monroe Bypass. Without the Monroe Bypass Sections B and C, the Monroe Connector did not have a logical eastern terminus. Likewise, without Section A (or the Monroe Connector serving as a replacement or extension of Section A), Sections B and C of the Monroe Bypass did not have a logical western terminus and could not serve as a stand-alone bypass.

During the reevaluation, it was also discovered that within the study area of the Monroe Bypass Section A, several new neighborhoods had been developed since the original EA/FONSI was completed. Three alignment options for Section A were developed by NCDOT in light of the new conditions. These options were shown at public meetings in Union County on April 27, 2006 at Monroe Country Club and May 3, 2006 at South Piedmont Community College.

On September 20, 2006, MUMPO recommended that the Monroe Bypass and Monroe Connector be combined into a single environmental study under the administration of the NCTA, and the NCDOT's reevaluation process for the Monroe Bypass was discontinued. On January 19, 2007, FHWA issued a Notice of Intent in the Federal Register (Vol. 72, No. 12, page 2582) announcing its intention to prepare a Draft EIS for the combined Monroe Connector/Monroe Bypass project (*Statement of Purpose and Need*, February 2008).

### **1.3. Project Setting**

The project is located southeast of Charlotte in the southern part of the Piedmont region of North Carolina. The Project Study Area boundaries, shown on **Figure 2a**, generally are the Goose Creek watershed and Lake Twitty to the north, Old Monroe Road/Old Charlotte Highway (SR 1009) to the south, the Town of Marshville to the east, and I-485 to the west.

The majority of the Project Study Area is within Union County, with a small portion adjacent to, and northwest of I-485 within Mecklenburg County. Portions of the Project Study Area are within the jurisdictions of the towns of Mint Hill and Matthews in Mecklenburg County, and Stallings, Hemby Bridge, Indian Trail, Wingate, Unionville, and Marshville, the Village of Lake Park, and the City of Monroe in Union County.

The Project Study Area is part of the MUMPO planning area, which includes all of Mecklenburg County and the western and central portions of Union County. The MUMPO area is part of the larger Charlotte/Mecklenburg metropolitan region. The project area is part of the Centralina Council of Governments, a state-designated lead regional organization for the area in and around Charlotte, which includes nine counties. The Rocky River Rural Planning Organization (RPO) covers Anson and Stanly counties and the part of Union county not under MUMPO's jurisdiction.

### **1.4. Community Impact Assessment Methodology**

The methodology used for the CIA follows the FHWA's *Community Impact Assessment: A Quick Reference Guide* (September 1996).

Consistent with the FHWA guidance, a community characteristics profile was developed to describe the basic demographic characteristics of the area, which are used to assess community impacts.

Demographic information from the United States (US) Census, North Carolina Employment Security Commission (NC ESC), and other resources was used to provide a general overview of the basic population and demographic characteristics of the area. The demographic characteristics that were selected include: age, race, income and housing. The unique characteristics that were evaluated include: business and employment characteristics; community resources; and crime, safety and emergency services.

### **1.4.1. Data and Information Sources**

The sources used to complete the CIA include US Census data, Geographical Information System (GIS) data, interviews with municipal staff, and project site visits. A complete list of documents referenced for this report is included in **Section 5**. The following data sources provided useful information in understanding existing conditions and likely trends:

- 1990 and 2000 US Census data (downloaded from American Fact Finder Web site: <http://factfinder.census.gov>, and North Carolina State Data Center, <http://www.sdc.state.nc.us>).
- NC ESC data (downloaded from Web site: <http://www.ncesc.com>).
- Interviews with municipal staff (**Appendix A**).
- Field visits on March 17, 18, and 19, and April 1 and 2, 2008.
- ADC Map Books for Union County and Mecklenburg County.

Since considerable growth and development have occurred in the Project Study Area since the 2000 decennial census, and because the census data is not reliable in identifying “clusters” of special populations (i.e., environmental justice) and/or communities that have a common characteristic or interest (i.e., religion, ethnicity, income, etc.), local staff, elected officials, and community representatives were interviewed to help uncover information not identifiable through the census data.

The interviewees were deemed likely to have extensive knowledge of their respective areas and capable of providing critical information on local concerns, community interests, opinions, and issues of targeted groups. In addition, these interviews identified information about local government policies (i.e., local government comprehensive plans, economic development master plans, etc.) for the area and how the project might influence these policies.

The following local governments and agencies were interviewed in order to assess the community impact area: Union County, Charlotte-Mecklenburg Planning Commission, City of Monroe, Town of Matthews, Town of Marshville, Town of Mint Hill, Town of Stallings, Town of Hemby Bridge, Town of Wingate, Town of Indian Trail, Village of Lake Park, and Centralina Council of Governments.

GIS data was used to map the neighborhood locations, interviews were conducted with the municipal staff and field reviews were conducted along the project corridor to gain an understanding of existing conditions and how the project could affect various communities. The local officials also referenced various planning documents and current studies they have ongoing to ensure that the project team is familiar with planning activities.

### 1.4.2. Study Areas

An appropriate Demographic Area (DA) was defined in order to describe the affected environment. Following the identification of the DA, a community characteristics profile was developed to describe the basic population and demographic characteristics of the area.

Demographic information from the US Census, NC ESC, and other resources were combined to provide a general overview of the community characteristics of Mecklenburg and Union Counties, as well as the municipalities in the Project Study Area. Demographic characteristics such as age, race, and median income, which are quantitative and easily measured, are compared and displayed in tables and figures. Qualitative information gathered through field visits and one-on-one interviews is also discussed.

This information was gathered to serve as a basis for identifying potential community issues in areas surrounding the DSAs, and to reach conclusions about what effects the proposed project would have on surrounding communities.

The CIA is based on functional engineering designs within the DSAs dated September 2008.

#### 1.4.2.1 Demographic Area

Consistent with the NCDOT method for CIA, a Demographic Area (DA) was defined in order to describe the existing baseline conditions. The DA consists of 33 Union County Block Groups and six Mecklenburg County Block Groups. **Table 2** and **Figure 3** show the block groups included in the DA.

**TABLE 2: DEMOGRAPHIC AREA CENSUS BLOCK GROUPS (2000)**

Census Tract	Block Group	As Shown on Figure 3	Census Tract	Block Group	As Shown on Figure 3
<b>Mecklenburg County</b>			<b>Union County</b>		
57.09	1	57091	204.01	2	204012
57.12	1	57121	204.02	1	204021
57.12	2	57122	204.02	2	204022
58.12	2	58122	204.02	3	204023
58.14	1	58141	204.02	4	204024
58.14	2	58142	204.02	5	204025
<b>Union County</b>			205	1	205001
202.02	1	202021	205	2	205002
202.02	2	202022	205	3	205003
202.02	3	202023	206	1	206001
203.02	1	203021	206	2	206002
203.02	2	203022	206	3	206003
203.03	2	203032	206	4	206004
203.03	3	203033	206	5	206005
203.03	4	203034	207	1	207001
203.04	1	203041	207	2	207002
203.04	2	203042	207	3	207003
203.04	3	203043	207	4	207004
203.04	4	203044	208	2	208002
204.04	1	204041	208	4	208004
			--	--	--

Source: US Census (2000)

This broad area was established to identify and analyze population growth, household, and other demographic characteristics. This information was used as a foundation for determining potential project-related impacts to the human environment.

The DA includes block groups traversed by the DSAs, as well as additional block groups that are wholly or partially within the Project Study Area used to develop the DSAs. Since this project is regional in scale, a broad, inclusive DA was selected to describe the baseline conditions of the community, neighborhoods, and resources present in the area. Furthermore, the inclusive DA captures block groups outside of the immediate US 74 corridor in order to capture and describe the population that may be affected by the proposed project (i.e. direct impacts, travel pattern changes, mobility, accessibility, etc.)

The DA encompasses block groups within the following areas of Union County: Town of Stallings, Town of Hemby Bridge, Village of Lake Park, Town of Indian Trail, City of Monroe, Town of Wingate, and Town of Marshville, as well as the unincorporated areas that include communities such as Unionville. The DA also contains block groups within Mecklenburg County that include the Town of Matthews and the Town of Mint Hill, as well as the adjacent block groups.

#### 1.4.2.2 Direct Community Impact Area

In accordance with the NCDOT method for CIA, a DCIA was defined to identify the area with the most potential for project-induced community-related effects. **Figures 4a-c** show the DCIA.

Generally, the DCIA boundary was drawn considering such factors as whether a neighborhood would have relocations or property acquisition as a result of the project, or whether an area would experience major changes in access, such as a new service road connection, closing of a street, etc. In most cases, if a portion of a neighborhood would be impacted, the entire neighborhood was included in the DCIA.

The DCIA begins at the western project boundary and ends at the eastern project boundary. Community resources, such as schools, churches, parks, and historic resources, are included in the DCIA. The DCIA narrows in areas that are away from interchanges as the project passes through more rural land uses, including large agricultural parcels. However, even in these areas, there are still some subdivisions that would be impacted by project alternatives, as well as several rural communities with clusters of homes on larger lots.

#### **1.4.3. Impact Assessment and Criteria**

A transportation improvement can have an effect on the social environment at a broad scale (i.e. regional level) as well as bring localized changes to communities. **Section 3** begins with a summary of social impacts at a broad level. Since the project has considerable potential to directly impact existing communities, probable impacts have been determined at the neighborhood level. Impacts to neighborhoods/communities are based on functional engineering designs within the DSAs (September 2008) and are discussed in **Section 3**.

An impact matrix (**Section 3.2.3**) was developed to convey potential impacts to neighborhoods/communities. The matrix method used to evaluate and summarize community-level impacts is intended to display the type of direct impact (e.g., right-of-way encroachments, relocations within neighborhoods, etc.).

The matrix also displays whether or not there are access changes associated with alternatives. Although there are varying degrees of access change, the type of access provided is not specified in the matrix.

Also included in this report in **Section 3.3** is an evaluation of the potential for the project to result in disproportionately high adverse impacts to special populations. The evaluation is a general assessment, with a focus on potential environmental justice impacts as they relate to a new location toll facility in the transportation system.

## **2 BASELINE CONDITIONS**

### **2.1. Regional Setting**

The project is located in the Piedmont region of North Carolina. This region is noted for its gently rolling landscape, with the Appalachian Mountains to the west and the coastal plains to the east. As shown in **Figure 1**, the project is located in southern Mecklenburg County and western Union County.

The total area of Mecklenburg County is approximately 546 square miles, and the total area of Union County is 640 square miles (US Census Web site: [www.factfinder.census.gov](http://www.factfinder.census.gov)). The average elevation in Mecklenburg County is 751 feet and 786 feet for Union County (NC Geological Survey Web site: [www.geology.enr.state.nc.us](http://www.geology.enr.state.nc.us)). The project is located within the Catawba and Yadkin-Pee Dee River basins. The prominent natural features in the region include the river and stream systems associated with these basins.

The region experiences a temperate climate characterized by moderate temperature variations and moderate humidity. The average annual high temperature is about 72 degrees Fahrenheit, and the average annual low temperature is 49 to 53 degrees. The average annual precipitation is 48 to 53 inches (NC Department of Commerce Web site: [www.nccommerce.com/en/AboutNorthCarolina/Location/](http://www.nccommerce.com/en/AboutNorthCarolina/Location/)).

### **2.2. Project Setting – Community Description**

The Project Study Area consists of the following general boundaries: the Goose Creek watershed and Lake Twitty to the north, Old Monroe Road to the south, the Town of Marshville to the east, and I-485 to the west. The Project Study Area is approximately 20 miles in length and runs parallel to US 74.

The Detailed Study Alternatives (DSAs) are located within two towns in Mecklenburg County (Matthews and Mint Hill) and eight municipalities in Union County (Stallings, Hemby Bridge, Lake Park, Indian Trail, Monroe, Unionville, Wingate, and Marshville). The following broad brush description of these municipalities was obtained from the individual municipality's web sites and from one-on-one interviews with municipal staff.

## **2.2.1. Mecklenburg County**

Communities in the Project Study Area that are located in Mecklenburg County include the Towns of Matthews and Mint Hill. Both communities have placed an emphasis on maintaining their upscale residential inventory and providing a safe “small town” environment for their residents.

### **2.2.1.1 Matthews**

The Town of Matthews was settled in 1750. The town is located about ten miles southeast of downtown Charlotte. Matthews covers 17.18 square miles and is comprised of mainly low-density single-family housing with a population of approximately 25,000 people (Matthews Web site: [www.matthewsnc.com/](http://www.matthewsnc.com/)).

### **2.2.1.2 Mint Hill**

Mint Hill was first settled in 1750. Incorporated in 1971 with a population of 2,284, the town has grown to its current population of approximately 18,000 persons. Although primarily a residential community, Mint Hill’s business district has grown in recent years and currently has 285 businesses and professional services within its boundaries (Mint Hill Web site: [www.minthill.com/](http://www.minthill.com/)). Mint Hill is currently planning a 1.8 million square foot mall located near Lawyers Road and I-485.

## **2.2.2. Union County**

### **2.2.2.1 Stallings**

The Town of Stallings was established in the late 1800s and incorporated in 1975. The population grew quickly in the 1960s and early 1970s and has continued to grow, with a current population of 8,382 people and 400 businesses. With its proximity to US 74 and I-485, Stallings serves as a bedroom community to Charlotte (Stallings Web site: [www.stallingsnc.org/](http://www.stallingsnc.org/)).

### **2.2.2.2 Hemby Bridge**

Hemby Bridge is a rural town with a sparse population of 847 people and a land area of 1.4 square miles. Hemby Bridge has not experienced the development growth that has occurred in other parts of Union County (Hemby Bridge Web site: [www.hembybridgenc.com/local/cityinfo.html](http://www.hembybridgenc.com/local/cityinfo.html)).

### **2.2.2.3 Lake Park**

Lake Park, a village in northwest Union County, is 15 miles from downtown Charlotte. Lake Park began in 1990 as a planned unit development and was incorporated in 1994. The Village is a mixture of traditional single-family homes, patio homes, condominiums, and townhomes. This community is predominantly residential and is sparsely populated. The current population of

Lake Park is 2,444 (Lake Park Web site: [www.lakeparknc.gov/](http://www.lakeparknc.gov/), Union County Web site: [www.unioncountycoc.com](http://www.unioncountycoc.com)).

#### 2.2.2.4 Indian Trail

The Town of Indian Trail was on a trading route established in the seventeenth century. This trail ran between Petersburg, Virginia and the Waxhaw Indian settlement, hence the name “Indian Trail.” In 1874, the Seaboard Railroad was completed. It ran from Charlotte to Monroe and passed through Indian Trail. Accessibility to the railroad helped the town prosper. The current population of Indian Trail is approximately 15,610, with several business and industrial parks underway or planned (Indian Trail Web site: [www.indiantrail.org/community\\_history.htm](http://www.indiantrail.org/community_history.htm), Union County Web site: [www.unioncountycoc.com](http://www.unioncountycoc.com)).

#### 2.2.2.5 Monroe

The City of Monroe, with a population of 30,392, is the county seat of Union County. Historically a farming community, farmland is becoming more uncommon as additional businesses move into the City. Monroe has a diverse mix of industries that include aviation, transportation, service, retail and government. An industrial and distribution center is located near the Monroe Regional Airport. The City is home to multi-national corporations as well as local and regional companies. Monroe is poised to grow with its economic development strategies in place (Union County Web site: [www.co.union.nc.us/](http://www.co.union.nc.us/)).

#### 2.2.2.6 Unionville

Union County’s largest community geographically, Unionville encompasses about 15,000 acres north of Monroe and south of Fairview along US 601. The population is approximately 6,053 (Union County Web site: [www.unioncountycoc.com](http://www.unioncountycoc.com)).

#### 2.2.2.7 Wingate

The Town of Wingate was formally chartered in 1901 (Wingate Web site: [www.wingate.govoffice.com/](http://www.wingate.govoffice.com/)). The current population of Wingate is 2,728 (Union County Web site: [www.unioncountycoc.com](http://www.unioncountycoc.com)). The Town is home to Wingate University, which has an enrollment at just over 2,000 students.

#### 2.2.2.8 Marshville

The Town of Marshville is located east of Wingate. The town formed during the late nineteenth century around the railroad line that passes through it. Population statistics are relatively unchanged since the 2000 US Census, and the town has not experienced the same type of population or economic growth as communities in western Union County. The primary employment sectors include service, fast food and municipal positions. Along US 74 near the Marshville/Wingate town limits are two major employers; the Pilgrim’s Pride chicken processing plant and the Harris Teeter Distribution Center. These facilities provide employment opportunities for the region’s manufacturing sector (Marshville Web site: [www.marshvillenc.govoffice2.com/](http://www.marshvillenc.govoffice2.com/)).

## 2.3. Population Characteristics

The following sections provide an overview of the Demographic Area (DA). In order to demonstrate notable trends, comparisons are made between the demographic data for North Carolina and Mecklenburg and Union counties.

### 2.3.1. Population Trends

**Table 3** and **Figure 5** present a summary of the population changes in the region and within the DA between 1990 and 2000. As seen in **Table 3**, some block group boundaries changed between 1990 and 2000, and were combined in order to compare across consistent geographic areas.

#### 2.3.1.1 General Trends

The DA experienced population growth between 1990 and 2000. Mecklenburg and Union Counties grew at rates (36.0 and 46.9 percent, respectively) higher than that of the State (21.4 percent).

**TABLE 3: POPULATION CHANGE - 1990 AND 2000**

Jurisdiction or Block Group	Population		Growth		
	1990	2000	Difference	Change (%)	
<b>North Carolina</b>	<b>6,628,637</b>	<b>8,049,313</b>	<b>1,420,676</b>	<b>21.4</b>	
<b>Mecklenburg County</b>	<b>511,433</b>	<b>695,454</b>	<b>184,021</b>	<b>36.0</b>	
<b>1990</b>	<b>2000</b>				
57.03 BG3	57.09 BG1	1,794	2,633	839	46.8
57.05 BG3	57.12 BG1	1,628	2,041	413	25.4
57.05 BG4	57.12 BG2	1,189	1,297	108	9.1
58.03 BG2	58.12 BG2	1,187	2,362	1,175	99.0
58.04 BG2	58.14 BG1	1,592	2,170	578	36.3
58.04 BG3	58.14 BG2	1,903	3,391	1,488	78.2
<b>Mecklenburg County DA Total</b>		<b>9,293</b>	<b>13,894</b>	<b>4,601</b>	<b>49.5</b>
<b>Union County</b>		<b>84,211</b>	<b>123,677</b>	<b>39,466</b>	<b>46.9</b>
<b>1990</b>	<b>2000</b>				
202 BG6	202.02 BG1	1,195	1,800	605	50.6
202 BG7	202.02 BG2	1,020	1,279	259	25.4
202 BG3 <sup>1</sup>	202.02 BG3	501	870	369	73.7
203.02 B 1	203.02 BG1	1,737	4,377	2,640	152.0
203.02 BG2	203.02 BG2	851	2,855	2,004	235.5
203.01 BG2	203.03 BG2	1,640	2,251	611	37.3
203.01 BG3	203.03 BG3	1,210	3,246	2,036	168.3
203.01 BG4, 203.01 BG8	203.03 BG4, 203.04 BG4	2,588	6,198	3,610	139.5
203.01 BG5	203.04 BG1	1,060	1,739	679	64.1
203.01 BG6	203.04 BG2	1,292	1,615	323	25.0
203.01 BG7	203.04 BG3	2,484	2,676	192	7.7
204 BG5	204.01 BG1, 204.02 BG5	2,058	4,021	1,963	95.4
204 BG6	204.01 BG2	1,452	2,226	774	53.3
204 BG1	204.02 BG1	1,258	1,415	157	12.5
204 BG2, 205 BG1, 205 BG2	204.02 BG2, 205 BG2	2,331	2,623	292	12.5
204 BG3	204.02 BG3	1,628	1,541	-87	-5.3

**TABLE 3: POPULATION CHANGE - 1990 AND 2000**

Jurisdiction or Block Group		Population		Growth	
		1990	2000	Difference	Change (%)
204 BG4	204.02 BG4	2,014	3,463	1,449	71.9
205 BG6	205 BG1	1,395	1,537	142	10.2
205 BG3	205 BG3	914	924	10	1.1
206 BG1	206 BG1	1,644	2,939	1,295	78.8
206 BG2	206 BG2	1,321	1,556	235	17.8
206 BG3	206 BG3	1,734	1,996	262	15.1
206 BG4	206 BG4	1,924	2,554	630	32.7
206 BG5	206 BG5	673	831	158	23.5
207 BG1	207 BG1	998	1,398	400	40.1
207 BG2	207 BG2	2,543	2,539	-4	-0.2
207 BG3	207 BG3	1,328	1,695	367	27.6
207 BG4	207 BG4	1,534	1,970	436	28.4
208 BG2	208 BG2	771	876	105	13.6
208 BG4, 208 BG5	208 BG4, 208 BG5	2,123	2,366	510	24.0
<b>Union County DA Total</b>		<b>45,221</b>	<b>67,376</b>	<b>22,155</b>	<b>49.0</b>
<b>Total for BGs in DA</b>		<b>54,514</b>	<b>81,270</b>	<b>26,756</b>	<b>49.1</b>

Source: US Census Bureau (2000) (American FactFinder Web site: <http://factfinder.census.gov>). SF1 (100-Percent Data), Table P1: TOTAL POPULATION (2000); Table P001: PERSONS (1990).

Notes: Figure 6 shows the Census boundaries. <sup>1</sup> 47% of 1990 202 BG3 is included in the 2000 202.02 BG. Therefore, 47% of the total population for 1990 202 BG3 is identified to appropriately compare it with 2000 202.02 BG2.

One hundred percent of the Block Groups within the Mecklenburg County portion of the DA experienced population growth. The largest percent increases in population generally occurred in and around the communities of Stallings and Indian Trail at the western end of Union County and near Matthews within Mecklenburg County. Census Tract 203.02 Block Group 2 in Union County had the highest rate of population increase at 235.5 percent. Census Tract 203.03 Block Group 3, also in Union County, had a 168.3 percent increase. Census Tract 58.12 Block Group 2 in Mecklenburg County had the highest population growth (99.0 percent) of all Census Tracts within Mecklenburg County portion of the DA.

Approximately 90 percent of the Block Groups within the Union County portion of the DA experienced population growth. The areas having smaller growth increases are located within and around Monroe and Wingate. Two Block Groups in the Union County portion of the DA lost population between 1990 and 2000. Census Tract 204.02 Block Group 3 (south of Indian Trail and west of Monroe) lost 5.3 percent of its 1990 population. Census Tract 207 Block Group 2 (near Wingate) lost 0.2 percent.

Based on field interviews, the population losses were primarily due to limited employment opportunities or the inability to provide water/sewer service. Over the past several years, high population growth coupled with other commercial and industrial growth has placed increasing demands on the Union County water system, particularly in the western part of the county. These demands have stressed the limits of available water treatment capacity as well as the hydraulics of moving this water through the distribution network to customers. Peak day water demands have repeatedly exceeded available water treatment capacity. The county is already using some of Lancaster, South Carolina's allotted capacity from the Catawba River Water

Treatment Plant to meet existing demand. This is not a viable option for the long-term and still leaves no additional capacity to allocate to new development.

Union County is currently working to find ways to provide additional water treatment capacity for existing and new development. In the meantime, the county adopted a Water Allocation Policy on October 20, 2008 to equitably distribute the estimated 1.9 MGD of capacity that will be available under revised water restrictions and schedules. Similarly, there is an adopted Sewer Allocation Policy. Until the water and wastewater treatment capacity issues are resolved, provision of water and wastewater services will continue to be an impediment to growth in Union County.

### 2.3.2. Race and Ethnicity

**Table 4** provides a summary of the major racial and ethnic groups within the DA from the 2000 Census. Whites, Blacks or African Americans, and Hispanics or Latinos are the three largest racial/ethnic groups within the Project Study Area. Please note that Hispanics and Latinos can be of any race. Mecklenburg County is about 64 percent white, 28 percent black/African American, six percent Hispanic/Latino, three percent Asian, and less than one percent other. Union County is about 83 percent white, 13 percent black, six percent Hispanic/Latino, one percent Asian, and less than one percent other.

**TABLE 4: POPULATION BY RACE AND ETHNICITY (2000)**

Jurisdiction or Block Group	Total Population	White	Black or African American	American Indian or Alaskan Native	Asian	Native Hawaiian or Pacific Islander	Hispanic or Latino
<b>North Carolina</b>	<b>8,049,313</b>	<b>5,804,656</b> <b>72.1%</b>	<b>1,737,545</b> <b>21.6%</b>	<b>99,551</b> <b>1.2%</b>	<b>113,689</b> <b>1.4%</b>	<b>3,983</b> <b>0.05%</b>	<b>378,963</b> <b>4.7%</b>
<b>Mecklenburg County</b>	<b>695,454</b>	<b>445,250</b> <b>64.0%</b>	<b>193,838</b> <b>27.9%</b>	<b>2,439</b> <b>0.4%</b>	<b>21,889</b> <b>3.1%</b>	<b>339</b> <b>0.05%</b>	<b>44,871</b> <b>6.4%</b>
57.09 BG1	2,633	2,274 86.4%	205 7.8%	7 0.3%	72 2.7%	0 0%	113 4.3%
57.12 BG1	2,041	1,900 93.1%	83 4.1%	10 0.5%	20 1.0%	0 0%	44 2.2%
57.12 BG2	1,297	1,238 95.5%	38 2.9%	4 0.3%	7 0.5%	0 0%	14 1.1%
58.12 BG2	2,362	1,791 75.8%	410 17.4%	8 0.3%	102 4.3%	0 0%	144 6.1%
58.14 BG1	2,170	1,729 79.7%	294 13.5%	3 0.1%	96 4.4% <sup>1</sup>	0 0%	56 2.6%
58.14 BG2	3,391	3,142 92.7%	128 3.8%	36 1.1%	56 1.7%	0 0%	47 1.4%
<b>Union County</b>	<b>123,677</b>	<b>102,441</b> <b>82.8%</b>	<b>15,480</b> <b>12.5%</b>	<b>475</b> <b>0.4%</b>	<b>720</b> <b>0.6%</b>	<b>30</b> <b>0.02%</b>	<b>7,637</b> <b>6.2%</b>
202.02 BG1	1,800	1,764 98.0% <sup>1</sup>	13 0.7%	4 0.2%	8 0.4%	0 0%	30 1.7%
202.02 BG2	1,279	1,099 85.9%	169 13.2%	3 0.2%	1 0.08%	0 0%	9 0.7%
202.02 BG3	870	847 97.4%	13 1.5%	2 0.2%	7 0.8%	0 0%	4 0.5%
203.02 BG1	4,377	3,843 87.8%	342 7.8%	20 0.5%	32 0.7%	3 0.1%	122 2.8%

**TABLE 4: POPULATION BY RACE AND ETHNICITY (2000)**

Jurisdiction or Block Group	Total Population	White	Black or African American	American Indian or Alaskan Native	Asian	Native Hawaiian or Pacific Islander	Hispanic or Latino
203.02 BG2	2,855	2,626 92.0%	146 5.1%	9 0.3%	32 1.1%	0 0%	49 1.7%
203.03 BG2	2,251	2,057 91.4%	77 3.4%	7 0.3%	39 1.7%	0 0%	32 1.4%
203.03 BG3	3,246	3,024 93.2%	106 3.3%	28 0.9%	42 1.3%	0 0%	52 1.6%
203.03 BG4	3,601	3,156 87.6%	272 7.6%	17 0.5%	31 0.9%	3 0.08%	120 3.3%
203.04 BG1	1,739	1,623 93.3%	68 3.9%	14 0.8%	6 0.3%	0 0%	42 2.4%
203.04 BG2	1,615	1,321 81.8%	215 13.3%	19 1.2%	3 0.2%	0 0%	79 4.9%
203.04 BG3	2,676	2,498 93.3%	111 4.1%	13 0.5%	15 0.6%	2 0.07%	40 1.5%
203.04 BG4	2,597	2,433 93.7%	68 2.6%	7 0.3%	28 1.1%	7 0.3% <sup>1</sup>	94 3.6%
204.01 BG1	1,903	1,703 89.5%	129 6.8%	7 0.4%	36 1.9%	0 0%	41 2.2%
204.01 BG2	2,226	1,610 72.3%	388 17.4%	8 0.4%	23 1.0%	0 0%	271 12.2%
204.02 BG1	1,415	196 0.51%	999 71.0% <sup>1</sup>	0 0%	1 0.07%	0 0%	309 21.8%
204.02 BG2	1,104	448 40.6%	247 22.4%	9 0.8%	0 0%	1 0.09%	513 46.5% <sup>1</sup>
204.02 BG3	1,514	713 47.1%	543 35.9%	2 0.1%	0 0%	3 0.2%	382 24.8%
204.02 BG4	3,463	3,034 87.6%	310 9.0%	11 0.3%	24 0.3%	0 0.2%	122 3.5%
204.02 BG5	2,118	1,608 75.9%	254 12.0%	9 0.42%	39 1.8%	2 0.09%	277 13.1%
205 BG1	1,537	824 53.6%	590 38.4%	6 0.4%	2 0.1%	0 0%	208 13.5%
205 BG2	1,528	883 57.8%	396 24.1%	24 1.6%	11 0.7%	0 0%	542 35.5%
205 BG3	924	459 49.7%	399 43.2%	2 0.2%	1 0.1%	0 0%	101 10.9%
206 BG1	2,939	1,864 63.4%	726 24.7%	4 0.1%	11 0.4%	0 0%	1,076 36.6%
206 BG2	1,556	626 40.2%	679 43.6%	9 0.6%	0 0%	0 0%	639 41.2%
206 BG3	1,996	1,022 51.2%	740 37.1%	7 0.4%	14 0.7%	3 0.2%	476 23.9%
206 BG4	2,554	1,901 74.4%	468 18.4%	11 0.4%	23 0.9%	0 0%	430 16.8%
206 BG5	831	390 46.9%	332 40.0%	2 0.2%	1 0.1%	0 0%	165 19.9%
207 BG1	1,398	960 68.7%	357 25.5%	1 0.07%	4 0.3%	0 0%	96 6.9%
207 BG2	2,539	1,757 69.2%	677 26.7%	4 0.2%	11 0.4%	1 0.04%	186 7.3%
207 BG3	1,695	840	780	3	3	0	79

**TABLE 4: POPULATION BY RACE AND ETHNICITY (2000)**

Jurisdiction or Block Group	Total Population	White	Black or African American	American Indian or Alaskan Native	Asian	Native Hawaiian or Pacific Islander	Hispanic or Latino
		49.5%	46.0%	0.2%	0.2%	0%	4.7%
207 BG4	1,970	1,785 90.6%	157 8.0%	12 0.6%	1 0.05%	0 0%	17 0.9%
208 BG2	867	466 53.2%	397 45.3%	0 0%	0 0%	0 0%	5 0.6%
208 BG4	1,566	799 51.0%	717 45.8%	6 0.4%	7 0.4%	0 0%	66 4.2%
<b>Total BGs in Study Area</b>	<b>80,470</b>	<b>62,253 77.4%</b>	<b>13,016 16.2%</b>	<b>337 0.42%</b>	<b>794 0.99%</b>	<b>31 0.04%</b>	<b>7,092 8.8%</b>

Source: US Census Bureau (2000) (American FactFinder Web site: <http://factfinder.census.gov>). Summary File 1 Total Population (100 Percent Data), Table P7: RACE; Table P8: HISPANIC OR LATINO BY RACE.

Notes: <sup>1</sup>Highest percentage of noted population.

### 2.3.2.1 General Trends

As shown in **Table 4**, locations with the highest white population include areas within Matthews (Census Tract 57.12 Block Groups 1 and 2 with 93.1 and 95.5 percent, respectively) located south of Mint Hill in the western portion of the DA in Mecklenburg County and areas north of Unionville-Indian Trail Road (SR 1367) and east of US 601 (Census Tract 202.02 Block Groups 1 and 3 with 98.0 and 97.4 percent, respectively) in Union County.

**Figure 6a** shows the percentages of black or African American populations within the DA. Block Groups with black populations that are high in comparison to county and state percentages are generally located throughout Monroe and west of Wingate. The highest concentration of black or African-American populations in the DA occurs in Census Tract 204.02 Block Group 1 (71.0 percent) and adjacent Census Tract 207 Block Group 3 (46.0 percent) and Census Tract 208 Block Group 4 (45.8 percent).

**Figure 6b** shows the percentages of Hispanic or Latino populations within the DA. The highest concentrations of Hispanic/Latino population occur in Monroe. Census Tract 204.02 Block Group 2 (46.5 percent) located within Monroe near US 601 and south of US 74 has the highest Hispanic/Latino population. Two nearby block groups also have high Hispanic/Latino populations, Census Tract 206 Block Group 2 (41.2 percent) and Census Tract 205 Block Group 2 (35.5 percent).

Census Tract 204.02 Block Group 5 (4.2 percent) has the highest American Indian or Alaskan native population within the DA. This Block Group is located south of US 74 between North Rocky River Road (SR 1514) and Secrest Shortcut Road (SR 1501).

Two Block Groups within the Mecklenburg County DA, Census Tract 58.14, Block Group 1 (4.4 percent) and Census Tract 58.12 Block Group 2 (4.3 percent) have the highest Asian populations within the DA. These Block Groups are located at the western end of the DA near Matthews.

### 2.3.3. Age

As shown in **Table 5**, the median age for the state is 35.3 years. The median age for Mecklenburg County (33.1) and Union County (34.0) is slightly lower than that of the state. The median age within the DA ranges between 22.5 (Census Tract 207 Block Group 2), which is substantially younger than the median ages elsewhere in the region, and 39.9 (Census Tract 206 Block Group 4), which is moderately older.

**TABLE 5: POPULATION BY AGE GROUP AND MEDIAN AGE (2000)**

Block Group or Jurisdiction	Total Population	≤19 Years	20-44 Years	45-64 Years	≥65 Years	Median Age
<b>North Carolina</b>	<b>8,049,313</b>	<b>2,193,360</b> <b>27.2%</b>	<b>3,078,043</b> <b>38.2%</b>	<b>1,808,862</b> <b>22.5%</b>	<b>969,048</b> <b>12.0%</b>	<b>35.3</b>
<b>Mecklenburg County</b>	<b>695,454</b>	<b>192,130</b> <b>27.6%</b>	<b>302,258</b> <b>43.5%</b>	<b>141,342</b> <b>20.3%</b>	<b>59,724</b> <b>8.6%</b>	<b>33.1</b>
57.09 BG1	2,633	761 28.9%	1,021 38.8%	655 24.9%	196 7.4%	35.7
57.12 BG1	2,041	671 32.9%	745 36.5%	492 24.1%	133 6.5%	36.3
57.12 BG2	1,297	381 29.4%	429 33.1%	385 29.7% <sup>2</sup>	102 7.9%	37.9
58.12 BG2	2,362	441 18.7% <sup>1</sup>	1,518 64.3% <sup>2</sup>	314 13.3% <sup>1</sup>	89 3.8% <sup>1</sup>	28.9
58.14 BG1	2,170	745 34.3%	826 38.1%	477 22.0%	122 5.6%	33.3
58.14 BG2	3,391	1,253 37.0% <sup>2</sup>	1,254 37.0%	722 21.3%	162 4.8%	35.1
<b>Union County</b>	<b>123,677</b>	<b>37,854</b> <b>30.6%</b>	<b>48,103</b> <b>38.9%</b>	<b>26,572</b> <b>21.5%</b>	<b>11,148</b> <b>9.0%</b>	<b>34.0</b>
202.02 BG1	1,800	546 30.3%	698 38.8%	378 21.1%	178 9.9%	35.9
202.02 BG2	1,279	374 29.2%	471 36.8%	300 23.5%	134 10.5%	34.6
202.02 BG3	870	268 30.8%	347 39.9%	171 19.7%	84 9.7%	34.0
203.02 BG1	4,377	1,287 29.4%	1,998 45.6%	767 17.5%	325 7.4%	31.5
203.02 BG2	2,855	1,013 35.5%	1,205 42.2%	483 16.9%	154 5.4%	32.0
203.03 BG2	2,251	697 31.0%	930 41.3%	499 22.2%	125 5.6%	35.3
203.03 BG3	3,246	985 30.3%	1,362 42.0%	703 21.7%	196 6.0%	33.8
203.03 BG4	3,601	1,074 29.8%	1,642 45.6%	649 18.0%	236 6.6%	31.5
203.04 BG1	1,739	477 27.4%	792 45.5%	326 18.7%	144 8.3%	33.5
203.04 BG2	1,615	486 30.1%	676 41.9%	316 19.6%	137 8.5%	33.1
203.04 BG3	2,676	770 28.8%	914 34.2%	796 29.7% <sup>2</sup>	196 7.3%	38.3
203.04 BG4	2,597	849 32.7%	1,138 43.8%	460 17.7%	150 5.8%	32.4
204.01 BG1	1,903	471	674	516	242	38.0

**TABLE 5: POPULATION BY AGE GROUP AND MEDIAN AGE (2000)**

Block Group or Jurisdiction	Total Population	≤19 Years	20-44 Years	45-64 Years	≥65 Years	Median Age
		24.8%	35.4%	27.1%	12.7%	
204.01 BG2	2,226	622 27.9%	971 43.6%	409 18.4%	224 10.1%	31.8
204.02 BG1	1,415	477 33.7%	534 37.7%	253 17.9%	151 10.7%	29.5
204.02 BG2	1,104	367 33.2%	481 43.6%	148 13.4%	108 9.8%	27.0
204.02 BG3	1,541	547 35.5%	590 38.3%	256 16.6%	148 9.6%	28.8
204.02 BG4	3,463	967 27.9%	1,567 45.3%	633 18.3%	296 8.5%	32.2
204.02 BG5	2,118	513 24.2%	986 46.6%	412 19.5%	207 9.7%	31.8
205 BG1	1,537	500 32.5%	568 37.0%	307 20.0%	162 10.5%	31.8
205 BG2	1,528	513 33.6%	642 42.0%	270 17.7%	103 6.7%	28.2
205 BG3	924	282 30.5%	313 33.9%	195 21.1%	134 14.5%	35.4
206 BG1	2,939	1,071 36.4%	1,255 42.7%	495 16.8%	118 6.4%	26.2
206 BG2	1,556	523 33.6%	727 46.7%	214 13.8%	92 5.9%	27.0
206 BG3	1,996	592 29.7%	887 44.4%	309 15.5%	208 10.4%	29.8
206 BG4	2,554	612 24.0%	837 32.8% <sup>1</sup>	548 21.5%	557 21.8% <sup>2</sup>	39.9
206 BG5	831	249 30.0%	289 34.8%	161 19.4%	132 15.9%	36.3
207 BG1	1,398	427 30.5%	614 43.9%	255 18.2%	102 7.3%	29.4
207 BG2	2,539	890 35.1%	1,130 44.5%	391 15.4%	128 5.0%	22.5
207 BG3	1,695	430 25.4%	746 44.0%	355 20.9%	164 9.7%	33.0
207 BG4	1,970	581 29.5%	690 35.0%	480 24.4%	219 11.1%	36.9
208 BG2	867	226 26.1%	287 33.1%	168 19.4%	186 21.5%	38.8
208 BG4	1,566	488 31.2%	526 33.6%	359 22.9%	193 12.3%	34.9
<b>Total BGs in study area</b>	<b>80,470</b>	<b>24,426 30.4%</b>	<b>33,280 41.4%</b>	<b>16,027 19.9%</b>	<b>6,737 8.4%</b>	

Source: US Census Bureau (2000) (American FactFinder Web site: <http://factfinder.census.gov>). Summary File 1 Total Population (100-Percent Data), Table P12: SEX BY AGE, Table P13: MEDIAN AGE BY SEX.

Notes: <sup>1</sup>Lowest percentage of population of noted age. <sup>2</sup>Highest percentage of population of noted age.

When looking at the percentages of population within various age groups, Mecklenburg County has about 28 percent of its population aged 19 years or less, about 44 percent aged 20-44 years, about 20 percent aged 45-64, and about 9 percent are 65+ years. Union County has a similar age distribution, with approximately 31 percent 19 years old or less, 39 percent aged 20-44 years, 22 percent aged 45-64, and five percent aged 65+ years.

### 2.3.3.1 General Trends

Census Tract 58.14 Block Group 2 and Census Tract 206 Block Group 1 contain the highest percentages of people aged 19 or less, with 37 percent and 36 percent, respectively. Census Tract 58.14 Block Group 2 is located between Matthews and Stallings, near the Mecklenburg/Union County Line. Census Tract 206 Block Group 1 is located within Union County in Monroe, north of US 74.

Census Tract 58.12 Block Group 2 contains the lowest population of people aged 19 or less with about 19 percent, and also the lowest senior population (3.8 percent). This Block Group is located in Mecklenburg County within Matthews.

Census Tract 206 Block Group 4, which has the highest median age (39.9 years), contains the highest senior population with nearly 22 percent of the population aged 65 or older. This Block Group is located within Monroe, west of Wingate.

### 2.3.4. Income

Data on median household income and median family income are shown in **Table 6**. As shown, the median family income for Mecklenburg County (\$60,608) and Union County (\$56,197) are substantially higher than the state average (\$46,335).

#### 2.3.4.1 General Trends

All block groups in the Mecklenburg County portions of the DA, except for Census Tract 58.12 Block Group 2 (\$39,671), have median household incomes higher than Mecklenburg County's (\$50,579), ranging from about \$56,250 (Census Tract 58.14 Block Group 2) to \$73,793

**TABLE 6: MEDIAN HOUSEHOLD AND FAMILY INCOME (1999)**

Block Group or Jurisdiction	Median Household* Income (in 1999 \$)	Median Family Income (in 1999 \$)
<b>North Carolina</b>	<b>39,184</b>	<b>46,335</b>
<b>Mecklenburg County</b>	<b>50,579</b>	<b>60,608</b>
57.09 BG1	62,015	77,565
57.12 BG1	64,511	70,602
57.12 BG2	73,793	76,486
58.12 BG2	39,671	47,500
58.14 BG1	56,250	64,453
58.14 BG2	66,875	70,588
<b>Union County</b>	<b>50,638</b>	<b>56,197</b>
202.02 BG1	57,917	65,727
202.02 BG2	58,333	63,015
202.02 BG3	53,214	54,572
203.02 BG1	53,022	55,290
203.02 BG2	55,801	58,777
203.03 BG2	55,313	67,222
203.03 BG3	60,625	65,427
203.03 BG4	48,164	52,131
203.04 BG1	55,948	59,926
203.04 BG2	47,292	51,581
203.04 BG3	67,534	70,250
203.04 BG4	56,118	59,500
204.01 BG1	66,452	75,420
204.01 BG2	44,545	49,911
204.02 BG1	21,632	23,542
204.02 BG2	23,950	36,576
204.02 BG3	28,177	32,016
204.02 BG4	51,023	54,145
204.02 BG5	42,568	46,298
205 BG1	40,893	47,240
205 BG2	26,143	29,271
205 BG3	38,452	42,214
206 BG1	42,000	62,721
206 BG2	21,830	22,455
206 BG3	40,841	43,569
206 BG4	54,196	58,359
206 BG5	55,469	55,156
207 BG1	49,125	52,206
207 BG2	41,125	47,692
207 BG3	26,759	46,058
207 BG4	38,333	44,507
208 BG2	38,807	45,000
208 BG4	39,904	44,844

Source: US Census Bureau (2000) SF 3 (Sample Data), Table P53, Table P77.

\*Note: Households can include non-family members.

(Census Tract 57.12 Block Group 2). This trend also applies to the data for median family incomes within Mecklenburg County, except Census Tract 57.09 Block Group 1 has the highest median family income at \$77,565.

Within Union County, the lowest median incomes are reported in Census Tract 204.02 Block Group 1 (household: \$21,632; family: 23,542) and Census Tract 206 Block Group 2 (household: \$21,830; family: \$22,455). These block groups are located within Monroe, east of US 601 and west of Wingate. The highest incomes are reported in Census Tract 203.04 Block Group 3 (household: \$67,534; family: \$70,250) and Census Tract 204.01 Block Group 1 (household: \$66,452; family: \$75,420). Census Tract 203.04 Block Group 3 is located south of US 74 and west of Waxhaw-Indian Trail Road (SR 1008) in Stallings. Census Tract 204.01 Block Group 1 is located north of US 74 between North Rocky River Road (SR 1514) and Secrest Shortcut Road (SR 1501).

### **2.3.5. Environmental Justice Considerations**

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.

The need to identify low-income and minority populations and incorporate their input in the project's decision-making process gained greater emphasis as a result of Executive Order 12898, *Federal Actions to Address Environmental Justice (EJ) in Minority and Low-Income Populations* (February 11, 1994). 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 United States Department of Transportation (US DOT) issued the *US DOT Order on Environmental Justice to Address Environmental Justice in Minority Populations and Low-Income Populations (DOT Order 5610.2)* to summarize and expand upon the requirements of Executive Order 12898 on environmental justice. The Order generally describes the process for incorporating environmental justice principles into all US DOT programs, policies, and activities that are undertaken, funded, or approved by the Federal Highway Administration (FHWA), the Federal Transit Authority (FTA), or other US DOT 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 US DOT Order 5610.2 defines "minority" in the definitions section of its appendix, and provides definitions of four minority groups addressed by Executive Order 12898. These groups are:

1. Black – a person having origins in any of the black racial groups of Africa.
2. Hispanic – a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race.
3. Asian – a 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 – a person having origins in any of the original people of North America who maintains tribal affiliation or community attachment. .

It also defines ‘low-income’ as a person (of any race) whose household income (or in the case of a community or group, whose median household income) is at or below the United States Department of Health and Human Services poverty guidelines. The 2008 poverty guidelines are included in **Table 7**.

Interviews with local representatives and available census data were used to identify current locations of potential environmental justice populations, as discussed below. Interviews with municipal staff and field visits to areas within these block groups confirmed that the census data accurately reflects current locations of potential environmental justice populations.

**TABLE 7: 2008 POVERTY GUIDELINES**

Persons in Family/Household	48 Contiguous States and DC
1	\$10,400
2	\$14,000
3	\$17,600
4	\$21,200
5	\$24,800
6	\$28,400
7	\$32,000
8*	\$35,600

Source: Federal Register, Vol. 73, No. 15, January 23, 2008. \*Each additional person, add \$3,600.

### 2.3.5.1 Minority Populations

As previously discussed, whites, African Americans or blacks, and Hispanics or Latinos make up the three largest racial/ethnic populations within the DA. **Figures 6a and 6b** show the general concentrations of African American or black and Hispanic/Latino populations. The black population tends to be concentrated in Monroe, Wingate and Marshville. Concentrations of Hispanic/Latino populations tend to be concentrated in and around Monroe. Census Tract 58.12 Block Group 2 and Census Tract 58.14 Block Group 1 have the highest Asian populations. The Block Groups are located at the western terminus of the project in Matthews, Mecklenburg County.

### 2.3.5.2 Low-Income Populations

Income levels were evaluated to determine whether or not a disproportionate amount of low-income populations occur within the DA. The data presented in **Table 8** and **Figure 7** is based on the 2000 Census. The highest percentages of people living below poverty level are located in Census Tract 206 Block Group 2 (46.7 percent), Census Tract 204.02 Block Groups 1 and 3 (33 percent and 32.7 percent, respectively), and Census Tract 205 Block Group 2 (32 percent). As shown in **Table 8** and **Figure 7**, those Block Groups that have relatively high percentages of low-income populations are concentrated in Monroe near, and east of, US 601.

**TABLE 8: POVERTY STATUS**

<b>Block Group or Jurisdiction</b>	<b>Total Population for Whom Poverty Status is Determined</b>	<b>Individuals with Income in 1999 Below Poverty Level</b>	<b>Individuals Below Poverty Level in 1999 (%)</b>
<b>North Carolina</b>	<b>7,805,328</b>	<b>958,667</b>	<b>12.3</b>
<b>Mecklenburg County</b>	<b>681,210</b>	<b>62,652</b>	<b>9.2</b>
57.09 BG1	2,474	176	7.1
57.12 BG1	2,011	46	2.3
57.12 BG2	1,315	0	0
58.12 BG2	2,463	222	9.0
58.14 BG1	2,109	124	5.9
58.14 BG2	3,444	130	3.8
<b>Mecklenburg DA Total</b>	<b>13,816</b>	<b>698</b>	<b>5.1</b>
<b>Union County</b>	<b>122,007</b>	<b>9,926</b>	<b>8.1</b>
202.02 BG1	1,749	90	5.1
202.02 BG2	1,207	113	9.4
202.02 BG3	872	67	7.7
203.02 BG1	4,368	280	6.4
203.02 BG2	2,998	75	2.5
203.03 BG2	2,270	42	1.9
203.03 BG3	3,219	103	3.2
203.03 BG4	3,702	124	3.3
203.04 BG1	1,651	90	5.5
203.04 BG2	1,586	83	5.2
203.04 BG3	2,776	246	8.9
203.04 BG4	2,597	138	5.3
204.01 BG1	1,746	44	2.5
204.01 BG2	2,306	136	5.9
204.02 BG1	1,433	473	33.0
204.02 BG2	976	241	24.7
204.02 BG3	1,455	476	32.7
204.02 BG4	3,487	110	3.2
204.02 BG5	2,161	162	7.5
205 BG1	1,565	293	18.7
205 BG2	1,464	469	32.0
205 BG3	862	168	19.5
206 BG1	2,804	622	22.2
206 BG2	1,519	709	46.7 <sup>1</sup>
206 BG3	2,141	266	12.4
206 BG4	2,345	224	9.6
206 BG5	675	58	8.6
207 BG1	1,415	98	6.9
207 BG2	1,959	292	14.9
207 BG3	1,505	299	19.9
207 BG4	1,948	213	10.9
208 BG2	759	73	9.6
208 BG4	1,598	115	7.2
<b>Union County DA Total</b>	<b>65,118</b>	<b>6,992</b>	<b>10.7</b>
<b>Total BGs</b>	<b>78,934</b>	<b>7,690</b>	<b>9.7</b>

Source: US Census (SF3 – Table P87 POVERTY STATUS IN 1999 BY AGE).

Notes: <sup>1</sup>Highest percentage of noted population.

### 2.3.5.3 Availability of Personal Automobiles

The 2000 US Census data was used to obtain the number of vehicles available in occupied housing units. **Table 9** shows the percentages of occupied housing units without a personal vehicle.

In the DA, Census Tract 204.02 Block Group 1 (38 percent) and Census Tract 205 Block Groups 1 and 3 (17.5 percent and 16.5 percent, respectively) have the highest percentages of occupied housing units with no vehicle available. Census Tract 204.02 Block Group 1, with the highest percentage of units with no vehicle available, also has the highest percentage of individuals below poverty level. Overall, approximately 10.7 percent of the occupied units in the DA have zero vehicles.

**TABLE 9: HOUSING UNITS WITH NO VEHICLES AVAILABLE**

Block Group or Jurisdiction	# Occupied Housing Units	# of Units Where No Vehicle is Available	% of Units with No Vehicle Available
<b>North Carolina</b>	<b>3,132,013</b>	<b>235,339</b>	<b>7.5</b>
<b>Mecklenburg County</b>	<b>273,416</b>	<b>18,851</b>	<b>6.9</b>
57.09 BG1	977	42	4.0
57.12 BG1	700	26	3.7
57.12 BG2	445	10	2.2
58.12 BG2	1,359	40	2.9
58.14 BG1	741	30	4.0
58.14 BG2	1,080	18	1.7
<b>Mecklenburg DA Total</b>	<b>5,302</b>	<b>166</b>	<b>3.1</b>
<b>Union County</b>	<b>43,390</b>	<b>1,971</b>	<b>4.5</b>
202.02 BG1	627	0	0
202.02 BG2	439	0	0
202.02 BG3	317	18	5.7
203.02 BG1	1,612	19	1.2
203.02 BG2	969	23	2.4
203.03 BG2	805	21	2.6
203.03 BG3	1,179	7	0.6
203.03 BG4	1,368	32	2.3
203.04 BG1	646	6	0.9
203.04 BG2	587	43	7.3
203.04 BG3	992	39	3.9
203.04 BG4	919	0	0
204.01 BG1	707	32	4.5
204.01 BG2	806	40	5.0
204.02 BG1	469	178 <sup>1</sup>	38.0 <sup>1</sup>
204.02 BG2	348	52	14.9
204.02 BG3	534	64	12.0
204.02 BG4	1,246	18	1.4
204.02 BG5	941	88	9.4
205 BG1	544	95	17.5
205 BG2	475	40	8.4
205 BG3	364	60	16.5
206 BG1	836	100	12.0
206 BG2	378	15	4.0
206 BG3	788	65	8.2
206 BG4	785	7	0.9

**TABLE 9: HOUSING UNITS WITH NO VEHICLES AVAILABLE**

Block Group or Jurisdiction	# Occupied Housing Units	# of Units Where No Vehicle is Available	% of Units with No Vehicle Available
206 BG5	208	9	4.3
207 BG1	511	13	2.5
207 BG2	686	27	3.9
207 BG3	597	68	11.4
207 BG4	704	17	2.4
208 BG2	291	29	10.0
208 BG4	548	57	10.4
<b>Union DA Total</b>	<b>23,226</b>	<b>2,885</b>	<b>12.4</b>
<b>Total BGs</b>	<b>28,528</b>	<b>3,051</b>	<b>10.7</b>

Source: US Census Bureau (2000) SF3 TableH44, TENURE BY VEHICLES AVAILABLE.

Note: Includes both owner occupied and renter occupied housing units. <sup>1</sup>Highest number or percentage of units with no vehicle available.

### 2.3.5.4 Language Spoken at Home

According to Executive Order 13166, federal and state agencies are directed to "take reasonable steps to ensure 'meaningful' access to information and services". Where a significant percentage of the population is non-English speaking, information should be presented in a language other than English and/or at a reading level reflective of a certain level of literacy.

**Table 10** presents the block groups within the DA that have ten percent or more of the population who speaks a language other than English (e.g., Spanish, Indo-European, Asian and Pacific Island, and Other). The block groups listed in **Table 10** are located within and around Monroe and Wingate, near the eastern end of the DA. Within the DA, Spanish was the non-English language most frequently spoken.

**TABLE 10: LIMITED ENGLISH PROFICIENCY**

Block Group (2000)	Greater Than or Equal to 10% Speak Language Other Than English (%)	Speak Language Other Than English That Speak English Less Than "very well" (%)
<b>Mecklenburg County</b>		
58.14 BG1	12	68
<b>Union County</b>		
204.01 BG2	15	59
204.02 BG1	18	47
204.02 BG2	37	79
204.02 BG3	21	75
204.02 BG5	23	79
205 BG1	13	67
205 BG2	40	52
205 BG3	21	48
206 BG1	24	71
206 BG2	34	85
206 BG3	22	50
206 BG4	20	71
206 BG5	14	33
207 BG2	13	30
207 BG3	12	15

Source: US Census Bureau (2000) SF 3: Tables P19 and P109, Table DP-2.

## 2.4. Housing Characteristics

A windshield survey was conducted in the spring of 2008 along the roadway network within the DSAs to document general housing trends. Pockets of new housing construction and small-scale neighborhood development were scattered throughout the area. Generally, the area within and surrounding the DSAs in Union County has residential uses concentrated in Indian Trail, Stallings, Hemby Bridge, and Lake Park, and in the vicinity of the DSAs between Mecklenburg County and US 601. There are several neighborhoods under construction or recently constructed (since 2000) in or near the DSAs, including Fairhaven, Bonterra Village, Silverthorne, and Glencroft.

Generally, the unincorporated area east of US 601 is less developed and contains scattered residential uses and some small subdivisions. Much of the housing stock in this area is older and consists of traditional farmhouse-style homes on one-acre (or larger) lots. Limited active farming and agricultural uses were documented.

### 2.4.1. Median Home Value

**Table 11** shows the housing characteristics within the DA. The three characteristics highlighted in the table are: percent of renter-occupied housing units, percent of owner-occupied housing units, and the median value of owner-occupied units. These three characteristics provide a portrayal of the housing market for those who own their homes as compared to those who rent. The median home value gives insight into the economic base and housing market growth. For purposes of this evaluation, median home value is the mid-point value of the DA, not to be confused with the mean home value, or average.

**TABLE 11: MEDIAN HOME VALUE**

Block Group or Jurisdiction	Renter-occupied housing units %	Owner-occupied housing units %	Median value owner-occupied units (\$)
<b>North Carolina</b>	<b>30.6</b>	<b>69.4</b>	<b>108,300</b>
<b>Mecklenburg County</b>	<b>37.7</b>	<b>62.3</b>	<b>141,800</b>
<b>Mecklenburg County DA</b>	<b>17.7</b>	<b>82.3</b>	<b>149,850</b>
57.09 BG1	25.0	75.0	150,900
57.12 BG1	16.9	83.1	148,800
57.12 BG2	2.2 <sup>2</sup>	97.8 <sup>1</sup>	156,300
58.12 BG2	95.1 <sup>1</sup>	4.9 <sup>2</sup>	118,600
58.14 BG1	18.5	81.5	125,800
58.14 BG2	5.0	95.0	186,400
<b>Union County</b>	<b>19.4</b>	<b>80.6</b>	<b>128,500</b>
<b>Union County DA</b>	<b>25.2</b>	<b>74.8</b>	<b>109,200</b>
202.02 BG1	18.0	82.0	146,900
202.02 BG2	12.5	87.5	135,300
202.02 BG3	17.4	82.6	123,200
203.02 BG1	9.0	91.0	137,800
203.02 BG2	14.0	86.0	117,000
203.03 BG2	10.0	90.0	109,200
203.03 BG3	5.0	95.0	149,600
203.03 BG4	10.0	90.0	110,600

**TABLE 11: MEDIAN HOME VALUE**

Block Group or Jurisdiction	Renter-occupied housing units %	Owner-occupied housing units %	Median value owner-occupied units (\$)
203.04 BG1	15.0	85.0	131,500
203.04 BG2	17.0	83.0	101,100
203.04 BG3	12.0	88.0	141,200
203.04 BG4	12.4	87.6	147,600
204.01 BG1	21.6	78.4	187,200 <sup>1</sup>
204.01 BG2	32.4	67.6	116,100
204.02 BG1	69.1	30.9	53,500
204.02 BG2	62.4	37.6	53,200 <sup>2</sup>
204.02 BG3	63.1	36.9	58,900
204.02 BG4	12.4	87.6	111,400
204.02 BG5	57.3	42.7	108,400
205 BG1	36.2	63.8	100,300
205 BG2	52.0	48.0	85,900
205 BG3	52.2	47.8	82,300
206 BG1	39.0	61.0	184,700
206 BG2	39.7	60.3	70,600
206 BG3	66.6	33.4	78,900
206 BG4	40.3	59.7	149,400
206 BG5	29.8	70.2	86,300
207 BG1	27.2	72.8	98,000
207 BG2	25.9	74.1	98,200
207 BG3	38.2	61.8	92,100
207 BG4	15.3	84.7	113,200
208 BG2	23.4	76.6	79,500
208 BG4	25.2	74.8	84,200

Source: US Census Bureau (2000) SF 3, Tables H7 and H76. Notes: <sup>1</sup>Highest value, <sup>2</sup>Lowest value

In Mecklenburg and Union Counties in 2000, the median home value for the DA was higher than the state of North Carolina’s median value, \$108,300. The Mecklenburg County median home value for the DA was \$149,850 and for Union County it was \$109,200. Mecklenburg County incorporates the metropolitan area of the City of Charlotte while Union County’s cities are smaller and have historically served as bedroom communities of Charlotte. This indicates that the housing market for the DA was relatively robust in the year 2000 and based on the growth that this region has experienced since the 2000 Census, it is anticipated that the 2010 Census will reveal a similar trend.

### **2.4.2. Year House Built**

In order to assess the longevity of the housing stock in the DA, particularly in the rural areas, the age of the homes was evaluated as reported in the 2000 Decennial Census (**Table 12**). Based on the results, the largest percentage (40 percent) of homes in the Mecklenburg County DA were built in the 1990s with a total of 2,293 homes. The Union County DA saw similar results with 9,629 homes built in the 1990s (39 percent). Homes have continued to be constructed in both Mecklenburg and Union Counties since 2000. This supports what the local officials have stated regarding growth within the region.

**TABLE 12: YEAR HOUSE BUILT**

Block Group or Jurisdiction	1999 - March 2000	1995 - 1998	1990 - 1994	1980 - 1989	1970 - 1979	1960 - 1969	1950 - 1959	1940 - 1949	1939 or earlier	Total Number of Houses
<b>Mecklenburg County DA</b>										
57.09 BG1	0	114	213	430	216	52	0	0	0	1,025
57.12 BG1	0	40	145	326	123	80	18	0	0	732
57.12 BG2	9	34	58	116	204	9	8	7	0	445
58.12 BG2	149	316	416	623	51	17	17	38	0	1,627
58.14 BG1	10	218	32	87	227	149	23	19	0	765
58.14 BG2	39	158	342	454	35	32	24	17	9	1,110
<b>TOTAL</b>	<b>207</b>	<b>880</b>	<b>1206</b>	<b>2036</b>	<b>856</b>	<b>339</b>	<b>90</b>	<b>81</b>	<b>9</b>	<b>5,704</b>
<b>Union County DA</b>										
202.02 BG1	9	82	157	150	87	35	82	9	16	627
202.02 BG2	20	50	52	96	101	34	45	38	31	467
202.02 BG3	32	64	48	27	58	51	25	21	7	333
203.02 BG1	354	640	283	113	98	180	39	53	9	1,769
203.02 BG2	22	191	485	77	69	41	55	7	67	1,014
203.03 BG2	130	137	21	134	358	32	20	0	0	832
203.03 BG3	316	372	226	73	125	123	30	2	0	1,267
203.03 BG4	206	335	274	90	241	165	43	38	33	1,425
203.04 BG1	119	195	71	45	106	78	38	21	0	673
203.04 BG2	123	76	33	93	182	55	34	0	27	623
203.04 BG3	8	153	50	422	199	81	52	27	0	992
203.04 BG4	187	343	133	109	142	51	39	14	4	1,022
204.01 BG1	11	241	134	202	100	39	19	0	11	757
204.01 BG2	41	166	90	163	208	98	57	9	19	851
204.02 BG1	0	0	9	97	70	162	33	75	44	490
204.02 BG2	14	0	19	49	63	27	94	18	92	376
204.02 BG3	0	31	52	27	58	169	44	34	119	534
204.02 BG4	156	197	259	324	95	129	94	29	46	1,329
204.02 BG5	48	100	260	214	65	177	106	37	10	1,017
205 BG1	23	23	40	106	102	155	69	28	44	590
205 BG2	0	13	37	47	72	27	92	0	233	521
205 BG3	18	15	0	61	59	107	68	8	28	364
206 BG1	19	231	64	221	105	63	87	33	72	895
206 BG2	6	16	29	44	77	124	68	8	6	378
206 BG3	11	0	54	199	256	101	35	121	97	874
206 BG4	22	50	107	185	241	70	71	32	7	785
206 BG5	12	11	0	36	78	52	26	7	0	222
207 BG1	11	128	70	123	102	60	13	6	24	537
207 BG2	69	134	100	117	147	118	32	23	35	775
207 BG3	1	70	41	178	149	112	27	22	26	626
207 BG4	33	100	99	107	132	53	123	23	70	740
208 BG2	9	37	40	24	41	36	57	21	43	308
208 BG4	6	18	37	74	124	126	62	38	95	580
<b>TOTAL</b>	<b>2036</b>	<b>4219</b>	<b>3374</b>	<b>4027</b>	<b>4110</b>	<b>2931</b>	<b>1779</b>	<b>802</b>	<b>1315</b>	<b>24,593</b>

Source: US Census Bureau (2000) SF 3 Table H34.

### **2.4.3. Household Growth**

The value of homes in the DA as well as the number of homes in the DA is increasing. This is based on a robust economy in the Charlotte Metropolitan Area including eastern Mecklenburg County and western Union County. A booming economy and increasing population highlight the continuing need for affordable housing stock. The dilemma for the communities in the DA will be to balance their plans for economic development with the needs of new residents and first time home buyers. Currently, water/sewer infrastructure improvements are needed throughout the region before commercial, industrial or residential development can continue to grow.

Local officials representing the communities along the project corridor are generally supportive of growth, but they are concerned with existing infrastructure limitations and are therefore seeking opportunities to fulfill those needs. The Towns of Wingate and Marshville are working with Partnership through Progress, a non-profit economic development agency, to seek out opportunities for their communities. Neither of these communities has been approached by developers for residential development, but both are optimistic that if the water/sewer infrastructure and transportation access that are upgraded and improved, there will be increased interest in their communities.

Monroe, Stallings, and Indian Trail have all expressed a strong desire to increase their commercial and employment base, stating that there is considerable residential development in place. Matthews and Mint Hill are mostly built out and are conscious of maintaining the integrity of their existing uses while providing opportunities for amenities for their residents, such as parks and retail.

The communities along the project corridor have the potential for substantial household growth as people continue to move to the Charlotte metropolitan area and necessary infrastructure is constructed.

## **2.5. Business and Employment Characteristics**

According to the Mecklenburg-Union Metropolitan Planning Organization's (MUMPOs) 2030 Long Range Transportation Plan (LRTP), the economy of the region is very robust and continues to grow. The University of North Carolina (UNC)-Charlotte Urban Institute estimated that in 2000 there were 920,000 jobs in the Piedmont region, of which approximately 63 percent (569,000) were located in the MUMPO planning area. This includes the City of Charlotte, the largest city in North Carolina (MUMPO Web site: [www.mumpo.org/](http://www.mumpo.org/)).

According to the Employment Security Commission of North Carolina, total employment in Mecklenburg County increased by 46.4 percent between 1990 and 2006 (from 291,663 to 426,921) while total employment in Union County increased by 89.4 percent (from 45,258 to 85,737) over the same period. The increases in total employment in Mecklenburg County and Union County were both greater than the statewide increase of 26.7 percent (from 3,352,165 to 4,248,490).

The economy is comprised of a diverse mix of employment sectors (**Table 13**). In 1990 and 2006, the sector that provided the highest number of jobs in Mecklenburg County was Trade/Transportation/Utilities. In Union County the trend was different. In 1990, the largest sector was Trade/Transportation/Utilities, but by 2006, the Education/Health sector had outpaced

the previous percentage of job opportunities. This is most likely due to the expansion of medical facilities in Union County. In October 2002, the Union Regional Medical Center opened a new 85,000 square foot facility in Monroe.

**TABLE 13: ANNUAL EMPLOYMENT DISTRIBUTION – 1990/2006 (%)**

Employment Industry	1990			2006		
	North Carolina	Union County	Mecklenburg County	North Carolina	Union County	Mecklenburg County
<b>Goods-Producing Domain</b>						
Natural Resources/Mining	0.8	0.7	0.1	0.8	1.5	0.2
Construction	5.4	11.7	6.1	6.2	16.5	6.4
Manufacturing	26.6	40.7	13.2	14.0	21.3	6.5
<b>Service-Providing Domain</b>						
Trade/Transportation/Utilities	21.1	17.5	27.8	19.8	17.4	22.7
Information	1.9	1.0	3.9	1.9	0.6	3.6
Financial Activities	4.4	3.4	8.7	5.1	2.5	12.0
Professional/Business	7.7	3.6	14.1	12.1	8.4	18.5
Education and Health	16.1	11.4	12.0	21.7	17.5	14.6
Leisure and Hospitality	7.7	4.4	7.7	9.6	6.9	9.6
Other Services	2.6	1.8	3.1	2.5	2.5	2.9
Public Administration	5.6	3.7	3.2	5.7	4.2	2.8
Unclassified	0	0	0	0.6	0.7	0.4
Total Government Sector	15.5	11.9	10.1	16.7	16.6	10.9
Total Private Sector	84.5	88.1	89.9	83.3	83.4	89.1

Source: North Carolina Employment Security Commission.

Notes: Employment numbers are Annual Average Employment for aggregate of all types by Super sector or Domain. Year 2006 most recent year in which annual data available.

One of the reasons for the large number of jobs in the Trade/Transportation/Utilities sector is the highway corridors that support the Charlotte region, such as US 74, which provides a direct route from the Port of Wilmington to airports in the region. This region also has two interstate facilities, I-77 and I-85 with I-485, a partial loop. Charlotte-Douglas International Airport was ranked 16<sup>th</sup> in the nation for number of passengers in 2007 (Charlotte-Douglas International Airport website, [www.charmeck.org/Departments/Airport/About+CLT/Fast+Facts.htm](http://www.charmeck.org/Departments/Airport/About+CLT/Fast+Facts.htm)).

According to the Charlotte Chamber of Commerce, North Carolina is currently the 16<sup>th</sup> largest trucking center in the country, and 47 percent of the nation's top 100 trucking companies operate in Charlotte, including all of the top ten firms (Charlotte Chamber of Commerce Web site: [www.charlottechamber.org](http://www.charlottechamber.org)). Charlotte has become a major transfer point for freight service and has become the sixth largest trading area in the nation. The Charlotte metropolitan area is home to 282 trucking companies and over 32,000 transportation employees, including truckers.

## 2.6. Community Resources

Community resources located within the DA are shown in **Figures 8a-c**. These resources provide basic needs and services to communities and neighborhoods in the area. Community resources information was obtained in part from the North Carolina Center for Geographic Information and Analysis, Union and Mecklenburg Counties' Geographic Information System

(GIS) Departments, ADC Map Books, and field reviews conducted in March and April 2008. Complete references are included in **Chapter 5**. Community resources inventoried for the DA include:

- Educational Facilities
- Post Offices
- Churches and Cemeteries
- Parks and Recreational Facilities
- Medical Facilities
- Public Safety Facilities
- Bike and Pedestrian Routes
- Transit Routes

### **2.6.1. Educational Facilities**

As shown in **Table 14** and **Figures 8a-c**, there are a number of educational facilities located within the DA. However, only one elementary school (Stallings Elementary), one high school (Forest Hills High School), and one college (Central Piedmont Community College) are located within the DCIA.

**TABLE 14: EDUCATIONAL FACILITIES LOCATED WITHIN THE DEMOGRAPHIC AREA**

<b>Name</b>	<b>Address</b>	<b>In DCIA? (Segment)</b>
Stallings Elementary School	3501 Stallings Road, Stallings	Yes (18A)
Central Piedmont Community College – Levine	2800 Campus Ridge Road, Matthews	Yes (18A)
Forest Hills High School	100 Forest Hills School Road, Marshville	Yes (40, 41)
Crestdale Middle School	940 Sam Newell Road, Matthews	No
Indian Trail Elementary School	200 Education Road, Indian Trail	No
Hemby Bridge Elementary School	6701 Indian Trail Fairview Road, Indian Trail	No
Sun Valley Middle School	1409 Wesley Chapel Road, Indian Trail	No
Sun Valley High School	5211 Old Charlotte Highway, Monroe	No
Shiloh Elementary School	5210 Rogers Road, Monroe	No
Benton Heights Elementary School of the Arts	1200 Concord Avenue, Monroe	No
East Elementary School	515 Elizabeth Avenue, Monroe	No
Monroe Middle School	601 East Sunset Drive, Monroe	No
Monroe High School	One High School Drive, Monroe	No
Walter Bickett Elementary School	830 ML King Boulevard, Monroe	No
Wingate Elementary School	301 Bivens Street, Wingate,	No
Marshville Elementary School	515 North Elm Street, Marshville	No
South Piedmont Community College	4209 Old Charlotte Highway, Monroe	No
Wingate University	US 74, P.O. Box 159, Wingate	No
David W. Butler High School	1810 Matthews-Mint Hill Road, Matthews	No
Metrolina Christian Academy	732 Indian Trail-Fairview Road, Indian Trail	No
East Union Middle School	6010 West Marshville Boulevard, Marshville	No
Sardis Elementary School	4416 Sardis Church Road, Monroe	No
Matthews Elementary	200 McDowell Street, Matthews	No
Village Park Traditional School	200 Indian Trail Road, Indian Trail	No
Union Academy	3828 Old Charlotte Highway, Monroe	No
Rock Rest Elementary School	814 Old Pageland Monroe Road, Monroe	No
Monroe Christian Academy	1721 North Charlotte Avenue, Monroe	No

**TABLE 14: EDUCATIONAL FACILITIES LOCATED WITHIN THE DEMOGRAPHIC AREA**

Name	Address	In DCIA? (Segment)
Tabernacle Christian School	2900 Walkup Avenue, Monroe	No

### 2.6.2. Post Offices

There is one post office, the Monroe United States Post Office, located within the corridor south of US 74 at 407 North Main Street. This post office is outside of the DCIA.

### 2.6.3. Churches and Cemeteries

As shown in **Table 15** there are several churches located within the DA; however, only seven churches are located within the DCIA.

**TABLE 15: CHURCHES WITHIN THE DEMOGRAPHIC AREA**

Name	Address	In DCIA? (Segment)
<b>Union County</b>		
Next Level Church	4317 Stevens Mill Road, Stallings	Yes (18A)
Forest Hills Baptist Church	324 Smith Circle, Wingate	Yes (22A, 30)
Morning Star Methodist Church	4604 Secrest Shortcut Road, Monroe	Yes (22A, 30)
Grace Methodist Church	3522 Secrest Shortcut Road, Monroe	Yes (31)
Trinity Baptist Church	2613 North Concord Highway, Monroe	Yes (31)
Benton Heights Presbyterian Church	Highway 601, Monroe	Yes (31)
Morgan Mill Road Baptist Church	2505 Morgan Mill Road, Monroe	Yes (34, 36)
Watts Grove Baptist Church	3105 North Rocky River Road	No
Turner Grove AME Zion Church	1512 John Baker Road, Monroe	No
Wingate United Methodist Church	109 Hinson Street, Wingate	No
Wingate Baptist Church	108 Elm Street, Wingate	No
Baptist Bible Tabernacle	2900 Walkup Avenue, Monroe	No
Piney Grove Baptist Church	1708 Ansonville Road, Marshville	No
Austin Grove Baptist Church	5919 Austin Grove Church Road, Marshville	No
Nicey Grove Baptist Church	308 Old Highway 74, Monroe	No
Monroe Church of Christ	2501 Walkup Avenue, Monroe	No
Full Gospel Ministries of Monroe	2507 Walkup Avenue, Monroe	No
High Hill Primitive Baptist Church	2225 Concord Avenue, Monroe	No
Roanoke Baptist Church Union County	618 Roanoke Church Road, Monroe	No
Rolling Hills United Methodist Church	2691 Roosevelt Boulevard, Monroe	No
First Assembly of God	2500 Arnold Drive, Monroe	No
Union Grove Primitive Baptist Church	3613 Morgan Mill Road, Monroe	No
First Church of the Nazarene	2707 Secrest Shortcut Road, Monroe	No
New Grace Baptist Church	6201 Indian Trail-Fairview Road, Indian Trail	No
Crossroads Baptist Church	3300 North Rocky River Road, Monroe	No
Monroe Christian Worship Center	1721 North Charlotte Avenue, Monroe	No
Shining Light Baptist Church	2541 Old Charlotte Highway, Monroe	No
<b>Mecklenburg County</b>		
Church of God - Matthews	517 East John Street, Matthews	No
Idlewild Baptist Church	12701 Idlewild Road, Matthews	No
Matthews Baptist Church	185 South Trade Street, Matthews	No
Matthews House of Prayer	429 Linden Street, Matthews	No
Matthews Orthodox Presbyterian	2701 Rice Road, Matthews	No
Morning Star Evangelical	12509 Idlewild Road, Matthews	No

**TABLE 15: CHURCHES WITHIN THE DEMOGRAPHIC AREA**

Name	Address	In DCIA? (Segment)
Morning Star Presbyterian	13000 Idlewild Road, Matthews	No
Pleasant Plains Baptist Church	3316 Pleasant Plains Road, Matthews	No
Matthews Presbyterian Church	207 West John Street, Matthews	No
Mount Moriah Missionary	403 Crestdale Road, Matthews	No
Korean Baptist Church	1015 South Trade Street, Matthews	No

As shown in **Table 16**, there are nine known cemeteries located within the DA; however, there is only one cemetery located within the DCIA.

**TABLE 16: CEMETERIES WITHIN THE DEMOGRAPHIC AREA**

Name	Address	In DCIA? (Segment)
Williams Griffin Cemetery	3624 Monroe-Ansonville Road, Monroe	Yes (34, 36)
Wingate Cemetery	Highway 74, Wingate	No
Piney Grove Baptist Church Cemetery	Ansonville Road, Marshville	No
Strawn-Treadaway Cemetery	Ansonville Road, Marshville	No
Austin Grove Baptist Church Cemetery	5919 Austin Grove Church Road, Marshville	No
Webb Cemetery	Forest Hills School Road, Marshville	No
Hill Cemetery	Olive Branch Road, Monroe	No
Abram Secrest Cemetery	Off Secrest Shortcut Road, Monroe	No
Indian Trail Cemetery	Williams Street, Indian Trail	No

#### 2.6.4. Parks and Recreational Facilities

**Table 17** lists the parks and recreation facilities in the DA. As shown in **Figures 8a-c**, there is one public facility, the proposed Matthews Sportsplex, located within the DCIA.

**TABLE 17: PARKS AND RECREATIONAL FACILITIES WITHIN THE DEMOGRAPHIC AREA**

Name	Address	Public/Private Ownership	In DCIA? (Segment)
Matthews Sportsplex (proposed)	Southwest Quadrant I-485 and US 74, Matthews	Public – Mecklenburg County	Yes (18A)
Edna Love Park	240 East Park Road, Indian Trail	Private – Indian Trail Athletic Association	No
Pebble Creek Golf Course	6207 Independence Boulevard, Indian Trail	Private – LR & FR LLC, Course open to the public	No
Russell Park	6208 Creft Circle, Lake Park	Public – Village of Lake Park	No
Founders Park	Mother Teresa Drive, Lake Park	Public – Village of Lake Park	No
Lake Park	Lake Park Road, Lake Park	Public – Village of Lake Park	No
Fred Kirby Park	Faith Church Road, Lake Park	Public – Union County	No
Veterans Park	5400 Creft Circle, Lake Park	Public – Village of Lake Park	No
Rolling Hills Country Club	2722 West Roosevelt Boulevard, Monroe	Private – Rolling Hills Country Club, Inc. – Course not open to the public	No
Parks Williams Athletic Center	1717 Williams Road Extension, Monroe	Public – City of Monroe	No
Monroe Aquatics Center	2325 Hanover Drive, Monroe	Public – City of Monroe	No
Dickerson Park	899 North Johnson Street, Monroe	Public – City of Monroe	No
Belk Tonawanda Park	Allen Street, Monroe	Public – City of Monroe	No

**TABLE 17: PARKS AND RECREATIONAL FACILITIES WITHIN THE DEMOGRAPHIC AREA**

Name	Address	Public/Private Ownership	In DCIA? (Segment)
Don Griffin Park	Skyway Drive/Cedar Street, Monroe	Public – City of Monroe	No
Creft Park	Stafford Street, Monroe	Public – City of Monroe	No
Winchester Center	1001 Winchester Avenue, Monroe	Public – City of Monroe	No
Ellen Fitzgerald Senior Center	327 South Hayne Street, Monroe	Public – City of Monroe	No
Sunset Park	Sunset Drive, Monroe	Public – City of Monroe	No
J Ray Shute Center	506 Green Street, Monroe	Public – City of Monroe	No
Parker and Hayne St Park	Parker Street and Hayne Street, Monroe	Public – City of Monroe	No
Monroe Country Club	US 601 South, Monroe	Public – City of Monroe – Municipal golf course open to the public	No
Sutton Park	2303 Brooks Street, Monroe	Public – City of Monroe	No

### 2.6.5. Medical Facilities

Two hospitals serve the Project Study Area; Carolinas Medical Center-Union and Presbyterian Hospital Matthews. Carolinas Medical Center-Union is located in the DA in west Monroe, east of the US 74 / South US 601 intersection. Presbyterian Hospital Matthews is just outside the DA on NC 51, southwest of US 74 in Mecklenburg County. Neither of these facilities is located within the DCIA.

### 2.6.6. Public Safety Facilities

**Table 18** includes a list of the police and fire facilities within the DA. These facilities are all in Union County. None of these facilities are located within the DCIA (**Figures 8a-c**).

**TABLE 18: PUBLIC SAFETY FACILITIES WITHIN THE DEMOGRAPHIC AREA**

Name	Address	In DCIA? (Segment)
Marshville Police Department	113 West Main Street, Marshville	No
Monroe Police Department	218 East Franklin Street, Monroe	No
Union County Sheriff's Office	3344 Presson Road, Monroe	No
Wingate Police Department	4114 US Highway 74 East, Wingate	No
Stallings Police Department	315 Stallings Road, Stallings	No
Monroe Fire Department	300 West Crowell Street, Monroe	No
Bakers Volunteer Fire Department	2116 North Rocky River Road, Monroe	No
Hemby Bridge Volunteer Fire	6628 Mill Grove Road, Indian Trail	No
Stallings Volunteer Fire Department	4616 Old Monroe Road, Indian Trail	No
Unionville Fire Station	1004 Unionville Indian Trail Road East, Monroe	No
North Carolina State Highway Patrol	2206 Fowler Secrest Road, Monroe	No

### 2.6.7. Bike and Pedestrian Facilities

The *Charlotte-Mecklenburg Bicycle Transportation Plan* was adopted by the Charlotte City Council and Mecklenburg Board of County Commissioners in 1999. The Bicycle Plan calls for the addition of bike facilities (bike lanes, wide outside lanes, signage, etc.) when streets are newly

constructed, reconstructed or resurfaced. The plan also includes elements such as education on bicycling issue, bike facilities tied to public transit, and connectivity between neighborhoods and off-street trails.

Several local communities have prepared or adopted master plans which reference the need for improved conditions for bicycling and have appointed boards that consider bicycling issues. (MUMPO's 2030 LRTP). There are currently no bicycle or pedestrian facilities in the project study area.

#### 2.6.7.1 Matthews

Matthews encourages construction of pedestrian and bicycle facilities in the Town's Land Use Plan. The plan's transportation objectives include:

- developing and encouraging the use of alternate transportation modes and greater connectivity between neighborhoods and local destination points and
- developing pedestrian sidewalks, bikeways, and similar facilities which encourage alternative transportation choices, and connect existing portions of off-street paths for greater continuity.

#### 2.6.7.2 Mint Hill

Many older neighborhoods are requesting sidewalks, indicating that there is an interest for sidewalks within the municipality. Mint Hill has a Downtown Master Plan (Town of Mint Hill Web site, [www.minthill.com/documentcenterii.asp](http://www.minthill.com/documentcenterii.asp)) that proposes a greenway loop around the downtown to serve both pedestrians and bicyclists as a multi-use path. The Town and developers will install a number of pedestrian crosswalks at several intersections over the next year. Sidewalks are prioritized on the basis of need and feasibility by the Board of Commissioners each year. Sidewalks are required for all new developments and development expansions of 50 percent or greater.

#### 2.6.7.3 Monroe

The City of Monroe's Transportation Department has a sidewalk priority program that is submitted to the City Council for approval each year. Priorities are based primarily on pedestrian traffic safety issues. The citizens of Monroe have a high interest in the provision of sidewalks and greenways within the community.

#### 2.6.7.4 Stallings

The Town of Stallings reported some citizen interest in building sidewalks and has a budget of \$85,000 to \$100,000 each year to spend on sidewalks. However, there is no prioritization system currently in place. The Town's Parks Committee is very interested in developing both bicycle and pedestrian plans. Currently, land uses under commercial general use zoning are not required to build sidewalks; however, the Town requires sidewalks under the conditional use process.

### 2.6.7.5 Indian Trial

Citizens are generally interested in sidewalks, especially adjacent to schools and within the downtown district. When prioritizing sidewalks, the need, connectivity and destinations (especially to schools) are considered. The Town requires sidewalks based on the type of development and roadway classification.

### 2.6.7.6 Wingate

Sidewalks in Wingate are built in centralized areas of the town where there is heavy pedestrian traffic.

## 2.6.8. Transit Routes

The Charlotte Area Transit System (CATS), formed in 2000, is the largest provider of mass transit services in the region. CATS is managed by the Charlotte-Mecklenburg County Public Transit Department. CATS currently serves Mecklenburg County, including the City of Charlotte and suburban communities: Matthews, Pineville and Mint Hill. The Department manages day-to-day operations of the City's transit services while planning for a regional transit system that could include bus rapid transit, light rail, commuter rail, and expanded bus service within a six-county area.

CATS provides a vanpool program for work trip destinations in Mecklenburg County. The only fixed-route, fixed-schedule transit service within the Project Study Area is the Union County Express (Route 74X) ([www.charmeck.org/Departments/CATS](http://www.charmeck.org/Departments/CATS)). This route uses US 74, extending into Union County to Marshville. It provides a transportation linkage between uptown Charlotte and three park-and-ride lots along US 74 in Union County: Union Towne Shopping Center in Indian Trail, K-Mart in Monroe, and Christ Bible Teaching Center in Marshville. Additional stops are located at Matthews Town Hall, New Covenant Bible College, and CPCC Levine College.

Union County does not provide a public bus service. However, it does provide transportation services to the clients of contracting human service agencies such as the Department of Social Services, Mental Health, ARC of Union County, Vocational Rehabilitation and Veterans.

## 2.7. Infrastructure

**Table 19** lists the utility providers that provide services within the DA. Utilities and non-transportation infrastructure are concentrated in the municipal areas, but serve communities throughout the DA.

**TABLE 19: UTILITY PROVIDERS WITHIN THE DEMOGRAPHIC AREA**

Provider Name	Contact Information
<b>Electricity</b>	
Duke Energy Corporation	Duke Energy Headquarters 526 South Church Street, Charlotte, NC 28202 1-800-777-9898 or (704) 594-6200

**TABLE 19: UTILITY PROVIDERS WITHIN THE DEMOGRAPHIC AREA**

<b>Provider Name</b>	<b>Contact Information</b>
City of Monroe Electric Division	Mr. Don Mitchell, Energy Services Director City of Monroe P.O. Box 69, Monroe, NC 28111 (704) 282-4602
Union Power Cooperative	Mr. Robert Maxwell, Director of Engineering Union Power Cooperative 1525 North Rocky River Road, Monroe, NC 28110 (704) 289-3145 or (800) 922-6840
<b>Water/Sewer</b>	
Charlotte-Mecklenburg Utilities	Mr. Ted Kratzke, Utilities Locator 5730 General Commerce Drive, Charlotte, NC 28213 (704) 353-1788
Union County	Mr. Steve Huneycutt or Mr. Mark Tye, Assistant Director Union County Public Works 500 North Main Street, Suite 500, Monroe, NC 28112 (704) 296-4210
City of Monroe	Mr. Phil St. Martin, Construction Superintendent City of Monroe 2401 Walkup Avenue, Monroe, NC 28110 (704) 282-4605  Mr. Russ Colbath, Director of Water Resources City of Monroe P.O. Box 69, Monroe, NC 28110 (704) 282-4601
Town of Marshville	Mr. Bivens Steele, Public Works Director 201 West Main Street, Marshville, NC 28103 (704) 624-2680
<b>Natural Gas</b>	
Piedmont Natural Gas Company, Inc. (North Carolina Natural Gas is a division of Piedmont Natural Gas)	Mr. Rodney W. Myers, P.E., Managing Director Piedmont Natural Gas Company, Inc. 5530 Dillard Drive, Suite 240, Cary, NC 27518 (919) 235-6006
City of Monroe	Mr. Don Mitchell, Energy Services Director City of Monroe P.O. Box 69, Monroe, NC 28111 (704) 282-4602
<b>Telephone</b>	
Verizon Wireless	Ms. Betty F. Johnson Network Real Estate Manager Carolinas Region 8921 Research Drive Charlotte, NC 28262 704 510-8718 Mobile 704 576-2607 Office
Windstream	Mr. Mike Urquhart Windstream Communications 131 Matthews Street Matthews, NC 28105

**TABLE 19: UTILITY PROVIDERS WITHIN THE DEMOGRAPHIC AREA**

Provider Name	Contact Information
<b>Fiber Optics and Cable</b>	
Time Warner Cable	Ms. Jody Kiker, Construction Manager 4606 Margaret Wallace Road, Matthews, NC 28105 (704) 379-2819  Mr. Nestor Martin, Director of Construction 4606 Margaret Wallace Road, Matthews, NC 28105 (704) 378-2896

### **2.7.1. Electric Power**

Duke Energy Corporation, City of Monroe Electric Division, and Union Power Cooperative provide electric power to the DA. Duke Energy Corporation is the main power supplier for the region. Duke Energy maintains approximately 13,000 miles of transmission lines and 260 transmission stations throughout the state, including one major electric transmission line easement in the DA. This easement runs between Faith Church Road (SR 1518) and Sardis Church Road (SR 1515), within the path of the DSAs.

The City of Monroe provides residents in and around the City with electric services through seven distribution substations and 230 miles of distribution line. The City of Monroe is a member of NCMPA#1, a power generation and transmission agency which co-owns the Catawba Nuclear power plant on behalf of 19 Piedmont cities and towns (City of Monroe Web site: [www.monroenc.org](http://www.monroenc.org)).

Union Power Cooperative serves more than 63,000 members covering a five-county area, including portions of Union, Stanly, Mecklenburg, Cabarrus, and Rowan (Union Power Cooperative Web site: [www.union-power.com](http://www.union-power.com)).

### **2.7.2. Natural Gas**

North Carolina Natural Gas Corporation (NCNG) and the City of Monroe Energy Services (a wholesale customer of NCNG) are the two suppliers and distributors of natural gas in Union County. NCNG is a division of Piedmont Natural Gas. The City of Monroe has provided residents in and around the City and parts of central Union County with natural gas services since 1957.

The major natural gas line in the project corridor is a four-inch pipe running from Monroe to Charlotte along US 74. The remaining lines servicing the subdivisions in the DA range from one to three inches. The only major utility that was located within the DSAs during this study is a gas switching station that consists of several above-ground gas lines with shutoff valves, located between Roanoke Church Road (SR 1507) and Fowler Road (SR 1503).

### **2.7.3. Water and Sewer Service**

Water and sewer services are provided by Charlotte-Mecklenburg Utilities, Union County Public Works Department, and City of Monroe Water Resources Department.

Charlotte-Mecklenburg Utilities provides drinking water and sanitary sewer services to more than 750,000 customers in Mint Hill, Matthews, the City of Charlotte, and greater Mecklenburg County (Charlotte Mecklenburg Web site: [www.charmeck.org/Departments/Utilities/Home.htm](http://www.charmeck.org/Departments/Utilities/Home.htm)).

The City of Monroe Water Resources Department provides water and sewer services within the city limits. The Town of Marshville provides water and sewer services to its citizens.

Union County provides water and sewer service to most of northwestern Union County, including the towns of Stallings, Indian Trail, Hemby Bridge, and Weddington, and the Village of Lake Park. Union County also provides water and sewer service to the City of Monroe's extra-territorial jurisdiction.

Union County's water system primarily serves western Union County. Water for this area comes from the Catawba River Water Treatment Plant (WTP), which is jointly owned with the Lancaster County Water and Sewer District. The WTP provides Union County with 18 million gallons per day (MGD) of water treatment capacity. The County has identified the need to expand the capacity of this plant to meet anticipated demands in western Union County (*Union County Water Master Plan Update*, December 2005, available on the Union County Web site: [www.co.union.nc.us/PropertyServices/PublicWorks/tabid/357/Default.aspx](http://www.co.union.nc.us/PropertyServices/PublicWorks/tabid/357/Default.aspx)).

In eastern Union County, Union County Public Works supplies water to isolated pockets, including New Salem, Wingate, and a food-processing facility in Marshville. Water for this area is purchased from Anson County. Marshville also purchases their water from Anson County (*Union County Water Master Plan Update*, December 2005, available on the Union County Web site: [www.co.union.nc.us/PropertyServices/PublicWorks/tabid/357/Default.aspx](http://www.co.union.nc.us/PropertyServices/PublicWorks/tabid/357/Default.aspx)).

Union County's wastewater system has over 27,160 connections. It operates five wastewater treatment plants (WWTP), approximately 65 wastewater pumping stations, and over 500 miles of pipe with a combined rated treatment capacity of 8.1 MGD. The County also had contracts for additional capacities with Charlotte-Mecklenburg Utilities at their McAlpine Creek WWTP and the City of Monroe WWTP (*Wastewater System Performance Summary Fiscal Year 2007-2008*, Union County Department of Public Works, August 2008).

One Union County WWTP is in the vicinity of the DSAs: Crooked Creek Water Reclamation Facility. This facility is at 4015 Sardis Church Road (SR 1515), on the north side of the road, just north of existing US 74. It serves the areas of Indian Trail, Lake Park, and Stallings, and is permitted to discharge up to 1.9 MGD of treated wastewater to the North Fork of Crooked Creek (*Wastewater System Performance Summary Fiscal Year 2007-2008*, Union County Department of Public Works, August 2008, available on the Union County Web site: [www.co.union.nc.us/PropertyServices/PublicWorks/tabid/357/Default.aspx](http://www.co.union.nc.us/PropertyServices/PublicWorks/tabid/357/Default.aspx)).

#### **2.7.4. Telephone and Cable Service**

Telephone services are provided locally through Verizon and Windstream. No cell towers were identified through a preliminary field investigation of the corridor. Time Warner Cable – Charlotte Division provides cable service to areas within the DA.

## 2.8. Historic Resources

Historic architectural resources are subject to additional regulatory requirements, and are referenced in this report, but addressed in detail in the *Historic Architectural Resources Reconnaissance Report*, dated October 2007, prepared for the current Monroe Connector/Bypass project by the NCDOT. **Table 20** and **Figure 9** include historic architectural resources that are listed on or determined eligible for listing on the National Register of Historic Places (NRHP) within the DA and DCIA.

**TABLE 20: HISTORIC RESOURCES LOCATED WITHIN THE DEMOGRAPHIC AREA**

Name	Address	In DCIA? (Segment)
William Bivens House	3703 Monroe-Ansonville Road, Monroe	Yes (36, 34)
Perry-McIntyre House	758 Ansonville Road (SR 1002), Wingate	Yes (40, 41)
Monroe City Hall	102 West Jefferson Street, Monroe	No
Monroe Downtown Historic District	Portions of Franklin, Hayne and Main Streets surrounding the Old Union County Courthouse, Monroe	No
Malcolm K. Lee House	1003 East Franklin Street, Monroe, NC	No
Monroe Residential Historic District	Approximately 68 blocks southeast, south and west of the Monroe central business district, Monroe	No
John C. Sikes House	1301 East Franklin Street, Monroe, NC	No
Union County Courthouse	Courthouse Square, Monroe, NC	No
United States Post Office	407 North Main Street, Monroe, NC	No
James Orr Stores	125 Indian Trail Road South (SR 1008), Indian Trail	No
Indian Trail Presbyterian Church	113 Indian Trail Boulevard (SR 1008), Indian Trail	No
Secrest Farm	4611 Secrest Shortcut Road (SR 1501), Monroe	No
Hiram Secrest House	3023 James Hamilton Road (SR 1511), Monroe	No

## 2.9. Natural Resources

This section provides a summary of the natural resources located within the DA, and is based on the *Draft Natural Resources Technical Report*, dated October 2008, prepared for the Monroe Connector/Bypass project.

The areas within the DSAs are dominated by agricultural lands and mixed hardwood forest, with impervious surfaces covering less than 5 percent of the DSAs. Land use in the project vicinity ranges from urban to agricultural. Water resources in the study area are located within the Catawba and Yadkin-Pee Dee River Basins (US Geological Survey [USGS] Hydrologic Units 03050103 and 03040105).

There are numerous named and unnamed streams within the DA. Named streams that cross the DSAs include North Fork Crooked Creek, South Fork Crooked Creek, Stewarts Creek, East Fork Stewarts Creek, Stumplick Branch, and Richardson Creek. Water supply lakes in the DA include Lake Twitty north of Monroe and Lake Lee and Lake Monroe south of Monroe.

## 2.10. Neighborhoods

There are numerous named neighborhoods (i.e., named subdivisions) located within the DA. These neighborhoods are shown in **Figures 10a-c** and listed in **Table 21**. Unnamed neighborhoods (i.e., rural clusters of housing not identified as named communities) within the DA

are included in **Table 22**. An inventory of neighborhoods located wholly or partially within the DA was undertaken using neighborhood boundaries obtained from Union County GIS data. Information on neighborhoods was also obtained from interviews with local planning or other staff (**Appendix A**).

**TABLE 21: NAMED NEIGHBORHOODS WITHIN THE DEMOGRAPHIC AREA**

Neighborhood	In DCIA? (Segment)	Municipal Location
<b>Neighborhoods from I-485 to Indian Trail-Fairview Road (SR 1520)</b>		
Madison Ridge	Yes (18A)	Stallings
Fairhaven	Yes (18A)	Stallings
Forest Park	Yes (2)	Stallings
Woodbridge	Yes (18A)	Stallings
Mill Stone Estates	Yes (18A)	Stallings
Independence Village	Yes (18A)	Stallings
Eaglecrest	Yes (18A)	Stallings
Blackberry Ridge	Yes (18A)	Stallings
Brookfield	No	Stallings
Kingsberry	No	Stallings
Community Park	No	Stallings
Camelia Park	No	Stallings
Kerry Greens	No	Stallings
Parkside at Stallings	No	Stallings
Cherokee Woods	No	Stallings
Morningside	No	Stallings
Bryson Village	No	Stallings
Lakewood	No	Stallings
Poplar Glen	No	Stallings
Enchanted Forest	No	Stallings
Stallings Park	No	Stallings
Beacon Hills	No	Hemby Bridge
Crismark	No	Hemby Bridge
Hemby Acres	No	Hemby Bridge
Hemby Commons	No	Hemby Bridge
Williams	No	Indian Trail
Rushing Park	No	Indian Trail
<b>Neighborhoods from Indian Trail-Fairview Road (SR 1520) to Faith Church Road (SR 1518)</b>		
The Village at Indian Trail	No	Indian Trail
Ashland	No	Indian Trail
Cranston Crossing	No	Indian Trail
Ridgefield	No	Indian Trail
Indian Trail Park	No	Indian Trail
Stoney Creek	No	Indian Trail
Brandon Oaks	No	Indian Trail
Midway Park	No	Indian Trail
Village at Sage Croft	No	Indian Trail
Bent Creek	No	Hemby Bridge
Gold Hill	Yes (18A, 2)	Lake Park
Acorn Woods	Yes (18A, 2)	Lake Park
Rosemary Park	No	Lake Park
Brookstone Village	No	Lake Park
Brittany Downs	No	Lake Park
Crowell	No	Lake Park
Suburban Heights	No	Lake Park

**TABLE 21: NAMED NEIGHBORHOODS WITHIN THE DEMOGRAPHIC AREA**

<b>Neighborhood</b>	<b>In DCIA? (Segment)</b>	<b>Municipal Location</b>
Green Meadows	No	Lake Park
Lake Park	No	Lake Park
<b>Neighborhoods from Faith Church Road (SR 1518) to East of Willis Long Road (SR 1509)</b>		
Bonterra	Yes (21, 22A, 30)	Hemby Bridge
Broadway Farms	No	Hemby Bridge
Poplin Road Subdivision	No	Hemby Bridge
Hemby Woods	No	Hemby Bridge
Arbor Glen	No	Lake Park
Braefield	No	Lake Park
Suburban Estates	Yes (21, 22A, 30)	Indian Trail
Alexis Point	No	Indian Trail
Valley Estates	No	Indian Trail
Holly Park	No	Indian Trail
Sandalwood	No	Indian Trail
Bonanza Park	No	Indian Trail
Eason Subdivision	No	Indian Trail
Sardis Road	No	Indian Trail
Traewyck	No	Indian Trail
Ashe Croft	No	Indian Trail
Brittany Downs East	No	Indian Trail
Crooked Creek Estates	No	Indian Trail
Jacobs Pointe	No	Indian Trail
Grayson	No	Indian Trail
Laurel Creek	No	Indian Trail
Oakstone	No	Indian Trail
Breckonridge	No	Monroe
Myers Meadows	No	Monroe
Cameron Woods	No	Monroe
Northwood	No	Monroe
Hamilton Place	No	Monroe
Arbor Creek	No	Monroe
St. James Villas	No	Monroe
Priceton	No	Monroe
Karrington Place	No	Monroe
Fowler Glen	No	Monroe
Woodbrook Apartments	No	Monroe
Colonial Village	No	Monroe
<b>Neighborhoods from Willis Long Road (SR 1509) to East of Olive Branch Road (SR 1006)</b>		
Little Park	Yes (22A, 30)	Monroe
Kempsar	No	Monroe
Trull Place	No	Monroe
Tucker Road	No	Monroe
Bearskin Place	No	Monroe
River Chase	No	Monroe
Pinedell	No	Monroe
Hasty Woods	No	Monroe
The Pines	No	Monroe
Briarwood Acres	No	Monroe
Olde Town Estates	No	Monroe
Club View Acres	No	Monroe
Carobilt Court	No	Monroe

**TABLE 21: NAMED NEIGHBORHOODS WITHIN THE DEMOGRAPHIC AREA**

Neighborhood	In DCIA? (Segment)	Municipal Location
Valley Dale	No	Monroe
Dogwood Acres	No	Monroe
Helms Park	No	Monroe
Stoneybrook	No	Monroe
Savannah Way	No	Monroe
Pine Forest	No	Monroe
Meadowood	No	Monroe
Creekwood	No	Monroe
Hilton Meadows	No	Monroe
The Village of Woodbridge	No	Monroe
Fox Hunt	No	Monroe
Windmere	No	Monroe
Rolling Hills	No	Monroe
Yorkshire	No	Monroe
Shirley	No	Monroe
Camelot	No	Monroe
Foxmoor	No	Monroe
Nelda Drive Apartments	No	Monroe
Williams	No	Monroe
Walters	No	Monroe
Barbee Farms	No	Monroe
Bradford Estates	No	Monroe
Kimberly Court	No	Monroe
Hillsdale	No	Monroe
Sunnybrook	No	Monroe
<b>Neighborhoods from Willis Long Road (SR 1509) to East of Olive Branch Road (SR 1006)</b>		
Poplin Farms	Yes (22A, 30)	Monroe
Avondale Park	Yes (31)	Monroe
Silverthorn	Yes (31, 34, 36)	Monroe
Monticello	No	Monroe
Benton Heights	No	Monroe
Winchester	No	Monroe
Northwoods	No	Monroe
Icemorlee	No	Monroe
Nelson Heights	No	Monroe
Quality Hills	No	Monroe
Mallard Landing	No	Monroe
Crestview Acres	No	Monroe
Ridge View	No	Monroe
Lake Haven	No	Monroe
Lakeshores	No	Monroe
Lakeside	No	Monroe
<b>Neighborhoods from East of Olive Branch Road (SR 1006) to East of Austin Chaney Road (SR 1758)</b>		
Greenbrook	Yes (36)	Monroe
Colonial Oaks	No	Monroe
Creekridge	No	Monroe
Sutton Park	No	Monroe
Eastover	No	Monroe
Council Oaks	No	Monroe
Lileswood	No	Monroe
Lakeview Estates	No	Monroe

**TABLE 21: NAMED NEIGHBORHOODS WITHIN THE DEMOGRAPHIC AREA**

Neighborhood	In DCIA? (Segment)	Municipal Location
Lake Lee Estates	No	Monroe
Knollwood	No	Monroe
East Village	No	Monroe
Urban Hills	No	Monroe
Edgewood Farms	No	Wingate
Edgewood Acres	No	Wingate
Englewood Drive	No	Wingate
The Trellis	No	Wingate
Meadowview	No	Wingate
Timberhills	No	Wingate
<b>Neighborhoods from East of Austin Chaney Road (SR 1758) to West of Forest Hills School Road</b>		
College Park	Yes (34, 36)	Wingate
Windward Oaks	Yes (34)	Wingate
Glencroft	Yes (40, 41)	Wingate
Greenwood	No	Wingate
Colonial Meadows	No	Wingate
Eastwood	No	Wingate
Tanglewood	No	Wingate
College Grove	No	Wingate
Vista Ridge	No	Wingate
<b>Neighborhoods from West of Forest Hills School Road to Existing US 74</b>		
N/A	N/A	N/A

**TABLE 22: UNNAMED NEIGHBORHOODS WITHIN THE DEMOGRAPHIC AREA**

Neighborhood	In DCIA? (Segment)	Municipal Location
<b>Neighborhoods from I-485 to Indian Trail-Fairview Road (SR 1520)</b>		
Duncan Construction	No	Stallings
Pending House Property	No	Stallings
<b>Neighborhoods from Willis Long Road (SR 1509) to East of Olive Branch Road (SR 1006)</b>		
TBA (near Union Co. Fairgrounds)	No	Monroe
<b>Neighborhoods from East of Olive Branch Road (SR 1006) to East of Austin Chaney Road (SR 1758)</b>		
Proposed Duplex Subdivision	No	Wingate

### 3 ESTIMATED IMPACTS

#### 3.1 Broad-Brush Project Effects

The discussion of potential project impacts to the social environment is at both a “broad brush” level and at the neighborhood level. The broad brush level discussion considers project effects at the DCIA level or greater. The broad brush impacts generally apply equally to all the Detailed Study Alternatives (DSAs), except where noted. Where appropriate, impacts also are discussed at the DSA and/or neighborhood level for project impacts that are more local in nature.

### **3.1.1 Social and Physical**

#### 3.1.1.1 Visual and Aesthetics

Assessment of visual and aesthetic impacts was limited to addressing publically accessible views of the landscape, which are confined primarily to roadways and public lands. Viewer groups include those with views *from* the project and those with views *of* the project.

The Monroe Connector/Bypass Project Study Area is characterized by both suburban and rural landscapes. Industrial and commercial uses are predominant along existing US 74 just west of I-485, along with some residential uses. The land surrounding the western end of the DSAs (west of US 601) is largely suburban and contains mostly residential uses and neighborhoods in and around the towns of Stallings, Indian Trail, Lake Park, Hemby Bridge, and Monroe. The land surrounding the DSAs east of US 601 is more rural and includes farms, pastures, wooded areas, and scattered low-density residential development. The Project Study Area is experiencing growth, especially in the western portion, including new residential development and a shift toward a more suburban landscape.

There are no unique manmade or natural features with significant aesthetic value that exist in the vicinity of the DSAs. Aesthetic and topographic features such as open agricultural fields, pastures, rolling hills, forest-lined streams and woodland areas are present in the Project Study Area. All of the DSAs have the potential to offer visually pleasing views of these topographic features from the proposed roadway. Conversely, the DSAs have the potential to detract from existing views of rural and natural areas enjoyed by residents adjacent to the proposed roadway. Groups that may experience negative visual impacts include those with a view of the roadway, such as users of adjacent property (residents, employees, recreational users, etc.).

Portions of the DSAs, especially around Hemby Bridge, Wingate and the proposed interchanges at US 601 and NC 200, run through or very near existing residential developments and could have a range of visual impacts on residents. The degree of visual impact may be minimized in some areas by natural changes in elevation (especially in the western portion of the study area) and wooded areas that would shield the roadway from adjacent properties.

Similarly, if a DSA that includes Corridor Segment 2 (DSAs C, D, C1, D1, C2, D2, C3, D3) is selected as the Preferred Alternative, unique visual impacts could occur because of the approximately one mile of elevated roadway that is currently proposed for the existing US 74 alignment from just east of I-485 to just east of Stallings Road. A visualization of this elevated roadway can be found in **Appendix B**. Aesthetic treatments for this elevated roadway would be identified and coordinated with local municipalities to minimize any visual impacts through this primarily commercial area.

Overall, visual changes would be intermittent, with some residents subjected to a view of the roadway, and other shielded from the roadway by topography and vegetation. Some areas affected by the DSAs are urban or industrial and generally not scenic, so the degree of visual impact would be less. These areas are mostly found along existing US 74 near I-485 and along some of the major roads that would be served by interchanges.

As visual impacts can be subjective, a distinction was not made among alternatives with regard to the most or least visually impacting alternative. However, some general conclusions can be

made regarding visual/aesthetic changes. Overall, the DSAs that have a higher number of neighborhoods exposed to the roadway (i.e. impact a greater number of neighborhoods with residential relocations) are expected to have a greater amount of visual impacts.

All of the DSAs have similar numbers and types of relocation impacts to neighborhoods (**Table 28**). As such, visual impacts as a result of the project are not expected to vary substantially by DSA.

### **3.1.2 Transportation Network**

The Monroe Bypass/Connector could enhance the existing transportation network by improving regional connectivity and east-west transportation mobility in the project area. The project is anticipated to influence mobility and accessibility between places of residence and work and travel time.

#### **3.1.2.1 Mobility, Access, and Travel Time Changes**

The project should enhance mobility and connectivity within Mecklenburg and Union counties, and in the US 74 corridor overall. Overall the project will positively affect short- and long-term vehicular access to businesses, public services, and other facilities in Mecklenburg and Union counties. The project should result in travel time savings, with the greatest travel time savings likely to be seen in those geographic areas where the transportation network is least dense.

As a demonstration of the potential travel time savings, the length of the Monroe Connector/Bypass is approximately 20 miles with an estimated speed limit of 65 miles per hour (mph), which would result in a travel time of approximately eighteen minutes for the entire length of the project. In comparison, travel times on existing US 74 through the project corridor in 2007 were estimated at 50 minutes for the westbound AM peak and 47 minutes for the eastbound PM peak. By 2030, these travel times are expected to increase to 70 minutes for the westbound AM peak and 68 minutes for the eastbound PM peak, with average travel speeds between 17 mph and 21 mph. The Monroe Connector/Bypass could provide significant travel time savings to drivers using it as an alternative to existing US 74.

The proposed project would improve overall mobility and accessibility in the US 74 corridor by providing an additional transportation corridor between I-485 and US 74 near Marshville. The project would subsequently reduce traffic volumes on existing US 74 and the local street network, and provide a high-speed regional facility to promote east-west travel in Union County. The proposed project would provide direct access between eastern Union County and I-485 and the Charlotte-Mecklenburg urban area employment center, as well as provide improved connectivity between Charlotte and the port in Wilmington.

#### **3.1.2.2 Transit**

As previously discussed, CATS provides a vanpool program for work trip destinations in Mecklenburg County and a fixed-route, fixed-schedule transit service (Route 74X) outside of the DCIA along US 74, extending into Union County to Marshville. It provides a transportation linkage between uptown Charlotte and three park-and-ride lots along US 74 in Union County:

Union Towne Shopping Center in Indian Trail, K-Mart in Monroe, and Christ Bible Teaching Center in Marshville.

The Monroe Connector/Bypass could have a potentially positive impact to public transportation services by providing more opportunity for regional east-west transit routes.

### **3.1.3 Economic**

The population and employment of both Mecklenburg and Union Counties are expected to increase through 2030. Through 2030, Mecklenburg County will continue to be the dominant employment center in the region and in the MUMPO planning area. Union County is projected to almost triple its employment between 2000 and 2030.

The Monroe Connector/Bypass project would not serve a specific economic development purpose, but local planners believe that the project is vital to the economic well-being of Union County. Furthermore, local planners believe the project would benefit them in their goal to actively seek to attract commercial and industrial growth to boost the local tax base.

Business relocations are discussed in detail in **Section 3.2.2** of this report. Business relocations include those that are within the right-of-way limits or are denied access according to the functional engineering designs for the DSAs. The DSAs would relocate between 14 and 51 businesses.

None of the businesses that would be displaced by the DSAs 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 or impacts to the local economy.

### **3.1.4 Community Safety**

#### **3.1.4.1 Emergency Response**

The project would have a long-term positive impact on emergency response times in the DCIA. The project is likely to quicken some response times for services by decreasing travel times within, as well as outside of, the DCIA, and by providing improved east-west mobility in the area. There are not likely considerable differences among the DSAs with regard to response times.

None of the DSAs would impact police stations or fire stations.

#### **3.1.4.2 Pedestrian and Bicycle**

As discussed in **Section 2.6.7**, municipalities are generally encouraging and/or have adopted master plans that address interest and need for pedestrian and bicycle provisions. The proposed project does not include pedestrian and bicycle amenities since it would be a controlled-access toll facility. None of the DSAs are anticipated to affect the overall safety of non-motorist access to businesses, public services, schools, and other facilities in consideration of general pedestrian and bicycle access and safety within the DCIA.

### **3.1.5 Land Use**

Generally, the area within and surrounding the DCIA in Union County has residential uses concentrated in the Indian Trail, Stallings, Hemby Bridge, and Lake Park. Land uses along existing US 74 between I-485 and Marshville chiefly include commercial and industrial uses. Commercial and industrial uses are also concentrated around the Monroe Regional Airport (off of Old Charlotte Highway).

Generally, the unincorporated area east of US 601 is undeveloped, and contains scattered residential and institutional uses throughout the area. The eastern part of the DCIA and Union County overall has active agricultural uses.

The project would introduce a suburban element into what is generally a rural environment. However, the project is part of the MUMPO 2030 Long Range Transportation Plan. It is also referenced in the following land use plans and ordinances:

- *Matthews Land Use Plan, A Guide for Growth 2002-2012* (October 2002)
- *Mint Hill's 2000 Land Use Plan* (June 2000)
- *The Transportation Analysis and Strategies* section of the Union County Comprehensive Plan Update (September 2008)
- *Villages of Indian Trail – A Plan for Managed Growth and Livability* (November 2005).

The project is not referenced in the following land use plans and ordinances:

- *Mint Hill Comprehensive Transportation Plan* (May 2008)
- *Stallings Land Use Plan* (April 2006)
- *Town of Marshville Land Use Plan* (August 2004)

The Town of Hemby Bridge, the Village of Lake Park, the Town of Wingate, and the Town of Unionville do not have current land use plans.

Indirect and cumulative effects and changes in land use as a result of the project will be further evaluated in the Indirect and Cumulative Effects Assessment.

### **3.1.6 Farmland**

#### **3.1.6.1 Census Information**

Union County reported 1.1 percent agriculture based employment (NC ESC by Sector, 3<sup>rd</sup> Quarter 2007). For Mecklenburg County this percentage is lower at 0.2 percent. According to the 2002 Census of Agriculture (USDA Natural Agricultural Statistics Service), the number of farms in Union County increased from 1,142 to 1,224 between 1997 and 2002, and the average farm size decreased from 161 to 156 acres. For Mecklenburg County, the number of farms decreased from 377 to 300 between 1997 and 2002, while the average farm size decreased by one

acre, from 86 to 85 acres.

### 3.1.6.2 Local Farmland Programs

In May 2001, Union County adopted a voluntary farmland preservation program. The purpose of the program is to “promote agricultural values and general welfare of the County and more specifically, increase identity and pride in the agricultural community and its way of life; encourage the economic and financial health of agriculture; and increase protection from non-farm development and other negative impacts on properly managed farms.”

Union County farmers who enroll their farms in the voluntary farmland preservation program agree to keep their lands in agricultural uses for 10 years. Voluntary agricultural districts must contain a minimum of 20 contiguous acres of qualified farmland or two or more qualified farms which contain a minimum of 20 acres and are located within a mile of each other. In return for protecting farmlands, they receive recognition with roadside signs and listing on the County’s GIS website. As a part of a Farmland Preservation District, a public hearing will be required on a proposed condemnation by state or local public agencies. North Carolina Cooperative Extension – Union County Center, <http://union.ces.ncsu.edu/content/FarmlandPreservationProgram>). There are no participating Union County farm parcels within the DA.

Mecklenburg County does not have a voluntary agricultural district program. The Charlotte-Mecklenburg area has experienced substantial growth and development in the last decade, with much of the growth occurring in western Mecklenburg County.

### 3.1.6.3 Existing Agricultural Uses in the Detailed Study Alternatives

Currently, approximately 40-48 percent of the land within each DSA is considered to be agricultural uses (*Monroe Connector/Bypass Natural Resources Technical Report, October 2008*).

### 3.1.6.4 Farmland Protection Policy Act

In accordance with the Farmland Protection Policy Act (FPPA) of 1981 (7 CFR Part 658) and State Executive Order Number 96, an assessment was conducted for the potential impacts of land acquisition and construction activities on prime, unique, and local or statewide important farmland soils, as defined by the Natural Resource Conservation Service (NRCS).

The FPPA defines “farmland” as either “prime”, “state and locally important”, or other. All three types of farmland are defined by Section 1540(c)(1) of the Act. These definitions refer to areas where the soils are conducive to agricultural production, not just areas currently or historically used as farmland. According to the Act, prime farmland does not include land already in or committed to urban development or water storage.

The NRCS assigns ratings to potential farmland impacts in order to determine the level of significance of impacts. The ratings are comprised of two parts. The Land Evaluation Criterion Value represents the relative value of the farmland to be converted and is determined by the NRCS on a scale from 0 to 100 points. The Corridor Assessment, which is rated on a scale of 0 to 160 points, evaluates farmland soil based on its use in relation to the other land uses and

resources in the immediate area. The two ratings are added together for a possible total rating of 260 points. Sites receiving a total score of 160 points or more are given increasingly higher levels of consideration for protection (7 CFR Section 658.4).

### 3.1.6.5 Farmland Impacts

All proposed DSAs would involve the use of prime, statewide, and locally important farmland soils, and other existing agricultural lands. None of the DSAs involve land within a voluntary agricultural district. The project is consistent with Union County’s land use plan, which supports the preservation of agriculture and rural character in strategic areas of the county (*Union County Comprehensive Plan Update – Preliminary Land Use Plan Recommendation*, August 2008).

Although all DSAs would impact agricultural lands in Union County, these impacts would not exceed the thresholds established in the Farmland Protection Policy Act.

In accordance with the Federal Highway Administration’s *Guidelines for Implementing the Final Rule of the Farmland Protection Policy Act for Highway Projects*, a Farmland Conversion Impact Rating for Corridor Type Projects form was prepared and submitted to the NRCS. The relative value of farmland for each DSA per county (Union and Mecklenburg) was provided by the NRCS (Part V, Form CPA-106), and is provided in **Appendix D**. In addition, corridor assessment points were calculated (Part VI, Form CPA-106) for each project alternative. **Table 23** includes the total points allocated for each project alternative.

The total point value for each project alternative is less than 160 points, the value at which the US Department of Agriculture (USDA) recommends that a proposed alternative be considered for farmland protection. Based on these scores, the proposed DSAs for this project require a minimal level of farmland protection, and no mitigation for farmland loss is required for this project.

**TABLE 23: FARMLAND IMPACT RATING**

DSA	Farmland Value		Total Points	
	Union	Mecklenburg.	Union	Mecklenburg
A	81	80	147	146
B	81	80	147	146
C	81	82	147	148
D	80	82	146	148
A1	82	80	148	146
B1	81	80	148	147
C1	81	82	147	148
D1	81	82	146	147
A2	81	80	148	147
B2	81	80	147	146
C2	81	82	147	148
D2	81	82	147	148
A3	82	80	148	146
B3	82	80	148	146
C3	82	82	148	148
D3	82	82	147	147

## 3.2 Neighborhood & Community Level Project Effects

### 3.2.1 Community Services and Facilities

Community services and facilities include schools, churches, cemeteries, cultural resources, public safety facilities, community centers and libraries, hospitals, parks, and recreation areas.

#### 3.2.1.1 Schools

The newly constructed Stallings Elementary School is located at 3501 Stallings Road. The Union County Public Schools and the Town of Stallings had knowledge of the Monroe Connector/Bypass project and potential routes prior to purchasing this site. Coordination and communication with Union County Public Schools has been ongoing throughout the project development process.

Stallings Elementary School is just north of the functional design alignment in Corridor Segment 18A (DSAs A, B, A1, B1, A2, B2, A3, and B3). None of the DSAs would directly impact any school property.

On September 9, 2008, Project Team members met with Mr. Don Hughes, Director of Facilities, Planning and Construction for Union County Schools to review the functional design plans developed to that date. Following his review of Segment 18A, no concerns were expressed regarding possible direct or operational impacts to the newly constructed Stallings Elementary School.

Throughout the project development process, numerous citizens have expressed a safety concern for students at the Stallings Elementary School in Corridor Segment 18A (DSAs A, B, A1, B1, A2, B2, A3, and B3). Concerns cited included air quality concerns and overall safety as a result of the project's proximity to the new school.

The *Monroe Connector/Bypass Air Quality Technical Memorandum* (October 2008) concluded that relative to the No-Build Alternative, the DSAs in the design year are expected to result in no change or a slight reduction in Mobile Source Air Toxics (MSAT) emissions in the immediate area of the project. In comparing the DSAs, MSAT levels could be higher in some locations than others, but current tools and science are not adequate to quantify them. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be lower than today.

Some citizens also have expressed a concern for student safety with regard to the proposed interchange at Stallings Road. As seen on **Sheet 1A** in **Appendix C**, the proposed partial interchange with Stallings Road would utilize a portion of the existing Stevens Mill Road. A small portion of existing Stevens Mill Road east of Stallings Road would be realigned to the north and aligned with the elementary school entrance.

Traffic at the existing intersection of Stevens Mill Road and Stallings Road is controlled by a stop sign. At the time this CIA was undertaken, a decision had not been made regarding traffic control (i.e. stop sign, signal) at the proposed realignment of Stevens Mill Road with Stallings Road/Stallings Elementary School. Currently, a signal is proposed at the interchange's off-ramp connection to Stallings Road, but not at the on-ramp location. The NCTA will continue to

coordinate with the Union County Public School System and the Town of Stallings to determine the safest and most efficient traffic patterns for the Stallings Elementary School campus.

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

Implementation of the project would not result in direct impacts to Forest Hills High School, although traffic patterns on US 74 and Forest Hills School Road in the vicinity of the High School could be altered by implementation of any of the DSAs.

Implementation of DSAs A, B, A1, B1, A2, B2, A3, or B3 would result in a minimal direct impact to the Central Piedmont Community College property in the southeast quadrant of the existing I-485/US 74 interchange to accommodate improvements to that interchange. Additionally, under all DSAs, CPCC Lane, which provides access to the campus from US 74, would be closed to allow for control of access approaching the I-485 interchange. New access would be provided from US 74 via the new McKee Road.

### 3.2.1.2 Churches

As shown in **Tables 15 and 24**, there are five churches within the DCIA that may be impacted by the DSAs – Next Level Church, Forest Hills Baptist Church, Benton Heights Presbyterian Church, Trinity Baptist Church, and Morgan Mill Baptist Church. There are no impacts to churches associated with Corridor Segments 2, 21, 30, 34A, 34B, 36A, 36B, 40, and 41. However, all of the DSAs would impact Benton Heights Presbyterian Church and Trinity Baptist Church (Corridor Segment 31). Impacts to these two churches are anticipated to be minimal, and would include minor right-of-way encroachments, minor parking impacts, and access changes.

Forest Hills Baptist Church would be most impacted with Corridor Segment 22A (DSAs A, C, A1, C1, A2, C2, A3, and C3). The DSAs would result in a loss of about half of the parking and of access to both entrances of the church property.

**TABLE 24: CHURCH IMPACTS**

Name	Address	DSA Corridor Segment(s)	Applicable DSAs	Building Taken?	Impacted Acres (% of Total Parcel)	Notes
Next Level Church	4317 Stevens Mill Road, Stallings	18A	A, B, A1, B1, A2, B2, A3, B3	No	0.64 (4%)	Taking front of property and realigning access street.
Forest Hills Baptist Church	324 Smith Circle, Wingate	22A	A, C, A1, C1, A2, C2, A3, C3	No	0.96 (24%)	Taking about half of parking. Both entrances to church would be impacted.

**TABLE 24: CHURCH IMPACTS**

Name	Address	DSA Corridor Segment(s)	Applicable DSAs	Building Taken?	Impacted Acres (% of Total Parcel)	Notes
Benton Heights Presbyterian Church	Highway 601, Monroe	31	(All) A, B, C, D, A1, B1, C1, D1, A2, B2, C2, D2, A3, B3, C3, D3	No	2.1 (27%)	Taking property from the front along US 601 and impacting both entrances. The service road would cut through the property and take some parking.
Trinity Baptist Church	2613 North Concord Highway, Monroe	31	(All) A, B, C, D, A1, B1, C1, D1, A2, B2, C2, D2, A3, B3, C3, D3	No	0.27 (5%)	Taking property from front and impacting both entrances. Minimal parking impacts.
Morgan Mill Road Baptist Church	2505 Morgan Mill Road, Monroe	34, 36	DSA Segment 34 – A1, B1, C1, D1, A3, B3, C3, D3 DSA Segment 36 – A, B, C, D, A2, B2, C2, D2	No	0.45 (4%) Segment 34 0.54 (5%) Segment 36	Taking property from front and impacting both entrances. Minimal parking impacts.

### 3.2.1.3 Parks and Recreation

Public and privately-owned facilities/areas in the DCIA are described in **Section 2.6.4**. Impacts to the publicly-owned proposed Matthews Sportsplex are described below.

The DSAs that use Corridor Segment 18A (DSAs A, B, A1, B1, A2, B2, A3, and B3) would involve a minor encroachment into the undeveloped parcels owned by Mecklenburg County in the southwest quadrant of the existing I-485/US 74 interchange and designated for a future recreational/sportsplex use. The DSAs that use Corridor Segments 18A would acquire approximately 2.25 acres on the northwest corner of the property, adjacent to the existing I-485/US 74 interchange, to accommodate interchange improvements. These minor encroachments on the edges of the parcel are not anticipated to impact access or any future use of the property for park purposes.

In a meeting with the NCTA on September 4, 2008, Mecklenburg County Park and Recreation Department (MCPR) stated that the proposed Matthews Sportsplex is anticipated to be built within the next three years with bond dollars that were approved on November 4, 2008.

At the meeting, County staff did not perceive the proposed encroachment as a substantial impact. They did note that they typically prefer to maintain a 100-foot setback from major facilities and may be interested in additional landscaping to assist in shielding the view of US 74/I-485. MCPR would like to continue coordinating with the NCTA to ensure that, for the Preferred Alternative, right-of-way and construction limits within property boundaries are minimized to the extent feasible.

#### 3.2.1.4 Medical Facilities

No impacts to medical facilities would occur as a result of any of the DSAs.

#### 3.2.1.5 Historic Resources

Historic resources within the DCIA were described in **Section 2.8**. Surveys of historic properties were undertaken in the mid-1990s as part of the Monroe Bypass project, and in the early 2000s as part of the Monroe Connector project. These studies were updated in 2007 by the NCDOT.

Effects of the DSAs on historic properties were determined by FHWA, NCTA, NCDOT, and the State Historic Preservation Office in a meeting on September 22, 2008. The following properties were discussed and determinations of effect were made.

- Secrest Farm, 4611 Secrest Shortcut Road (SR 1501), Monroe – **No Adverse Effect**
- Hiram Secrest House, 3023 James Hamilton Road (SR 1511), Monroe – **No Adverse Effect**
- William Bivens House, 3703 Monroe-Ansonville Road, (Segments 34, 36) Monroe – **No Effect**
- Perry McIntyre Farm, 758 Ansonville Road (SR 1002) (Segments 40, 41), Wingate – **No Adverse Effect**

#### 3.2.1.6 Public Safety Facilities

As noted in **Section 3.1.4**, none of the DSAs would impact police stations or fire stations.

#### 3.2.1.7 Community Centers/Libraries

No community centers/libraries would be impacted by any of the DSAs.

#### 3.2.1.8 Utilities and Infrastructure

Utilities and non-transportation infrastructure are concentrated in the municipal areas, but serve communities throughout the DCIA. Duke Energy Corporation's transmission lines and/or transmission stations are found in the DCIA and may be directly impacted by any of the DSAs. For example, the easement that is located between Faith Church Road (SR 1518) and Sardis Church Road (SR 1515) would likely be impacted by the project with all of the DSAs (Corridor Segment 21).

There also are natural gas transmission lines scattered throughout the project, as well as water and sewer facilities.

### 3.2.2 Relocations and Displacements

Potential residential and business relocation impacts associated with each of the DSAs are presented in **Table 25**. The detailed *Relocation Reports* prepared by Carolina Land Acquisition (January 2009) are included in **Appendix E**.

#### 3.2.2.1 Residential Relocations

As shown in **Table 25**, the total number of residential relocations estimated for each DSA ranges from 94 residences (DSA A) to 149 residences (DSA D3). All of the DSAs would include three farm relocations. The highest percentages of tenants would be relocated by DSAs C3 and D3, which would each relocate approximately 17 percent tenant relocations, followed by DSA D2 with approximately 16 percent tenant relocations.

**TABLE 25: RESIDENTIAL AND BUSINESS RELOCATIONS**

DSA	Business Relocations	Residential Relocations				Farms	Non-Profit	Partial Takings
		Total Residential	Owners	Tenants	Minorities			
A	14	94	86	8	0	3	0	576
B	14	97	88	9	0	3	0	562
C	48	104	92	12	3	3	0	600
D	48	107	94	13	3	3	0	582
A1	15	112	100	12	2	3	0	552
B1	15	115	102	13	2	3	0	534
C1	49	122	106	16	5	3	0	572
D1	49	125	108	17	5	3	0	554
A2	16	118	102	16	0	3	0	560
B2	16	121	104	17	0	3	0	542
C2	50	128	108	20	3	3	0	580
D2	50	131	110	21	3	3	0	562
A3	17	136	116	20	2	3	0	533
B3	17	139	118	21	2	3	0	515
C3	51	146	122	24	5	3	0	553
D3	51	149	124	25	5	3	0	535

Source: *Monroe Connector/Bypass Relocation Reports* provided by Carolina Land Acquisition, January 2009

**Table 26** shows the income levels of households to be relocated in each DSA. None of the DSAs are estimated to relocate households with an annual income less than \$15,000. DSAs A3, B3, C3, and D3 would each relocate two households with annual incomes between \$15,000 and \$25,000.

The values of homes to be relocated in each DSA are shown in **Table 27**. The majority of homes in each DSA are valued at over \$100,000, while no homes were valued at under \$40,000.

**TABLE 26: NUMBER OF RELOCATED HOUSEHOLDS IN EACH INCOME LEVEL**

DSA	Income Level				
	\$0-\$15,000	\$15,000-\$25,000	\$25,000-\$35,000	\$35,000-\$50,000	\$50,000+
A	0	0	4	10	80
B	0	0	6	17	74
C	0	0	3	19	82
D	0	0	5	26	76
A1	0	1	9	11	91
B1	0	1	11	18	85
C1	0	1	8	20	93
D1	0	1	10	27	87
A2	0	1	4	21	92
B2	0	1	6	28	86
C2	0	1	3	30	94
D2	0	1	5	37	88
A3	0	2	9	22	103
B3	0	2	11	29	97
C3	0	2	8	31	105
D3	0	2	10	38	99

Source: *Monroe Connector/Bypass Relocation Reports* provided by Carolina Land Acquisition, January 2009

**TABLE 27: VALUE OF HOMES TO BE RELOCATED BY DSA**

DSA	Value of Dwelling (Owners)				
	\$0-\$20,000	\$20,000-\$40,000	\$40,000-\$70,000	\$70,000-\$100,000	\$100,000+
A	0	0	1	2	83
B	0	0	2	2	84
C	0	0	1	10	81
D	0	0	2	10	82
A1	0	0	1	4	95
B1	0	0	2	4	96
C1	0	0	1	12	93
D1	0	0	2	12	94
A2	0	0	1	7	94
B2	0	0	2	7	95
C2	0	0	1	15	92
D2	0	0	2	15	93
A3	0	0	1	9	106
B3	0	0	2	9	107
C3	0	0	1	17	104
D3	0	0	2	17	105

Source: *Monroe Connector/Bypass Relocation Reports* provided by Carolina Land Acquisition, January 2009

The monthly rents paid by tenants to be relocated in each DSA are shown in **Table 28**. The majority of tenants pay between \$400 and \$600 per month for rent.

**TABLE 28: RENTS PAID BY TENANTS TO BE RELOCATED**

DSA	Monthly Rent (Tenants)				
	\$0-\$150	\$150-\$250	\$250-\$400	\$400-\$600	\$600+
A	0	0	0	8	0
B	0	0	1	8	0
C	0	0	0	11	1
D	0	0	1	11	1
A1	0	0	1	11	0
B1	0	0	2	11	0
C1	0	0	1	14	1
D1	0	0	2	14	1
A2	0	0	1	8	7
B2	0	0	2	8	7
C2	0	0	1	11	8
D2	0	0	2	11	8
A3	0	0	2	11	7
B3	0	0	3	11	7
C3	0	0	2	14	8
D3	0	0	3	14	8

Source: *Monroe Connector/Bypass Relocation Reports* provided by Carolina Land Acquisition, January 2009

### 3.2.2.2 Business Relocations

The *Relocation Reports* provide an estimate of business relocations, including those that are within the right-of-way limits or are assumed to be denied access according to the functional engineering designs for the DSAs. The DSAs would relocate between fourteen and 51 businesses. It should be noted that the reports include churches as “non-profit” businesses. Impacts to churches were discussed previously in **Section 3.2.1**.

Business relocations are concentrated along US 74 (associated with Corridor Segment 2). The highest number of business relocations would occur with DSAs C3 and D3, which would each relocate 51 businesses, zero non-profits/churches, and three farms. The lowest number of business relocations would occur with DSAs A and B, which would each relocate fourteen businesses, zero non-profits/churches, and three farms.

Corridor Segment 2 alone includes 44 business relocations, which impact a total of 328 employees. Six of the businesses to be relocated in this Corridor Segment each employ 20 or more people. This segment includes the area around US 74 and makes up a portion of eight of the sixteen DSAs (C, D, C1, D1, C2, D2, C3, and D3).

Corridor Segment 18A makes up a portion of the other eight DSAs (A, B, A1, B1, A2, B2, A3, and B3). This Corridor Segment would relocate ten businesses with a total of 118 employees, including Sealing Agents, Country Inn and Suites, Northwestern Tool and McGee Corporation.

The *Relocation Reports* included in **Appendix E** list the businesses anticipated to be displaced under 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 hardship to patrons in the area.

### 3.2.2.3 Relocation Assistance

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

The NCTA follows the relocation policies of NCDOT. It is their policy to 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 supplements.

With the Relocation Assistance Program, experienced right-of-way staff will be available to assist displacees with information such as availability and prices of homes, apartments, or businesses for sale or rent, and financing or other housing programs. The Relocation Moving Payment Program, in general, provides for payment of actual moving expenses encountered in relocation. Where displacement will force an owner or tenant to purchase or rent property at higher cost or to lose a favorable financing arrangement (in case of ownership), the Relocation Replacement Housing Payments or Rent Supplement Program will compensate up to \$22,500 to owners who are eligible and qualify, and up to \$5,250 to tenants who are eligible and qualify.

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 (GS-133-5 through 133-18). This program is designed to provide assistance to displaced persons in relocation to a replacement site in which to live or do business. Relocation officers will be responsible for implementing this program.

The relocation officer will determine the needs of displaced families, individuals, businesses, non-profit organizations, and farm operations without regard to race, color, religion, sex, or national origin. The NCTA will schedule its work to allow ample time, prior to displacement, for negotiation and possession of replacement housing that meets decent, safe, and sanitary standards. The relocatees are given a 90-day written notice after NCTA purchases the property. Relocation of displaced persons will be offered in areas not generally less desirable in regard to public utilities and commercial facilities. Rent and sale prices of replacement housing will be within the financial budget of the families and replacement housing will be reasonably accessible to displaced individuals' places of employment. The relocation officer also will assist owners of displaced businesses, non-profit organizations, and farm operations in searching for and moving to replacement property.

All tenant and owner residential occupants who may be displaced will receive an explanation regarding all available options, such as: 1) purchases of replacement housing; 2) rental of replacement housing, either private or public; and 3) moving existing owner-occupied housing to another site (if practicable). The relocation officer also will supply information concerning other state or federal programs offering assistance to displaced persons and will provide other advisory services as needed in order to minimize hardships to displaced persons in adjusting to a new location.

Last Resort Housing is a program used when comparable replacement housing is not available, or is unavailable within the displacee's financial means, and the replacement payment exceeds the federal and state legal limitation. The purpose of the program is to allow broad latitudes in methods of implementation by the state so that decent, safe, and sanitary replacement housing can be provided. As stated in the *Relocation Reports*, the Last Resort Housing Program should be a consideration and, where warranted, applied in accordance with the Uniform Relocation Act.

#### 3.2.2.4 Partial Takings

In addition to potential relocations (i.e. complete takings), the DSAs would impact residences and businesses through partial takings (e.g., taking part of a front yard or parking lot). The number of residences and businesses that would be impacted through partial takings varies by DSA and ranges from 515 for DSA B3 to 600 for DSA C.

### 3.2.3 Neighborhood Impacts

The environmental planning process has given high priority to the avoidance and minimization of neighborhood disruption during the definition, evaluation, and selection of the DSAs and functional engineering designs within these DSA corridors. The initial land suitability mapping process for Monroe Connector/Bypass project identified residential areas and natural and historic resources in the Project Study Area.

Alternative alignments were developed to achieve a balance between impacts to residential developments and sensitive natural and cultural features such as wetlands, floodplains, schools, and historic resources.

Due to the large project size and number of neighborhoods affected by the functional 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 29**. The locations of these neighborhoods are shown in **Figure 10a-c**. Impacts to neighborhoods/communities are based on functional engineering designs dated September 2008 (**Appendix C**).

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 “d,” and the type of access effect is divided into qualifiers “1” or “2” for each impact category “a” through “d.” 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 (“2”)/is not (“1”) an access change associated with a particular Corridor Segment and DSA. A listing as Category “a” in **Table 29** means there is no effect to that neighborhood; it is simply within the DSA corridor area. Category “b” means there are no relocations in the neighborhood, but there is right of way needed. Category “c” means there are relocations of homes on the end of a road or edge of a neighborhood. Category “d” means relocations would occur in the midst of a neighborhood.

**TABLE 29: NEIGHBORHOOD IMPACTS**

Named Neighborhood (from west to east)	Nearest Corridor Segment(s)	Type of Effect	Detailed Study Alternative															
			A	B	C	D	A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3
Madison Ridge	18A	a	●	●			●	●			●	●			●	●		
Woodbridge	18A	a	●	●			●	●			●	●			●	●		
Millstone Estates	18A	a	●	●			●	●			●	●			●	●		
Independence Village	18A	a	●	●			●	●			●	●			●	●		
Eaglecrest	18A	a	●	●			●	●			●	●			●	●		
Blackberry Ridge	18A	a	●	●			●	●			●	●			●	●		
Forest Park	18A	a	●	●			●	●			●	●			●	●		
	2	c2			●	●			●	●			●	●			●	●
Fairhaven	18A	b1	●	●			●	●			●	●			●	●		
Acorn Woods	18A, 2	d2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Arbor Glen	21, 22A, 30	a	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Gold Hill	18A, 2	a	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Homedale Terrace	18A, 2	a	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Bonterra Village	21, 22A, 30	b1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Suburban Estates	22A, 30	b1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Laurel Creek	30	a		●		●		●		●		●		●		●		●
Oakstone	30	a		●		●		●		●		●		●		●		●
Hamilton Place	22A, 30	a	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Little Park	22A, 30	a	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Poplin Farms	22A, 30	d1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Stoney Brook	22A, 30	a	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Avondale Park	31	b1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Silverthorne	31, 34	b1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
College Park	34, 34A, 34B, 36, 36A, 36B	a	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Windward Oaks	34, 36	b2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Glencroft	34A, 34B, 36A, 36B	b1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
<b>Total Number of Category b Impacts</b>			7	7	6	6	7	7	6	6	7	7	6	6	7	7	6	6
<b>Total Number of Category c Impacts</b>			0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
<b>Total Number of Category d Impacts</b>			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
<b>Total Number of Neighborhood Impacts</b>			9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9

EFFECT: 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.  
 Note: Letter denotes type of direct impact; number denotes access change; Based on September 2008 functional engineering designs.

Overall, Corridor Segments 21, 40, 34A, 36B, and 41 would impact the least neighborhoods at one each, and Corridor Segments 22A and 30 the most, with each impacting three neighborhoods. The type of effect ranges from minor right-of-way encroachment with no relocations or access changes (listed as Category ‘b1’ in **Table 29**) to relocation of homes in the midst of neighborhood and change in access (listed as Category ‘d2’ in **Table 29**).

The total numbers of neighborhood impacts are the same for each DSA. Eleven neighborhoods would be impacted by each of the DSAs. The majority of these impacts would involve Category b impacts (right-of-way encroachment and/or change in access type of impacts). For each DSA, two neighborhoods, Acorn Woods and Poplin Farms, would require Category d impacts (relocation of homes in the midst of a neighborhood). None of the DSAs would result in total displacement of a neighborhood.

Generally, more impacts to neighborhoods would occur in the western portion of the project between Stallings and Indian Trail. This area is generally more densely developed and suburban in nature.

### 3.2.3.1 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 the edge.

**Community/Neighborhood Stability and/or Cohesion.** DSAs that result in relocations at the edge of neighborhoods are less likely to have substantial negative impacts on community cohesion and social interaction and/or changes in neighborhood social patterns. Neighborhoods with displacement impacts in the midst of their neighborhoods are more likely to feel isolated and perceive that their quality of life is negatively impacted by the project.

Based on **Table 29**, all of the DSAs would have minor community cohesion issues. In addition, all of the DSAs would have about the same effect on community cohesion. Specifically, all of the DSAs would have negative impacts on the Acorn Woods (Corridor Segments 2 and 18A) and Poplin Farms (Corridor Segments 22A and 30) neighborhoods, as well as Bonterra (Corridor Segment 21), Avondale Park (Corridor Segment 31), Silverthorn (Corridor Segment 31) and Windward Oaks (Corridor Segments 36 and 34).

**Accessibility/Access.** The project would increase overall east-west accessibility within and outside of the DCIA. However, all of the DSAs would result in access changes to existing neighborhoods, including notable changes in travel patterns to and from neighborhoods. All of the DSAs would result in access changes to the Acorn Woods and Windward Oaks neighborhoods. The Forest Park neighborhood would experience access changes with DSAs C, D, C1, D1, C2, D2, C3, and D3.

*Acorn Woods* – The current functional engineering designs for the DSAs include bridging Beverly Drive over the Monroe Connector/Bypass. Bridging of Beverly Drive over the project would maintain existing access to the Acorn Woods neighborhood. The bridging option would remove access for several residents along Beverly Drive north and south of the Monroe Connector/Bypass. Should the bridging option decision not be carried through, residences along Beverly Drive would keep their existing access, and there would be no available access of Beverly Drive across the Monroe Connector/Bypass (i.e. possible cul-de-sac) for Acorn Woods residents. Approximately 43 homes in the Acorn Woods neighborhood would experience a change in access under any of the DSAs, in addition to the homes that would be purchased for right of way.

*Windward Oaks* – Existing access to this neighborhood is provided via McIntyre Road. Corridor Segments 34 and 36 would not provide access over the Monroe Connector/Bypass. The functional engineering designs for the DSAs include a cul-de-sac of McIntyre Road on both sides of the Connector/Bypass. This will require neighborhood residents to use Austin Chaney Road, then Monroe Ansonville Road, and then McIntyre Road to enter their neighborhood from the south. All 146 homes in the Windward Oaks neighborhood would experience a change in access under any of the DSAs.

*Forest Park* – Existing access to this neighborhood is provided via Forest Park Road off US 74. This connection would be removed under Corridor Segment 2 and Forest Park Road would then be given a new connection to Stallings Road. Union West Boulevard would be severed and cul-de-saced under Corridor Segment 2, and this would limit access to Forest Park. Oak Spring Road also would be severed and cul-de-saced under Corridor Segment 2. This road runs between Forest Park and Fairhaven and currently ends in a “T” intersection in front of Next Level Church. Only DSAs C, D, C1, D1, C2, D2, C3, and D3 would result in changes in access to the Forest Park neighborhood. Approximately 215 homes in the Forest Park neighborhood would experience a change in access under these DSAs, in addition to the homes that would be purchased for right of way.

**Noise.** With the exception of areas near existing US 74 and I-485, most of the Project Study Area 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.

Noise increases (as defined in 23 CFR Part 772) are most likely to occur within 350 feet of the nearest travel lanes, based on 2035 project-generated traffic (*Draft Traffic Noise Technical Memorandum for the Monroe Connector/Bypass*, PBS&J, November 2008). However, it should be noted that traffic noise from the project would be audible farther than 350 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 DSAs in accordance with FHWA and NCDOT noise abatement criteria. The preliminary noise barriers are located adjacent to the following subdivisions: Acorn Woods/Gold Hill (DSAs A, B, A1, B1, A2, B2, A3, and B3), Avondale Park (all DSAs), and Glencroft (DSAs A2, B2, C2, D2, A3, B3, C3, and D3). These noise barriers were recommended to reduce noise levels and would be incorporated into the ultimate design for the project. The determination of feasibility and reasonableness is preliminary and subject to change based upon final design, building permits issued as of the Date of Public Knowledge, and the public involvement process.

### 3.3 Environmental Justice

The consideration of environmental justice (EJ or Title VI) 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*, TxDOT, March 2005) [referred to as the *Guidance*]. However, the need to identify and address the effects of tolling on environmental justice populations is gaining attention at both the transportation system level and project level.

There are currently no plans for an inter-connected system of toll roads in the region or state. The *Guidance* noted above 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 Monroe Connector/Bypass DSAs are listed and evaluated in **Table 30**.

**TABLE 30: GENERAL ENVIRONMENTAL JUSTICE EVALUATION FOR TOLL FACILITIES**

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 US 74.
Adequate north-south and east-west corridors to serve as alternate routes	No potential for disproportionately high and adverse impact. Non-toll corridors are available to continue to serve as alternate routes.
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-485, US 74, and US 601. All travelers would still have access to these existing routes, as they do today. If travelers choose to use existing routes, their travel distance will remain the same as it is today.
Tolling affect on transit	Not known. Project could provide opportunities for transit service enhancement.
Cost of toll	Although the <i>Proposed Monroe Connector Preliminary Traffic and Revenue Study</i> (Wilbur Smith Associates, October 11, 2006) estimates a passenger car cash rate of \$2.50 (\$0.1269 per mile for a full-length trip on the facility at a length of 19.7 miles), this estimate is preliminary and subject to change.
100% Electronic Tolling	Specific payment options have not yet been determined. In addition to paying tolls, electronic toll collection may involve establishing an account. Some low-income users may not be willing or able to establish an account. Electronic tolling options that do not require an account are planned to be available. Non-toll facilities are also available as alternate routes, including existing US 74.
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 relocation reports.
Impact to businesses	No potential for disproportionately high and adverse impacts based upon the relocation reports.
Denial of benefits or disproportionate impacts to low-income drivers	No potential for disproportionately high and adverse impacts. Alternate non-toll routes, including US 74, will continue to be available. There will be several options for toll payments, some of which will not require an account, which low-income drivers may be unwilling or unable to establish.

The *Guidance* noted above 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 appear to be less*

*than those for a less developed transportation network. This is because non-toll alternatives available for those who are unable to pay are limited. The users who are able to pay will not bear as much of the toll burden as the low-income population.*

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 EJ communities and on local arterials sooner than through traditional funding methods.*

The project would provide a new route in the region. A result of the project would be reduced traffic on existing alternate non-toll routes, including US 74. 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.

### **3.3.1 Environmental Justice Findings**

Based on available census data, low-income and minority populations are generally located west of Wingate (**Figure 6a**) and in Monroe near US 601 and south of US 74 (**Figure 6b**). Neighborhoods within the DCIA could contain small clusters of special groups, particularly low-income and minority populations. The *Relocation Reports* discussed in **Section 3.1.7** provide an estimate of minority relocations. Overall, the DSAs would relocate a low percentage of minorities. The highest percentages of minorities would be relocated with DSAs C1, D1, C3, and D3 (between 3 and 4 percent). DSAs A, B, A2, and B2 would not result in any minority relocations.

The *Relocation Reports* discussed in **Section 3.2.2** also provide information on the income level of households that would be displaced as a result of the proposed Monroe Connector/Bypass project. 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.

At the time of this report, no decision has been made regarding the sale of transponders or if discounts would be available to special groups. Low-income commuters would have the option to use a non-toll alternate route such as US 74. Non-toll routes would have less traffic after the opening of the Monroe Connector/Bypass, so users of non-toll routes would also benefit from the Monroe Connector/Bypass without paying a toll. For Monroe Connector/Bypass users who do not have or do not wish to use a credit card, the NCTA will establish different account types to assure not all users are required to make a deposit or purchase a transponder. 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 plate associated with their account. These account types may be established and maintained using credit card, check, or cash as the payment method. In addition, the NCTA plans to operate a nearby facility that will accept cash payments.

Impacts to low-income and/or minority populations resulting from implementing the Monroe Connector/Bypass as a toll facility are not anticipated to be “disproportionately high and adverse”.

## 4 CONCLUSIONS AND RECOMMENDATIONS

### 4.1 Conclusions

- All DSAs would have a negative impact to existing neighborhoods. Impacts range from minor right-of-way encroachments on neighborhood properties to acquisition of portions of neighborhoods.
- All of the DSAs would result in access changes to existing neighborhoods, including notable changes in travel patterns to and from some neighborhoods.
- Overall, the DSAs would relocate a low percentage of minorities, ranging from zero to 4.1 percent of total residential relocations. Impacts to low-income and/or minority populations resulting from implementing the Monroe Connector/Bypass as a toll facility are not anticipated to be “disproportionately high and adverse”.
- The project would provide opportunities for aesthetically pleasing views from the highway, but could also detract from the existing views of rural areas from adjacent properties.
- Up to five churches would be impacted by the DSAs. All of the DSAs would impact Benton Heights Presbyterian Church and Trinity Baptist Church (Corridor Segment 31). However, these impacts are anticipated to be minimal and limited to parking areas.
- Stallings Elementary School would be located adjacent to DSAs that include Segment 18A (DSAs A, B, A1, B1, A2, B2, A3, and B3). On September 9, 2008, Project Team members met with Mr. Don Hughes, Director of Facilities, Planning and Construction for Union County Schools to review the functional design plans developed to that date. Following his review of Segment 18A, no concerns were expressed regarding possible direct or operational impacts to the newly constructed Stallings Elementary School.
- Implementation of DSAs A, B, A1, B1, A2, B2, A3, or B3 would result in a minimal direct impact to the Central Piedmont Community College property within the southeast quadrant of the existing I-485/US 74 interchange to accommodate improvements to that interchange. In addition, for all DSAs, CPCC Lane (SR 3453), which provides access to the campus from US 74, would be closed to allow for control of access within the vicinity of the I-485 interchange. New access would be provided from US 74 via the proposed McKee Road.
- The DSAs that use Corridor Segment 18A (DSAs A, B, A1, B1, A2, B2, A3, and B3) would involve a minor encroachment into the undeveloped parcels owned by Mecklenburg County that are designated for the future Matthews Sportsplex, located southwest of the existing US 74/I-485 interchange. The DSAs that use Corridor Segment 18A would acquire 2.25 acres adjacent to the existing I-485/US 74 interchange. These minor encroachments on the edges of the parcel are not anticipated to impact access or any future park uses.

- All of the DSAs would subject neighborhoods adjacent to the Monroe Connector/Bypass to an increase in noise levels, which have been evaluated in detail in the *Draft Traffic Noise Technical Memorandum for the Monroe Connector/Bypass*, November 2008.
- Temporary impacts associated with construction and operation of the proposed project are anticipated for adjacent neighborhoods and businesses. These effects may include changes in traffic patterns to community services/facilities through temporary detours, changes to access points, and increases in noise.
- The DCIA includes three 303(d)-listed streams (North Fork Crooked Creek, South Fork Crooked Creek, and Richardson Creek) and one water supply watershed (Lake Twitty). The DCIA does not include any Section 4(f) or 6(f) resources, high-quality waters, outstanding water resources, trout streams, or Class SA waters.

Based on the summary of impacts to community facilities provided in **Table 31**:

- DSAs D, D1, D2, and D3 would have the least impacts to community facilities in the DCIA. These DSAs would each have minor impacts three churches, but would not impact any other community facilities.
- DSAs A, A1, A2, and A3 would have the highest total number of community facilities impacted. These DSAs would impact five churches, CPCC, and the proposed Matthews Sportsplex, although all of these impacts are considered minor.
- The DSAs would not significantly affect community resources within the DCIA, as no relocations would be necessary for any community resource.

**TABLE 31: SUMMARY OF IMPACTS TO COMMUNITY RESOURCES**

DSA	Churches <sup>1</sup>	Cemeteries	Schools <sup>2</sup>	Fire Stations	Parks & Recreational Facilities <sup>3</sup>	Total Impacts to Community Facilities
A	5 <sup>a-e</sup>	0	1	0	1	7
B	4 <sup>a,c,d,e</sup>	0	1	0	1	6
C	4 <sup>a,c,d,e</sup>	0	0	0	0	4
D	3 <sup>c,d,e</sup>	0	0	0	0	3
A1	5 <sup>a-e</sup>	0	1	0	1	7
B1	4 <sup>a,c,d,e</sup>	0	1	0	1	6
C1	4 <sup>a,c,d,e</sup>	0	0	0	0	4
D1	3 <sup>c,d,e</sup>	0	0	0	0	3
A2	5 <sup>a-e</sup>	0	1	0	1	7
B2	4 <sup>a,c,d,e</sup>	0	1	0	1	6
C2	4 <sup>a,c,d,e</sup>	0	0	0	0	4
D2	3 <sup>c,d,e</sup>	0	0	0	0	3
A3	5 <sup>a-e</sup>	0	1	0	1	7
B3	4 <sup>a,c,d,e</sup>	0	1	0	1	6

**TABLE 31: SUMMARY OF IMPACTS TO COMMUNITY RESOURCES**

DSA	Churches <sup>1</sup>	Cemeteries	Schools <sup>2</sup>	Fire Stations	Parks & Recreational Facilities <sup>3</sup>	Total Impacts to Community Facilities
<b>C3</b>	4 <sup>a,c,d,e</sup>	0	0	0	0	4
<b>D3</b>	3 <sup>c,d,e</sup>	0	0	0	0	3

- 1) a. – Next Level Church – Frontage from property and realigning access (Stevens Mill Road)  
b. – Forest Hills Baptist Church – Impacts to about half of parking and both entrances  
c. – Benton Heights Presbyterian Church – Encroachment (US 601) and impacts to both entrances and about one-tenth of parking  
d. – Trinity Baptist Church – Frontage from property and impacts to both entrances. Minimal parking impacts  
e. – Morgan Mill Road Baptist Church – Frontage from property and impacts to both entrances
- 2) DSAs A, B, A1, B1, A2, B2, A3, and B3 encroach on CPCC property fringe with no impact on school use or access.
- 3) Proposed Matthews Sportsplex – minor right-of-way encroachment not affecting use and function

## 4.2 Recommendations

This section includes suggestions for minimizing or mitigating impacts, and measures that could become part of project commitments. Specific project activities and/or features will be further evaluated in later design phases for the Preferred Alternative. The implementation of recommendations is at the discretion of the NCTA, in consultation with the FHWA.

- Once a Preferred Alternative is selected, the NCTA should consider additional mitigation measures for community impacts, based on final designs and comment/input from affected communities. Mitigation options for lessening neighborhood impacts were incorporated into the functional engineering designs, where practicable.
- The aesthetic quality of the proposed project areas could be enhanced by the following measures, which can be considered during final design:
  1. Implementation of a roadside landscaping plan
  2. Structural design (such as drainage structures and bridges) consideration to enhance visual appearance
  3. Bifurcated roadways (opposing lanes on roadways on different grades) to blend better with existing topographical features
  4. Natural earth berms for mitigation of noise and visual impacts where space permits
- Project coordination should commence between the Town of Stallings and the NCTA if a DSA that uses Corridor Segment 2 (DSAs C, D, C1, D1, C2, D2, C3, D3) is selected as the Preferred Alternative. Discussions should center on the identification of possible aesthetic treatments to the elevated roadway or identification of another design option that minimizes right-of-way needs and business impacts for the Corridor Segment 2 area and existing US 74.

- Project coordination should begin between the Town of Indian Trail and the NCTA if a DSA that uses Corridor Segment 2 (DSAs C, D, C1, D1, C2, D2, C3, D3) is selected as the Preferred Alternative, as this Corridor Segment is inconsistent with the town's current land use plans.
- Project coordination should continue between Union County Schools and the NCTA if a DSA that uses Corridor Segment 18A is selected (DSA A, B, A1, B1, A2, B2, A3, or B3) as the Preferred Alternative in order to determine the safest and most efficient traffic patterns for the Stallings Elementary School campus.
- Project coordination should continue between the Mecklenburg County Park and Recreation Department and NCTA if a DSA that uses Corridor Segment 18A is selected (DSAs A, B, A1, B1, A2, B2, A3, B3) as the Preferred Alternative in order to minimize impacts to the proposed Matthews Sportsplex.
- Since municipalities are generally encouraging and/or have adopted master plans that address interest and need for pedestrian and bicycle provisions, the NCTA should coordinate with local jurisdictions to discuss accommodations for sidewalks, where appropriate and feasible.
- As all DSAs would temporarily impact school bus routes during construction and result in modifications of existing routes and/or require new bus routes, the NCTA should coordinate with Union and Mecklenburg County Public Schools regarding minimizing impacts to school bus routes once a Preferred Alternative is identified.
- The NCTA should coordinate/initiate discussions with public safety departments to ensure response times are maintained during project construction.
- To avoid disruptions in utility service and delivery, the NCTA should coordinate any required relocation of utility lines with the utility providers, prior to construction.

## 5 REFERENCES

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*Community Impact Assessment: A Quick Reference for Transportation*; Federal Highway Administration (FHWA) Office of Environment and Planning; 1996.

*2030 Long Range Transportation Plan*; Mecklenburg Union Metropolitan Planning Organization (MUMPO); 2005.

*Alternatives Development and Analysis Report for the Monroe Connector/Bypass, STIP Project R-3329 and R-2559*; PBS&J; 2008.

*Statement of Purpose and Need for the Monroe Connector/Bypass, STIP Project R-3329 and R-2559*; PBS&J; 2008.

*Draft Existing and Year 2030 No-Build Traffic Operations Technical Memorandum for the Monroe Connector/Bypass, STIP Number R-3329/R-2559 Union and Mecklenburg Counties*; PBS&J; 2008.

*Draft Traffic Noise Technical Memorandum for the Monroe Connector/Bypass, STIP Number R-3329/R-2559 Union and Mecklenburg Counties*; PBS&J; 2008.

*Draft Qualitative Indirect and Cumulative Effects Assessment for the Monroe Connector/Bypass, STIP Projects R-3329/R-2559*; HNTB; 2008.

*2009- 2015 State Transportation Improvement Program. NCDOT.*

*ADC Map Books for Union County and Mecklenburg County*; Rand McNally; 2002.

Interviews with municipal staff (see Appendix A).

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Central Piedmont Community College  
<http://www1.cpcc.edu>

Charlotte Area Transit System  
<http://www.charmeck.org/Departments/CATS/Home.htm>

Charlotte-Mecklenburg Schools  
<http://www.cms.k12.nc.us>

City of Charlotte-Mecklenburg County  
<http://www.charmeck.org/Departments/Utilities/Home.htm>

City of Monroe North Carolina  
<http://www.monroenc.org>

Employment Security Commission of North Carolina Data  
<http://www.ncesc.com>

Hemby Bridge North Carolina

<http://www.hembybridgenc.com/local/cityinfo.html>

Indian Trail North Carolina

<http://www.indiantrail.org>

Lake Park North Carolina

<http://www.lakeparknc.gov>

North Carolina Department of Commerce

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North Carolina Geological Survey

<http://www.geology.enr.state.nc.us>

North Carolina State Data Center

<http://www.sdc.state.nc.us>

South Piedmont Community College

<http://www.spcc.edu>

The Village of Lake Park

[http://www.lakeparknc.com/villageoflakepark/outside\\_home.asp](http://www.lakeparknc.com/villageoflakepark/outside_home.asp)

Town of Matthews

<http://www.matthewsnc.com>

Town of Mint Hill North Carolina

<http://www.minthill.com/index.asp>

Town of Stallings

<http://www.stallingsnc.org/>

Town of Wingate

<http://www.wingate.govoffice.com>

Union County North Carolina

<http://www.co.union.nc.us/>

Union County North Carolina Chamber of Commerce

<http://www.unioncountycoc.com>

Union County Public Schools

<http://www.ucps.k12.nc.us>

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<http://factfinder.census.gov>

USA Fire and Rescue

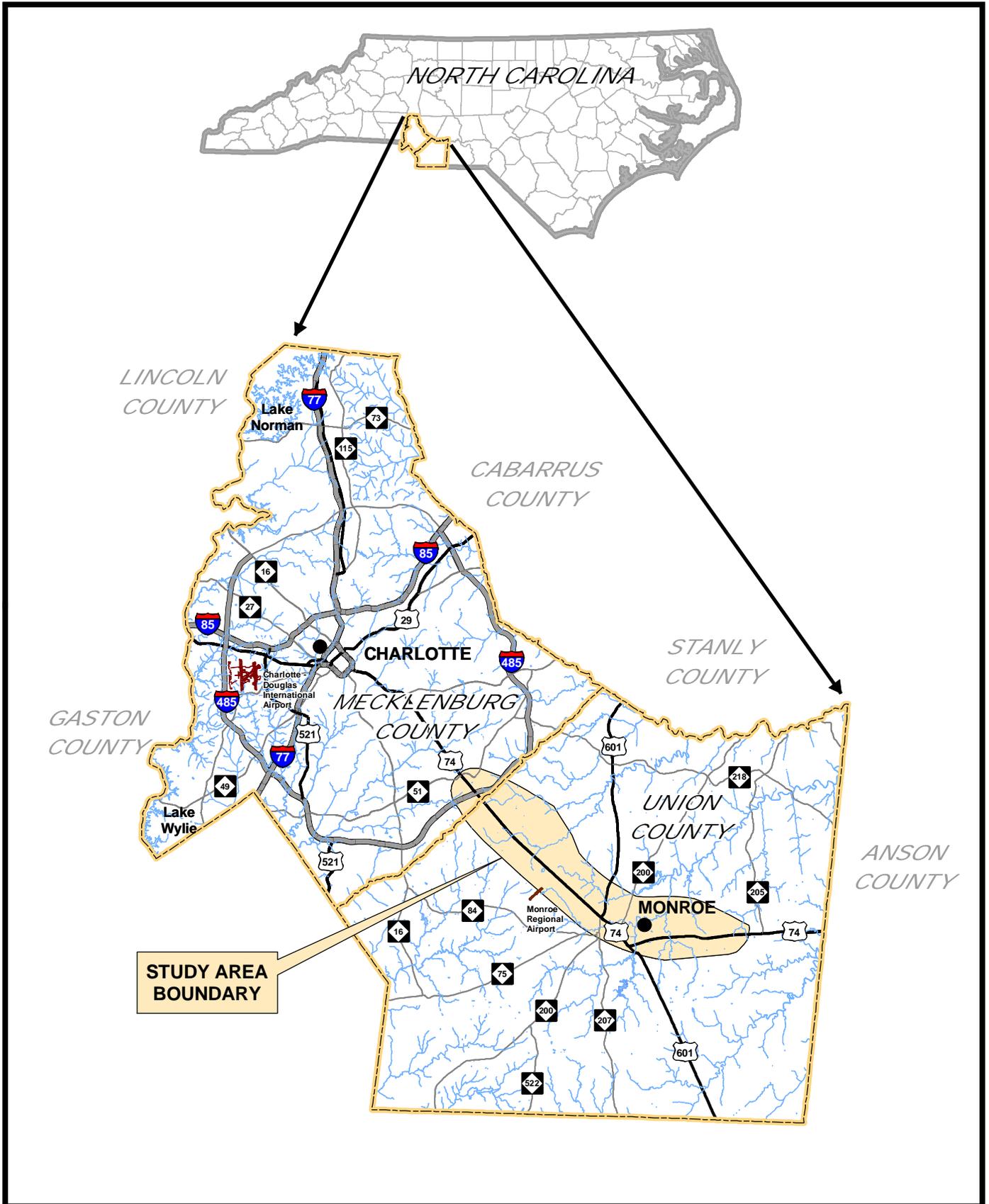
<http://www.usafireandresuce.com/nc/firelist.html>

USA Cops

<http://www.usacops.com/nc/>

Wingate University

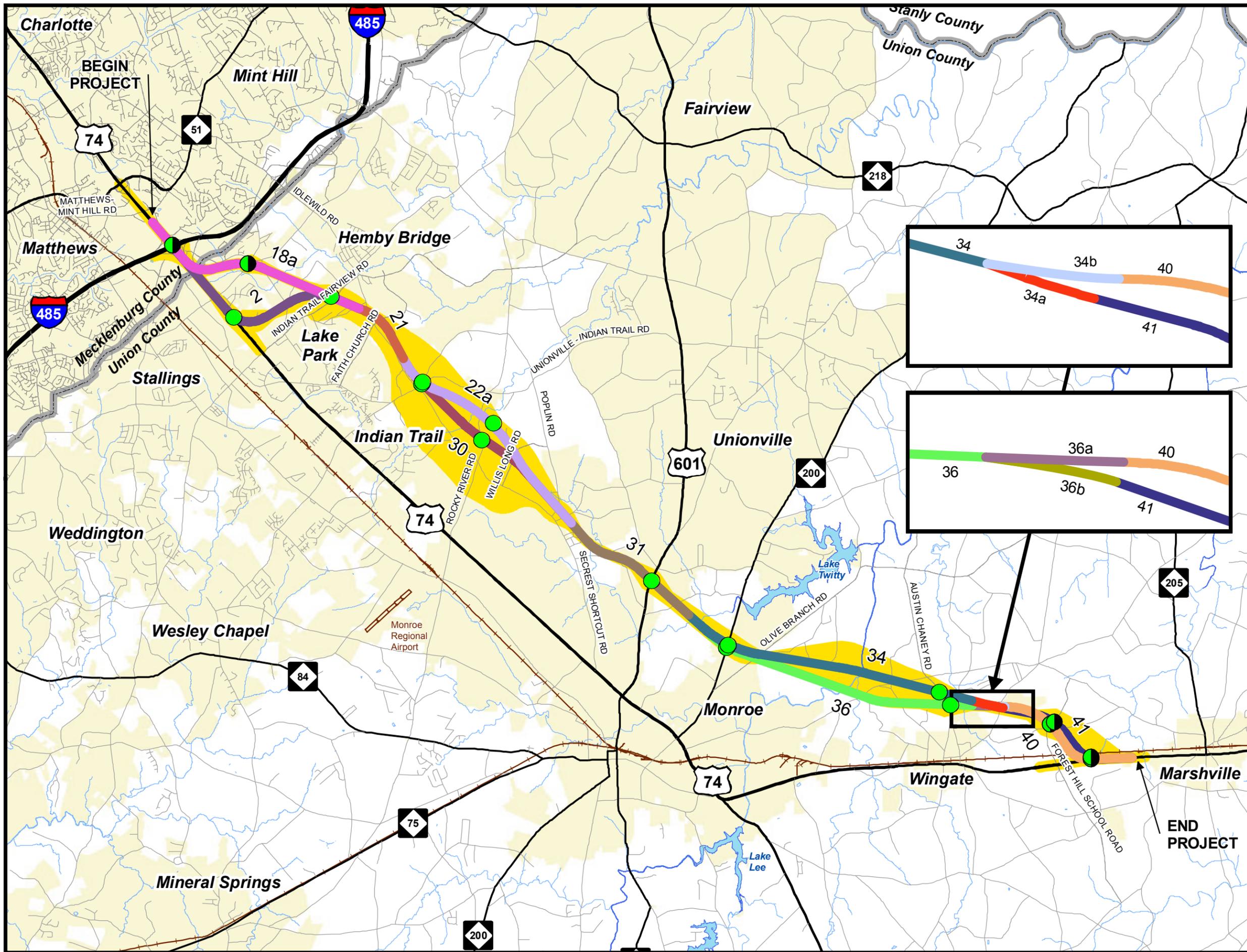
<http://www.wingate.edu>



  
**MONROE CONNECTOR / BYPASS**  
 STIP PROJECT NO. R-3329 / R-2559  
 Mecklenburg County and Union County

0 4.25 8.5  
 Miles  
  
 Source: Mecklenburg County and Union County GIS.  
 Map Printed On 10-09-08.

**PROJECT LOCATION**  
  
**Figure 1**

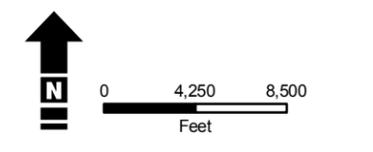


- Legend**
- Potential Interchange
  - Potential Partial Interchange
  - Interstate Highway
  - US Highway
  - NC State Highway
  - State Road
  - Railroad
  - Parcels
  - Corridor Study Area
  - River / Stream
  - Lake
  - County Boundary

- Detailed Study Alternative**
- |  |  |
|--|--|
| <span style="background-color: pink; width: 15px; height: 10px; display: inline-block;"></span> Segment 18A        | <span style="background-color: orange; width: 15px; height: 10px; display: inline-block;"></span> Segment 34A    |
| <span style="background-color: purple; width: 15px; height: 10px; display: inline-block;"></span> Segment 2        | <span style="background-color: lightblue; width: 15px; height: 10px; display: inline-block;"></span> Segment 34B |
| <span style="background-color: brown; width: 15px; height: 10px; display: inline-block;"></span> Segment 21        | <span style="background-color: lightgreen; width: 15px; height: 10px; display: inline-block;"></span> Segment 36 |
| <span style="background-color: lightpurple; width: 15px; height: 10px; display: inline-block;"></span> Segment 22A | <span style="background-color: purple; width: 15px; height: 10px; display: inline-block;"></span> Segment 36A    |
| <span style="background-color: maroon; width: 15px; height: 10px; display: inline-block;"></span> Segment 30       | <span style="background-color: olive; width: 15px; height: 10px; display: inline-block;"></span> Segment 36B     |
| <span style="background-color: brown; width: 15px; height: 10px; display: inline-block;"></span> Segment 31        | <span style="background-color: orange; width: 15px; height: 10px; display: inline-block;"></span> Segment 40     |
| <span style="background-color: teal; width: 15px; height: 10px; display: inline-block;"></span> Segment 34         | <span style="background-color: darkblue; width: 15px; height: 10px; display: inline-block;"></span> Segment 41   |



Source: Mecklenburg County and Union County GIS.  
Map Printed On 11-14-08.

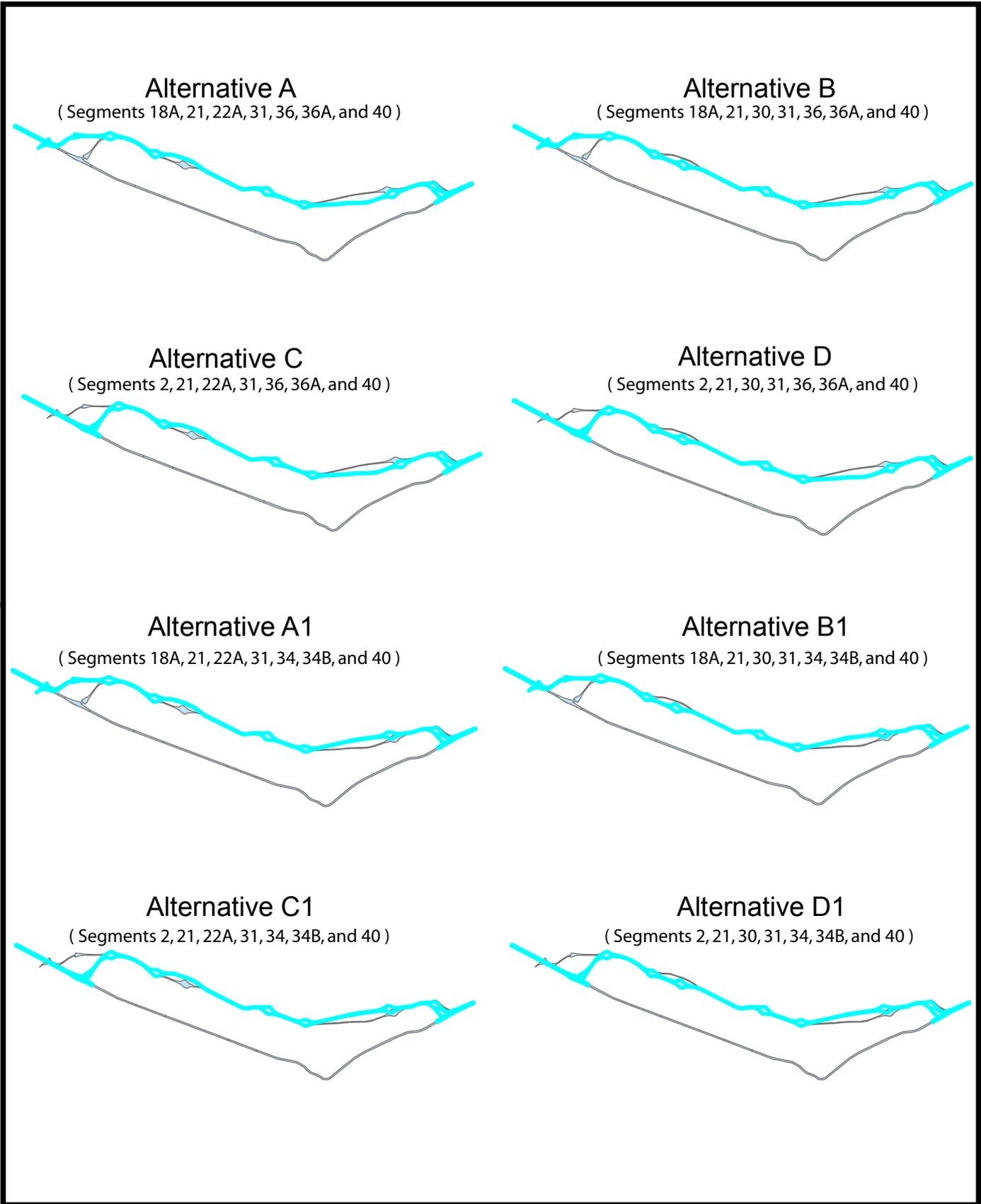


STIP PROJECT  
NO. R-3329/R-2559  
Mecklenburg County and  
Union County

**MONROE CONNECTOR/  
BYPASS**

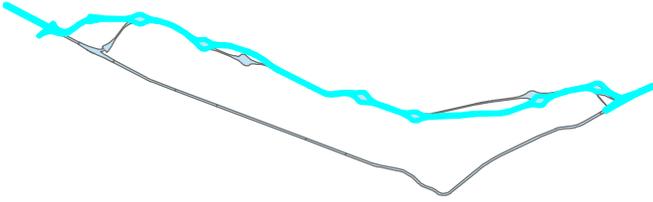
**DETAILED STUDY  
ALTERNATIVES**

**Figure 2a**



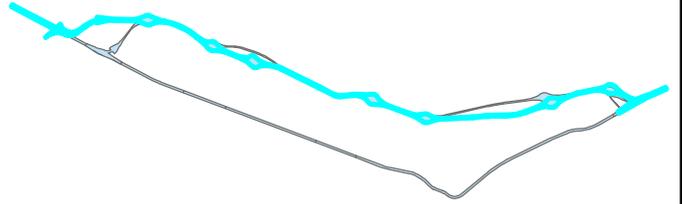
### Alternative A2

( Segments 18A, 21, 22A, 31, 36, 36B and 41 )



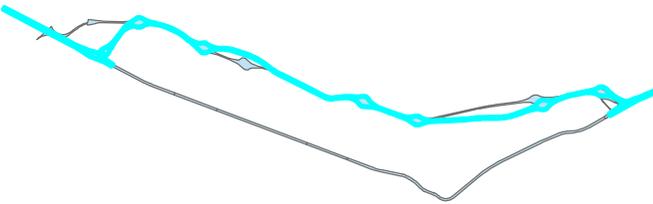
### Alternative B2

( Segments 18A, 21, 30, 31, 36, 36B and 41 )



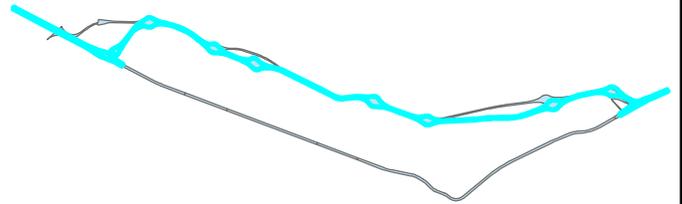
### Alternative C2

( Segments 2, 21, 22A, 31, 36, 36B, and 41 )



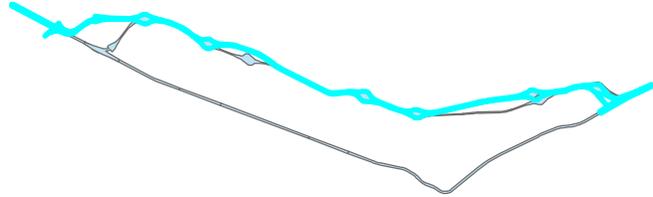
### Alternative D2

( Segments 2, 21, 30, 31, 36, 36B, and 41 )



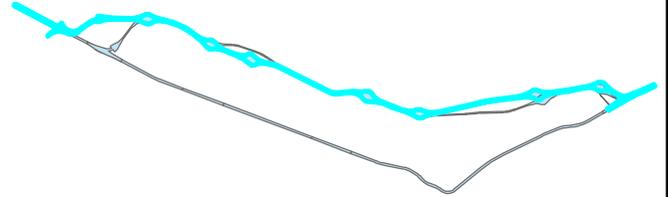
### Alternative A3

( Segments 18A, 21, 22A, 31, 34, 34A, and 41 )



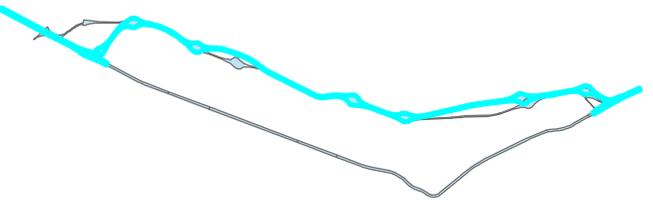
### Alternative B3

( Segments 18A, 21, 30, 31, 34, 34A, and 41 )



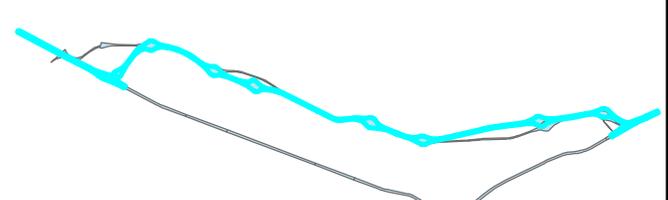
### Alternative C3

( Segments 2, 21, 22A, 31, 34, 34A, and 41 )



### Alternative D3

( Segments 2, 21, 30, 31, 34, 34A, and 41 )

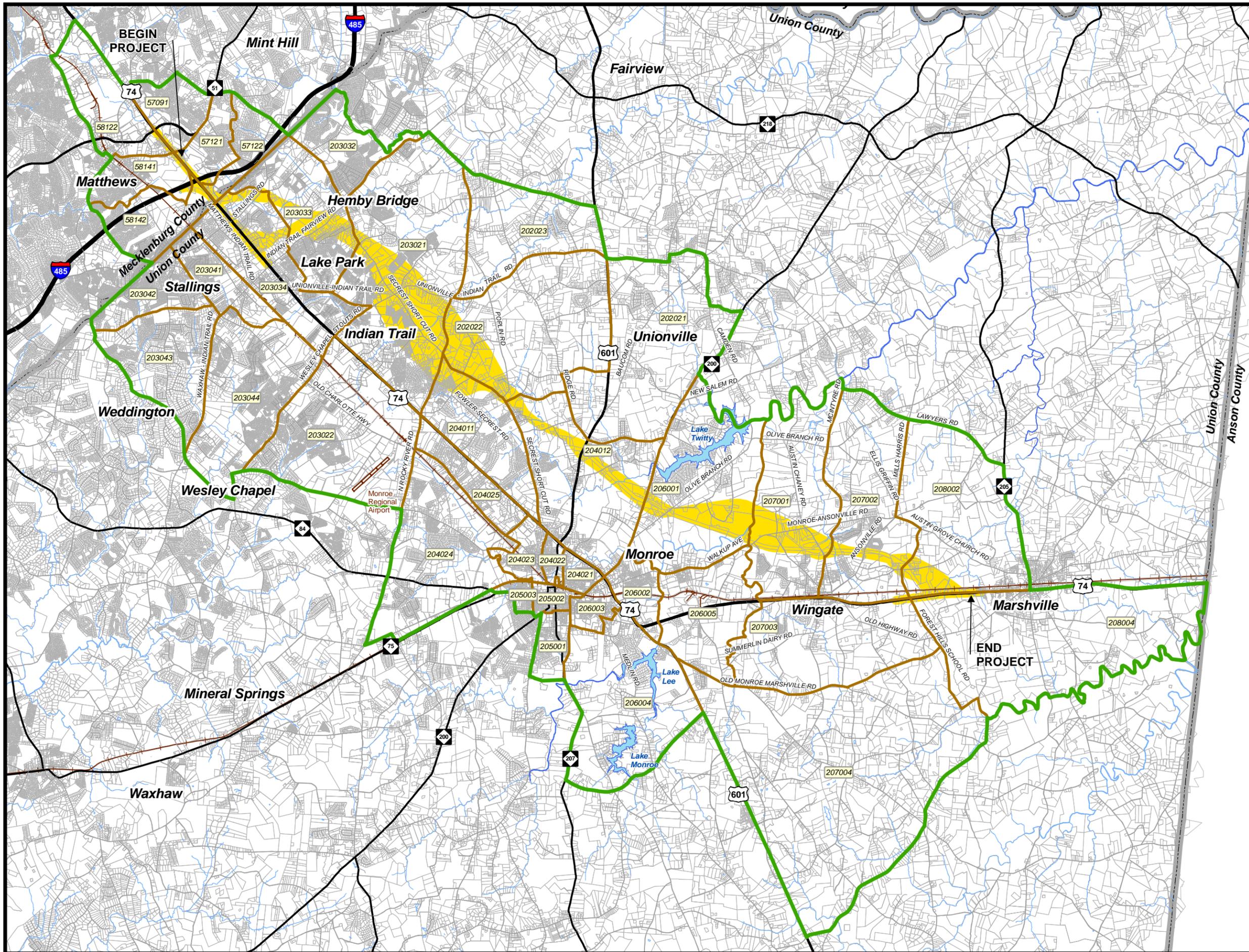


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DETAILED  
STUDY ALTERNATIVES

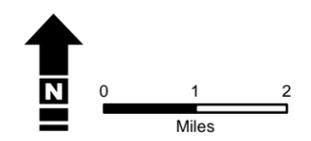
FIGURE 2c



- Legend**
- Demographic Area
  - 2000 Block Groups
  - Parcels
  - Corridor Study Area
  - Interstate Highway
  - US Highway
  - NC State Highway
  - Major Road
  - Railroad
  - River / Stream
  - Lake
  - County Boundary



Source: U.S. Bureau of the Census, Census 2000 Tiger/Line Data from ESRI. Map Printed On 11-05-08.

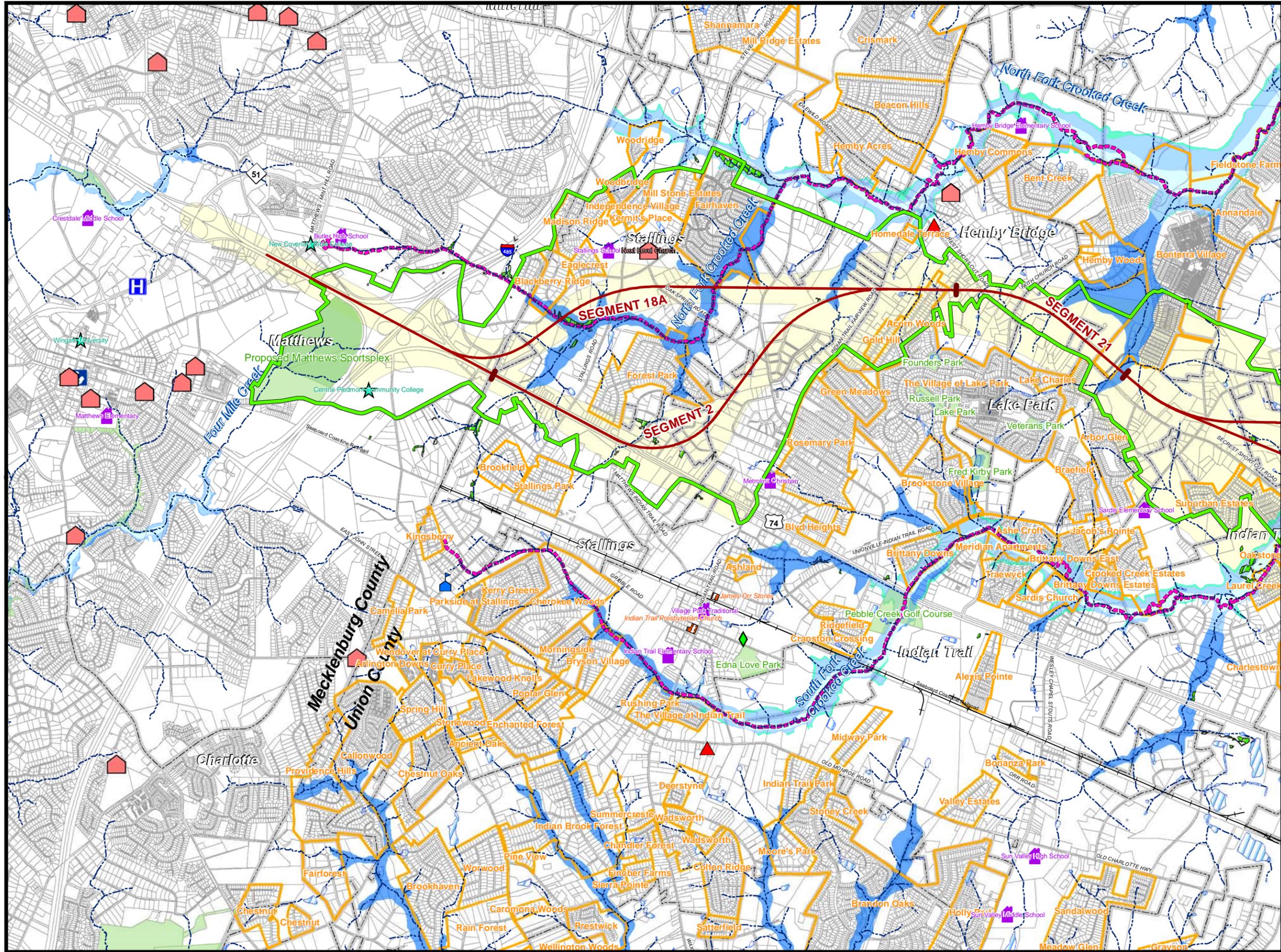


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**MONROE CONNECTOR/ BYPASS**

**DEMOGRAPHIC AREA**

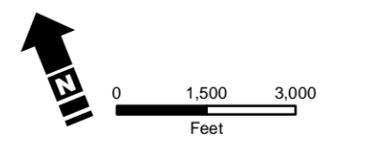
**Figure 3**



- Legend**
- Direct Community Impact Area
  - Segment Breaklines
  - Design Centerline
  - Rail
  - Streams
  - 303D Streams
  - Historic Sites
  - Historic Districts
  - Subdivisions
  - Lakes
  - Wetlands
  - Parks
  - Floodway
  - 100 Year (AE)
  - 100 Year (A)
  - 500 Year
  - Municipal
  - Parcels
  - Corridor Study Area
- ◆ Cemetery
  - ⬆ Church
  - ★ College
  - ▲ Fire Department
  - 📖 Library
  - 👮 Police Station
  - 🏥 Hospital
  - 🎓 Schools
  - 🏠 Historic Sites



Source: Mecklenburg County and Union County GIS.  
Map Printed On 10-22-08.



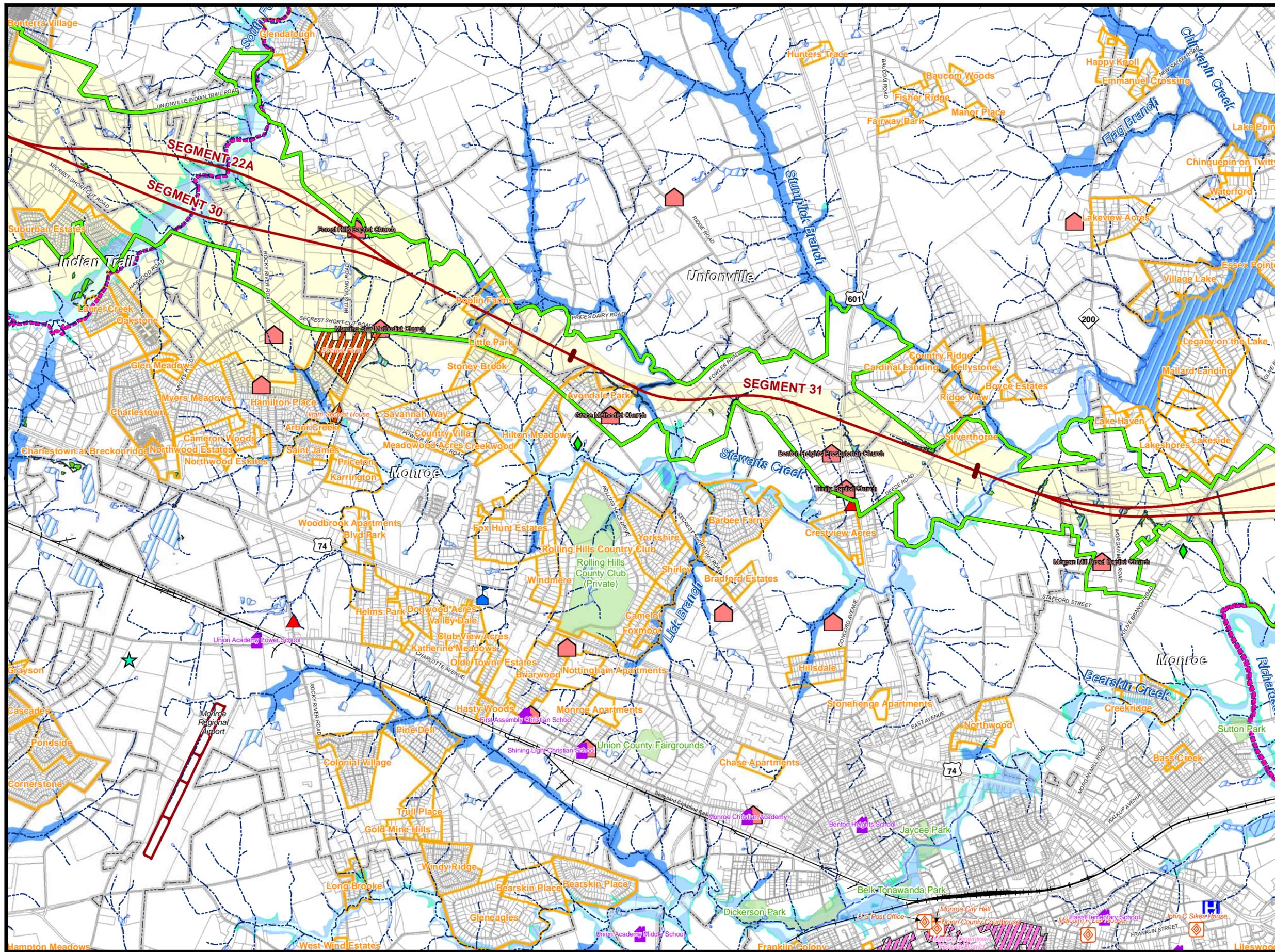
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**MONROE CONNECTOR/  
BYPASS**

**DIRECT COMMUNITY  
IMPACT AREA**

Figure 4a

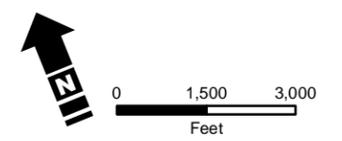
CIA\_DCA\_BlowupRev.mxd 10/29/08 AKH (orig. JNL)



- Legend**
- Direct Community Impact Area
  - Segment Breaklines
  - Design Centerline
  - Rail
  - Streams
  - 303D Streams
  - Historic Sites
  - Historic Districts
  - Subdivisions
  - Lakes
  - Wetlands
  - Parks
  - Floodway
  - 100 Year (AE)
  - 100 Year (A)
  - 500 Year
  - Municipal
  - Parcels
  - Corridor Study Area
  - Cemetery
  - Church
  - College
  - Fire Department
  - Library
  - Police Station
  - Hospital
  - Schools
  - Historic Sites



Source: Mecklenburg County and Union County GIS.  
Map Printed On 10-22-08.

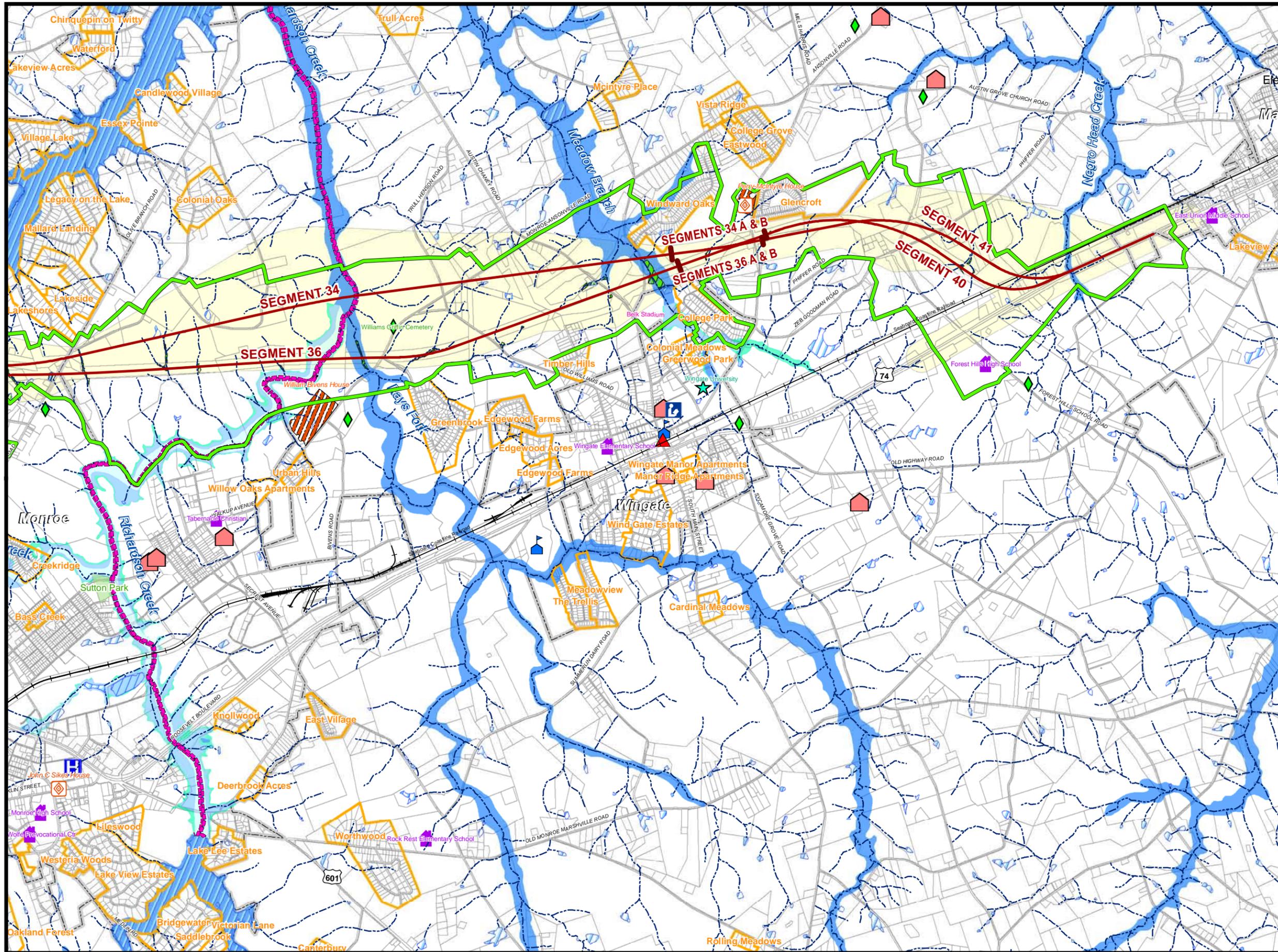


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IMPACT AREA**

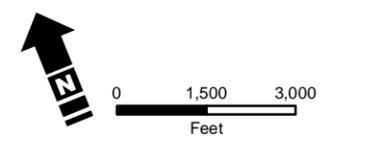
Figure 4b



- Legend**
- Direct Community Impact Area
  - Segment Breaklines
  - Design Centerline
  - Rail
  - Streams
  - 303D Streams
  - Historic Sites
  - Historic Districts
  - Subdivisions
  - Lakes
  - Wetlands
  - Parks
  - Floodway
  - 100 Year (AE)
  - 100 Year (A)
  - 500 Year
  - Municipal
  - Parcels
  - Corridor Study Area
  - ◆ Cemetery
  - Church
  - ★ College
  - ▲ Fire Department
  - 📖 Library
  - 👮 Police Station
  - 🏥 Hospital
  - 🎓 Schools
  - 🏠 Historic Sites



Source: Mecklenburg County and Union County GIS.  
Map Printed On 10-22-08.



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**MONROE CONNECTOR/  
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**DIRECT COMMUNITY  
IMPACT AREA**

**Figure 4c**