Comprehensive Transportation Plan

Town of Matthews North Carolina

Gateway to Union County

TOWN OF STALLINGS NORTH CAROLINA

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Acknowledgements

The participants of the Comprehensive Transportation Plan for the Towns of Matthews and Stallings wish to thank the Towns' Council members and the citizens of the communities for making this Plan a reality.

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Section 1 Introduction

1.1 Overview

The Towns of Matthews and Stallings undertook the development of this Transportation Plan together to ensure future plans for the area would support the needs of both Towns. Though the Towns are located in separate counties, residents and commuters share common roads and routes as they travel to work, shopping, recreational activities or visiting family and friends. A dramatic change of a route in Matthews could directly or indirectly affect residents in Stallings. This collaborative effort of the Towns intends to fully understand the travel patterns of all citizens and to develop project recommendations that would benefit the area as a whole.

A Comprehensive Transportation Plan (CTP) is developed to ensure that the progressively developed transportation system will meet the needs of both towns for the planning period. The CTP serves as an official guide to providing a well-coordinated, efficient, and economical transportation system for the future of the region. Historically, transportation planning has focused on the automobile as the primary mode of travel. Increase in fuel prices, developmental sprawl and traffic congestion have opened the opportunity for commuters to think outside of their automobile and look at alternative modes of transportation as in bicycles and mass transit. This document should be utilized by the local officials to ensure that the planned transportation facilities reflect the needs of the public, while minimizing the disruption to local residents, businesses and the environment.

Transportation opportunities determine not only how people move from place to place, but also help define the character of the community and enhance modal choices and opportunities that are provided. This CTP attempts to capture and address the needs of the two communities' varied population, including those of current and future residents, visitors, and tourists. The benefits of the Plan are as varied as the population it serves, including improved air quality, healthier and more physically active population, reduced traffic congestion, and improved safety for citizens. All of these benefits amount to an overall improvement in quality of life, which can make a town very attractive to newcomers and visitors, thus boosting the town's economy and vitality.

The Plan will help staff and elected officials make many decisions about future land use and transportation for the city, including:

- What improvements are needed to create and maintain a balanced and sustainable community?
- How can multi-modal travel (vehicles, transit, bicycles, and pedestrians) best be accommodated?
- What locations have inadequate capacity, experience congestion, and/or exhibit poor safety records? How can they be addressed?
- When and where will transportation improvements be needed to address these conditions?

The following chapters of the Plan provide recommendations for projects that will help to improve the transportation network in Matthews and Stallings. The Plan also provides design guidelines that are tailored to the specific needs of the Towns. Finally, the Plan presents a list of potential funding sources, to assist with implementation of the Plan's recommendations.

1.2 Goals

The Comprehensive Transportation Plan identifies many goals for the outcome of the Plan. The goals set a path for recommendations to be developed with a purpose and to avoid project outcomes that may not necessarily help the community solve a problem.

At the project onset, a Comprehensive Task Force was created to serve a guiding role for the Plan, representing a wide array of citizen and business interests in Matthews and Stallings. Members of the Task Force include Town Staff, citizens and elected leaders. On May 5, 2011 the first meeting of the Comprehensive Transportation Plan was conducted, in part to capture the opinions of the Task Force about important guiding principles for the Plan.

The Comprehensive Transportation Plan Task Force (described below) began the planning process by developing a list of transportation planning goals for this plan. These goals, with the input and recommendations from the citizens of Matthews and Stallings, are used to inform future transportation decisions and improvements within the study area. Setting goals will ensure that project recommendations are consistent with the needs of the communities.

Transportation recommendations within the Matthews/Stallings Comprehensive Transportation Plan will:

- Provide safe, dedicated facilities for multi-modal transportation, including automobiles, bicycles, pedestrians, and transit
- Bridge transportation gaps between neighborhoods, communities, towns, and counties
- Promote a safe environment for all modes of transportation
- Balance transportation system levels of service with the physical environments and character that make Matthews and Stallings unique
- Balance the diverse needs of local trips within the study area and commuting traffic through the study
- Create transportation facilities for users of all ages, abilities, and skill levels
- Provide multi-modal transportation connections between mixed, diverse land uses
- Encourage non-vehicular local trips by providing multi-modal transportation facilities that make useful connections
- Support current and future land uses with proactive transportation facility development and improvement
- Assign funding for the improvement and development of multi-modal transportation facilities

1.3 Process

Past planning efforts shaped much of this report. The process of the plan development involved reviewing items such as:

- Roadway characteristics and condition
- Currently planned and programmed transportation projects
- Accident history
- Location of major activity centers
- Existing assessments of the current transportation system
- Needs identified by town staff, elected officials, citizens, and stakeholders
- Past planning efforts
- Existing and future planned transit services

Two committees were formed to guide the project development. A Task Force Committee was comprised of local government and business leaders, as well as concerned citizens. A Steering Committee was comprised of technical staff from both Towns.

These items were presented to the committees involved in the report development to gather feedback in regards to where current issues are at in the transportation network. These issues, married with a technical analysis of future traffic volume forecasting and the needs expressed by local citizens, were formulated together to produce listings of project recommendations for an implementation plan of transportation projects.

Below is a discussion of the committees developed to steer the report development followed by an overview of previous planning efforts completed for the area.

Task Force

The governing bodies for both Matthews and Stallings appointed an 11 member committee, referred to as the Task Force, to guide the development of the Plan. The purpose of the Task Force was to ensure the recommendations in the Plan were reviewed by varied interests of both communities and in the best interest of the citizens of Matthews and Stallings.

The following is a list of members of the task force:

- Ira Bostic
- Richard Decker
- Paul Frost
- Kathi Ingrish
- Greg Klein
- Tom Lawing
- Shannon Martel
- Brian Matthews
- Ralph Messera
- Kress Query
- Bill Stevens

Four (4) meetings were held with Task Force meetings during the period of the Plan development (March 2011- December 2011). The Task Force reviewed items such as existing conditions, crash data, public involvement results and potential project recommendations. The data was reviewed and decisions on final project recommendations and the Plan were based on the best interests of the citizens.

A Steering Committee was also formed to guide the development of the Transportation Plan. The Steering Committee is comprised of staff from both Stallings and Matthews Planning Departments and

Public Works Department. The members of this committee offered information on past planning and project efforts for the community and future projects and plans on the horizon.

Public Involvement

Understanding the needs of a community is a major factor when determining potential projects for a community. Efforts were made to ensure that the people interested in participating in the development of the Plan had the opportunity to do so.

Project team members utilized a series of techniques to get information to the citizens to make them aware of the project development and the need of input from the locals. A citizen's informational workshop was scheduled for May 17th from 4:00pm to 7:00pm at Central Piedmont Community College. The workshop allowed citizens to ask questions about the Plan and to see the process and items that are included in developing a transportation plan.

A survey was also published and offered to the citizens to provide feedback on existing conditions in the area. The survey allowed participants to include ideas and recommendations for future projects that would benefit all types of travel modes within the Towns. The survey was made available by hardcopy at Matthews and Stallings Town Hall, online and at the public workshop. The survey was utilized by over 280 participants.

Informational boards and handouts were displayed at the Citizens Informational Workshop.

The workshops and survey were advertised via a press release to local and regional news media outlets, included in both Towns' e-newsletters, the project Facebook page and posted on both Towns' official websites.

A summary of all the comments provided by the citizens participating in the outreach events ,as well as a copy of the survey, are included in **Appendix A.**

Past Planning Efforts

Planning efforts over the last decade helped shape this Plan for the Towns of Matthews and Stallings. Below is a list of planning efforts and how they relate to this current Plan.

Matthews Land Use Plan: A guide for Growth 2002-2012. This Plan is an update from the previous 1997 Land Use Plan. This Plan identifies the land use categories throughout the Town and what the purposes are for those categories. It also reviews the land use surrounding several of the main roadway corridors in the area. The Plan also offers recommendations in order to protect the land use planned for specific areas. Overall objectives were established for the plan and recommendations were made to assist in meeting the objectives. One recommendation introduced the idea that a Long Range Transportation Plan should be developed to define project schedules for the area. This Plan serves as a Long Range Plan for identifying project plans, in addition to prioritization schedules for project development. The Plan also encourages the construction and completion of Sardis Road North Extension (Eastern Circumferentail) and the McKee Road Extension. This Plan identifies both of those projects as needed.

Mecklenburg County Park and Recreation 10 Year Master Plan. The Mecklenburg County Park and Recreation Department oversaw the development and completion of the 10 Year Comprehensive Master Plan in 2008. The plan assessed existing park facilities, recreation opportunities, greenway trails, and nature preserve lands. Public involvement was used throughout the planning process to identify park and recreation needs. The plan provided recommendations for the development of park and recreation facilities, greenways, and nature preserves.

Bicycle and pedestrian facility recommendations within the plan included two major greenway corridors within the Matthews town limits: Four Mile Creek Greenway and Irvins Creek Greenway. Both greenways have segments included on the county's five year implementation list. The 2.1-mile section of Four Mile Creek Greenway from East John Street to South Trade Street was completed in the spring of 2011. Irvins Creek Greenway from Idlewild Road to Lakeview Circle, a 2.0-mile section, has not yet been designed for construction. No specific recommendations were made for the implementation of greenways beyond the five year action plan projects.

Matthews Recreation Master Plan. The Matthews Recreation Master Plan was completed in 2006. The purpose of the plan was to identify future recreation needs for the town of Matthews and provide guidance for meeting those needs. Public meetings, surveys, interviews, and input from the Park, Recreation, and the Cultural Resource Advisory Committees were used to identify recreation needs. Recommendations for the expansion and construction of park facilities and recreation programs were based on feedback received from the public.

While the majority of the Plan focused on park facilities and recreation programming, greenways and pedestrian facilities were noted as an area of need. Town residents requested a system of trails and sidewalks to provide better access to local parks. Surveys revealed that less than 40% of respondents believed current walking/jogging/fitness/bicycle paths met current needs. As a result, the Master Plan recommended the construction of Four Mile Creek Greenway, which was completed in the spring of 2011. The plan also recommended that the town of Matthews develop their own Greenway Master Plan.

Matthews Comprehensive Bike Plan. The Comprehensive Bicycle Plan was completed in 2006 for the town of Matthews in conjunction with the North Carolina Department of Transportation Division of Bicycle and Pedestrian Transportation. The goal of this yearlong planning effort was to identify and recommend projects, procedures, programs, and policies that will make Matthews a bicycle-friendly town. Seven key policies were developed, each accompanied by descriptive objectives, to provide the foundation of the bicycle plan.

Recommendations provided in the Comprehensive Bicycle Plan recognized that several types of bicycle-friendly facilities were necessary to accommodate riders of all skill levels. The plan identified on-road and off-road bicycle facilities, which included bike lanes, shared roads, and off-road multi-use trails. Five high priority pilot projects were identified within the plan, along with over 60 additional bicycle projects. Recommended bicycle facility development and improvement projects were listed as immediate, short-term, mid-term, or long-term priority classifications.

Downtown Matthews Master Plan. The purpose of the Downtown Matthews Master Plan was to reinforce and enhance the livability of the Town Center. This Plan formed recommendations and initiatives focusing on new growth, along with how the Town could relieve congestion in the Town Center and preserve and develop open space in the area. One recommendation of the plan was to relieve congestion at the center of Town and extend and connect the town street network. Another recommendation included the idea that open space should be located in downtown to enhance the civic presence. The recommendations discussed the need for a proposed greenway from behind the Matthews Elementary School to Squirrel Lake Park and the Four Mile Creek Greenway connection that is part of the Mecklenburg County Greenway Master Plan. The plan also included a recommendation for long range planning for a location of multi-modal transit station.

Matthews Preliminary Open Space Plan: The Matthews Preliminary Open Space Plan was completed in early 2004. The plan was produced to assess existing parcels of protected open space and identify potential open space acquisition areas within the town. A summary of over a dozen previous planning efforts was conducted to gain a thorough understanding of park facility needs, land use plans, development regulations, and transportation needs. Recommendations for land acquisition were provided based on the needs established by the town's previous planning efforts. Several of the plan recommendations have been accomplished, including the development of a greenway pilot project (Four Mile Creek Greenway).

Stallings Pedestrian Plan. The Stallings Pedestrian Plan was completed in 2008. The plan was intended to provide recommendations that would make walking a viable and safe means of transportation and recreation in Stallings. An inventory of existing pedestrian facilities was completed, current policies on sidewalks were summarized, and barriers to pedestrian travel and connectivity were discussed. The Plan identified a series of six (6) nodes located at intersections of

major roads where existing development is clustered. The Plan recommended that each node become a center for pedestrian connectivity.

Recommended pedestrian projects were separated into three (3) categories: crosswalk, sidewalk, and trail projects. Recommendations for each project type have been prioritized based on need and included 19 crosswalk projects, 13 sidewalk projects, and five (5) trail projects. Budget estimates, potential funding sources, and design guidelines for each facility type have been provided.

Carolina Thread Trail Master Plan: The Carolina Thread Trail is a regional trail system intended to provide economic, health, environmental, and community benefits to the roughly 2.3 million residents in its 15-county area. Each of the 15 counties within the Carolina Thread Trail region has developed or will develop a Carolina Thread Trail master plan for their county. Master plan routes are identified as ¼-mile wide trail corridors. Once adopted, it will be the responsibility of the counties and participating municipalities to design, fund, build, and maintain the segments of the Tread within their jurisdiction.

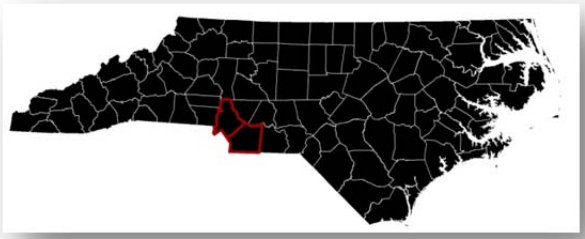
- Mecklenburg County: The Mecklenburg County Carolina Thread Trail Master Plan was completed and adopted in 2010. Matthews was a participating municipality. The plan mirrored many of the routes identified in the updated greenway master plan completed as part of the 10 Year Comprehensive Master Plan in 2008. One planned route in Matthews connects existing McAlpine Creek Greenway to downtown Matthews, to the existing Four Mile Creek Greenway, through the proposed sportsplex project, across I-485 and down to the Union County line. A second route within Matthews crosses Idlewild Road and follows Stallings Road to the Union County line.

- Union County: The Union County Carolina Thread Trail Master Plan was completed and adopted in 2011. Stallings was a participating municipality. The adopted plan depicts two trail routes in Stallings, one to the north of US Highway 74, the second to the south. The trail segment north of US Highway 74 connects with Mecklenburg County along Stallings Road, moves south along one of the trails identified in the Stallings Pedestrian Plan, then south into Indian Trail. The trail south of US Highway 74 enters Stallings near Central Piedmont Community College's Levine Campus, turns down Campus Ridge Road to Old Monroe Road, continuing south along Old Monroe Road into Indian Trail.

Section 2
Existing Conditions

In order to properly address the needs of the communities and begin to recommend projects for the area, an inventory of the existing conditions must be completed. The following sections highlight the current status and condition of each mode of transportation, as well as provide the demographics of both communities.

2.1 Roadways

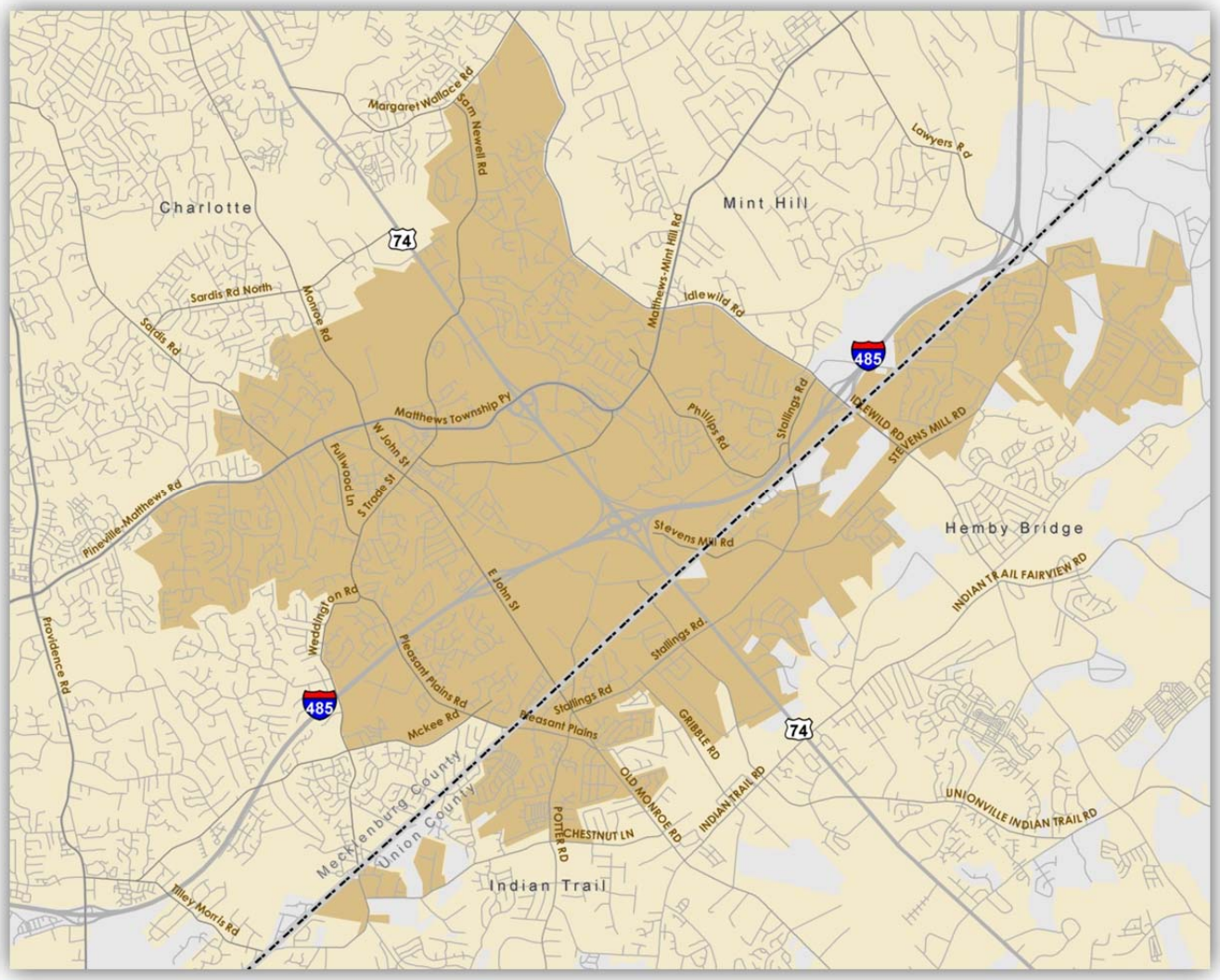


The study area, consisting of the communities of Matthews and Stallings, is located within the Charlotte metropolitan area. Travel patterns in the area are highly related to the metro area. The small-town character of the Towns, combined with the proximity to a metro area and Interstate 485, has created a suburban environment that is highly dependent on automobile travel. According to survey results, 85% of residents commute to work by car. These two communities provide homes for workers who predominantly travel west to Charlotte on a daily basis. This commuting pattern is mostly located on US 74 with spillover onto John Street/Monroe Rd, and other local roads. I-485 is also heavily used for commuters. Many residents, such as those in Ballantyne and Westinghouse, primarily use I-485 to and from destinations. Residents often avoid the US 74 corridor and I-485 by using local streets as shortcuts, causing overcrowded roads with high levels of delay in the town center of Matthews and along the main thoroughfares of Stallings.

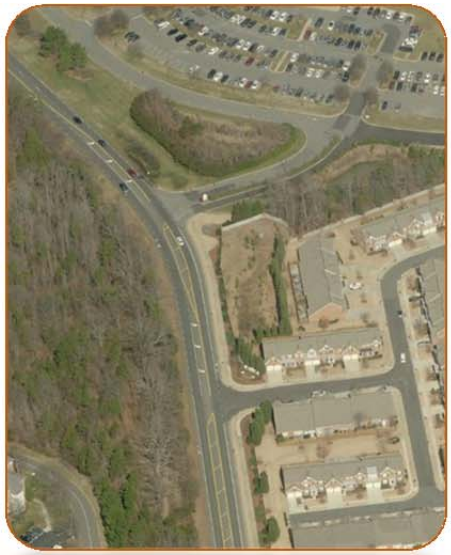
Planning future roadway infrastructure for the area should account for current transit operations and future plans. The Charlotte Area Transit System (CATS) provides bus service in Mecklenburg and Union County throughout the project study area. CATS also operates a light rail system for the Charlotte area, but currently does not provide services into Matthews and Stallings. While there are plans to enhance future public transportation service in the Mecklenburg County portion of the planning area, the specific improvements projects are not yet fully defined. The 2030 Transit Corridor System Plan developed by CATS in 2006 includes plans to expand the public transportation service in the planning area with an enhanced transit system, identified as the Southeast Corridor. The locally preferred alternative selected for the Southeast Corridor along Independence Boulevard, between Charlotte and Matthews, was a 14-mile rapid transit line with 16 stations. Provisions for this plan are included with the recommendations and are explained more in Chapter 3. Planning for future roadways needs to take into account the future planning of transit, and plan for accommodations of operations for cars, transit operations, bicycles and pedestrian to integrate using the area roadway system effectively and safely.

Roadways need to work together to achieve the goals of a community. Weighing into any improvement recommendations are: the design of the streets; how well they interact with neighborhoods and businesses; how pedestrians, cyclists, buses and cars adapt to using the same path; and how they accommodate the changing population.

The major arterial and collector roads in this area are discussed in further detail below:



Fullwood Lane: Currently a two-lane road that connects S. Trade Street to NC 51 (Matthews Township Parkway). Fullwood Lane was built to serve as a by-pass around the downtown area. While the land use along this road is primarily residential, the daily traffic volume is 15,000 vehicles per day. This volume approaches the full capacity of a two-lane road. Improvements are needed on this facility. Currently the road has sidewalks along one side of the roadway. Bicycle facilities are present along Fullwood Lane.



Idlewild Road: Provides a parallel route to US 74 on the North side of the study area, including an interchange with I-485, and provides a connection from the Stevens Mill road area to US 74 east of the NC 51/US 74 intersection. Currently a two-lane road, Idlewild Rd. carries 12,000 vehicles per day west of I-485 and 22,000 east of I-485. These volumes approach the full capacity of a two-lane road, and improvements are needed on this facility. Some sidewalks exist between Idlewild Park and NC 51, but the entire corridor lacks dedicated bicycle facilities.

Monroe Rd/John Street: This roadway is an existing mainly two-lane road that provides a parallel route to US 74 through Stallings and Matthews, widening out to four (4) lanes west of S. Trade Street. The road stretches from the northern town limits of Matthews through Stallings and changes names three (3) times. From the town limits to Hwy 51 (Matthews Township Pkwy), the road is referred to as Monroe Rd. This section of the roadway is generally a five-lane section of road consisting of a mix of uses including industrial, institutional and retail land uses.

From NC 51 South to the Stallings town limit is referred to as John St. Beyond the Stallings town limits the roadway is referred to as Old Monroe Rd. John Street/Old Monroe Road carries daily volumes ranging from 20,000 to 38,000 vehicles per day. Sidewalks exist along much of the corridor in Matthews and Stallings, with a gap of sidewalks between I-485 and Stallings Rd. Dedicated bicycle facilities are needed along the roadway. The facility is near or over its existing capacity. Future roadway widening of John St in Matthews is physically not feasible without major demolition and condemnation.

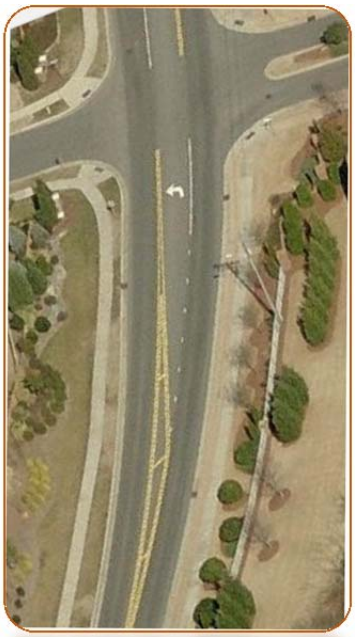
Lawyers Road: Lawyers Road provides a parallel route to US 74 on the north side of the study area, including an interchange with I-485. It also provides a connection from the Stevens Mill road area to the Mint Hill community north of Matthews. Currently, a two-lane road, Lawyers Road carries 8,000 vehicles per day west of I-485 and 16,000 east of I-485. These volumes approach the full capacity of a two-lane road, and future traffic analysis identifies improvements which are needed on this facility east of I-485. The entire corridor of Lawyers Rd within the study area lacks safe facilities for pedestrians and bicyclists.

NC 51: NC 51 connects Matthews to the Town of Mint Hill and continues southward toward Pineville. The roadway name changes from Matthews-Mint Hill Rd to Matthews Township Parkway to Pineville-Matthews Rd. NC 51 carries daily volumes ranging from 26,000 to 36,000 vehicles per day. This facility is currently near capacity, and improvements will be needed in the near future in some locations along the corridor. This will be especially true along the two-lane segments and between Sardis Rd and John St. Sidewalks exist along much of the corridor along the north side.

McKee Road: Currently a two-lane road that connects Ballantyne Parkway to Pleasant Plains Road. While the land use along this road is primarily residential, there are plans to extend McKee Road in various segments to intersect with E. John St, a new grade separated rail crossing, an intersection at Matthews-Indian Trail Road, and end at Stevens Mill Road. Existing McKee Road carries roughly 16,000 vehicles per day, nearing capacity for a two-lane roadway. Sidewalks exist mainly at commercial and residential centers recently developed. The section of McKee Rd from existing McKee Rd to just beyond Pleasant Plains Rd will be constructed with sidewalks on both side of the road. The sidewalks on the south side of the roadway are located in the City of Charlotte jurisdiction. The roadway lacks dedicated bicycle facilities.

S. Trade Street/Pleasant Plains Road: A primarily two-lane road connecting Stallings and Matthews and providing a parallel route to US 74. South Trade St begins at the intersection of John St and N Trade St in downtown Matthews. Just south of the Arthur Goodman Memorial Park the road splits. Pleasant Plains Road continues to the left of the split and Weddington Rd continues to the right. Traffic volumes on this facility range from 10,000 to 25,000 vehicles per day, which creates congested conditions and highlights the need for improvements to this corridor in the coming years. Sidewalks exist along the thoroughfare, but it lacks dedicated bicycle facilities.

Potter Road: Functioning as an extension of Stallings Road, Potter experiences its heaviest volumes in the short distance between Old Monroe Road and Pleasant Plains Road, where nearly 13,000 vehicles per day travel. South of this intersection, volumes lighten up to well within the provided capacity. Improvements may be needed on the initial segment of this road, providing more capacity between Old Monroe and Pleasant Plains. Potter Road includes sidewalks, but not bicycle facilities.



Sam Newell Road/ N. Trade Street: This corridor ranges from a being a two-lane section near the Margaret Wallace Rd area to a three-lane near US 74 into downtown Matthews. Within the downtown area you will find right and left turns lanes with one through lane. The portion of the roadway through downtown Matthews from Matthews St to John St is referred to as N. Trade St. North of Matthews St the roadway is referred to as Sam Newell Rd. Traffic volumes on this facility range from 12,000 to 14,000 vehicles per day, approaching the full capacity of a two-lane road, improvements will be needed on this facility. Sam Newell Rd includes sidewalks in some areas mainly near new residential construction and does not have bicycle facilities.

Stallings Road: A two-lane road connecting Stallings to Old Monroe Road, US 74 and Idlewild Road. Traffic volumes on this facility range from 5,000 to 10,000 vehicles per day, allowing Stallings Road to operate within the capacity of a two-lane road. Land use surrounding this roadway is a mix of industrial, commercial and low density residential. Sidewalks are included in the early segments of Stallings Rd. from US 74 to Monroe Rd. Pedestrian and bicycle facilities are not available for the remainder of the corridor.

Stevens Mill Road: Stevens Mills Road is a two-lane facility that connects from Stallings Road to Idlewild Road and Lawyers Road. Current traffic volumes are low. The construction of the Monroe Bypass and recent changes in the land use along this road, including the recent construction of Stallings Elementary School at the intersection of Stallings Rd and Stevens Mills Rd, may expose the need for improvements in the future. Neither sidewalks nor bicycle facilities are available along this corridor.

US 74 (Independence Blvd): Serving as the primary east-west regional highway from the coast of North Carolina to Western North Carolina. US 74 carries traffic volumes ranging from 53,000 east of Stallings to 80,000 near Matthews. A planned bypass of Monroe will relieve pressure for some parts of this four-lane divided highway, but the segment from I-485 to Charlotte will need improvements in the future. The primary land uses surrounding the roadway are commercial and retail. Sidewalks are intermittent along the corridor. Bicycle facilities do not exist along the corridor. A feasibility study was completed in October 2010, detailing the options of widening US 74 from the I-485 outer loop to Idlewild Rd. The report found that an eight to ten lane cross-section would best suit the future traffic projections in the area.

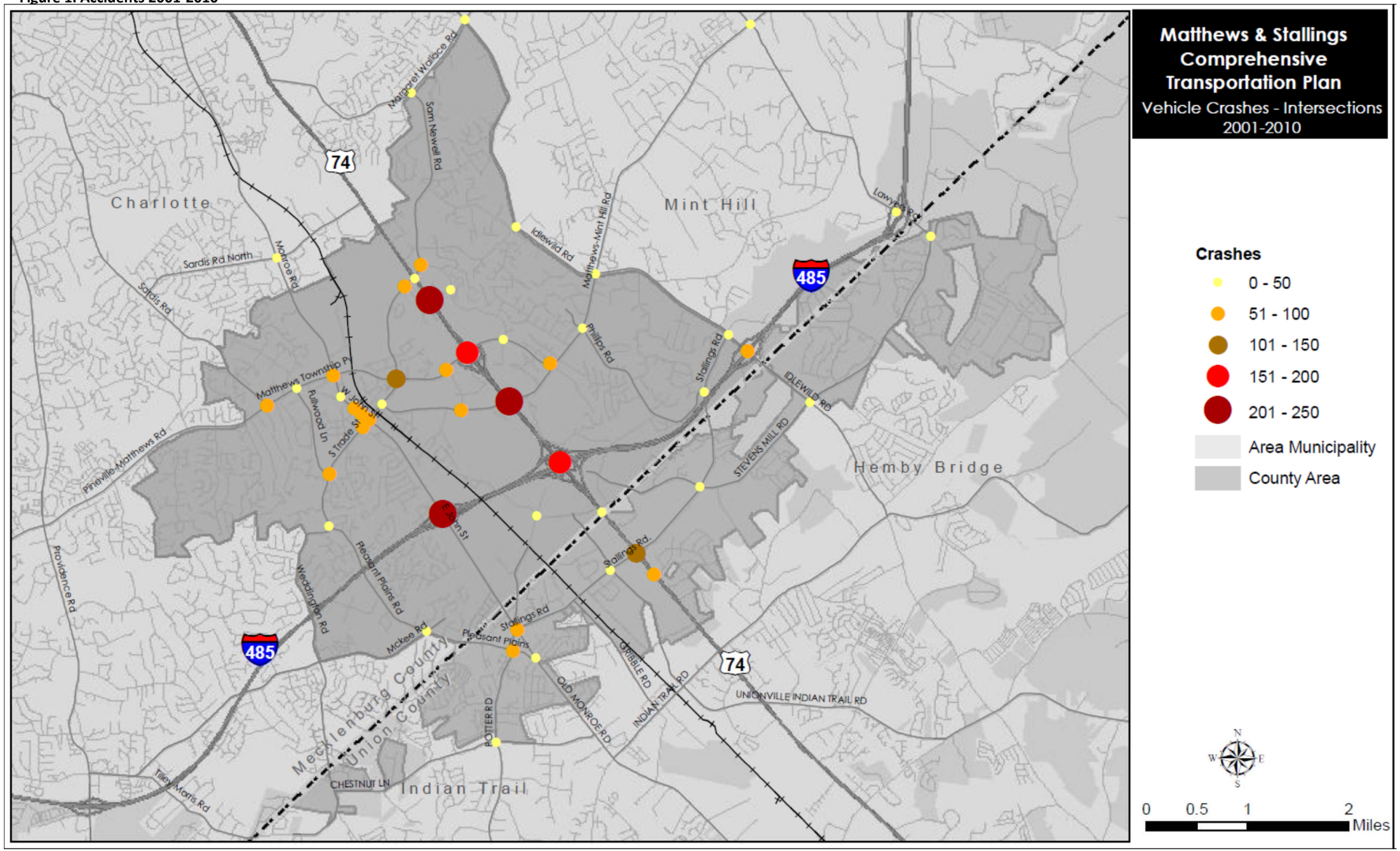
Weddington Road: Weddington Road provides connectivity from S. Trade Street to McKee Road and beyond. A planned interchange at I-485 and Weddington Road will cause the road to become a major thoroughfare for the area. Current traffic volumes along Weddington Rd vary from 11,000 to 14,000 vehicles per day, but are likely to increase if the interchange is constructed along with anticipated growth for the area. A small amount of bicycle lane is available along Weddington Road near Pleasant Plains Road. Sidewalks are available along much of the corridor.

Accidents

In general, contributing factors to a location's high crash occurrence include driver error, intersection design, accessibility and traffic congestion. A direct relationship exists between congestion along corridors and intersections and crash frequency, which gives justification to ongoing efforts to provide funding for projects that minimize congestion.

Vehicle accidents in Matthews and Stallings, as shown in **Figure 1,** are the highest along intersections at US 74 with various intersecting roadways. It is interesting to note that the intersections leading to US 74, on roads such as Matthews Township Parkway, have a higher number of accidents the closer one gets to the highway. High volumes of traffic and backups along the connecting roads to US 74 could be contributing to the rising amount of crashes. Since US 74 carries the most traffic through the Towns, the number of accidents is not surprising. Backups along John St in the downtown Matthews area have caused a higher amount of accidents in the ten (10) year study period. This could be attributed to the higher amounts of travelers frequenting shops and restaurants in the area as well as the increase of commuters from the southern portion of the study area into Charlotte as reported by the citizens during the open comment period.

Figure 1. Accidents 2001-2010



Bicycle and Pedestrian Crash Data

NCDOT collects data on vehicle crashes involving both cyclists and pedestrians. Each police report is reviewed and analyzed by the UNC Highway Research Center. Details from each incident, including speed limit, location, severity of injury, fault, the level of nearby development, and whether or not alcohol was a factor, among others, are recorded and categorized. Crash data is made available to the public via the North Carolina Pedestrian and Bicycle Crash Data Tool through the NCDOT website.

The following bicycle and pedestrian crash data for Matthews and Stallings was collected using the North Carolina Pedestrian and Bicycle Crash Data Tool.

Matthews

Pedestrian Crash Data:

A total of 75 incidents between vehicles and pedestrians were identified between 1997 and 2009. Over half of these incidents (41) were reported in areas with lower speed limits (speed limit between 5 and 25 mph). These lower speed limits would indicate that these incidents took place in areas where vehicles and pedestrians are in close proximity to one another. A total of 61 incidents were reported in urban areas (over 70% of the land has been developed). Pedestrians were found to be at fault 25 out of 75 times, motorists were found to be at fault 23 times, and the fault was shared in the remainder of the crashes.

Bicycle Crash Data:

Recorded incidents between vehicles and cyclists totaled 31 between 1997 and 2009. The highest number of incidents, 11, were recorded where the speed limit is between 40 and 45 mph, followed by 9 incidents along roads with a speed limit between 20 and 25 mph, and 7 incidents along roads with a speed limit between 30 and 35 mph. A total of 24 incidents were reported in urban areas. Records indicate that the cyclist was at fault 12 times, the motorist was at fault 4 times, and both were at fault 7 times. Intersections were the site of 15 incidents, while 13 incidents occurred in the roadway.

Stallings

Pedestrian Crash Data:

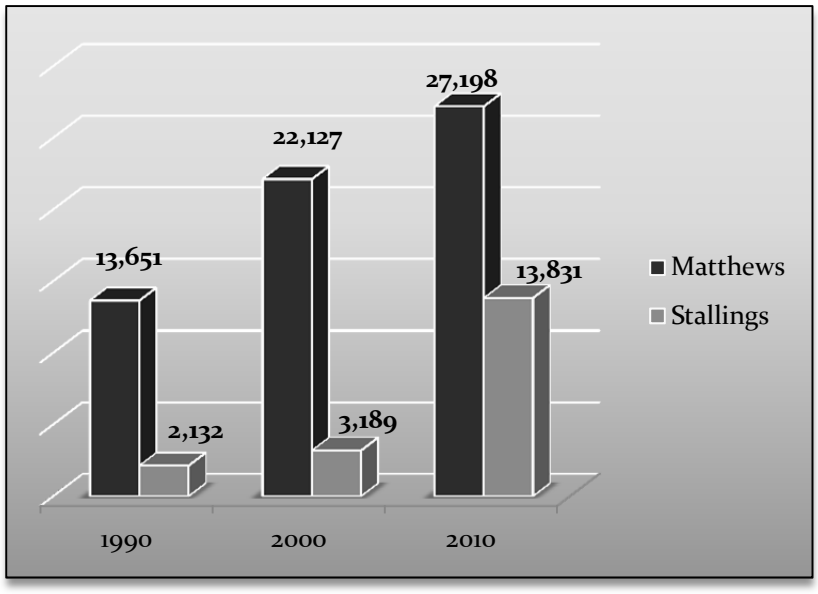
A total of 16 incidents between vehicles and pedestrians were report between 1997 and 2009 in Stallings. 5 of these incidents occurred along roads with a speed limit between 30 and 35 mph, followed by 3 incidents along roads with a speed limit between 50 and 55 mph, 2 incidents in areas with a speed limit between 5 and 15 mph, and 2 incidents along roads with a speed limit between 20 and 25 mph. No speed limit was indicated in the remaining incidents. A total of 11 incidents occurred within urban areas and the remaining 5 occurred in mixed, or suburban, areas. Motorists were found to be at fault in 9 of the 16 incidents.

Bicycle Crash Data:

Only 4 incidents between vehicles and cyclists were recorded in Stallings between 1997 and 2009. Of these 4 incidents, 3 occurred along roads with a speed limit between 30 and 35 mph. All 4 incidents occurred in urban areas. The cyclist was found to be at fault in 2 of the 4 incidents. Intersections were the site of half of the incidents.

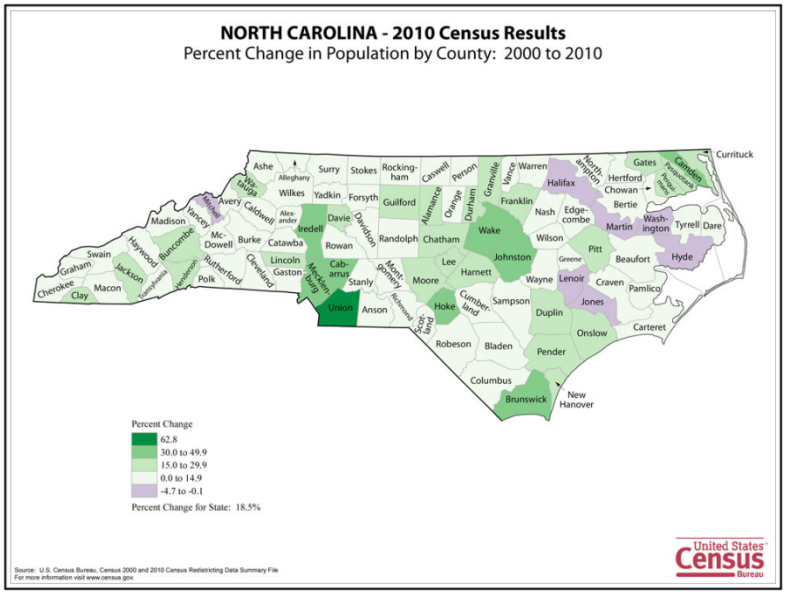
Demographics

Demographic information provides valuable information about citizen travel behavior and preferences. Potential choices in modes of transportation, including biking, walking, driving or transit usage, can be unveiled through reviewing recent U.S. Census data. The following paragraphs provide a summary of the demographic analysis for the Towns of Matthews and Stallings.



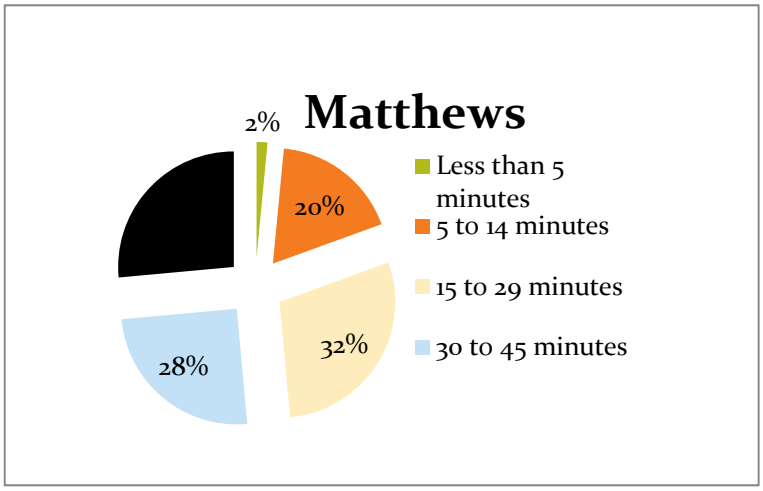
According to the 2010 U.S. Census, Matthews's population grew by 22 percent (22%) to 27,198 persons. Matthews reported a higher increase in population in the 2000 Census than the most recent. Matthews reported 13,651 persons in 1990 and in 2000 reported 22,127, a 67 percent (67%) increase in population. Stallings grew by more than 300 percent (300%) to 13,831 persons from the year 2000. The population increase shown in the most recent Census survey indicates Stallings has seen much more growth in the last decade than previously from 1990-2000. The 2000 Census reported that Stallings population grew by nearly 50 percent (50%) from 2,123 persons to 3,189 persons.

Union County reported the largest percent change in population out of the entire state according to the 2010 US Census. The county as a whole grew by more than 60 percent (60%) from 2000 to 2010. Mecklenburg County is one of eight counties in North Carolina to experience a population increase from 30 percent (30%) to 50 percent (50%) over the last decade. The population increase within the Counties and Towns within the study area have a direct correlation on traffic congestion along area roads.



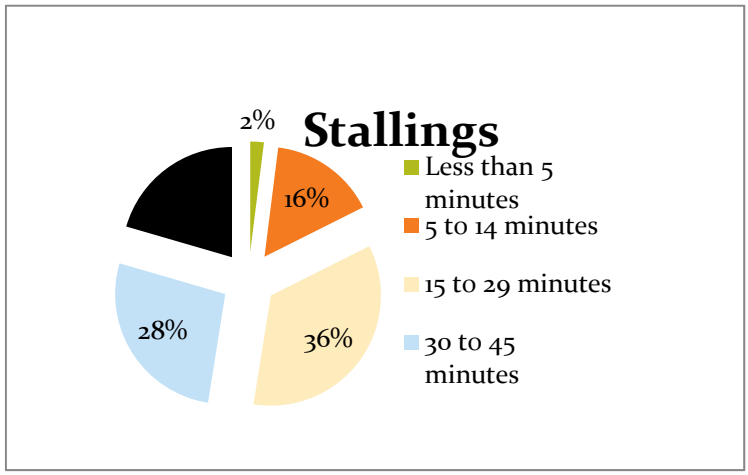
Both Towns are similar in age categories for their citizens. Age groups of 25 -44 and 45-69 represent a combined 70 percent (70%) of the population for Matthews and Stallings. These ages typically represent the majority of the workforce and daily commuters. Data indicates 96 percent (96%) of the population in both Towns did not work at home.

Both Stallings and Matthews have median household income well above national averages. Residents that are below the poverty level represent less than one percent (<1%) of the population much lower than 12 percent (12%) national level.



Car ownership in both Towns is similar at 54 percent (54%) of households owning at least two vehicles. This is higher than the National average of 39 percent (39%). This information indicates that residents are dependent on vehicles for daily commutes.

According to the US Census , 96 percent of Matthews and Stallings residents commute to work with Matthews residents having an average commute time of 30 minutes and Stallings residents having an average commute time of 28 minutes. Of the total population 85 percent (85%) of the population drive alone by car in both Towns and approximately 10 percent (10%) carpool. Approximately 4 percent (4%) of people work from home and the remaining 1 percent (1%) commute by bicycle, walking, or public transportation. Coupled with the data that indicates 22 percent (22%) of people and Matthews and 18 percent (18%) of people in Stallings have a commute less than 15 minutes indicates that transit, biking, and walking be a realistic means of transportation. These groups are a target audience for increased transit, bike, and pedestrian commute trips.



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Making the choice to replace car trips with walking, biking or using public transportation could save an individual over $9,800 a year!

www.completestreets.org

Land Use

Land use refers to the physical patterns of activities and functions within an area. Traffic demand in a given area is, in part, attributed to adjacent land use. For example, a large shopping center typically generates higher traffic volumes than a residential area. The spatial distribution of different types of land uses is a predominant determinant of when, where, and to what extent traffic congestion occurs. The travel demand between different land uses and the resulting impact on traffic conditions varies depending on the size, type, intensity, and spatial separation of development. Additionally, traffic volumes have different peaks based on the time of day and the day of the week. For transportation planning purposes, land use is divided into the following categories:

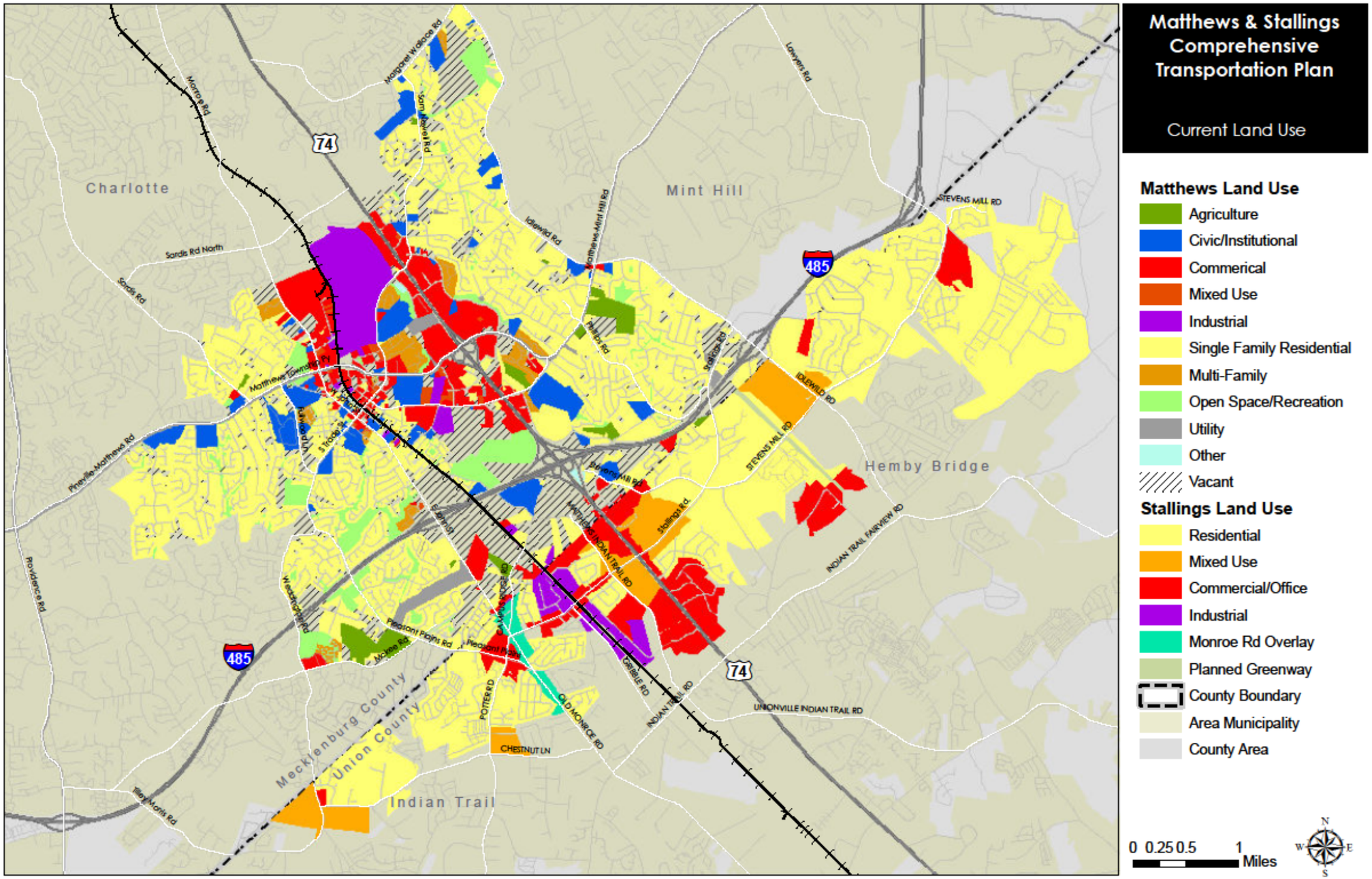
- Residential: Land devoted to the housing of people, with the exception of hotels and motels which are considered commercial.
- Commercial: Land devoted to retail trade including consumer and business services and their offices. This may be further stratified into retail and special retail classifications. Special retail would include high-traffic establishments, such as fast food restaurants and service stations; all other commercial establishments would be considered retail.
- Industrial: Land devoted to the manufacturing, storage, warehousing, and transportation of products.
- Institutional: Land devoted to social, religious, educational, cultural, and political activities. This would include the office and service employment establishments.
- Agricultural: Land devoted to the use of buildings or structures for the raising of non-domestic animals and/or growing of plants for food and other production.
- Mixed Use: Land devoted to a combination of any of the categories above.

In general, anticipated future land development is a logical extension of the present spatial land use distribution. Locations and types of expected growth within the planning area help to determine the location and type of proposed transportation improvements.

Current and future land use is taken into consideration when planning for a new roadway or changes in a current roadway. The planned roadway should fit the land use in that area. For example, when considering a change in roadway for an area that is primarily residential, an eight-lane divided expressway may not be suitable for the area. More appropriate roadway types, such as a four-lane divided local street, may best serve the residential area that is currently experiencing congestion. Impacts like high noise levels decrease in air quality and decrease in access must also be taken into consideration with the land use type when determining roadway changes in the area.

Figure 2 outlines the land use types for Matthews and Stallings. On the whole, most of the commercial and businesses are located along US Highway 74. A majority of the residential homes divided to the northern and southern portions of the communities.

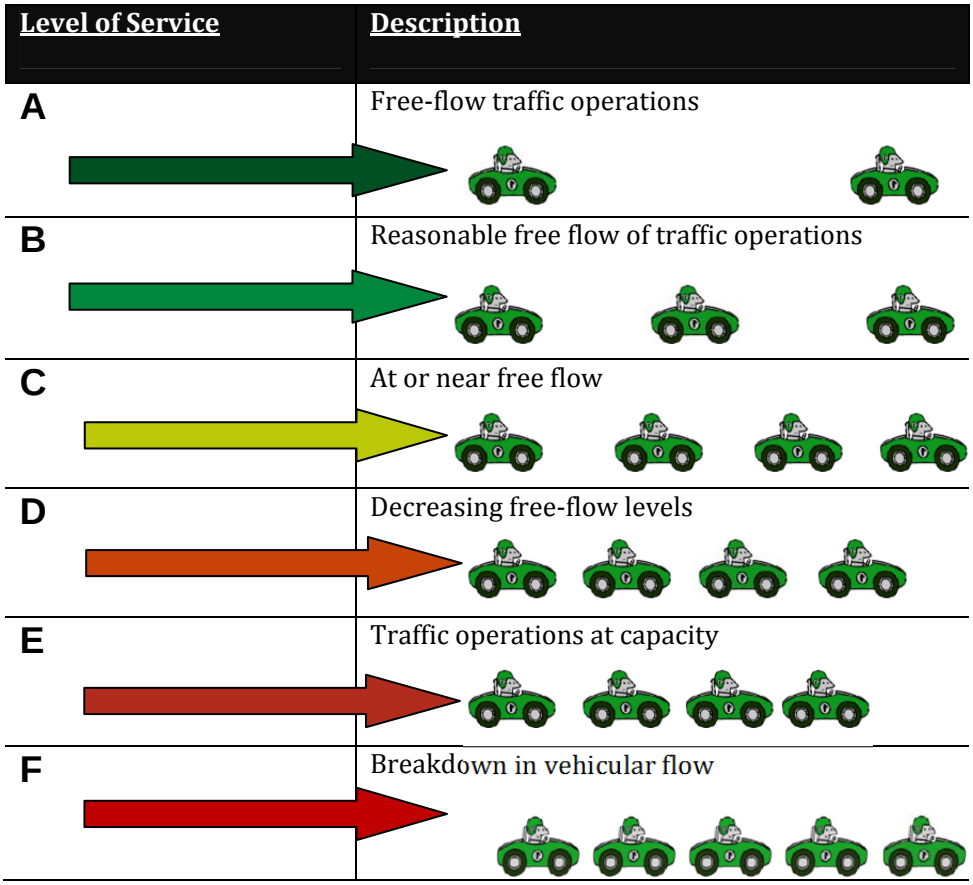
Figure 2. Current Land Use.



Level of Service

Effective key factors in determining whether a roadway qualifies for an upgrade in facilities are understanding how the roadway is operating and the elements of the infrastructure. The term level of service (LOS) is used to measure the effectiveness of a roadway or intersection. This concept helps in categorizing traffic flow when analyzing roadways. **Figure 3** further explains the definition of each categorical level. Aspects reviewed in determining LOS include whether the roadway is in an urban, suburban, or rural area, facility type, number of lanes and traffic volumes. The higher the LOS determination, the better the traffic flows. The lower the score identifies longer delays at intersections and congestion along a corridor.

Figure 3.Level of Service Descriptions



Future scenarios can be included in the LOS determination to see how a roadway would operate under certain conditions. Traffic volumes for horizon year 2035 and the proposed future changes in the roadways were reviewed using the LOS determination. **Figure 4** identifies the current LOS for the area roadways and how the roadways would operate with no changes in the horizon year. **Figure 5** identifies LOS operation with the proposed recommendations (discussed in Chapter 3). Overall, most roadways showed significant improvement in traffic delays when factoring in the proposed changes for the particular roadway. For example, currently Weddington Road, a two-lane roadway from Trade Street south to the County line, is operating at LOS E. Traffic operations are close to capacity and drivers are experiencing significant delays at local intersections. Analyzing future traffic projections for the area, and upgrading from a two-lane to a four-lane roadway indicates that vehicles delays will decrease. Many of the studied roads in Matthews and Stallings showed significant improvement in delays once the proposed roadway changes were applied to the future traffic volumes.

Figure 4. Level of Service (Current and Future with No Changes).

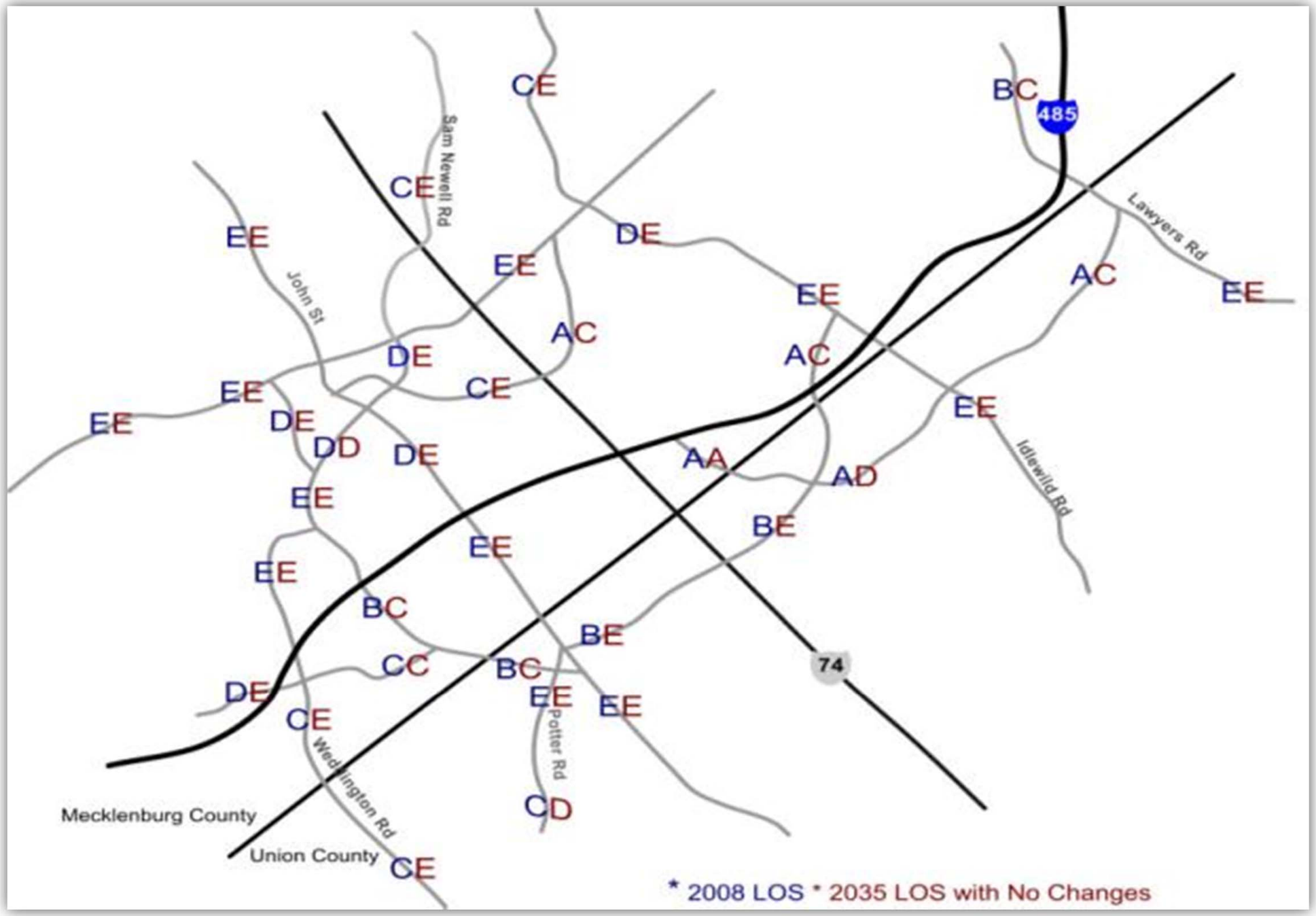
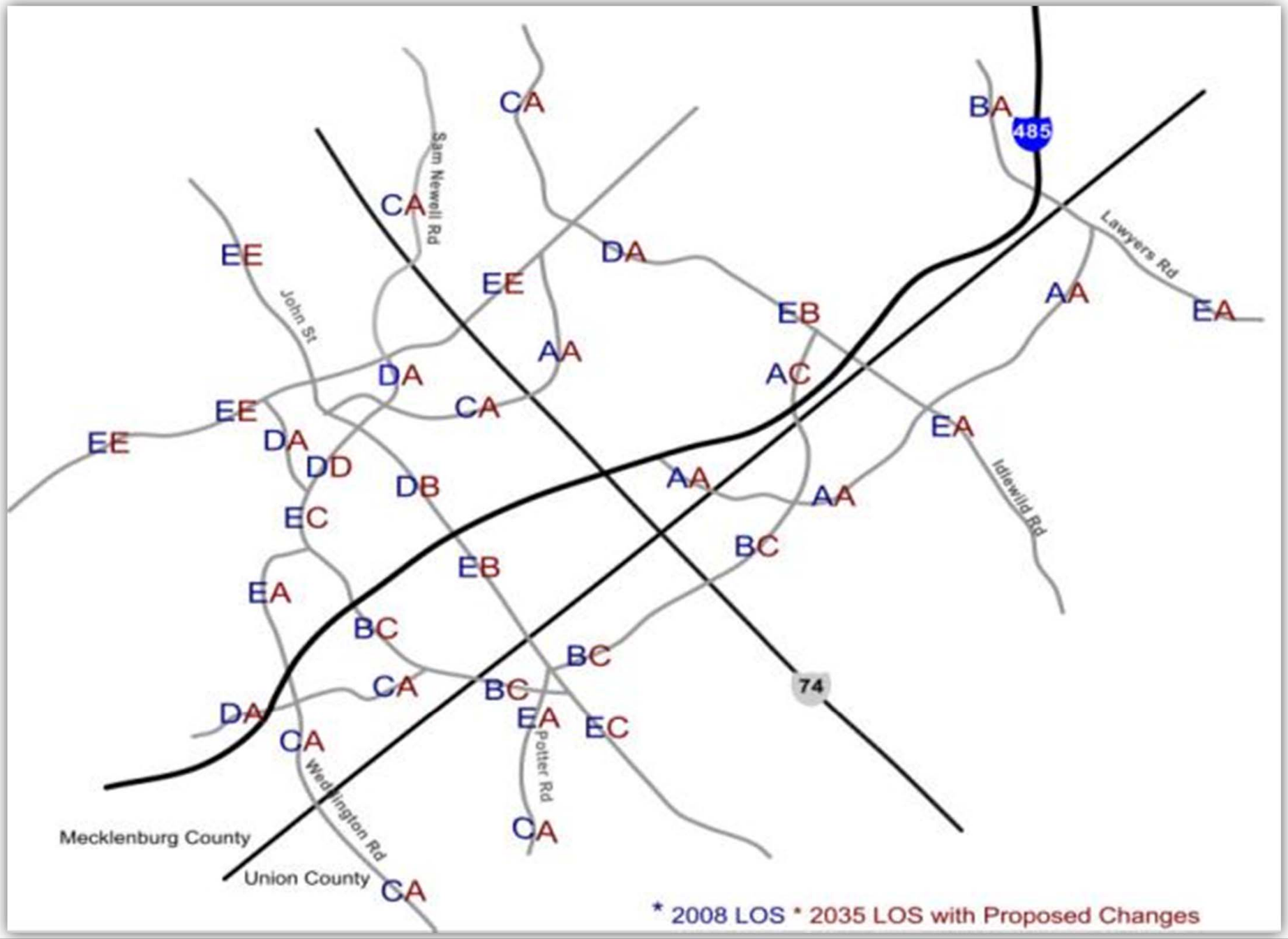


Figure 5. Level of Service (Current and Future with Proposed Changes).



2.2 Transit

Travel by private vehicle is the predominant means of transportation for the majority of citizens in Stallings and Matthews. As a result, it will remain the primary focus of long-range transportation planning and financing. However, all transportation plans must consider pedestrians, bicycles and public transportation and their inter-relation to each other, and set a course for transportation options for years to come.

Matthews/Stallings Overview

"Public Transportation" includes modes ranging from taxis and shuttles to commercial airlines, bus lines and intercity trains; all of which can have a greater or lesser impact on lives each day. "Public Transit" on the other hand is local, and greatly affects the lives of those who must rely on it to get to work, medical appointments, the store and other life activities day-in and day-out. The Nationwide Personal Transportation Survey indicated that mobility constraints often affect sub-groups of the overall population. This creates "mobility gaps" between those with access—either through private means or nearby access to public transit—and those that don't due to distance or economic circumstance.

Existing Services

Transit in the Matthews and Stallings area is available through for-hire taxi services, ride-sharing and human service transportation systems provided through Mecklenburg and Union County systems along with scheduled bus services provided by the Charlotte Area Transit System (CATS).

Taxis

A number of Taxi companies have approval from the Towns to provide taxi services in the Town limits, though none are based in the Towns. The number of cabs does not correlate to any level of anticipated ridership; however, it does support the notion that there is a demand for service alternatives to privately owned motor vehicles.

Mecklenburg County Transportation System-Matthews

Mecklenburg Transportation Service (MTS) provides service to many human service agencies through a variety of social service and DOT funding sources. Services include:

Available Services

- **Medicaid Transportation:** Adults and children authorized to receive Medicaid transportation are transported to and from a medical destination. CATS bus service is the primary mode of transportation. When the person cannot ride the bus, door-to-door transportation is provided. A physical assessment is required.

- **Elderly Disabled Transportation Assistance (EDTAP):** Adults aged 60+, and children and adults with a disability, are transported to and from dialysis or chemotherapy. Passengers pay a $1.50 fare. Congregate Transportation is provided directly by MTS for adults aged 60+ to and from Mecklenburg County Senior Citizens Nutrition sites for a nutritious meal and social activities. Contributions are accepted but not required.

- **Elderly General Purpose (EGP) Transportation:** Adults aged 60+ that are not living in an assisted living facility or nursing home, or persons with disabilities (SSI, SSA Disability, Veterans Disability), are transported to and from medical appointments, grocery shopping, Recreation and Senior Centers, paid employment, post-secondary education services and Mecklenburg County Senior Nutrition Program (SCNP) sites. Bus service is the primary mode of transportation. When the person cannot ride the bus, door-to-door transportation is provided. A physical assessment is required. The fare for a monthly bus pass is $10.00. Passengers pay a $2.80 fare.

- **Rural General Purpose (RGP) Transportation:** Transportation provided to transport citizens within a town or an unincorporated region of Charlotte, from a rural area to the nearest CATS bus stop or from one rural area to another rural area within the same region. Customers are responsible for CATS bus fare. Door to door service is provided within the rural area (e.g., Matthews to Matthews, Pineville to Matthews, Huntersville to Huntersville or Huntersville to Davidson). Passengers pay a $1.50 fare.

- **Senior Citizens Nutrition Congregate (SCNP):** Transportation is provided directly by MTS for adults aged 60+ to and from Mecklenburg County Senior Citizens Nutrition sites for a nutritious meal and social activities. Contributions are accepted but not required.

- **Veterans Services Transportation:** Transportation for qualified veterans are transported to and from Veterans Affairs hospitals in North Carolina and to and from medical clinics in Charlotte**.**

- **Comprehensive Community Program (CCP):** Transportation is provided directly by MTS for disabled individuals to sheltered workshops/supported employment sites.

- **Adult Day Care:** Adults qualified for Community Alternative Program/Disabled Adults (CAP/DA), may qualify for this service; referral by social worker or CAP Case Manager only. CAP/DA Program is a program that allows elderly and disabled adults ages 18 and up to receive support services in their own home, as an alternative to nursing home placement. There is no fee for this transportation service for those qualified.

Union County Transportation Service- Stallings

Transportation services are available to residents of Union County through limited NCDOT funded grant programs or through sponsorship of a local human service agency. Some grant-funded trips require the passenger to pay a fare to share in the cost of the service. Fares range from $20 for a round-trip to Charlotte to $2 for a one-way trip within Union County. The determination of the requirement to pay a fare is made at the time of registration and may be dependent upon the type of trip being scheduled.

Transportation services are provided to the clients of contracting human service agencies such as Department of Social Services, Vocational Rehabilitation, Veteran Services, and Senior Nutrition. Eligibility requirements for these agency trips include but are not limited to:

- Senior citizen at least 60 years of age
- A developmentally disabled adult
- Medicaid client
- A veteran eligible for medical treatment at a VA Hospital or clinic
- Physically disabled

Charlotte Area Transit System (CATS)

CATS operates a number of fixed local and express routes as far as Matthews. In addition, ADA-mandated STS type services are also provided within ¾ mile of all fixed local routes. Other than a route to Mint Hill, all routes operate from Matthews to downtown Charlotte. Also, CATS operates a leased Park-and-Ride lot on John Street served by two routes, and owns a 300 space Park-and-Ride lot on Independence Pointe Parkway served by three (3) routes. Service on the two (2) local routes (#17 & #27) is generally available from 6:00 AM to 1:30 AM, seven (7) days a week. Service on the three (3) Express routes (64X, 65X and 74X) is available during rush hours M-F. The 64X and 65X routes originate in Matthews and the 74X originates in Monroe and stops in Stallings. There is also a shuttle service between the Independence Pointe lot and downtown Mint Hill (#53) that operates in the mornings and afternoons (non-rush hour) M-F. See **Figure 6.**

Intercity Transportation Services

Passenger Bus- operated by Greyhound and Carolina Trailways with service up and down the east coast. Service operates from a passenger station on W. Trade Street in Charlotte. There are also a

number of discount bus services that operate from various locations on Charlotte, generally to the New York area.

Passenger Train- Amtrak operates passenger train service from a station on N. Tryon Street in Charlotte, to destinations in the Piedmont Crescent (Charlotte to Raleigh) and on to cities of the northeast. There is also service to Atlanta on to New Orleans.

Passenger Air- Various airlines operate over 650 flights a day from the Charlotte-Douglas International Airport (CLT), approximately 19 miles west of Matthews/Stallings.

Other Air- Private and corporate air service is available at Charlotte–Monroe Regional Airport, approximately 10 miles south of Stallings, and Goose Creek Airport, approximately 8 miles east of Stallings.

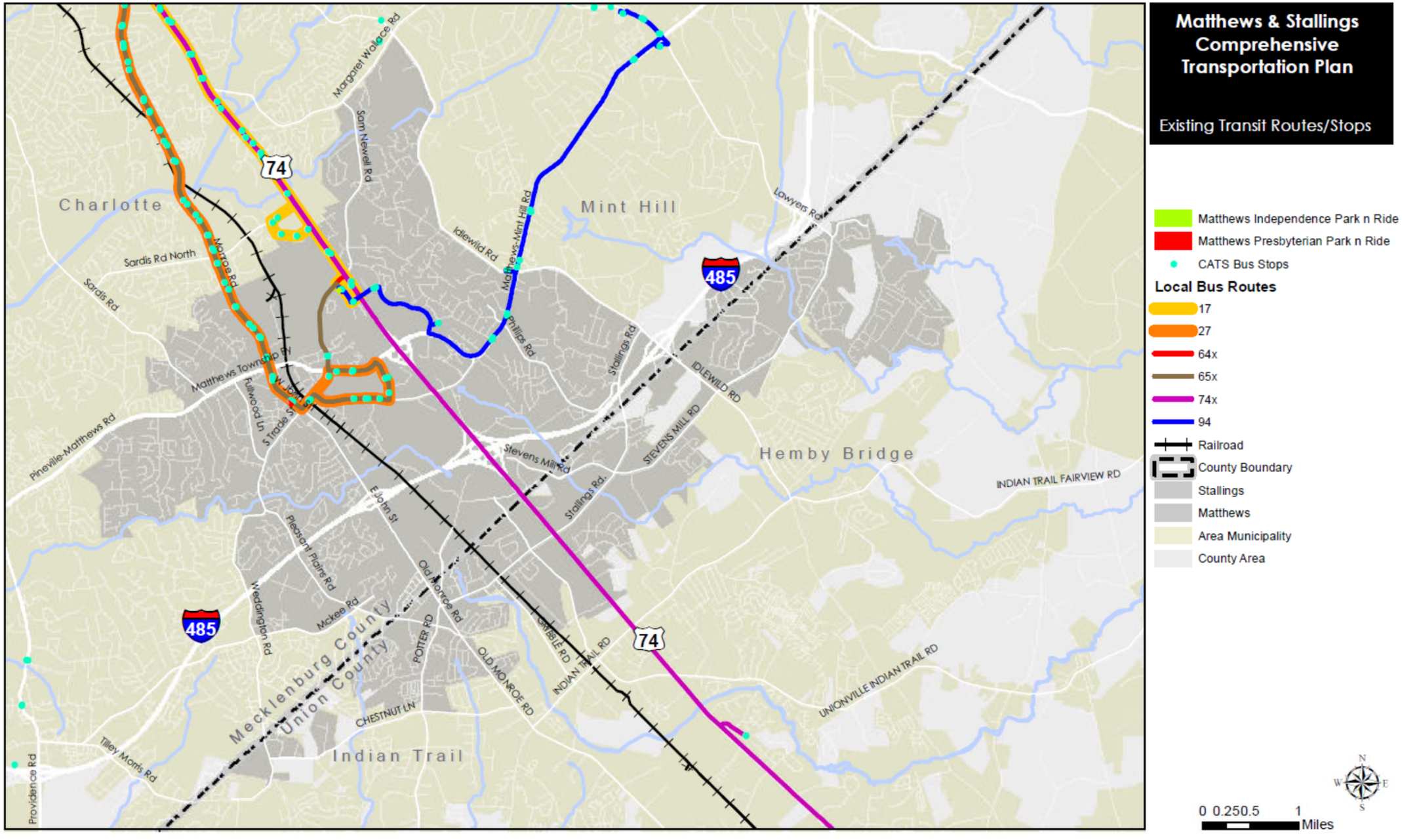


Figure 6. Existing Transit Service

Continuing Issues and Uncertainty

While there are plans to enhance future public transportation service in the planning area, the specific improvements projects are not yet fully defined. The 2030 Transit Corridor System Plan, developed by CATS in 2006, includes plans to expand the public transportation service in the planning area with an enhanced transit system that is identified as the Southeast Corridor. The locally preferred alternative selected for the Southeast Corridor is primarily along Independence Boulevard and Independence Pointe Parkway, between Charlotte and Matthews. It is a 14-mile bus rapid transit (BRT) line with 16 stations, with the following provisions:

- The technology selection would be revisited in 4-5 years to consider light rail technology (LRT)
- Any development or roadway construction along the corridor would be reviewed to protect the ability to do either Bus Rapid or Light Rail
- Advanced acquisition of ROW in the corridor should allow for the extension of a busway

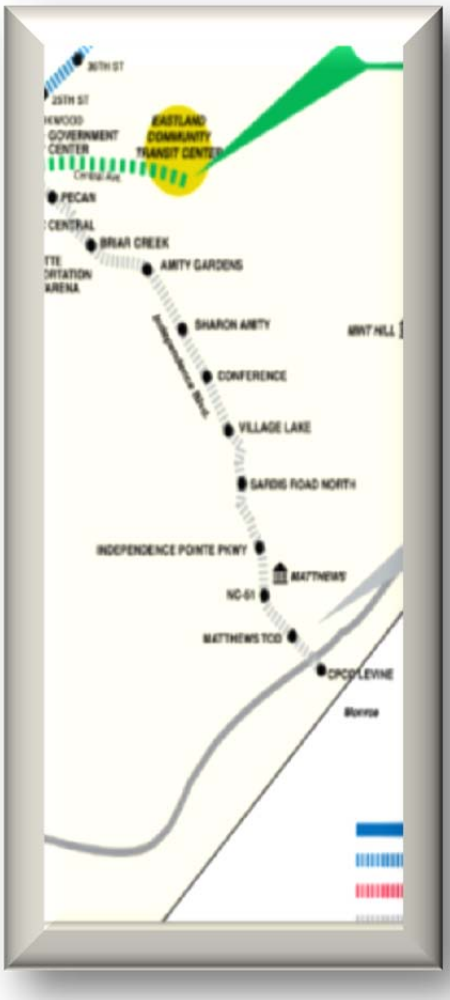
BRT and LRT are both considered enhanced transportation services that provide mobility options for mid-to long-distance travel. Both technologies rely on designated stations for boarding/alighting and can operate in either mixed-traffic or exclusive lane conditions. While both technologies provide great capacity for travel, increased access to land use, and economic benefits, LRT is a more established technology in the United States. That being said, BRT is gaining popularity and is more cost effective to build, as the infrastructure changes needed to install a BRT system are much less costly than those needed to install a LRT system.

Within the planning area, the selection of BRT or LRT will not greatly impact the final design of the Southeast Corridor, especially along Independence Boulevard. Either technology will utilize station platforms for boarding/alighting; have sections of both mixed-traffic and exclusive lane operations; and require similar signal system modifications.

BRT/LRT lines that may provide new, future service in the planning area include:

- Route Southeast Corridor Express: service every 30 minutes on Weekdays, Saturdays, and Sundays with 10 minute service during Weekday AM and PM peak hours

The Matthews Transit Station Area Joint Development Principles and Policy Guidelines was adopted by Matthews in 2006. The document outlines principles and policy guidelines to help Matthews develop rapid transit "station areas that are major activity centers made up of a wide range of land uses," and addresses public facilities, public and private infrastructure, housing, joint public/private development, private sector development incentives, and marketplace venues. The long-term success of the Southeast Corridor is "closely linked to creating dynamic, multi - and mixed-use station areas," and all future development along the Southeast Corridor, within the planning area, will adhere to the CATS guidelines.



BRT/LRT stations that may be built along Independence Boulevard or Independence Pointe Parkway in the planning area include:

- Sardis Road North
- Sam Newell Road
- NC 51
- Matthews Family Entertainment and Sports Plex District
- Central Piedmont Community College-Levine

Streetcar: The Urban Land Institute (ULI) conducted a case study review of the Southeast Corridor in 2010 as part of the City of Charlotte's Independence Area Plan effort. ULI recommended building a BRT/express bus for long-distance commuting along the Independence Boulevard, with a complimentary streetcar along Monroe Road and local feeder bus service to connect to the BRT and streetcar stations.

Future Bus Changes

Local bus routes that may provide new, future service in the planning area include:

- Route Southeast Corridor Feeder Loop: service every 30 minutes on Weekdays, Saturdays, and Sundays with service to match BRT/LRT schedule during Weekday AM and PM peak hours

Local streetcar routes that may provide new, future service in the planning area include:

- Route Southeast Corridor Streetcar: service every 30 minutes on Weekdays, Saturdays, and Sundays with service to match BRT/LRT schedule during Weekday AM and PM peak hours

Since the 2006 decision, the issue of technology and location on Independence Blvd has been re-visited. This is as a result of a study done by ULI in the winter of 2010-11 that recommended the deletion of a fixed guide way transit system from the middle of Independence Blvd., to be replaced by HOT lanes and enhanced express bus service on Independence Blvd. ULI also recommended consideration be given to a street car type service on Monroe Road as far as Sardis Road North. It would be possible to extend this service into Matthews by possibly using the CSX right-of-way and/or Independence Pointe Parkway into Matthews as far as McKee Road. The Metropolitan Transit Commission approved this concept change in the fall of 2011. As it stands now, there is no consensus as to how to proceed, though a number of studies are underway.

CATS has developed the FY 2013-17 Countywide Transit Service Plan for bus services that will guide service planning over the next five years. The plan includes a year-by-year strategy for providing bus service enhancements within Mecklenburg County, including the planning area. Included in the recommendations is a planned bus route 52 with service from Independence Pointe Parkway in Matthews to Carolina Place Mall in Pineville.

2.3 Bicycle and Pedestrian Conditions

The compilation of an inventory of existing bicycle and pedestrian facilities is necessary to identify the location and condition of existing facilities, understand how those facilities currently serve the needs of local residents, and determine where future facilities are needed in order to provide a bicycle and pedestrian friendly environment in Matthews and Stallings. This inventory provides a clear understanding of existing bicycle and pedestrian facilities and creates the foundation for recommendations that will improve, expand, and enhance local multi-modal facilities. The following existing conditions analysis for bicycle and pedestrian facilities accounts for facility locations, site conditions, proximity to local destinations, local and regional connectivity, and public opinions of current level of service.

This section will discuss and review:

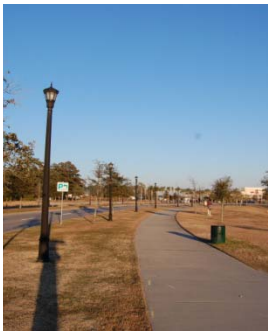
- Types of Bicycle and Pedestrian Facilities
- Existing Bicycle and Pedestrian Facilities Analysis
- Current Bicycle and Pedestrian Facility Policies
- Study Area Use and Destinations
- Bicycle and Pedestrian Crash Data

Types of Bicycle and Pedestrian Facilities

Many transportation facilities are built specifically for bicycle and pedestrian use, each providing dedicated infrastructure for cyclists and pedestrians. However, not all bicycle and pedestrian facilities are equal. When planning bicycle and pedestrian facilities, it is important that all users and their abilities be considered. The various types of bicycle and pedestrian facilities are provided below in **Table 1,** along with a description of uses, locations, dimensions, advantages, and disadvantages of each facility**.**

Table 1: Bicycle and Pedestrian Facility Types

Sidewalk			
	**Location:**	Right-of-way	**Advantages:**
	Dimensions:	Minimum 5' wide	High connectivity to land uses, easy to integrate into existing right-of-way
	Supported Uses:	Walking, Jogging	**Disadvantages:**
	Users Served:	All groups	No bicycle accommodation, limited space for travel
	Typical Environment:	Urban, Suburban	

Multi-Use Paths			
	**Location:**	Right-of-way	**Advantages:**
	Dimensions:	Minimum 10' wide	High connectivity to land uses, multiple modes of transportation
	Supported Uses:	Walking, Jogging, Skating, Bicycling	**Disadvantages:**
	Users Served:	All groups	Uses additional right-of-way area, not ideal for highly urban areas
	Typical Environment:	Urban, Suburban	

Multi-Use Trails

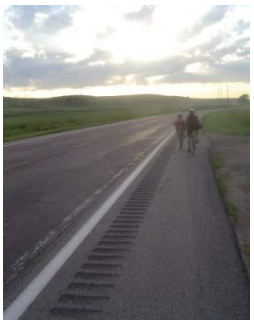
Location:	Off-road	**Advantages:**
Dimensions:	Minimum 10' wide	Multiple modes of transportation, expands connectivity beyond road
Supported Uses:	Walking, Jogging, Skating, Bicycling,	**Disadvantages:**
Users Served:	All groups	Land acquisition can be costly, public opposition
Typical Environment:	Urban, Suburban	

Trail

Location:	Off-road	**Advantages:**
Dimensions:	Varies	Expands connectivity beyond road, provides recreational benefit
Supported Uses:	Walking, Jogging, Bicycling	**Disadvantages:**
Users Served:	All groups	Land acquisition can be costly, limited uses, best for natural and rural environments
Typical Environment:	Suburban, Rural	

Bike Lane			
	**Location:**	Parallel to travel lane	**Advantages:**
	Dimensions:	Minimum 4' wide	High visibility, limits conflicts with other modes of transportation, preferred in urban areas
	Supported Uses:	Bicycling	**Disadvantages:**
	Users Served:	Moderate to experienced cyclists	On grade with automobiles, not ideal for young and inexperienced users
	Typical Environment:	Urban, Suburban	

Shared Roadway			
	**Location:**	In travel lane	**Advantages:**
	Dimensions:	14' wide travel lane	High visibility from automobiles, second use for existing facility
	Supported Uses:	Bicycling	**Disadvantages:**
	Users Served:	Moderate to experienced cyclists	On grade with automobiles, not ideal for young and inexperienced users
	Typical Environment:	Urban, Suburban, Rural	

Shoulders			
	**Location:**	Parallel to travel lane	**Advantages:**
	Dimensions:	Varies	Provides location for travel, second use for existing facility
	Supported Uses:	Walking, Bicycling	**Disadvantages:**
	Users Served:	Moderate to experienced cyclists	On grade with automobiles, limits young and inexperienced users
	Typical Environment:	Suburban, Rural	

Single Track			
	Location:	Off-road	**Advantages:**
	Dimensions:	Maximum 2' wide	Expands connectivity beyond road, provides recreational benefit
	Supported Uses:	Bicycling	**Disadvantages:**
	**Users Served:**	All groups	Land acquisition can be costly, limited uses, best for natural and rural environments
	Typical Environment:	Suburban, Rural	

The *Matthews Stallings Comprehensive Transportation Plan* is focused on providing safe, dedicated bicycle and pedestrian facilities within the road rights-of-way and, in some cases, off-road throughout the study area. Though all of the facility types in Table 1 are appropriate for bicycle and/or pedestrian travel, they are not all appropriate for this study. Recommendations within this plan will focus on sidewalks, multi-use paths, multi-use trails, bike lanes, and shared roadways. Bicycle and pedestrian facilities require certain standards to ensure the safety of users. Bicycle and pedestrian facility standards, as shared in **Chapter 4** of this document, are recommended for future construction and improvement projects that include bicycle and pedestrian facilities.

Existing Bicycle and Pedestrian Facilities Analysis

Cyclists and pedestrians find it challenging to use means other than vehicles to move through the Matthews Stallings Comprehensive Transportation Plan study area. This is due in part to the lack of a thorough network of connected bicycle and pedestrian facilities. Also to blame is the rapid development of land and highways within the area. The study area is divided by two major highways, Interstate 485 and US Highway 74. Both roadways act as barriers to bicycle and pedestrian connectivity. Connections across these roadways are limited and challenging. In addition, the residential and commercial rate of development has far surpassed the expansion of a roadway network that can accommodate higher volumes of traffic. Many connecting roads within the study area remain narrow two-lane roads, primarily unchanged from when they served much more rural land uses. A third factor that works in opposition to bicycle and pedestrian connectivity is the scale of development within the study area. Most commercial developments are located at the intersections of major roads. The distances between these commercially developed areas and residential developments, where most bicycle and pedestrian trips originate, are too great for residents to feel comfortable. An unconnected network of bicycle and pedestrian facilities, highways that complicate connectivity, and uncooperative land use and development patterns make it difficult for residents to view cycling and walking as realistic choices for transportation difficult, but not impossible.

There are very few existing bicycle facilities currently found in the Matthews Stallings Comprehensive Transportation Plan study area. This is most likely the reason so few residents use bicycles as a regular form of transportation. Several past planning efforts have identified the need for and locations for bicycle facilities, but those plans have not translated into facilities on the ground. Current bicycle facilities include approximately one mile of bike lanes along Fullwood Avenue in Matthews and at the intersection of Pleasant Plains Road, W. Trade Street, and Weddington Road in Matthews. Off-road bicycle facilities are limited to Four Mile Creek Greenway, an approximately 2.25-mile off-road multi-use trail that is located in Matthews. Though dedicated cyclists travel within and through the study area regularly, the majority of casual cyclists find the lack of connected bicycle facilities unsafe and unappealing.

Pedestrian facilities, primarily in the form of concrete sidewalks, are found throughout the Matthews Stallings Comprehensive Transportation Plan study area. Sidewalks exist along most major roads within the study area, such as Idlewild Road and Matthews Pineville Road in Matthews and Stallings Road in Stallings. However, most sidewalks along these major roads are only located on one side of the road. Gaps in sidewalk connectivity can also be found along these major roads, creating incomplete pedestrian connectivity. Sidewalks are much more prevalent along streets within residential subdivisions. In most cases, sidewalks are located along both sides of the street in subdivisions. The gaps in pedestrian facilities along major roadways and the well-connected nature of pedestrian facilities in some residential subdivisions are most likely a result of local and state sidewalk policies and requirements, which will be discussed in further detail in this section of this document.

Figure 7 depicts the existing bicycle facilities found within the Matthews Stallings Comprehensive Transportation Plan study area. **Figure 8** shows the existing pedestrian and trail facilities.

Figure 7. Existing Bicycle and Pedestrian Facilities

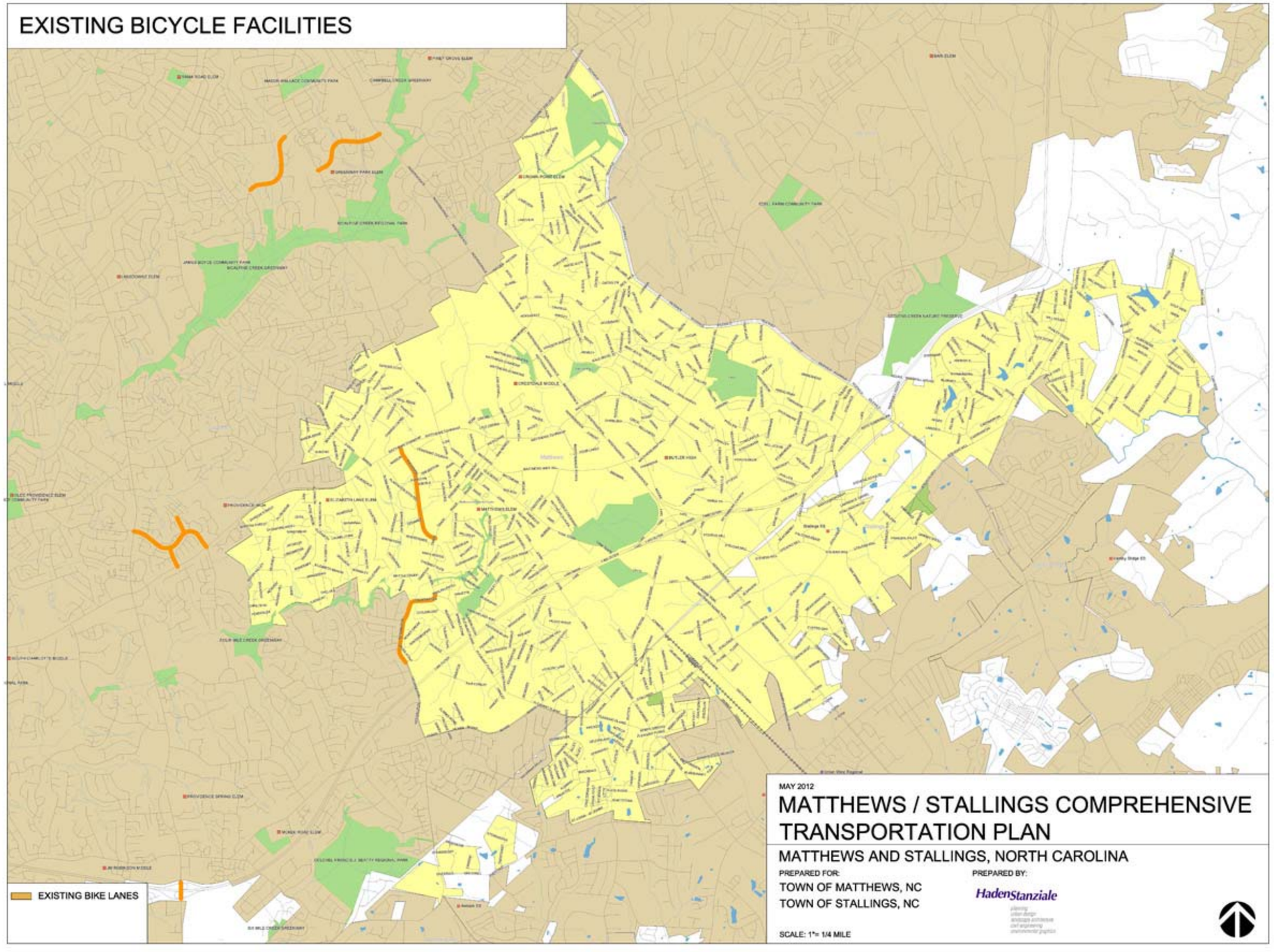
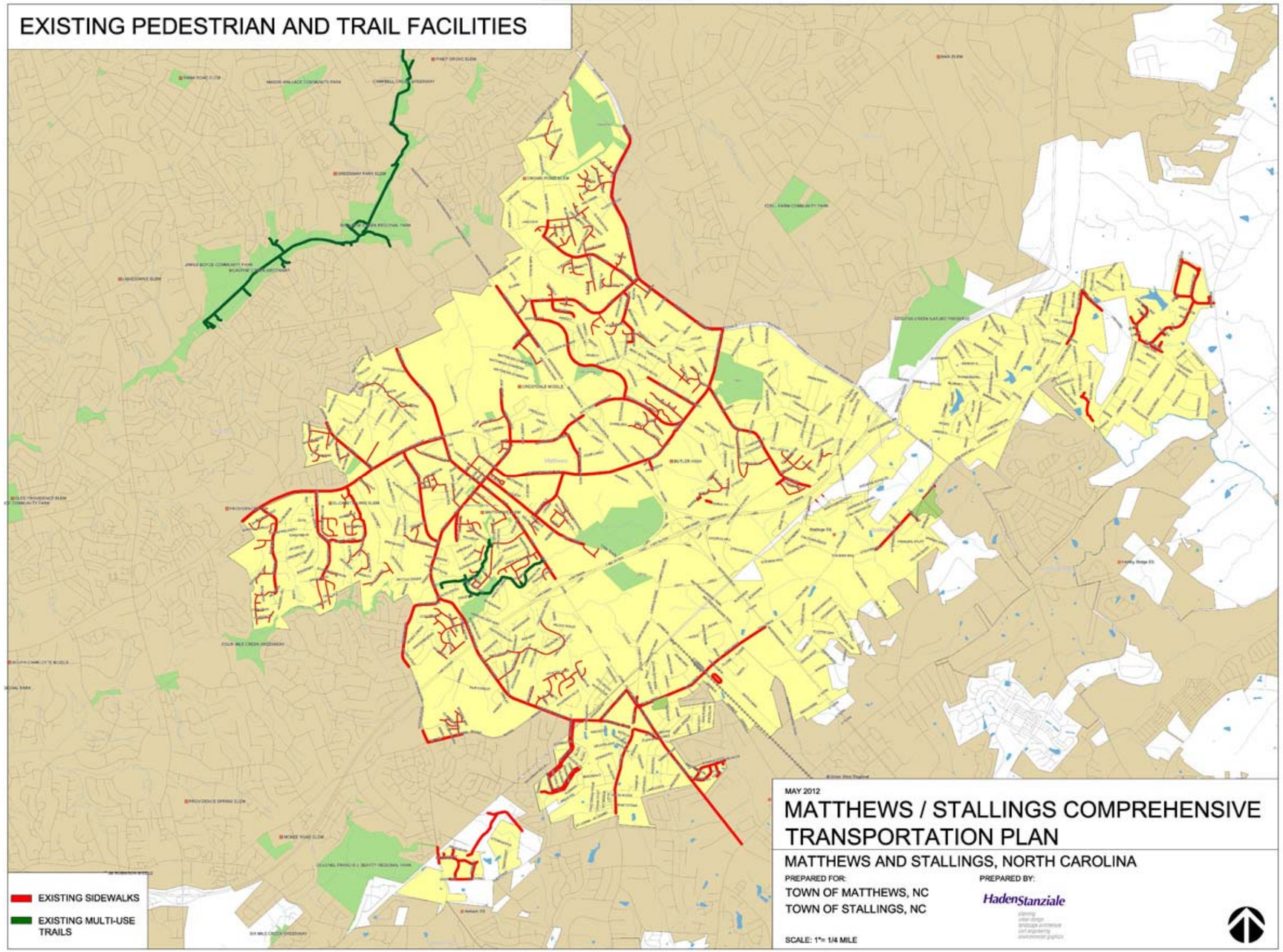


Figure 8. Existing Pedestrian and Trail Facilities



Current Bicycle and Pedestrian Facility Policies

Most transportation projects are focused on the construction or improvement of roadways, but more and more transportation projects now include bicycle and pedestrian facilities. The inclusion of bicycle and pedestrian facilities associated with other transportation improvement projects is primarily based on local, regional, and state policies. Many municipal agencies have adopted or approved policies that support the development, funding, design, and maintenance of multi-modal facilities.

There are no requirements for the inclusion of on-road bicycle facilities within Matthews' and Stallings' current regulations or ordinances. However, the majority of major road improvement and construction projects listed on the MUMPO 2035 Long Range Transportation Plan include bike lanes.

Matthews Subdivision Regulations require that minimum 5' wide concrete sidewalks be constructed on both sides of all classes of streets. The town of Matthews Subdivision Regulations encourage neighborhood connectivity between residential subdivisions and adjacent developments by way of streets, bicycle trails, or walking paths.

The Stallings Land Usage Ordinance requires minimum 5' wide concrete sidewalks be constructed along Stallings Road, Old Monroe Road, Potter Road, Pleasant Plains Road, Campus Ridge Road and Hwy 74 for new development projects, excluding single family and duplex structures. The ordinance requires 12' wide multi-use paths for new projects within the downtown overlay district, again excluding single family and duplex structures.

Mecklenburg-Union Metropolitan Planning Organization (MUMPO)

The Mecklenburg-Union Metropolitan Planning Organization (MUMPO) oversees transportation planning projects for 22 municipal agencies in Mecklenburg and Union Counties. The role of MUMPO is to coordinate transportation policy, including bicycle and pedestrian transportation, for the government jurisdictions within the Charlotte urbanized area. Matthews and Stallings are located in the MUMPO Charlotte urbanized area. MUMPO is responsible for the development of several transportation plans and programs based on state and federal regulations, including the area's Long Term Transportation Plan, Transportation Improvement Plan, and Thoroughfare Plan.

Prior to 1999, no municipality within the MUMPO area had formally adopted bicycle policies or plans until the Charlotte-Mecklenburg Bicycle Transportation Plan was completed and adopted. Other municipalities have followed suit and developed bicycle master plans, included bicycle facilities in broader planning efforts, adopted bicycle parking standards, and established boards that consider bicycling issues. A number of municipalities, including Matthews and Stallings, routinely include bike lanes in roadway enhancement projects. The 2035 Long Range Transportation Plan recommended 36.6-miles of roadway projects that include either bike lanes or wide outside lanes for bicycles. Proposed bicycle facilities included within the 2035 Long Range Transportation Plan have been documented and will be considered in the bicycle facility recommendations of this study.

MUMPO further underscored the region's commitment for bicycle and pedestrian transportation facilities by recently adopting a ranking process specifically for bicycle and pedestrian projects. This process will be used to evaluate future bicycle and pedestrian projects and appropriate funds for the most deserving projects. The ranking criteria considers connectivity provided by the proposed project, location of the project relating to destinations, project feasibility, and safety. The ranking criteria of bicycle and pedestrian projects in this document are based on the criteria established by MUMPO.

MUMPO continually strives to include pedestrian facilities in new roadway construction projects. In the event that funding is not available to include pedestrian facilities within new roadway projects, MUMPO works to ensure that space is available for future pedestrian facilities construction. This will allow for the construction of pedestrian facilities when funding becomes available.

North Carolina Department of Transportation Division of Bicycle and Pedestrian Transportation

The North Carolina Department of Transportation's Division of Bicycle and Pedestrian Transportation (NCDOT) works to incorporate bicycle and pedestrian safety, mobility, and accessibility into all aspects of transportation. NCDOT offers assistance through planning, project development, project design, and funding for bicycle and pedestrian facilities. NCDOT has adopted many policies in recent years to include bicycle and pedestrian facilities in roadway projects. In 2009, NCDOT approved a Complete Streets policy, which mandates consideration for bicycle and pedestrian facilities in all transportation projects.

NCDOT includes bicycle facilities in many statewide roadway projects. In addition, NCDOT provides design guidance and planning assistance to local municipalities for bicycle facilities. Bicycle helmet initiatives and educational programs for cyclists and drivers are hosted across the state to increase awareness and safety for cyclists young and old. NCDOT began a bicycle planning grant initiative in 2004 to encourage municipalities to develop comprehensive bicycle plans. This matching grant was used to develop the Matthews Comprehensive Bike Plan.

NCDOT offers to construct pedestrian facilities as part of broader roadway construction or enhancement projects, but funding for the sidewalk (partial or full) must be provided by the local municipality. The municipality must also agree to maintain the pedestrian facilities. NCDOT began a pedestrian planning grant initiative in 2004 to encourage municipalities to develop comprehensive pedestrian plans. This matching grant was used to develop the Stallings Pedestrian Plan.

Study Area Facility Use and Destinations

A survey was created for the Matthews Stallings Comprehensive Transportation Plan to measure residents' insight into existing transportation facilities and gather input on the types of transportation improvements needed within the study area. Several survey items were included to understand current bicycle and pedestrian facility use, identify the types of places residents' would like to access by cycling or walking, and locate where bicycle and pedestrian facilities need to be provided. Over 280 residents from Matthews and Stallings participated.

Residents were asked to indicate if they bike or walk to destinations within the study area and how often. These destinations included work, school, shopping areas, the library, restaurants, friends/family's houses, post offices, parks, community centers, downtown areas, and bus stops. The majority of respondents, over 60%, indicated that they never walk or bike to any of these places. Based on those who indicated they walk or bike to these destinations, 6% do so weekly, 5% do so monthly, and 10% bike or walk to those destinations occasionally. The remainder of respondents indicated they do not visit those destinations. In terms of destination visitation, friend/family's houses were the most visited destination by cycling or walking, followed by parks/community centers, downtown core/area, restaurants, and shopping areas. **Figure 9** illustrates responses to this survey item.

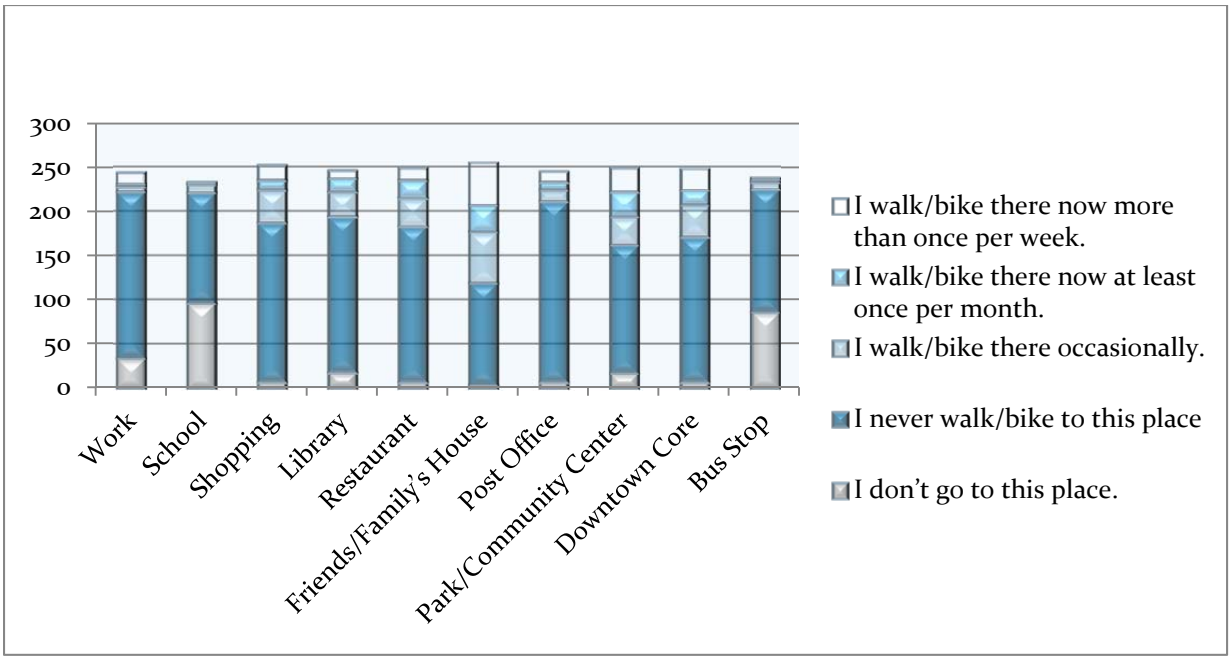


Figure 9. Survey Responses to "Please tell us how much you walk or bike to the following places NOW."

Next, residents were asked to indicate if they would bike or walk to the same destinations if bicycle and pedestrian facilities were provided to make the trip safer. The number of respondents who indicated they would not bike or walk to any of the destinations dropped substantially to 36%. Based on those who indicated they would walk or bike to these destinations, 15% would do so weekly, 11% would do so monthly, and 17% would do so occasionally. Again, friends/family's houses was the most likely destination for respondents to visit by cycling or walking, followed by shopping areas, park/community center, a restaurant, and downtown core/area.

These results indicate a more complete network of bicycle and pedestrian facilities would create an increase in local trips by bicycle and/or walking. In addition, these results indicate the types of destinations within the study area most residents are interested in accessing via bicycle and/or by walking.

Residents were asked to indicate the types of the bicycle and pedestrian activities they participate in on a regular basis. Almost half of respondents, 47%, indicated they walk on a regular basis. Bicycle (leisure) was next with 23%, followed by running/jogging (16%), distance bicycling (6%), and skating/rollerblading (2%). Knowing that different bicycle and pedestrian facilities are better suited for certain activities, these results provide insight into the types of bicycle and pedestrian facilities that need to be provided for residents.

Residents were asked to identify roadways within the Matthews Stallings Comprehensive Transportation Plan study area that need to be made more *bicycle* friendly. The following roadways were identified:

- Pleasant Plains Road
- Trade Street
- McKee Road
- Monroe Road/John Street
- Idlewild Road
- Sam Newell Road
- Hwy. 51
- Stallings Road

Next, residents were asked to identify roadways within the study area that need to be made more *pedestrian* friendly. The following roadways were identified:

- McKee Road
- Monroe Road/ John Street
- Trade Street
- Hwy. 51
- Pleasant Plains Road
- Sam Newell Road
- Potter Road

A comparison of the roadways, listed above, in need of improved bicycle and pedestrian facilities illustrates that the same roadways within the study area were selected.

Section 3 Recommendations

This section identifies potential future projects that will improve transportation conditions in Matthews and Stallings. The projects in this section were developed based upon input from Town staff, the Task Force, and public input through surveys and the May 17, 2011 Open House.

The CTP development is based on the existing conditions within the area and the projected growth for the planning area. It is possible that actual growth patterns will differ from those logically anticipated. As a result, it may be necessary to accelerate or delay the implementation of some recommendations found within this plan. Some portions of the plan may require revisions in order to accommodate unexpected changes in development. Therefore, any changes made to one element of the CTP should be consistent with the other elements.

Revisions on recommendations in the Plan may also be needed due to funding of projects. Currently the Towns have three primary methods of funding that can influence a project: 1) Investment of local resources: this method would typically be focused on locally-controlled roadways. 2) Regional, state or federal funding: this method of provides funding for state controlled thoroughfares and highways. 3.) Developer financing: this method requires local developers to assist the Towns with trail, sidewalk, and roadway improvements when approving new private development in the area.

3.1 Roadway Recommendations

Project recommendations are essentially the core of a CTP. The streets are where Matthews and Stallings show their commitment to creating a transportation system that promotes health, safety, mobility and access. The concepts presented here incorporate pieces of each of the other elements–pedestrian, bicycle, transit—and tie them into a comprehensive package.

In order to determine the roadways that would be recommended for improvements or where new location roadways are needed, a number of factors were considered. Existing congestion levels, future congestion levels, number and types of accidents, existing and future land use, multi-modal uses and public input were considered when determining future roadway changes in the study area.

The potential recommendations were qualitatively assigned from short to long term construction potential based on several factors. **Table 2** identifies the roadway improvement projects and the priority score that each project received. **Figure 10** identifies the roadway recommendations and locality for this Plan. Appendix B graphically displays a few of the major roadway in the study area and the project recommendations found in this report. Scoring factors used for determining the term of the construction project include:

1. Is the project consistent with local plans?
    - 2 points: Yes
    - 0 points: No

2. Is the project consistent with local goals?
    - 2 points: Yes
    - 0 points: No

3. Current Level of Service?
    - 2 points: Level C or Above
    - 1 points: Level D or below

4. Does the project provide congestion relief in 2035 with proposed improvements?
    - 0 points: little or no impact
    - 2 points: Storage, turn lane additions
    - 4 points: New arterial street/highway. HOV lanes, addition of general purpose lanes

5. Provides multi-modal transportation within the corridor?
    - 2 points: 1 mode
    - 4 points: 2 modes
    - 6 points: 2+modes

6. Indicated during the public involvement period as a potential project?
    - 2 points: Yes
    - 0 points: No

Short term recommendations reference a project that showed a high level of community support, reduction in congestion levels for present and future years, has a high mark in multi-modal features, and

is recommended to be completed within less than 10 years. These projects have been indicated and studied in previous planning efforts. For example, NC 51 from Matthews Township Parkway to Lawyers Rd is currently discussed and scheduled in the Long Range Transportation Plan developed by MUMPO.

A mid-term recommended project is one that should be completed within a 10-20 year timeframe. These projects scored slightly lower than the short term reference projects in the prioritization effort.

Long term projects are those that should be considered in the future (20+ years). The prioritization process is a qualitative approach to comprehending each project independently and to gather an understanding of the impact the project would have on community travels. These priorities serve as a tool to local officials to understand needed projects and to begin to develop a picture of the needs and an approach to complete them. Projects and construction schedules are subject to change given available funding and reevaluating community needs. Ownership of the roadways included in the project recommendations fall to the Towns and to the North Carolina Department of Transportation. Both Towns should continue to work with NCDOT on needed projects and schedules.

A variety of traffic data was collected throughout the study area. The data included traffic volumes, roadway geometry, and levels of service for area major roadways. The data was compiled and summarized throughout the study area. Traffic volume was gathered using NCDOT 2011 traffic counts and recent town traffic information. The daily volume data were reviewed and corridor volumes were developed. A growth rate was derived from an analysis of the 2005 base year travel demand model volumes and the 2035 horizon year travel demand model volumes. These rates were applied to the most recent observed traffic counts in the area to arrive at forecast 2035 traffic. **Table 2** shows the existing and projected traffic for many of the major thoroughfares in the study area.

Table 2. Roadway Traffic Volumes (Current and Future).

Roadway	Current Traffic Volumes	Projected (2035) Traffic Volumes
John St/ Old Monroe Rd	26,000	33,500
Sam Newell Rd	13,000	18,700
Stevens Mill Rd	5,500	9,600
Weddington Rd	16,000	27,400
Lawyers Rd	16,000	22,600
Fullwood Lane	13,000	21,400
Idlewild Rd	20,000	32,900
Stallings Rd	9,400	16,800

Below is a list of the project recommendations and the total qualitative scores given to each project.

ID	Matthews Recommendations	Name	Total Score
25	McKee Rd (Campus Ridge to Stevens Mill)	New Location Roadway 2 Lanes	18
1	Northeast Parkway (Matthews- Mint Hill Rd to Overcash Dr)	New Location Roadway	17
3	NC 51 (Matthews Township Pkwy to Lawyers Rd) (TIP states 74 to Lawyers)	Widen to 4 Lanes	17
15	S Trade St (Weddington to Fullwood)	Widen to 4 Lanes	17
16	I-485 (Providence Rd to US 74)	Widen to 6 Lanes	17
5	McKee Rd (Existing McKee Rd to Weddington Rd)	Widen to 4 Lanes	16
6	McKee Rd (Weddington Rd to Pleasant Plains Rd)	Widen to 4 Lanes	16
14	Arequipa Dr/Northeast Pkwy	New Location Roadway 4 Lanes	16
17	I- 485 (Hwy 74 to Albermarle Rd)	Widen to 6 Lanes	16
8	Idlewild Rd (Matthews-Mint Hill Rd to Stevens Mill Rd) (Same as #24)	Widen to 4 Lanes	15

ID	Matthews Recommendation (cont)	Name	Total Score
9	Idlewild Rd (Margaret Wallace Rd to Matthews-Mint Hill Rd)	Widen to 4 Lanes	15
19	Lawyers Rd (Thompson Rd to Indian Trail Fairview Rd)	Widen to 4 Lanes	15
20	Sam Newell Rd (Margaret Wallace Rd to E John St)	Widen to 4 Lanes	15
21	Pleasant Plains Rd (Meck County) (McKee Rd to Trade St)	Widen to 4 Lanes	15
22	Rice Rd (US 74 to Idlewild Rd)	Widen to 3 Lanes	15
23	Williams Rd (Sam Newell Rd to Rice Road)	Widen to 3 Lanes	15
39	Independence Commerce Dr. (Cul-de-sac to Stevens Mill Rd)	New Location Roadway 2 Lanes	15
11	Weddington Road (McKee Rd to Antioch Church Rd)	Widen to 4 Lanes	14
28	Sardis Rd (Sardis Rd North to NC 51)	Widen to 4 Lanes	14
30	NC 51 (Sardis to Monroe Rd)	Widen to 6 Lanes	14
32	E John St (I-485-Trade St)	Widen to 4 Lanes	14
33	Weddington Rd (Plantation Rd to McKee Rd)	Widen to 4 Lanes	14
26	McKee Rd (Pleasant Plains to John St)	New Location Roadway 4 Lanes	14
37	Krefeld Dr/Independence Pointe Parkway (Crownpoint Executive Dr. to Sam Newell)	New Location Roadway 4 Lanes	13
38	Hwy 74 (Hayden Way to I-485)	Widen to 6 Lanes plus HOV/HOT	13
40	Fullwood Ln (Matthews Township Pkwy to S Trade St)	Widen to 4 Lanes	13
50	Greylock Ridge Road (E. John St. to CSX Crossing)	New Location Roadway 2 Lanes	13
36	S. Freemont - Ext to Fullwood	New Location Roadway 2 Lanes	12
41	Old Depot Ln (near Town Hall to Crestdale Rd.)	New Location Roadway 2 Lanes	12
42	Buckley Way (From E John St. to E Charles St and ultimately across CSX to Old Depot Ln)	New Location Roadway 2 Lanes	12

ID	Matthews Recommendation (cont)	Name	Total Score
47	Sardis Rd N (US 74 to Sam Newell) Eastern Circumferential Road	New Location Roadway 2 Lanes	12
48	Independence Pointe Parkway (Current dead end east of Windsor Square Dr. to NC 51)	New Location Roadway 4 Lanes	11
49	Independence Pointe Parkway (Matthews-Mint Hill Rd, under I-485 to CPCC Lane)	New Location Roadway 4 Lanes	11
51	Greylock Ridge Road (CSX Crossing to Independence Pointe Parkway)	New Location Roadway 2 Lanes	11

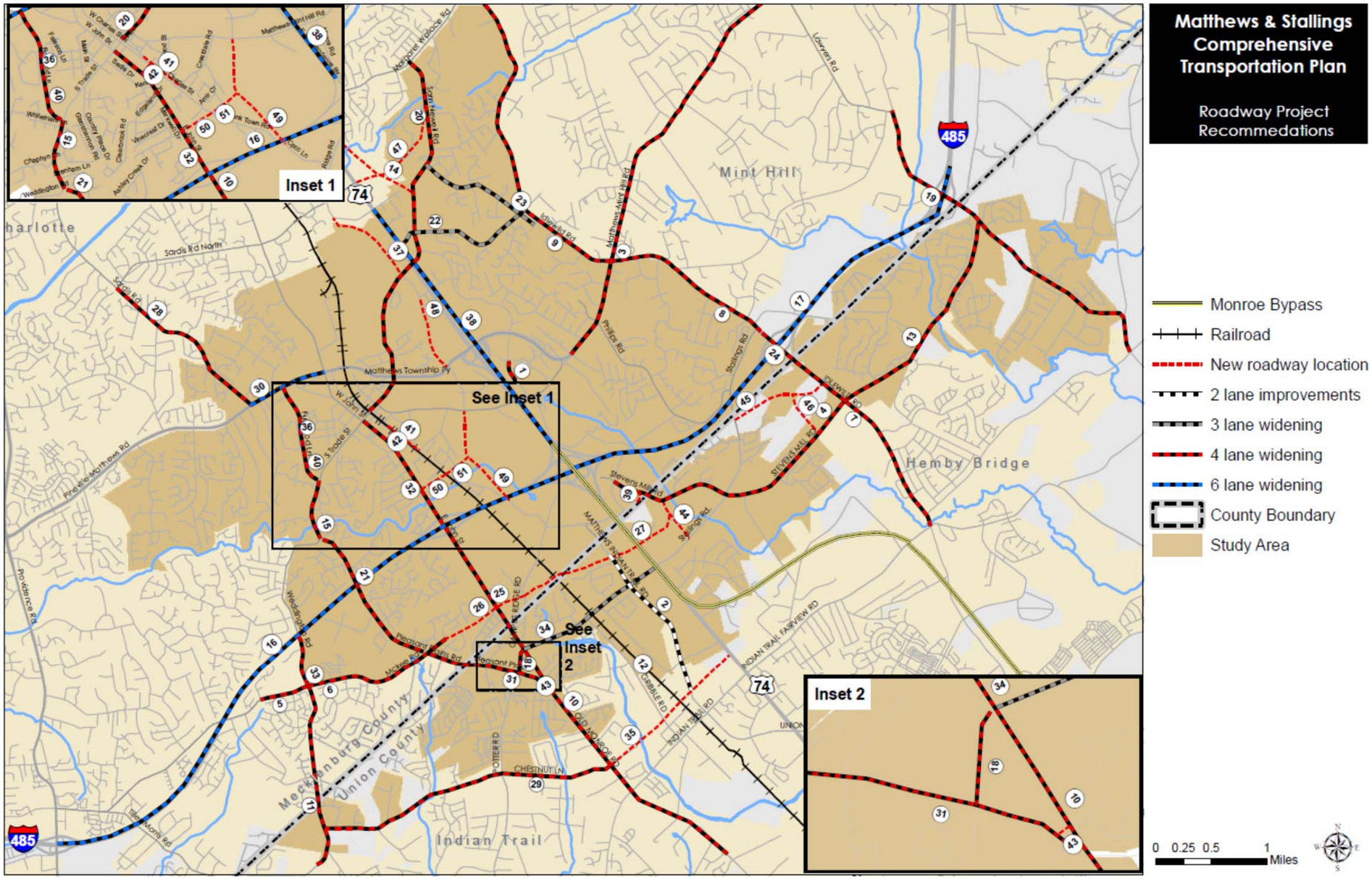
ID	Stallings Recommendation	Name	Total Score
34	Stallings Rd (Monroe Rd to US 74)	Widen to 3 Lanes	17
4	Stevens Mill Rd (Mt. Harmony Church Rd to Idlewild Rd)	Widen to 4 Lanes	16
45	No name connect Idlewild Rd to Stallings Rd	New Location Roadway 2 Lanes	16
7	Idlewild Rd (Stevens Mill Rd to Indian Trail Rd)	Widen to 4 Lanes	15
12	Gribble Rd (Stallings Rd to Indian Trail Rd)	Improved 2 Lane Relocation	15
13	Stevens Mill Rd (Idlewild Rd to Lawyers Rd)	Widen to 4 Lanes	15
18	Potter Rd (Pleasant Plains Rd to Old Monroe Rd)	Widen to 4 Lanes	15
24	Idlewild Rd (Matthews-Mint Hill Rd to Stevens Mill Rd) (same as #8)	Widen to 4 Lanes	15
10	E John St/Old Monroe Rd (I-485 to Midway Dr)	Widen to 4 Lanes	14

ID	Stallings Recommendations (cont)	Name	Total Score
27	Campus Ridge Rd (McKee Rd) (John St to Campus Ridge Rd)	New Location Roadway 4 Lanes	14
29	Chestnut Ln (Matthews-Weddington Rd to Old Monroe Rd)	Widen to 4 Lanes	14
31	Pleasant Plains (McKee Rd to Old Monroe)	Widen to 4 Lanes	14
35	Chestnut Connector (Old Monroe Rd to US 74)	New Location Roadway 4 Lanes	14
2	Matthews Indian Trail Rd (McKee Rd to Chestnut Ln)	Improved 2 Lane	12
43	No name connect Old Monroe Rd to Pleasant Plains	New Location Roadway 2 Lanes	12
44	No Name Connect Stallings Rd to McKee Ext	New Location Roadway 2 Lanes	12
46	No name connect new road that connects Idlewild Rd and Stallings Rd, to Stevens Mill Rd	New Location Roadway 2 Lanes	12

Intersection Improvements

This study does not attempt to analyze individual intersections for improvements. It is recommended that in a future phase, both Stallings and Matthews seek possible PL funding through the MPO to do comprehensive intersection analysis reports for each major intersection. That information, matched with the recommendations in this report, can provide policy makers guidance in choosing the best combination of improvements in the most cost effective manner.

Figure 10. Roadway Improvement Recommendations



Traffic Calming

Major roadway improvements can be costly and in some situations may not be needed. A review of the project survey results (Appendix A) shows many comments on high speeds through local streets. Widening of local roadways is not a solution to this on-going problem. Traffic calming devices are installed on neighborhood residential streets to discourage speeding, reduce cut-through traffic, and/or improve safety. These devices are currently in place in Matthews. Raised crosswalks can be seen along W Trade St in the downtown to provide a safer crossing for pedestrians. This technique not only slows traffic to make the crossing over the crosswalk, but it also places pedestrians a bit higher in line of sight making the pedestrian more visible to a motorist. These measures have been installed as part of capital improvement projects as opportunities were presented, and occasionally in response to citizen requests. Funding has declined for transportation over the last 10 years and local municipalities are looking for alternatives to major roadway construction projects to aid in traffic issues a particular area.

Traffic calming devices can assist the Towns with smaller scale traffic issues. It is recommended that the Towns complete further small area studies where high speeds become an issue to determine if traffic calming techniques would benefit the area. Below is a list of common types of traffic calming devices frequently used to aid local streets.

- Bulb-outs – A bulb-out is a curb extension used to narrow the roadway, either at an intersection or at mid- block along a street corridor. Its primary purpose is to make an intersection more pedestrian friendly by shortening the roadway crossing distance and drawing attention to pedestrians via raised peninsula. Additionally, a bulb-out often tightens the curb radius at the corner, which reduces the speeds of turning vehicles.

- Partial closure – A partial closure involves closing down one lane of a two-lane roadway along with a “Do Not Enter” or “One Way” sign, in order to reduce cut-through traffic.

- Speed hump – A speed hump is a rounded raised area placed across the roadway that is on average 3 to 4 inches high and 10 to 15 feet long. This treatment is used to slow vehicles by forcing them to decelerate in order to pass over them comfortably.

- Speed tables – A speed table is a speed hump that allows all four wheels to rest on the top of the hump. It is generally more decorated than a speed hump utilizing bricks or a textured material to be more visible to motorists.

- Raised crosswalks – Raised crosswalks are a speed table marked with appropriate crosswalk stripping signifying a pedestrian crossing. This technique allows pedestrians to be more visible to on-coming traffic. Currently, Matthews has raised crosswalks in place along N Trade Street in the downtown area.

- Traffic circle – A traffic circle is a raised island placed in the center of an intersection which forces traffic into circular maneuvers. Traffic circles prevent drivers from speeding through intersections by impeding straight-through movement.

3.2 Bicycle/Pedestrian Recommendations

The bicycle and pedestrian recommendations for the Matthews Stallings Comprehensive Transportation Plan study area identify multi-modal projects based on public input, existing conditions, gaps in connectivity, and recommendations from previous planning efforts. This input was used to determine locations of bicycle and pedestrian facilities, specify the type of facility to be constructed, and develop a phased implementation strategy for construction. The recommendations include dedicated facilities designed to accommodate bicycles and pedestrians along roadways or off-road. Certain facilities support only cycling, other support only walking, while some support both cycling and walking.

The recommendations set forth in this document are divided into bicycle facilities, pedestrian facilities, and trail facilities, which can be used for both cyclists and pedestrians. This approach ensures that a network of interconnected facilities is provided from both the bicycle and pedestrian perspective. Bicycle and pedestrian facility recommendations have been prioritized based on public feedback, input from the project Steering Committee and the Task Force Committee, recommendations from past planning efforts, and criteria developed using MUMPO ranking process. Bicycle facility recommendations include bike lanes, multi-use paths, multi-use trails, and shared roadways (sharrows). Pedestrian facility recommendations include sidewalks, multi-use paths, and multi-use trails.

The inclusion of several types of bicycle and pedestrian facilities reflects the need to provide facilities for people of many abilities and skill levels. Certain facilities, such as bike lanes, are best suited for cyclists with moderate to high level of skill, while multi-use paths parallel to roadway corridors support cyclists at lower skill levels. The various types of bicycle and pedestrian facilities also provide opportunities to more effectively match the facility type to the environment in which it is proposed. This flexibility culminates in a well-connected network of bicycle and pedestrian facilities that can be used and enjoyed by all residents.

Improvement Corridor Locations

Bicycle and pedestrian facilities must provide meaningful connectivity on a local and regional level in order for residents and visitors to consider cycling and walking as a realistic form of transportation. As a result, the primary corridors studied for bicycle and pedestrian improvements include roadways and off-road corridors that provided connections across the study area and beyond to adjacent communities. The on-road and off-road corridors studied in the Matthews Stallings Comprehensive Transportation Plan were selected based on:

- Feedback from residents through the public involvement process
- Input provided by members of the project Steering Committee and Task Force Committee
- Recommendations provided through past planning efforts
- Locations of destinations within the study area
- Local and regional connectivity

Facility Need Ranking Criteria

While there is a need for bicycle and pedestrian facilities to be developed along each corridor, it is unrealistic to expect to fund and construct every project within a short period of time. As a result, a

prioritized list of bicycle and pedestrian projects and phased implementation strategy is necessary. The following factors were used to analyze bicycle and pedestrian facility needs:

- Public Input: Comments and input received from the public workshop and surveys were used to identify residents' current bicycle and pedestrian habits, preferred improvement corridors, and most visited destinations within the study area. This input was used to develop the project characteristics for each improvement corridor.

- Project Characteristics: In order to understand the attributes that comprise high priority bicycle and pedestrian facility improvement projects, a list of potential desired attributes was compiled and presented to both the project Steering Committee and Task Force Committee. Most of these attributes were borrowed from the MUMPO Bike/Pedestrian Project Ranking Process. Consensus was reached on the following facility need ranking criteria for bicycle and pedestrian projects:

    - Destinations along route: Destinations represent the places within the study area that residents would like to be able to access via bicycle and/or pedestrian facilities. Destination types were prioritized based on public feedback received through the workshop and surveys. High interest destinations include shopping areas, restaurant areas, parks, community centers, and downtown core areas. Moderate interest destinations include schools, libraries, office parks, and multi-family residential communities. Low interest destinations include bus stops and single-family residential subdivisions/areas. Destinations must be located along the corridor or within ¼-mile of the corridor.

    - Nature of facility: A corridor is considered to possess regional connectivity when it extends beyond the study area or past planning efforts depict transportation improvements beyond the study area. Bicycle and pedestrian projects along corridors that provide regional connectivity were given a higher priority. Local connections, or corridors that begin and end within the study area boundary, were also noted. These connections provide much needed connectivity within the study area.

    - Connectivity: Projects that make connections to existing bicycle and pedestrian facilities or fill in gaps between existing facilities were given higher consideration.

    - Safety: Bicycle and pedestrian facilities provide a safe, dedicated area for cyclists and pedestrian to travel. Safety was measured by whether or not bicycle and/or pedestrian facilities existing along an improvement corridor.

- Past Planning Efforts: Numerous transportation plans that vary in scope and size have been conducted in sections of the study area over the past 10 years. Many of these plans include recommendations for needed bicycle and pedestrian facilities. Plans with bicycle and pedestrian components include: MUMPO 2035 Long Range Transportation Plan, 2009-2015 Transportation Improvement Program, MUMPO Thoroughfare Plan, Matthews Comprehensive Bicycle Plan, Stallings Pedestrian Plan, Mecklenburg County Greenway Master Plan, Carolina Thread Trail Master Plans for Mecklenburg County and Union County. Recommended bicycle and pedestrian projects found in these past planning efforts were given higher priority.

- Constructability and Cost: The costs associated with construction have been evaluated for each improvement corridor. Costs have been projected for land acquisition, design, and construction.

Other factors, including additional funding sources and inclusion of bicycle and pedestrian improvements as part of roadway projects, have also been considered.

- The following process was used to evaluate and score each potential bicycle, pedestrian, trail improvement corridor:
- Destinations along Route:
    - High interest: 5 points each
    - Shopping and restaurant areas
    - Parks and community centers
    - Downtown core
- Moderate interest: 3 points each
    - Schools
    - Libraries
    - Office building areas
    - Multi-family residential areas
- Low interest: 1 point each
    - Residential subdivisions
    - Bus stops
- Nature of facility:
    - Regional connections: 5 points
        - Corridor/route provides connectivity through and beyond the boundaries of the study area
    - Local connections: 2 points
        - Corridor/route provides connectivity within the study area
- Connectivity:
    - Yes: 5 points
        - Corridor/route fills gap between existing bicycle/pedestrian facilities
- No: 2 points
    - Corridor/route does not fill gap between existing bicycle/pedestrian facilities

- Past Planning Efforts: 5 points for each corridor specific past bicycle and pedestrian planning effort for which improvements are recommended. Past planning efforts with bicycle and pedestrian facility improvement or construction recommendations include:
    - MUMPO 2035 Long Range Transportation Plan
    - 2009-2015 Transportation Improvement Program
    - MUMPO Thoroughfare Plan
    - Matthews Comprehensive Bicycle Plan
    - Stallings Pedestrian Plan
    - Mecklenburg County Greenway Master Plan
    - Carolina Thread Trail Master Plan- Mecklenburg County
    - Carolina Thread Trail Master Plan- Union County
- Constructability and Cost: The construction and implementation of bicycle and pedestrian facilities will require a long term investment and will take many years to complete. While some projects may be constructed within existing right-of-way and alongside existing transportation facilities, many will require more substantial infrastructure improvements and roadway expansion. Cost estimates based on proposed bicycle and pedestrian facility improvements were developed to provide a basic understanding of the funding necessary to develop each facility. The estimates were used to identify low cost, high positive impact projects that can be completed quickly and provide increased bicycle and pedestrian connectivity within the study area. In addition, estimates were used to identify complex and costly projects that will require more detailed planning and increased funding in order to achieve completion. Since construction documents are not being prepared within the scope of this study, the costs of facilities are based on general facilities improvements, estimated land acquisition needs, and basic infrastructure improvements.
- Mapping and Connectivity Analysis: With one focus of the Matthews Stallings Comprehensive Transportation Plan to close current gaps in bicycle and pedestrian facilities, it is important that the construction of new facilities is implemented in a connected, coherent, and meaningful manner. High priority bicycle, pedestrian, and greenway/trail corridor projects were mapped and evaluated for connectivity.

The following charts depict the ranking scores for each improvement corridor for bicycle, pedestrian, and greenway/trail facilities.

Table 3 Bicycle Facility Rankings

Project Location Legend

Matthews	Stallings	Matthews and Stallings	Outside Study Area	Total

Matthews Short Term

	Planned Facility Type	Road	From	To	Distance (LF)	Phase
1	Bike Lanes and Multi-Use Path	S. Trade Street	John Street	Fullwood Lane	3502.86	Short-Term
2	Multi-Use Path	W. John Street	Trade St.	Covenant Church Lane	1908.7	Short-Term
3	Wide Outside Lane and Multi-Use Path	Idlewild Road	Idlewild Road Park	NC 51 (Matthews-Mint Hill Rd.)	13074.88	Short-Term
4	Bike Lanes and Multi-Use Path	E. John Street	Park Square	N. Trade St.	807.36	Short-Term
7	Bike Lanes and Multi-Use Path	N. Trade Street	Matthews St.	John St.	1067.61	Short-Term
8	Bike Lanes and Multi-Use Path	Sam Newell Road	US 74	NC 51(Matthews Township)	5854.68	Short-Term
9	Bike Lanes and Multi-Use Path	NC 51 (Matthews Mint-Hill Road)	Phillips Road	Idlewild	2943.52	Short-Term
10	None	US 74	NC 51 (Matthews Township Pkwy.)	Sam Newell Rd.	4750.65	Short-Term
11	Bike Lanes and Multi-Use Path	NC 51 (Matthews Township Parkway)	Sam Newell Rd.	US 74	4213.67	Short-Term
12	Bike Lanes and Multi-Use Path	NC 51 (Matthews Township Parkway)	US 74	Matthews-Mint Hill Rd.	4861.87	Short-Term
13	Bike Lanes and Multi-Use Path	Independence Pointe Parkway	Sam Newell Road	NC 51 (Matthews Township)	5066.98	Short-Term
14	Bike Lanes	NC 51 (Matthews Township Parkway)	Monroe Rd./ W. John Street	Sam Newell Rd	3395.38	Short-Term
15	Bike Lanes and Multi-Use Path	Sam Newell Road (N. Trade St.)	NC 51 (Matthews Township)	Matthews St.	1571.53	Short-Term
17	Bike Lanes and Multi-Use Path	E. John Street	Inner I-485 Ramps	Park Square	5432.2	Short-Term
18	Bike Lanes	W. John Street	NC 51 (Matthews Township Pkwy.)	Sardis Rd. N.	6883.54	Short-Term
20	Bike Lanes	S. Trade Street	Fullwood	Weddington Rd.	2878.22	Short-Term
16	Bike Lanes and Multi-Use Path	Old Monroe Road	Pleasant Plains	Stallings Rd.	1842.94	Short-Term
			6.98	**Miles**	**36,865.22**	**Bike Lanes and Multi-Use Path (Linear Feet)**
			2.48	**Miles**	**13,074.88**	**Wide Outside Lane and Multi-Use Path**
			2.01	**Miles**	**10,617.72**	**Bike Lanes (Linear Feet)**
			0.48	**Miles**	**2,539.42**	**Shared Roadway (Linear Feet)**
			0.36	**Miles**	**1,908.70**	**Multi-Use Path (Linear Feet)**
			0.90	**Miles**	**4,750.65**	**None**
			13.21	**Miles**	**69,756.59**	**Total (Linear Feet)**

Stallings Short Term

	Planned Facility Type	Road	From	To	Distance (LF)	Phase
5	Bike Lanes and Multi-Use Path	Stallings Road	Old Monroe	US 74	7474.2	Short-Term
6	Bike Lanes and Multi-Use Path	Old Monroe Road	Chestnut Lane	Pleasant Plains	5043.5	Short-Term
19	Bike Lanes and Multi-Use Path	Potter Road	Old Monroe	Pleasant Plains	1193.19	Short-Term
16	Bike Lanes and Multi-Use Path	Old Monroe Road	Pleasant Plains	Stallings Rd.	1842.94	Short-Term
			2.95	**Miles**	**15,553.83**	**Bike Lanes and Multi-Use Path (Linear Feet)**
			2.95	**Miles**	**15,553.83**	**Total (Linear Feet)**

Matthews Mid-Term

	Planned Facility Type	Road	From	To	Distance (LF)	Phase
21	Bike Lanes	NC 51 (Matthews Township Parkway)	Sardis Rd	Monroe Rd./ W. John St.	3850.66	Mid-Term
22	Wide Outside Lane	Idlewild Road	Margaret Wallace Road	Idlewild Road Park	3676.76	Mid-Term
24	Bike Lanes and Multi-Use Path	Pleasant Plains Road	Weddington	McKee Rd.	7833.92	Mid-Term
25	None	US 74	Sam Newell Rd.	Matthews Town Limits	3350.78	Mid-Term
26	Wide Outside Lane	Idlewild Road	NC 51 (Matthews-Mint Hill Rd)	Stallings Rd.	8080.11	Mid-Term
27	Wide Outside Lane	NC 51 (Matthews Township Parkway)	Town Limits West of Sardis Road	Sardis Road	7213.03	Mid-Term
28	Bike Lanes and Multi-Use Path	NC 51 (Matthews Mint-Hill Road)	Matthews Township Parkway	Phillips Rd.	2534.95	Mid-Term
30	Bike Lanes	Sam Newell Road	Williams Road	US 74	5089.92	Mid-Term
35	Multi-Use Path	W. John Street	Covenant Church Lane	NC 51 (Matthews Township Pkwy.)	1167.23	Mid-Term
36	Wide Outside Lane	Sardis Road	NC 51 (Matthews Township Parkway)	Sardis Point Road	3244.1	Mid-Term
37	None	US 74	Matthews Mint-Hill Rd.	NC 51 (Matthews Township Pkwy.)	3338.63	Mid-Term
38	Bike Lanes and Multi-Use Path	Greylock Ridge Rd./ Independence Pointe Parkway	Matthews-Mint Hill Rd	W. John Street	4834.31	Mid-Term
23	Bike Lanes	Old Monroe Rd./ E. John Street	Stallings Rd.	Outer I-485 Ramps	6623.01	Mid-Term
29	Bike Lanes and Multi-Use Path	Pleasant Plains Road	Callonwood Dr.	Potter Rd.	3042.32	Mid-Term
31	Bike Lanes and Multi-Use Path	Stallings Road	Stevens Mill Rd.	Phillips Rd.	5188.35	Mid-Term
32	Bike Lanes	Stevens Mill Road	Mt. Harmony Church Rd.	Stallings Rd.	5829.13	Mid-Term
39	Bike Lanes	Chestnut Connector	Old Monroe Road	US 74	7680.9	Mid-Term
			4.44	**Miles**	**23433.85**	**Bike Lanes and Multi-Use Path (Linear Feet)**
			5.51	**Miles**	**29073.62**	**Bike Lanes (Linear Feet)**
			4.21	**Miles**	**22214**	**Shared Roadway (Linear Feet)**
			0.22	**Miles**	**1167.23**	**Multi-Use Path (Linear Feet)**
			1.27	**Miles**	**6689.41**	**None**
			15.64	**Miles**	**82578.11**	**Total (Linear Feet)**

Stallings Mid-Term

	Planned Facility Type	Road	From	To	Distance (LF)	Phase
34	Bike Lanes	Potter Road	Pleasand Plains	Chestnut Lane	4922.38	Mid-Term
33	Bike Lanes	Stevens Mill Road	Idlewild	Lawyers Rd.	11193.75	Mid-Term
40	Bike Lanes	Lawyers Road	Allen Black Road	Stevens Mill Rd	1047.65	Mid-Term
41	Bike Lanes	McKee Road	Weddington	Carrington Forest Drive	2904.99	Mid-Term
42	Bike Lanes and Multi-Use Path	Pleasant Plains Road	Potter Rd.	Old Monroe Rd.	1361.93	Mid-Term
43	None	US 74	Union West Bus. Park	Stallings Rd.	4642.94	Mid-Term
23	Bike Lanes	Old Monroe Rd./ E. John Street	Stallings Rd.	Outer I-485 Ramps	6623.01	Mid-Term
29	Bike Lanes and Multi-Use Path	Pleasant Plains Road	Callonwood Dr.	Potter Rd.	3042.32	Mid-Term
31	Bike Lanes and Multi-Use Path	Stallings Road	Stevens Mill Rd.	Phillips Rd.	5188.35	Mid-Term
32	Bike Lanes	Stevens Mill Road	Mt. Harmony Church Rd.	Stallings Rd.	5829.13	Mid-Term
			1.82	**Miles**	**9592.6**	**Bike Lanes and Multi-Use Path (Linear Feet)**
			6.16	**Miles**	**32520.91**	**Bike Lanes (Linear Feet)**
			0.88	**Miles**	**4642.94**	**None**
			8.86	**Miles**	**46756.42**	**Total (Linear Feet)**

Matthews Long-Term

	Planned Facility Type	Road	From	To	Distance (LF)	Phase
46	None	US 74	I-485	Matthews-Mint Hill Rd.	4247.75	Long-Term
47	Bike Lanes and Multi-Use Path	Independence Pointe Parkway	Greylock Ridge Rd.	I-485	2984.98	Long-Term
48	Bike Lanes	Sam Newell Road	Margaret Wallace Road	Mullis Lane	4419.6	Long-Term
50	Bike Lanes and Multi-Use Path	Pleasant Plains Road	McKee Rd.	Callonwood Dr.	1525.11	Long-Term
51	Bike Lanes	McKee Road	Pleasant Plains Rd.	E. John St.	3880.91	Long-Term
52	Bike Lanes	McKee Road	E. John St.	Campus Ridge Road	1536.45	Long-Term
55	Bike Lanes	Independence Pointe Parkway	Town Limits	Sam Newell Road	4450.14	Long-Term
56	Bike Lanes	Sardis Rd N /Eastern Circumferential Road	US 74	Sam Newell Road	5630.17	Long-Term
57	Bike Lanes	Lawyers Road	I-485	Allen Black Rd	981.89	Long-Term
58	Bike Lanes and Multi-Use Path	Stallings Road	Phillips Rd.	Idlewild Rd.	3224	Long-Term
60	Bike Lanes	Phillips Road	NC 51 (Matthews-Mint Hill Rd)	Stallings Rd	9686.08	Long-Term
61	Wide Outside Lane	Idlewild Road	Stallings Road	I-485 Inner Ramps	802.16	Long-Term
62	Wide Outside Lane	Idlewild Road	I-485 Inner Ramps	I-485 Outer Ramps	893.39	Long-Term
63	Bike Lanes	E. John Street	Outer I-485 Ramps	Inner I-485 Ramps	826.14	Long-Term
65	Bike Lanes	Sam Newell Road	Mullis Lane	Williams Road	799.31	Long-Term
66	Bike Lanes	Rice Road	Sam Newell Rd	Idlewild Rd	6037.89	Long-Term
68	Bike Lanes	McKee Road	Carrington Forest Dr.	Pleasant Plains Rd.	3197.67	Long-Term
70	Bike Lanes	Weddington Road	Winterbrooke Drive	I-485	1340.64	Long-Term
71	Bike Lanes	Arequipa Dr/Northeast Pkwy	Town Limits	Sam Newell Road	4017.53	Long-Term
45	Wide Outside Lane	Idlewild Road	I-485 Outer Ramps	Stevens Mill Road	3746	Long-Term
49	None	US 74	Stallings Rd.	I-485	6047.68	Long-Term
54	Bike Lanes	Weddington Road	McKee Rd.	Chestnut	6925.61	Long-Term
72	Bike Lanes	McKee Road	Campus Ridge Road	Stevens Mill Road	9819.35	Long-Term
67	Bike Lanes	Lawyers Road	Bain School Road	I-485	4907.17	Long-Term
			1.46	**Miles**	**7,734.09**	**Bike Lanes and Multi-Use Path (Linear Feet)**
			12.97	**Miles**	**68,456.55**	**Bike Lanes (Linear Feet)**
			1.03	**Miles**	**5,441.55**	**Shared Roadway (Linear Feet)**
			1.95	**Miles**	**10,295.43**	**None**
			17.41	**Miles**	**91,927.62**	**Total (Linear Feet)**

Stallings Long-Term

	Planned Facility Type	Road	From	To	Distance (LF)	Phase
44	Bike Lanes and Multi-Use Path	Stallings Road	US 74	Stevens Mill Rd.	4818.2	Long-Term
53	Bike Lanes	Stevens Mill Road	Stallings Rd.	Fair Sky Dr.	2847.17	Long-Term
59	Bike Lanes	Stevens Mill Road	Fair Sky Dr.	Fair Oaks Dr	1638.85	Long-Term
64	Bike Lanes	Lawyers Road	Stevens Mill Rd.	Mill Grove Road	10285.7	Long-Term
69	Bike Lanes	Stevens Mill Road	Fair Oaks Dr.	Idlewild Rd.	3100.69	Long-Term
45	Wide Outside Lane	Idlewild Road	I-485 Outer Ramps	Stevens Mill Road	3746	Long-Term
49	None	US 74	Stallings Rd.	I-485	6047.68	Long-Term
54	Bike Lanes	Weddington Road	McKee Rd.	Chestnut	6925.61	Long-Term
72	Bike Lanes	McKee Road	Campus Ridge Road	Stevens Mill Road	9819.35	Long-Term
			0.91	**Miles**	**4,818.20**	**Bike Lanes and Multi-Use Path (Linear Feet)**
			6.56	**Miles**	**34,617.37**	**Bike Lanes (Linear Feet)**
			0.71	**Miles**	**3,746.00**	**Shared Roadway (Linear Feet)**
			1.15	**Miles**	**6,047.68**	**None**
			9.32	**Miles**	**49,229.25**	**Total (Linear Feet)**

Table 4. Pedestrian Facility Rankings

Project Location Legend

Matthews	Stallings	Matthews and Stallings	Outside Study Area	Total

Matthews Short-Term

	Planned Facility Type	Road	From	To	Distance (LF)	Phase
1	Multi-Use Path	S. Trade Street	John Street	Fullwood Lane	3502.86	Short-Term
4	Multi-Use Path	W. John Street	Trade St.	Covenant Church Lane	1908.7	Short-Term
5	None	US 74	NC 51 (Matthews Township Pkwy.)	Sam Newell Rd.	4750.65	Short-Term
6	Multi-Use Path	Independence Pointe Parkway	Sam Newell Road	NC 51 (Matthews Township)	5066.98	Short-Term
7	Multi-Use Path	Idlewild Road	Idlewild Road Park	NC 51 (Matthews-Mint Hill Rd.)	13074.88	Short-Term
8	Multi-Use Path	E. John Street	Park Square	Trade St.	807.36	Short-Term
9	Multi-Use Path	Sam Newell Road	US 74	NC 51(Matthews Township Pkwy.)	5854.68	Short-Term
10	Multi-Use Path	N. Trade Street	Matthews St.	John St.	1067.61	Short-Term
11	Sidewalks	NC 51 (Matthews Township Parkway)	John Street	Sam Newell Rd	3395.38	Short-Term
13	None	US 74	Sam Newell Rd.	Matthews Town Limits	3350.78	Short-Term
15	Multi-Use Path	NC 51 (Matthews Mint-Hill Road)	Phillips Road	Idlewild	2943.52	Short-Term
16	Multi-Use Path	NC 51 (Matthews Township Parkway)	Sam Newell Rd.	US 74	4213.67	Short-Term
17	Multi-Use Path	NC 51 (Matthews Township Parkway)	US 74	Matthews-Mint Hill Rd.	4861.87	Short-Term
			9.62	**Miles**	**50,776.33**	**Multi-Use Path (Linear Feet)**
			0.64	**Miles**	**3,395.38**	**Sidewalks (Linear Feet)**
			1.53	**Miles**	**8,101.43**	**None**
			12.28	**Miles**	**64,812.56**	**Total (Linear Feet)**

Stallings Short-Term

	Planned Facility Type	Road	From	To	Distance (LF)	Phase
3	Multi-Use Path	Old Monroe Road	Chestnut Lane	Pleasant Plains	5043.5	Short-Term
12	Multi-Use Path	Potter Road	Old Monroe	Pleasant Plains Rd.	1193.19	Short-Term
14	Multi-Use Path	Old Monroe Road	Pleasant Plains	Stallings Rd.	1842.94	Short-Term
			1.53	**Miles**	**8,079.63**	**Multi-Use Path (Linear Feet)**
			1.53	**Miles**	**8,079.63**	**Total (Linear Feet)**

Matthews Mid-Term

	Planned Facility Type	Road	From	To	Distance (LF)	Phase
20	Multi-Use Path	Sam Newell Road (N. Trade St.)	NC 51 (Matthews Township Pkwy.)	Matthews St.	1571.53	Mid-Term
22	Multi-Use Path	E. John Street	Inner I-485 Ramps	Park Square	5432.2	Mid-Term
24	Sidewalks	Idlewild Road	Margaret Wallace Road	Idlewild Road Park	3676.76	Mid-Term
25	Sidewalks	McKee Road	Darlington Rd.	Carrington Forest Drive	1220.01	Mid-Term
26	Multi-Use Path	Pleasant Plains Road	Weddington	McKee Rd.	7833.92	Mid-Term
27	Sidewalks	Sam Newell Road	Williams Road	Rice Rd.	3377.43	Mid-Term
28	Sidewalks	Sam Newell Road	Rice Rd.	US 74	795.11	Mid-Term
29	Sidewalks	Idlewild Road	NC 51 (Matthews-Mint Hill Rd)	Stallings Rd.	8080.11	Mid-Term
32	None	US 74	Matthews Mint-Hill Rd.	NC 51 (Matthews Township Pkwy.)	3338.63	Mid-Term
33	Sidewalks	Greylock Ridge Rd./ Independence Pointe Parkway	Matthews-Mint Hill Rd.	W. John Street	4834.31	Mid-Term
18	Sidewalks	E. John Street	Stallings Rd.	Outer I-485 Ramps	6623.01	Mid-Term
21	Multi-Use Path	Pleasant Plains Road	Callonwood Dr.	Potter Rd.	3042.32	Mid-Term
23	Multi-Use Path	Stallings Road	Stevens Mill Rd.	Phillips Rd.	5188.35	Mid-Term
34	Sidewalks	Chestnut Connector	Old Monroe Road	US 74	7680.9	Mid-Term
			4.36	**Miles**	**23,068.32**	**Multi-Use Path (Linear Feet)**
			6.87	**Miles**	**36,287.64**	**Sidewalks (Linear Feet)**
			0.63	**Miles**	**3,338.63**	**None**
			11.87	**Miles**	**62,694.59**	**Total (Linear Feet)**

Stallings Mid-Term

	Planned Facility Type	Road	From	To	Distance (LF)	Phase
19	Sidewalks	Stevens Mill Road	Idlewild	Greenway Ct.	6824.61	Mid-Term
30	Sidewalks	Potter Road	Gainsborough Dr.	Chestnut Lane	681.26	Mid-Term
31	Multi-Use Path	Stallings Road	US 74	Stevens Mill Rd.	4818.2	Mid-Term
35	Sidewalks	Lawyers Road	Allen Black Road	Stevens Mill Rd	1047.65	Mid-Term
36	None	US 74	Union West Bus. Park	Stallings Rd.	4642.94	Mid-Term
18	Sidewalks	E. John Street	Stallings Rd.	Outer I-485 Ramps	6623.01	Mid-Term
21	Multi-Use Path	Pleasant Plains Road	Callonwood Dr.	Potter Rd.	3042.32	Mid-Term
23	Multi-Use Path	Stallings Road	Stevens Mill Rd.	Phillips Rd.	5188.35	Mid-Term
			2.47	**Miles**	**13,048.87**	**Multi-Use Path (Linear Feet)**
			2.87	**Miles**	**15,176.53**	**Sidewalks (Linear Feet)**
			0.88	**Miles**	**4,642.94**	**None**
			6.23	**Miles**	**32,868.34**	**Total (Linear Feet)**

Matthews Long-Term

	Planned Facility Type	Road	From	To	Distance (LF)	Phase
39	Multi-Use Path	NC 51 (Matthews Mint-Hill Road)	Matthews Township Parkway	Phillips Rd.	2534.95	Long-Term
41	None	US 74	I-485	Matthews-Mint Hill Rd.	4247.75	Long-Term
43	Sidewalks	Independence Pointe Parkway	Greylock Ridge Rd.	I-485	2984.98	Long-Term
46	Sidewalks	Phillips Road	NC 51 (Matthews-Mint Hill Rd)	Stallings Rd	2349.25	Long-Term
47	Sidewalks	McKee Road	Carrington Forest Dr.	Pleasant Plains Rd.	3197.67	Long-Term
48	Sidewalks	Sam Newell Road	Margaret Wallace Road	Mullis Lane	4419.6	Long-Term
50	Sidewalks	Independence Pointe Parkway	Town Limits	Sam Newell Road	4450.14	Long-Term
51	Sidewalks	Sardis Rd N /Eastern Circumferential Road	US 74	Sam Newell Road	5630.17	Long-Term
53	Multi-Use Path	W. John Street	Covenant Church Lane	NC 51 (Matthews Township Pkwy.)	1167.23	Long-Term
55	Multi-Use Path	Pleasant Plains Road	McKee	Callonwood Dr.	1525.11	Long-Term
57	Sidewalks	Arequipa Dr/Northeast Pkwy	Town Limits	Sam Newell Road	4017.53	Long-Term
58	Sidewalks	McKee Road	Pleasant Plains Rd.	E. John St.	3880.91	Long-Term
59	Sidewalks	McKee Road	E. John St.	Campus Ridge Road	1536.45	Long-Term
61	Sidewalks	Weddington Road	Winterbrooke Drive	I-485	1340.64	Long-Term
62	Multi-Use Path	Stamcfarllings Road	Phillips Rd.	Idlewild Rd.	3224	Long-Term
63	Sidewalks	Idlewild Road	Stallings Road	I-485 Inner Ramps	802.16	Long-Term
64	Sidewalks	Idlewild Road	I-485 Inner Ramps	I-485 Outer Ramps	893.39	Long-Term
65	Sidewalks	E. John Street	Outer I-485 Ramps	Inner I-485 Ramps	826.14	Long-Term
37	Sidewalks	Stevens Mill Road	Mt. Harmony Church Rd.	Stallings Rd.	5829.13	Long-Term
38	Sidewalks	Idlewild Road	I-485 Outer Ramps	Stevens Mill Road	3746	Long-Term
42	Sidewalks	Weddington Road	McKee Rd.	Chestnut	6925.61	Long-Term
45	None	US 74	Stallings Rd.	I-485	6047.68	Long-Term
52	Sidewalks	Lawyers Road	I-485	Allen Black Rd	981.89	Long-Term
60	Sidewalks	McKee Road	Campus Ridge Road	Stevens Mill Road	9819.35	Long-Term
56	Sidewalks	Lawyers Road	Bain School Road	I-485	4907.19	Long-Term
			1.60	**Miles**	**8,451.29**	**Multi-Use Path (Linear Feet)**
			12.98	**Miles**	**68,538.20**	**Sidewalks (Linear Feet)**
			1.95	**Miles**	**10,295.43**	**None**
			16.53	**Miles**	**87,284.92**	**Total (Linear Feet)**

Stallings Long-Term

	Planned Facility Type	Road	From	To	Distance (LF)	Phase
40	Sidewalks	Stevens Mill Road	Stallings Rd.	Fair Sky Dr.	2847.17	Long-Term
44	Multi-Use Path	Pleasant Plains Road	Potter Rd.	Old Monroe Rd.	1361.93	Long-Term
49	Sidewalks	Stevens Mill Road	Fair Oaks Dr.	Idlewild Rd.	3100.69	Long-Term
54	Sidewalks	Lawyers Road	Stevens Mill Rd.	Mill Grove Road	10285.7	Long-Term
37	Sidewalks	Stevens Mill Road	Mt. Harmony Church Rd.	Stallings Rd.	5829.13	Long-Term
38	Sidewalks	Idlewild Road	I-485 Outer Ramps	Stevens Mill Road	3746	Long-Term
42	Sidewalks	Weddington Road	McKee Rd.	Chestnut	6925.61	Long-Term
45	None	US 74	Stallings Rd.	I-485	6047.68	Long-Term
52	Sidewalks	Lawyers Road	I-485	Allen Black Rd	981.89	Long-Term
60	Sidewalks	McKee Road	Campus Ridge Road	Stevens Mill Road	9819.35	Long-Term
			0.26	**Miles**	**1,361.93**	**Multi-Use Path (Linear Feet)**
			8.25	**Miles**	**43,535.54**	**Sidewalks (Linear Feet)**
			1.15	**Miles**	**6,047.68**	**None**
			9.65	**Miles**	**50,945.15**	**Total (Linear Feet)**

Table 5. Trail Facility Rankings

Project Location Legend

Matthews	Stallings	Matthews and Stallings	Outside Study Area	Total

Matthews Short-Term

	Planned Facility Type	Road	From	To	Distance (LF)	Phase
1	Multi-use Trail	Downtown Matthews Connector	Sam Newell Road (N. Trade St.)	Matthews St.	6837.66	Short-Term
4	Multi-use Trail	Irvin Creek Greenway	Town Limits	Idlewild Road	7885.79	Short-Term
5	Multi-use Trail	Downtown Matthews Connector	Downtown Matthews Connector-Main Trail	Northeast Parkway	5673.15	Short-Term
6	Multi-use Trail	Four Mile Creek Greenway	E. John Street	Matthews Sportsplex	6698.14	Short-Term
2	Multi-use Trail	Carolina Thread Trail West Connector	Campus Ridge Road	Stallings Road	6180.29	Short-Term
					33,275.03	**LF**
					6.30	**Miles**

Stallings Short-Term

	Planned Facility Type	Road	From	To	Distance (LF)	Phase
3	Multi-use Trail	Carolina Thread Trail West Connector	Stallings Road	Old Monroe Road/ Chesnut Lane	6908.97	Short-Term
2	Multi-use Trail	Carolina Thread Trail West Connector	Campus Ridge Road	Stallings Road	6180.29	Short-Term
					13,089.26	**LF**
					2.48	**Miles**

Matthews Mid-Term

	Planned Facility Type	Trail	From	To	Distance (LF)	Phase
8	Multi-use Trail	Downtown Matthews Connector	Town Limits	Sam Newell Road	4977.11	Mid-Term
9	Multi-use Trail	Four Mile Creek Greenway	Town Limits	Pleasant Plains Road	12891.77	Mid-Term
13	Multi-use Trail	Carolina Thread Trail East Connector	Idlewild Road	North Fork Tributary	7089.81	Mid-Term
					24,958.69	**LF**
					4.72	**Miles**

Stallings Mid-Term

	Planned Facility Type	Trail	From	To	Distance (LF)	Phase
7	Multi-use Trail	Carolina Thread Trail East Connector	North Fork Tributary	Town Limits	5818.73	Mid-Term
10	Multi-use Trail	Goose Creek Trail (Trail Project T-2)	Lake Drive	Lawyers Road	6205.5	Mid-Term
11	Multi-use Trail	Twelve Mile Creek Trail (Trail Project T-1)	Woodglen Lane	Pleasant Plains Road	3613.68	Mid-Term
12	Multi-use Trail	North Fork Trail (Trail Project T-3)	North Fork Tributary	Yellow Daisy Drive	2004.31	Mid-Term
14	Multi-use Trail	Crooked Creek Trail (Trail Project T-4)	Crooked Creek	Stevens Mill Road	2320.34	Mid-Term
13	Multi-use Trail	Carolina Thread Trail East Connector	Idlewild Road	North Fork Tributary	7089.81	Mid-Term
					27,052.37	**LF**
					5.12	**Miles**

Matthews Long-Term

Rank	Planned Facility Type	Trail	From	To	Distance (LF)	Phase
18	Multi-use Trail	Carolina Thread Trail West Connector	E. John Street	Campus Ridge Road	4741.96	Long-Term
					4,741.96	**LF**
					0.90	**Miles**

Stallings Long-Term

Rank	Planned Facility Type	Trail	From	To	Distance (LF)	Phase
15	Multi-use Trail	Francis Beatty Trail (Trail Project T-5)-Southern loop section	Matthews Weddington Road	Colonel Francis Beatty Park	3662.69	Long-Term
16	Multi-use Trail	Francis Beatty Trail (Trail Project T-5)-Northern loop section	Colonel Francis Beatty Park	Matthews Weddington Road	2717.36	Long-Term
17	Multi-use Trail	Twelve Mile Creek Trail (Trail Project T-1)	Matthews Weddington Road/Chestnut Lane	Chestnut Lane	7689.43	Long-Term
19	Multi-use Trail	North Fork Trail (Trail Project T-3)	Matthews Indian Trail Road/Stallings Road	US 74	3573.17	Long-Term
20	Multi-use Trail	North Fork Trail (Trail Project T-3)	Stallings Road	North Fork Tributary	5020.62	Long-Term
21	Multi-use Trail	Crooked Creek Trail (Trail Project T-4)	Idlewild Road	Crooked Creek	2312.09	Long-Term
22	Multi-use Trail	North Fork Trail (Trail Project T-3)	Stallings Road	Barnard Castle Lane	2025.58	Long-Term
23	Multi-use Trail	Twelve Mile Creek Trail (Trail Project T-1)	Chestnut Lane	Woodglen Lane	4763.24	Long-Term
24	Multi-use Trail	Crooked Creek Trail (Trail Project T-4)	Stallings Road	Crooked Creek	3455.4	Long-Term
25	Multi-use Trail	North Fork Trail (Trail Project T-3)	US 74	Stallings Road	3921.67	Long-Term
					39,141.25	**LF**
					7.41	**Miles**

Bicycle and Pedestrian Priority Projects and Phasing Recommendations

The estimates prepared for constructability and cost of each bicycle and pedestrian facility were compared with the facility need ranking and the connectivity provided by those facilities. Corridors with low implementation costs and high rankings were given priority over high cost, low ranked corridors. Connections provided by high ranked, high cost corridors were evaluated and prioritization was based on facility need and benefit provided by the facility.

Bicycle and pedestrian facility recommendations are presented in one of three categories.

- **Short-term** recommendations represent projects that make important connections to multiple destinations, are relatively low in cost, and provide dedicated bicycle and pedestrian facilities in currently underserved areas. Short term projects should be implemented between one to five years.
- **Mid-term** recommendations extend connectivity provided by short term facilities, may require increased funding for construction, and connect to slightly fewer destinations. Mid-term projects are assumed to be implemented between six and ten years.
- **Long-term** recommendations complete bicycle and pedestrian connectivity within the Matthews Stallings Comprehensive Transportation Master Plan study area. Long term projects are assumed to be implemented beyond ten years of plan adoption.

A total of 53.1 miles of bicycle facilities are recommended for development within the study area. Bicycle facilities include 16.6 miles of bike lanes and multiuse paths, 2.5 miles of wide outside lanes and multiuse paths, 27.7 miles of bike lanes, 5.7 miles of shared roadway, and 0.6 miles of multi-use paths. **Table 3** depicts recommendations for phased bicycle facility construction.

Table 3. Bicycle Priority Projects and Phasing Recommendations

Matthews Short-Term

Planned Facility Type	Road	From	To	Distance (LF)	Phase
Bike Lanes and Multi-Use Path	S. Trade Street	John Street	Fullwood Lane	3502.86	Short-Term
Multi-Use Path	W. John Street	Trade St.	Covenant Church Lane	1908.7	Short-Term
Wide Outside Lane and Multi-Use Path	Idlewild Road	Idlewild Road Park	NC 51 (Matthews-Mint Hill Rd.)	13074.88	Short-Term
Bike Lanes and Multi-Use Path	E. John Street	Park Square	N. Trade St.	807.36	Short-Term
Bike Lanes and Multi-Use Path	S. Trade Street	Matthews-Mint Hill Rd.	John St.	1067.61	Short-Term
Bike Lanes and Multi-Use Path	Sam Newell Road	US 74	NC 51(Matthews Township)	5854.68	Short-Term
Bike Lanes and Multi-Use Path	NC 51 (Matthews Mint-Hill Road)	Phillips Road	Idlewild	2943.52	Short-Term
None	US 74	NC 51 (Matthews Township Pkwy.)	Sam Newell Rd.	4750.65	Short-Term
Bike Lanes and Multi-Use Path	NC 51 (Matthews Township Parkway)	Sam Newell Rd.	US 74	4213.67	Short-Term
Bike Lanes and Multi-Use Path	NC 51 (Matthews Township Parkway)	US 74	Matthews-Mint Hill Rd.	4861.87	Short-Term
Bike Lanes and Multi-Use Path	Krefield Dr/Independence Parkway	Sam Newell Road	NC 51 (Matthews Township)	5066.98	Short-Term
Bike Lanes	NC 51 (Matthews Township Parkway)	John Street	Sam Newell Rd	3395.38	Short-Term
Bike Lanes and Multi-Use Path	Sam Newell Road	NC 51 (Matthews Township)	Matthews-Mint Hill Rd	1571.53	Short-Term
Bike Lanes and Multi-Use Path	E. John Street	Inner I-485 Ramps	Park Square	5432.2	Short-Term
Bike Lanes	W. John Street	NC 51 (Matthews Township Pkwy.)	N. Sardis	6883.54	Short-Term
Bike Lanes	Weddington Road	I-485	Mckee Rd.*	2539.42	Short-Term
Bike Lanes	S. Trade Street	Fullwood	Weddington Rd.	2878.22	Short-Term
Bike Lanes and Multi-Use Path	Old Monroe Road	Pleasant Plains	Stallings Rd.	1842.94	Short-Term
		6.98	**Miles**	**36865.22**	**Bike Lanes and Multi-Use Path (Linear Feet)**
		2.48	**Miles**	**13,074.88**	**Wide Outside Lane and Multi-Use Path**
		2.49	**Miles**	**13,157.14**	**Bike Lanes (Linear Feet)**
		0.48	**Miles**	**2,539.42**	**Wide Outside Lane (Linear Feet)**
		0.36	**Miles**	**1,908.70**	**Multi-Use Path (Linear Feet)**
		0.90	**Miles**	**4,750.65**	**None**
		12.79	**Miles**	**67,545.36**	**Total (Linear Feet)**

Stallings Short-Term

Planned Facility Type	Road	From	To	Distance (LF)	Phase
Bike Lanes and Multi-Use Path	Stallings Road	Old Monroe	US 74	7474.2	Short-Term
Bike Lanes and Multi-Use Path	Old Monroe Road	Chestnut Lane	Pleasant Plains	5043.5	Short-Term
Bike Lanes and Multi-Use Path	Potter Road	Old Monroe	Pleasant Plains	1193.19	Short-Term
Bike Lanes and Multi-Use Path	Old Monroe Road	Pleasant Plains	Stallings Rd.	1842.94	Short-Term
		2.96	**Miles**	**15,553.83**	**Bike Lanes and Multi-Use Path (Linear Feet)**
		2.96	**Miles**	**15,553.83**	**Total (Linear Feet)**

Matthews Mid-Term

Planned Facility Type	Road	From	To	Distance (LF)	Phase
Bike Lanes	NC 51 (Matthews Township Parkway)	Sardis Rd	John St.	3850.66	Mid-Term
Wide Outside Lane	Idlewild Road	Margaret Wallace Road	Idlewild Road Park	3676.76	Mid-Term
Bike Lanes and Multi-Use Path	Pleasant Plains Road	Weddington	Mckee Rd.	7833.92	Mid-Term
None	US 74	Sam Newell	Matthews City Limits	3350.78	Mid-Term
Wide Outside Lane	Idlewild Road	NC 51 (Matthews-Mint Hill Rd)	Stallings Rd.	8080.11	Mid-Term
Wide Outside Lane	NC 51 (Matthews Township Parkway)	City Limits West of Sardis Road	Sardis Road	7213.03	Mid-Term
Bike Lanes and Multi-Use Path	NC 51 (Matthews Mint-Hill Road)	Matthews Township Parkway	Phillips Rd.	2534.95	Mid-Term
Bike Lanes	Sam Newell Road	Williams Road	US 74	5089.92	Mid-Term
Multi-Use Path	W. John Street	Covenant Church Lane	NC 51 (Matthews Township Pkwy.)	1167.23	Mid-Term
Wide Outside Lane	Sardis Road	NC 51 (Matthews Township)	Sardis Point Road	3244.1	Mid-Term
None	US 74	Matthews Mint-Hill	NC 51 (Matthews Township Pkwy.)	3338.63	Mid-Term
Bike Lanes and Multi-Use Path	Krefield Dr/Independence Parkway	Matthews-Mint Hill Rd	W. John Street	4834.31	Mid-Term
Bike Lanes	E. John Street	Stallings Rd.	Outer I-485 Ramps	6623.01	Mid-Term
Bike Lanes and Multi-Use Path	Pleasant Plains Road	Callonwood Dr.	Potter Rd.	3042.32	Mid-Term
Bike Lanes and Multi-Use Path	Stallings Road	Stevens Mill Rd.	Phillips Rd.	5188.35	Mid-Term
Bike Lanes	Chestnut Connector	Old Monroe Road	US 74	7680.9	Mid-Term
None	US 74	Union West Bus. Park	Stallings Rd.	4642.94	Mid-Term
		4.70	**Miles**	**24,795.78**	**Bike Lanes and Multi-Use Path (Linear Feet)**
		9.31	**Miles**	**49,142.39**	**Bike Lanes (Linear Feet)**
		4.21	**Miles**	**22,214.00**	**Wide Outside Lane (Linear Feet)**
		0.22	**Miles**	**1,167.23**	**Multi-Use Path (Linear Feet)**
		2.15	**Miles**	**11,332.35**	**None**
		20.58	**Miles**	**108,651.75**	**Total (Linear Feet)**

Stallings Mid-Term

Planned Facility Type	Road	From	To	Distance (LF)	Phase
Bike Lanes	Stevens Mill Road	Mt. Harmony Church Rd.	Stallings Rd.	5829.13	Mid-Term
Bike Lanes	Stevens Mill Road	Idlewild	Lawyers Rd.	11193.75	Mid-Term
Bike Lanes	Potter Road	Pleasand Plains	Chestnut Lane	4922.38	Mid-Term
Bike Lanes	Lawyers Road	Allen Black Road	Stevens Mill Rd	1047.65	Mid-Term
Bike Lanes	Mckee Road	Weddington	Carrington Forest Drive	2904.99	Mid-Term
Bike Lanes and Multi-Use Path	Pleasant Plains Road	Potter Rd.	Old Monroe Rd.	1361.93	Mid-Term
Bike Lanes and Multi-Use Path	Stallings Road	Stevens Mill Rd.	Phillips Rd.	5188.35	Mid-Term
Bike Lanes	E. John Street	Stallings Rd.	Outer I-485 Ramps	6623.01	Mid-Term
Bike Lanes and Multi-Use Path	Pleasant Plains Road	Callonwood Dr.	Potter Rd.	3042.32	Mid-Term
		1.82	**Miles**	**9,95.6**	**Bike Lanes and Multi-Use Path (Linear Feet)**
		6.41	**Miles**	**33,882.84**	**Bike Lanes (Linear Feet)**
		8.23	**Miles**	**43475.44**	**Total (Linear Feet)**

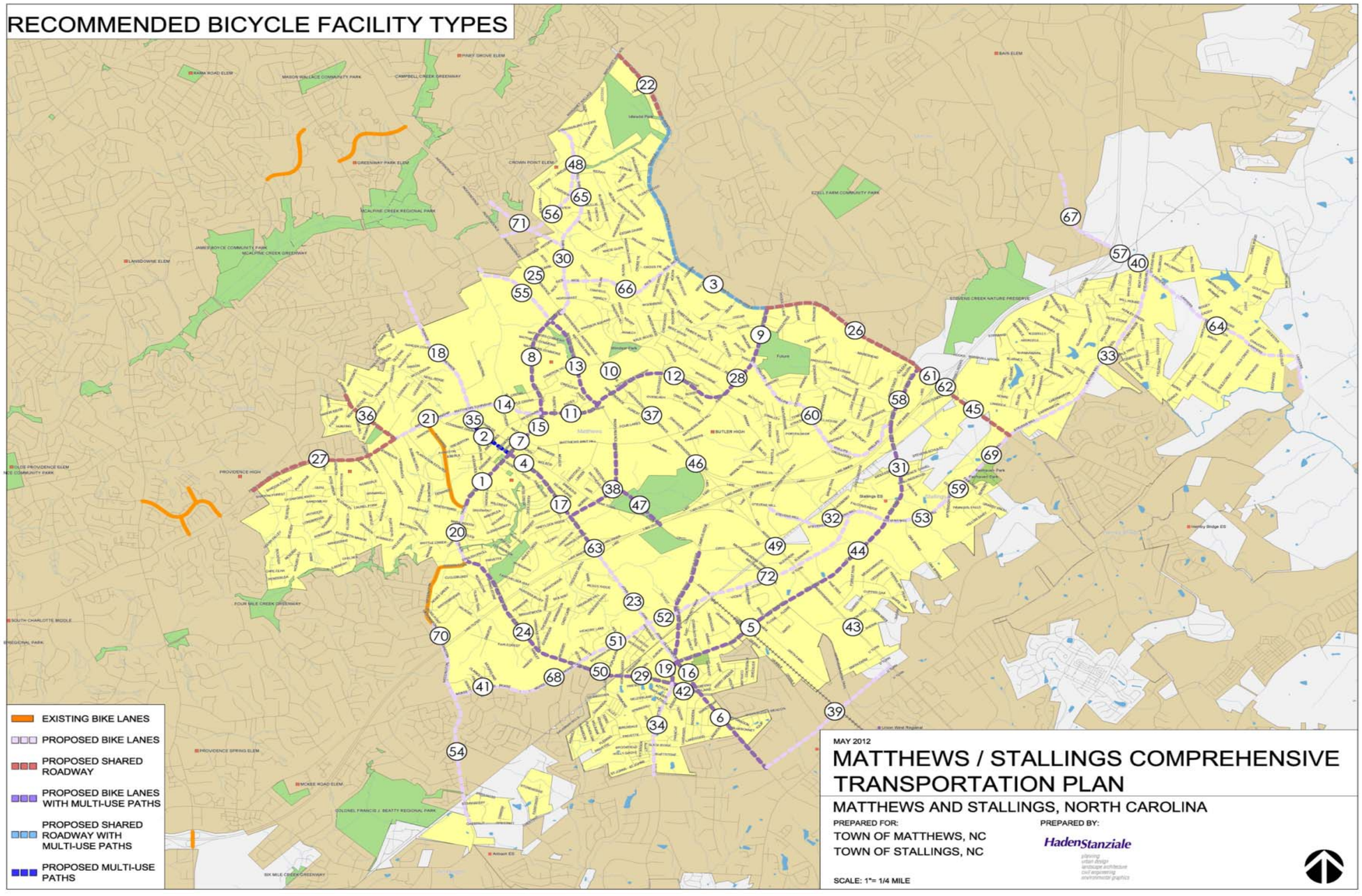
Matthews Long-Term

Planned Facility Type	Road	From	To	Distance (LF)	Phase
None	US 74	I-485	Matthews-Mint Hill Rd.	4247.75	Long-Term
Bike Lanes and Multi-Use Path	Krefield Dr/Independence Parkway	Krefield Dr/Independence Parkway	I-485	2984.98	Long-Term
Bike Lanes	Sam Newell Road	Margaret Wallace Road	Mullis Lane	4419.6	Long-Term
Bike Lanes and Multi-Use Path	Pleasant Plains Road	Mckee Rd.	Callonwood Dr.	1525.11	Long-Term
Bike Lanes	Mckee Road	Pleasant Plains Rd.	E. John St.	3880.91	Long-Term
Bike Lanes	Mckee Road	E. John St.	Campus Ridge Road	1536.45	Long-Term
Bike Lanes	Krefield Dr/Independence Parkway	Town Limits	Sam Newell Road	4450.14	Long-Term
Bike Lanes	Sardis Rd N /Eastern Circumferential Road	Sardis Road North	Sam Newell Road	5630.17	Long-Term
Bike Lanes	Lawyers Road	I-485	Allen Black Rd	981.89	Long-Term
Bike Lanes and Multi-Use Path	Stallings Road	Phillips Rd.	Idlewild Rd.	3224	Long-Term
Bike Lanes	Phillips Road	NC 51 (Matthews-Mint Hill Rd)	Stallings Rd	9686.08	Long-Term
Wide Outside Lane	Idlewild Road	Stallings Road	I-485 Inner Ramps	802.16	Long-Term
Wide Outside Lane	Idlewild Road	I-485 Inner Ramps	I-485 Outer Ramps	893.39	Long-Term
Bike Lanes	E. John Street	Outer I-485 Ramps	Inner I-485 Ramps	826.14	Long-Term
Bike Lanes	Sam Newell Road	Mullis Lane	Williams Road	799.31	Long-Term
Bike Lanes	Rice Road	Sam Newell Rd	Idlewild Rd	6037.89	Long-Term
Bike Lanes	Mckee Road	Carrington Forest Dr.	Pleasant Plains Rd.	3197.67	Long-Term
Bike Lanes	Weddington Road	WinterBrooke Drive	I-485	1340.64	Long-Term
Bike Lanes	Arequippa Dr/Northeast Pkwy	Town Limits	Sam Newell Road	4017.53	Long-Term
Bike Lanes	McKee Road	Campus Ridge Road	Stevens Mill Road	9819.35	Long-Term
Wide Outside Lane	Idlewild Road	I-485 Outer Ramps	Stevens Mill Road	3746	Long-Term
None	US 74	Stallings Rd.	I-485	6047.68	Long-Term
Bike Lanes	Weddington Road	Mckee Rd.	Chestnut	6925.61	Long-Term
Bike Lanes	Lawyers Road	Bain School Road	I-485	4907.17	Long-Term
		1.46	**Miles**	**7,734.09**	**Bike Lanes and Multi-Use Path (Linear Feet)**
		12.97	**Miles**	**68,456.55**	**Bike Lanes (Linear Feet)**
		1.03	**Miles**	**5,441.55**	**Wide Outside Lane (Linear Feet)**
		1.95	**Miles**	**10,295.43**	**None**
		17.41	**Miles**	**91,927.62**	**Total (Linear Feet)**

Stallings Long-Term

Planned Facility Type	Road	From	To	Distance (LF)	Phase
Bike Lanes and Multi-Use Path	Stallings Road	US 74	Stevens Mill Rd.	4818.2	Long-Term
Bike Lanes	Stevens Mill Road	Stallings Rd.	Fair Sky Dr.	2847.17	Long-Term
Bike Lanes	Stevens Mill Road	Fair Sky Dr.	Fair Oaks Dr	1638.85	Long-Term
Bike Lanes	Lawyers Road	Stevens Mill Rd.	Mill Grove Road	10285.7	Long-Term
Bike Lanes	Stevens Mill Road	Fair Oaks Dr.	Idlewild Rd.	3100.69	Long-Term
Wide Outside Lane	Idlewild Road	I-485 Outer Ramps	Stevens Mill Road	3746	Long-Term
None	US 74	Stallings Rd.	I-485	6047.68	Long-Term
Bike Lanes	Weddington Road	Mckee Rd.	Chestnut	6925.61	Long-Term
		0.91	**Miles**	**4,818.20**	**Bike Lanes and Multi-Use Path (Linear Feet)**
		4.70	**Miles**	**24,798.02**	**Bike Lanes (Linear Feet)**
		0.71	**Miles**	**3,746.00**	**Wide Outside Lane (Linear Feet)**
		1.15	**Miles**	**6,047.68**	**None**
		7.46	**Miles**	**39,409.90**	**Total (Linear Feet)**

Figure 11. Recommended Bicycle Facility Types



A total of 43.3 miles of pedestrian facilities are recommended for development within the Matthews Stalling Comprehensive Transportation Plan study area. These facilities include 25.1 miles of sidewalks and 18.2 miles of multi-use paths. Table 6 depicts recommendations for phased pedestrian facility construction.

Table 6. Pedestrian Priority Projects and Phasing Recommendations

Matthews Short-Term

Planned Facility Type	Road	From	To	Distance (LF)	Phase
Multi-Use Path	S. Trade Street	John Street	Fullwood Lane	3502.86	Short-Term
Multi-Use Path	W. John Street	Trade St.	Covenant Church Lane	1908.7	Short-Term
None	US 74	NC 51 (Matthews Township Pkwy.)	Sam Newell Rd.	4750.65	Short-Term
Multi-Use Path	Krefield Dr/Independence Parkway	Sam Newell Road	NC 51 (Matthews Township)	5066.98	Short-Term
Multi-Use Path	Idlewild Road	Idlewild Road Park	NC 51 (Matthews-Mint Hill Rd.)	13074.88	Short-Term
Multi-Use Path	E. John Street	Park Square	N. Trade St.	807.36	Short-Term
Multi-Use Path	Sam Newell Road	US 74	NC 51(Matthews Township)	5854.68	Short-Term
Multi-Use Path	S. Trade Street	Matthews-Mint Hill Rd.	John St.	1067.61	Short-Term
Sidewalks	NC 51 (Matthews Township Parkway)	John Street	Sam Newell Rd	3395.38	Short-Term
None	US 74	Sam Newell	Matthews City Limits	3350.78	Short-Term
Multi-Use Path	NC 51 (Matthews Mint-Hill Road)	Phillips Road	Idlewild	2943.52	Short-Term
Multi-Use Path	NC 51 (Matthews Township Parkway)	Sam Newell Rd.	US 74	4213.67	Short-Term
Multi-Use Path	NC 51 (Matthews Township Parkway)	US 74	Matthews-Mint Hill Rd.	4861.87	Short-Term
Sidewalks	Weddington Road	I-485	Mckee Rd.*	2539.42	Short-Term
		8.20	**Miles**	**43302.13**	**Multi-Use Path (Linear Feet)**
		1.12	**Miles**	**5,934.80**	**Sidewalks (Linear Feet)**
		1.53	**Miles**	**8,101.43**	**None**
		10.86	**Miles**	**57,338.36**	**Total (Linear Feet)**

Stallings Short-Term

Planned Facility Type	Road	From	To	Distance (LF)	Phase
Multi-Use Path	Stallings Road	Old Monroe	US 74	7474.2	Short-Term
Multi-Use Path	Old Monroe Road	Chestnut Lane	Pleasant Plains	5043.5	Short-Term
Multi-Use Path	Potter Road	Old Monroe	Pleasant Plains	1193.19	Short-Term
Multi-Use Path	Old Monroe Road	Pleasant Plains	Stallings Rd.	1842.94	Short-Term
		2.95	**Miles**	**15,553.83**	**Multi-Use Path (Linear Feet)**
		2.95	**Miles**	**15,553.83**	**Total (Linear Feet)**

Matthews Mid-Term

Planned Facility Type	Road	From	To	Distance (LF)	Phase
Multi-Use Path	Sam Newell Road	NC 51 (Matthews Township)	Matthews-Mint Hill Rd	1571.53	Mid-Term
Multi-Use Path	E. John Street	Inner I-485 Ramps	Park Square	5432.2	Mid-Term
Sidewalks	Idlewild Road	Margaret Wallace Road	Idlewild Road Park	3676.76	Mid-Term
Sidewalks	Mckee Road	Darlington Rd.	Carrington Forest Drive	1220.01	Mid-Term
Multi-Use Path	Pleasant Plains Road	Weddington	Mckee Rd.	7833.92	Mid-Term
Sidewalks	Sam Newell Road	Williams Road	Rice Rd.	3377.43	Mid-Term
Sidewalks	Sam Newell Road	Rice Rd.	US 74	795.11	Mid-Term
Sidewalks	Idlewild Road	NC 51 (Matthews-Mint Hill Rd)	Stallings Rd.	8080.11	Mid-Term
Multi-Use Path	Stallings Road	US 74	Stevens Mill Rd.	4818.2	Mid-Term
None	US 74	Matthews Mint-Hill	NC 51 (Matthews Township Pkwy.)	3338.63	Mid-Term
Sidewalks	Krefield Dr/Independence Parkway	Matthews-Mint Hill Rd	W. John Street	4834.31	Mid-Term
Sidewalks	E. John Street	Stallings Rd.	Outer I-485 Ramps	6623.01	Mid-Term
Multi-Use Path	Pleasant Plains Road	Callonwood Dr.	Potter Rd.	3042.32	Mid-Term
Multi-Use Path	Stallings Road	StevensF Mill Rd.	Phillips Rd.	5188.35	Mid-Term
Sidewalks	Chestnut Connector	Old Monroe Road	US 74	7680.9	Mid-Term
		5.28	**Miles**	**27,886.52**	**Multi-Use Path (Linear Feet)**
		6.87	**Miles**	**36,287.64**	**Sidewalks (Linear Feet)**
		0.63	**Miles**	**3,338.63**	**None**
		12.79	**Miles**	**67,512.79**	**Total (Linear Feet)**

Stallings Mid-Term

Planned Facility Type	Road	From	To	Distance (LF)	Phase
Sidewalks	Potter Road	Gainsborough Dr.	Chestnut Lane	681.26	Mid-Term
Sidewalks	Lawyers Road	Allen Black Road	Stevens Mill Rd	1047.65	Mid-Term
None	US 74	Union West Bus. Park	Stallings Rd.	4642.94	Mid-Term
Sidewalks	E. John Street	Stallings Rd.	Outer I-485 Ramps	6623.01	Mid-Term
Multi-Use Path	Pleasant Plains Road	Callonwood Dr.	Potter Rd.	3042.32	Mid-Term
Multi-Use Path	Stallings Road	StevensF Mill Rd.	Phillips Rd.	5188.35	Mid-Term
		1.56	**Miles**	**8,230.67**	**Multi-Use Path (Linear Feet)**
		0.33	**Miles**	**1,728.91**	**Sidewalks (Linear Feet)**
		0.88	**Miles**	**4,642.94**	**None**
		2.77	**Miles**	**14,602.52**	**Total (Linear Feet)**

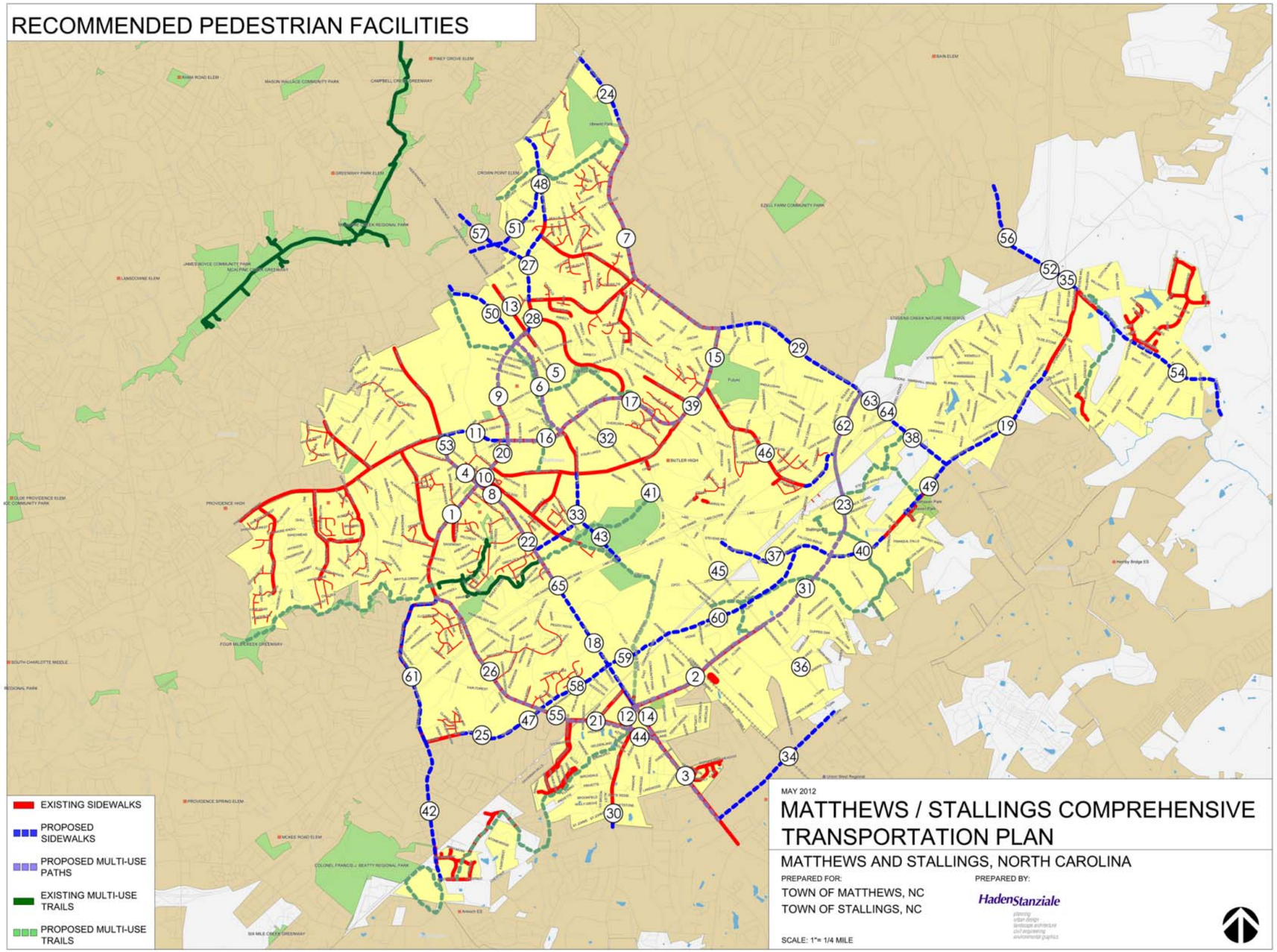
Matthews Long-Term

Planned Facility Type	Road	From	To	Distance (LF)	Phase
Multi-Use Path	NC 51 (Matthews Mint-Hill Road)	Matthews Township Parkway	Phillips Rd.	2534.95	Long-Term
None	US 74	I-485	Matthews-Mint Hill Rd.	4247.75	Long-Term
Sidewalks	Krefield Dr/Independence Parkway	Krefield Dr/Independence Parkway	I-485	2984.98	Long-Term
Sidewalks	Phillips Road	NC 51 (Matthews-Mint Hill Rd)	Stallings Rd	2349.25	Long-Term
Sidewalks	Mckee Road	Carrington Forest Dr.	Pleasant Plains Rd.	3197.67	Long-Term
Sidewalks	Sam Newell Road	Margaret Wallace Road	Mullis Lane	4419.6	Long-Term
Sidewalks	Krefield Dr/Independence Parkway	Town Limits	Sam Newell Road	4450.14	Long-Term
Sidewalks	Sardis Rd N /Eastern Circumferential Road	Sardis Road North	Sam Newell Road	5630.17	Long-Term
Sidewalks	Lawyers Road	I-485	Allen Black Rd	981.89	Long-Term
Multi-Use Path	W. John Street	Covenant Church Lane	NC 51 (Matthews Township Pkwy.)	1167.23	Long-Term
Multi-Use Path	Pleasant Plains Road	Mckee	Callonwood Dr.	1525.11	Long-Term
Sidewalks	Arequippa Dr/Northeast Pkwy	Town Limits	Sam Newell Road	4017.53	Long-Term
Sidewalks	Mckee Road	Pleasant Plains Rd.	E. John St.	3880.91	Long-Term
Sidewalks	Mckee Road	E. John St.	Campus Ridge Road	1536.45	Long-Term
Sidewalks	Mckee Road	Campus Ridge Road	Stevens Mill Road	9819.35	Long-Term
Sidewalks	Weddington Road	WinterBrooke Drive	I-485	1340.64	Long-Term
Multi-Use Path	Stallings Road	Phillips Rd.	Idlewild Rd.	3224	Long-Term
Sidewalks	Idlewild Road	Stallings Road	I-485 Inner Ramps	802.16	Long-Term
Sidewalks	Idlewild Road	I-485 Inner Ramps	I-485 Outer Ramps	893.39	Long-Term
Sidewalks	E. John Street	Outer I-485 Ramps	Inner I-485 Ramps	826.14	Long-Term
Sidewalks	Weddington Road	Mckee Rd.	Chestnut	6925.61	Long-Term
Sidewalks	Idlewild Road	I-485 Outer Ramps	Stevens Mill Road	3746	Long-Term
Sidewalks	Lawyers Road	Bain School Road	I-485	4907.19	Long-Term
None	US 74	Stallings Rd.	I-485	6047.68	Long-Term
		1.60	**Miles**	**8,451.29**	**Multi-Use Path (Linear Feet)**
		11.88	**Miles**	**62,709.07**	**Sidewalks (Linear Feet)**
		1.95	**Miles**	**10,295.43**	**None**
		15.43	**Miles**	**81,455.79**	**Total (Linear Feet)**

Stallings Long-Term

Planned Facility Type	Road	From	To	Distance (LF)	Phase
Sidewalks	Stevens Mill Road	Mt. Harmony Church Rd.	Stallings Rd.	5829.13	Long-Term
Sidewalks	Stevens Mill Road	Stallings Rd.	Fair Sky Dr.	2847.17	Long-Term
Multi-Use Path	Pleasant Plains Road	Potter Rd.	Old Monroe Rd.	1361.93	Long-Term
Sidewalks	Stevens Mill Road	Fair Oaks Dr.	Idlewild Rd.	3100.69	Long-Term
Sidewalks	Lawyers Road	Stevens Mill Rd.	Mill Grove Road	10285.7	Long-Term
Sidewalks	Weddington Road	Mckee Rd.	Chestnut	6925.61	Long-Term
Sidewalks	Idlewild Road	I-485 Outer Ramps	Stevens Mill Road	3746	Long-Term
		0.26	**Miles**	**1,361.93**	**Multi-Use Path (Linear Feet)**
		6.20	**Miles**	**32,734.30**	**Sidewalks (Linear Feet)**
		6.46	**Miles**	**34,096.23**	**Total (Linear Feet)**

Figure 12. Recommended Pedestrian Facilities



A total of 24.4-miles of off-road trail facilities are recommended for the study area in the form of multi-use trails. **Table 7** depicts recommendations for phased greenway/trail facility construction.

Table 7. Trail Priority Projects and Phasing Recommendations

Matthews Short-Term

Planned Facility Type	Road	From	To	Distance (LF)	Phase
Multi-use Trail	Downtown Matthews Connector	Sam Newell Road	Matthews Mint Hill Road	6837.66	Short-Term
Multi-use Trail	Irvin Creek Greenway	Town Limits	Idlewild Road	7885.79	Short-Term
Multi-use Trail	Downtown Matthews Connector	Downtown Matthews Connector-Main Trail	Northeast Parkway	5673.15	Short-Term
Multi-use Trail	Four Mile Creek Greenway	E. John Street	Matthews Sports Plex	6698.14	Short-Term
Multi-use Trail	Carolina Thread Trail West Connector	Campus Ridge Road	Stallings Road	6180.29	Short-Term
				33,275.00	**LF**
				6.30	**Miles**

Stallings Short-Term

Planned Facility Type	Road	From	To	Distance (LF)	Phase
Multi-use Trail	Carolina Thread Trail West Connector	Stallings Road	Old Monroe Road/ Chesnut Lane	6908.97	Short-Term
Multi-use Trail	Carolina Thread Trail West Connector	Campus Ridge Road	Stallings Road	6180.29	Short-Term
				13089.26	**LF**
				2.48	**Miles**

Matthews Mid-Term

Planned Facility Type	Road	From	To	Distance (LF)	Phase
Multi-use Trail	Downtown Matthews Connector	Town Limits	Sam Newell Road	4977.11	Mid-Term
Multi-use Trail	Four Mile Creek Greenway	Town Limits	Pleasant Plains Road	12891.77	Mid-Term
Multi-use Trail	Carolina Thread Trail East Connector	Idlewild Road	North Fork Tributary	7089.81	Mid-Term
				24,958.69	**LF**
				4.72	**Miles**

Stallings Mid-Term

Planned Facility Type	Road	From	To	Distance (LF)	Phase
Multi-use Trail	Carolina Thread Trail East Connector	North Fork Tributary	Town Limits	5818.73	Mid-Term
Multi-use Trail	North Fork Trail (Trail Project T-3)	Stevens Mill Road	Stallings Road	1616.55	Mid-Term
Multi-use Trail	Goose Creek Trail (Trail Project T-2)	Lake Drive	Lawyers Road	6205.5	Mid-Term
Multi-use Trail	Twelve Mile Creek Trail (Trail Project T-1)	Woodglen Lane	Pleasant Plains Road	3613.68	Mid-Term
Multi-use Trail	North Fork Trail (Trail Project T-3)	North Fork Tributary	Stevens Mill Road	3935.17	Mid-Term
Multi-use Trail	Crooked Creek Trail (Trail Project T-4)	Crooked Creek	Stevens Mill Road	2320.34	Mid-Term
Multi-use Trail	Carolina Thread Trail East Connector	Idlewild Road	North Fork Tributary	7089.81	Mid-Term
				30,599.786	**LF**
				5.80	**Miles**

Matthews Long-Term

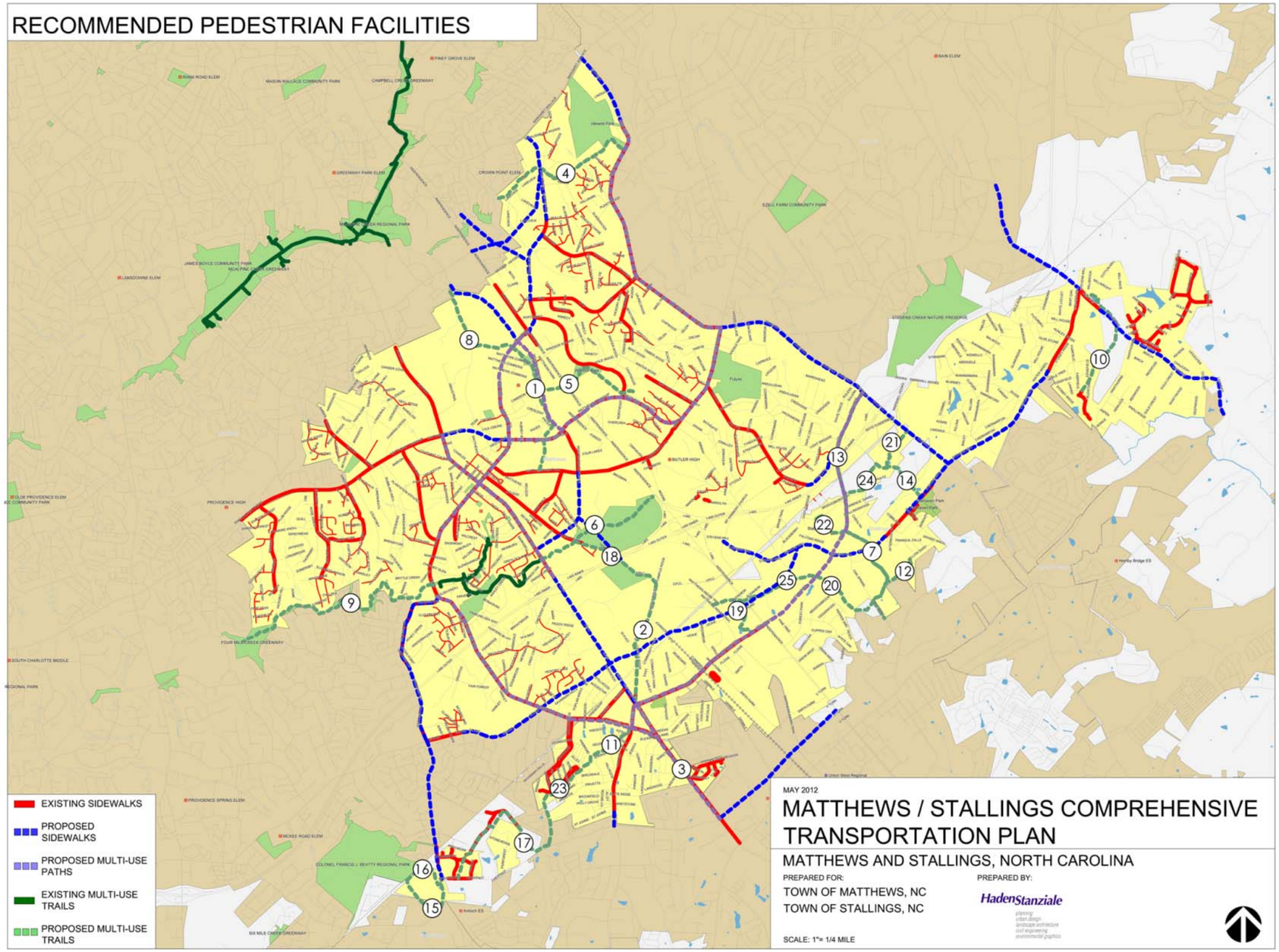
Planned Facility Type	Road	From	To	Distance (LF)	Phase
Multi-use Trail	Carolina Thread Trail West Connector	E. John Street	Campus Ridge Road	4741.96	Long-Term
				4741.96	**LF**
				.90	**Miles**

Stallings Long-Term

Planned Facility Type	Road	From	To	Distance (LF)	Phase
Multi-use Trail	Francis Beatty Trail (Trail Project T-5)-Southern loop section	Matthews Weddington Road	Colonel Francis Beatty Park	3662.69	Long-Term
Multi-use Trail	Francis Beatty Trail (Trail Project T-5)-Northern loop section	Colonel Francis Beatty Park	Matthews Weddington Road	2717.36	Long-Term
Multi-use Trail	Twelve Mile Creek Trail (Trail Project T-1)	Matthews Weddington Road/Chestnut Lane	Chestnut Lane	7689.43	Long-Term
Multi-use Trail	North Fork Trail (Trail Project T-3)	Matthews Indian Trail Road/Stallings Road	US 74	3573.17	Long-Term
Multi-use Trail	North Fork Trail (Trail Project T-3)	Stallings Road	North Fork Tributary	5020.62	Long-Term
Multi-use Trail	Crooked Creek Trail (Trail Project T-4)	Idlewild Road	Crooked Creek	2312.09	Long-Term
Multi-use Trail	North Fork Trail (Trail Project T-3)	Stallings Road	Barnard Castle Lane	2025.58	Long-Term
Multi-use Trail	Twelve Mile Creek Trail (Trail Project T-1)	Chestnut Lane	Woodglen Lane	4763.24	Long-Term
Multi-use Trail	Crooked Creek Trail (Trail Project T-4)	Stallings Road	Crooked Creek	3455.4	Long-Term
Multi-use Trail	North Fork Trail (Trail Project T-3)	US 74	Stallings Road	3921.67	Long-Term
				39,141.25	**LF**
				7.41	**Miles**

The most important function of these recommendations is to create an interwoven network of bicycle and pedestrian facilities that make meaningful connections as each corridor is improved. The following figures represent the recommended network of bicycle and pedestrian facilities for the Matthews Stallings Comprehensive Transportation Plan. The figures illustrate the short-term, mid-term, and long-term phases for both bicycle and pedestrian facilities. Note how the process used to rank bicycle and pedestrian facilities utilized public input to identify high priority destinations, concentrated short-term improvements in those areas, and expanded connectivity from those points as mid-term and long-term facility recommendations are implemented.

Figure 13. Recommended Multi-Use Trail Facilities.



Recommend Facility Location Guidelines

The recommended bicycle and pedestrian projects within the Matthews Stallings Comprehensive Transportation Plan provided a menu of prioritized recommendations for facility development. Recommendations are provided along roads and within off-road corridors. Ideally, bicycle and pedestrian facilities will be developed on both sides of the road within Matthews and Stallings, particularly roads with higher vehicular volumes and higher speeds. Realistically, budgets do not always allow for this to occur.

The Matthews Stallings Comprehensive Transportation Plan does not recommend the side of the road in which each facility should be located. This detail is not provided due to the long-range nature of the Matthews Stallings Comprehensive Transportation Plan. It is difficult to predict the location of future development, new and widened roadways, and shifts in desired destinations. Recommendations that specify the exact location of the bicycle or pedestrian facility in terms of present circumstances would be short sighted, and potentially incorrect. By providing more broad recommendations according to roads and off-road corridors, this plan gives each municipality the flexibility to develop future bicycle and pedestrian facilities in the most appropriate and cost effective locations.

The items below represent factors that should be considered when identifying the appropriate location for future bicycle and pedestrian facilities. These factors should be assessed for each road corridor and off-road corridor. The results of the assessment will provide each municipality with a logical location for future bicycle and pedestrian facilities and will help keep associated costs of facility development down.

- Access to Destinations: Successful bicycle and pedestrian facilities connect people to the places where they want to go. These places are called destinations. According to feedback provided from residents of Matthews and Stallings, the most popular destinations within this study area are friend/family's houses, parks/community centers, downtown core/area, restaurants, and shopping areas. By locating bicycle and pedestrian facilities on the same side of the road as destinations, direct connectivity to each destination is provided. Proper bicycle and pedestrian facility placement may also reduce the need to cross the road to access a destination, thereby reducing the number of potential conflicts with vehicles.

- Access to Neighborhoods: In order to make cycling and walking a more attractive method of transportation for shorter, local trips, bicycle and pedestrian facilities must be easily accessible from neighborhoods and densely populated areas. Facilities should be developed on the side of the road where the majority of residential units are located. This practice ensures that the majority of potential users will not have to cross the street to access the bicycle and/or pedestrian facility. Some major road corridors within the study area have multiple residential neighborhoods on both sides of the road. In these instances, other facility location factors should be given priority.

- Existing Facility Location: Existing sidewalks are located along roads for a variety of reasons. Some are built due to high numbers of pedestrians in the area. Others are built due to requirements imposed by local governments. Some roads within the study area have existing sidewalks on both sides of the street, while others have sidewalks on only one side of the road or no sidewalks at all. Whatever the case, sidewalks are located within existing road right-of-way on relatively flat, even ground. In instances where sidewalks are located on one side of the

road, utilities are typically located on the side of the road opposite the sidewalk to avoid conflicts. It may be easier to widen an existing sidewalk into a multi-use path rather than develop a path along the road where no facility currently exists.

- Location and Proximity to Traffic Signals: Traffic signals make roads more predictable and, as a result, more safe for vehicles. Signals control traffic volume, help regulate speeds, and make major intersections easier to navigate. Traffic signals serve a useful function for cyclists and pedestrians as well by providing more controlled environments for road crossing. Pedestrian signals, or walk/don't walk signals, are timed with traffic signals and let cyclists and pedestrians know when it is safe to cross the road. Crosswalks at intersections specify where cyclists and pedestrians should cross and serve as a visual reminder for drivers to be aware of people crossing the road. Bicycle and pedestrian facilities should connect residents to signalized intersections when destinations or other bicycle and pedestrian connections are on the opposite side of the street.

- Utility Locations: Utilities provide vital services to our communities. Typical utilities include water, sewer, natural gas, telecommunications, and power. Each utility service is distributed in a unique manner: overhead lines, underground cables, pipes, conduits, and vaults. These intricately developed networks of utilities are costly to develop, repair, and relocate. It is important to site bicycle and pedestrian facilities within areas that avoid conflicts with utilities and allow utility providers to access those utilities for maintenance and repairs. Costs for constructing bicycle and pedestrian facilities can be greatly reduced if completed with little or no utility conflicts.

- Width of Right-of-Way: A costly aspect of bicycle and pedestrian facility development is the acquisition of land. Land acquisition is required in areas where facilities are planned but no land within the area is owned by the developing agency. The cost of land acquisition often makes bicycle and pedestrian projects impossible to fund due to budgetary constraints. A great benefit of locating bicycle and pedestrian facilities within existing road rights-of-way is land. Road rights-of-way are publicly owned corridors that vary in width and are dedicated to providing connectivity throughout the study area and region. Rights-of-way that are wide enough to house roads along with bicycle and pedestrian facilities do not require the acquisition of land as part of construction.

- Topography: As public facilities, all bicycle and pedestrian facilities should strive to be accessible for people of all abilities. This can be difficult in areas where there is significant grade change over a short distance, steep hills, or severe cross-slopes. Topography can also drive the costs of construction higher by increasing the amount of earthwork necessary to build a project or requiring retaining walls or fill dirt to make a site level. Careful attention should be paid to the existing slopes along and across roads and off-road corridors when planning the construction of bicycle and pedestrian facilities.

- Environmental Constraints: Certain areas within the Matthews Stallings Comprehensive Transportation Plan study area include restrictions and buffers that protect natural resources. Creeks in Matthews are protected by S.W.I.M (Storm Water Improvement Management) Buffers, while certain watersheds in Stallings are within the habitat area of the Carolina heelsplitter, a freshwater mussel that is a critically endangered species. Bicycle and pedestrian facilities should be located in areas that avoid disturbance to natural or protected streams, wetlands, and habitats.

3.3 Transit Recommendations

Members of the Task Force Committee and local citizens expressed a need for further transit capabilities in the study area. It is fortunate for the study area that Charlotte has and continues to implement one of the leading transit systems in North Carolina. Planning studies have supported expanding various transit routes into Matthews and Stallings. These studies show the potential for a variety of options for the area. Continued work between the Towns and the CATS operations are to expand services that are in the best interest of the communities is highly recommended. Due to the support the citizens have shown in transit for the community, recommendations made below should be considered a short term priority and should be approached in the near future.

In addition to the planned improvements described in Chapter 2, the planning area could further increase the public transportation options by implementing the following proposed improvements:

- Develop a Park n Ride facility along US 74 in Stallings to provide an additional stop location for the 64x, 65x, or 74x express bus routes
- Work with CATS to try and improve the Route 94 Mint Hill-Matthews Shuttle service with the following incremental changes:
    1. Add Friday service
    2. Expand weekday service during mid-day and evening
    3. Add Saturday service
    4. Add Sunday service
- Continue to support enhancements of Monroe Road and Independence Pointe Parkway with BRT or LRT with CATS
- The Towns should continue with further studies with CATS into the shared use of the CSX rail along Monroe Road for use of LRT
- Matthews and Stallings should continue planning efforts and sharing ideas of the role transit would have with future updates to US 74

Section 4 Guidance

4.1 Overview

In order to complete a successful plan, planning, design and implementation guidance is crucial. With the state of the current economy and funding limits seen over the last decade, implementation can be challenging. An action plan is key for officials to achieve goals set in the plan by local stakeholders, and expedites the execution of this plan. The adoption of this plan is an important step toward implementing multimodal improvements that impact travel, safety, mobility, development and the overall appeal of the Towns. Some project improvements, such as sidewalks, small greenways and smaller street changes, could be completed through the development review process. Larger infrastructure projects will likely need a state or federal action to complete.

This chapter offers funding opportunities and guidance in infrastructure development to assist in achieving the goals and recommendations set forth in this plan.

Authorization

Agencies responsible for the infrastructure in the area have aspects developed in terms of guidance. Parties involved in the study area for this plan are the Towns of Matthews and Stallings, NCDOT and the Mecklenburg-Union Metropolitan Planning Organization.

Roadways within in Matthews and Stallings fall into one of two categories in respect to ownership: 1) Town Owned Roadway or 2) State Owned Roadway.

The North Carolina Department of Transportation owns and maintains many of the roadways within the study area. For example, NC 51, US 74 and Lawyers Road are all maintained by the State. Rice Road and Chestnut Road are examples of roadways that either the Town of Stallings or Matthews own.

The NCDOT categorizes roads into five categories: 1) Freeways; 2) Expressways; 3) Boulevards; 4) Other Major Thoroughfares and 5) Minor Thoroughfares. **Table 8** explains the hierarchy of typical roadways in the state of North Carolina. These guidelines can offer direction for characteristics of a new or reconstructed roadway and provide insight to appropriate access management techniques.

Table 8. Roadway Hierarchy

Type	Characteristics							
	Functional purpose	**Posted speed**	**Cross section**	**Multi-modal elements**	**Type of access control**	**Access management**	**Intersecting facilities**	**Driveways**
Freeways	High mobility, high volume, high speed	55 mph or greater	Minimum four lanes with continuous median	High occupancy vehicles (hov)/high occupancy transit (hot) lanes, busways, truck lanes, park-and-ride facilities at/near interchanges, adjacent shared use paths (separate from roadway and outside row)	Full access	Interchange spacing (urban – one mile; non-urban – three miles); at interchanges on the intersecting roadway, full control of access for 1,000ft or for 350ft plus 650ft island or median; use of frontage roads, rear service roads	Interchange or grade separation (no signals or at-grade intersections)	N/a
Expressways	High mobility, high volume, medium-high speed	45 to 60 mph	Minimum four lanes with median	HOV lanes, busways, very wide paved shoulders (rural), shared use paths (separate from roadway but within row)	Limited or partial access	Minimum interchange/intersection spacing 2,000ft; median breaks only at intersections with minor roadways or to permit u-turns; use of frontage roads, rear service roads; driveways limited in location and number; use of acceleration/deceleration or right turning lanes	Interchange; at-grade intersection for minor roadways; right-in/right-out and/or left-over or grade separation (no signalization for through traffic)	Right-in/right-out only; direct driveway access via service roads or other alternate connections
Boulevards	Moderate mobility; moderate access, moderate volume, medium speed	30 to 55 mph	Two or more lanes with median (median breaks allowed for u-turns per current ncdot *driveway manual*	Bus stops, bike lanes (urban) or wide paved shoulders (rural), sidewalks (urban - local government option)	Limited, partial or no control of access	Two lane facilities may have medians with crossovers, medians with turning pockets or turning lanes; use of acceleration/deceleration or right turning lanes is optional; for abutting properties, use of shared driveways, internal out parcel access and cross-connectivity between adjacent properties is strongly encouraged	At grade intersections and driveways; interchanges at special locations with high volumes	Primarily right-in/right-out, some right-in/right-out in combination with median leftovers; major driveways may be full movement when access is not possible using an alternate roadway

Type	Characteristics							
	Functional purpose	**Posted speed**	**Cross section**	**Multi-modal elements**	**Type of access control**	**Access management**	**Intersecting facilities**	**Driveways**
Other Major Thoroughfares	Balanced mobility and access, moderate low to medium speed	25 to 55 mph	Four or more lanes without median	Bus stops, bike lanes/wide outer lane (urban) or wide paved shoulder (rural), sidewalks (urban)	No control of access	Continuous left turn lanes; for abutting properties, use of shared driveways, internal out parcel access and cross-connectivity between adjacent properties is strongly encouraged	Intersections and driveways	Full movement on two lane roadway with center turn lane as permitted by the current ncdot *driveway manual*
Minor Thoroughfares	Balanced mobility and access, moderate low to medium speed	25 to 55 mph	Ultimately three lanes (no more than one lane per direction) or less without median	Bus stops, bike lanes/wide outer lane (urban) or wide paved shoulder (rural), sidewalks (urban)	No control of access	Continuous left turn lanes; for abutting properties, use of shared driveways, internal out parcel access and cross-connectivity between adjacent properties is strongly encouraged	Intersections and driveways	Full movement on two lane with center turn lane as permitted by the current ncdot *driveway manual*

4.2. Guideline Standards

Along with the hierarchy of roads that NCDOT has developed, the agency is also working towards finalizing a "Complete Streets Policy" to aid the transportation development in building upon safety, environmental integrity, public health, economic vitality and community livability. According to NCDOT the definition of Complete Streets is "North Carolina's approach to interdependent, multi-modal transportation networks that safely accommodate access and travel for all users." The Complete Streets Policy was developed in collaboration with current policies and practices used by the department.

The City of Charlotte adopted a Complete Streets Policy in 2007, but has been implementing Complete Street techniques since 2005. In 2009, the Environmental Protection Agency awarded the City with a Smart Growth Award for their innovative urban street design policies and regulations.

The final guidance for this newly created policy should be finalized by the end of 2012. The Complete Streets Policy should be used in further planning efforts within the Towns of Matthews and Stallings to develop a safe transportation network for pedestrians, bicyclist transit users and motorists. Recommendations within this plan identify several projects for additional sidewalk, bicycle lanes, multi-use paths and/or greenways to provide dedicated travels for multi-mode usage.

In 2010, NCDOT updated the departments comprehensive planning and design typical cross-sections to support the "Complete Streets" Policy that was adopted in July 2009. The cross-sections developed by the department have been used as guidance in developing recommendations completed in this plan. Below are the cross-sections developed by NCDOT as derived from the December 7, 2010 memo from the Director of Preconstruction.

What are Complete Streets?

"Complete streets are designed to be safe and comfortable for all users, including pedestrians, bicyclists, transit riders, motorists, and individuals of all ages and capabilities. These streets generally include sidewalks, bicycle lanes, transit stops, appropriate street widths and speeds, and are well-integrated with surrounding land uses. Complete Street design elements that emphasize safety, mobility and accessibility for multiple modes may include crosswalks, bus lanes, landscaping, lighting, signaling systems, and adequate separation between sidewalks and streets.

For the previous fifty years, streets have generally been designed to serve one mode, motor vehicles, and often have been designed without sidewalks or bike facilities. In contrast, Complete Streets are intended to serve people using all modes."

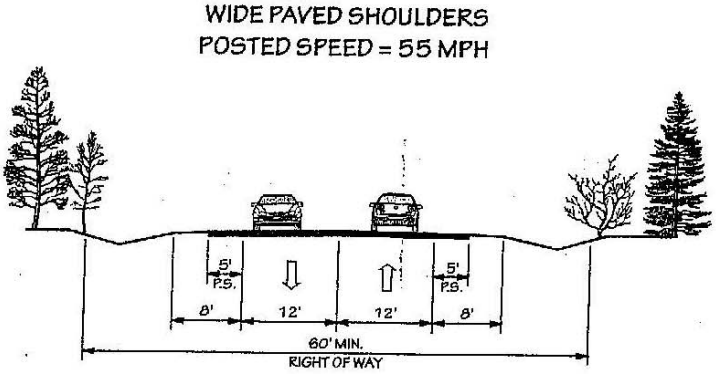
Source: www.nccompletestreets.org

Complete Street in Charlotte, NC

Source: EPA 2009 Smart Growth Awards

Two Lane Cross-Sections

2 A



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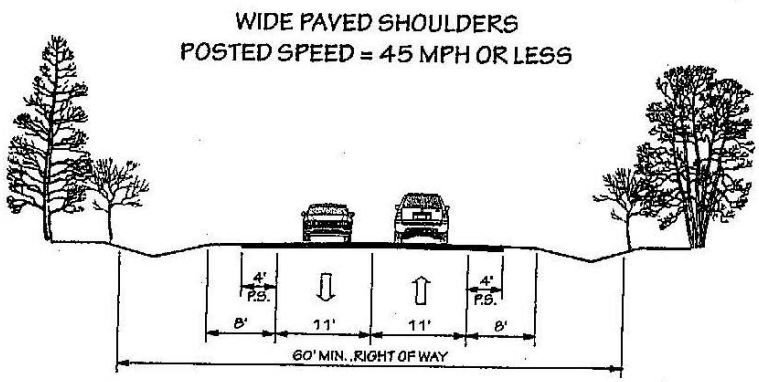

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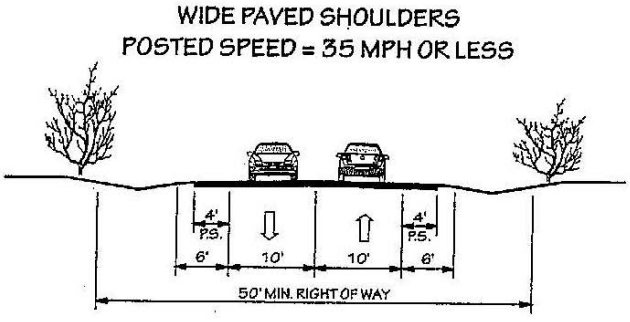
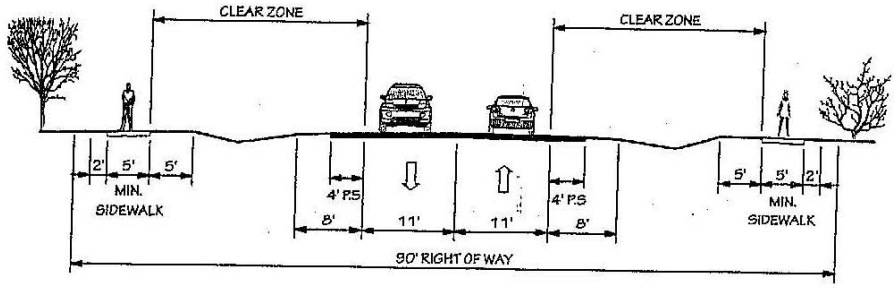


Two Lane Cross-Sections

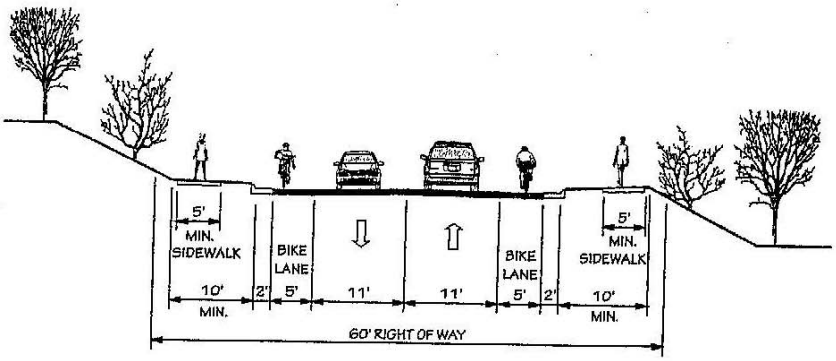
2 D

SIDEWALK PLACEMENT BEHIND A ROADWAY DITCH



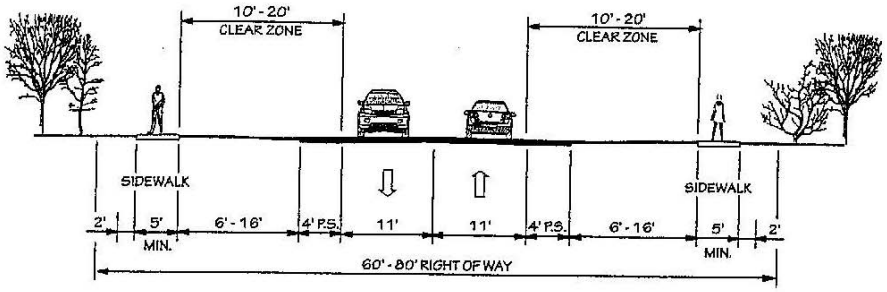
2 E

CURB AND GUTTER
WITH BIKE LANES AND SIDEWALKS



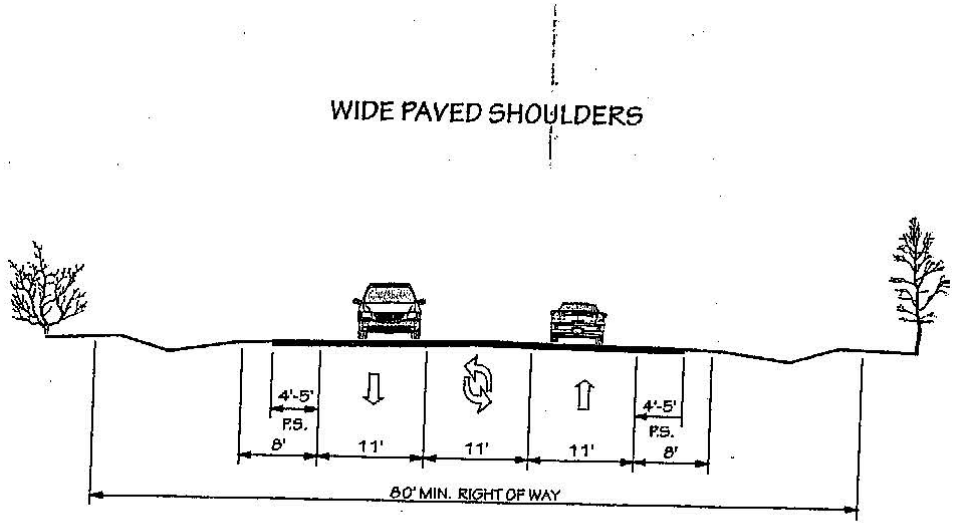
2 F

BUFFERS AND SIDEWALKS WITHOUT A ROADWAY DITCH
(20 MPH TO 45 MPH)
(TYPICALLY COASTAL AREA MANAGEMENT ACT COUNTIES)

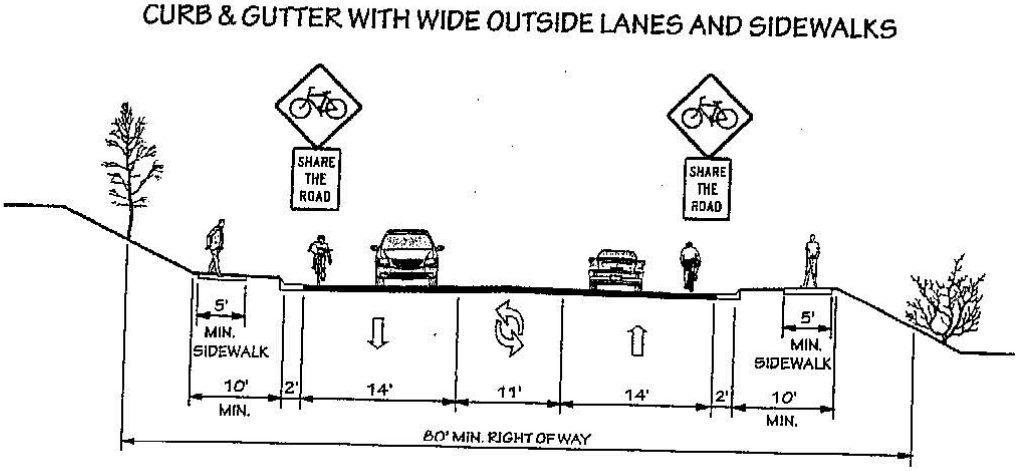


Three Lane Cross-Sections

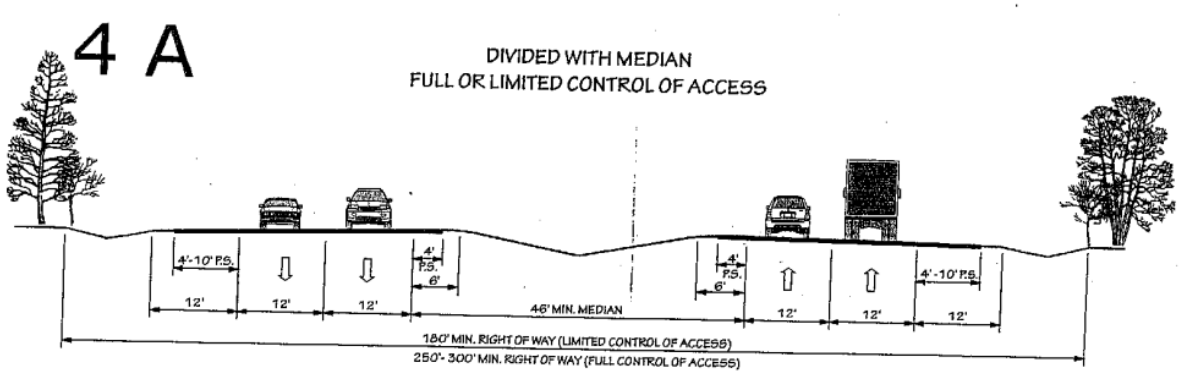
3 A

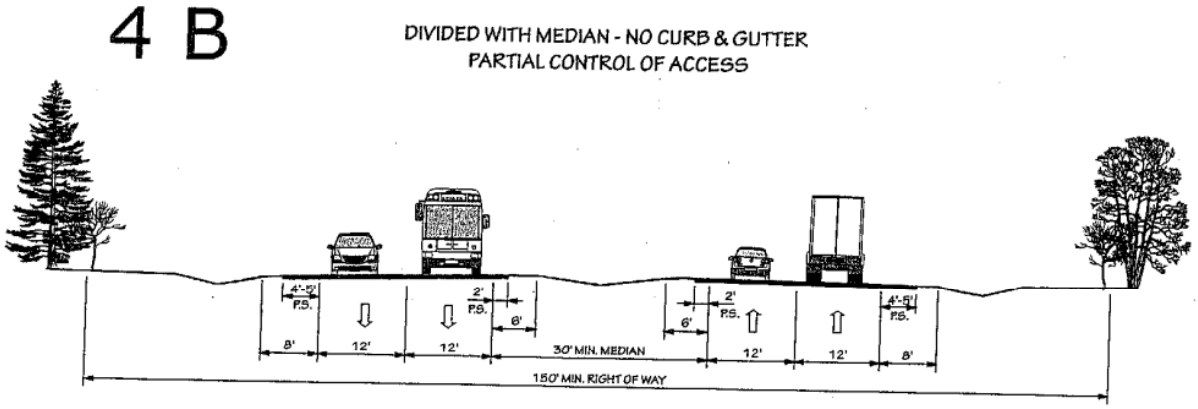


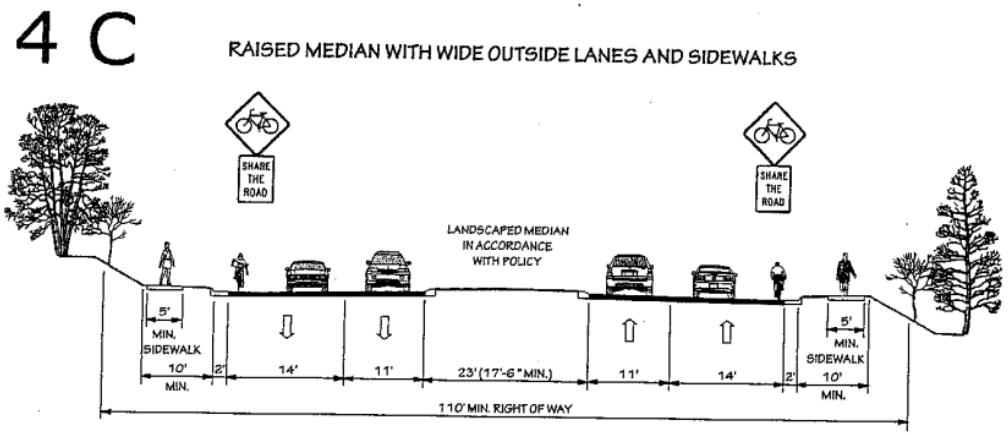
3 B



Four Lane Cross-Sections







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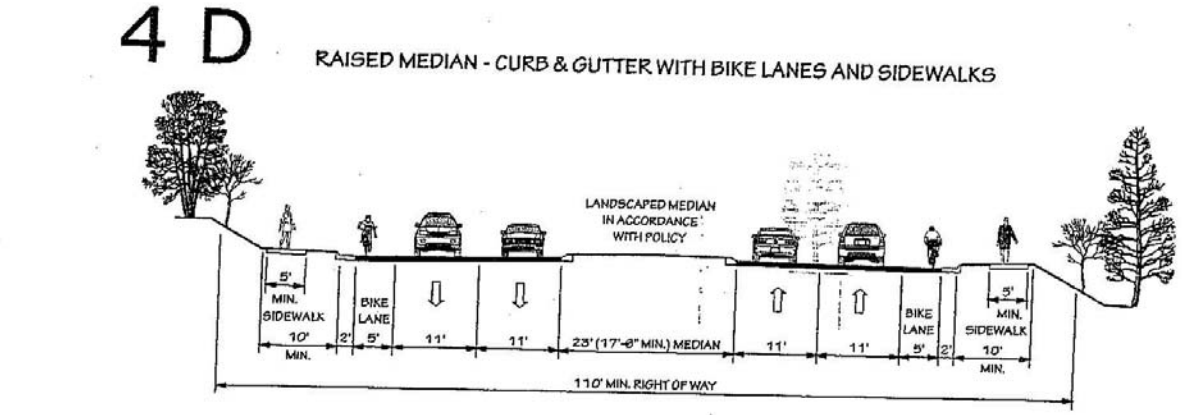
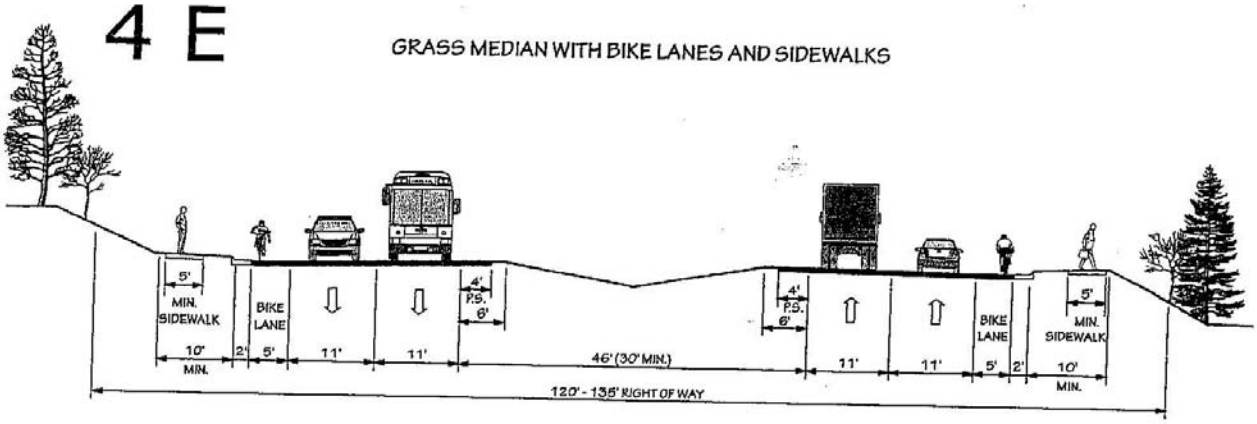
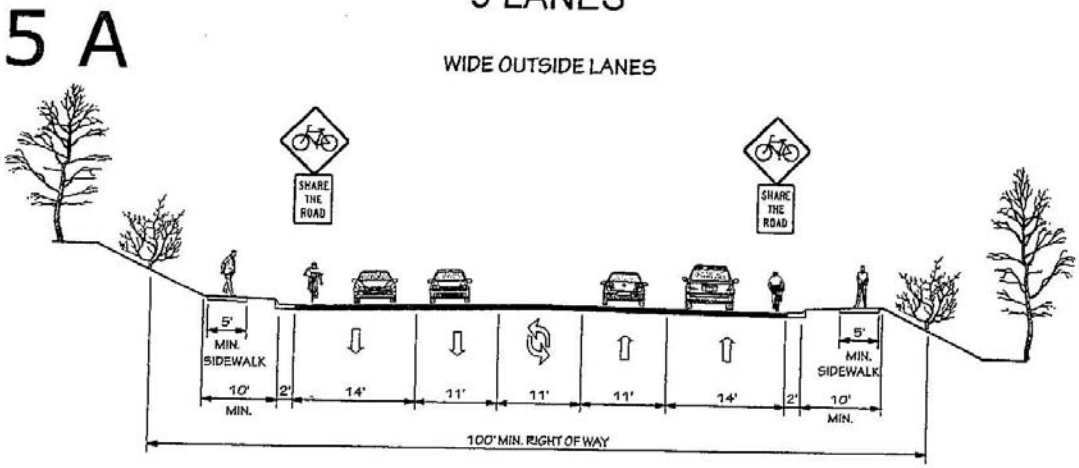
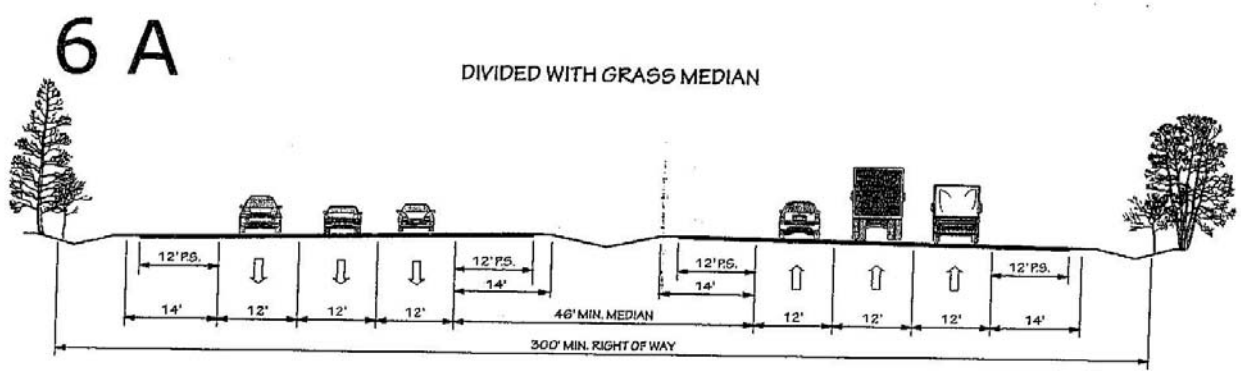


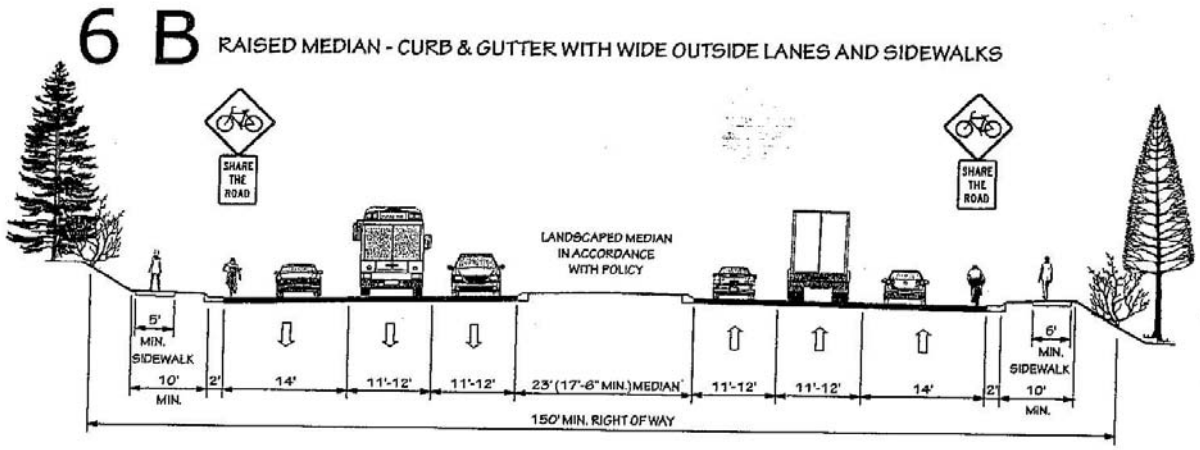


5 LANES

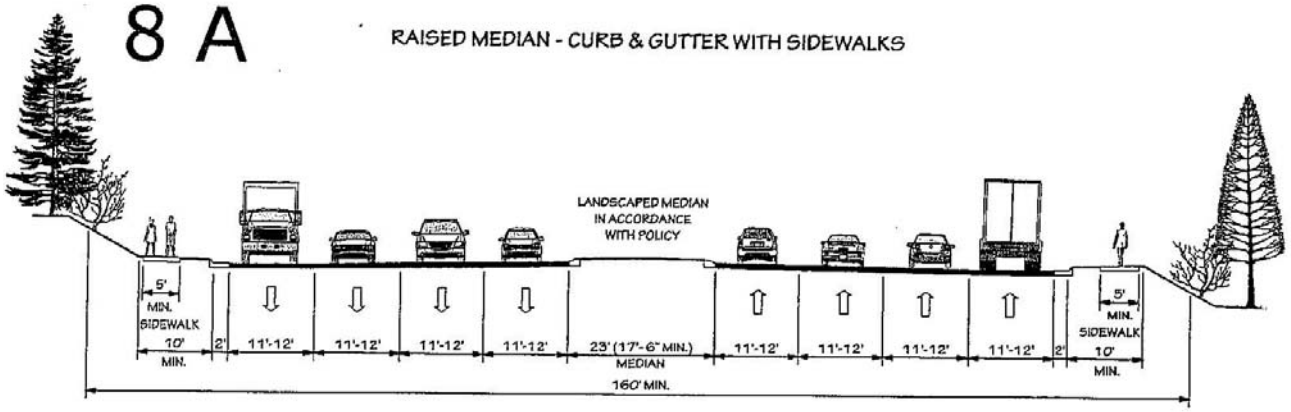


Six & Eight Lane Cross-Sections





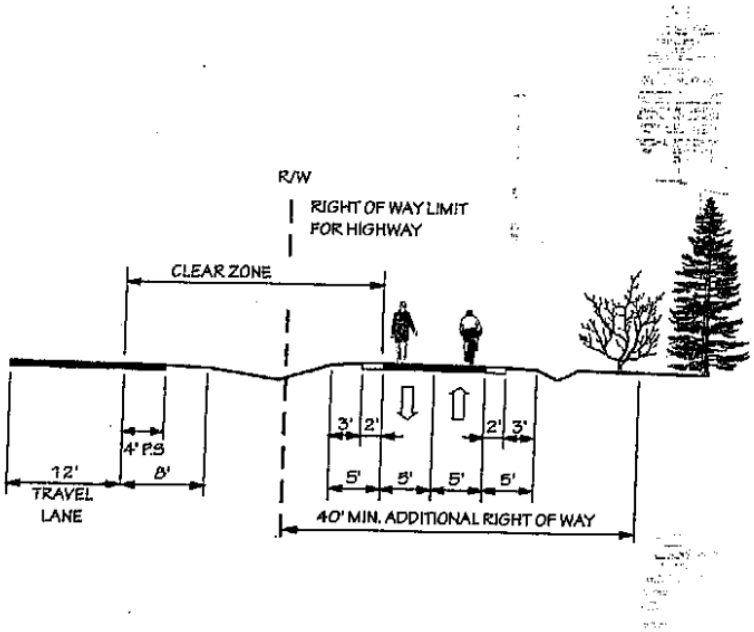
8 LANES



Multi-Use Path Cross-Sections

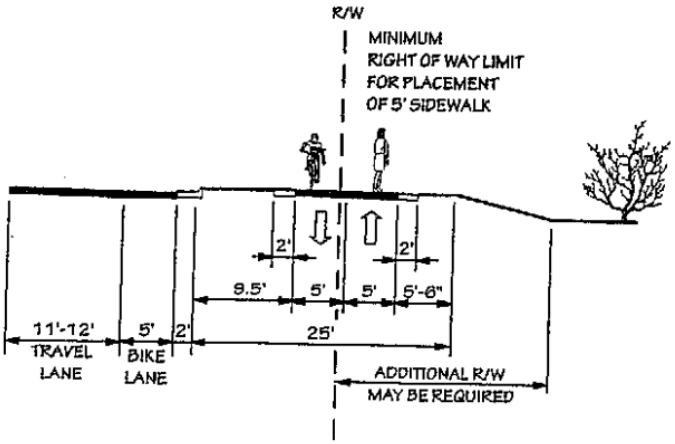
MULTI - USE PATH
ADJACENT TO RIGHT OF WAY OR SEPARATE PATHWAY

M A

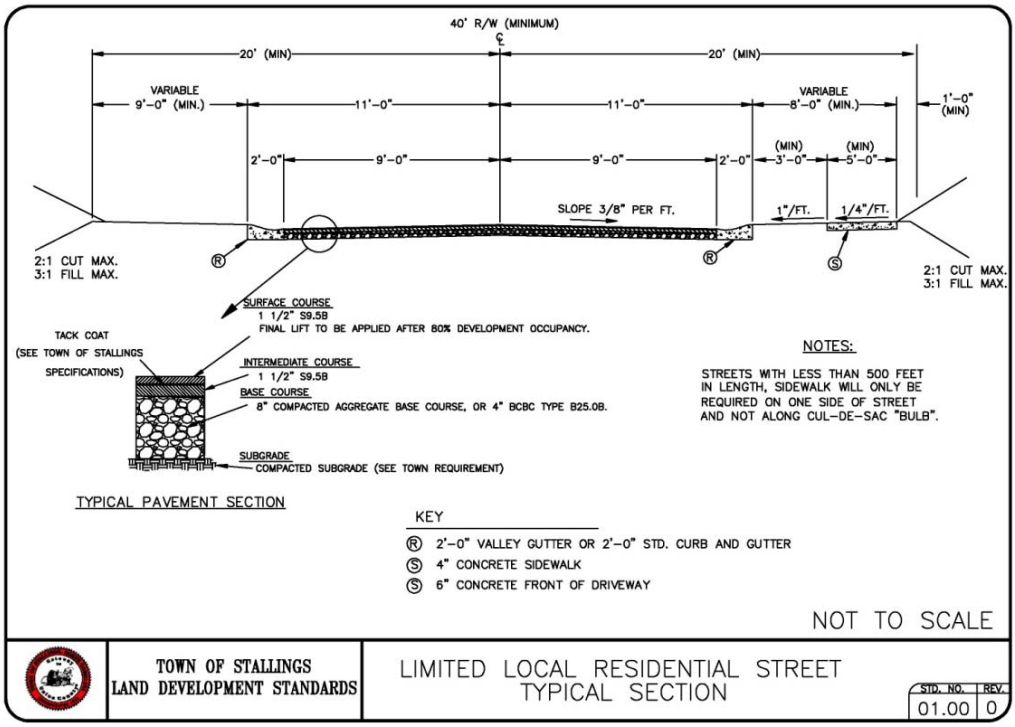


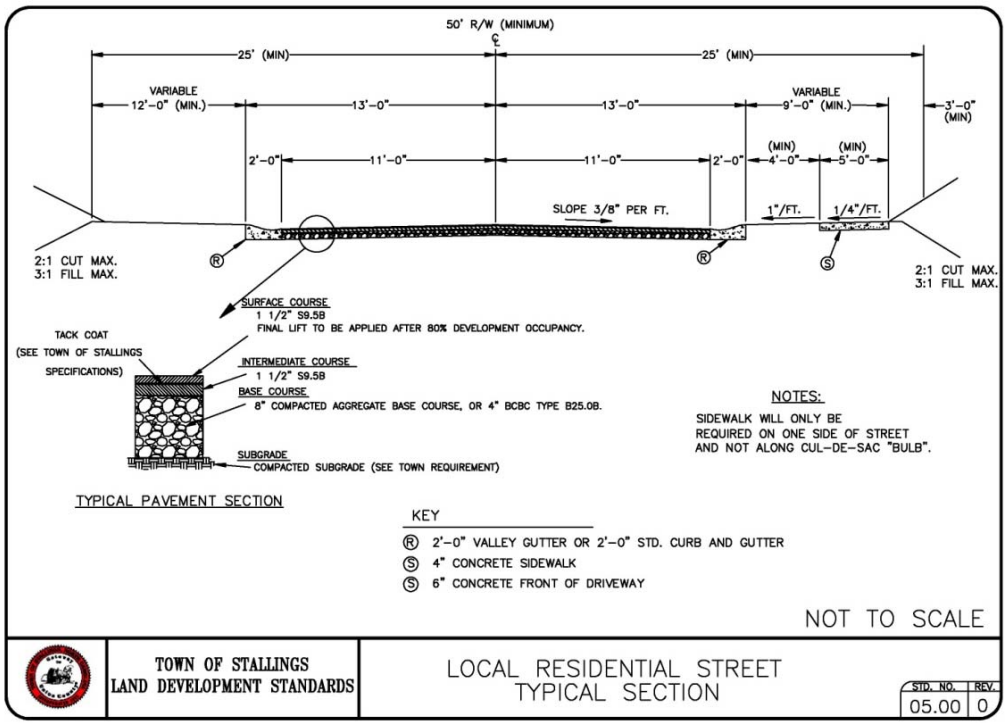
MULTI - USE PATH ADJACENT TO CURB AND GUTTER

M B



The Town of Stallings has developed land development standards for area residential roads. Currently Stallings has a minimum of five foot sidewalks adjacent to area roadways, but no standards have been adopted for bicycle facilities or multi-use paths. NCDOT Complete Streets Policy is used to develop and approve local roadway development and improvements. Below is a typical cross-section identifying standards Stallings has set for residential roadways as found in the Town of Stallings Land Development Standards.





The Town of Matthews roadway development standards are defined in Town's Subdivision Ordinance. Matthews is also using the NCDOT Complete Streets Guidelines when approving roadway improvements in the area. As the Town of Matthews finalizes its draft Unified Development Ordinance, cross-sections and standards should be included or required or refined in it.

Bicycle and Pedestrian Design Guidelines

Purpose: Illustrate typical bicycle and pedestrian facility features to include in future roadway construction and improvement projects.

The Matthews Stallings Comprehensive Transportation Plan consists of recommendations for the improvement and expansion of transportation facilities within the study area. The following design guidelines provide information for bicycle and pedestrian facilities within the study area. The bicycle and pedestrian design guidelines have been divided into three sections. These sections are:

- Bicycle and Pedestrian Facility Guidelines
- Minimum Bicycle and Pedestrian Facility Improvements
- Recommended Bicycle and Pedestrian Facility Improvements

Each section provides information that may be used in planning for new bicycle and pedestrian facilities, assessing existing facilities, or improving safety for cyclists and pedestrians both now and in the future.

Bicycle and Pedestrian Facilities

The following cross-sections and associated information represent typical dimensions, clearances, locations, advantages, and disadvantages of the bicycle and pedestrian facilities recommended within the Matthews Stallings Comprehensive Transportation Plan.

Sidewalks

Location:	Right-of-way
Dimensions:	Minimum 5' wide
Supported Uses:	Walking, Jogging
Users Served:	All groups
Advantages:	High connectivity to land uses, easy to integrate into right-of-way
Disadvantages:	No bicycle accommodation, limited space for travel
Environment:	Urban, Suburban

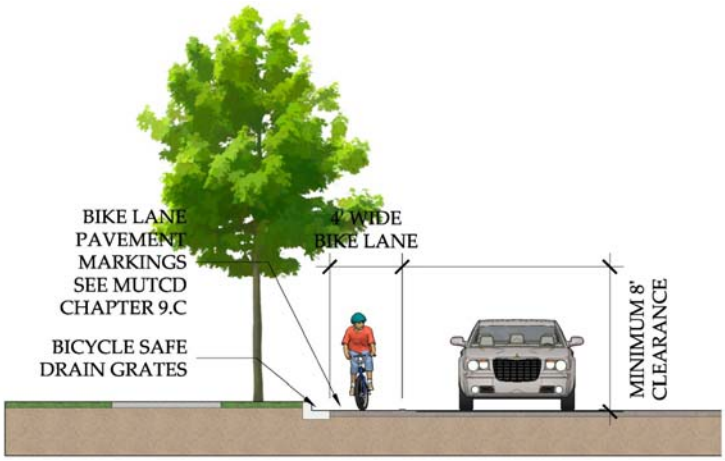
Multi-use paths

Location:	Right-of-way
Dimensions:	Minimum 10' wide
Supported Uses:	Walking, Jogging, Skating, Bicycling
Users Served:	All groups
Advantages:	High connectivity to land uses, multiple modes of transportation
Disadvantages:	Uses additional right-of-way, not ideal for highly urban areas
Environment:	Urban, Suburban

Multi-use trails

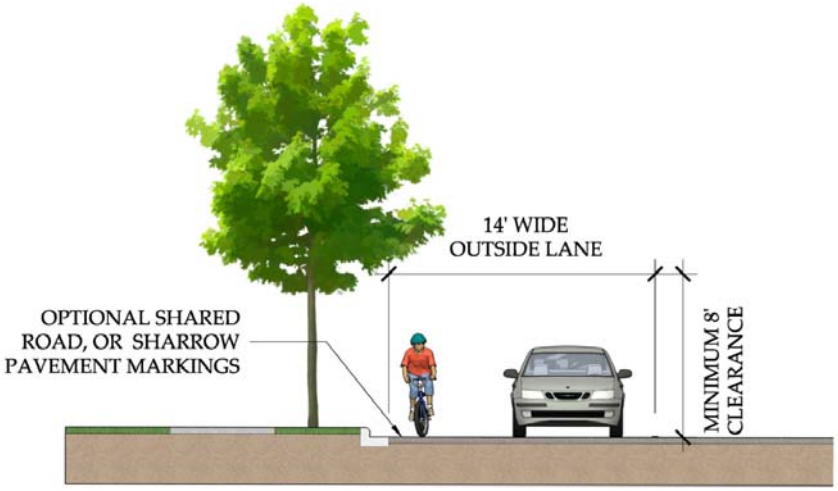
Location:	Off-road
Dimensions:	Minimum 10' wide
Supported Uses:	Walking, Jogging, Skating, Bicycling
Users Served:	All groups
Advantages:	Supports multiple modes, expands connectivity beyond road
Disadvantages:	Land acquisition can be costly, public opposition
Environment:	Urban, Suburban

Bike Lanes



Location:	Parallel to travel lane
Dimensions:	Minimum 4' wide
Supported Uses:	Bicycling
Users Served:	Moderate to experienced cyclists
Advantages:	High visibility, limits conflicts with other modes, preferred in urban areas
Disadvantages:	On grade with automobiles, not ideal for young and inexperienced users
Environment:	Urban, Suburban

Shared Roadways



Location:	In travel lane
Dimensions:	Minimum 14' wide travel lane
Supported Uses:	Bicycling
Users Served:	Moderate to experienced cyclists
Advantages:	High visibility from automobiles, second use for existing facility
Disadvantages:	On grade with automobiles, not ideal for young/inexperienced users
Environment:	Urban, Suburban, Rural

Minimum Bicycle and Pedestrian Facility Improvements

The following guidelines for the minimum bicycle and pedestrian facility improvements represent the basic, minimum facilities that must be included in all facility improvement projects. These improvements will ensure that safe, dedicated facilities for bicycle and pedestrian transportation are provided. These minimum improvements should be included within the design standards for all facility assessment, improvement, and construction projects.

Sidewalks: The vast majority of sidewalks within the Matthews Stallings Comprehensive Transportation Plan Study Area are 5' wide or greater. There may be some locations within the study areas where sidewalks are obstructed by utility poles, mailboxes, and other items. These obstructions reduce the usability of the sidewalks and, in some cases, prevent the sidewalks from providing the 4' minimum clear width necessary for an accessible route. Existing sidewalk assessments should consider sidewalk width, obstructions, and surface conditions.

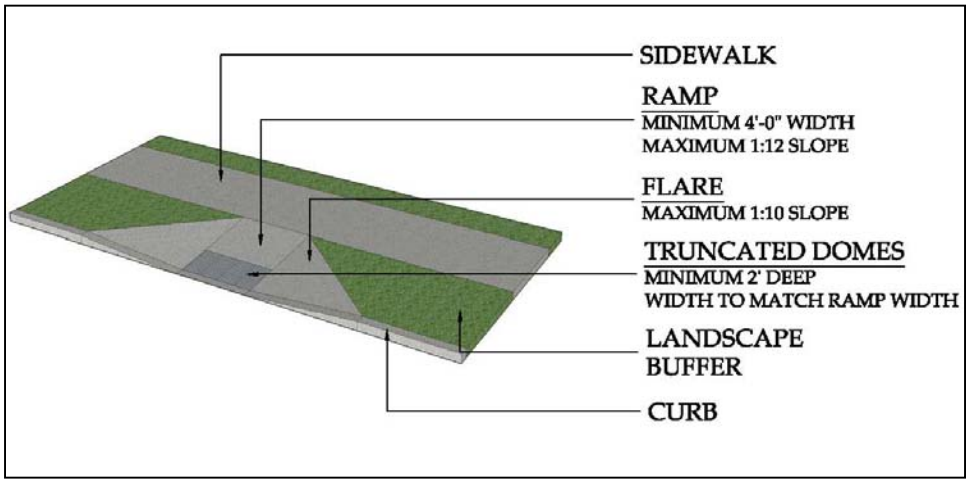
The minimum sidewalk width required by both Matthews and Stallings is 5' wide. The maximum cross-slope of a sidewalk is two percent (2%). The grade of the sidewalk must mirror the grade of the road. It is important to maintain a clear line of sight between 2' and 7' off of the ground on both sides of the sidewalk for pedestrian safety and visibility to nearby travel lanes, driveways, and parking areas.

This corridor enhancement project in Rock Hill, SC provides a more safe and enjoyable environment for pedestrians. The new 5' wide sidewalk offers an uninterrupted, designated pedestrian facility. Landscape buffers separate the sidewalk from nearby travel lanes. The landscape improvements allow for clear visibility to the travel lanes and driveways on either side of the sidewalk.

Curb Ramps: Curb ramps provide an accessible route from the grade of sidewalks to road grades in areas where curbs exist. Most curbs are 6" in height. Ramps provide a smooth transition for wheelchairs and citizens with visual impairments. It is important to locate curb ramps at all intersections and midblock crossings.

The maximum slope for curb ramps is 8.33 percent. Each curb ramp shall be a minimum 4' wide. Flared sides with a maximum slope of ten percent must be provided for each curb ramp unless the ramp is located within a vegetated buffer between the curb and the sidewalk. Detectable warnings, also called truncated domes, must be a minimum 2' deep, as wide as the ramp (not including the flared sides), and located at the base of the curb ramp. Truncated domes signify the edge of the ramp where the height of the curb tapers to zero. Diagonal curb ramps are recommended, but both perpendicular and parallel curb ramps may be used if site conditions warrant. Storm drains should be avoided when retrofitting existing sidewalks with curb ramps.

Curb Ramp Detail



Crosswalks: Crosswalks serve as an extension of sidewalks into the roadway. Delineated crosswalks provide motorists a visual boundary of where to expect pedestrians. They also assure pedestrians that crossing at the intersection or mid-block crossing is allowed. It is important to coordinate the placement of the crosswalk with the location of existing or planned curb ramps. Minimum crosswalk width required by NCDOT is 6' delineated by one 8" wide stripe on either side. This type of crosswalk is referred to as a transverse crosswalk. It is recommended that crosswalks be 10' wide and extend the length of the crossing. Higher visibility of crosswalks is important for high traffic areas and along urban roadways.

Crosswalks at signalized intersections should be marked as common practice. Further consideration should be given to placing marked crosswalks at unsignalized intersections. A 2001 study by the Federal Highway Administration entitled Designing Sidewalk and Trails for Access details a crosswalk study conducted as part of the plan.1 The study found that automobile/pedestrian accidents at unsignalized intersections with crosswalks are most affected by volume of pedestrians crossing the road, the average daily traffic of the roadway, and the number of lanes on the roadway being crossed. Marked crosswalks along roadways with four or more travel lanes and high traffic volumes actually increased the number of accidents when compared to unmarked crossings along similar roadways.

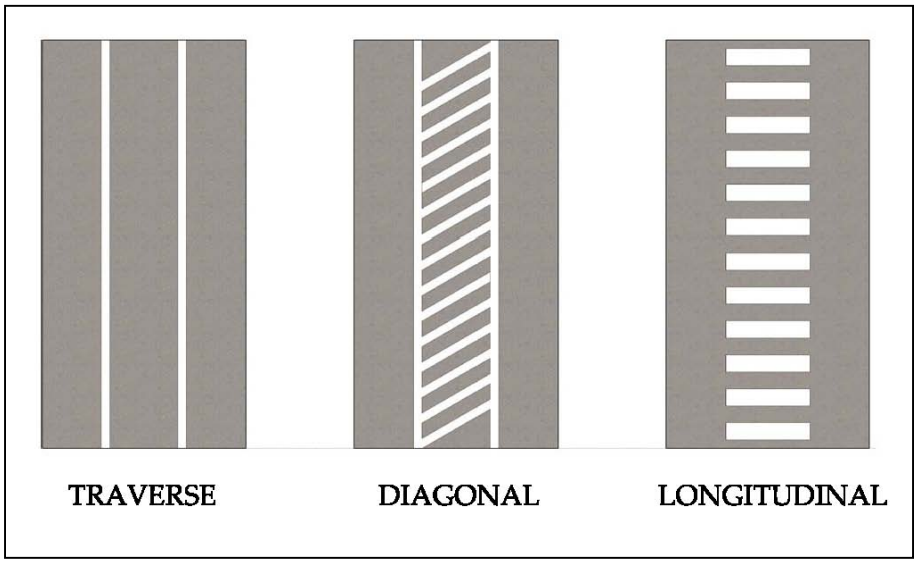
Crosswalk Photo

Crosswalks in Cambridge, Massachusetts, www.pedbikeimages.org / Dan Burden

[1] http://www.fhwa.dot.gov/environment/sidewalk2/index.htm

It is recommended that longitudinal or diagonal crosswalks be used in these areas in favor of transverse crosswalks. The Manual for Uniform Traffic Control Devises provides detailed information on the dimensions for several types of marked crosswalks. Crosswalks should be located at all controlled intersections served by sidewalks and uncontrolled intersections when the speed limit for both roads is 35mph or lower. Crosswalks at uncontrolled intersections of multi-lane roads (roads with four or more lanes) with higher traffic volumes should be evaluated for need and safety before crosswalks are provided. Curb radii at intersections should be evaluated in all roadway and intersection improvement projects. A smaller curb radii reduces the distance a pedestrian must travel across the crosswalk, thereby reducing the time the pedestrian is exposed to potential conflicts with automobiles.

Crosswalk Detail



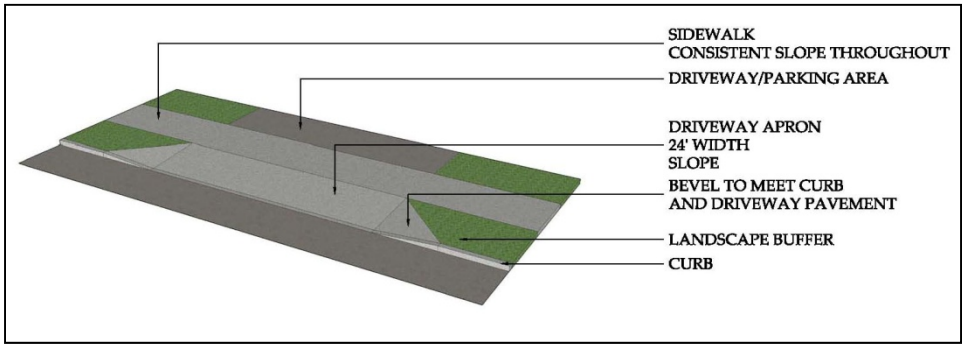
Government agencies adopt one or more crosswalk striping patterns according to their needs. While a traverse pattern works well in defining crosswalks, many agencies choose to use diagonal or longitudinal patterns for crosswalks in high traffic areas.

Recommended Bicycle and Pedestrian Facility Improvements

Recommended bicycle and pedestrian facility improvements provide additional level of safety and comfort beyond the minimal bicycle and pedestrian facility improvements. These facility improvements create more predictable bicycle and pedestrian behaviors from an driver's perspective. Though not necessarily required for bicycle and pedestrian transportation, these recommended facility improvements should be assessed and considered for all bicycle and pedestrian improvement and expansion projects.

Driveway Aprons: Driveway aprons represent a problematic area along sidewalks. The slope of most driveway aprons exceeds the maximum sidewalk cross-slope of two percent. Simply updating the detail used to construct driveway aprons for proposed improvement projects will result in a more accessible and user friendly environment. Frequency and width of driveway aprons presents another problematic issue. Each driveway apron represents the potential for conflict between cyclists or pedestrians and automobiles. Driveway aprons should be consolidated if connectivity between parking lots can be provided. A maximum width of 24' for two lane driveway aprons should be allowed. Driveways that serve heavily visited shopping centers and other major generators of traffic should be treated like an intersection.

Driveway Apron Detail



All new driveway aprons should provide a walking surface, where sidewalks are available, with a minimum two percent cross slope for a minimum width of four feet.

Pedestrian Signals: Pedestrian signals, known more commonly as walk/don't walk signs, are an important safety feature at intersections of high volume roadways. These signals perform a very simple function, yet they make an intersection more predictable for cyclists and pedestrians when using crosswalks. Pedestrian actuated buttons should be provided in areas where continual pedestrian traffic is not anticipated, but traffic speeds and volumes dictate the need for crossing signalization. Pedestrian signal buttons should be located within close proximity of the intersection and signed to clearly indicate the direction of crossing controlled by that button. Auditory warnings should be incorporated into pedestrian signals in areas of high pedestrian traffic. These warnings provide an indicator to the visually impaired during the walk interval of the pedestrian signal. Signal timing for crossing intersections should be designed to accommodate a person of below average walking speed. A pedestrian walking speed of three (3) feet per second should allow most pedestrians to safely cross the road within the allotted amount of time**.**

Pedestrian Signal Photo

Pedestrian signals should be placed in locations that are easily seen from across an intersection and nearby curb ramps. This location provides access to the pedestrian actuated button (if available) and accurate guidance to the visually impaired for signals with auditory warnings.

Landscape Buffers: Landscape buffers provide separation between off-road bicycle and pedestrian facilities and traffic on the roadway. Grass, street trees, small shrubs, groundcover plantings, roadway and pedestrian lighting, street furnishings, and signage are often located within these areas. The minimum width for landscape buffers if street trees are planned is 5' wide, though 8' is recommended. Landscape buffers under 5' in width are not as effective in providing a comfortable environment for cyclists and pedestrians and create long term maintenance issues

Landscape Buffer Photo

This landscape buffer along Harrelson Boulevard provides separation for cyclists and pedestrians from the travel lane. It is also used as a temporary detention area for storm water runoff during rain events.

Medians and Pedestrian Refuge Islands: Most intersections, crosswalks, and pedestrian signals should limit the need for pedestrian refuge islands located within the roadway. Though in instances of long crosswalks, those over 60' in length, or in urban conditions where traffic calming elements are needed, a pedestrian refuge island is recommended. These islands provide pedestrians a safe place to wait if they are unable to cross the entire intersection during the crossing interval. Refuge islands may also be needed at unsignalized crosswalks along roads with lower speed limits and a low to medium volume of cars. The islands allow pedestrians to cross traffic lanes coming from one direction, stop in the refuge island, then negotiate traffic coming from the other direction. Pedestrian refuge islands should be a minimum of 6' wide, though 10' wide islands provide a great sense of safety.

Median and Pedestrian Refuge Island Photo

Pedestrian refuge islands allow pedestrians to manage traffic from one direction at a time.

Mid-Block Crossings: Long block lengths discourage pedestrians from walking to the nearest signalized intersection to cross a roadway. Instead, many pedestrians simply cross the roadway in their current location despite the volume and speed of traffic. It is not necessary to provide mid-block crossings in the middle of every block within the Matthews Stallings Comprehensive Transportation Plan Study Area. Mid-block crossings should be located in areas where a high number of pedestrians cross the roadway and there are no signalized intersections with crosswalks nearby. Mid-block crossings should be used on a limited basis and developed near transit stops, hotels, shopping centers, public parks, greenways, and other pedestrian traffic generators. It is very important that appropriate sight distances are available where mid-block crossings are developed and that crosswalk striping is used to distinguish the pedestrian zone on the roadway. Some areas of the United States are providing pedestrian actuated signals for mid-block crossings designed to flash, turn red, and stop traffic only when a pedestrian activates the signal to cross the road.

In 2008, NCDOT developed the Standard Practice for Crosswalks-Mid-Block (Unsignalized) Signing[2]. The study provides useful criteria to follow when determining if a mid-block crossing is warranted. The criteria includes minimum distances between mid-block crossings and intersections, maximum speed limits for the road being crossed, maximum allowable ADT volumes, and volume of pedestrian crossings in a typical day. The study also provides recommendations for the implementation of mid-block crossings.

Mid – Block Crossing Photo

Mid-block crossings with pedestrian accuated signals should be considered when locating these facilities along well-traveled roadways.

[2] http://www.ncdot.org/doh/preconstruct/traffic/teppl/Topics/C-36/C-36_pr.pdf

Bridges: Given the number of high speed, high volume regional roadways moving through the Matthews Stallings Comprehensive Transportation Plan Study Area, bridges are essential to providing adequate connectivity. It is important that bridges provide dedicated facilities for bicycles and pedestrians due to the limited number of crossings and the distance between those crossings over any given roadway. Providing a 4' wide paved, on-grade shoulder along bridges should serve as an absolute minimum, though this solution provides little to no protection for cyclists and pedestrians. It is recommended that a 6' wide raised walkway be provided on bridges with low to medium traffic volumes and speeds and where bicycle and pedestrian traffic is light. 10' to 12' wide raised walkways should be provided on bridges where bicycle and pedestrian travel is expected to be consistent and/or at high volumes.

Bridge Photo

Though most pedestrians prefer separation between sidewalks and travel lanes, bridges often create obstacles for pedestrian travel because of a lack of dedicated facilities. Sidewalks located directly adjacent to travel lanes provide a dedicated facility for pedestrian travel along roadways with lower traffic volumes and speeds.

Bridges that provide crucial connections across roadways with limited crossings/or lie along major bicycle and pedestrian corridors, like the Carolina Thread Trail, should provide a dedicated bicycle and pedestrian lane with barrier separation from automobile traffic**.**

Bridge Photo

Bridges should provide dedicated, multipurpose paths separated from travel lanes with barriers along major bicycle and pedestrian connectivity corridors, like the East Coast Greenway, and heavily traveled roadways.

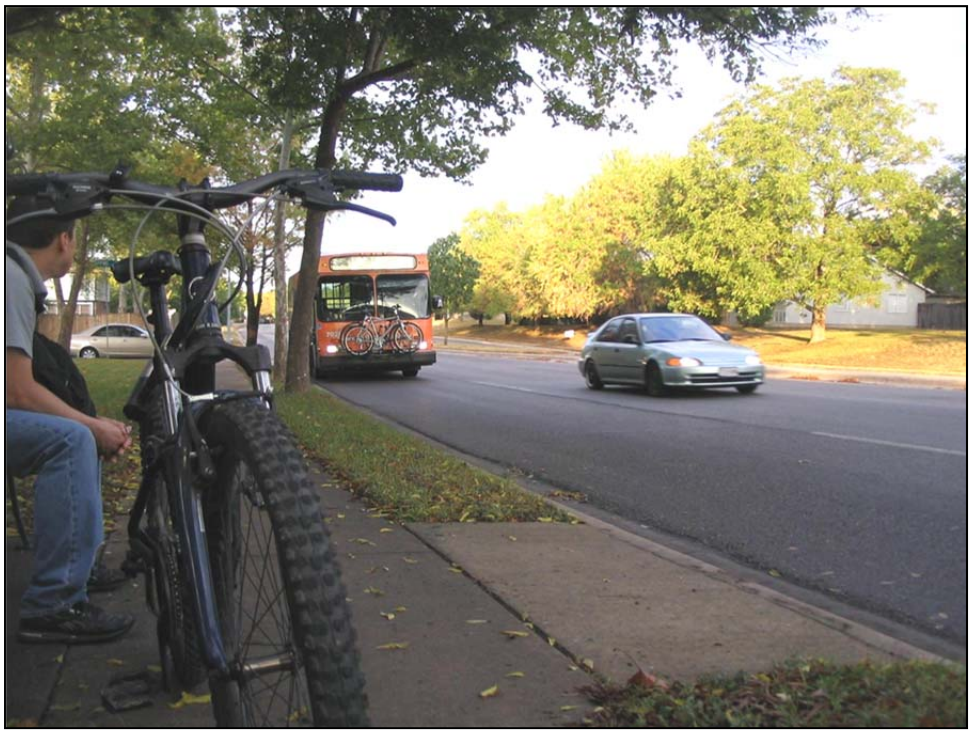
Underpasses: Underpasses are uncommon in the Matthews Stallings Comprehensive Transportation Plan Study Area, though several can be found at major roadway interchanges and may be incorporated in future roadway projects. It is important to provide safety for cyclists and pedestrians through underpasses by providing separation from automobile traffic and ensuring high visibility for personal safety due to the enclosed nature of the structures. Bicycle and pedestrian facilities should be located between the support columns of the bridge and the travel lanes. This location provides high visibility to and from the travel lanes. In some cases, the structure of the bridge requires that bicycle and pedestrian facilities be located behind the support columns. Widened sidewalks or multi-purpose paths and increased lighting within the underpass will help provide a safer environment in these instances.

Underpass Details

Cyclists and pedestrians have a clear view on both side of the multipurpose path while passing through this underpass. Separation from the travel lanes is also provided.

Transit Stops: Transit stops should be located near intersections with crosswalks. Each transit stop should provide route and stop signage, a transit schedule, accessibility to and from nearby bike lanes and sidewalks, and a 5'x 8' paved wheelchair clearance area for wheelchair on and off loading. More heavily used transit stops might provide shelters, lighting, landscape improvements, and trash receptacles.

Transit Stop Details



Transit stops in Austin, Texas are exceptionally elaborate, but do provide an expanded concrete loading area for wheelchairs and bicycles, www.pedbikeimages.org / Greg Griffin

Access to Adjacent Property: When incorporating bicycle and pedestrian facility improvements along roadways, access to and from adjacent properties should be assessed. Though not required, it is common practice to ensure connectivity to adjacent parcels from existing and improved bicycle and pedestrian facilities is provided. Improvements to connections between adjacent parcels and bicycle and pedestrian facilities may be warranted to increase safety and reduce potential conflicts with automobiles.

Access to Adjacent Property Details

Connections from sidewalks to the entrances of adjacent businesses were formalized during a corridor enhancement project in Rock Hill, SC.

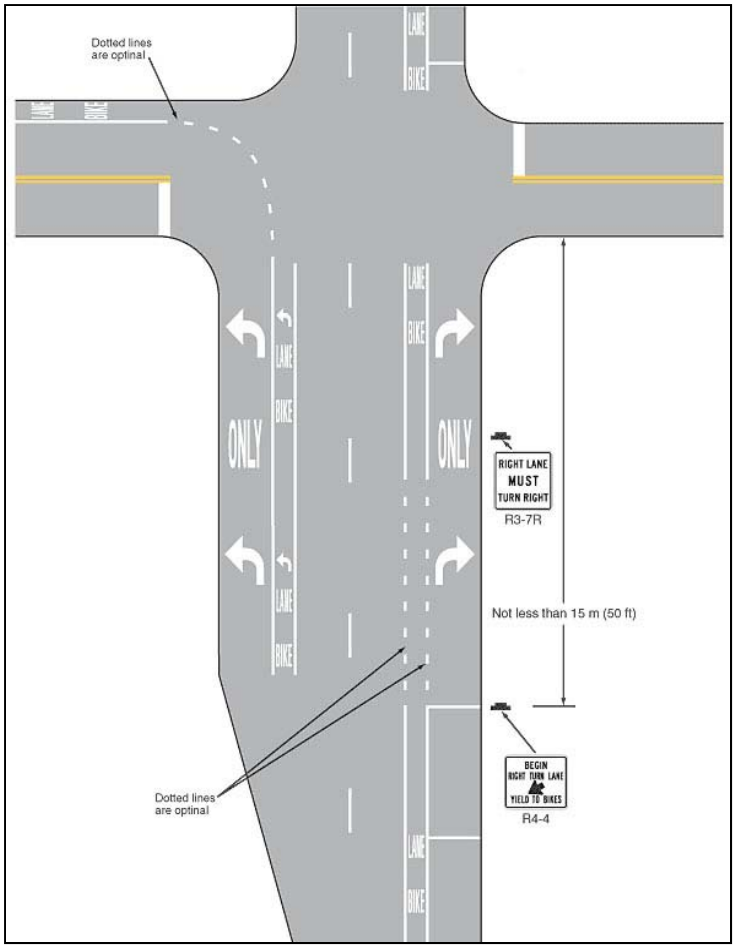
Street furniture (benches, trash receptacles, and drinking fountains): Though not typically thought of in transportation planning, certain sites may warrant the inclusion of street furniture as part of a bicycle and pedestrian facility improvement project. Gathering spaces and areas along the roadway near public facilities may require the addition of benches, trash receptacles, drinking fountains, public emergency telephones, pedestrian lighting, bike racks, bike lockers, and other furnishings to improve the function of the site, help ensure safety and cleanliness, and increase the curb appeal of an area.

Street Furniture

Street furnishings provide desired amenities along sidewalks through urban areas. Benches, trash receptacles, landscape improvements, and appropriate scaled lighting provide a comfortable environment.

Signage: Signage requirements along roadways with multi-modal facilities are numerous. Though other safety measures have proven to be more effective, appropriate signage is required for every roadway construction and improvement project. It is recommended that the *Manual on Uniform Traffic Control Devices (MUTCD) Handbook* guide all roadway signage decisions. The version adopted by NCDOT at the time of project design/construction should be used[3].

Signage Details



The Manual for Uniform Traffic Control Devices (MUTCD) provides specific, detailed information for the signs and markings associated with transportation facilities, including bike lanes.

[3] U.S. Department of Transportation, Federal Highway Administration, Manual on Uniform Traffic Control Devices, 2003 Edition

Design Guidance and Resources for Future Projects

- Federal Highway Administration, Manual on Uniform Traffic Control Devices (http://mutcd.fhwa.dot.gov/).
- Charlotte, North Carolina Urban Street Design Guidelines (http://www.charmeck.org/city/charlotte/Transportation/PlansProjects/Pages/Urban%20Street%20Design%20Guidelines.aspx).
- Federal Highway Administration, Designing Sidewalks and Trails for Access (http://www.fhwa.dot.gov/environment/sidewalk2/).
- AASHTO Guide for the Development for the Planning, Design and Operation of Bicycle Facilities (http://design.transportation.org/Documents/DraftBikeGuideFeb2010.pdf).

North Carolina Department of Transportation Complete Streets Policy (http://www.nccompletestreets.org/

Funding Opportunities

With the projects and prioritization in place, the next step is gathering the funding to make the planning effort a reality. It is important to identify the multitude of resources available to the Towns to provide financial support to improve transportation within the area. The following is a description of potential resources for funding roadway and multi-modal projects.

Local Funds
Local funds can be used to improve the transportation network in Stallings and Matthews. Often times the funds are partnered with other funding types to complete necessary transportation improvements.

Transportation Bonds
Transportation bonds have been used across the state for approval on roadway and multi-modal projects in the past. Local voters can be given the opportunity to authorize funds to be used on select transportation projects during a general election period.

Mecklenburg-Union Metropolitan Planning Organization (MUMPO)
Matthews and Stallings is a member of MUMPO, one of 17 MPOs in the state. MUMPO aids planning efforts in their jurisdictional area to provide assistance and guidance in coordinating efforts with NCDOT.

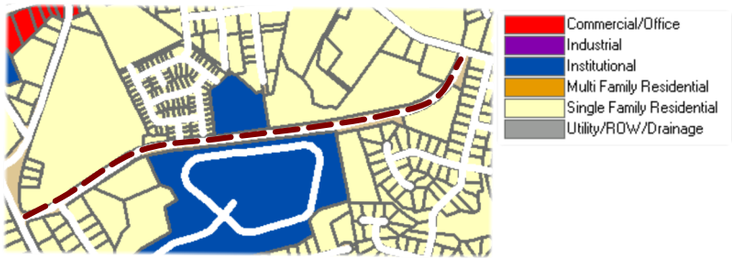
Transportation Improvement Program (TIP)
The TIP is a work program developed by NCDOT that coordinates transportation projects across the state. The TIP offers funding to local communities through a funding pool of various federal and state funding sources.

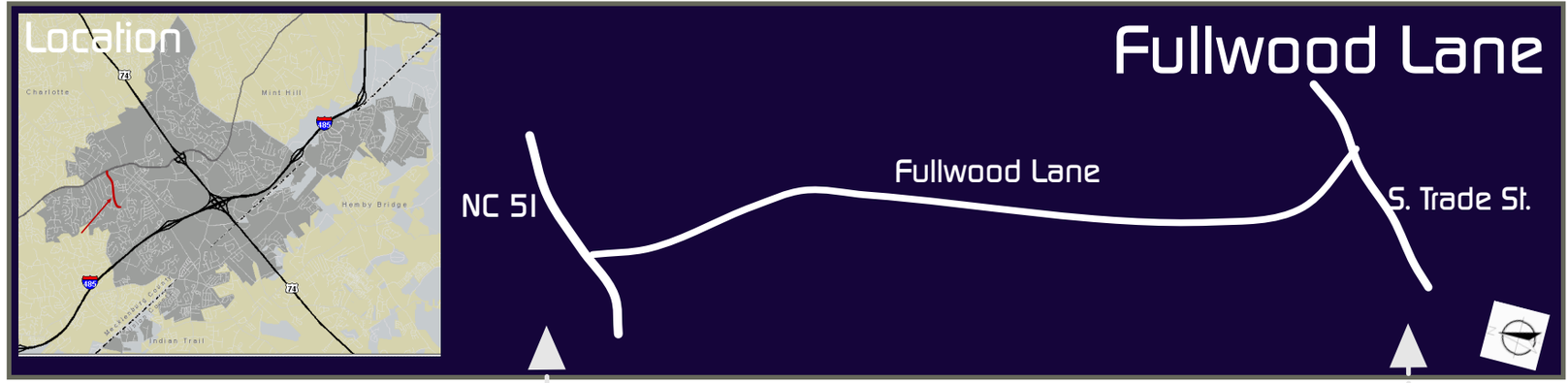
NCDOT Division Funds
Mecklenburg and Union Counties are located in NCDOT Division 10. NCDOT has dedicated 14 offices throughout the state to serve local communities on special transportation needs. Each division has discretionary funds that can be used for particular projects within their jurisdictional area.

Developer Fees
Transportation planning efforts can identify projects, regulations, policies and procedures that can be developed to necessitate that future developers offer contributions in project completion when developing a retail property or subdivision. This tactic requires a collaborative effort with all planning officials and local developers to establish needs and final outcomes.

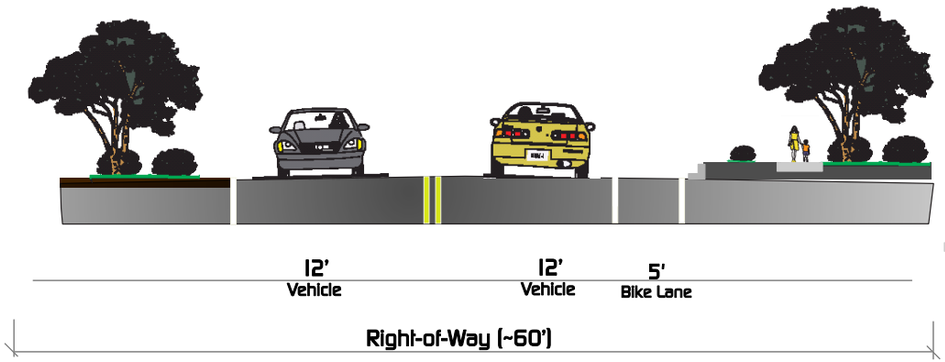
Appendix A – Survey Results

Land Use



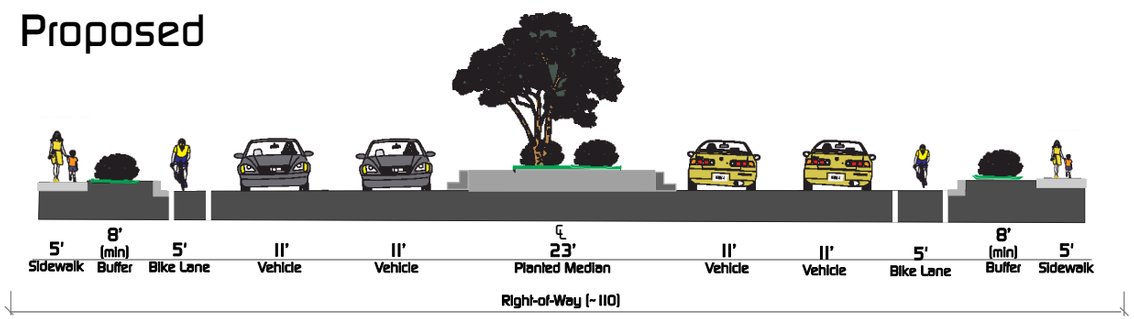


Existing Conditions



Lane configuration varies

Proposed



*4 foot curb and gutter added to total ROW amounts

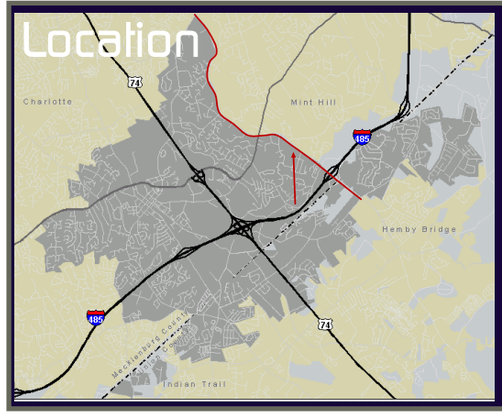
Existing Conditions

Lanes	2 Lanes
Speed Limit	45 mph
ROW	110'
Sidewalks	No
Lane Width	12'
Accidents	91
Bike Lanes	No
Current Volume	15,000
Future Volume	17,300

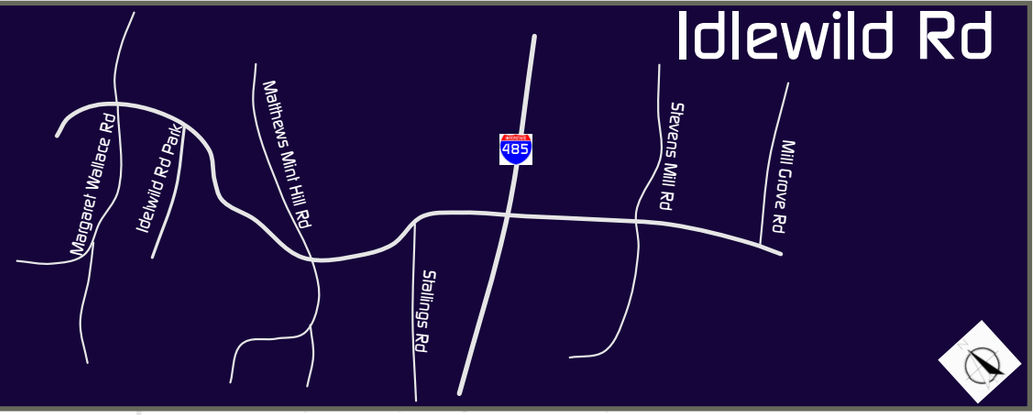
Land Use

- Commercial/Office
- Industrial
- Institutional
- Multi Family Residential
- Single Family Residential
- Utility/ROW/Drainage

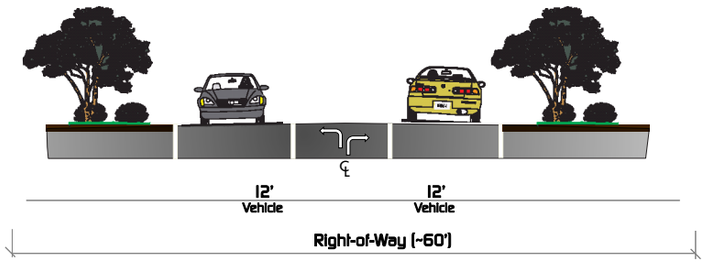
Location



Idlewild Rd

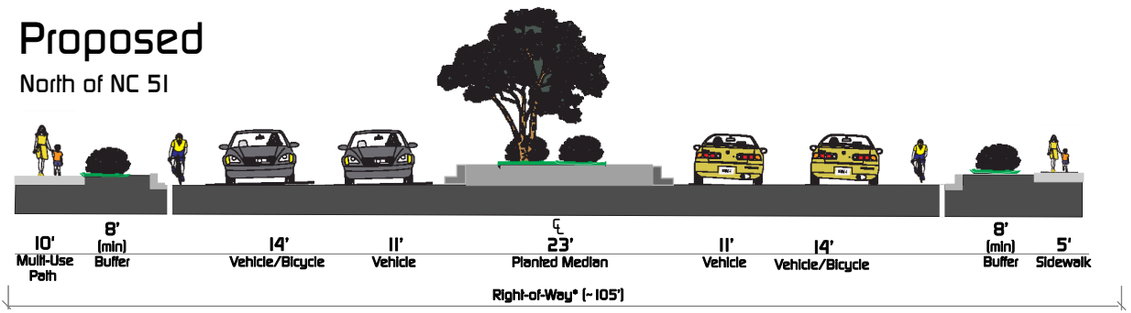


Existing Conditions



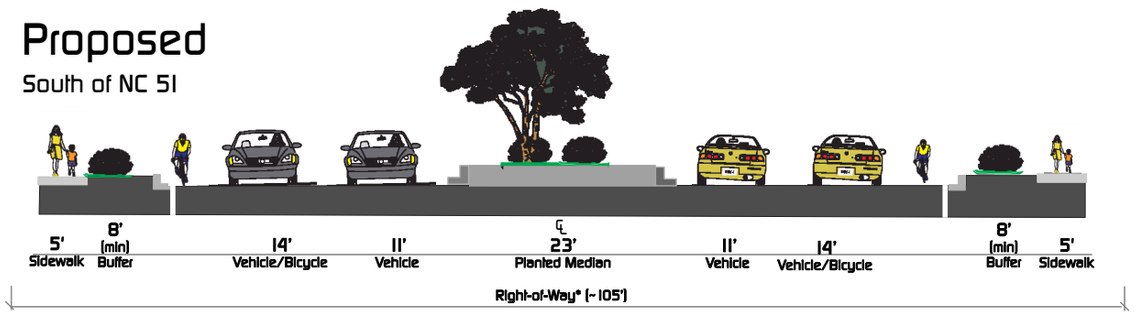
Proposed

North of NC 51



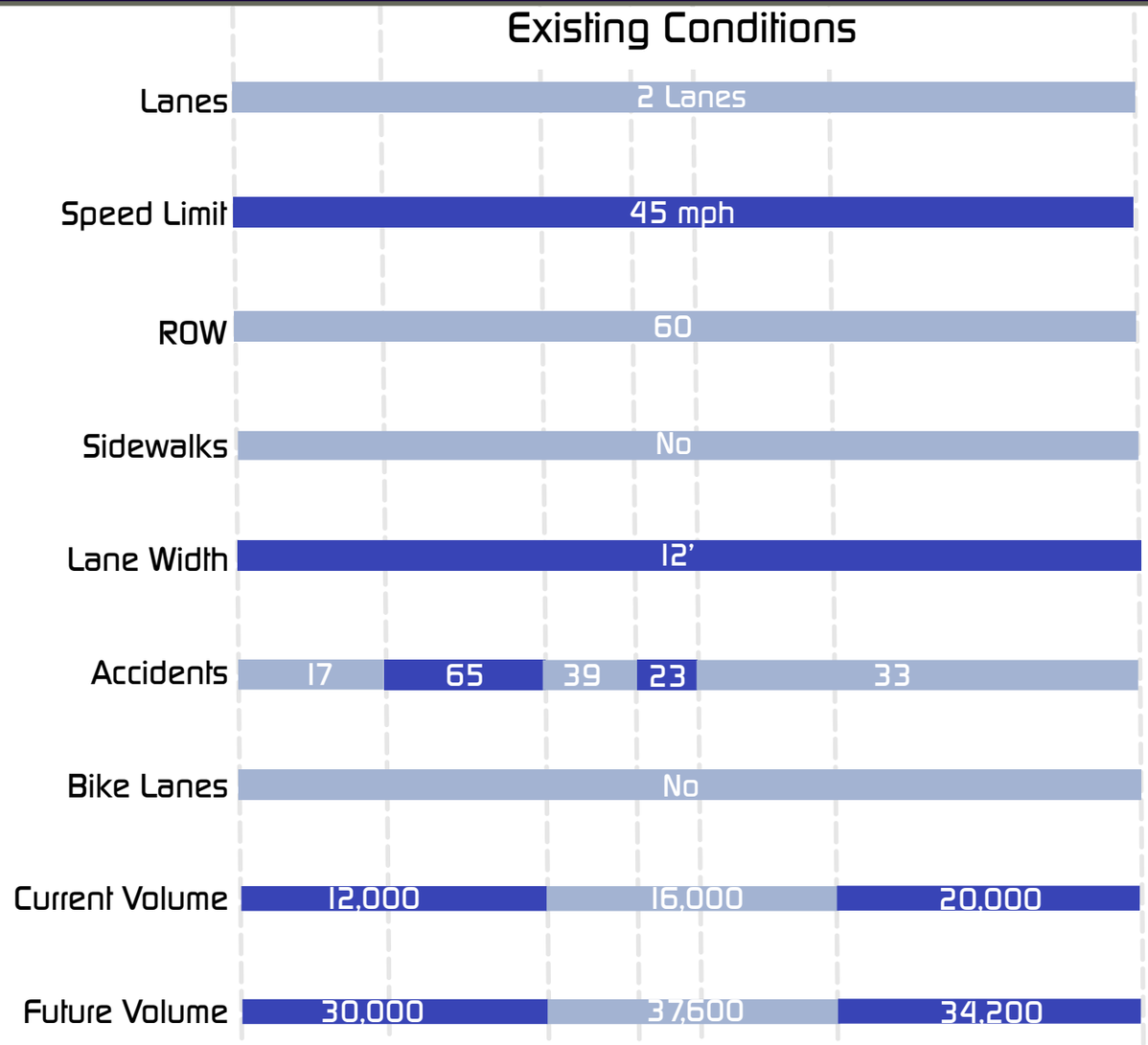
Proposed

South of NC 51



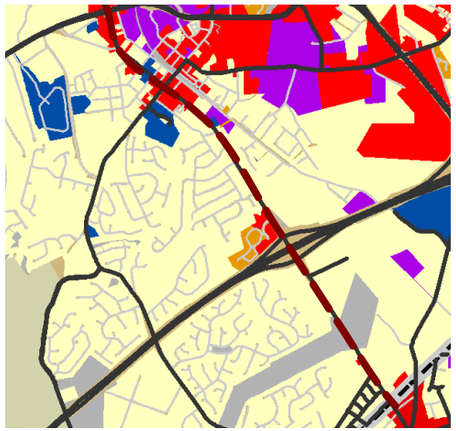
*4 foot curb and gutter added to total ROW amounts

Existing Conditions

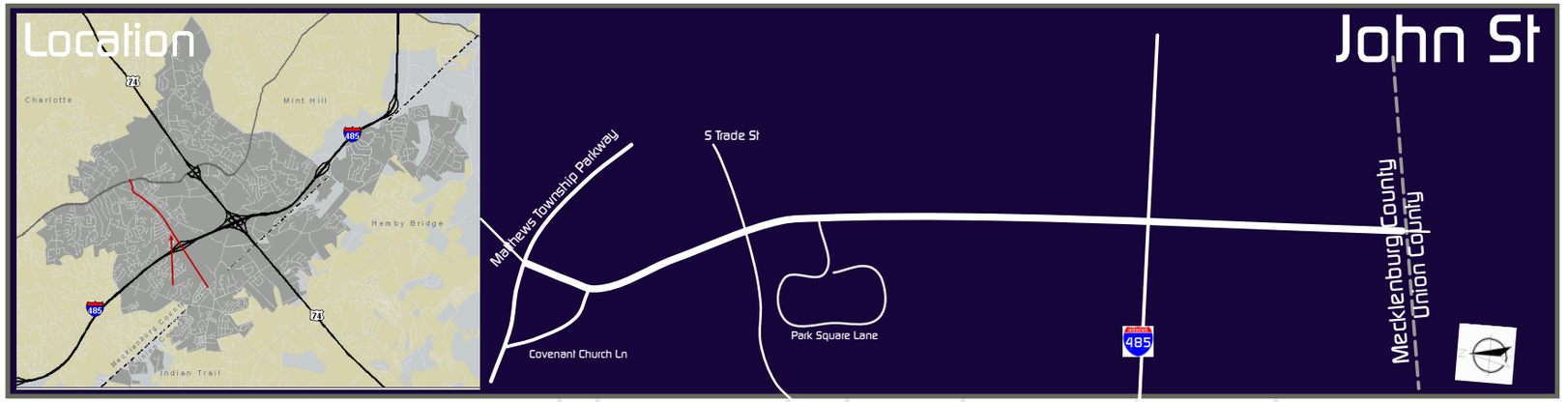


John St

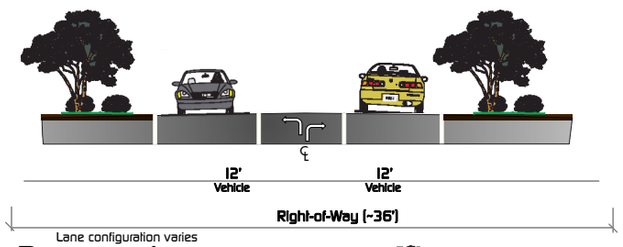
Land Use



Location



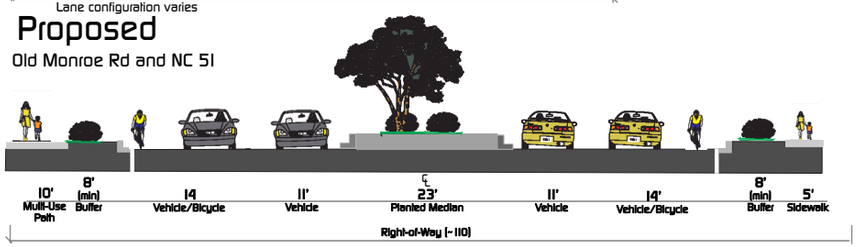
Existing Conditions



Lane configuration varies

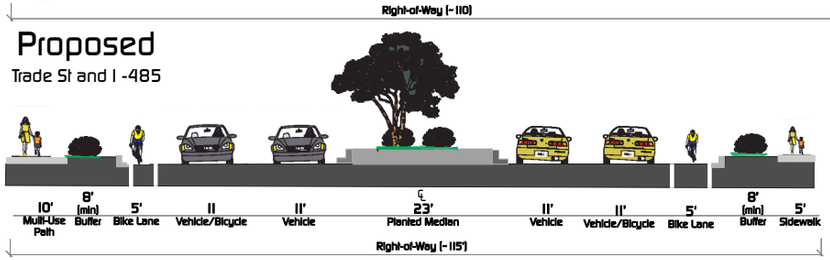
Proposed

Old Monroe Rd and NC 51



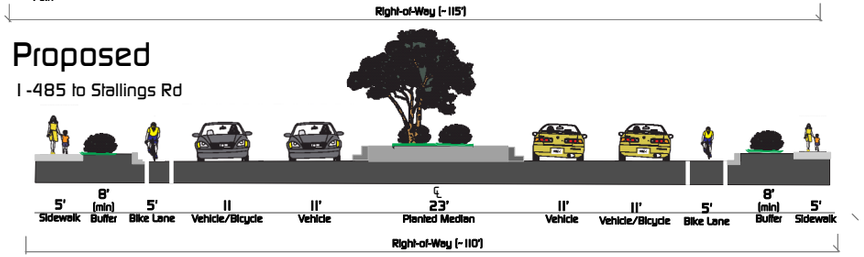
Proposed

Trade St and I -485



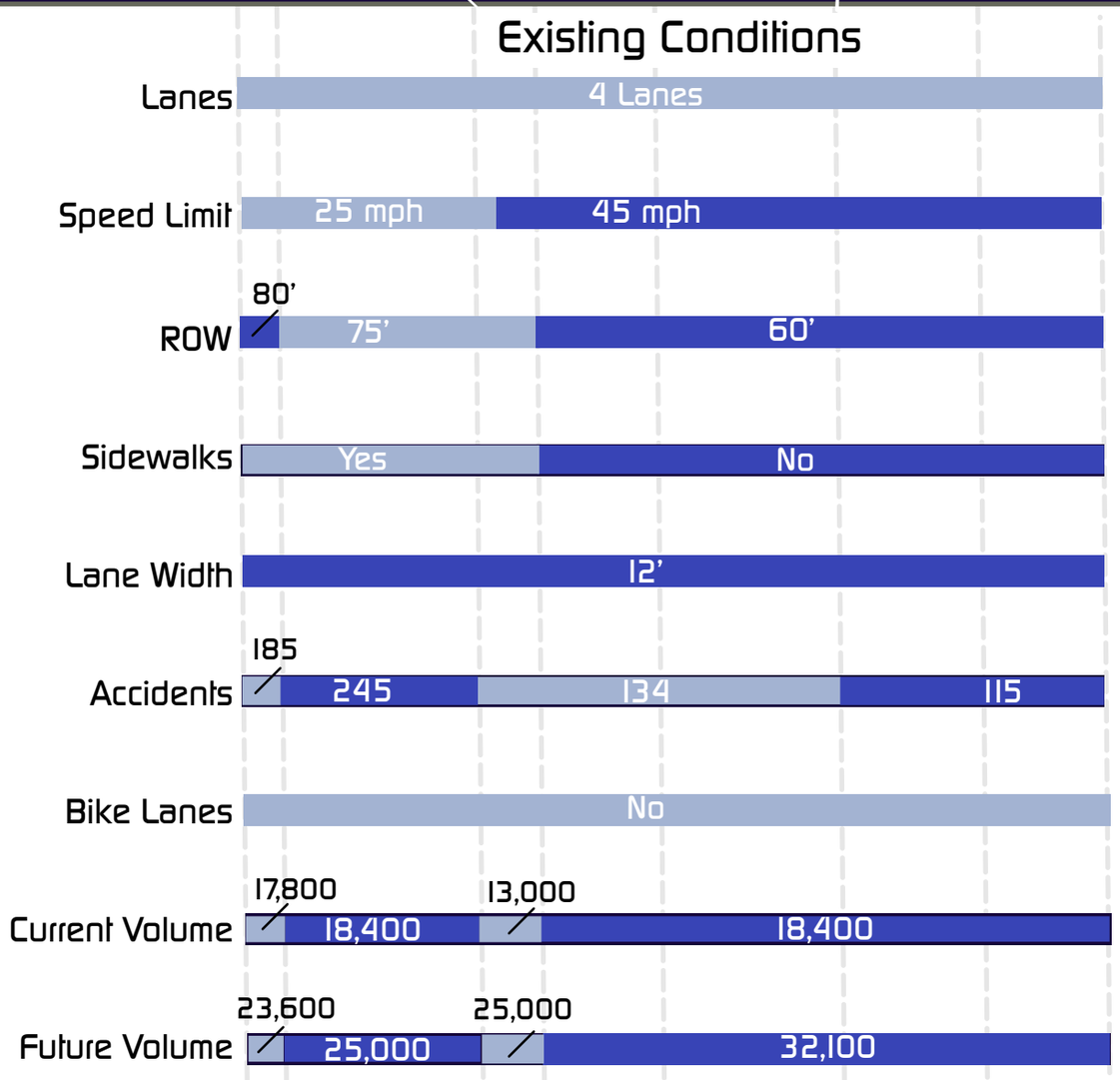
Proposed

I -485 to Stallings Rd

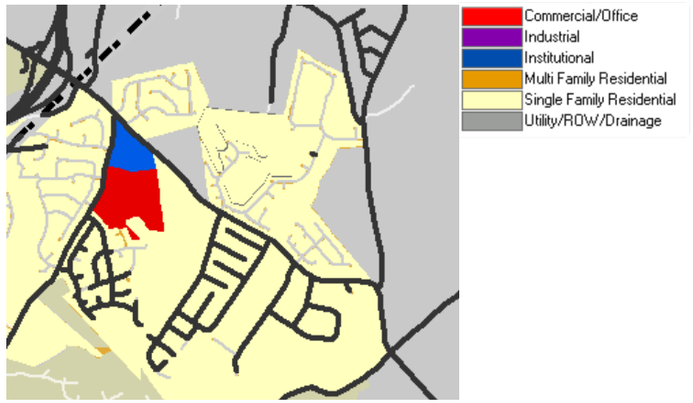


*4 foot curb and gutter added to total ROW amounts

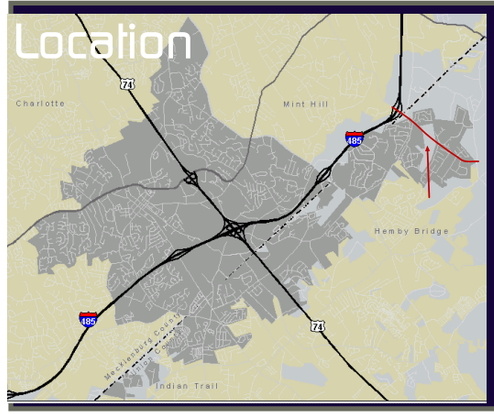
Existing Conditions

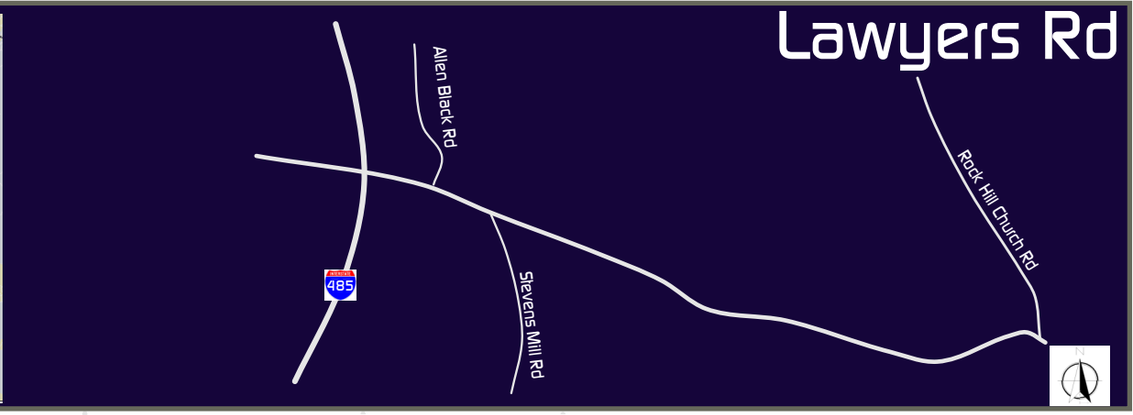


Land Use

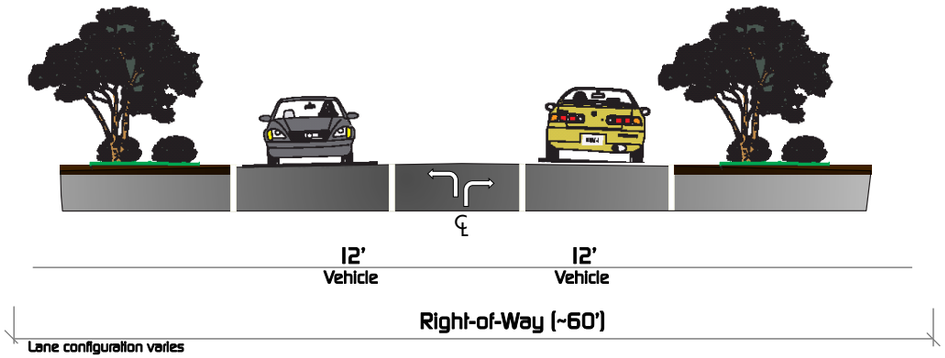


Location

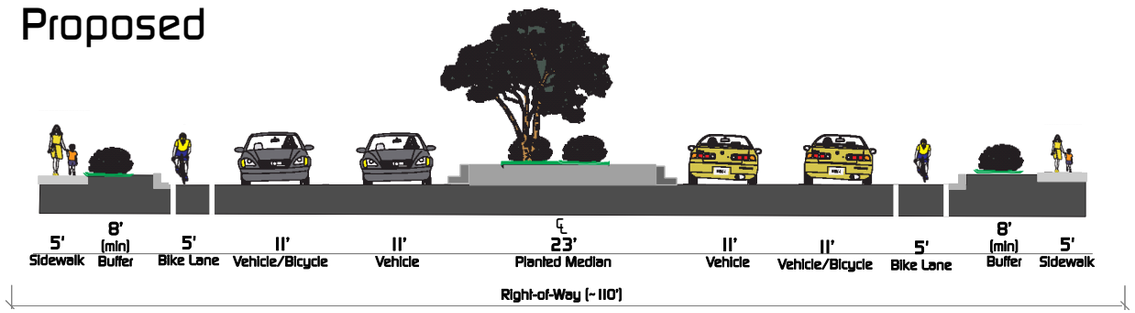




Existing Conditions

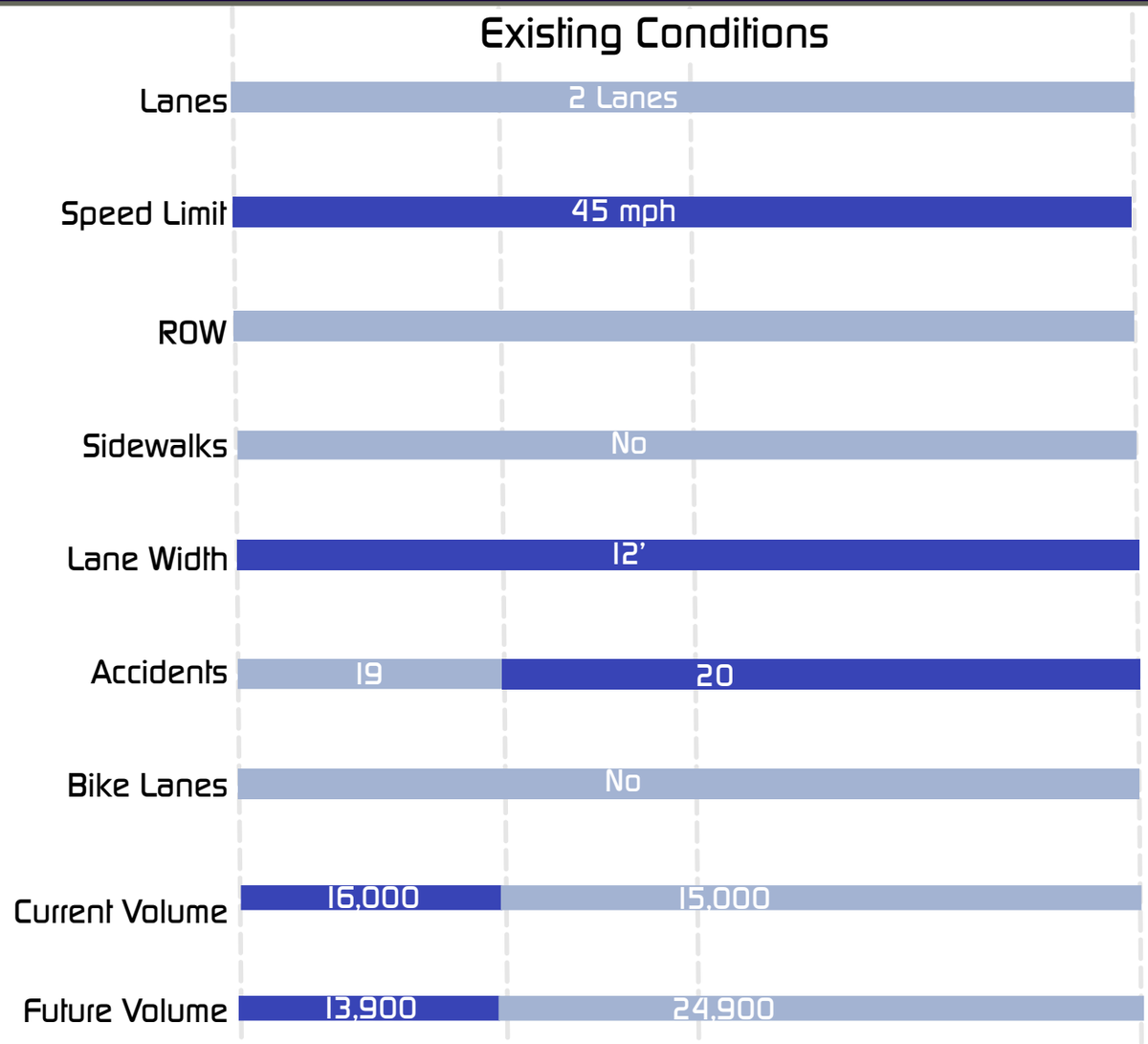


Proposed



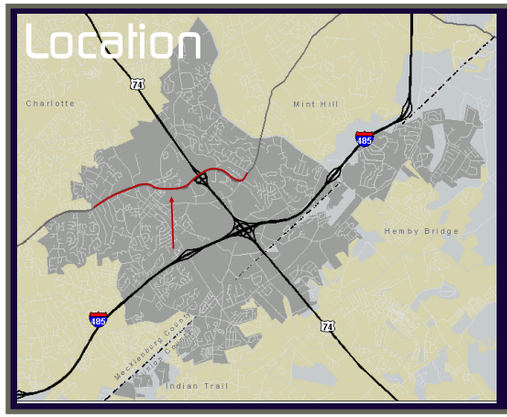
*4 foot curb and gutter added to total ROW amounts

Existing Conditions

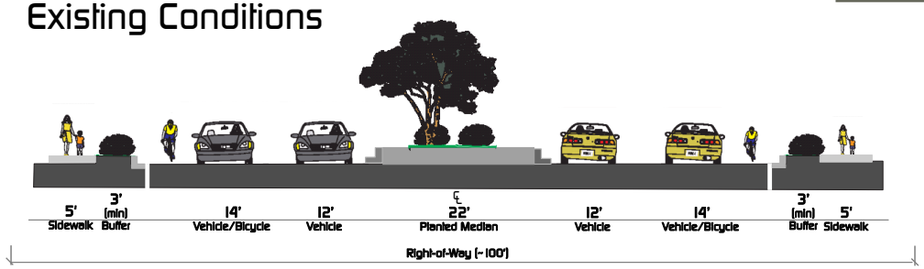


Land Use

- Commercial/Office
- Industrial
- Institutional
- Multi Family Residential
- Single Family Residential
- Utility/ROW/Drainage

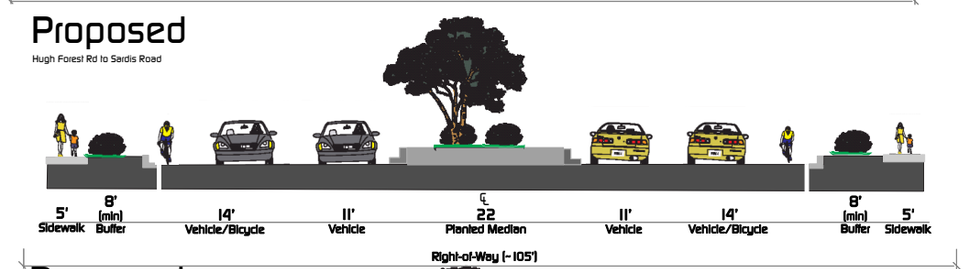


Existing Conditions



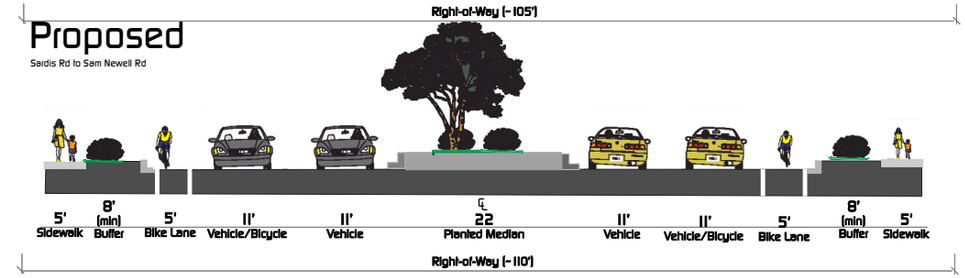
Proposed

Hugh Forest Rd to Sardis Road



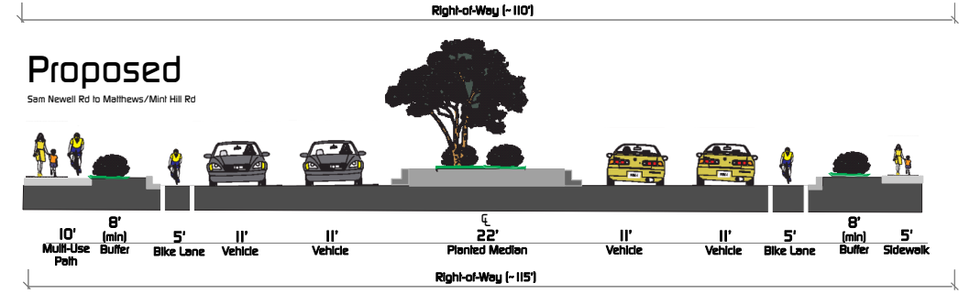
Proposed

Sardis Rd to Sam Newell Rd



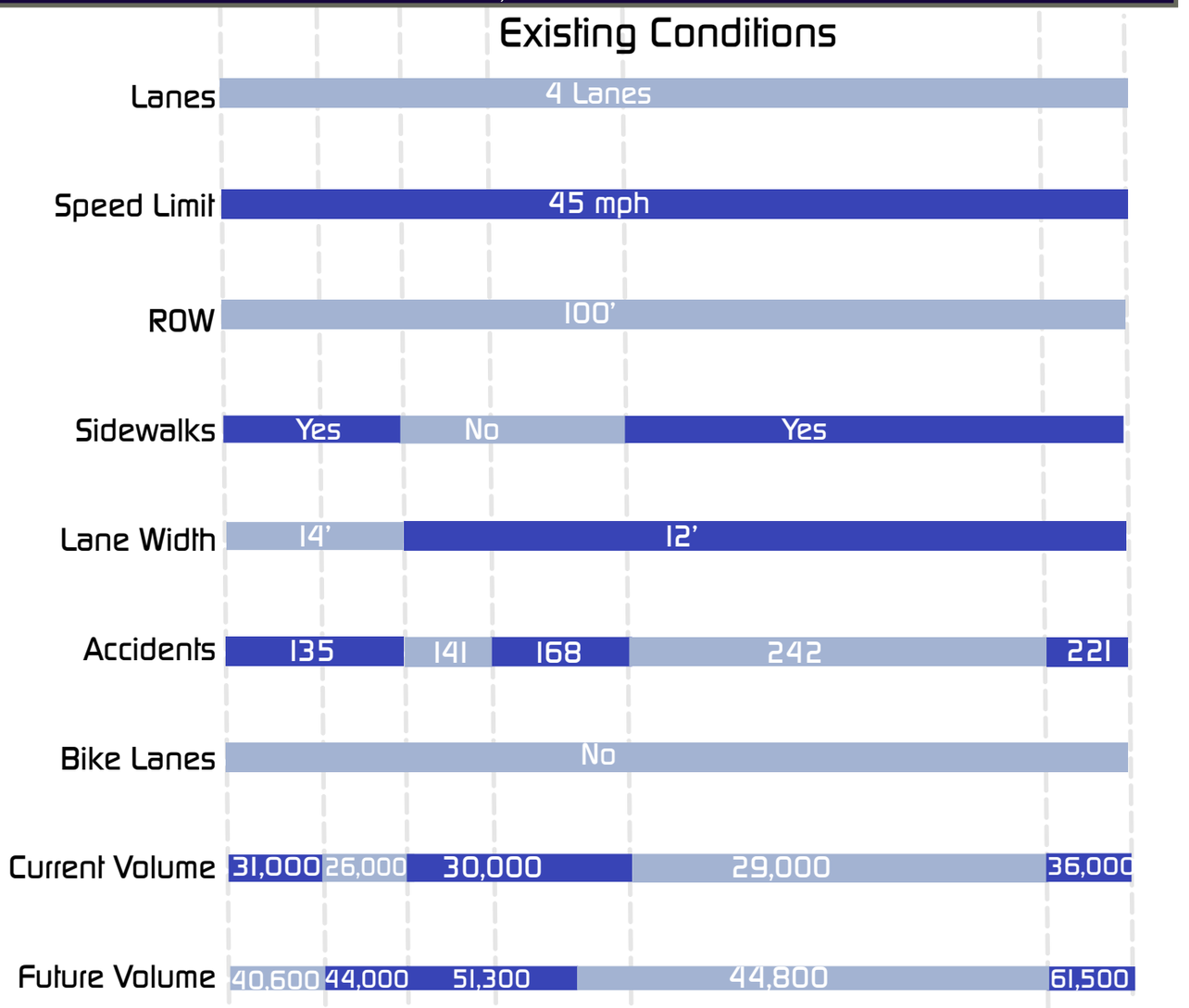
Proposed

Sam Newell Rd to Matthews/Mint Hill Rd



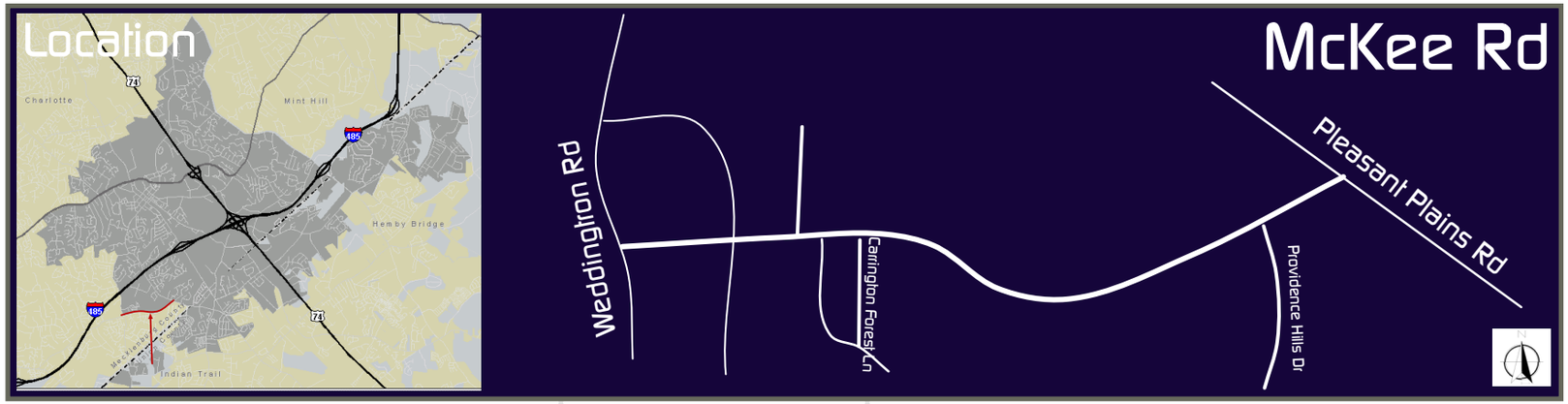
*4 foot curb and gutter added to total ROW amounts

Existing Conditions

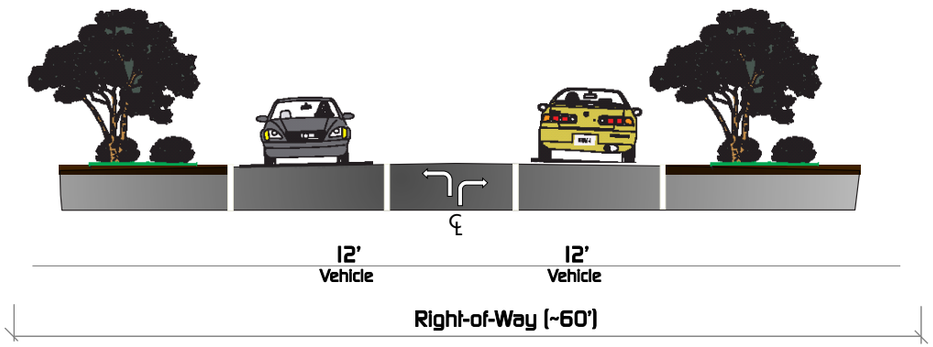


Land Use

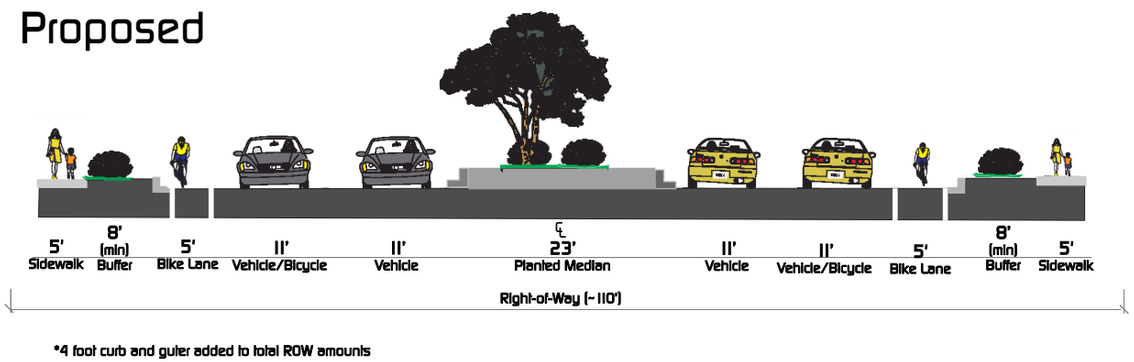
- Commercial/Office
- Industrial
- Institutional
- Multi Family Residential
- Single Family Residential
- Utility/ROW/Drainage



Existing Conditions

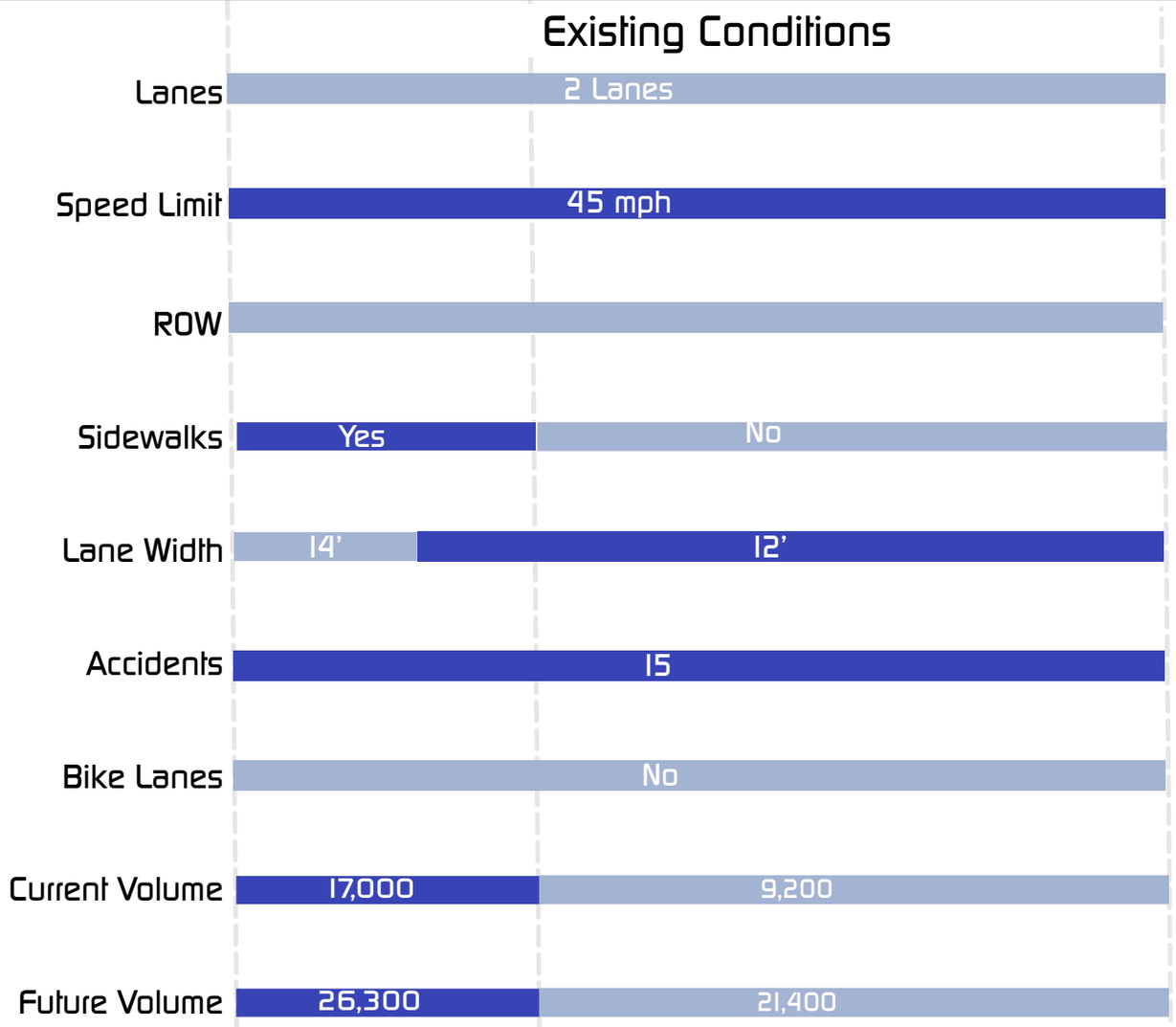


Proposed



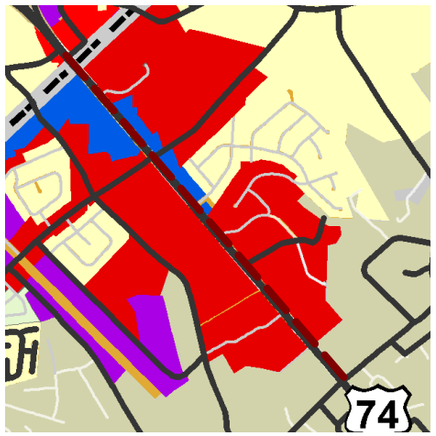
*4 foot curb and gutter added to total ROW amounts

Existing Conditions



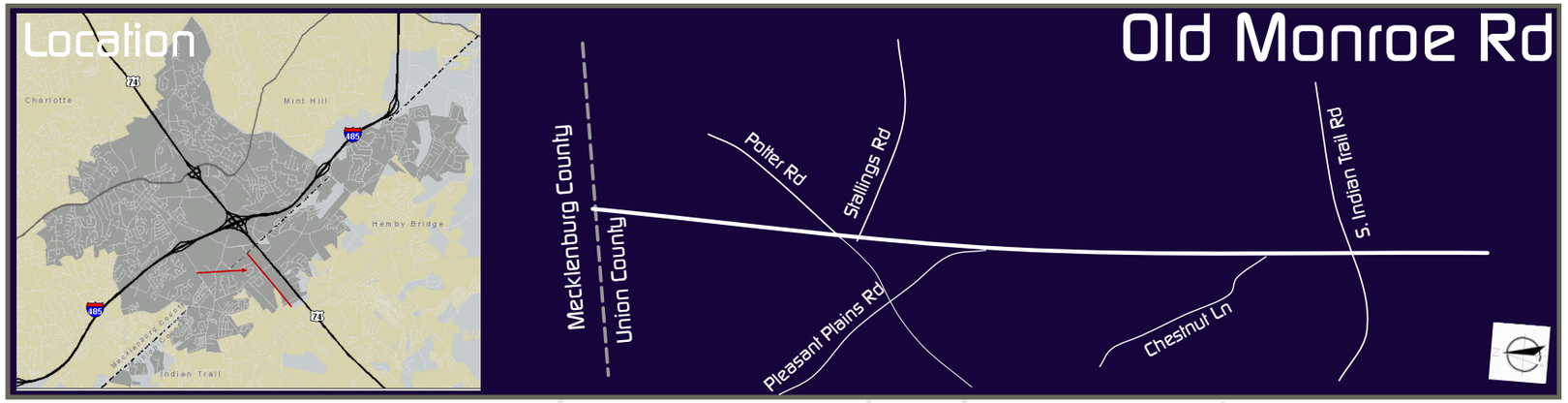
Old Monroe Rd

Land Use

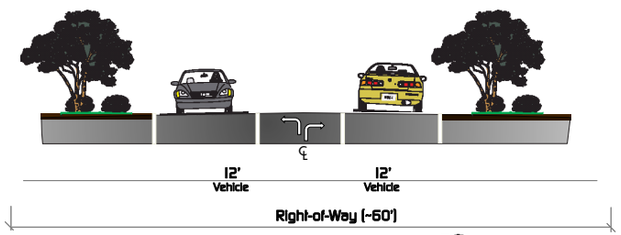


- Commercial/Office
- Industrial
- Institutional
- Multi Family Residential
- Single Family Residential
- Utility/ROW/Drainage

Location

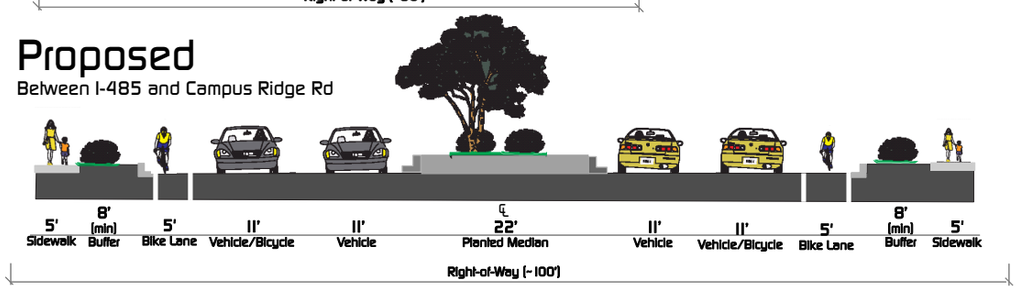


Existing Conditions



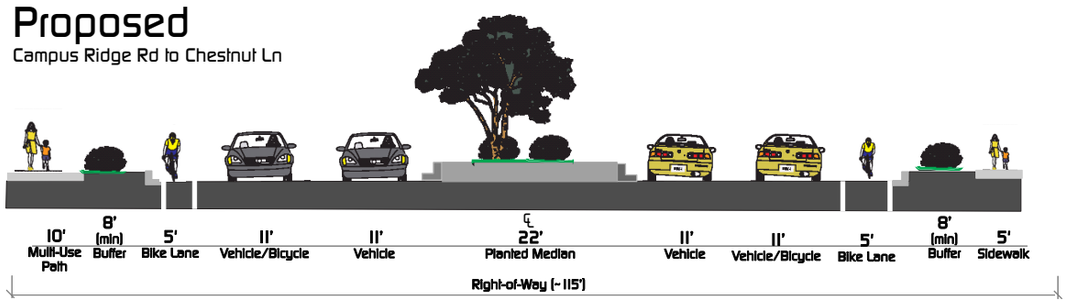
Proposed

Between I-485 and Campus Ridge Rd



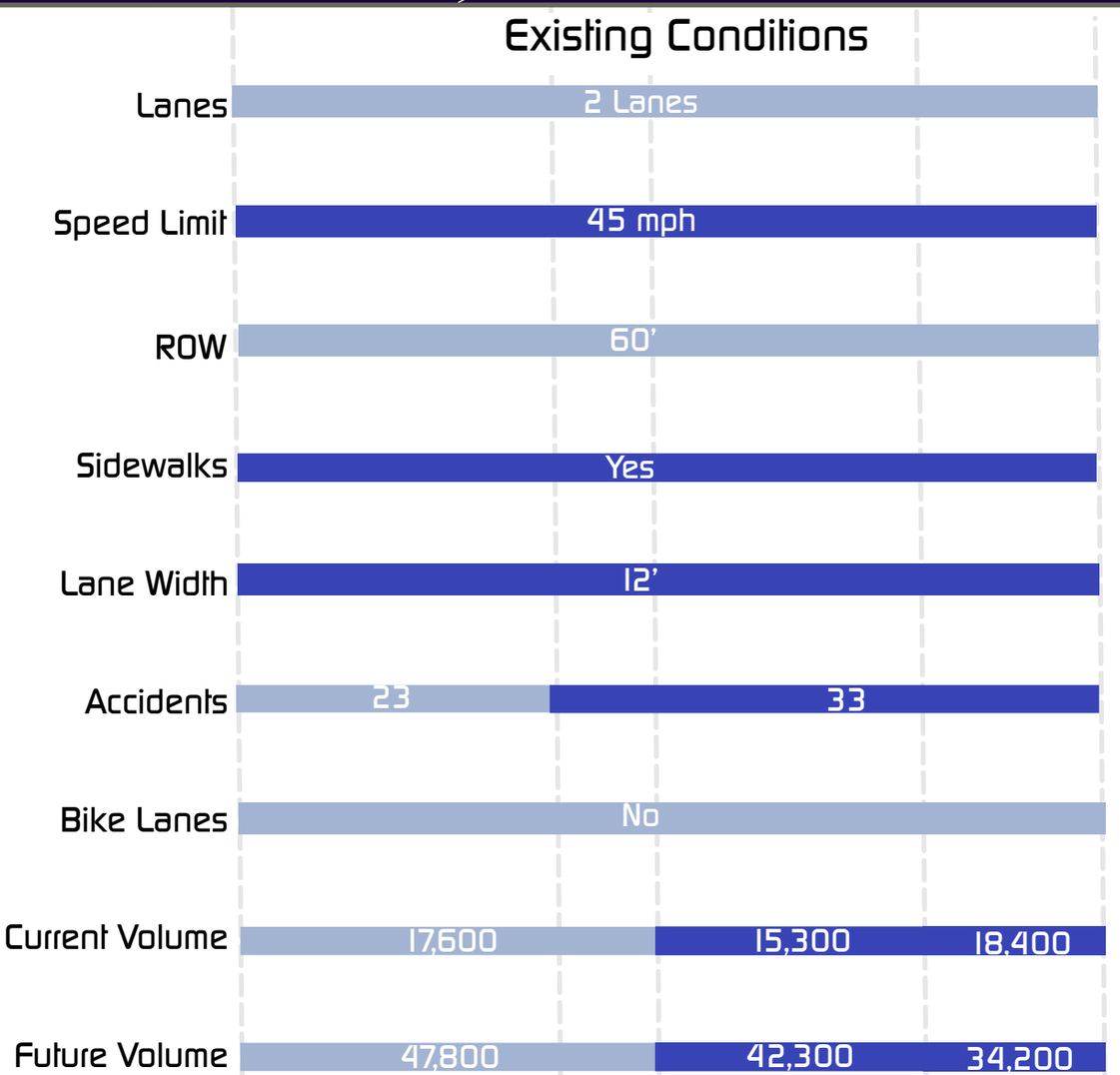
Proposed

Campus Ridge Rd to Chestnut Ln

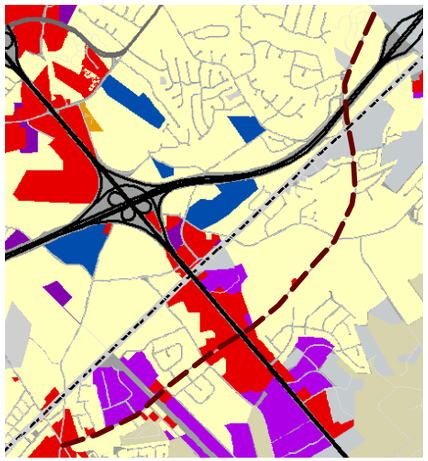


*4 foot curb and guter added to total ROW amounts

Existing Conditions

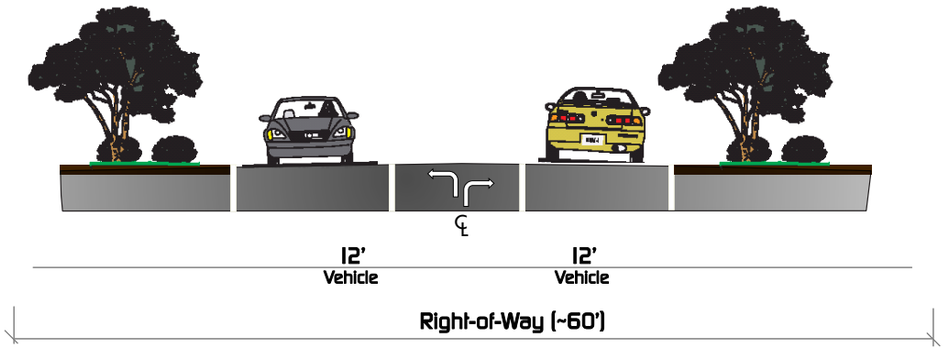


Land Use

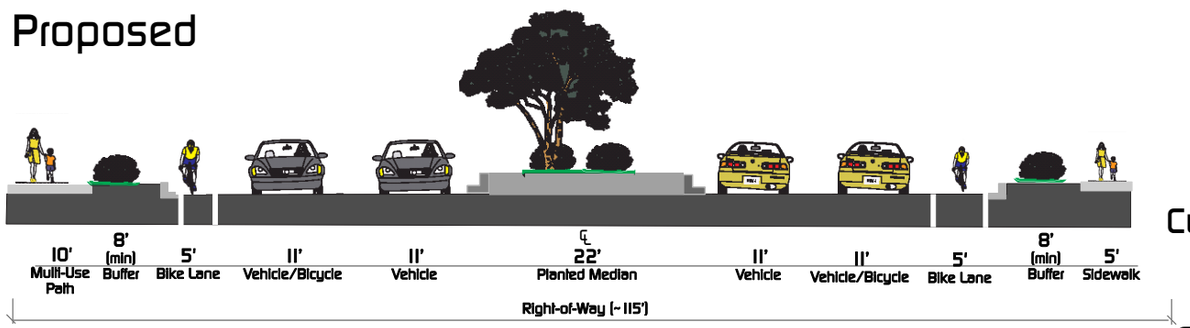


- Commercial/Office
- Industrial
- Institutional
- Multi Family Residential
- Single Family Residential
- Utility/ROW/Drainage

Existing Conditions



Proposed



*4 foot curb and guter added to total ROW amounts

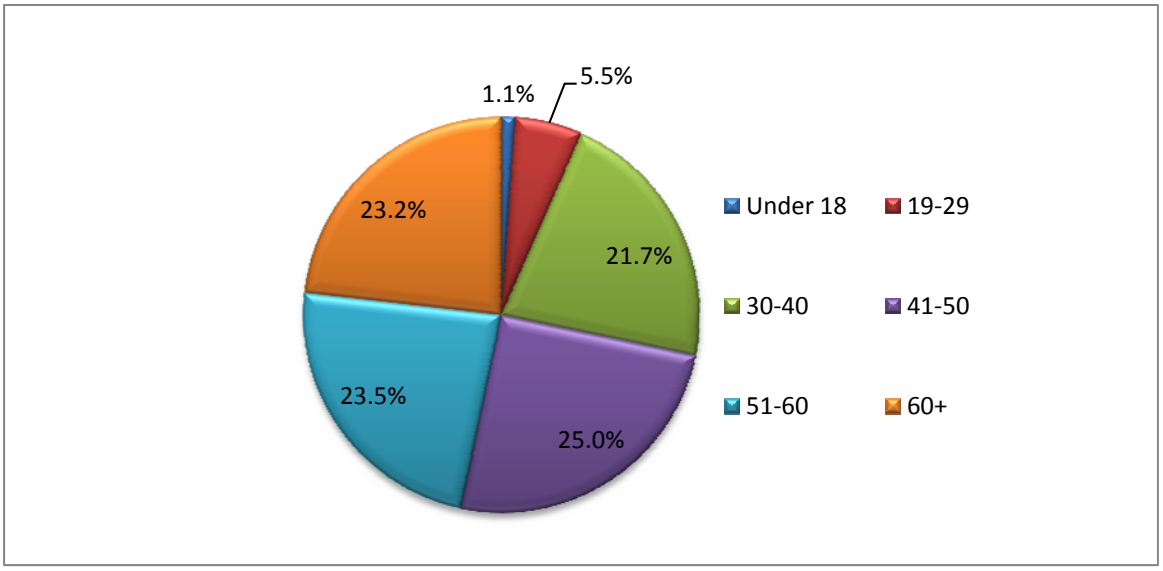
Existing Conditions

Lanes	2 Lanes		
Speed Limit	45 mph		
ROW	60'		
Sidewalks	Yes	No	No
Lane Width	12'		
Accidents	60	17	35
Bike Lanes	No		
Current Volume	9,700	4,630	10,730
Future Volume	20,600	9,100	13,500

Appendix B – Street Graphics

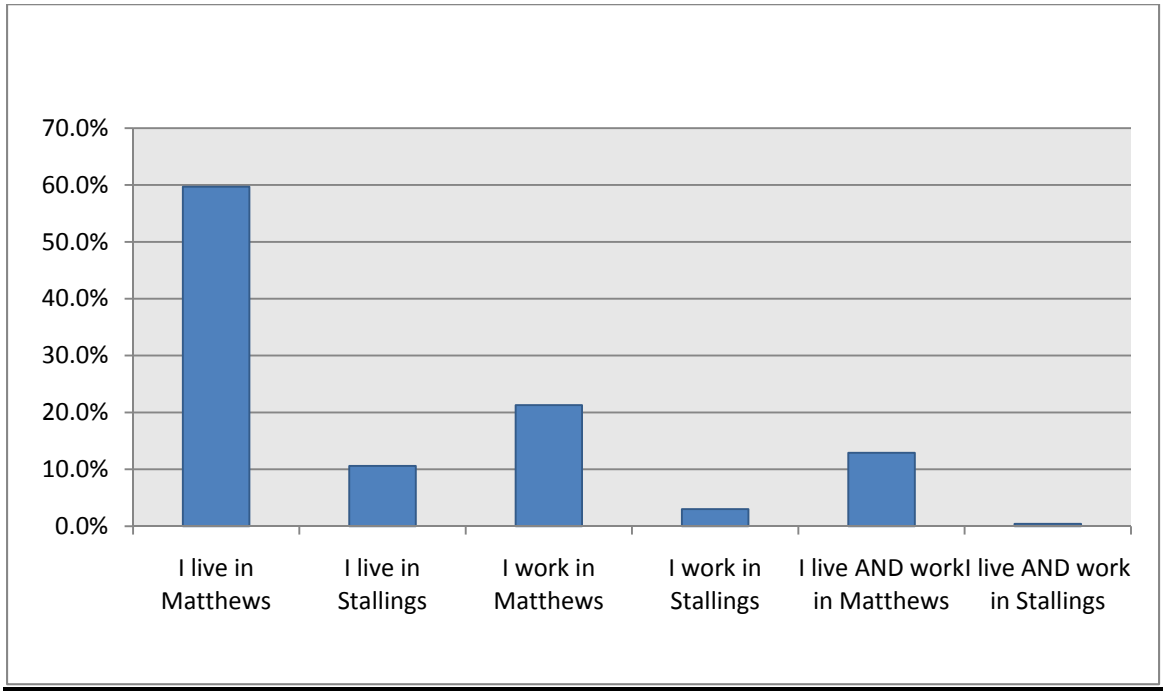
Question 1: Age Group

Answer Options	Response Percent	Response Count
Under 18	1.1%	3
19-29	5.5%	15
30-40	21.7%	59
41-50	25.0%	68
51-60	23.5%	64
60+	23.2%	63
	answered question	272
	skipped question	8



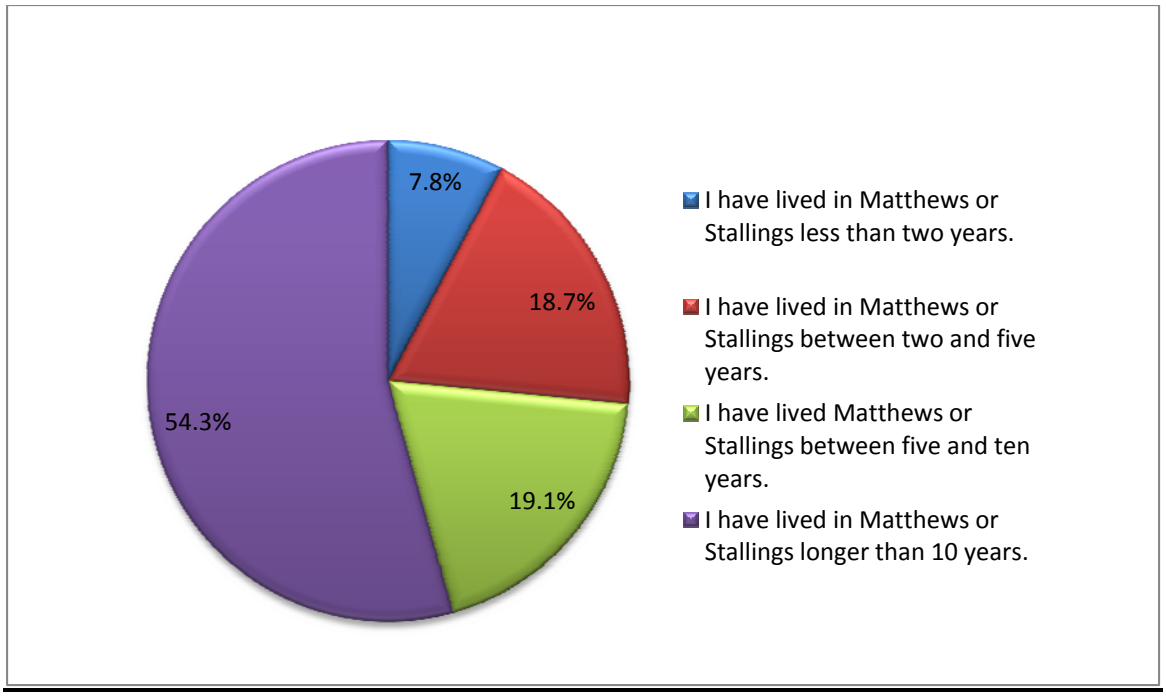
Question 2: Please tell us where you live or work in Matthews and Stallings.

Answer Options	Response Percent	Response Count
I live in Matthews	59.7%	157
I live in Stallings	10.6%	28
I work in Matthews	21.3%	56
I work in Stallings	3.0%	8
I live AND work in Matthews	12.9%	34
I live AND work in Stallings	0.4%	1
Other (please specify)		20
	answered question	263
	skipped question	17



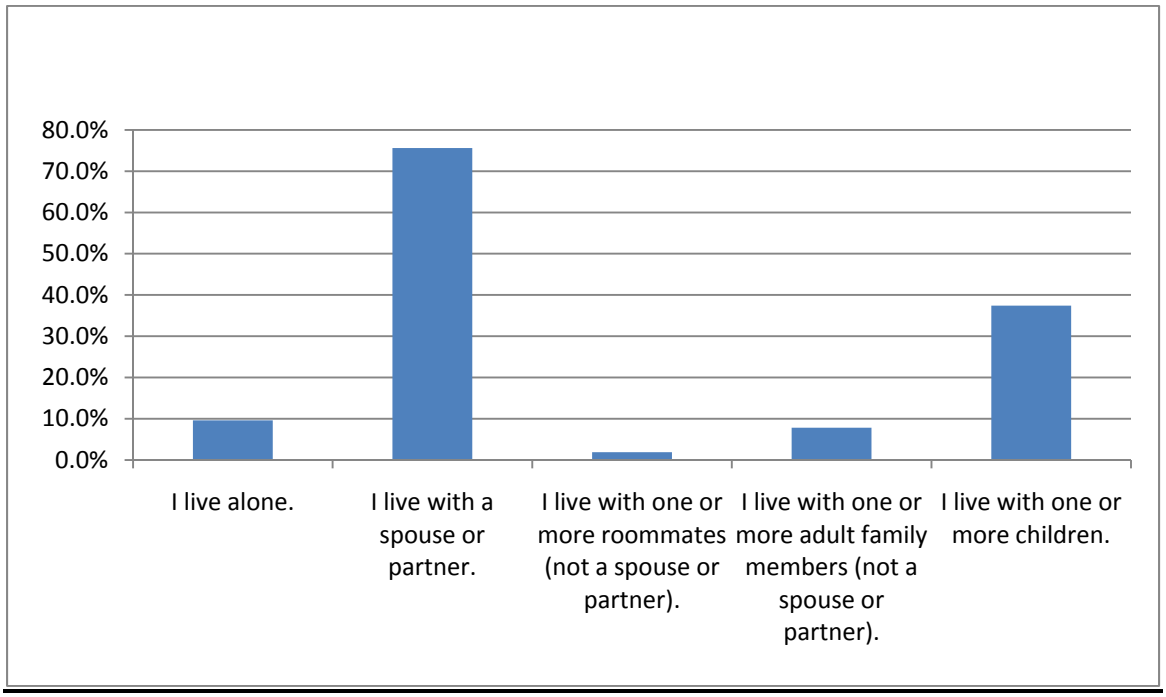
Question 3: Please tell us how long you have lived in either Matthews or Stallings.

Answer Options	Response Percent	Response Count
I have lived in Matthews or Stallings less than two years.	7.8%	18
I have lived in Matthews or Stallings between two and five years.	18.7%	43
I have lived Matthews or Stallings between five and ten years.	19.1%	44
I have lived in Matthews or Stallings longer than 10 years.	54.3%	125
answered question		230
skipped question		50



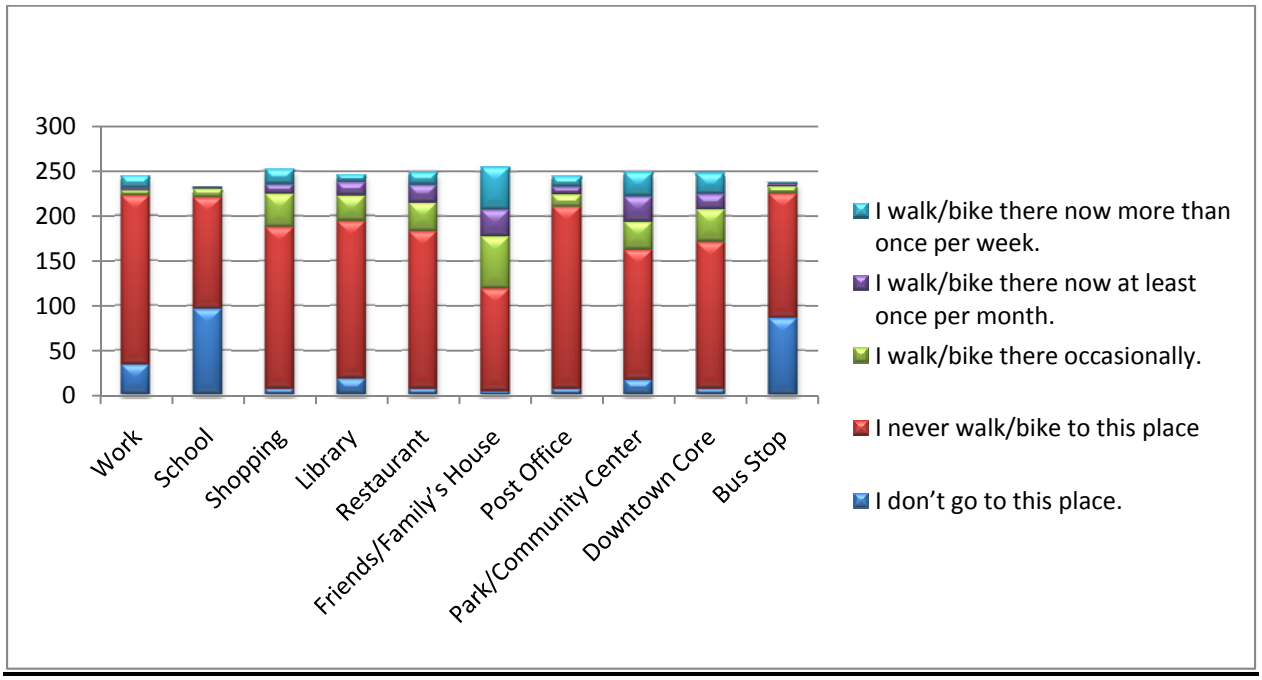
Question 4: Please give us an idea of family status.

Answer Options	Response Percent	Response Count
I live alone.	9.6%	26
I live with a spouse or partner.	75.6%	204
I live with one or more roommates (not a spouse or partner).	1.9%	5
I live with one or more adult family members (not a spouse or partner).	7.8%	21
I live with one or more children.	37.4%	101
answered question		270
skipped question		10



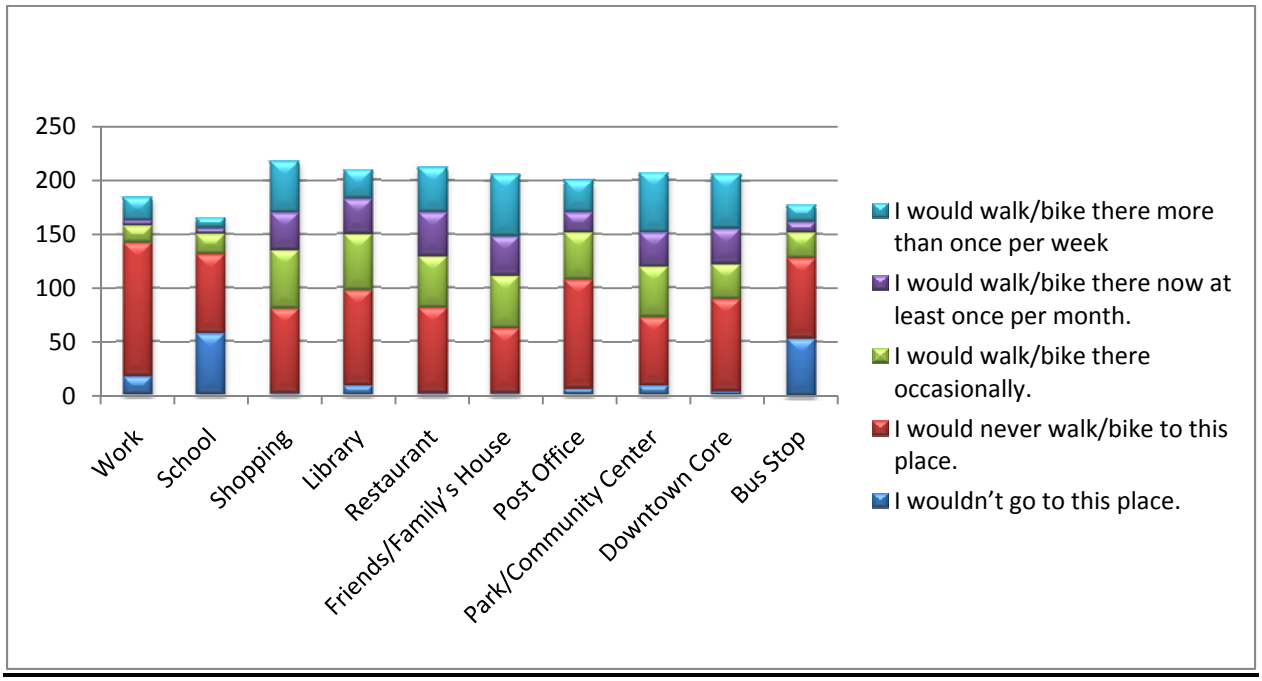
Question 5: Please tell us how much you walk or bike to the following places now.

Answer Options	I walk/bike there now more than once per week.	I walk/bike there now at least once per month.	I walk/bike there occasionally.	I never walk/bike to this place	I don't go to this place.	Response Count
Work	13	3	6	188	34	244
School	1	2	9	125	96	233
Shopping	17	11	37	180	7	252
Library	9	15	28	176	18	246
Restaurant	14	20	32	176	7	249
Friends/Family's House	48	30	58	115	4	255
Post Office	12	9	13	204	7	245
Park/Community Center	27	28	32	145	17	249
Downtown Core	24	17	36	164	7	248
Bus Stop	2	3	8	139	86	238
					answered question	268
					skipped question	12



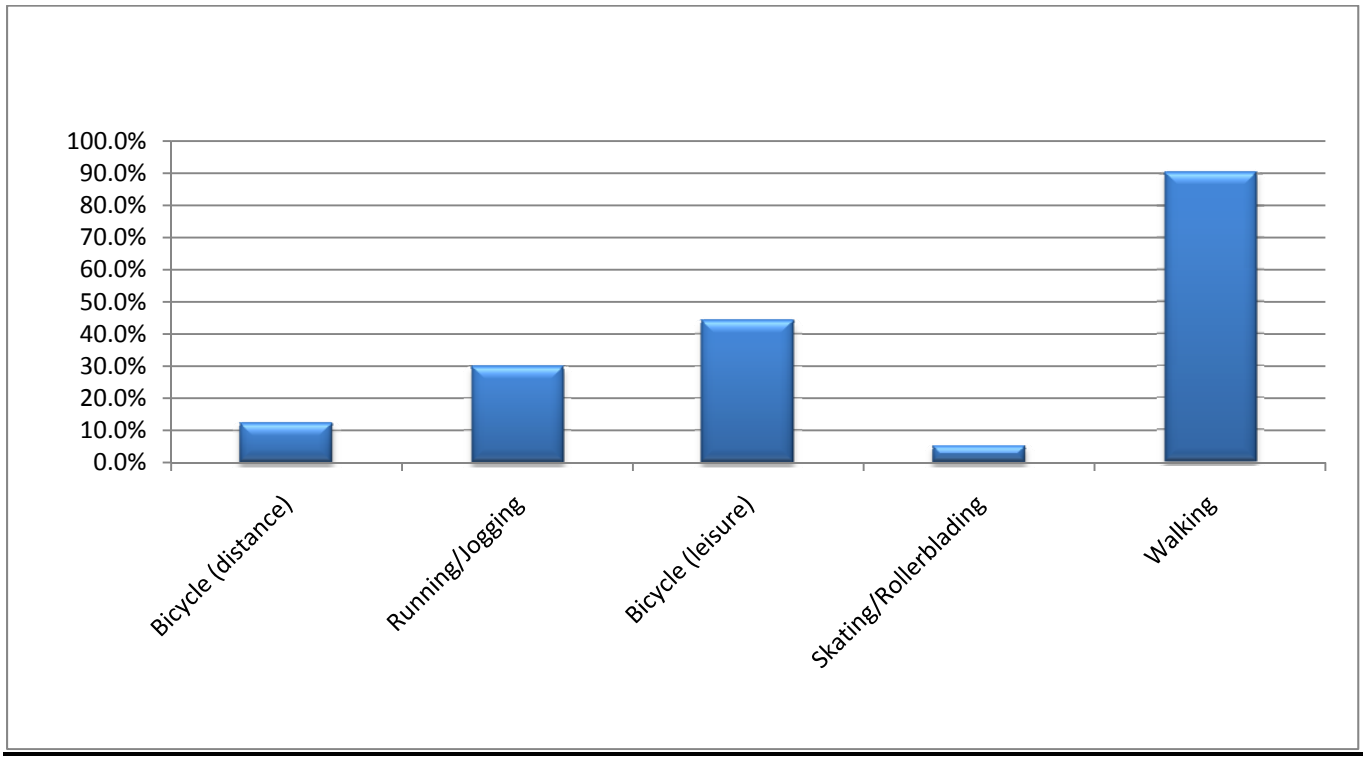
Question 6: Please tell us how much you would walk or bike to the following places if they were made safer. If the location is not applicable to you, leave it blank.

Answer Options	I would walk/bike there more than once per week	I would walk/bike there now at least once per month.	I would walk/bike there occasionally.	I would never walk/bike to this place.	I wouldn't go to this place.	Response Count
Work	22	5	16	125	17	185
School	10	5	19	74	57	165
Shopping	48	35	55	79	1	218
Library	27	33	52	89	8	209
Restaurant	42	41	48	80	1	212
Friends/Family's House	58	37	49	61	1	206
Post Office	30	19	44	102	5	200
Park/Community Center	56	32	47	64	8	207
Downtown Core	51	33	33	86	3	206
Bus Stop	16	10	24	74	53	177
					answered question	233
					skipped question	47



Question 7: What types of bicycle and pedestrian activities do you and/or family members participate in on a regular basis.

Answer Options	Response Percent	Response Count
Bicycle (distance)	12.4%	30
Running/Jogging	29.8%	72
Bicycle (leisure)	44.2%	107
Skating/Rollerblading	5.0%	12
Walking	90.5%	219
Other (please specify)		22
answered question		242
skipped question		38



- **Question 8: Please tell us which roadways in Town should be made more bicycle-friendly (e.g. which roadways need bike lanes or wide shoulder, where should there be greenways).**

- None, we have a new greenway, that's enough
- Pleasant Plains, McKee
- Weddington Road
- Wedding Bridge over 485
- Margaret Wallace, Sam Newell
- Pleasant Plains, McKee
- Downtown Matthews, Stallings Core, Monroe Road and Stallings Road
- Pleasant Plains, McKee, Weddington Trade, Fullwood
- Greenway along 4 mile creek
- Trade St thru Plesant Plains
- MAtthews Mint Hill Rd
- Pleasnt Plains, McKee, Monroe Rd
- Trade St, Hwy 51
- Mckee between Weddington and Pleasant Plains
- Pleasant Plains
- Trade Street
- Hwy 51, conitune to add greenway
- Stallings Road
- W John St walkay between new greenway bridge and downtown Matthews
- E Independence and Sam Newell
- Pleasant Plains and Trade St
- Matthews Mint Hill
- Phillps
- SArdis Rd, Hwy 51, Trade St
- Charles St
- Hwy 74
- all roads
- Sam Newell Rd
- Trade St John St
- Lawyers Rd
- Sam Newell
- n/a
- Mount Harmony Church Road. There is a lot of bike traffic there and it is very unsafe for both the riders and drivers!!
- Trade, Pleasant Plains, Mckee
- Trade, john, Monroe Rd
- matthews township parkway. monroe road/john street
- the corner of John St and Trade. and the trade sst area going toward Sam Newell Rd.
- Stevens Mill
- Downtown and Idlewild Rd
- Any road that you allow bikes on should have adequate space for them away from traffic.
- Sam Newell!!!!!! That road is a deathtrap on the IB side!
- Hwy 51 Matthews Mint Hill Rd.
- None, bicycling is a hobby enjoyed by far too few to spend any money on it. People are not using bicycle lanes for commuting, only for recreation.
- Pleasant Plains Road
- Not sure-
- Extend short bicycle lane on Trade street beyond the small section at the Pleasant

Plains/Weddington intersection.

- All of Hyw 51 / Phillips / Stallings rd / Idlewild / Monroe / John
- All main roads leading into Matthews
- need a safe way to cross over 74 coming from Butler High School towards downtown (walking or biking)
- Hwy 51
- John Street in Matthews south to Stallings
- Stallings Road from downtown to Idlewild. Route 51 from Mint Hill to Matthews
- All of Stallings needs to be more bicycle-friendly.
- John street pleasant plains road after u get on the other side of the bridge the road gets very narrow.
- Pleasant Plains Road, Trade Street
- Potter Road
- on Elizabeth road need add bike lanes.
- Crossing independence blvd going south on matthews mint hill Rd, every road from Idlewild to sam newell is very difficult and dangerous to cross walking/biking and/or jogging.
- Weddington Rd from Winterbrooke Dr to McKee Rd Weddington/Trade to Goodman Ball Field
- Pleasant plains, John st, mckee
- North and South Trade Street;N.C. 51; Phillips Road; Stallings Road; Idlewild Road; McKee Road; John Street
- HWY 51,DOWNTOWN, Fullwood-matthews-weddington Rds.Greenway connecting 4 mile creek with the rest of the greenway system.
- McKee Rd
- Mostly main roads like Monroe / John ... or 51 / Pineville - Matthews ...
- Fullwood and Trade
- none
- Pineville-Matthews Rd. is not very bike-friendly. Bikers can use the sidewalk, but of course, that is not the ideal. And at least for me, that road is the only way to have access to the Matthews greenway.
- McKee Road between Pleasant Plains Rd and Weddington Road
- I don't bike the Matthews area roadways, but I do believe the having constant speed limits on certain roads would help everyone. Pleasant Plains from the Weddington Road intersection to Stallings needs to be a constant 35mph in both directions. The speed limit on Weddington Road from that same intersection continuing on past the park on Weddington Road needs to be a constant 35mph. The speed limit on Mckee Road from Pleasant Plains to Weddington Road needs to be a constant 35mph. The intersection at Mckee Road and Weddington Road (at Plantation Market) needs left turn signals all ways!
- None of them. We need more car lanes...
- From Butler high school to Phillips rd .
- Margaret Wallace and Sam Newell Rd need to be widened and bike lanes would be great. I see people walking and riding bikes along these roads all the time and it is very dangerous because there is no room. Bike lanes would be great along Monroe and Independence and key cross roads between the two.
- S. trade, Pleasant Plains, McKee, E and W John, more roads than I can name
- Many roads in downtown Matthews are too narrow and given the traffic are too dangerous to bikeriders
- Sardis Rd.
- Rice road and Sam Newell need bike lanes.
- Matthews Mint Hill Road
- John St., Matthews St., Ames St.
- McKee Road
- Pleasant plains road
- Pleasant Plains to Potter Road
- McKee from pleasant planes to weddington rd.

- None if like Pleasant Plains - Weddington intersection. A total government boondoggle - untold $ spent, still a two lane road that should be a 4 lane based on the asphalt on the ground.
- Sam newell
- The area from the overpass at Pleasant Plains into town. My sons walked from our home in Brightmoor to the Beach Fest but they said that from the overpass over I-485Rd. to the traffic light at Fullwood is kind of scary to walk.
- Trade Street John Street Pleasant Plains/Potter Road McKee Road
- all main roads
- McKee Road
- McKee Road, Pleasant Plains Road
- Trade Street, John Street, Pleasant Plains,
- All of NC 51
- along pleasant plains rd would be nice
- Greenway under the power lines from john street to Beatty park. Greenway along McKee Road Extension. Bike Lanes and Sidewalks on all busy streets.
- Trade St.
- McKee Road to Siskey Farms Road (YMCA area)
- focus on areas around schools.
- I personally don't favor bike lanes. Look @ Weddington Rd.past Trade, so gravelly, the bikers that do ride on road, hardly stay in their lane. Definitely need sidewalks both sides of road on S.Trade
- The main thoroughways John Street from 485 into downtown and Trade St down to Independance.
- Stallings Rd/Potter Rd, Pleasant Plains, Chestnut, Mckee Rd, Old Monroe Road, and Weddington Road.
- Trade St, esp near Matthews Elementary John St needs to be widened, but because it's so busy, it should probably be looked at more to accomodate traffic.
- Trade Street, Sam Newell, Mtt Twnsp Pky
- McKee, especially between Weddington and Pleasant Plains. Also Weddington between 485 and the second Providence Plantation entrance.
- N.E. Parkway
- Trade Street at Fullwood very dangerous for pedestrian crossing. Would be nice if there were safe corridor along Trade Street from Sam Newell to Pleasant Plains, but not at the expense of losing heavily traveled traffic lane to seldom used bike lane.
- Matthews- Mint Hill Road between Independence Blvd and John St.
- pleasant plains rd.
- Pleasant Plains, Trade
- Stevens Mill Rd, Stallings Rd
- Idlewild
- None
- Downtown
- When i cycle i stick to the south side of US74 as there seems no safe place to cross it to get to the quiet roads on the other side
- ROADS TO DOWNTOWN MATTHEWS
- Greenway, bicycle connectivity to nearby community center/core features-parks and schools.
- Sam Newell between Independence and Margaret Wallace.
- Stallings Road, Matthews-Indian Trail Road, Campus ridge road, Hwy 74
- Steven's Mill should have both sidewalks and bike lanes connecting to existing and furture greenways and parks. Thereis a population of athletes that has no way to get from their neighborhood to greenways, trails or parks. Steven's Mill, Stallings Road, Lawyer's Road, Idlewild along with others need to have bike lanes to create a safe alternative. Stallings needs to work with Matthews, Mint Hill, Indian Trail to form connectors.
- Potter Rd needs wider shoulder or bike lane with continuous sidewalk from potter/monroe rd to potter/chestnut rd
- weddingtom road needs a sidewalk that leads into town/school and up across bridge leading to

YMCA and shops and resturaunts

- Would like to see bicycle lanes on Hwy 51 and on Idlewild Rd, where I sometimes see cyclists.
- Any place that it is illegal to operate a motor vehicle
- South Trade, Matthews Mint Hill Rd, Pleasant Plains, McKee, Sam Newell,Idlewild
- Stallings Road
- Any greenway on the east side of 74 would be nice.
- idlewild road. goes from indian trail to charlotte
- John St. corridor, US 74
- Old Monroe Road and Pleasant Plains could use a bike lane.
- Continue the 4 mile creek greenway past South Trade
- Trade/greenway and path into town should be wider,
- I don't believe there should be any bike friendly locations. They are a waste of tax dollars.

Question 9: Please tells us which roadways in Town should be made more pedestrian-friendly (e.g. add sidewalks, crosswalks, push-button signals, etc.)

- Eliminate push button in middle of N. Trade St.
- Pleasant Plains, McKee
- Weddington Road
- Weddington
- McKee, Pleasant Plains
- downtown Stallings to Stallings Park
- Fullwood and Trade, McKee and Pleasant Plains
- Trade St, Matthews St, Trade to Independence
- Ped Crossing at Fullwood/Trade
- Pleasant Plains
- Mckee Road from Pleasant Plains to Siskey
- Sidewalks around Stlalings Road, Stallings School and a light at Stevens Mills Rd and Stallings Road
- Downtown
- E Independence
- Pleasant Plains and Trade St and John st
- Phillps
- SArdis Rd, Hwy 51, Trade St
- Charles St
- Stevens Mills and Idelwild
- Main St, Freemont St, S Trade St
- Sam Newell Rd
- Lawyers Rd
- Sam Newell
- Downtown Matthews
- n/a
- Mount Harmony Church Road There are a lot of walkers and joggers there and it is very unsafe for both!!
- Trade, Pleasant Plains, Mckee
- Fullwood
- Add Sidewalks on McKee between Pleasant Plains and Weddington. Pedestrian push button not effective at Fullwood and Pleasant Plains. Pedestrian push button not effective at Weddington and Pleasant Plains.
- matthews township parkway. monroe road/john street
- Township Parkway and Monroe Road Township Parkway and Sam Newell Road
- Sam Newell Road, leading up to Crown Point Elementary.
- Stevens Mill
- Around Windsor Square
- Crossings at Hwy 51 and Fullwood
- The neighborhood behind Stumptown Park.
- HWY 51, Pleasant Plains, Fullwood, McKee Rd, Old Monroe Hwy
- S. Trade Street
- Hyw 51 at Independence - there are NO sidewalks .
- Need sidewalks on both sides of street close to MARA
- At Sam Newell and Crews Road, a four way push button signal to permit a safe way to allow pedestrian crossing would be make navigating across Sam Newell safer for persons desiring to cross the street.
- currently, The Levine Center, Sycamore and Windsor Shopping Centers ar not accesible to pedestrians living in the downtown Matthews area. And, the new shuttle does not address this

problem.The new shuttle should have at least one stop in downtown matthews.

- Hwy 51
-
- John Street in Matthews south to Stallings
- Don't care.
- Old Monroe Road in Stallings
- Pleasant Plains McKee Road
- McKee road, john street
- Potter Road
- on PROVDINCE road need add push buttons for safely near PHS provdince high school..... On Sadris road need add more sidewalks
- Crossing Idlewild, all of the roads and parking lots around Sycamore Commons and crossing Independence Blvd. All of these areas could benefit from crosswalks (independence crossing would need more protection from traffic)
- same as above
- North and South Trade Street; N.C. 51; Phillips Road; Stallings Road; Idlewild Road; McKee Road; John Street
- We would benefit from more Accessible Pedestrian Signals for the blind at intersections downtown.
- Sardis&hwy 51,
- McKee Rd
- Anything near 74 is a nightmare of course!
- Intersection of Pleasant Plains and Potters
- Better crossing light at Fullwood and S Trade.
- none
- For the most part, Matthews seems pretty good for pedestrians, particularly in the downtown area.
- McKee Road between Pleasant Plains Rd and Weddington Road - sidewalks
- Sidewalks would be great on Mckee Road between Pleasant Plains and Weddington Road.
- The crosswalk light at thecorner of Trade and Fullwood only lastsa few seconds. Many cars continue to turn as you are crossing the street.
- None of them. They are fine like they are.
- From Butler high school to Phillips rd. The sidewalk is on the other side of the road and there is no pedestrian crossing or a traffic light.
- My neighborhood is off Margaret Wallace Rd. I would love sidewalks along that road because it would enable me to walk to the Harris Teeter at Idlewild and to my job which is on Monroe Rd.
- See above. The most dangerous for walkers or cyclists is S.Trade and Fullwood.
- Matthews-Mint HIll Road
- Matthews Mint Hill Road
- Trade St. & Matthews St.
- McKee Road
- We need greenway access from Jeffers Drive in Matthews Estates.
- McKee rd from pleasant planes to weddington rd.
- Side wall
- See #8. That entire length of road could be better for both bikes and pedestrians. McKee Road could also use sidewalks from CVS to where it connects into Pleasant Plains. I often see people walking in the grass. John Street past the post office going towards Union County could definitely be a lot more pedestrian-friendly.
- Trade Street John Street Pleasant Plains/Potter Road McKee Road
- Corners of Weddington Rd and McKee Road and the corner of Pleasant Plains and Potter Rd. There needs to be turn arrows on the traffic lights.
- McKee Road
- McKee Road, Pleasant Plains Road
- Matthews St/Trade St need a push-button crossing signal, John Street to 485 needs

continuous sidewalk from downtown to greenway, push-button for signal to cross Trade along John Street doesn't work.

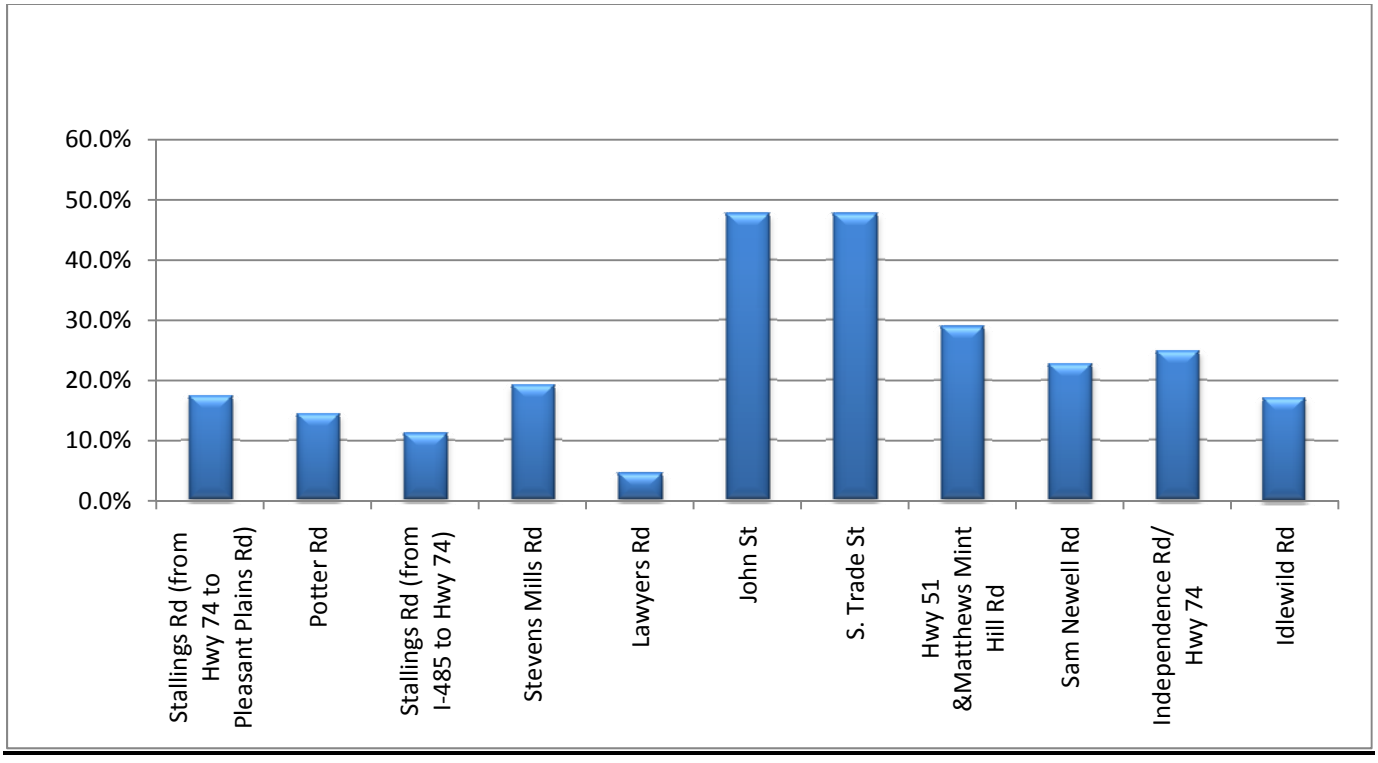
- mc kee road up to fincher farms would be great to have a sidewalk
- ALL! For us, the southwest quadrant. McKee Road. Monroe/John Street.
- Sam Newell Road - Crown Point Elementary
- S.Trade between downtown & Weddington /Pleasant Plains
- John St
- All main intersections in downtown Stallings and downtown Matthews. Would love to enjoy a downtown area but the sidewalks and roads are terrible and the businesses suffer because of this. Also would like improvement at Pleasant Plains with McKee and Potter so we could access those shopping areas too.
- McKee, especially between Weddington and Pleasant Plains. Also Weddington between 485 and the second Providence Plantation entrance.
- N.E. Parkway ..both sides
- Trade Street at Fullwood. John Street at Trade Street.
- Matthews Township Parkway, in front of the Hospital. Sidewalks are also needed on Hwy 51 Sycamore Commons to Matthews Festival
- sidewalks should connect along John Street from Greylock neighborhood all the way to downtown. There are some sidewalks, but not all the way.
- pleasant plains rd
- Stevens Mill Rd, Stallings Rd
- Ashley Creek subdivision. There are no sidewalks. Need speed bump on Ashely Creek Drive entrance to Squirrel Lake Park - very dangerous location.
- repairs to sidewalk on Tank Town Rd.
- Crown Point Elementary & Mint Hill Middle
- None
- Both sides of Trade from 51 to Fullwood
- Wider sidewalk along Trade St. from Matthews Methodist to Matthews Elementary. Wider sidewalks on John St from Trade intersection to Post Office/Fins. Continue sidewalk from greenway entrance on John St all the way into downtown Matthews. Higher visibility crosswalks at intersection of Trade and John and 51 and Trade.(seen many people almost get hit).
- Push-button signal at Sam Newell and Matthews Street. In front of the Gazebo. We walk our kids to Christ Our Shepherd and sometimes the light doesn't allow us enough time to cross the street. We are very thankful there is a ramp there now. Thank you :-)
- Hwy 51 from Sycamore Commons to Idlewild Rd.
- crossing US74 at old Hwy 51
- TRADE STREEET NEAR THE BALL FIELDS
- Sam Newell between Independence and Margaret Wallace.
- Forest Park
- More of the residential areas. Stevens Mill between Laywers and Idlewild would benefit from an additional sidewalk connecting the neighborhoods together so the children can move around safely.
- Fairfield Plantation
- Potter Rd needs continuous sidewalk from potter/monroe rd to potter/chestnut rd
- Would like to see more neighborhood sidewalks in general. Also would like to see sidewalk extended south on Idlewild from Hwy 51 to Stallings Rd, then continue on Stallings Rd.
- Stallings Rd. around Stallings elem school.
- idlewild
- John St., Matthews-Mint Hill Road, US 74
- A sidewalk on the other side of Old Monroe Road. I have seen many walking on that side of the road and they are too close to traffic.
- South Trade, but you guys won't. You screwed up not building the Union County Connector 20 years ago and "WE" are still paying for it.
- Over the railroad tracks on Trade. Would love sidewalk on Trade (opposite Mara) and the

bridge by Brighton on Trade needs work.

- There are enough pedestrian friendly walkways. No more are needed.

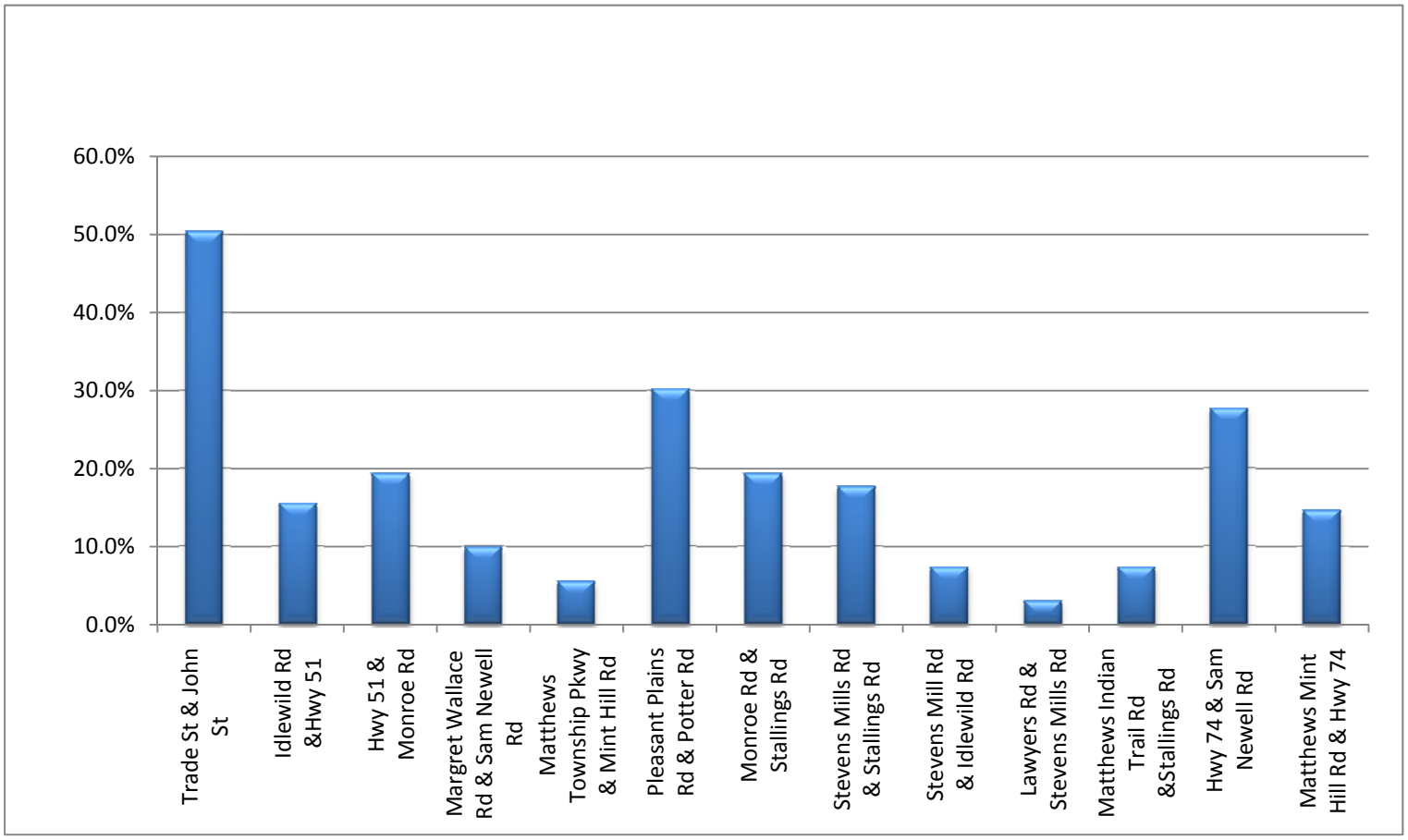
Question 10: Please tell us which roadways you would like to see improved (adding lanes, turn lanes, or extending further) from the list below. You should only check your TOP THREE roads.

Answer Options	Response Percent	Response Count
Stallings Rd (from Hwy 74 to Pleasant Plains Rd)	17.4%	42
Potter Rd	14.5%	35
Stallings Rd (from I-485 to Hwy 74)	11.2%	27
Stevens Mills Rd	19.1%	46
Lawyers Rd	4.6%	11
John St	47.7%	115
S. Trade St	47.7%	115
Hwy 51 &Matthews Mint Hill Rd	29.0%	70
Sam Newell Rd	22.8%	55
Independence Rd/ Hwy 74	24.9%	60
Idlewild Rd	17.0%	41
Other (please specify)		78
	answered question	241
	skipped question	39



Question 11: Please tell us which three intersections are in need of changes to improve traffic movements. You may check only your TOP THREE intersections.

Answer Options	Response Percent	Response Count
Trade St & John St	50.4%	117
Idlewild Rd &Hwy 51	15.5%	36
Hwy 51 & Monroe Rd	19.4%	45
Margret Wallace Rd & Sam Newell Rd	9.9%	23
Matthews Township Pkwy & Mint Hill Rd	5.6%	13
Pleasant Plains Rd & Potter Rd	30.2%	70
Monroe Rd & Stallings Rd	19.4%	45
Stevens Mills Rd & Stallings Rd	17.7%	41
Stevens Mill Rd & Idlewild Rd	7.3%	17
Lawyers Rd & Stevens Mills Rd	3.0%	7
Matthews Indian Trail Rd &Stallings Rd	7.3%	17
Hwy 74 & Sam Newell Rd	27.6%	64
Matthews Mint Hill Rd & Hwy 74	14.7%	34
Other (please specify)		67
	answered question	232
	skipped question	48



Question 12: Please tell us if you have any other comments or concerns about TRANSPORTATION issues in Matthews and/or Stallings.

- HWY 51 needs to be widened to four lanes between Matthews Mint-Hill and Idlewild, Widen ramp from 51 to 74 towards Monroe. Please plan for added trips when Old Monroe road is widened and more people use John St in Matthews. Reflectivity gone on signs in Matthews, trees blocking, remove speed humps on N. Trade
- Work trip will be extended with Bypass constructed (Independence Commerce)
- No Weddington Interchange
- No interchange with 485 on Weddington
- Pleasant Plains should be widening and include bike lanes.
- More Roundabouts
- It would be nice to re-estanlish push of commuter train via Matthews Downtown Charlotte.
- Concerned about police and fire services delayed in work
- concerned about police and fire being delayed in work
- Police and Fire services may be delayed in their work.
- Please do not cut off another road or street that allows access to church - Mt. Harmony. Our church property and road changes over the years have already made it difficult for drivers and visitors to recah us. Also do not cut off access to the nearby County Inn and other hotels.
- MAjor issue connecting Charlotte sidewalks system to MAtthews sidewalkson Sardis Rd. It is not safe to to walk or bike here. Hwy 51 from TArget to John St is non-navigable on the east side.
- Need more bicycle safe access.
- Downtown traffic needs improvement
- Speed Bumps are a hinder to traffic. Downtown traffic needs improvement
- Traffic flow in downtown is terrible
- Keep Inependence Commerce open Independence Rd for Emergence Services.
- My work accesswill require longer trip and fire and police longer response time
- 1. Home and work access will require extended travel if Independence Commerce Dr. is closed. 2. Police, Fire, EMS will have extended travel times for both Matthews and Stallings if Independence Commerce Dr. is closed along with the reconfiguration of Stallings Rd. and Hwy 74. Lives are important.
- It is going to a public safety issue when the Monroe ByPass is built in the Independence Commerce Dr and Hwy 74 area. Leave the intersection open to Hwy 74 or to McKee Rd extension for public safety.
- Keep Independece Commerce Blvd /Mt Harmony Church Rd open to Independence Road Hwy 74 Emergency Services will be compromised if Independence Commerce Dr is closed.
- My work access requires extended travel if Independence Commerce Drive is closed, I am very concerened about Police, Fire and ambulance service to work.
- Access to work,home,and church will require extended travel if independence commerce drive is closed. Also concerned about Police,Fire, and Ambulance Service to office, home, and church
- The light at Sam Newell and 51 is way too short during rush hour. Also, it would be nice to see the turn lane (if coming from Monroe Rd) to be lengthened like it was at Monroe Rd.
- My work access will require extended travel if Independence Commerce Dr is closed. I am concerned about public safety issues if Independence Commerce is closed.
- My work Access will require extended travel if Independence Commerce Dr is closed. Also I am very concerned about police, firem & Ambulance service to my work
- Public Safety issues, general movement about town
- I feel the Town of Matthews is doing a great job in terms of expansion, my only concern are the quality of the road surfaces on some secondary roads.
- Please make a Matthews link app and include local bus. Worth $50 to use or include in bus license fee
- the traffic turning right onto Pleasant Plains from Fullwood and the traffic turning right onto

Weddington from Pleasant Plains never stop although the pedestrian push button is activated. These two intersections are not safe for pedestrians.

- In addition if acess roads to 74 are closed it will be so difficult for police or medic to respond to both my business and home, etc.
- Access to my home from work, church, shopping, etc would require traveling an extra 2-5 miles if Independence Commerce Drive is closed. The same situation would apply to emergency services (police, fire ambulance) to my home
- I work on Independence Commerce Dr. I'm really hoping we don't loose easy access to Independence. Would fire and rescue be able to easily help if needed?
- The most pressing need is to fix the congestion on US 74 at Sam Newell and Windsor Square. This is a real mess and waste a huge amoount of expensive gas. Perhaps it's time to get rid of one of the lights? Restrict turns during rush times? Get the state working on this!
- I would love to see the train service that is currently in place in Charlotte extended to here , I would ever drive to Charlotte again .
- I wish there was a bus stop along Sardis Road or on Highway 51. I would ride the bus, but the closest bus stop for me from Coachman Ridge is Sardis Crossing. Long walk.
- No sidewalks on Hwy 51 at Independence
- At the intersection of Monroe and 51, the eastbound left turn lane on Monroe is extremely inadequate causing a heightened degree of danger for persons coming from Charlotte who desire to turn left(northward) onto Hwy 51. Drivers now ignore the road markings and use the turning lane in the center of the road as an extension of the left turn lane- often nearly to the Family Dollar property on Monroe. This is an accident waiting to happen.
- 1. CATS route 17 should be extended to meet route 27.
- the absurdly high speed "mountains" in downtown Matthews. the extremely short green light at Monroe Rd & Hwy 51 (heading North in the a.m. rush hour). back-up on Fullwood (South) during evening rush hour traffic
- We need bike lanes which are NOT ON THE ROADWAY. Thanks!
- Hwy 74 needs to be widened to add 3rd lane through Matthews Buses to/from uptown should provide broader morning and evening rush hour services. For example, not everyone is out of work by exactly 5pm.
- Matthews Township Parkway has become very dangerous as drivers speed in the left lane and try to cut into the lane of traffic that has backed up in the right lane before the two lanes cut down to one lane as you approach the stoplight at Matthews-Mint Hill Road and Phillips Road. I have often noticed cars driving in excess of 60 miles an hour.
- I want to have good services for disabled people who ride bus in Matthews, NC
- The sidewalks around Matthews are nice and my family tries to use them but it becomes very dangerous and problematic to cross roads along Matthews Mint Hill Rd to continue traveling on the sidewalks.
- is there available transportation for Seniors to Weddington Rd shopping and downtown Matthews shopping?
- Add an inter-town bus or shuttle service. Trolley?
- More sidewalks are needed throughout town (on both sides of the street), especially in the downtown area--such as off E. John Street to I-485
- It is difficult to use the main bus service due to a lack of service on Hwy 51 to connect the current bus routes. To walk out of my neighborhood to highway 51 is one mile and when I get there, there is no bus stop unless I walk even further. This needs to be developed.
- Greenway, and bike lanes need to be linked. too many start and stop. Suggestion: make a continuous loop that connects all teh fragmented bike lanes and greenways.
- Thanks for accepting and listening to our ideas. We look forward to any and all improvements. Especially light rail or trolley service on either 74 or Monroe Rd. Best of luck in your progress.
- My work access/family access/church access will require extended travel if Independence Commmerce Drive is closed. I am VERY concerned about police, fire and ambulance service to my work/parents home/church.
- My work access will require extended travel if Independence Commerce Drive is closed. Also concerned about access for Police/Fire/EMS services to work if needed.
- My work access would be eliminated due to the new bypass going in front of Independence Commerce Dr.

- My work and home access will require extended travel if Independence Commerce Drive is closed I am very comcerned about Police, Fire and Ambulance service to my work.
- There is too much traffic in downtown Matthews around rush hours - most probably trying to get to or from I-485.
- If the planned I485 exit at Weddington Road beside the Sisky Y is allowed, the town of Matthews will become...how should I say it? : GONE! Stallings will become...how should I say it?: LIKE a highway 74 Stripmall! What are you people thinking? Matthews and Stallings need to preserve their identities. Small improvements within our boundaries will help preserve business, neighborhoods and our identities as small towns.
- also, please get the loops working again at Trade St. and John St.
- We love the community, but have watched two children almost get hit on skateboards the the above intersection.
- How exactly does single lane traffic and huge speed humps help traffic move through downtown Matthews?
- I appreciate that you are concerned about the citizen's input. I would love to see more side walks and bike lanes throughout Matthews and Stallings. I also would love for the light rail to make it to this area particularly along 74. I would certainly use these personally and am very supportive of any measures that would create a more environmentally friendly community.
- Tear out everything done on N Trade in Downtown except one crosswalk. Restore parallel parking
- McKee Rd Extension (Part A)- needs to be a priority Weddington Rd/ 485 interchange
- It takes 25-35 minutes to drive from Monroe Rd/Sardis Road North to Ashley Creek at rush hour. This is unacceptable.
- Please hold off using Matthews monley to increase traffic on S. Trade St. until the timing of the interchanges on I-485 @ Pleasant Plains Rd. is determined. I live in Hampton Green. We could like the percentage of cars now using Fullwood in the am/pm are from Matthews.
- There is a lot of backup on Hwy. 51 after Butler High School through Idlewild Road.
- The traffic on Weddington Road is awful most mornings, backing up to the Winterbrooke entrance and wasting 10 minutes to travel 0.2 miles
- Thank you for providing the survey and email a whole 3 hours before the meeting at CPCC.
- Is there anything that can be done to speed up the I-485 connector onto Weddington Rd.? The traffic coming from Union County through Stallings and Matthews might be helped if that could finally be built. Another thing that would help to ease frustration is putting up signs that tell drivers not to block road entrance ways, for example Trade Street and Sadie, Trade and Ames, and where Irwin, Ames, and Freemont connect to to John. Traffic will back up and block access to these roads and its very frustrating. It wouldn't be that difficult for a driver just to leave a space for another driver to simply make a turn onto those roads. Signs might help. At the very least, it might help residents in those areas to get or leave home. Also, getting from Pleasant Plains to I-485 is awful. Something needs to be done about how its necessary to cut through the trailer park on Morningwood or Aurora, or go all the way to Potter, make a left, and then another left onto Old Monroe. The McKee Rd. connector is the most necessary improvement I can think of. It's hard to understand why that wasn't done years ago.
- The road bumps that were installed was this to slow traffic down so people could see out quant town or deter others from cutting through our town? The school traffic at the top of Sadie Dr is ridiculuos. I live on Sadie and can sit there to wait to turn because the guy in front of me is not far enough over to make the right and I need to make a right. Perhaps if there were lines on the road showing a lane to turn right and a lane to turn left.
- I still do NOT like the raised crosswalks on Trade Street (or anywhere else). I think they are dangerous and detrimental to vehicles.
- Just as stated above. This would relieve congestion and be safer for all citizens.
- Been waiting 16 years for McKee road extention
- Lower the speed "humps" in downtown!!!!
- Take downtown matthews roadways back like they were.
- Build sidewalks that are wide enough to be safe. 6 inch planting strip is worthless. Sidewalks should be wider. More greenway/sidewalk combo areas.
- The traffic tie ups and congestion on any given day during rush hour or on the weekend in downtown Matthews is almost unbearable. I actually try to avoid going there during those times

unless I have to. Which obviously is not conducive to the merchants who operate there.

- Speed bumps on Trade Street should be removed. I have a way of avoiding Trade Street so I don't have to tear up the front of my corvette.
- Speeding, especially in front of MARA ballfield
- Need to extend McKee Road to Old Monroe to allow better access to freeway. Need more lanes on almost all roads - Old Monroe, Stallings/Potter Road, Pleasant Plains, John Street, and Trade Street should all be four lane roads!
- Wouldlike to see more CATS bus stops along 51 near Reid Harkey and Phillips road....do buses even run along that area???
- Downtown area would thrive if there were other options to divert daily commute traffic from downtown core. Union County residents choose Matthews secondary streets to downtown Charlotte because Independence is over burdened with traffic.
- the Wedington / 485 ramp would drastically minimize the cut thru traffic at the traler park over to Monroe Road from McKee
- there should be at least a center turn lane from trade st to i485 better a widening to 4 lanes with a center turnin lane. this should have been done years ago.
- Downtown is a major congestion area
- Simply keep existing roads in good repair.
- Repave Sam Newell , Margaret Wallace and Idlewild from M Wallace to 485.
- It is a game for me and my family. Depends on what day and time we travel depends on what route we take. Always looking for more routes. School times change next year so I am wondering how this will effect traffic patterns. Pleasant Plains is always backed up in the morning with the start of Matthews...
- All my concerns center around pedestrian friendliness. We live in the downtown area and walk/ride bikes as a family almost everyday. We love going into downtown, the the sidewalks (if there are any at some points) are very narrow and EXTREMELY close to the road. Matthews has such a great downtown, but right now the sidewalks leading in are not conducive to safe walking for families.
- It would be nice to have more bus service in Matthews. The closest bus stop is over a mile from our house, and in bad weather, that is not possible to walk to with a child. We only have one car, and have needed bus service on numerous occasions, but haven't been able to get where we needed to go.
- it would be handy if there were a supermarket i could walk to
- Don't cave to the preasure of those (small group)wanting the South Trade Street widening. Matthews would only be doing this to help those in Union County and paying for the entire project. If this could be done without the need to increase taxes it would be one thing but to have only Matthews pay for this project with higher taxes is not the right thing to do. Hold your ground and push for McKee Road and others that will help out Matthews more, South Trade Street is only bad durring rush hour when those people wanting to get beyond Matthews are using it. I say put up a toll booth and provide Matthews taxpayers with a pass and charge those drivers that are passing thru. big $$. they will find another way and then our traffic issue will be gone.
- Traffic at East Trade Street is too dangerous for walking / biking. Reduce speed of trffic please.
- We need train service along 74 into Charlotte.
- Matthews and Stallings working together to create a more livable, walkable and safe environment is a step in the right direction. Transportation is more than just automobiles and roads. It needs to include sidewalks, bikelanes and travel/destinations like greenways & parks to bring people and businesses that are community friendly.
- left turn lane needed for potter rd left on pleasant plains. Very long lines at peak times.
- I just wish it was more of a walking community. That my family and I could walk to school,library,, stores and restaurants.
- More sidewalks in Stallings on east side off 74.
- Woould love for light rail to come our way. I ride the bus to uptown Charlotte daily.
- Traffic congestion is a big issue and it would benefit the towns to widen Old Monroe Road from Indian Trail into Matthews.
- Too little too late. Why are we throwing money at this now? We don't have the money to do any

of it. It just makes you guys look like you give a crap. These issues have been talked about for YEARS . . .YEARS! We won't do any of this . . .ever. Give us a break and stop already!

- adding shoulders would be a nice safety additional, esp for bicylists

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