



CITY OF MEBANE

2040 Comprehensive Transportation Plan

May 2018



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Advisory Committee Members

(Appointed September 2016)

John Barnhart	Geoffrey Doermann	Jen Shepherd
Rebecca Brouwer	Shawn Gibbs	David Sichi
William Chapman	Ed Hooks	Jessica Simmons
Yavetta Cole	Bob Schuler	

City Council

Glendel Stephenson, Mayor	Jill Auditori	Everette Greene
Ed Hooks, Mayor Pro-Tem	Tim Bradley	Patty Philipps

City and County Staff Representatives

David Cheek	City of Mebane
Montrena Hadley	City of Mebane
Chris Rollins	City of Mebane
Cy Stober	City of Mebane

Organizations

Mebane on the Move

Adopted by Mebane City Council June 4, 2018

Adopted by the Burlington-Graham Metropolitan Planning Organization August 21, 2018

Prepared by Ramey Kemp & Associates for the City of Mebane



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EXECUTIVE SUMMARY

This 2040 Comprehensive Transportation Plan (CTP) is for the City of Mebane in Alamance and Orange Counties, North Carolina. The plan is multi-modal, covering roadway, public transportation, and bicycle and pedestrian travel. The plan takes social and environmental considerations into account, along with input from the public involvement processes during the course of its preparation.

A Comprehensive Transportation Plan (CTP) can be developed for municipalities, counties or large metropolitan areas. Recent revisions in state law have sought to move away from the development of thoroughfare plans because they only reflected the highway element of transportation planning. CTPs are developed to ensure that a progressively developed transportation system will meet the needs of the region for the prescribed planning period. The CTP serves as an official guide to providing a well-coordinated, efficient, and economical transportation system for the future of an area. The CTP should be utilized by officials to ensure that planned transportation facilities reflect the needs of the public, while minimizing the disruption to local residents, businesses and the environment. CTP recommendations are NOT fiscally constrained projects and are therefore aspirational.

Vision

In 2015 the City of Mebane created a vision of its future and how the physical elements should be approached. During the development of the [Mebane Land Development Plan](#) the stakeholders noted that growth should be encouraged inward towards developed areas, increasing density in the downtown area. The vision for public facilities and infrastructure should be fueled by sustainable internal economic growth enabled by external economic interest and strong corporate citizens. Industrial centers on the periphery provide stable local jobs that provide family-supporting wages, making the City an economic engine for the area.

The city's specific transportation vision also developed in 2016 states that the city should have:

A safe, cost-effective, reliable and integrated multimodal transportation system that will support sustainable economic development, regional and local connectivity, and healthy living – with the following goals;

- Goal: Provide cohesive connectivity to surrounding areas, cities, and counties.
- Goal: Improve connectivity and continuity of the transportation system and infrastructure to provide citizens with a variety of options for traveling.
- Goal: Develop and maintain the character of the transportation network that is consistent and exemplary of the City's overall development vision.

The Mebane 2040 CTP is the result of a multi-level partnership that brought local, regional and state partners to the table with local residents and other stakeholders. This is Mebane's first Comprehensive Transportation Plan and it converts the desires of all the stakeholders into actionable projects.

Current Context

Data from the US Census Bureau indicates that in 1980, Mebane was home to approximately 2,300 residents. The municipality's tremendous growth has seen its population surpass 14,000 in 2016. The city is currently viewed as an idyllic residential location between major employment markets in the Greensboro anchored Triad region and the Research Triangle Park (RTP) centered Raleigh Durham Chapel Hill Consolidated Metropolitan Statistical Area. Mebane has seen a multifold increase in its industrial base within the last 10 years. Its location along Interstates 40 and 85 being viewed as an ideal distribution hub. It is within this context of rapid population expansion and burgeoning industrial growth that this CTP was developed.

As the City plans for project execution driven by the recommendations of this CTP it must seek to ensure that the traditionally underserved populations identified do not bear a disproportionate portion of the burdens associated with the project while not sharing proportionally from its benefits.

Currently Funded Transportation Projects

There are currently six (6) projects in the North Carolina Department of Transportation (NCDOT) 2018-2027 State Transportation Improvement Program (STIP) as indicated in the table below. The STIP is a 10 year State and Federal-mandated plan that identifies the construction funding for and scheduling of transportation projects throughout the state.

Executive Summary Table A - STIP Projects in and around Mebane

STIP Number	Summary
U-3109A	Phase 1 of NC 119 Bypass
U-3109B	Phase 2 of NC 119 Bypass
U-6013C	Phase 3 improvements to NC 119 south of I-40 / I-85
I-5711	Interchange improvements at Mebane Oaks Road
I-5954	Interstate maintenance on I-40 / I-85
I-5958	Interstate maintenance on I-40 / I-85

Proposed Projects

The Mebane Comprehensive Transportation Plan recommends 32 projects across all modes that will serve the population and their desires towards achieving transportation efficiency. Analysis of the transportation deficiencies ascertained from the 2040 projections were used to develop each project. There are 13 roadway projects, 5 bicycle, 6 pedestrian modes, 6 shared use paths, and 1 transit projects. Projects were scored using a methodology guided by Mebane's development goals. The scoring criteria included; (a) mode specific elements including but not limited to safety, congestion reduction, community character maintenance, and connectivity enhancement; (b) number of funding sources available for project execution; and (c) geographical proximity of other projects. The results are shown below.

Executive Summary Table B – Mebane 2040 Recommended Projects

Rank	Roadway	On-Road Bicycle	Pedestrian	Shared Use	Transit
1	West Roosevelt Street Extension	Jackson Street Bike Boulevard	W. Jackson Street Sidewalk	Roosevelt Street Shared Use Path	Mebane Circulator
2	S. Mebane Oaks Road Widening	2 nd Street Bike Boulevard	E Jackson Street Sidewalk	Mebane Arts & Community Center Shared Use Path	-
3	N. Mattress Factory Rd Improvements/Realignment with Washington St	4 th Street Bike Boulevard	S. 2 nd Street Sidewalk	E.M. Yoder Elementary School Shared Use Path	
4	Trollingwood-Hawfields Road Widening	N. 5 th Street Bike Lane	N. 5 th Street Sidewalk	NC 119 Bypass Shared Use Path	-
5	Mattress Factory Road Widening	8 th Street Bike Lane	Woodlawn & Moore Roads Improvements	5 th Street Shared Use Path	-
6	Buckhorn Road Widening	-	N. 3 rd Street Sidewalk	Holt Street Shared Use Path	-
7	Lowes Boulevard Extension	-	-	Mebane Oaks Road Shared Use Path	-
8	Cameron Lane Extension	-	-	-	-
9	Middle Creek Connector	-	-	-	-
10	Mebane Oaks Road / 5 th Street Intersection Safety Study	-	-	-	-
11	Wilson Road / Broadwood Acres Road Extension	-	-	-	-
12	Mace Road Extension	-	-	-	-
13	Mattress Factory Road Interchange	-	-	-	-

Further details on the development of projects are highlighted in Chapters 3 through 7 of this CTP. The CTP is based on 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. Prior to implementing projects from the CTP, additional analysis will be necessary to meet the National Environmental Policy Act (NEPA) or the North Carolina (or State) Environmental Policy Act (SEPA).

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PREAMBLE – Defining a Comprehensive Transportation Plan

Any intermodal transportation system should be built to serve public mobility and productivity. Transportation planners undertake a comprehensive analysis and evaluation of the potential impact of transportation plans and programs while addressing the aspirations and concerns of the community served. Planners examine past, present, and prospective trends and issues associated with the demand for the movement of people, goods, and at local, rural, tribal, metropolitan, statewide, national, and international levels. The same applies to the transportation systems planned for the residents of Mebane, North Carolina.

A Comprehensive Transportation Plan (CTP) can be developed for municipalities, counties or large metropolitan areas. They are developed to ensure that a progressively developed transportation system will meet the needs of the region 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. The CTP should be utilized by officials to ensure that planned transportation facilities reflect the needs of the public, while minimizing the disruption to local residents, businesses and the environment. CTP recommendations are **NOT** fiscally constrained projects; they are aspirational.

Local areas in North Carolina develop a transportation system to meet their future needs and serve present and anticipated future multimodal travel demand in a safe and effective manner. This plan for Mebane shows roadway, bicycle, pedestrian, and transit recommendations applicable to the City.

Recent revisions in state law have sought to move away from the development of historically used thoroughfare plans because they only reflected the highway element of transportation planning. As the state's needs evolved, so did the need to accurately reflect long range planning goals beyond the highway element hence the move toward CTPs. CTPs are generally updated every eight to ten years, unless circumstances warrant a faster reevaluation such as high growth. Studies typically take 18 to 24 months but this time frame could be longer or shorter depending on the type and complexity of the issues in a region. Minor revisions to any plan based on changing needs can also be made.

In metropolitan areas over 50,000 population, the responsibility for transportation planning lies with designated Metropolitan Planning Organizations (MPO). Mebane is one of twelve municipalities in the Burlington Graham Metropolitan Planning Organization (BGMPO) which covers Alamance County in its entirety and parts of Guilford and Orange Counties. The NCDOT is currently responsible for completing CTPs and the MPOs, Metropolitan Transportation Plans (MTPs). While the former is not fiscally constrained and looks 30 years into the future the latter is done on a 20 year horizon and is fiscally constrained. The most recent Metropolitan Transportation Plan (MTP) was adopted in August 2015. This plan identified how the metropolitan area will manage and operate a multi-modal transportation system to meet the region's economic, transportation, development and sustainability goals. MTPs were previously called Long Range Transportation Plans (LRTPs).

The NCDOT completed the BGMPO's last CTP in 2010 and it was approved later that year. The MPO. The plan forecast to the year 2040 had 132 recommended improvements across the region with 22 within Mebane. They were all roadway projects. This Mebane specific CTP has **32** recommended multimodal improvement projects.

The City of Mebane CTP is based on 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. Prior to implementing projects from the CTP, additional analysis will be necessary to meet the National Environmental Policy Act (NEPA) or the North Carolina (or State) Environmental Policy Act (SEPA). This CTP may be used to provide information in the NEPA/SEPA process. The City of Mebane began this process in late 2016 and will amend pending City Council Approval.

Federal regulations also require Statewide Transportation Improvement Programs (STIPs) to be fiscally constrained. STIPs that demonstrate fiscal constraint confirm that projects can be implemented using committed or available revenue sources, with reasonable assurance that the federally supported transportation system is being adequately operated and maintained. The current STIP is the 2018-2027 STIP, which identifies the construction funding and scheduling for transportation projects at the state level

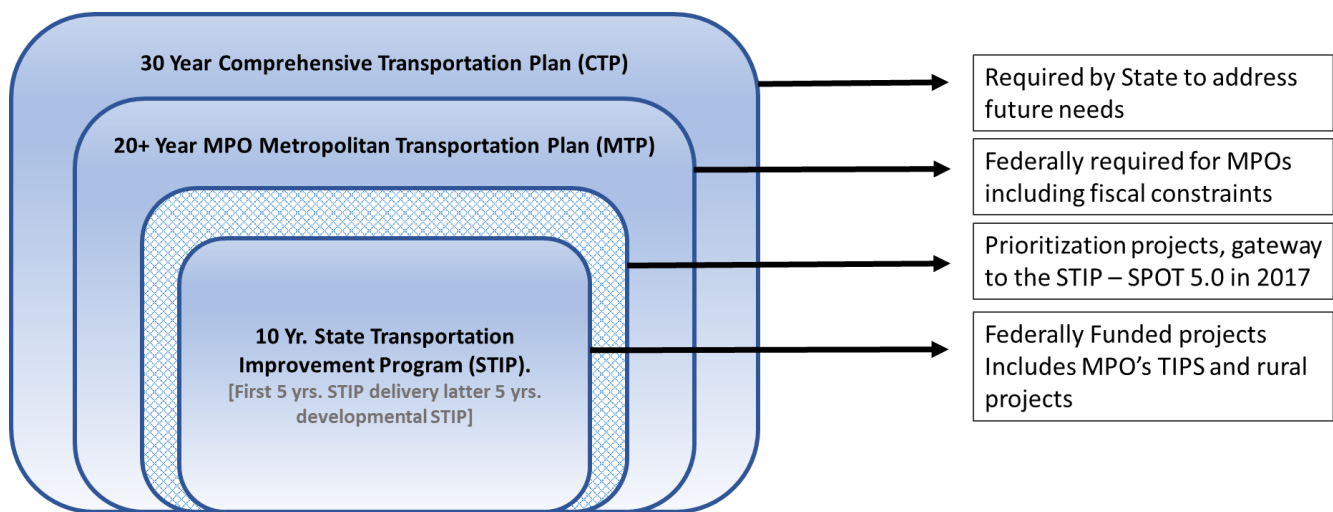


Figure 1 - Summary of Transportation Planning Process

over this 10-year period. Although federal law requires the plan to be updated every four years, the North Carolina Department of Transportation (NCDOT) proactively updates it every two years to ensure it accurately reflects the state's current financial situation. The data-driven process to update the State Transportation Improvement Program called strategic prioritization – began in fall 2015. There are currently six (6) projects in the 2018-2027 STIP that impact the transportation infrastructure in Mebane, as shown in Executive Summary Table A.

The Strategic Transportation Prioritization (SPOT) Process is the methodology that NCDOT uses to develop the State Transportation Improvement Program (STIP). The process involves scoring all roadway, public transportation, bicycle, pedestrian, rail, and aviation projects on predetermined criteria. Currently the NCDOT is undertaking Prioritization 5.0 (SPOT 5). The NCDOT prioritizes capital expenditures across all modes in a needs-based format directly tying funding to prioritization results.

The previous SPOT process (SPOT 4.0) had five types of projects, each scored separately; 1) Statewide Mobility, 2) Regional Impact Projects, 3) NCDOT Division-Need Projects, 4) Alternate Criteria Projects, and

5) Exempt Programs and Transition Projects. Statewide mobility projects are scored on a purely quantitative basis using the following criteria; congestion, cost benefit analysis, safety, freight, multimodal, and economic components. Regional impact projects have their scores determined by 70 percent quantitative data (congestion, cost benefit, safety, connectivity, freight needs). The remaining 30 percent of the score is determined by NCDOT Division input and MPO/RPO input. Division-Need projects get 50 percent of their scores from quantitative data (congestion, cost benefit, safety, connectivity, freight) and the remaining 50 percent from MPO/RPO input. There are alternate scoring methodologies for the Exempt Programs and Transition Projects.

The SPOT 5.0 scoring process was approved in June 2017. Projects for SPOT 5 were slated to be submitted by the end of September 2017.

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Chapter 1 – Mebane’s Transportation Planning Context

National, State, Regional, and Local, Transportation Contexts

Mebane is located mostly in Alamance County and partly in Orange County, North Carolina. Incorporated as a city in 1987, Mebane straddles the Research Triangle and Piedmont Triad Regions of North Carolina. The Alamance County portion is part of the Burlington Metropolitan Statistical Area, which is a component of the Greensboro-Winston-Salem-High Point Combined Statistical Area. The Orange County portion is part of the Durham-Chapel Hill Metropolitan Statistical Area, which is a component of the Raleigh-Durham-Chapel Hill Combined Statistical Area. The city’s limits are within the NCDOT Division 7 and funding Region D. The Mebane city limits are found mostly north of the concurrently running Interstates 40 and 85. See Map 1 highlighting the regional location.

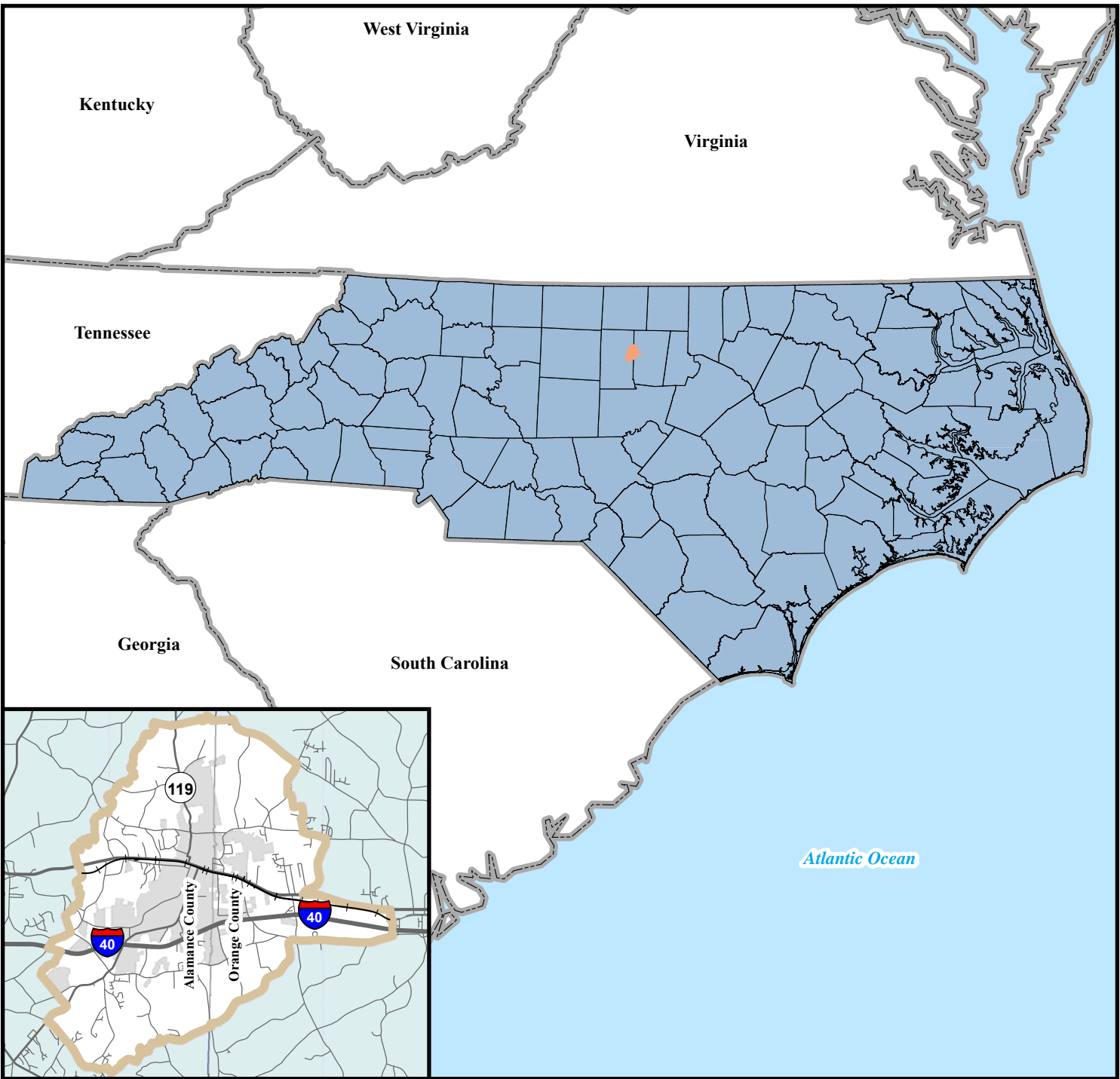
Interstates 85 and 40 link Alamance County to the Blue Ridge Mountains to the west, the Atlantic coast to the east, and the cities of Raleigh, Durham, and Charlotte. They also connect Mebane to the states of Virginia, South Carolina and Tennessee. Interstates 95 and 77, two major north-south transportation corridors, are approximately 90 miles east and west respectively. The region’s highway network provides overland access to half of the continental US in two or less days as indicated in the [Seven Portals Study - Southeast Region \(2011\)](#). I-85 and I-40 are classified by the NCDOT as Strategic Transportation Corridors (STC) in their [2015 North Carolina Transportation Network Update \(NCTN\)](#). These corridors are key transportation pathways that help ensure North Carolina’s economic prosperity. The study notes that the STC network will be articulated in further detail during the development of activities including but not limited to local long-range Comprehensive Transportation Plans (CTPs). I-85 in conjunction with the North Carolina Rail Road Company (NCRR) is known as Corridor I. The entire length of the corridor carries high freight and passenger volumes as it passes through the state’s major metropolitan areas. Corridor Q (I-40) is the longest STC in the state serving a high percentage of the state’s population and is a major transcontinental travel and shipping route.

Rail transportation facilities through Alamance County and the City of Mebane are owned by the NCRR. Freight is moved by the Norfolk Southern Class I freight service and passenger routes are operated by the NCDOT and Amtrak. There are no passenger train stops in Mebane but 16 trains pass through the city center on a daily basis.

The modern, deep-water ports of Wilmington, Morehead City, Norfolk and Charleston provide shipping service for Alamance County products along with two inland ports located in Greensboro and Charlotte.

The Burlington-Alamance Regional Airport (BUY) is the local airport serving business and private air traffic. Additionally, the county is served by two commercial airports within a 45 minute drive. Piedmont Triad International Airport, to the west, has 51 daily flights. Raleigh Durham International Airport, to the east, has 352 daily flights; daily non-stop flights service over 40 locations including Europe and air cargo service is provided by 10 air cargo carriers. Piedmont Triad International is the site of a FedEx Mid-Atlantic sorting hub.

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City of Mebane
2040 Comprehensive Transportation Plan

Regional Location

Map I

Legend

-  State Boundary
-  North Carolina County Boundary
-  CTP Study Area

Date: March 2018



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The City of Mebane is served by several state and locally managed roadways. First, Third and Fifth Streets are the major north south routes through the city. Mebane Oaks Road, NC 119 south of Interstate 85, Buckhorn Road, and Gibson roads also serve as important north south routes outside of the city limits. US 70 (Center Street), East Washington Street Extension, and Interstate 85 are the major east west corridors within the city. West Stagecoach Road in conjunction with Lebanon Road serves as the primary east west corridor in the northern reaches of the city. South of Interstate 85, Old Hillsborough Road in conjunction with Trollingwood Hawfield Road serves as the major east west connector See Map 2 – Study Area indicating the study area and these roadways.

Many neighborhood streets provide access to downtown and other popular destinations, giving pedestrians and bicyclists safer, quieter alternatives to busy streets. In its downtown, Mebane has constructed crosswalks, ADA ramps, and high-visibility crossings. The City has extended its sidewalk network along its major arterial and collector roads including Third and Fifth Streets. However, there are still gaps that break down connectivity of the sidewalk network. These gaps may range from less than a block to multiple blocks.

The City currently has no built greenways to serve bicycle and pedestrian needs that are not reliant upon the road network. The City maintains numerous miles of sewer and utility easements that currently serve as potential greenway corridors. Its *Bicycle and Pedestrian Transportation Plan* identifies approximately 5.75 miles of greenways and shared use trails that can serve Mebane’s residents using these corridors, connecting them throughout the city separate from the roads and streets.

There is currently no local public transit service available in City of Mebane. Regional commuter transit options in Mebane, are provided by Go-Triangle and the Piedmont Authority for Regional Transport (PART). Go-Triangle currently offers express bus service from Mebane to Durham. The route currently services regional destination points along I-40 and US 70. PART currently offers express bus service from Greensboro to Chapel Hill. The route currently services regional destination points along I-40.

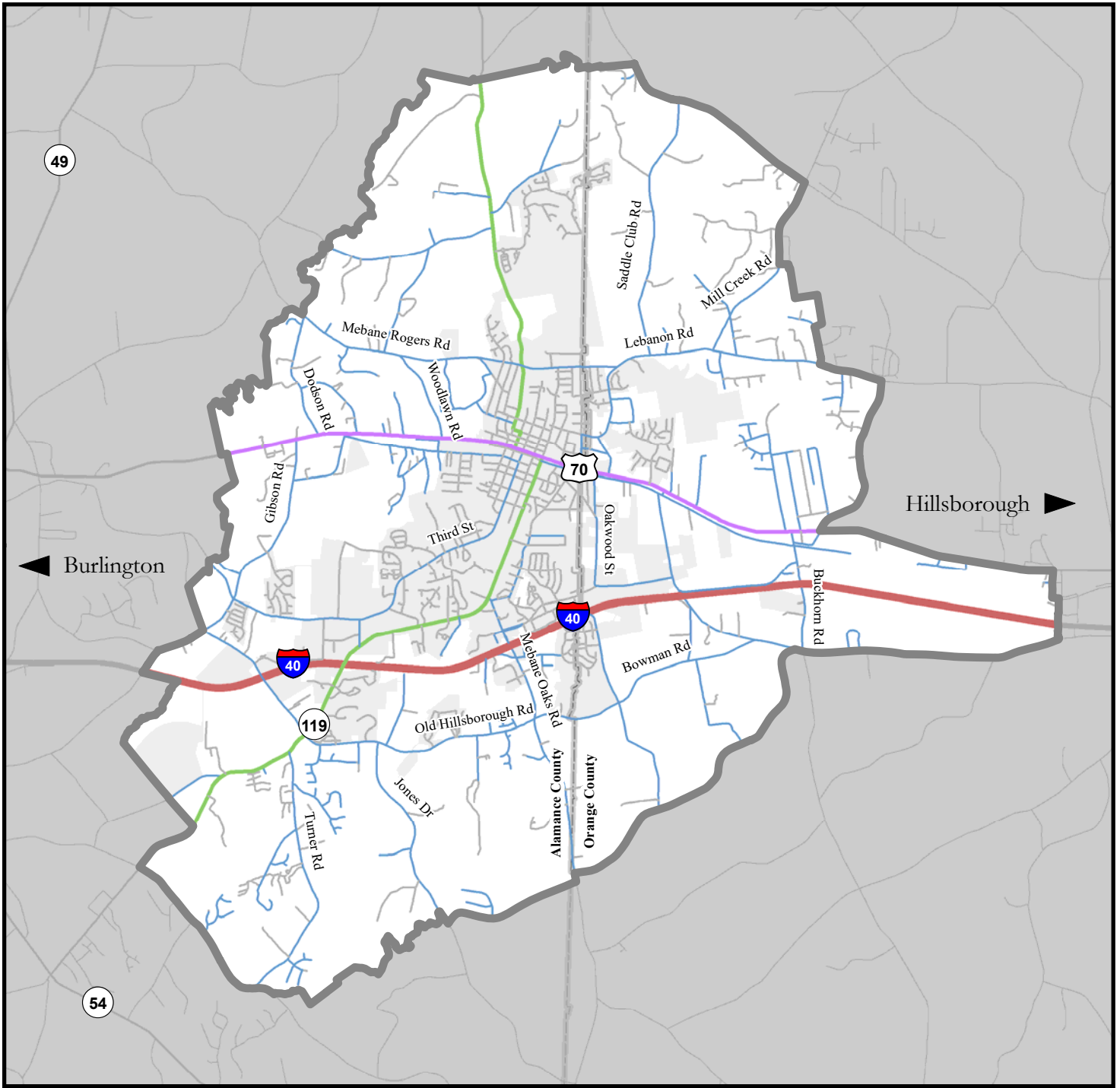
Mebane’s Transportation Vision and Goals

In 2015 the City of Mebane created a vision of its future and how the physical elements should be approached. During the development of the Mebane Land Development Plan the stakeholders noted that growth should be encouraged inward towards developed areas, increasing density in the downtown area. The vision for public facilities and infrastructure should be fueled by sustainable internal economic growth enabled by external economic interest and strong corporate citizens. Industrial centers on the periphery provide stable local jobs that provide family-supporting wages, making the City an economic engine for the area.

Economics & Transport

There are approximately 7,580 Mebane residents currently in the workforce. The total 2015 population of the City of Mebane was estimated to be just over 13,300. The 2015 commuting patterns indicate that roughly 45,800 persons live and work in Alamance County. An additional 14,000 leave the county for employment but this outnumbers those that travel to Alamance for employment. Those that leave account for just under 33 percent of residents. Table A below shows primary destinations for most of those leaving and the most popular counties from which workers originate.

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City of Mebane
2040 Comprehensive Transportation Plan

Study Area

Map 2

Date: March 2018

Legend

- Interstate
- U.S.
- N.C.
- Secondary Route
- Local
- CTP Study Area
- Mebane City Limits



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Table A - Daily Workforce Commuting Pattern Alamance County 2015 (Major Contributors Only)

Daily flows to and from Alamance County (major NC Counties ONLY)	Daily Alamance Inflow	Daily Alamance Outflow
Caswell	1,640	282
Orange	2,400	5,987
Durham	793	3,624
Wake	309	2,093
Guilford	5,999	6,997
TABLE TOTAL	11,141	18,983

Source: US Census Bureau, American Community Survey, 2009-2013; County to County Commuting Flows. Compiled by the PTRC Regional Data Center, 2015.

Freight Movement & Mebane

Fixing America's Surface Transportation Act, or FAST Act was signed in 2015 to provide long-term funding for surface transportation. The law intends to streamline the approval processes for new federal transportation projects and establishing new programs to advance critical freight projects. The FAST Act establishes a National Highway Freight Program. In North Carolina it will focus on among other elements; interstates, intermodal connectors, and critical urban corridors. With its growing industrial base, the movement of freight at the local, regional, state, and national levels is especially important to Mebane and its transportation facilities.

A regional sustainability study, Piedmont Together – Mobility, identified two primary goals related to freight planning and operations. First; to provide more transportation choices through the development of safe, reliable and economical transportation infrastructure and services to decrease household transportation costs, reduce the nation's dependence on foreign oil, improve air quality, and promote public health. Second; maintain and enhance the region's competitive edge as a freight transportation and logistics hub on the Eastern Seaboard by focusing on facilities and infrastructure planning, and improving coordination and cooperation among stakeholders. These goals and their associated objectives underscore the importance of freight flows to the Piedmont Triad region and recognized need by PART to devote efforts to understand the existing freight infrastructure and flows and to formulate focused plans that will enhance the existing freight system in the Piedmont Triad region. This CTP recommends important elements of the Mebane transportation infrastructure to support the city's continued expansion of the industrial sector.

There are three economic development zones in Mebane. These zones are home to several distribution centers serving a variety of industries and their consumers across the country. They are:

- North Carolina Commerce Park (1,200 acres)
- North Carolina Industrial Center (900 acres)
- Buckhorn Economic Development Zone (1,100 acres)

Previous, Relevant and Ongoing Planning Efforts

As of June 2017 there were 14 plans that have relevance to the Mebane Comprehensive Transportation Plan. They are:

- NCDOT Traffic Separation Study (2017)
- Mebane by Design – Comprehensive Land Development Plan
- City of Mebane Bicycle and Pedestrian Transportation Plan
- City of Mebane Recreation and Parks Comprehensive Plan (2014)
- Burlington-Graham Metropolitan Planning Organization Comprehensive Transportation Plan (2010)
- 2040 Burlington Graham MPO Metropolitan Transportation Plan Update (2015)
- Mebane Oaks Road Corridor Study (2015)
- NC Commerce Park (NCCP) & Buckhorn Economic Development District (BEDD)
- Orange County Efland-Mebane Small Area Plan (2006)
- Alamance County Trails Plan (2014)
- Vision Alamance (2016)
- Bus and Rail Investment Plan in Orange County (2012)
- Orange County 2030 Comprehensive Plan (2008)
- 2030 Orange County Comprehensive Parks and Recreation Master Plan (2014).

This section summarizes the plans and their relevance to transportation in Mebane.

NCDOT Traffic Separation Study - Mebane (2017):

In a joint cooperative effort with the City of Mebane, Norfolk Southern, the North Carolina Department of Transportation (NCDOT), and North Carolina Railroad, completed the Mebane Traffic Separation Study (TSS), focusing on eight existing at-grade roadway-railroad crossings along a five -mile span within the city.

A TSS is part of a comprehensive evaluation of vehicular, train, and pedestrian patterns and interactions along a defined local or regional rail corridor. The purpose of the TSS is to determine the need for improvements and/or elimination of public at-grade crossings to improve safety and mobility for motorists, pedestrians, rail passengers, and train crews. The TSS evaluated the rail line in Mebane that crosses various streets, as well as any planned or programmed railroad and roadway improvements within the study area. The main objective of the TSS was to improve travel safety conditions throughout the municipality.

Mebane by Design - Comprehensive Land Development Plan (2017) is an update of the Land Development Plan of 2001. Since then the City added nearly 7,000 residents, more than doubling the 2000 population. In response several plans for transportation, trails, greenways, sidewalks, parks, recreation, economic development and others have been completed to assist the City of Mebane to plan for the consistent and rapid growth.

The City of Mebane will be an active, vibrant and connected community providing a well-balanced, healthy and sustainable quality of life through infrastructure, efficient and attractive development, improved public safety, and an attractive natural and built environment. The user-friendly and “positively charming”

Downtown District includes mixed-use development, cultural spaces and is pedestrian and bicycle friendly. Through careful planning, there will be greater traffic disbursement and transportation options.

City of Mebane Bicycle and Pedestrian Transportation Plan (2015) communicates the blueprint for making bicycling and walking an integral part of daily life in Mebane. The purpose of this plan is to expand the existing network, complete network gaps, provide greater connectivity, educate and encourage the public, and maximize funding sources.

Key goals include but are not limited to: encouraging residents to bike and walk to school and to local businesses and services; Educate decision-makers, stakeholders, interest groups, and the public on the benefits of bikeways, walkways, greenway trails, and active, healthy lifestyles; Identify consistent funding streams for bicycle and pedestrian improvements; Build high priority bicycle and pedestrian facilities as part of a comprehensive network to better connect neighborhoods to the downtown, public spaces, and other important destinations; Increase pedestrian and bicyclist safety; and Improving pedestrian connectivity by filling sidewalk gaps and providing crosswalks at intersections.

City of Mebane Recreation and Parks Comprehensive Plan (2014) assessed the City's existing inventory, collected public input, developed standards for Parks and Recreation facilities, and administered a needs assessment. This produced a Plan of Action with the following priorities for the first five years of the plan's implementation; renovation of the Mebane Arts and Community Center (completed); expansion/improvement of trails at Lake Michael; expansion/improvement of facilities at Holt Street Park (completed); construction of a community park (under construction); and development of a Master Plan for community greenways (completed).

Burlington-Graham Metropolitan Planning Organization Comprehensive Transportation Plan (2010) is a long-range plan, which identifies major transportation improvement needs and develops long term solutions for the next 25 to 30 years. The study included alternative modes of transportation. Most importantly to Mebane, the 2010 CTP features the NC-119 Bypass as a priority project. The project was funded through the STIP process and is scheduled for completion by 2021.

2040 Burlington Graham MPO Metropolitan Transportation Plan Update (2015) is for the Burlington-Graham Urban Area (BGUA) in central North Carolina. Approximately 60 miles west of Raleigh and 21 miles east of Greensboro, the Urban Area consists of nine municipalities: Burlington, Gibsonville, Graham, Green Level, Haw River, Mebane, Elon, Whitsett, and the Village of Alamance. The MTP is reviewed and updated at least every five years and must, among other things: Identify the projected transportation demand for persons and goods; identify adopted congestion management strategies that demonstrate a systematic approach in addressing current and future transportation demand; identify pedestrian walkway and bicycle transportation facilities; include design concept and scope descriptions of all existing and proposed transportation facilities in sufficient detail; reflect a multimodal evaluation of the transportation, socioeconomic, environmental, and financial impact of the overall Plan; and reflect the area's comprehensive long-range land use plan and metropolitan development objectives. The MPOs Transportation Advisory Committees (TAC) identified the NC-119 Bypass as the top priority project for the BGUA.

Mebane Oaks Road Corridor Study (2015) identified transportation related improvements that would improve access and safety for users in the immediate area. Future cross sections and potential locations

for new roadways were analyzed and developed. The plan document includes traffic analysis with full page cross section alternatives for the immediate area.

NC Commerce Park (NCCP) & Buckhorn Economic Development District (BEDD) areas immediately surrounding the City of Mebane have been designated for commercial and industrial growth in the near future. The City of Mebane in collaboration with Orange County has invested in the water and sewer infrastructure to support such private sector growth, which will occur primarily to the south of existing development in the BEDD. The City has made investment and policies in partnership with Alamance County and the City of Graham for NCCP. The NCCP currently hosts 1.5 million square feet of retail distribution.

Orange County Efland-Mebane Small Area Plan (2006) adopted by Orange County for the unincorporated community of Efland's future growth addressed its development. The planning area is directly adjacent to the eastern boundary of the City of Mebane's corporate limits and Extra-territorial Jurisdiction (ETJ). The City of Mebane exercises zoning and subdivision control in compliance with City Ordinances within its ETJ area. Additionally, under State annexation statutes, the City of Mebane may annex lands into its City Limits. The SAP focused on the Efland-Mebane corridor in its entirety and made recommendations regarding Housing, Community Services, Transportation, Open Space, and Land Use and Economic Planning. The City of Mebane will also maintain Efland's water infrastructure as part of an interjurisdictional agreement. The City of Mebane's growth within Orange County in recent years has been a concern to county government because of the impacts the growth has on county operations such as public schools, social services, transportation, and emergency services.

The Highway 70 corridor is an important east-west transportation route. A variety of land uses, including residential uses, are located along the corridor. Balancing residential and nonresidential uses along the Highway 70 corridor is an important aspect of preserving the community character of the planning area.

Provision of an efficient, multi-modal transportation system - The vehicular transportation system in the planning area generally functions well, but there are some concerns, especially regarding motorized vehicle flows during peak traffic hours. Additional concerns regarding the transportation system include pedestrian and bicyclist safety and the general deficiency in the walkability/bikeability of the planning area, connectivity to the interstate for tractor-trailer traffic, and the idea that the current transportation system encourages single-occupancy vehicle use while discouraging bicycling and walking.

Alamance County Trails Plan (2014) is a long-range plan that strives to work with municipalities, citizens, business owners, and landowners to identify and prioritize opportunities to create recreational trails throughout Alamance County. This plan will strive to achieve the following goals through implementation: linking safe places to improve health by increasing the variety of recreation opportunities residents have and providing more off-road venues for physical activity; expanding recreation opportunities and improving access, and providing outdoor activities for all age groups; protecting open space, streams and rivers; and supporting economic development by offering local destinations, attracting people to area recreational opportunities and luring industry with high quality of life for their employees. None of the larger countywide trail development priorities fall within the Mebane City limits. The Graham Reservoir and Haw Creek Trails are close to the Mebane City limits and serve the residents.

Vision Alamance (2016) is a product of a strategic planning process in 2015-16 that adopted five action pillars: preserving agriculture, world class education, smart growth and development, public health and

safety, and government accountability and resource management. The county vision is a cohesive community with a thriving economy that balances respect for rural history with thoughtful growth and development. Its mission is to effectively provide its citizens with high quality public services, the tools for successful economic development, and a responsive, transparent government that supports the community as the preferred place to live, work, and play.

Bus and Rail Investment Plan in Orange County (2012) notes that Orange County and the region will see declining levels of service on major roads in the next 25 years. Orange County's population is projected to grow to approximately 173,000 by 2030. Orange County residents and their regional neighbors are aware of the clogged roads, as well as the accompanying air quality problems, negative economic impacts and the loss of the quality of life if these transportation challenges are not met. This plan includes a new regional express bus service connecting Mebane, Hillsborough, and Durham.

Orange County 2030 Comprehensive Plan (2008) serves to guide the County's growth and development through the year 2030. The underlying theme of the Plan is the County's vision of becoming a more sustainable community. It describes the statutory basis for many of the County's land use regulations and provides a coordinated approach to future growth. The Comprehensive Plan covers eight major areas including transportation.

2030 Orange County Comprehensive Parks and Recreation Master Plan (2014) is intended to examine the lessons and experiences of the past and identify current issues and challenges and project community needs and desires into a vision for the future. It makes seven recommendations including formalizing and building support for multi-partner capital facilities. As a county with four municipalities within its borders (and a small portion of a fifth), any planning for the future of parks and recreation needs must include a parallel view with the context of system master plans of the towns of Carrboro, Chapel Hill, Hillsborough and Mebane.

2045 Orange County Transit Plan (2017) contains a program of transit services and projects. The local component is to be funded by four (4) dedicated local revenue streams in Orange County over the period from 2017 to 2045. The updated Orange and Durham Transit Plans strengthen the communities' long-standing support of transit both to facilitate a compact, walkable community and to help lower-income residents and employees who rely on transit for their daily needs. The original plan included new express service connecting Mebane, Efland, and Hillsborough to central Durham, and expanded regional services connecting with Durham County and Wake County (for which funding responsibility is shared between the participating counties).

Draft Piedmont Together developed by the PTRC and the Piedmont Authority for Regional Transportation (PART) is a 12-county regional plan, including Alamance County and all its municipalities. It has three primary focus areas: the economy, the environment and communities. The regional plan provides tools and strategies to communities across the region that will help the Triad continue into the future as a prosperous, beautiful and friendly place. The Piedmont Triad intends to have the infrastructure for multiple safe, efficient, and affordable modes of travel throughout communities and across the region. Freight movement in the region is intended to be a driving economic force. To protect this asset, the region includes freight movement in the planning and prioritization of the regional transportation infrastructure. Providing more transportation options on a regional scale minimize congestion and create new advantages to provide an attractive lifestyle and a welcoming environment for businesses to thrive

and create more jobs. The achievement of these goals are vital to ensuring Mebane functions efficiently and competitively with regard to transportation.

Triad Tomorrow: A Comprehensive Economic Development Strategy for the Piedmont Triad Region (2014-2018) is part of the statewide NC Tomorrow initiative to help regions in North Carolina address the new economic development challenges facing communities. It served as the foundational economic development element of the region's sustainable communities planning effort, Piedmont Together. Led by the N.C. Association of Regional Councils, the goal is to create a more uniform approach to economic development planning across the state. Each of the 16 North Carolina Regional Councils, including the two that Mebane straddles, the Piedmont Triad Regional Council (PTRC) and the Triangle J (TJCOG) will produce a Comprehensive Economic Development Strategy that will be consolidated into a single state-wide strategy aimed at spurring economic development and job growth

The plan has as two of its four priority economic development focus areas:

Regional Infrastructure – Fixed assets of the region including transportation, utilities, support systems, broadband and the natural environment. The primary goal related to infrastructure is to build on and improve the fixed assets of the region.

Vibrant Communities – The characteristics of communities with a high quality of life, including local leadership, housing stock, and community amenities. The primary goal related to vibrant communities is to provide resources that support a high quality of life in the region.

Chapter 2 – Community Profile

Study Area & Regional Context

The City of Mebane is a municipality located mostly in eastern Alamance County and partly in Orange County, North Carolina. Incorporated in 1987, it is situated between the Research Triangle and Piedmont Triad Regions of the state. The Alamance County portion is part of the Burlington Metropolitan Statistical Area (MSA), which is a component of the Greensboro-Winston-Salem-High Point Combined Statistical Area (CSA). The Orange County portion is part of the Durham-Chapel Hill Metropolitan Statistical Area, which is a component of the Raleigh-Durham-Chapel Hill Combined Statistical Area.

Straddling Interstates 40 and 85 providing easy access suitable for industrial development and proximity to the regions along the nation's East Coast, the city has three economic development zones. They are the North Carolina Commerce Park (1,200 acres), the North Carolina Industrial Center (900 acres), and the Buckhorn Economic Development Zone (1,100 acres).

It is in this context that the city is developing this 2040 Comprehensive Transportation Plan (CTP). The city's relative regional location in NC is shown in Map 1 The CTP uses the same boundary studied by the Burlington-Graham Metropolitan Planning Organization's (MPO) in its development of the 2007 Long Range Transportation Plan (LRTP).

Demographics

The U.S Census Bureau 2016 Population Estimates list the City of Mebane with a population of approximately 14,000 people compared to 2,300 residents in 1980. More than three-quarters of the City of Mebane is located in Alamance County – 6.89 square miles (78% of the City area). This area hosts 85% of the City's population – 11,250 people. The remaining 22% of the City lies in Orange County, and is currently home to only 15% of the population (2,027).

While there are no known population projections at the municipal level, the Piedmont Triad Regional Council (PTRC) determined it would not be accurate to base Mebane's municipal population projections on those of Alamance and Orange County. Mebane has grown much faster than both counties with its average annual growth rate between 2000 and 2014 being 4.38%, compared to 1.26% in Alamance County and 1.24% in Orange County. Further, the N.C. State Data Center projects that each County will see declining population of approximately 10-12% per decade, which is not projected to happen in Mebane. Using Alamance County's upper range of annualized growth rate between 2010 and 2014, of 1.26 percent, would give Mebane just under 19,000 residents by 2040. If Mebane's population growth rate for the same period is used (4.38%) the City's size would be greater than 40, 000 people by 2040.

Table B below highlights important data differentiating Mebane from its surrounding geography. Employment data shows equivalent or better statistics than those of the county or state. Earnings data are also higher than in NC and Alamance County. Poverty data show mostly lower rates than the state.

Table B – Partial Socio-Economic Profile - Mebane, Alamance & Orange Counties and State (2015)

	Mebane	Alamance	Orange	NC
EMPLOYMENT DATA				
Unemployment Rate	5.6%	7.9%	4.6%	9.4%
Commute to work alone	85.4%	83.1%	67.4%	81.1%
Commute car pool	7.1%	10.6%	8.5%	10.0%
Work from home	5.5%	3.4%	7.6%	4.7%
Mean travel time	26 minutes	24 minutes	22 minutes	24 minutes
Private sector workers	74.9%	81.2%	67.7%	79.1%
Government workers	21.9%	12.7%	25.5%	14.9%
EARNINGS DATA				
Median H/H income	\$54,430	\$41,814	\$59,290	\$46,868
Per capita income	\$29,135	\$23,434	\$35,406	\$25,920
POVERTY DATA				
All Families	8.7%	14.4%	7.5%	12.8%
18 years and under	12.0%	16.2%	13.8%	24.7%
18 to 64 years	11.9%	17.4%	18.2%	16.3%
65 years and over	12.4%	11.3%	5.2%	9.8%

2011-2015 American Community Survey 5-Year Estimates DP03 as of December 2016

As listed in Table C Employment by sector data within the County is dominated by Manufacturing, Healthcare/Social Assistance, and retail trade. The 2015 American Community Survey (ACS) data from the US Census Bureau data show that these account for more than 45% of employees in the county. This is reflective of the Mebane economy which is dominated by the following employers: GKN Driveline North America, Meadwestvaco Healthcare Packaging, AKG of America Inc., General Electric Co, Sports Endeavors Inc, Liggett Group LLC, Nypro, and ARMACELL LLC. Of these eight employers, four have their headquarters in Mebane.

Table C - Alamance County Employment Data (2015)

Sector	Employees	Percentage (%) of Total County Employees
Manufacturing	11,546	16.2
Healthcare/Social Assistance	11,490	16.1
Retail trade	9,237	13
TOTAL	32,273	45.3

US Census Bureau ACS 2015 data

Compared to other counties in the state, Alamance has a high number of manufacturing; healthcare & social assistance; and retail trade jobs.

Race/Ethnicity and Age

2014 data as shown below in Table D highlights that Mebane is slightly more racially diverse than the counties and the state. With regard to ethnic diversity the city is less so than the counties and state. The city's average population age is also younger than that of the Alamance County and state but not Orange County.

Table D - Comparative Race/Ethnicity Demographics; Mebane, Alamance County, State

	Mebane	Alamance	Orange	North Carolina
RACE				
White	68.4%	70.8%	76.5%	69.6%
Black	22.0%	18.3%	12.2%	21.5%
Asian	1.4%	1.5%	8.1%	2.4%
Other	1.9%	6.2%	0.6%	4.2%
Two or more races	6.3%	2.8%	2.6%	2.3%
ETHNICITY				
Hispanic	6.9%	11.9%	8.4%	8.7%
Non-Hispanic	93.1%	88.1%	91.6%	91.3%
AGE				
Median	35.2	39.2	33.3	37.8

DPO5 ACS DEMOGRAPHIC AND HOUSING ESTIMATES 2011-2015 American Community Survey 5-Year Estimates

Environmental Justice

Environmental justice is a key consideration in any project receiving federal funding. Environmental justice describes the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. The Environmental Justice Scan of the Piedmont Triad Region updated in 2016 by the Piedmont Triad Regional Council identifies the location and distribution of populations that represent potential environmental justice issues in the Piedmont Triad Region.

While the federal definition of environmental justice primarily focuses on minority and low income populations the Environmental Justice Scan of the Piedmont Triad Region considered the following nine factors as measures of environmental justice: age, race, poverty status, unemployment, educational attainment, language, disability, vehicle availability, and female homeowners or renters with children. Using data from the U.S. Census Bureau, ACS 5-year estimates for 2010 to 2014, the identified characteristics were collected and compared at the state, regional, and county levels. County averages were used to determine appropriate benchmarks for each characteristic. Much of the Piedmont Triad faces concerns regarding environmental justice. The Piedmont Triad area is comprised of 388 Census tracts. Each federal census tract represents approximately 4,000 people within a contiguous area. This area is defined by the populations; urban census tracts have denser populations and are smaller than rural census tracts with dispersed populations. Within the Piedmont Triad, 367 of these Census tracts (or 94.6%) were found to have above average conditions for at least one environmental justice characteristic. Seven census tracts showed above average conditions for all nine environmental justice characteristics (1.8%). None of these were in or around the Mebane municipal limits.

Alamance County is comprised of 36 census tracts. Within the county, 35 were found to have above average conditions of at least one environmental justice characteristic. None of the census tracts exhibited all nine environmental justice characteristics.

There were census tracts in Mebane that exhibited above county average populations over 65 years old. Lower educational achievement rates were not an issue in the city. English as a second language (ESL) usage is higher in and around Mebane than it is in the county as a whole. However, disability as measured by the scan is not occurring above the county's rate. Access to cars for personal use does not appear to be an important variable in the immediate environs of Mebane but appears to be in the regions surrounding the municipality. Female head of households in the Mebane environs occurs at a higher rate than in the county as whole.

As the City plans for project execution driven by the recommendations of this CTP it must seek to ensure that the groups identified do not bear a disproportionate portion of the burdens associated with the project. And they should also share proportionally from its benefits.

Land Use, Open Space, Natural Resource Protection & Growth Strategy

As outlined in the city's Comprehensive Land Development Plan (Mebane by Design) Mebane has a goal of enhancing, connecting, and permanently protecting its priority natural resources to sustain habitats and areas for the benefit of the community-at-large. Healthy ecosystems produce clean air, water, and habitats, which benefit the local and regional ecology, agriculture, economy, drinking water supplies, recreation, real estate, and physical and psychological health of residents. Protecting natural areas preserves the natural services of water filtration, decomposition, carbon sequestration, biodiversity, and passive recreation opportunities that will benefit all of Mebane's residents, present and future. The recommended projects within this CTP will be in part guided by these desires and restrictions as shown in Map 3 the environmental constraints map and growth strategy overview.

Understanding Mebane's land uses and natural resources are important as they are important factors in determining the location of transportation facilities. Within the 40-square mile City study area (the same used for *Mebane By Design*) land uses are currently:

- Single-family residential uses: 29 – 34%
 - Since 2010 several new single-family subdivisions have been built.
- Multi-family residential: 3.5%
- Non-residential: 10%
 - commercial, office, institutional, industrial, recreational and open space, infrastructure
- Undeveloped areas: 15 – 32%
- Under-developed areas: 31.5%

Mebane is located in the Haw River subwatershed of the upper Cape Fear River watershed, which is the largest river basin in North Carolina. Protecting streams and rivers is important for protecting water quality for Mebane and for downstream users of the Haw River. The CTP will support open space and unstructured recreational activities, connect pedestrian access, greenways, and bikeways across I-40/85, and connect job centers to residential areas.





The growth area strategies outlined in Mebane by Design will be supported through adherence to the growth strategy developed to provide a geographic context for land development vision, goals, and policies. Growth areas are grouped based on their access to existing infrastructure with G-1 having the greatest access and G-4 having the least access. Conservation areas (C) have high natural resource value and are intermixed within different growth areas.

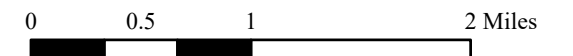
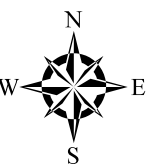
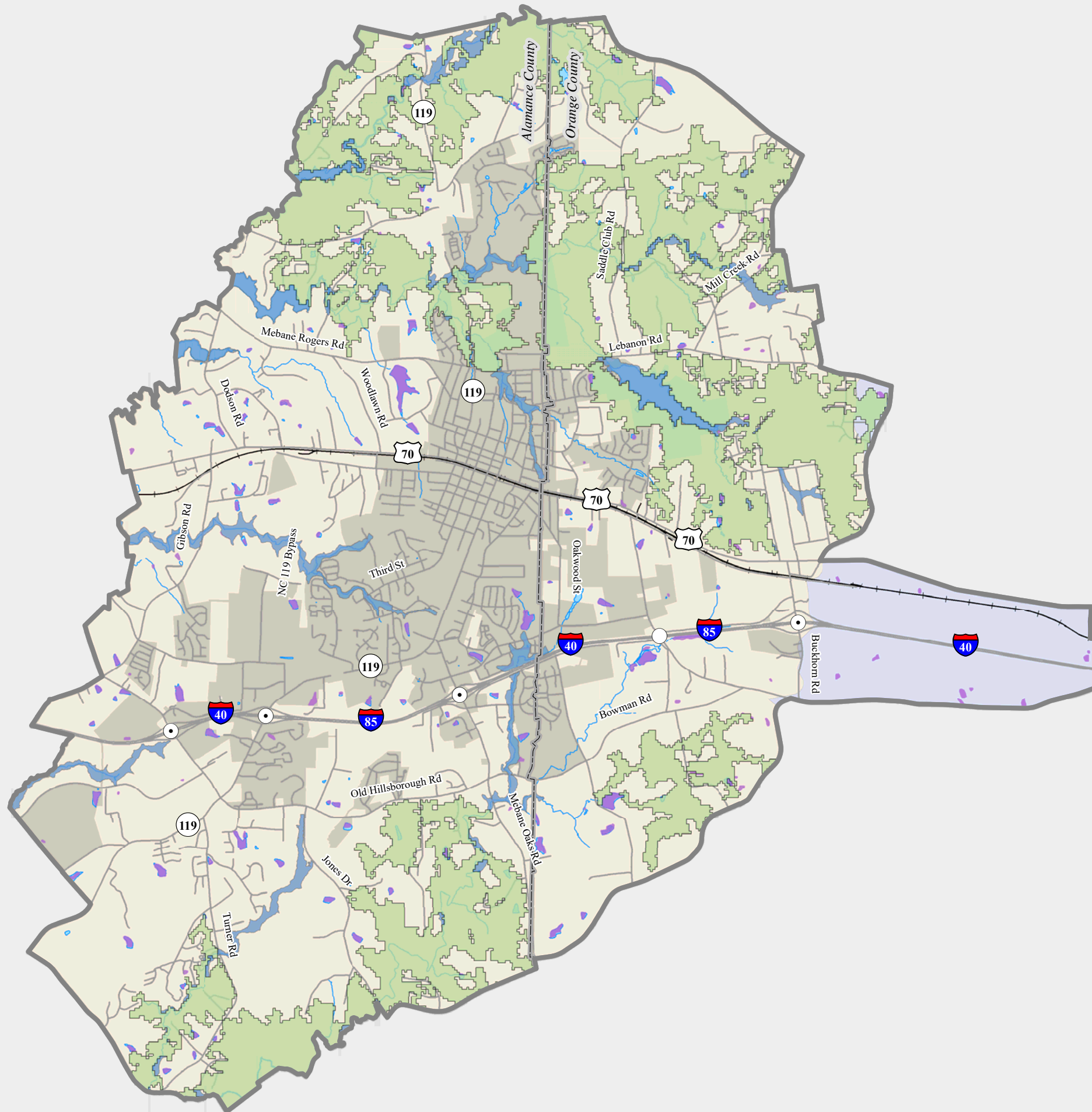
As outlined in Mebane by Design Primary Growth Areas (G-1) areas have immediate access to existing municipal infrastructure and services. Development projects within Primary Growth Areas that serve the plan's guiding principles and the community-at-large should be encouraged over the next 5 years. These areas include several opportunities for suburban infill and the reuse of underutilized property. Primary Growth Area (G-2) areas have immediate access to most existing municipal infrastructure and services. Development projects within Primary Growth Areas that serve the plan's guiding principles and the

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Environmental Constraints

Legend

-  Floodzones
-  Wetlands
-  Contiguous Forest Cover (500+ Acres)
-  Cape Fear River Basin
-  Neuse River Basin
-  Roadways
-  Existing Grade Separation
-  Existing Interchange
-  Mebane City Limits



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community-at-large should be given encouragement over the next 5-10 years. Primary Growth Areas (G-3) have some existing municipal infrastructure and services but requires significant investments in new roadways, sewer or other services to fully serve this area. Any development projects within the G-3 area that serve the plan's guiding principles and the community-at-large should be encouraged over the next 10 years. Most of Mebane's residents currently live in areas designated as Secondary Growth Area, where the City supports growth by maintaining existing infrastructure.

These factors also served as a guide in the prioritization of projects in the CTP.

Stakeholder Engagement and Public Involvement

Stakeholder engagement used in the development of the Mebane CTP took three main forms: a steering committee, traditional public workshops and an online survey.

Steering Committee

The CTP Steering Committee met twice at the Mebane Arts and Community Center (MACC), once on October 12, 2016, and again on June 9, 2017. The first meeting set the direction and goals of the CTP; the second was a feedback meeting for drafted plan projects.

Public Meetings

Two Public Meetings were held to garner feedback from stakeholders. They were held:

- **June 28, 2017** at the Mebane Arts Center at 622 Corregidor Street, Mebane, NC 27302 between 6 and 8 PM
 - There were 58 signed attendees
- **July 13, 2017** in the City Council I Room, Town Hall 106 E Washington St, Mebane, NC 27302 between 6 and 8 PM
 - There were 12 signed attendees

Both meetings were cohosted by the City and Mebane on the Move (a local nonprofit organization).

The meetings provided an overview of the CTP development process, highlighted the current stage of the Mebane Plan, and showcased potential multi-modal improvements for public comment. Information was provided for each mode as follows:

- Transit – Recommendations focused on the potential of a new circulator route within the city
- Bicyclist and Pedestrians – Recommendations were based on previous city plans (particularly the 2015 Bicycle and Pedestrian Transportation Plan), citizen input, and facilitation of congruent and cost effective multimodal upgrades.
- Roadway – Recommendations were a product of the current traffic modelling effort developed for the Burlington-Graham Metropolitan region and tweaked to include current development trends in Mebane and
- Potential streetscape Improvements

Online Survey

Additional input on the CTP was provided via an online survey. The survey was available to anyone who wished to comment. It was available between April 8, 2017 and July 24, 2017 at the Mebane.publicinput.com website (now closed). The survey included 15 questions, had 205 unique voters of mostly Mebane residents, garnered more than 1490 votes, and had in excess of 945 comments. .

The majority of residents who took the online survey are from the more densely populated sections of the city. Details of the survey demographics can be found in Appendix A.

The survey also yielded the following results:

- Respondents
 - More than 75% are between 23 & 49 years of age
 - Most live within the more densely populated central areas of the city
 - More than 35% have lived in the city between 5 and 9 years
 - They represent a wide cross section of income groups
 - They appear to be equitably represented across the predominant races
 - Persons of Hispanic descent are under represented
- Top 3 Transportation Priorities are

• Retaining Mebane’s Charm	24%
• Improving Access	23%
• Improving Safety	23%
- Top 3 Means to Achieve Priorities

• Building more sidewalks	25%
• Building More Greenways	21%
• Street widenings/Creating more bike lanes	18% (tie)
- Most commonly used mode of transportation is Driving Alone
- Minor to moderate delay is acceptable to most residents
- Safety Improvements cited as necessary for motorized and non-motorized modes
- Travel appears concentrated along specific corridors

Details of the survey can be found in the final report on the survey - [Mebane 2040 Comprehensive Transportation Plan Online Survey – Findings AUGUST 2017](#) at the end of this CTP in Appendix A.

Chapter 3 – Roadway Element

Background

Roadways are defined by their functional classifications. The CTP addresses the operations of the following road types:

Principal Arterial (Interstate, Freeway, Expressway, and Boulevard): These roadways serve major population centers and have the highest traffic volumes. Can carry a larger portion of the overall traffic in an area and typically offers the shortest driving distance between points. An example is I-85 / I-40

Collector: These roadways provide access from arterial roadways to residential, commercial, and industrial land uses. Typically collector roadways have a two-lane section with slower speeds than arterials. Collector streets distribute trips from arterials to their ultimate destination. A majority of the roadways within the study area are considered collector roadways. An example is 3rd Street.

Roadway segments were analyzed using the methodology outlined in the *2010 Highway Capacity Manual* (HCM) published by the Transportation Research Board. Capacity, level of service and safety are the primary design criteria for roadway recommendations in the Mebane CTP.

Level of Service

The HCM defines capacity as “the maximum hourly rate at which persons or vehicles can reasonably be expected to traverse a point or uniform section of a lane or roadway during a given time period under prevailing roadway, traffic, and control conditions.” Level of service (LOS) is a term used to represent different driving conditions, and is defined as a “qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers.” Level of service varies from Level “A” representing free flow, to Level “F” where breakdown conditions are evident. Refer to Table E for HCM levels of service and related average daily traffic (ADT) volume. Although roadway capacity is typically associated with an hourly traffic volume, this study uses daily traffic volumes for the Mebane CTP. The level of service relationship to daily traffic volumes as shown below, is directly from the HCM.

Table E - LOS Definitions

2 lanes left-turn lanes at intersections. Posted speed 30 mph		4-lane divided left-turn lanes at intersections. Posted speed 45 mph		6-lane divided left-turns at intersections. Posted speed limit 45 mph.	
LOS	ADT Range (vpd)	LOS	ADT Range (vpd)	LOS	ADT Range (vpd)
C	0 – 5,300	C	0 – 19,300	C	0 – 28,700
D	5,301 – 13,800	D	19,301 – 33,500	D	28,701 – 48,600
E	13,801 – 17,900	E	33,501 – 34,100	E	48,600 – 48,900
F	> 17,900	F	> 34,100	F	> 48,900

Source: Transportation Research Board “Highway Capacity Manual 2010” Chapter 16.

Existing Conditions

Generally, most of the major roadways within the study area are operating well, with some congestion observed most frequently around the interchange locations and along Fifth Street. It is anticipated that the Fifth Street congestion will be relieved once the NC 119 Bypass is completed and open to the public.

The following Table F provides a summary of the major existing roadways within the study area, their current roadway width (in number of lanes), and the most recent NCDOT published AADT. This data was used to develop the 2015 LOS, shown on Map 4.

Table F - Existing Roadways Classifications, ADT and LOS

Roadway Name	Number of Lanes	NCDOT Published AADT ¹ (Annual Average Daily Traffic)	LOS
E. Brown Street	2-lane	960	C
Bowman Road	2-lane	1,100	C
Buckhorn Road	2-lane	9,900	D
Center Street	2-lane	10,000	D
Dodson Road	2-lane	2,200	C
Eighth Street	2-lane	1,600	C
Fifth Street	2-lane	14,000	E/F
Gibson Road	2-lane	3,700	C
Holmes Road	2-lane	12,000	D
Holt Street	2-lane	1,400	C
I-40 / I-85	8-lane Divided	106,000	C
Jones Drive	2-lane	2,000	C
Lake Latham Road	2-lane	1,700	C
Lebanon Road	2-lane	3,500	C
Mattress Factory Road	2-lane	2,500	C
Mebane Oaks Road (north of Brundage Lane)	5-lane	25,000	F
Mebane Oaks Road (south of Old Hillsborough Road)	2-lane	4,400	F
Mebane Rogers Road	2-lane	4,200	C
Mill Creek Road	2-lane	1,700	C
NC 119 (north of Center Street)	2-lane	6,800	D

1. NCDOT published 2015 volumes within CTP study area

Roadway Name	Number of Lanes	NCDOT Published AADT ¹ (Annual Average Daily Traffic)	LOS
NC 119 (south of Holmes Road and north of Hawfields Elementary School Road)	3-lane	19,000	F
NC 119 (south of Hawfields Elementary School Road)	2-lane	9,700	D
Oakwood Street	2-lane	2,600	C
Old Hillsborough Road	2-lane	5,900	D
Stagecoach Road	2-lane	4,800	C
Stone Street	2-lane	2,200	C
Supper Club Road	2-lane	1,600	C
W. Ten Road	2-lane	1,800	C
Third Street	2-lane	5,000	C
Third Street Extension	2-lane	8,200	D
Trollingwood-Hawfields Road	2-lane	7,800	D
Turner Road	2-lane	3,200	C
US 70	2-lane	10,000	D
Washington Street	2-lane	2,700	C
Woodlawn Road	2-lane	2,300	C

1. NCDOT published 2015 volumes within CTP study area

NCDOT STIP Projects

Map 5 shows the NCDOT funded projects from the current 2018-2027 NCDOT STIP that are within the CTP study area boundary. These are also listed in Table G.

Table G - Relevant Current TIP Funded Projects

STIP Number	Summary
U-3109A	Phase 1 of NC 119 Bypass
U-3109B	Phase 2 of NC 119 Bypass
U-6013C	Phase 3 improvements to NC 119 south of I-40 / I-85
I-5711	Interchange improvements at Mebane Oaks Road
I-5954	Interstate maintenance on I-40 / I-85
I-5958	Interstate maintenance on I-40 / I-85

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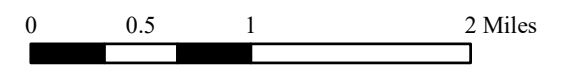
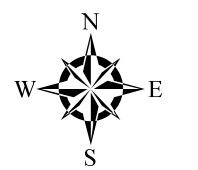
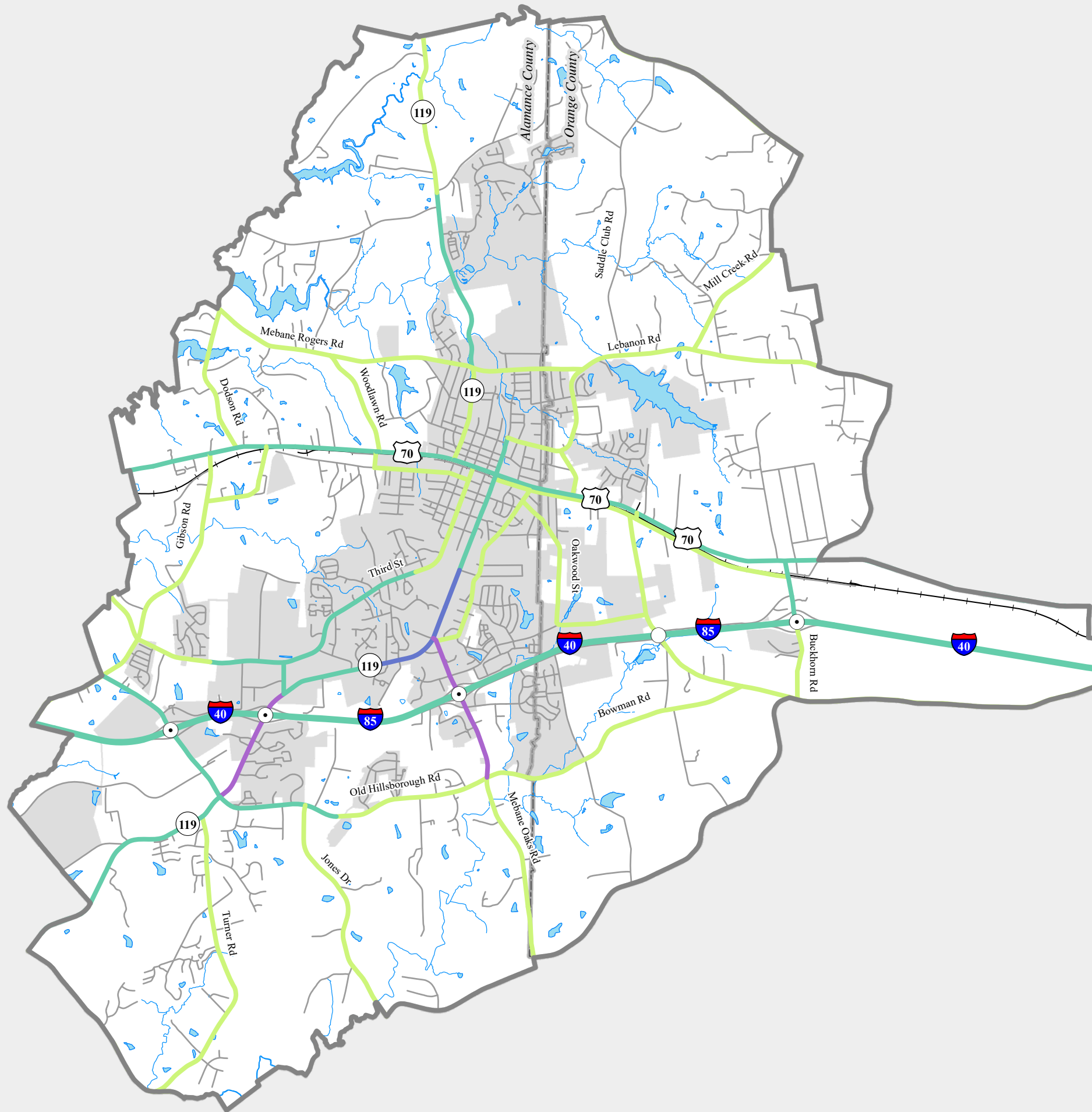


City of Mebane
2040 Comprehensive Transportation Plan

2015 Existing Daily Level of Service

Legend

- LOS C
- LOS D
- LOS E
- LOS F
- No Model Data Available
- Existing Grade Separation
- Existing Interchange
- Mebane City Limits
















Map 4

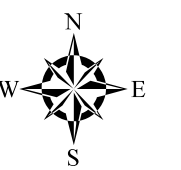
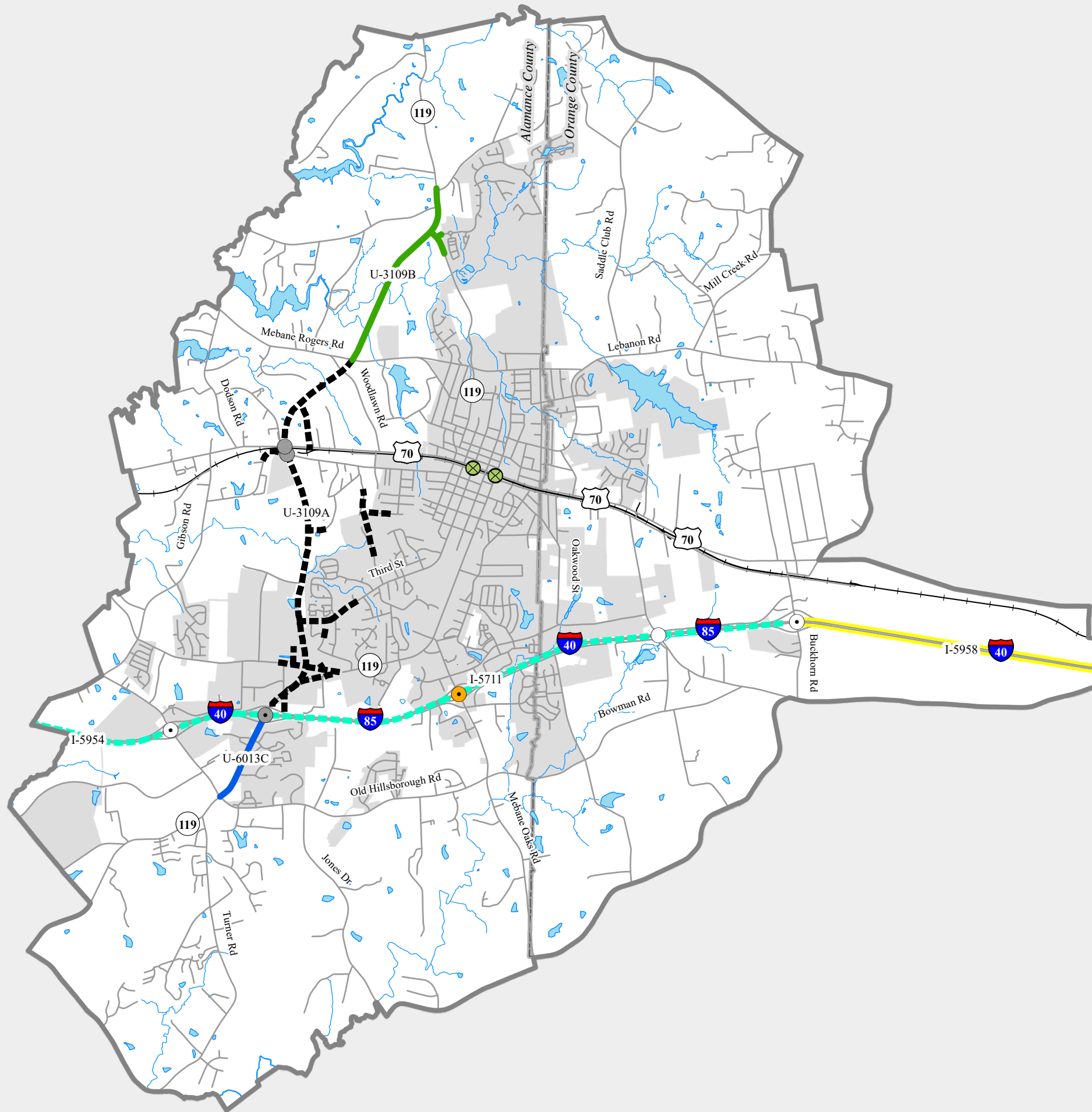
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STIP Projects 2018 - 2027

Legend

-  I-5954 (I-40-85 Maintenance)
-  I-5958 (I-40-85 Maintenance)
-  U-3109A (NC 119 Bypass)
-  U-3109B (NC 119 Bypass)
-  U-6013 (NC 119 Widening)
-  Existing Roadways
-  Proposed Railroad Crossing Improvements
-  Funded Interchange Improvements, I-5711
-  Funded Interchange Improvements, U-3109
-  Proposed Grade Separation, U-3109
-  Existing Interchange
-  Existing Grade Separation
-  Mebane City Limits



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Safety

Crash statistics are provided by the NCDOT for five consecutive years from 2011 through 2015. This data represents all reported crash information within the study area. There were a total of 710 crashes, four of which resulted in fatalities or caused serious injuries. Approximately 520 of the crashes resulted in property damage only.

The majority of the crashes occurred at the I-85/ I-40 interchange locations at Trollingwood-Hawfields Road, NC 119, Mebane Oaks Road, and Buckhorn Road. Based on the data provided, the following intersections experienced the highest reported number of crashes within the study area outside of the I-85 interchanges:

- Mebane Oaks Road and Arrowhead Boulevard 47 crashes
- Mebane Oaks Road and Fifth Street / NC 119 54 crashes
- NC 119 and Trollingwood-Hawfields Road / Old Hillsborough Road 31 crashes
- NC 119 and Holmes Road 35 crashes

According to the Department of Motor Vehicles *Crash Data and Information*, published in 2016, the City of Mebane had a total of 426 reported crashes in 2016. Of the reported crashes, none of them were fatal and 110 of the crashes included some type of injury. It should also be noted that no crashes involving pedestrians or bicyclist were reported in Mebane in 2016.

Each year the NCDOT publishes City rankings based on reported crash data. The rankings are based on a number of criteria such as total crashes, crash severity, and crash rates based on population. Cities are ranked in one of two groups; population less than 10,000 or population 10,000 or more. Mebane has a population greater than 10,000 and was ranked appropriately within this group. Table H below summarizes where Mebane falls in the rankings. It should be noted that the lower the ranking, the better.

Table H - City of Mebane Crash Ranking (2016)

Regional Context	Rank
Statewide	72 nd out of 85
Piedmont Regional Triad	14 th out of 18
Alamance County	3 rd out of 4

Source: NCDOT Transportation Safety and Mobility Department

Map 6 shows the crash data for the study area between 2011 and 2015.

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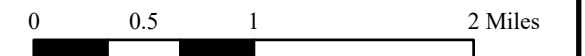
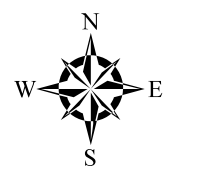


City of Mebane
2040 Comprehensive Transportation Plan

Crash Data 2011 - 2016

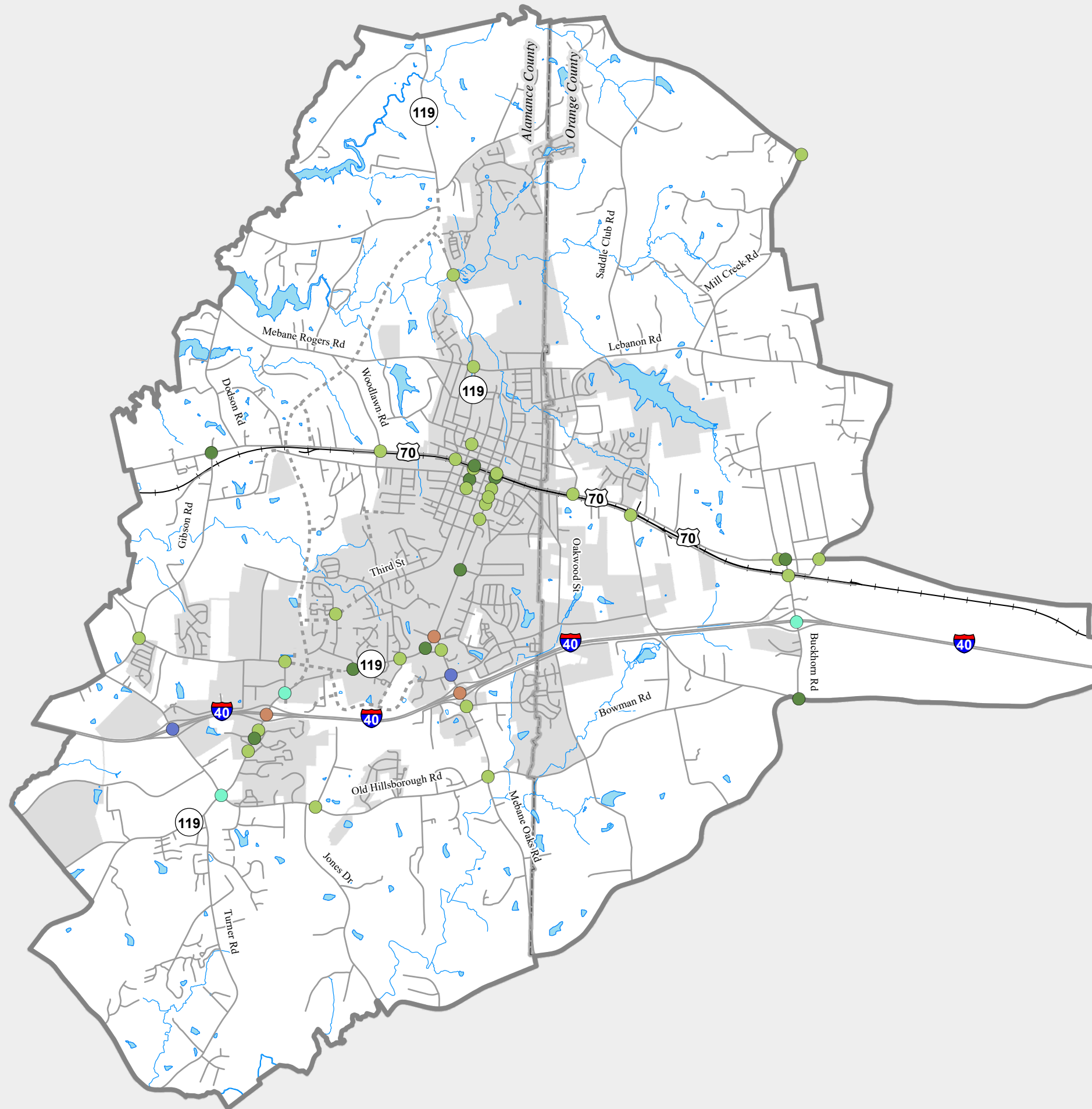
Legend

- Up to 10 Crashes
- Between 10 and 25 Crashes
- Between 25 and 40 Crashes
- Between 40 and 50 Crashes
- Over 50 Crashes
- Existing Roadway
- Approved Future Roadway
- Mebane City Limits



Map 6

Date: March 2018



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Traffic Calming

Traffic calming is the combination of mostly physical features that reduce the negative effects of motor vehicle use, alter driver behavior, and improve conditions for pedestrians, joggers, and cyclists. Traffic calming includes physical and visual measures, as well as educational and enforcement activities. Proactive traffic calming techniques are design elements that are built when the street is built. They include horizontal curves that slow most motorists and raised-curb islands that narrow the travel way at key locations to ensure motorists slow down. Traffic calming can include intersections where “through” traffic must turn and the street name changes. Proactive traffic calming includes generous planting strips with street trees that will grow and mature to provide a canopy over the street, lending visual cues to motorists that induce them to drive at reasonable speeds. Traffic calming measures can be reactive; that is, added to existing collector streets that are experiencing speeding problems. The purpose of traffic calming is to reduce the speed and volume of traffic to acceptable levels, reduce crashes, and to provide safe environments for pedestrians, cyclists, and children.

Future 2040 Conditions

As part of the future 2040 analysis, a regional planning model was utilized to determine expected daily traffic flow volumes on state-maintained roadways within the study area. This model was created by the Piedmont Authority for Regional Transportation (PART), updated in 2016. The updates included funded roadway projects near and within Mebane, including the NC-119 Bypass. Anticipated daily traffic volumes on all modeled roadways were obtained as part of the model analysis results. These daily traffic volumes were utilized to determine the future 2040 daily LOS, which can be seen in Map 7 and the detailed tables in Appendix D

Recommendations

Future 2040 daily LOS was one factor in determining roadway recommendations. Other contributing factors included previous transportation plan recommendations, connectivity enhancements, and public survey responses. The recommendations are meant to indicate where existing facilities may need to be improved or where new facilities should be considered. Roadway facility recommendations are shown in Map 8.

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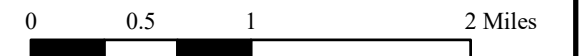
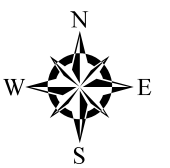
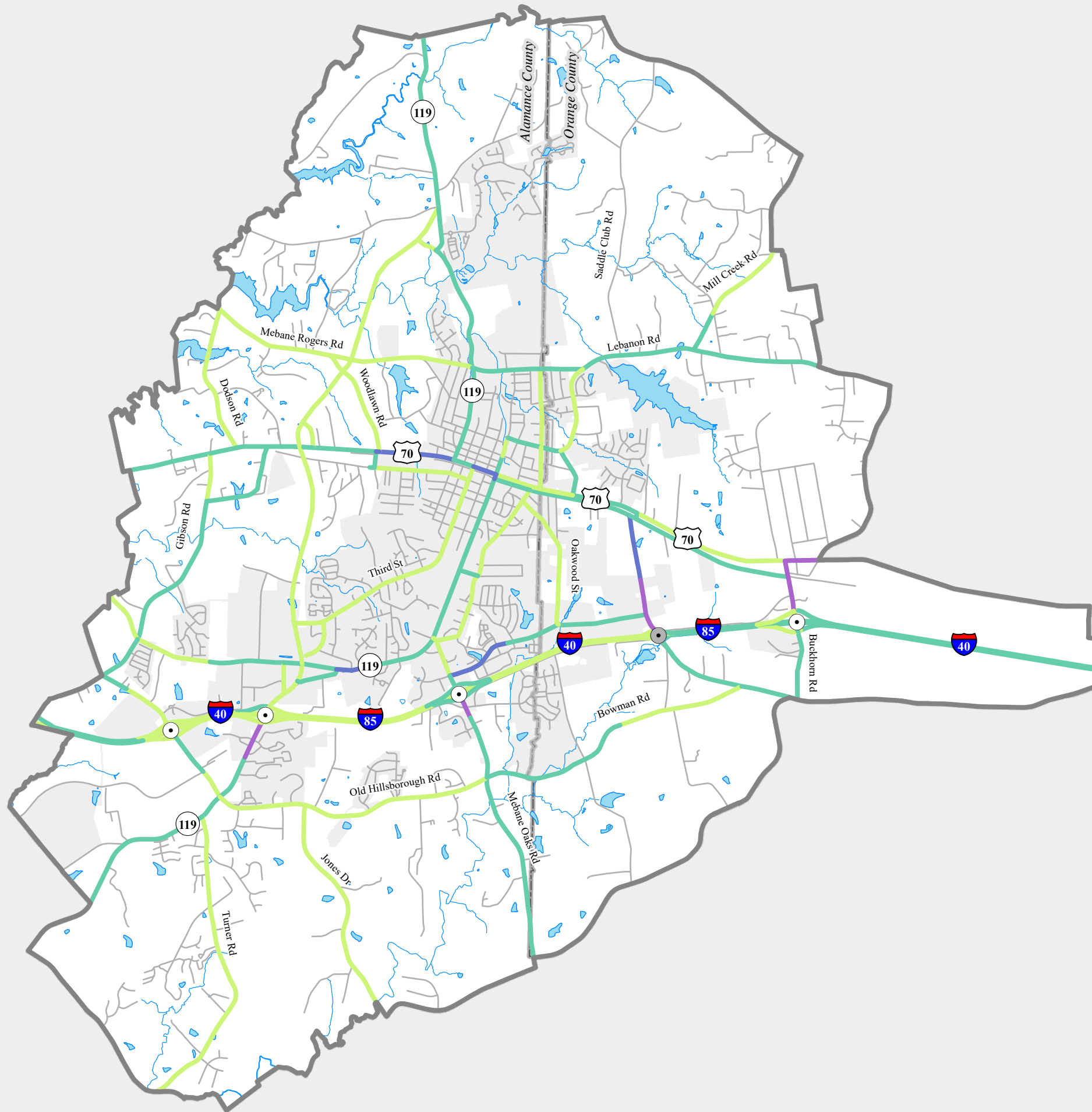


City of Mebane
2040 Comprehensive Transportation Plan

2040 Daily Level of Service with Funded Improvements

Legend

- Existing Interchange
- Proposed Interchange
- LOS C
- LOS D
- LOS E
- LOS F
- Mebane City Limits
















Map 7

Date: March 2018

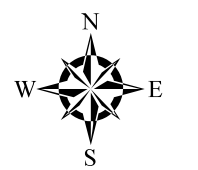
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Roadway Facilities

Legend

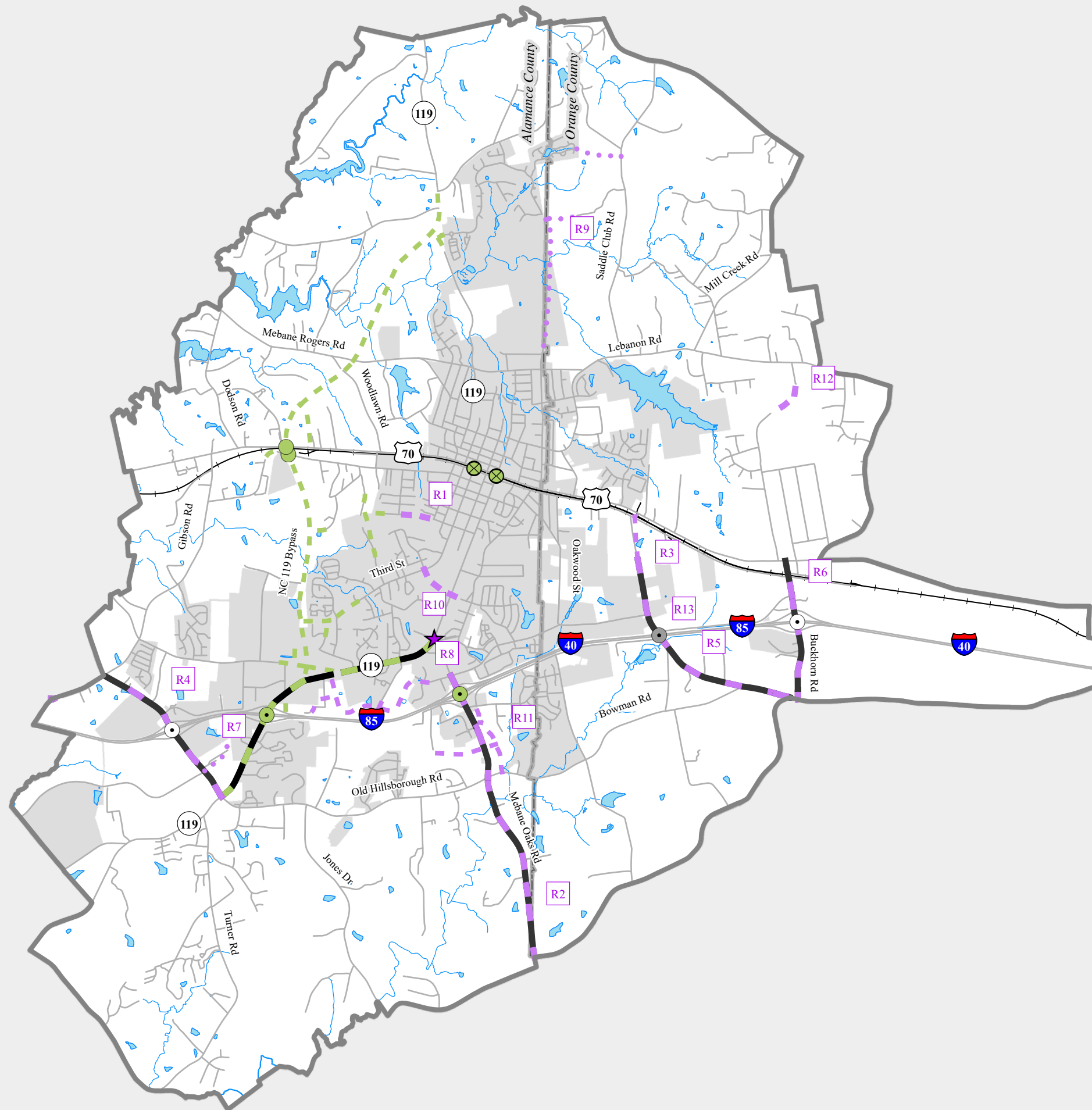
-  Funded Recommended New Road
-  Funded Improved Road
-  Unfunded Potential Connectivity Improvements
-  Unfunded Recommended New Road
-  Unfunded Improvements Needed
-  Existing Roadways
-  Existing Interchange
-  Recommended Interchange
-  NCDOT Funded Grade Separation
-  NCDOT Funded Interchange Modification
-  Proposed Railroad Crossing Improvements
-  Recommended Safety Study
-  Mebane City Limits

R# - Roadway Improvement Project. See plan sheets for details.



Map 8

Date: March 2018



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BGMPO MTP and CTP Roadways to be removed from Mebane 2040 CTP

The following roadways are shown on either or both the Metropolitan Transportation Plan (MTP) or the regional Comprehensive Transportation Plan (CTP). This study shows that the following roads will not be needed in the future, based on the City of Mebane's adopted Growth Strategy Areas Map in the Comprehensive Land Development Plan.

Brown Street Extension - prior studies recommend extending Brown Street to connect North 1st Street with North 5th Street, a distance of approximately one-third of one mile, with a two-lane street. Justification is not documented in the prior studies. The Mebane CTP Team recommends removal of this future roadway from the CTP and MTP because the impact of relocating existing residents outweighs the benefit of a new street in the area. This area is not in one of the Mebane growth strategy areas, so a change to existing development is not envisioned. One block south of Brown Street is Crawford Street that provides the same connectivity in lieu of extending Brown Street.

Northeast Mebane Bypass – northeast of downtown Mebane, was a proposed new two-lane road approximately two miles long between US 70 east of downtown and NC 119 north of downtown. The countywide CTP shows the road on new location between US 70 at McBane Store Road then following an alignment south and west of Lake Michael to NC 119 north of Stagecoach Road. The Mebane Growth Strategy Area Map shows most of this area as “conservation” which indicates very little change to existing land use, thus it is not anticipated that traffic volumes will increase substantially enough to justify a new road through the area.

South Mebane Cross-Town Connector Road – south of downtown, was a proposed new east-west connector road is shown on the countywide CTP following an existing power easement. Prior studies recommended building a two-lane road for approximately three miles between the future NC 119 and Mattress Factory Road. A new road in this location would enhance east-west connectivity in the central portion of Mebane and provide a reliever route parallel to Washington Street and Center Street. However, in a presentation to the Mebane CTP Stakeholder Committee and to city staff there is no support for such a road amid concerns about the disruption it would create to established residential neighborhoods. Some of the proposed connectivity can be achieved with alternative street projects; that is, the proposed West Roosevelt Street extension westward to Tate Avenue and eastward to South 1st Street at West Roosevelt Street.

South 5th Street Multi-lane Widening – the countywide CTP shows South 5th Street south of Roosevelt Street as “needs improvement”. Previously, NCDOT considered widening the corridor to a four-lane median-divided typical section. The Mebane CTP Team analyzed South 5th Street and developed photo-simulations of different options to enhance mobility, access and safety on the entire corridor between Mebane-Oaks Road and Washington Street. While the 2016 and 2040 average daily traffic (ADT) volumes are “at capacity” there is only one public street intersecting South 5th Street between Mebane-Oaks Road and Roosevelt Street; thus, the only left-turn movements would be at residential driveways. Furthermore, it is anticipated that once the new NC 119 is built on the west side of Mebane it will provide substantial relief to congestion on South 5th Street. The consensus opinion among the Mebane CTP Stakeholders Committee was to present the options at public meetings, record public opinion and revisit the recommendation when the draft Mebane CTP Report is presented. The Mebane CTP Team developed a route for proposed circulator bus service along South 8th Street as an alternative to South 5th Street.

Supper Club Road Extension Across NCRR – a new crossing of the North Carolina Railroad at this location is not justified and was not included in the 2017 study of the rail corridor that was led by NCDOT Rail Division. The Supper Club Road extension to Washington Street that as shown on the countywide CTP should be removed.

Chapter 4 – Bicycle and Pedestrian Element

Bicycle and Pedestrian Framework

The Mebane CTP builds on the extensive planning conducted in 2014 that culminated in adoption of the *City of Mebane 2015 Bicycle and Pedestrian Transportation Plan*. It provides a broad vision, strategies and actions for the improvement of the bicycling and walking environments in Mebane. The purpose of the plan is to expand the existing network, complete network gaps, provide greater connectivity, educate and encourage the public, and maximize funding sources. The Vision and Goals of the City of Mebane's Bicycle and Pedestrian Transportation Plan will guide the development and implementation of the City's bicycle and pedestrian networks and programming for years to come.

The recommendations of the *2015 Bicycle and Pedestrian Transportation Plan* are supported by the 2040 CTP. The *2015 Bicycle and Pedestrian Transportation Plan* was adopted by the City in January 2015 after nine (9) months of analysis which included robust engagement with more than 200 residents. The Plan provides specific, appropriate, and context-sensitive infrastructure, policy, and programmatic recommendations for each land use type, roadway and corridor.

The health and economic benefits of walkable and bikeable communities underscore the importance of implementing the Plan. People and businesses choose to live and relocate to communities that provide a high quality of life, including those with greenways, sidewalks and bikeways. Studies show that homes that are adjacent to greenways and trails have a higher property value and that was reinforced in a 2002 survey by the National Association of Realtors that showed homebuyers rank trails as the second-most important community amenity when they compare homes for purchase. Additionally, national transportation surveys show that almost 50 percent of all trips are three miles or shorter in length. A three-mile trip takes only 15 minutes by bicycle and about one hour by foot. The distance from downtown Mebane to the center of the Tanger Outlet Mall is about two miles. Safe and convenient walking and cycling facilities allow mobility for seniors, children and citizens who are without automobiles. There are portions of downtown Mebane and the East End where census data shows 20 to 30 percent of households do not have an available vehicle. The percentage increases to 30 - 50 percent of households in neighborhoods south of Washington Street and east of Ninth Street.

Existing Conditions

Advantages: a large portion of the Mebane population already walks or bikes some of the time, for recreation, exercise or utilitarian purposes. Downtown Mebane already is walkable; there are anticipated investments planned at the rail crossings that will improve the condition of those crossings for pedestrians and cyclists. Downtown Mebane is a bustling hub of activity with key destinations such as shops, restaurants and services. The grid pattern of streets downtown is conducive to walking. Beyond downtown, many streets in Mebane are favorable for walking and cycling because they have low auto traffic volumes and speeds. Some of these streets connect with downtown Mebane. The City maintains numerous miles of utility easements that can eventually serve as greenway corridors; these are ideal walking and cycling corridors because they are relatively flat and regularly maintained.

Challenges: there are gaps in the sidewalk system; some are short while others go on for several blocks. Gaps are a serious deterrent to walking. Many intersections lack needed pedestrian crossing treatments

such as crosswalks, curb ramps and countdown signals. Some of the existing sidewalks are in need of maintenance. Debris left at the curb or street edge by homeowners can be a hazard for pedestrians and cyclists. The City has no bike lanes, sharrows or paved shoulders for cyclists. The North Carolina Railroad corridor is a barrier to pedestrians and cyclists. Highways and major streets with posted speeds of 45 mph or more are also barriers to people trying to cross on foot or ride along on their bikes. Some public schools are inconveniently located in places that are not safe for pedestrians or cyclists to access.

Bicycle Facility Improvement Recommendations

The *2015 Bicycle and Pedestrian Transportation Plan* includes recommended changes that will create a network of safe, accessible facilities to ride bikes. These changes include bike lanes, paved shoulders, shared lane markings also known as sharrows, neighborhood bicycle boulevards and bicycle route signs. These changes may occur on the street pavement, within the street right-of-way or along public utility easements (greenways mentioned in the pedestrian section).

The *2015 Bicycle and Pedestrian Transportation Plan* crafts recommendations to meet a wide range of cycling skill levels, ranging from youngsters just beginning to ride to people who view a bicycle merely as a means of getting somewhere and then to the enthusiast who spends money on good equipment and rides confidently in all traffic and weather conditions. One type of facility will not accommodate all types of riders. The *2015 Bicycle and Pedestrian Transportation Plan* estimates that sixty percent of the population as being interested in cycling but concerned about their safety. Another thirty percent of the population is identified as “No way, No how” meaning there is nothing that will make them get on a bicycle.

Bikeway Recommendations: the *2015 Bicycle and Pedestrian Transportation Plan* recommends 33.3 miles of bikeways in Mebane; of which four miles are identified as a priority. The cost estimate for two of the priority projects is approximately \$76,000 which covers two miles of bikeway. The Plan does not provide a cost estimate for the other two miles.

Programs, Policy Changes and Partnerships

The *2015 Bicycle and Pedestrian Transportation Plan* identifies numerous policy changes along with some existing and new programs and some existing and new partners. One of the most important partners is Mebane on the Move; it is a coalition of city leaders, educators, health professionals, citizens and business leaders working toward broad goals of increasing the health and wellness of the Mebane community. The *2015 Bicycle and Pedestrian Transportation Plan* recommends actions to engage Mebane on the Move and other existing and new partners to implement policies and programs that will educate and get people excited about walking and bicycling.

Implementation

The following implementation action items are identified in the *2015 Bicycle and Pedestrian Transportation Plan*:

1. Form a Bicycle and Pedestrian Advisory Committee.
2. Apply for Bicycle Friendly City status and/or Walk Friendly Community designation.

3. Identify funding sources. Leverage opportunities such as street repaving projects and underground utility work.
4. Build bicycle and pedestrian improvement projects. Focus first on filling short sidewalk gaps and adding marked crosswalks at intersections.
5. Use the Design Guide in the Plan when designing street and intersection improvements.

Recommended Bicycle Improvements are shown on Map 9 and Map 10 (downtown inset)

Pedestrian Facility Improvement Recommendations

The *2015 Bicycle and Pedestrian Transportation Plan* includes recommended changes to the area within existing rights of way that will create a safer, more accessible, and connected walkway system. These changes include sidewalks and street crossing improvements such as marked crosswalks, countdown signals, curb ramps for wheelchairs and curb extensions. There are 34 specific intersections where recommendations are provided. Off-road recommendations to build greenways are included.

Sidewalks: more than twelve miles of sidewalk construction is recommended; of which 4,800 feet (less than one mile) is a priority. The estimated cost to build 4,800 feet of sidewalk is about \$135,000 (approx. \$150,000 per mile).

Intersection improvements are recommended at 34 specific intersections; of which the top priority is at Fifth Street / Center Street (Business 70) and the North Carolina Railroad crossing. A cost estimate was not presented in the Plan. Another high priority intersection improvement is at Fifth Street / Mebane Oaks Road and Falcon Lane.
















Trail projects recommended in the *2015 Bicycle and Pedestrian Transportation Plan* total 33 miles, of which nearly six miles are identified as higher priority, at a cost of \$2.9 million (approx. \$500,000 per mile).

Recommended Pedestrian Improvements are shown on Map 11 and Map 12 (downtown inset).

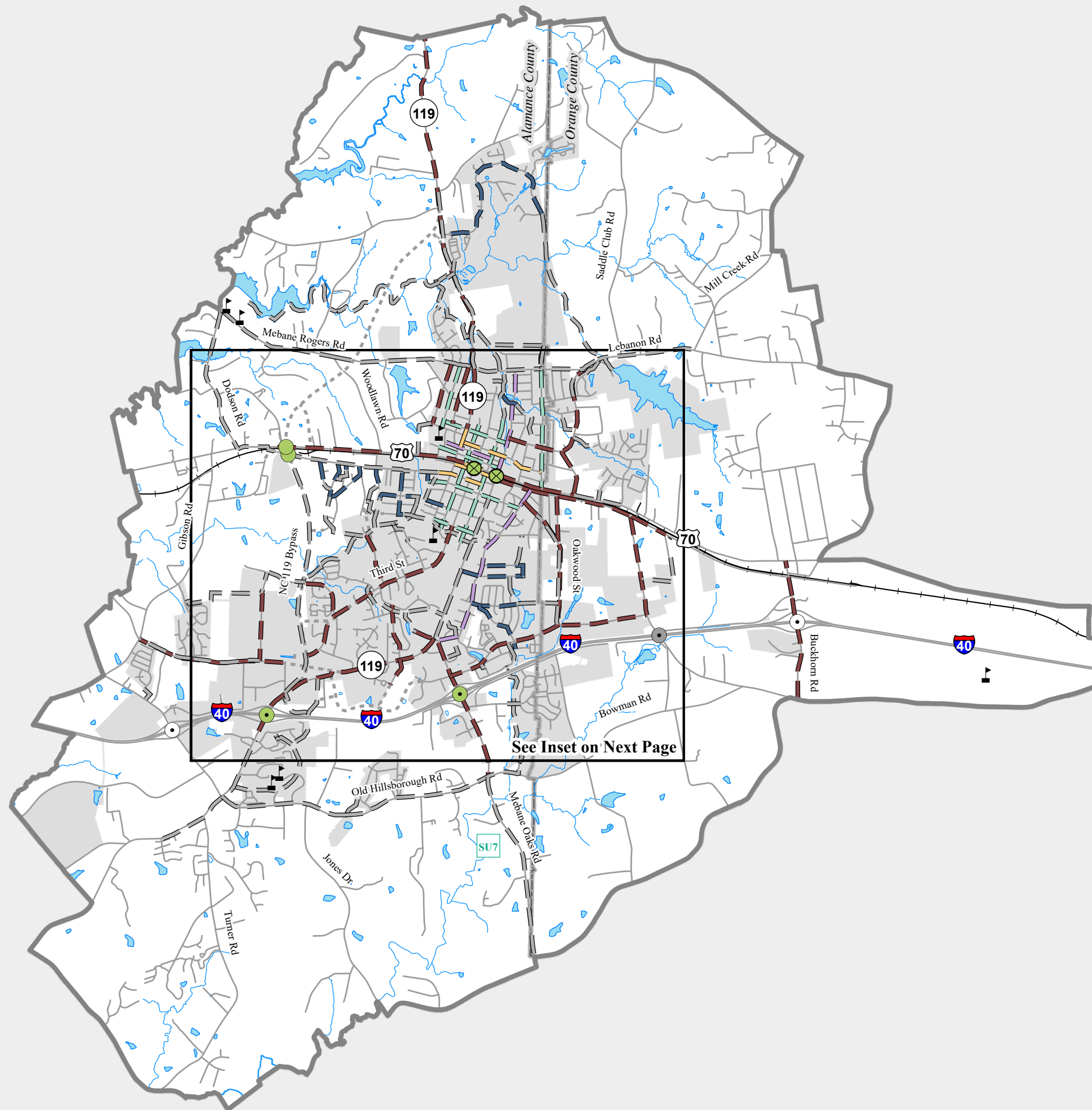
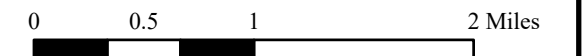
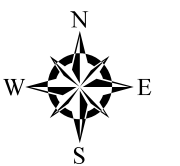
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Bicycle Facilities

Legend

-  Recommended Bike Lane
-  Recommended Signed Route
-  Recommended Bike Boulevard
-  Recommended Paved Shoulder
-  Recommended Shared Lane Marking
-  Recommended Shared-Use Path
-  Existing Roadway
-  Approved Future Roadway
-  School
-  Existing Interchange
-  Recommended Interchange
-  NCDOT Funded Grade Separation
-  NCDOT Funded Interchange Modification
-  Proposed Railroad Crossing Improvements
-  Mebane City Limits
























SU# - Shared-Use Path Improvement Project. See plan sheets for details.



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Downtown Bicycle Facilities

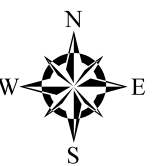
Legend

-  Recommended Bike Lane
-  Recommended Signed Route
-  Recommended Bike Boulevard
-  Recommended Paved Shoulder
-  Recommended Shared Lane Marking
-  Recommended Shared-Use Path
-  Existing Roadway
-  Approved Future Roadway
-  School
-  City Hall
-  Community
-  Grocery
-  Library
-  Medical
-  Post Office
-  Recreation
-  Shopping Center
-  Planned Recreation
-  Recommended Interchange
-  NCDOT Funded Grade Separation
-  NCDOT Funded Interchange Modification
-  Proposed Railroad Crossing Improvements
-  Mebane City Limits

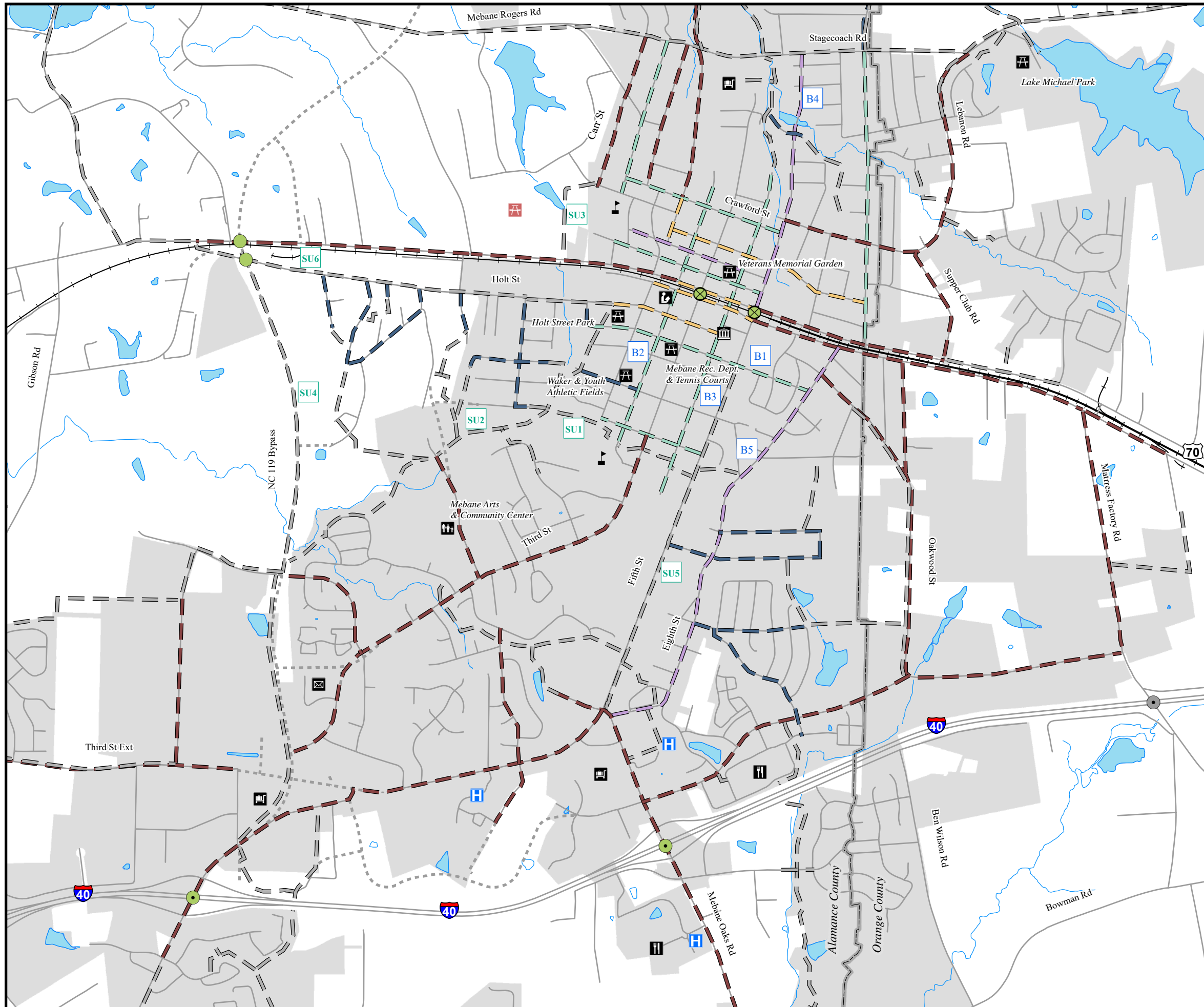
B# - On-Street Bicycle Improvement Project. See plan sheets for details.

SU# - Shared-Use Path Improvement Project. See plan sheets for details.

See Map 9 for SU7
















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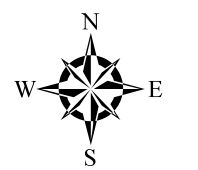
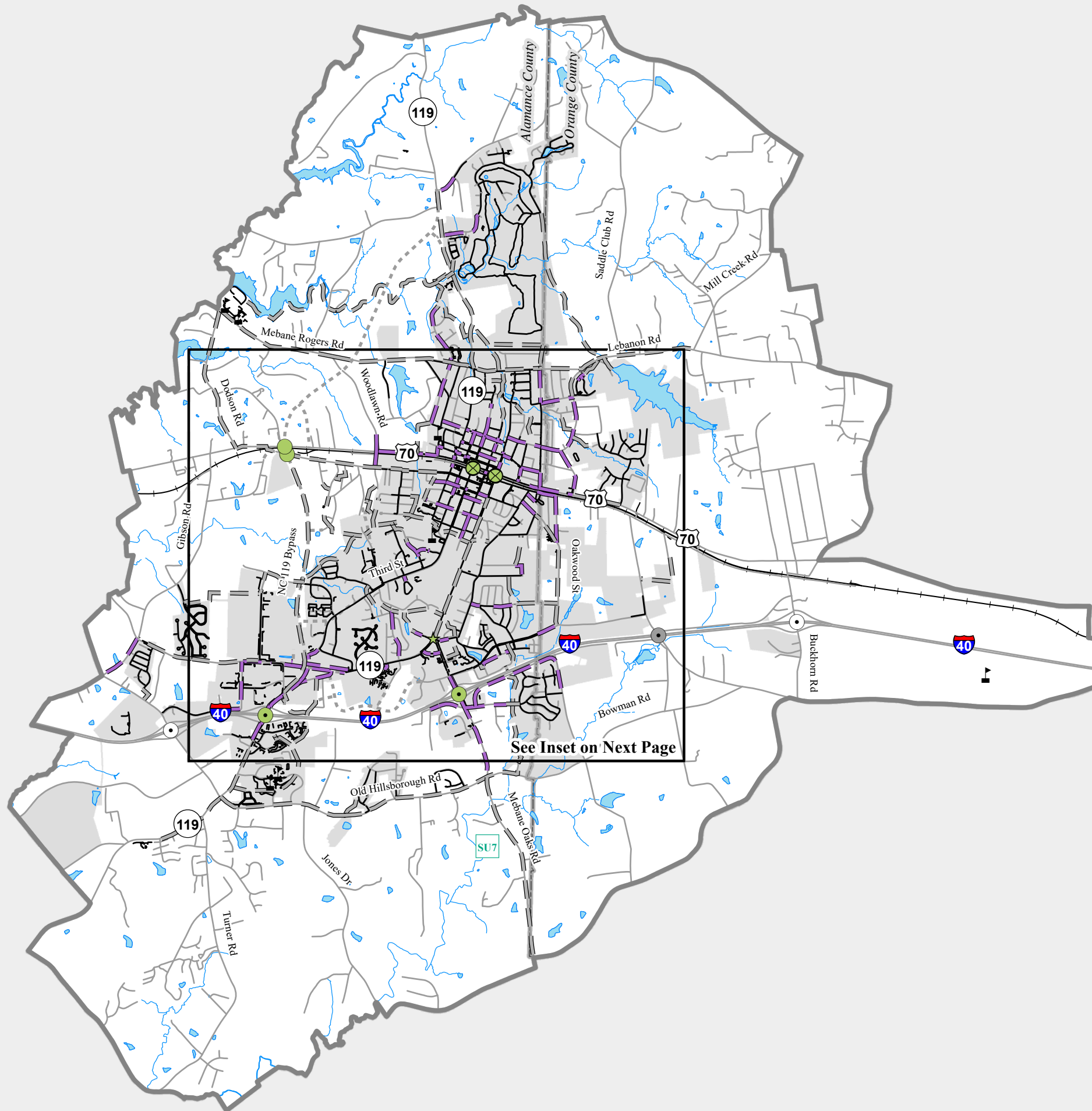
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Pedestrian Facilities

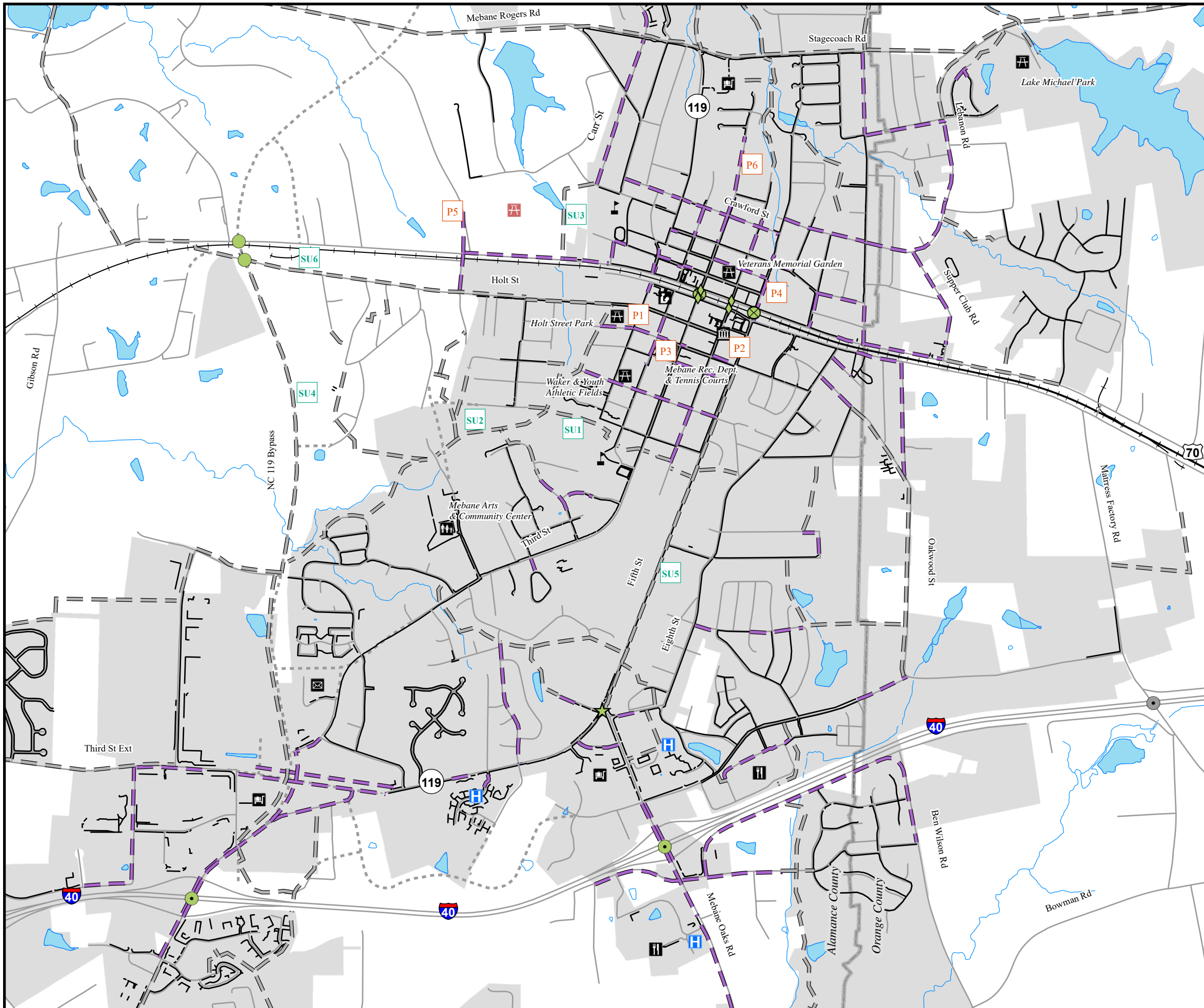
Legend

-  Recommended Sidewalk
-  Recommended Shared-Use Path
-  Existing Sidewalk
-  Existing Roadway
-  Approved Future Roadway
-  School
-  Existing Interchange
-  Recommended Interchange
-  NCDOT Funded Grade Separation
-  NCDOT Funded Interchange Modification
-  Proposed Railroad Crossing Improvements
-  Funded Crosswalk Improvements
-  Mebane City Limits

SU# - Shared-Use Path Improvement Project. See plan sheets for details.



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City of Mebane
 2040 Comprehensive Transportation Plan
Downtown
Pedestrian Facilities

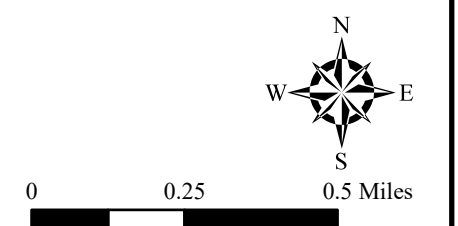
Legend

- Recommended Sidewalk
- Recommended Shared-Use Path
- Existing Sidewalk
- Existing Roadway
- Approved Future Roadway
- School
- City Hall
- Community
- Grocery
- Library
- Medical
- Post Office
- Recreation
- Shopping Center
- Planned Recreation
- Recommended Interchange
- NCDOT Funded Grade Separation
- NCDOT Funded Interchange Modification
- Funded Crosswalk Improvements
- Funded Pedestrian Head Improvements
- Proposed Railroad Crossing Improvements
- Mebane City Limits

P# - Pedestrian Improvement Project. See plan sheets for details.

SU# - Shared-Use Path Improvement Project. See plan sheets for details.

See Map 11 for SU7



Map 12

Date: March 2018

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Chapter 5 – Transit Element

This chapter documents the recommendations and considerations that may be taken when planning a transit program for the City of Mebane. Currently, there is not a local public transit option available to the residents and visitors of the City of Mebane. Based on feedback from City staff and local residents, there is a desire to introduce a local public transit route to the City. Regional transit options are provided to Mebane, with bus stops located at City Hall and Cone Health, but service is not provided within the City limits or to nearby points of interest. By providing a local bus route, residents will be able to use public transit to travel from home to a number of local destination points. A local bus route would provide transportation to individuals who rely on transit and may not have another method of traveling around the City to complete daily tasks.

Existing Facilities and Service

Go-Triangle

Go-Triangle currently offers express bus service from Mebane to Durham. The route currently services regional destination points that run parallel to I-40. Bus stops in Mebane are located at Mebane Cone Health and at Mebane City Hall on E. Washington Street. The stop at City Hall provides sidewalk on the passenger side of the roadway and there is also a bench located near the stop. Service is provided three times in the morning heading eastbound and three times in the afternoon heading westbound (with Mebane being the western-most stop) during a typical weekday. The bus is primarily intended to provide transit for riders who are going to and coming from work, and provides minimal stops to decrease travel time. The final stop at the Durham Station, located at the corner of Chapel Hill Street and Pettigrew Street near the American Tobacco Campus, can be used as a transfer point to additional bus services within the Raleigh-Durham, Chapel Hill Triangle area.

More information can be found on the [Go-Triangle website](#), under information for route #ODX: Orange-Durham Express.

Piedmont Authority for Regional Transportation (PART)

PART currently offers express bus service from Greensboro to Chapel Hill. The route currently services regional destination points that run parallel to I-40 and towards Chapel Hill. The bus stop in Mebane is located at Mebane Cone Health. Service is provided multiple times throughout the typical weekday heading westbound and eastbound. The bus is primarily intended to provide transit for riders who are going to and coming from work, and provides minimal stops to decrease travel time.

More information can be found on the [PART website](#), under information for route #4: Alamance Burlington Express.

Recommended Facilities and Transit Vehicles

A bus route is recommended to travel along roadways that would have sidewalks along the passenger side of the vehicle to provide a safe space for pedestrians to reach the bus stops. Bus signs should be installed at each location, and consideration for benches, trash cans, and covered shelters should also be taken into consideration at the stop locations. Bus stop locations can also have signs installed to inform riders of the bus schedule.

Smaller transit buses are expected to be the best for Mebane. The smaller buses typically seat about 14-20 passengers, and more closely resemble a large van. This will serve anticipated demand, make maneuvering the existing roadways easier, and also will not distract from the local charm of Mebane roads and Downtown. It is recommended to use vehicles that could also accommodate bicycles to be attached to the front or rear of the vehicle. Buses used by the Alamance County Transportation Authority are a good comparison for the type of transit vehicle that is recommended for the City of Mebane.



Source: Alamance County Transportation Authority

Recommended Project

Circulator Route

A circulator bus route is the recommended option to expand public transit in Mebane. The route is intended to provide service to residents as a method of traveling locally around Mebane. Additionally, the route will provide service to the existing bus stops in an effort to make the regional transit more convenient to all residents and visitors. See Map 13 for the recommended circulator route and an example of a potential extension of services.

It should be noted that local residents of Mebane have expressed a desire to have service to the nearby Alamance Community College (ACC) and also have transfers available with Link Transit, which services Burlington, Gibsonville, and ACC. Currently, the PART Express Route services ACC, but connections must be made at Mebane Cone Health, which has limited service throughout the typical weekday. Providing service to these desired areas should be considered in the future as a form of the local transit if the introductory circulator route is successful in its first few years of service.


























Destinations

Recommended bus stop locations are depicted in Map 13. The stops shown on the map are considered to be major points of interest for local residents who may not have means of traveling around the City. These include popular destinations such as the Post Office, City Hall, Downtown, Mebane Cone Health, and grocery stores. When implementing the future transit program, careful consideration should be given to the safe location of bus stops. Stops should be oriented to provide convenient access to public facilities, but not so frequently that travel times are sacrificed.

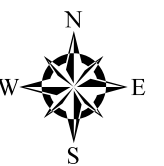
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Transit Facilities

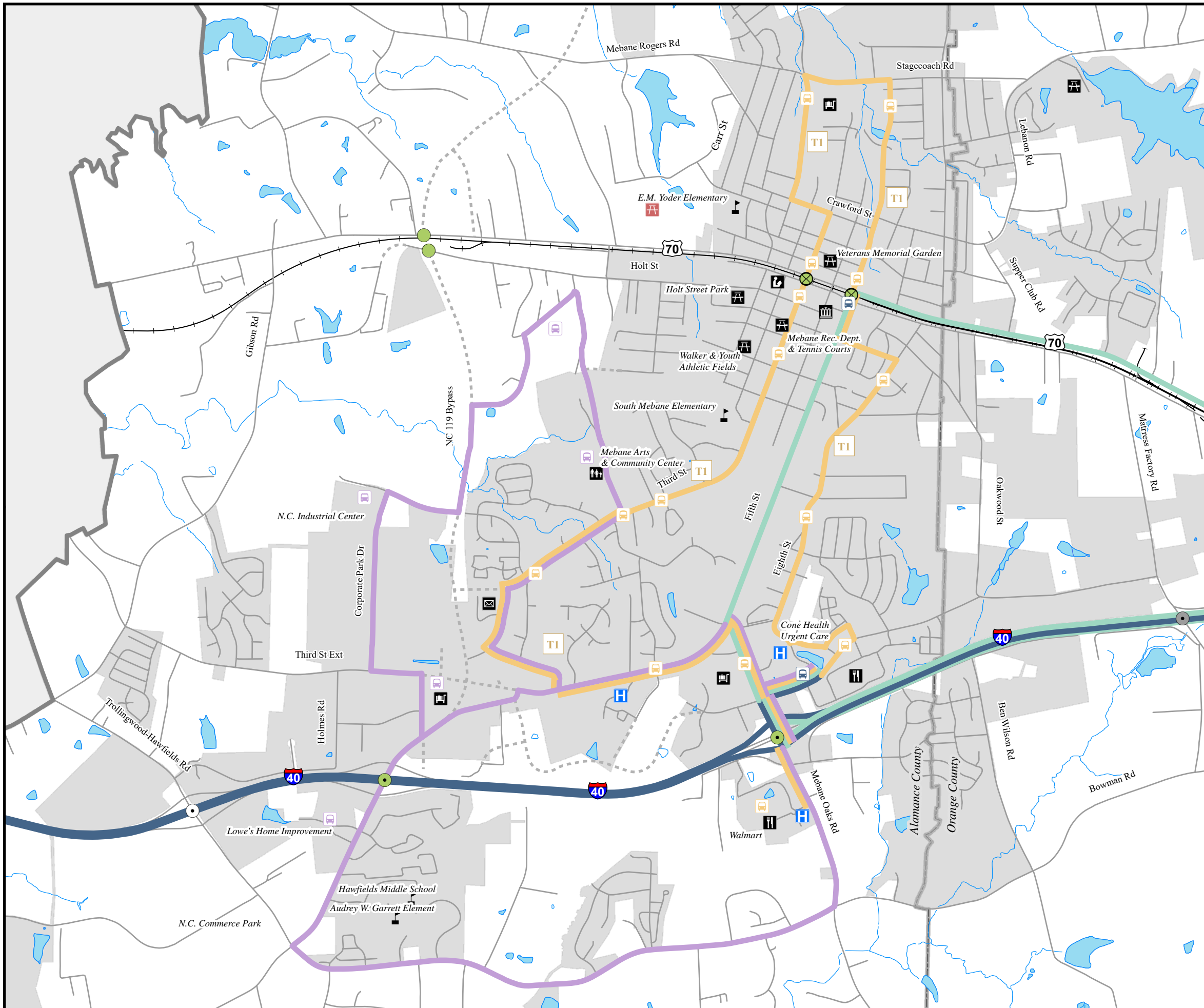
Legend

-  Potential Circulator Route
-  Potential Bus Route
-  Go Triangle: Orange-Durham Express
-  PART: Alamance Burlington Express
-  Existing Roadway
-  Approved Future Roadway
-  School
-  City Hall
-  Community
-  Grocery
-  Library
-  Medical
-  Post Office
-  Recreation
-  Shopping Center
-  Planned Recreation
-  Existing Interchange
-  Recommended Interchange
-  NCDOT Funded Grade Separation
-  NCDOT Funded Interchange Modification
-  NCDOT Funded Rail Crossing Improvement
-  Existing Regional Bus Stop
-  Potential Bus Stop
-  Potential Bus Stop
-  Mebane City Limits

T# - Transit Improvement Project. See plan sheets for details.



0 0.25 0.5 Miles

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Chapter 6 – Recommended Projects

The Mebane Comprehensive Transportation Plan recommends 32 projects across all modes that will serve the population and their desires towards achieving transportation efficiency. Analysis of the transportation deficiencies ascertained from the 2040 projections were used to develop each project. There are 13 roadway, 5 bicycle, 6 pedestrian modes, 6 shared use paths, and 1 for transit projects.

To aid in Mebane's efficient growth through 2040 this section of the plan highlights recommended transportation projects based on analysis of existing conditions, projected growth patterns, recommendations from previous studies, input from city officials, and public needs and desires as expressed through a variety of means.

Transportation improvements are typically funded with a mix of public and private dollars. The mix can vary widely, with all monies coming from public sources while others are paid for entirely as new developments are built. In rapidly growing communities such as Mebane, it is difficult to approve, fund and build transportation improvements at the same pace as new development occurs. There is a process to prioritize the expenditure of public funds that incorporates data and the benefits of each project relative to expected costs. The ideal place to begin thinking about prioritization is with the City's vision and its goals. The City of Mebane's transportation vision as adopted in 2016 states the following:

A safe, cost-effective, reliable and integrated multimodal transportation system that will support sustainable economic development, regional and local connectivity, and healthy living.

- Goal: Provide cohesive connectivity to surrounding areas, cities, and counties.
- Goal: Improve connectivity and continuity of the transportation system and infrastructure to provide citizens with a variety of options for traveling.
- Goal: Develop and maintain the character of the transportation network that is consistent and exemplary of the City's overall development vision.

Analyses were performed as shown below and projects developed based on outcomes. Roadway projects were developed with the use of a 2016 update to the Piedmont Transportation Regional Model, Version 4.2. Roadway projects were broken down by segments along roadways, where applicable. The City of Mebane's 2015 Bicycle and Pedestrian Transportation Plan yielded bicycle, pedestrian, and shared use trails/greenways projects. City staff and community vision led to the development of the transit project.

Project Prioritization Methodology

The following methodology was used to develop suggested priorities for all transportation improvements that are recommended in the CTP. In the future, this prioritization methodology may be used by the City to evaluate new projects; those generated by elected officials, staff and citizens.

Analyses of the deficiencies in 2040 were used to develop each project. Projects were then ranked by mode using the criteria shown below. They were then ranked collectively with the results shown below in Table 9.

Scoring by Mode

Roadway projects were scored using the following criteria with a point awarded for each criterion met. If the project did not address the criterion received a zero. The criteria were weighted as follows; traffic volume management (30%), safety (25%), connectivity enhancement (15%), city character maintenance (15%), citizen determined usage (15%).

- Traffic Volume Management: Does the recommended strategy improve congestion at known problem locations?
- Safety – Does the strategy address injury crash rates at a noted crash sites?
- Connectivity Enhancement – Does the proposed strategy improve the connectivity and reduce travel time?
- Character Maintenance – Does the project seek to maintain the city’s character and meet its outlined development goals?
- Citizen usage – Based on the 1,000 comments received in 2017 via public meetings and a public survey; is this a higher volume usage area?

Bicycle projects were scored using the following criteria with a point awarded for each of the three criterion met. If the project did not address the criterion it received a zero. The criteria were weighted as follows; on-road bicycle facility prioritization (70%), city character maintenance (15%), citizen determined usage (15%). These projects are taken from the 2015 City of Mebane Bicycle and Pedestrian Adopted Plan prioritization tables.

- On-Road Bicycle Facility Prioritization - The five (5) highest ranked were chosen based on the city’s bike and pedestrian study and each was scored a point.
- Character Maintenance – Does the project seek to maintain the city’s character and meet its outlined development goals?
- Citizen usage – Based on the 1,000 comments received in 2017 via public meetings and a public survey; is this a higher volume usage area?

Pedestrian projects were scored using the following criteria with a point awarded for each of the three criterion met. If the project did not address the criterion it received a zero. The criteria were weighted as follows; sidewalk prioritization (70%), city character maintenance (15%), citizen determined usage (15%). These projects are taken from the 2015 City of Mebane Bicycle and Pedestrian Adopted Plan prioritization tables.

- Sidewalk Prioritization - The five highest ranked were chosen based on the methodology used in the study
- Character Maintenance – Does the project seek to maintain the city’s character and meet its outlined development goals?
- Citizen usage – Based on the 1,000 comments received in 2017 via public meetings and a public survey; is this a higher volume usage area? Based on the public survey is this a higher volume usage area?

Shared Use Trails and Greenways projects were scored using the following criteria with a point awarded for each of the three criterion met. If the project did not address the criterion it received a zero. The criteria were weighted as follows; shared use trail prioritization (70%), city character maintenance (15%), and citizen determined usage (15%). These projects are taken from the *2015 City of Mebane Bicycle and Pedestrian Transportation Plan* prioritization tables.

- Shared Use Trail Prioritization - The five highest ranked were chosen based on the methodology used in the study
- Character Maintenance – Does the project seek to maintain the city’s character and meet its outlined development goals?
- Citizen usage – Based on the 1,000 comments received in 2017 via public meetings and a public survey; is this a higher volume usage area?

Transit: Based on citizen input and consultant recommendations, one transit project has been proposed for the 2040 CTP. Other transit connections are envisioned to be added later.

Potential Funding Sources

Projects across all modes: roadway, transit, bike and pedestrian were independently assessed for applicability to funding opportunities. These sources included federal, state, local, private, and other sources. The funding sources are shown and detailed in Appendix B.

Projects were matched to potential funding sources. A single project can have multiple potential funding streams. The greater number of likely funding sources the higher a project scores. Where a single funding source was identified for multiple modes a multimodal premium was applied to score.

Geographical Proximity to other Project Modes

Projects in close physical proximity to another potential project of a different mode were noted and scored with a point. This was done to highlight the value of projects that develop Mebane’s multimodal network. Executing projects simultaneously can be beneficial and improve cost efficiencies.

Project Ranking

Projects were scored by mode, then by the number of potential funding sources, and finally by geographical proximity to other projects across the variety of modes. An example of the scoring sheet is shown in Appendix D. See Table I for the final listing.

Table 1 - Project Prioritization by Mode

Rank	Roadway	On-Road Bicycle	Pedestrian	Shared Use	Transit
1	West Roosevelt Street Extension	Jackson Street Bike Boulevard	W. Jackson Street Sidewalk	Roosevelt Street Shared Use Path	Mebane Circulator
2	S. Mebane Oaks Road Widening	2 nd Street Bike Boulevard	E Jackson Street Sidewalk	Mebane Arts & Community Center Shared Use Path	-
3	N. Mattress Factory Rd Improvements/Realignment with Washington St	4 th Street Bike Boulevard	S. 2 nd Street Sidewalk	E.M. Yoder Elementary School Shared Use Path	
4	Trollingwood-Hawfields Road Widening	N. 5 th Street Bike Lane	N. 5 th Street Sidewalk	NC 119 Bypass Shared Use Path	-
5	Mattress Factory Road Widening	8 th Street Bike Lane	Woodlawn & Moore Roads Improvements	5 th Street Shared Use Path	-
6	Buckhorn Road Widening	-	N. 3 rd Street Sidewalk	Holt Street Shared Use Path	-
7	Lowes Boulevard Extension	-	-	Mebane Oaks Road Shared Use Path	-
8	Cameron Lane Extension	-	-	-	-
9	Middle Creek Connector	-	-	-	-
10	Mebane Oaks Road / 5 th Street Intersection Safety Study	-	-	-	-
11	Wilson Road / Broadwood Acres Road Extension	-	-	-	-
12	Mace Road Extension	-	-	-	-
13	Mattress Factory Road Interchange	-	-	-	-

The details of each proposed project are shown on the following pages.

RECOMMENDED PROJECTS

West Roosevelt Street Extension

Project Description

Construct a total of 0.45 miles, two-lane section, of Roosevelt Street to connect to Tate Avenue to the west and S. First Street to the east.

Identified Problem

Existing roadways provide limited east-west connectivity in the immediate vicinity.

Justification of Need

The recommendation will improve local connectivity.

Community Vision and Goals Fulfilled

The recommendation improves local connectivity.

Natural & Human Environmental Context

The recommended improvement is not located in existing wetlands or flood zones. The improvement will serve areas with lower income and higher percent of minority residents.

Relationship to City, County, and MPO Adopted Plans

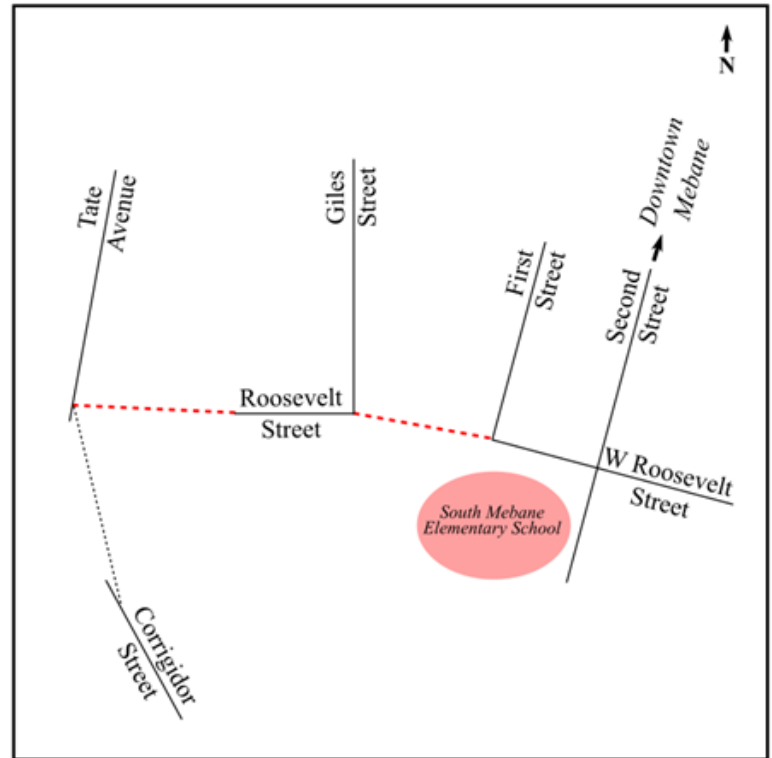
No relationship to adopted plans.

Multi-modal Considerations

The recommendation does not improve multi-modal conditions.

Jurisdiction

Project lies within the Mebane city limits.



South Mebane Oaks Road Widening

Project Description

Widen 2.2 miles of Mebane Oaks Road from the I-85 interchange to the southern Study Area Boundary, near Oak Grove Church Road, to a four-lane divided section.

Identified Problem

The existing two-lane cross section does not accommodate the expected future traffic volumes.

Justification of Need

Recommendation will improve the flow of traffic and decrease delay. The 2040 daily level of service is expected to be LOS F. Note here that the Mebane Oaks interchange improvement is expected to be completed before this project.

Community Vision and Goals Fulfilled

Recommendation will aid economic development along the S. Mebane Oaks Road corridor.

Natural & Human Environmental Context

Roadway improvement is located in a known flood zone and borders an area of contiguous forest cover. The improvement is located in an area with higher minority population and lower per capita income.

Relationship to City, County, and MPO Adopted Plans

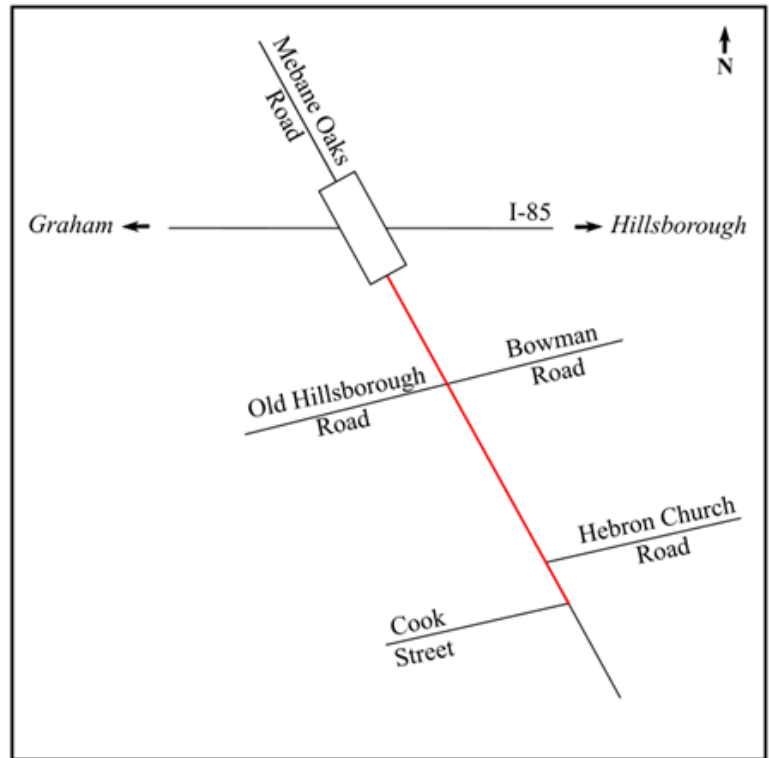
The recommendation is included in the Burlington-Graham MPO CTP as a five-lane section. The CTP includes 1.9 miles of Mebane Oaks Road widening from NC 119 to Old Hillsborough Road.

Multi-modal Considerations

The recommendation does not improve multi-modal conditions.

Jurisdiction

South Mebane Oaks Road (SR 1007) is a state maintained road. The majority of the project is outside the Mebane city limits but within its extraterritorial jurisdictional (ETJ) boundary.



North Mattress Factory Road Improvements/Realignment with Washington Street

Project Description

Realign the northern terminal of Mattress Factory Road to improve existing at-grade railroad crossing on Washington Street.

Identified Problem

The existing configuration does not accommodate heavy vehicles and limits connectivity to US 70, across the NC Railroad.

Justification of Need

Recommendation will improve safety, connectivity and heavy vehicle accessibility. It is estimated that approximately 14,000 vehicles per day will utilize this portion of Mattress Factory Road in 2040 currently projected to have LOS E.

Community Vision and Goals Fulfilled

Recommendation improves safety, economic development options, local connectivity and freight movement.

Natural & Human Environmental Context

Roadway improvement located in an area with existing wetlands. The improvement will impact census block group with the lowest income in study area and highest percent of minority residents.

Relationship to City, County, and MPO Adopted Plans

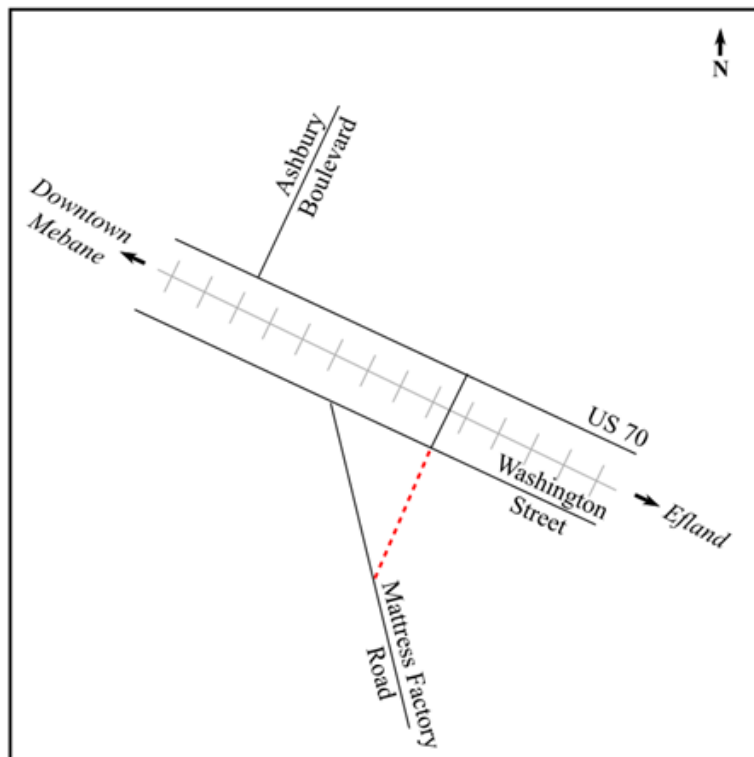
No relationship to adopted plans.

Multi-modal Considerations

The recommendation does not improve multi-modal conditions.

Jurisdiction

Project lies outside of Mebane City limits but within its extraterritorial jurisdictional (ETJ) boundary.



Trollingwood Hawfields Road Widening

Project Description

Widen 1.4 miles of Trollingwood Hawfields Road from Gibson Road to NC 119 to a four-lane divided section.

Identified Problem

The existing two-lane cross section does not accommodate the expected future traffic volumes.

Justification of Need

The recommendation will improve the flow of traffic and decrease delay. The 2040 daily level of service is projected to be LOS D. Note that the current interchange is slated for improvement before this project.

Community Vision and Goals Fulfilled

Aids economic development plans along the Trollingwood Hawfields Road corridor.

Natural & Human Environmental Context

Project is located in an area with wetlands and flood zone. Project also located in an area with a higher Hispanic population and lower per capita income.

Relationship to City, County, and MPO Adopted Plans

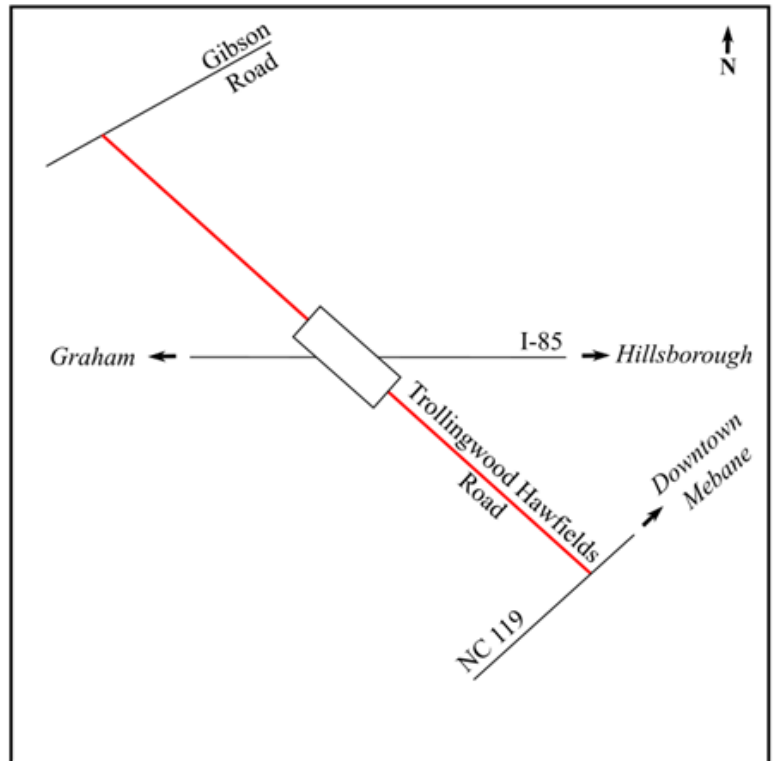
No relationship to adopted plans.

Multi-modal Considerations

The recommendation does not improve multi-modal conditions.

Jurisdiction

Trollingwood Hawfields Road (SR 1981) is a state maintained road. A portion of the project lies outside of Mebane City limits but within its extraterritorial jurisdictional (ETJ) boundaries.



Mattress Factory Road Widening

Project Description

Widen 2.1 miles of Mattress Factory Road / W. Ten Road from Washington Street to Buckhorn Road to a four-lane divided section.

Identified Problem

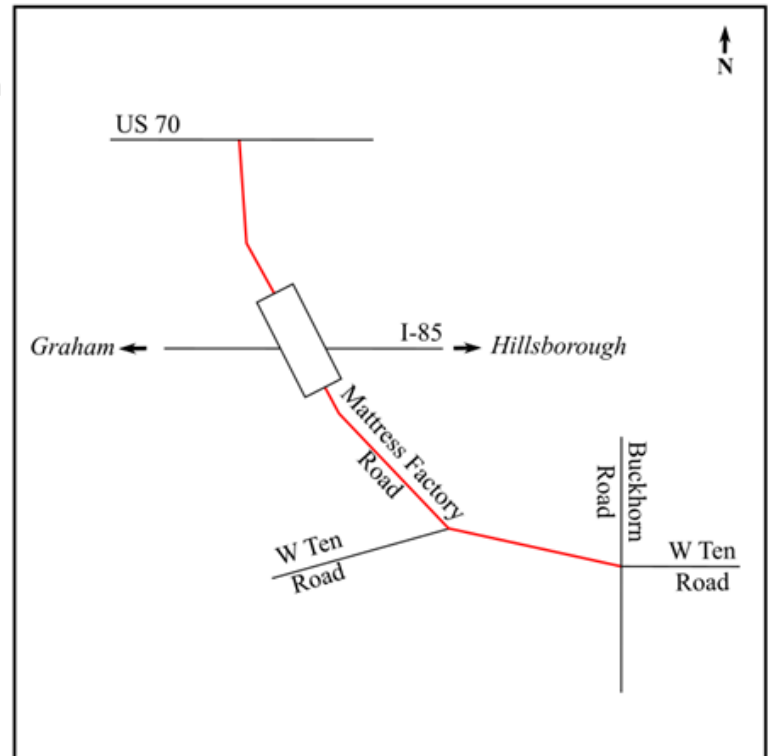
The existing two-lane cross section does not accommodate the expected future traffic volumes.

Justification of Need

Recommendation will improve the flow of traffic and decrease delay. The 2040 daily level of service is expected to be LOS F.

Community Vision and Goals Fulfilled

The recommendation is expected to support economic development.



Natural & Human Environmental Context

Roadway improvement is located near to existing wetlands. The improvement will impact the census block group with the lowest income within the study area, as well as an area with the highest percent of minority residents.

Relationship to City, County, and MPO Adopted Plans

The recommendation is included in the Burlington-Graham MPO Comprehensive Transportation Plan as a three-lane section between (proposed) Factory Connector Road and Buckhorn Road.

Multi-modal Considerations

The recommendation does not improve multi-modal conditions.

Jurisdiction

Project lies outside of Mebane City limits but within its extraterritorial jurisdictional (ETJ) boundaries.



Buckhorn Road Widening

Project Description

Widen 0.5 miles of Buckhorn Road, from US 70 to W Ten Road, to a four lane divided section

Identified Problem

The existing 2 lane cross section does not accommodate the expected 2040 traffic volumes.

Justification of Need

The recommendation will improve the flow of traffic and decrease delay. 2040 LOS D with improvement is expected to be

Community Vision and Problem History

The recommendation improves economic development options along the Buckhorn Road corridor

Natural & Human Environmental Context

The roadway improvement is not located in existing wetlands or flood zones. The improvement will affect the census block group with the lowest per capita income within the study area, as well as an area with the highest percent of minority residents.

Relationship to City, County, and MPO Adopted Plans

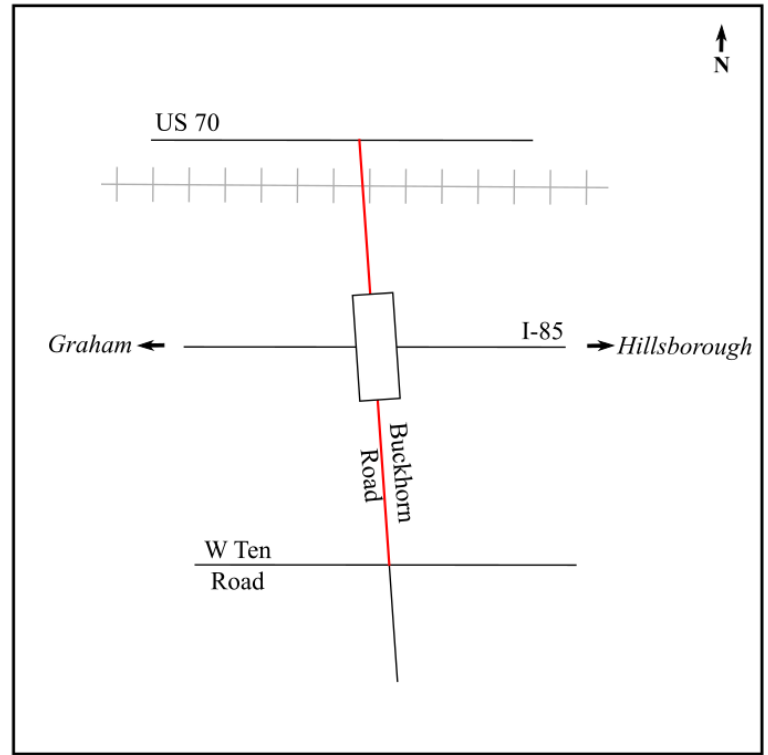
The recommendation is included in the Burlington Graham MPO 2040 Metropolitan Transportation Plan. The Mebane Traffic Separation Study (TSS) recommends grade separating Buckhorn Road across the NCCR/NS Railroad.

Multi-modal Considerations

The recommendation does not improve multi-modal options within the city.

Jurisdiction

Project is almost entirely outside of Mebane city limits but within its extraterritorial jurisdictional (ETJ) boundaries.



Lowes Boulevard Extension

Project Description

Construct roadway solution to effectively connect Existing Lowes Boulevard with Trollingwood-Hawfields Road and NC 119

Identified Problem

Existing roadway Lowes Boulevard does not provide east-west connectivity between Trollingwood-Hawfields Road.

Justification of Need

The recommendation will improve local connectivity.

Community Vision and Goals Fulfilled

The recommendation improves local connectivity.

Natural & Human Environmental Context

The recommended improvement is located near to existing wetlands or flood zones. The proposed improvement may also lower income residents.

Relationship to City, County, and MPO Adopted Plans

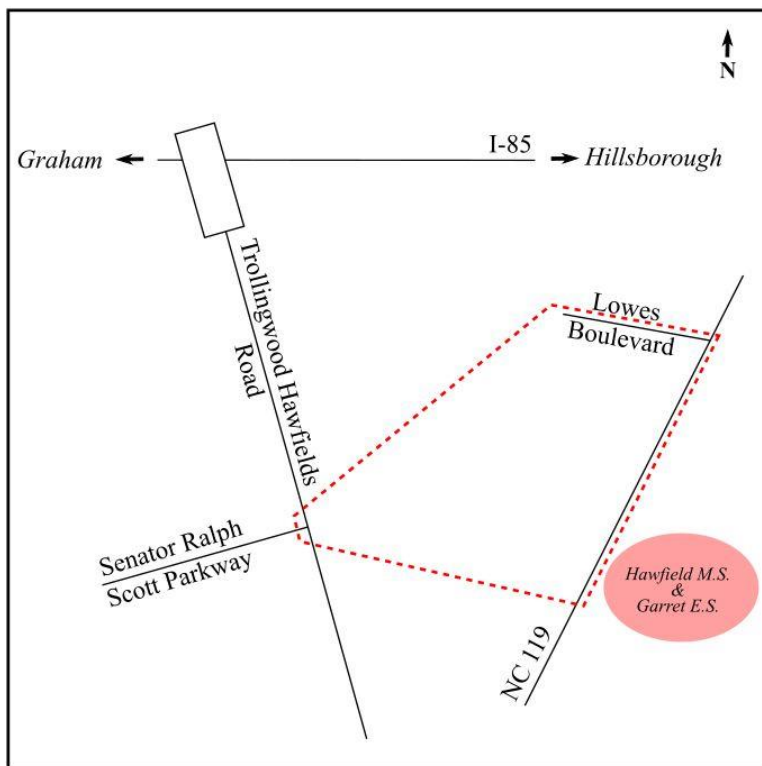
No relationship to adopted plans.

Multi-modal Considerations

The recommendation does not improve multi-modal conditions.

Jurisdiction

Lowes Boulevard is a municipal road. Project lies within the Mebane city limits.



Cameron Lane Extension

Project Description

Extend Cameron Lane, as a two-lane section, to provide a spine road to connect to Terrell Street / S Fifth Street. Approximately 0.15 miles of SR 2034 currently exists. This project will extend Cameron Lane by 1.65 miles. Project was approved by the Mebane City Council.

Identified Problem

Improve connectivity as the area develops.

Justification of Need

Recommendation will improve local connectivity, reducing the need to use the interstate for local trips.

Community Vision and Goals Fulfilled

The recommendation improves economic development and local connectivity.

Natural & Human Environmental Context

This project is located in an area with existing wetlands. The project area is expected to impact areas with lower per capita incomes and higher than average minority percentages.

Relationship to City, County, and MPO Adopted Plans

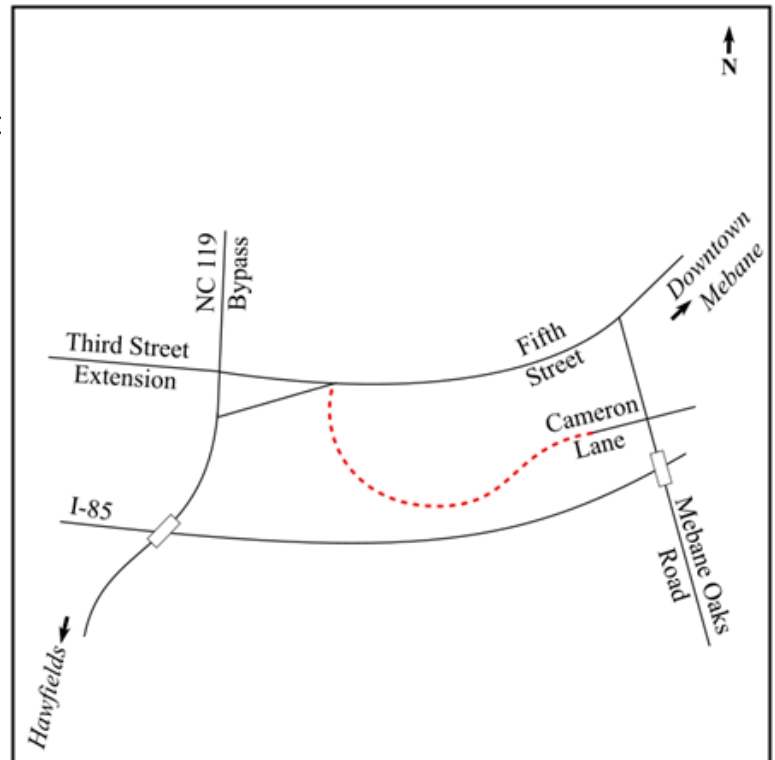
The recommendation is also shown in the Cameron Lane Extension Small Area Thoroughfare Plan and is in a primary growth area as indicated in the Mebane Comprehensive Land Development Plan (Mebane by Design).

Multi-modal Considerations

The recommendation does not improve multi-modal conditions.

Jurisdiction

Cameron Lane is a municipal road. The project lies within the Mebane City limits.



Mill Creek Connector

Project Description

Construct a transportation solution that will improve east west local connectivity in the northern sections of Mebane.

Identified Problem

Existing roadways provide limited east-west connectivity in the immediate vicinity. The area is currently slated for new residential Development.

Justification of Need

The recommendation will improve local connectivity.

Community Vision and Goals Fulfilled

The recommendation improves local connectivity.

Natural & Human Environmental Context

The recommended improvement area has existing wetlands or riverine zones.

Relationship to City, County, and MPO Adopted Plans

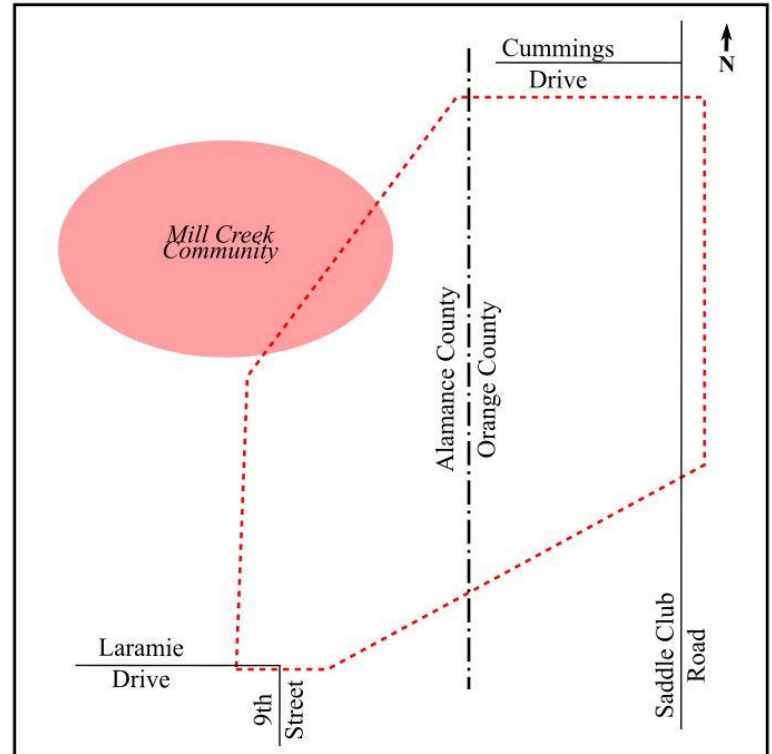
No relationship to adopted plans.

Multi-modal Considerations

The recommendation does not improve multi-modal conditions.

Jurisdiction

Project area lies within and outside the Mebane city limits. Project area also crosses the Alamance/Orange County line.



Mebane Oaks Road/Fifth Street Intersection Safety Study

Project Description

Complete a safety study at the intersection of Mebane Oaks Road / Fifth Street / Eighth Street / Falcon Lane.

Identified Problem

The existing intersection has the highest number of reported crashes within the study area.

Justification of Need

Identification of operational deficiencies and provision of recommendations to improve intersection safety.

Community Vision and Goals Fulfilled

The recommendation improves safety.

Natural & Human Environmental Context

High traffic commercial section of city.

Relationship to City, County, and MPO Adopted Plans

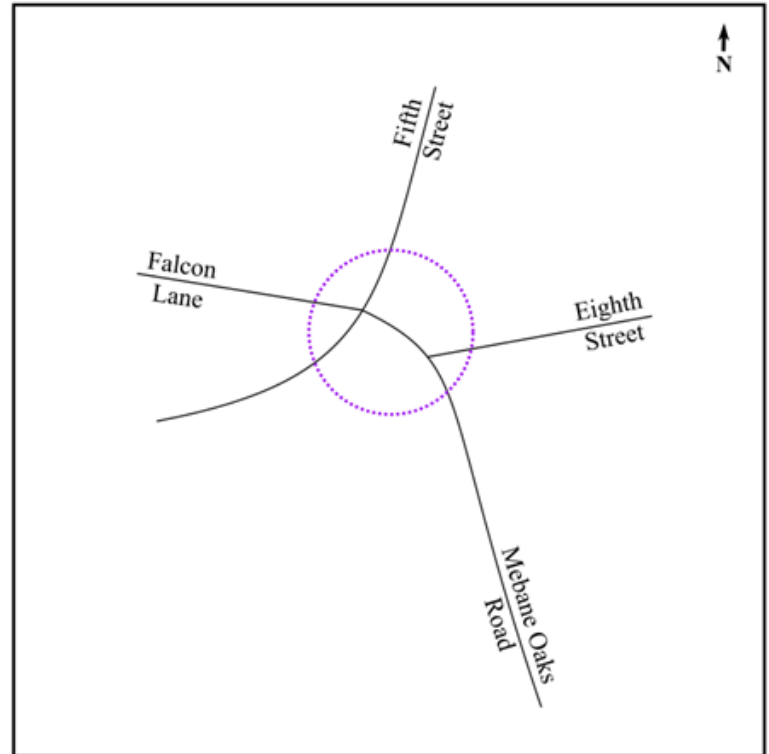
The study should evaluate and incorporate specific recommendations approved in the Mebane Bicycle and Pedestrian Plan. This area is located in a primary growth area as indicated in the Mebane Comprehensive Land Development Plan (Mebane by Design).

Multi-modal Considerations

The recommendation could improve multi-modal conditions.

Jurisdiction

Mebane Oaks Road (SR 1007) and Fifth Street (NC 119) are state maintained roads. This study area falls within in the Mebane city limits.



Wilson Road / Old Hillsborough Road / Broadwood Acres Road Connectors

Project Description

Build approximately 1.1 miles of a two-lane section connector streets between Wilson Road, Old Hillsborough Road, and Broadwood Acres Road to provide additional connectivity near the Wal-Mart on Mebane Oaks Road.

Identified Problem

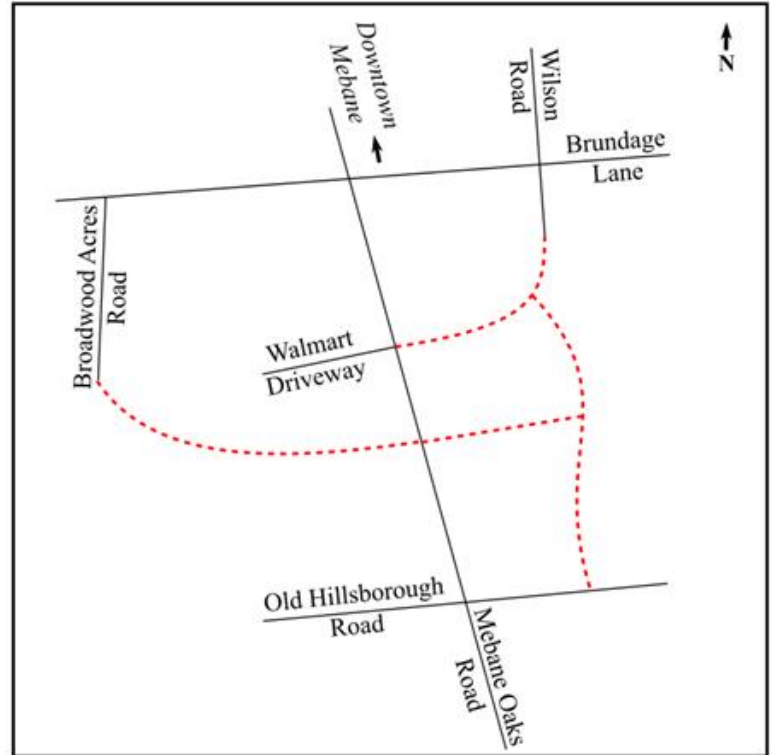
Lack of street connectivity around commercial development south of I-85/40.

Justification of Need

The recommendation will improve connectivity.

Community Vision and Goals Fulfilled

Recommendation seeks to aid economic development and local connectivity.



Natural & Human Environmental Context

The recommended improvement is within an existing flood zone. The project area is expected to impact areas with lower per capita incomes and higher than average minority percentages.

Relationship to City, County, and MPO Adopted Plans

The recommendation is also shown in the Small Area Plan.

Multi-modal Considerations

The recommendation does not improve multi-modal conditions.

Jurisdiction

Wilson Road (SR 2187) and Old Hillsborough Road (SR 2128) are state maintained facilities. Project lies outside of Mebane City limits but within its extraterritorial jurisdictional (ETJ) boundaries.



Mace Road Extension

Project Description

Construct approximately 0.35 mile, two-lane section, extension of Mace Road to connect two existing dead-ends.

Identified Problem

Existing roadways provide limited north-south connectivity in the immediate vicinity. Frazier Road is 1 mile east of Mace Road. Lebanon Road is 1.5 miles west of Mace Road.

Justification of Need

The recommendation will improve local connectivity.

Community Vision and Goals Fulfilled

The recommendation improves local connectivity.

Natural & Human Environmental Context

Recommendation is in an area with contiguous forest cover and spots of existing wetlands and flood zones. The project is expected to impact areas with a higher percent of minority and Hispanic residents.

Relationship to City, County, and MPO Adopted Plans

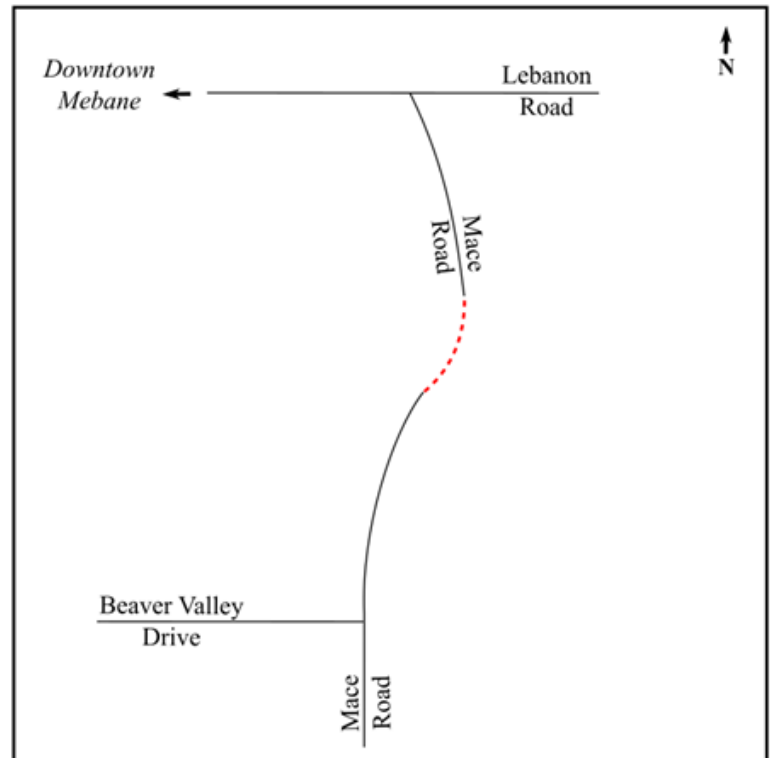
No relationship to adopted plans.

Multi-modal Considerations

The recommendation does not improve multi-modal conditions.

Jurisdiction

Project lies outside of Mebane City limits but within its extraterritorial jurisdictional (ETJ) boundaries.



Mattress Factory Road Interchange

Project Description

Provide an interchange at Mattress Factory Road on I-85.

Identified Problem

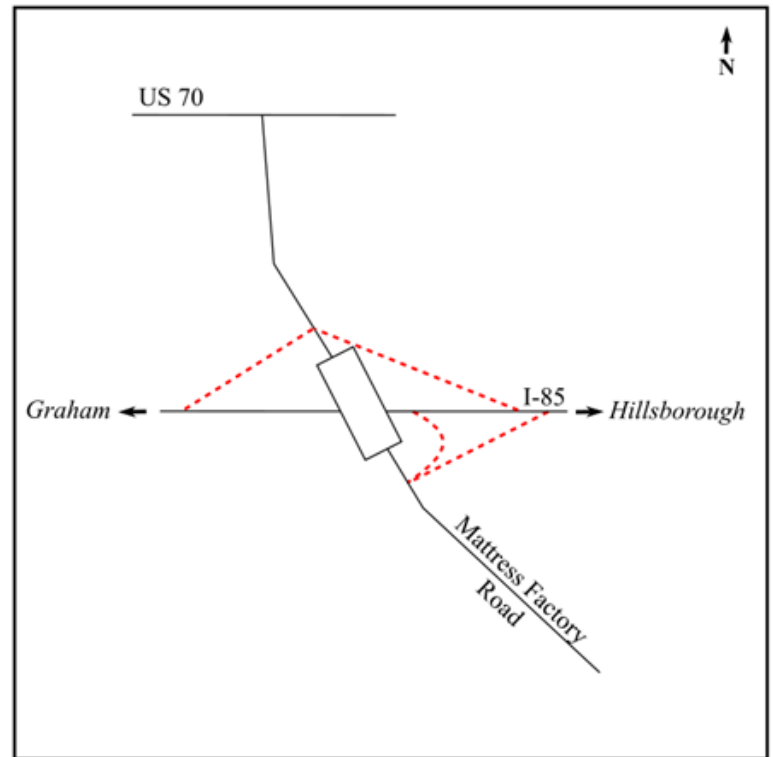
Existing interchanges along I-85/40 serving Mebane will degrade in performance and based on projected population growth.

Justification of Need

The recommendation will improve connectivity to I-85/40 and improve operations at other existing interchanges.

Community Vision and Goals Fulfilled

The recommendation improves regional and local connectivity.



Natural & Human Environmental Context

The roadway improvement is located in an area with existing wetlands. The improvement will affect the census block group with the lowest income within the study area, as well as an area with the highest percent of minority residents.

Relationship to City, County, and MPO Adopted Plans

The recommendation is also shown in the Burlington-Graham MPO Comprehensive Transportation Plan and the Orange County Efland-Mebane 2006 Small Area Plan.

Multi-modal Considerations

The recommendation does not improve multi-modal conditions.

Jurisdiction

I-85 is a state maintained facility. Interchanges are decided using state and federal guidelines. Project lies outside of Mebane City limits but within its extraterritorial jurisdictional (ETJ) boundaries.



Jackson Street Bike Boulevard

Project Description

Construct a bike boulevard on Jackson Street from Madison Street to S. Eighth Street, a distance of 0.75 miles.

Identified Problem

Jackson Street does not currently have adequate bicycle facilities.

Justification of Need

The recommendation will improve bicyclist safety.

Community Vision and Problem History

The recommendation will improve multimodal transportation systems and healthy living.

Natural & Human Environmental Context

The recommendation is not expected to have an impact on any existing wetlands or flood zones. The project is expected to have an impact on an area with a higher minority population and residents with lower income.

Relationship to City, County, and MPO Adopted Plans

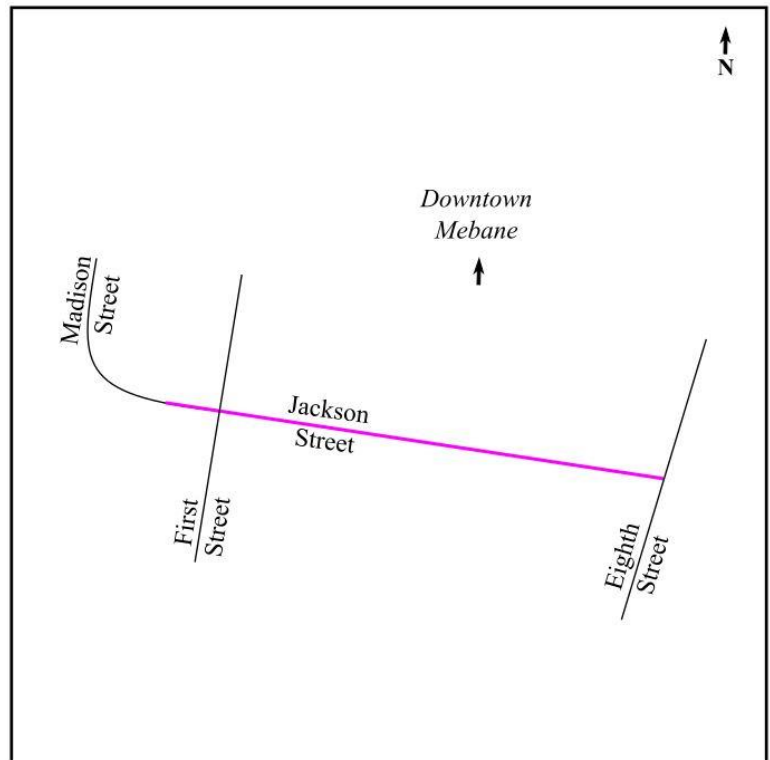
The recommendation is included in the City of Mebane Bicycle and Pedestrian Transportation Plan. This area lies just south of Growth Area 1 as outline in the Comprehensive Land Plan – Mebane by Design.

Multi-modal Considerations

The recommendation improves multi-modal conditions including access to the Holt Street Park.

Jurisdiction

Project occurs within the Mebane city limits. Jackson Street is a municipal road.



Second Street Bike Boulevard

Project Description

Construct a bike boulevard on Second Street, a distance of 0.60 miles, from W. Washington Street to South Mebane Elementary School.

Identified Problem

Second Street does not currently provide bicycle facilities.

Justification of Need

The recommendation will improve bicyclist safety and bicycle access to South Mebane Elementary.

Community Vision and Goals Fulfilled

The recommendation will improve multimodal transportation systems, healthy living, and increased access options for school.

Natural & Human Environmental Context

The recommendation is not expected to have an impact on any existing wetlands or flood zones. The project is expected to have an impact on an area with a higher minority population and residents with lower income. School access will likely be improved.

Relationship to City, County, and MPO Adopted Plans

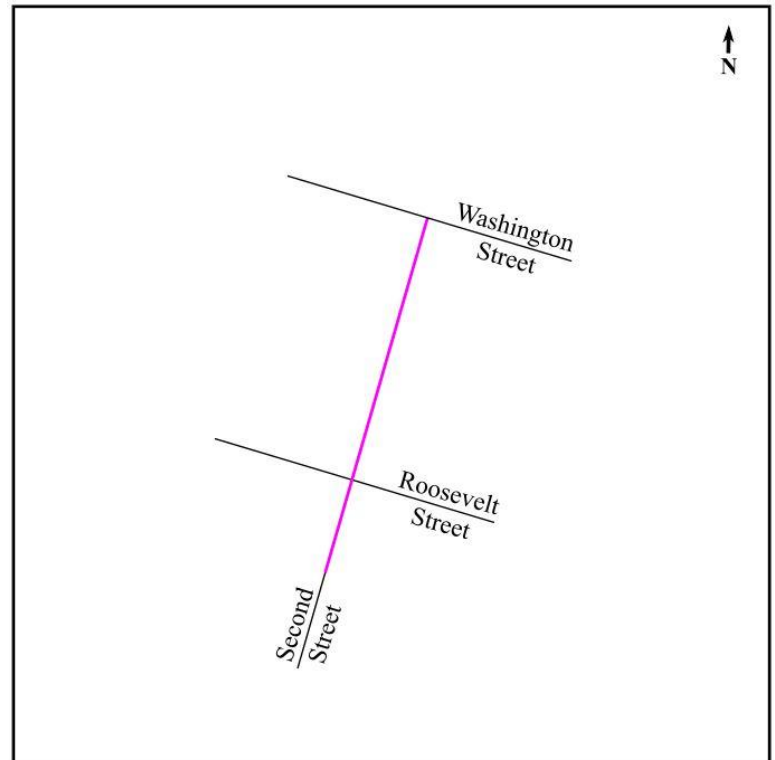
The recommendation is included in the City of Mebane Bicycle and Pedestrian Transportation Plan. This area lies just south of Growth Area 1 as outline in the Comprehensive Land Plan – Mebane by Design.

Multi-modal Considerations

The recommendation improves multi-modal conditions.

Jurisdiction

Second Street is a municipal road. Project occurs within the Mebane city limits.



Fourth Street Bike Boulevard

Project Description

Construct a bike boulevard on the entire Fourth Street corridor.

Identified Problem

Fourth Street does not currently provide adequate bicycle facilities.

Justification of Need

The recommendation will improve bicyclist safety and connectivity to downtown Mebane.

Community Vision and Goals Fulfilled

The recommendation will improve multimodal transportation systems and healthy living.

Natural & Human Environmental Context

The recommended project will be in an area with an existing flood zone. The project is expected to have an impact on an area with a higher Hispanic population.

Relationship to City, County, and MPO Adopted Plans

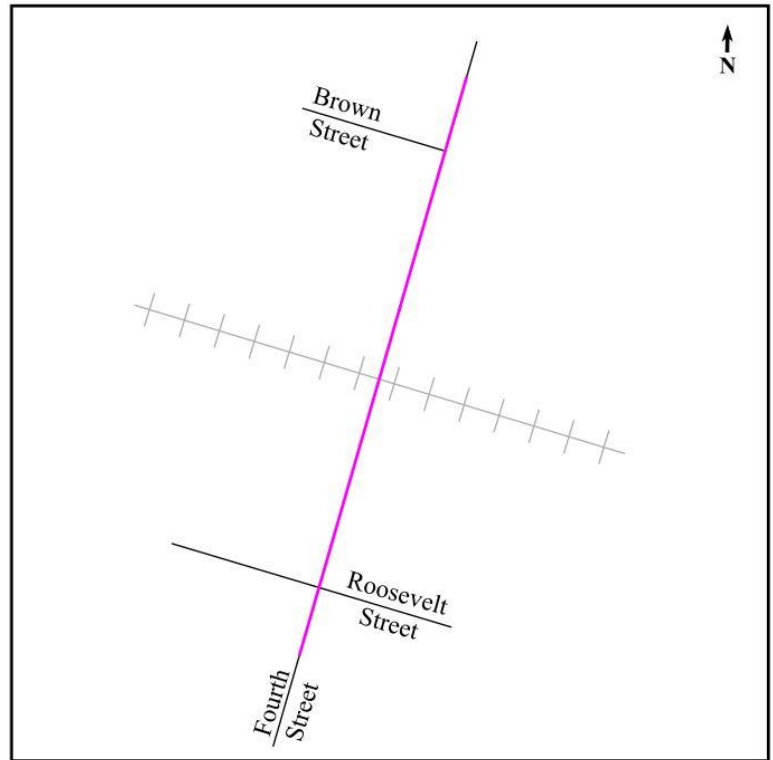
The recommendation is included as a top priority in the City of Mebane Bicycle and Pedestrian Transportation Plan. The Mebane Traffic Separation Study (TSS) recommends improvements to improve pedestrian (and bicyclist) safety across the railroad. The corridor crosses the primary growth area (G-1) as outlined in the Comprehensive Land Plan – Mebane by Design.

Multi-modal Considerations

The recommendation improves multi-modal conditions.

Jurisdiction

Fourth Street is a municipal road. Project will occur within Mebane city limits.



North Fifth Street Bike Lane

Project Description

Construct a bike lane on Fifth Street a distance of 0.83 miles from Stagecoach Road to Center Street.

Identified Problem

The neighborhood streets do not have bicycle facilities.

Justification of Need

The recommendation will improve bicyclist safety and connectivity to downtown.

Community Vision and Goals Fulfilled

The recommendation will improve multimodal transportation systems and healthy living.

Natural & Human Environmental Context

The recommended project will be in an area with an existing flood zone. The project is expected to serve an area with a higher Hispanic population.

Relationship to City, County, and MPO Adopted Plans

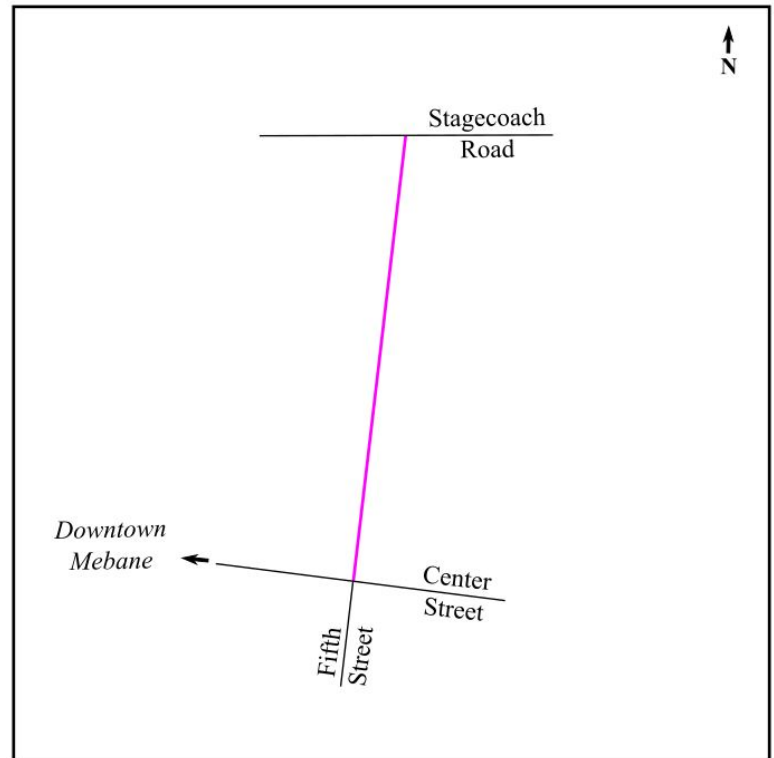
The recommendation is a top priority in the City of Mebane Bicycle and Pedestrian Transportation Plan. The corridor crosses the primary growth area (G-1) as outlined in the Comprehensive Land Plan – Mebane by Design. The Mebane Traffic Separation Study (TSS) recommends improvements at the corridor's intersection the NCRR /NS railroad.

Multi-modal Considerations

The recommendation improves multi-modal conditions.

Jurisdiction

Fifth Street (NC 119) is a state maintained road. Project will occur within Mebane city limits.



Eighth Street Bike Lane

Project Description

Widen the roadway to provide bike lanes on Eighth Street for 1.5 miles, from Mebane Oaks Road to E. Washington Street.

Identified Problem

Eighth Street does not have adequate bicycle facilities.

Justification of Need

The recommendation will improve bicyclist safety and connectivity between downtown, the Medical Center, and shopping locations.

Community Vision and Goals Fulfilled

The recommendation will improve multimodal transportation systems and healthy living.

Natural & Human Environmental Context

The recommendation is not expected to have an impact on any existing wetlands or flood zones. The project increase access options to the commercial areas and medical facilities.

Relationship to City, County, and MPO Adopted Plans

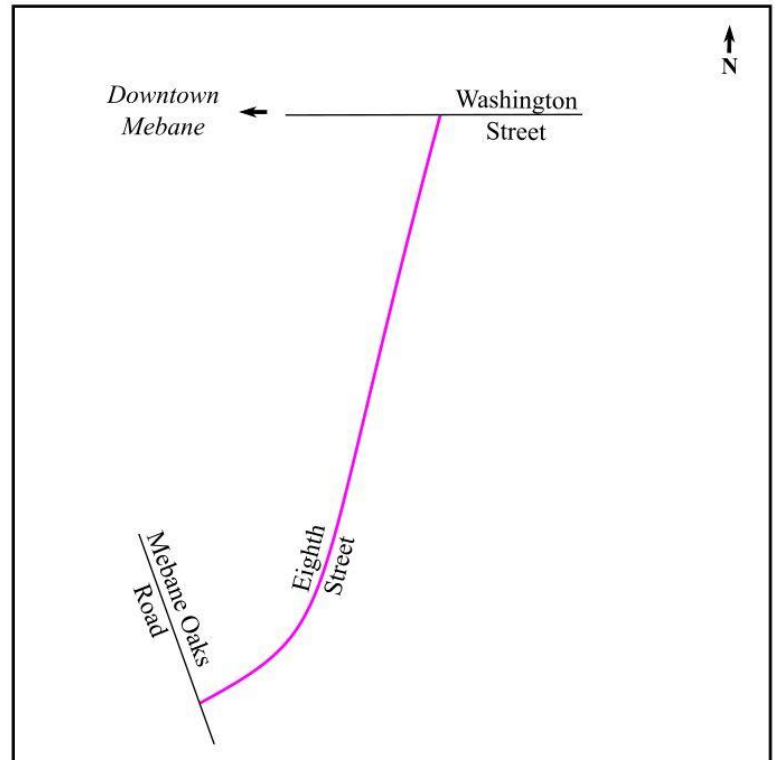
The recommendation is included in the City of Mebane Bicycle and Pedestrian Transportation Plan.

Multi-modal Considerations

The recommendation improves multi-modal conditions.

Jurisdiction

Eighth Street is a municipal facility. Project occurs within the Mebane city limits.



West Jackson Street Sidewalk

Project Description

Construct sidewalk on W. Jackson Street from S. First Street to S. Third Street, a distance of 830 feet.

Identified Problem

W. Jackson Street does not provide full sidewalk connections.

Justification of Need

The recommendation will improve pedestrian safety.

Community Vision and Goals Fulfilled

The recommendation will improve multimodal transportation systems and healthy living.

Natural & Human Environmental Context

The recommendation is not expected to have an impact on any existing wetlands or flood zones. The project is expected to have an impact on an area with a higher minority population and residents with lower income.

Relationship to City, County, and MPO Adopted Plans

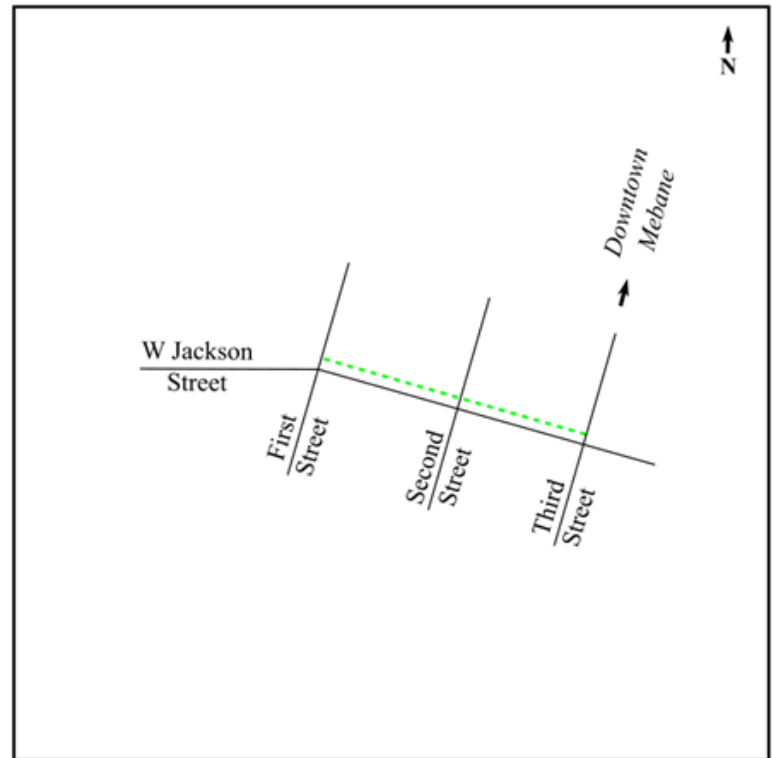
The recommendation is included in the City of Mebane Bicycle and Pedestrian Transportation Plan. Project lies just of G-1 growth area as indicated in Comprehensive Land Development Plan – Mebane by Design

Multi-modal Considerations

The recommendation improves multi-modal conditions.

Jurisdiction

W. Jackson Street is a municipal road. Project lies within the Mebane city limits.



East Jackson Street Sidewalk

Project Description

Construct sidewalk on E. Jackson Street from S. Fourth Street to S. Fifth Street.

Identified Problem

E. Jackson Street does not provide full sidewalk connections.

Justification of Need

The recommendation will improve pedestrian safety.

Community Vision and Goals Fulfilled

The recommendation will improve multimodal transportation systems and healthy living.

Natural & Human Environmental Context

The recommendation is not expected to have an impact on any existing wetlands or flood zones. The project is expected to have an impact on an area with a higher minority population and residents with lower income.

Relationship to City, County, and MPO Adopted Plans

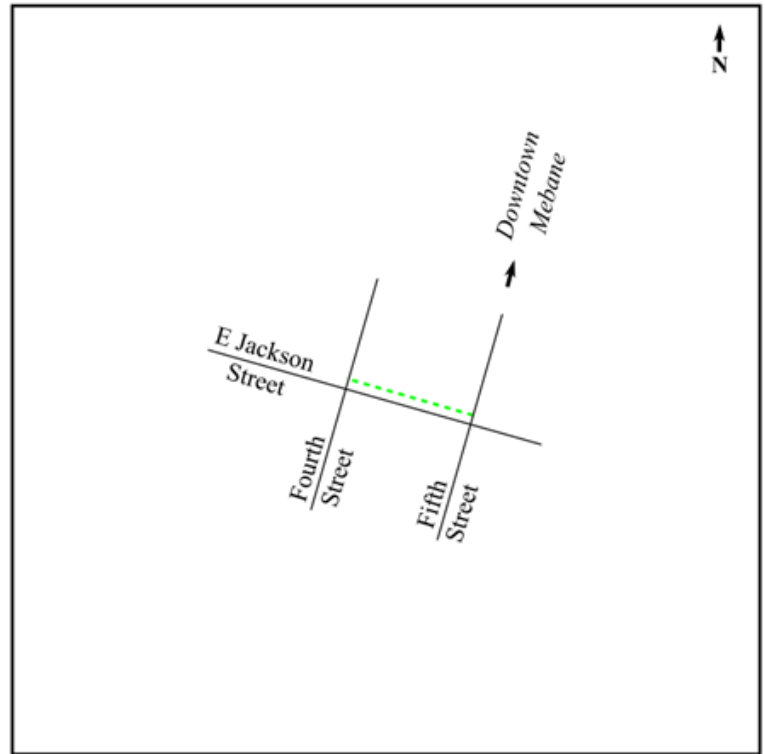
The project is recommended in the City of Mebane Bicycle and Pedestrian Transportation Plan.

Multi-modal Considerations

The recommendation improves multi-modal conditions.

Jurisdiction

E. Jackson Street is a municipal road. Project lies within the Mebane city limits.



South Second Street Sidewalk

Project Description

Construct sidewalk on the west side of S. Second Street from Holt Street south to the existing sidewalk, a distance of 850 feet.

Identified Problem

Second Street does not provide complete sidewalk connections.

Justification of Need

The recommendation will enhance pedestrian safety.

Community Vision and Goals Fulfilled

The recommendation will improve multimodal transportation systems and healthy living.

Natural & Human Environmental Context

The recommendation is not expected to have an impact on any existing wetlands or flood zones. The project is expected to have an impact on an area with a higher minority population and residents with lower income. Access to Holt Street Park and Mebane Public Library will be improved.

Relationship to City, County, and MPO Adopted Plans

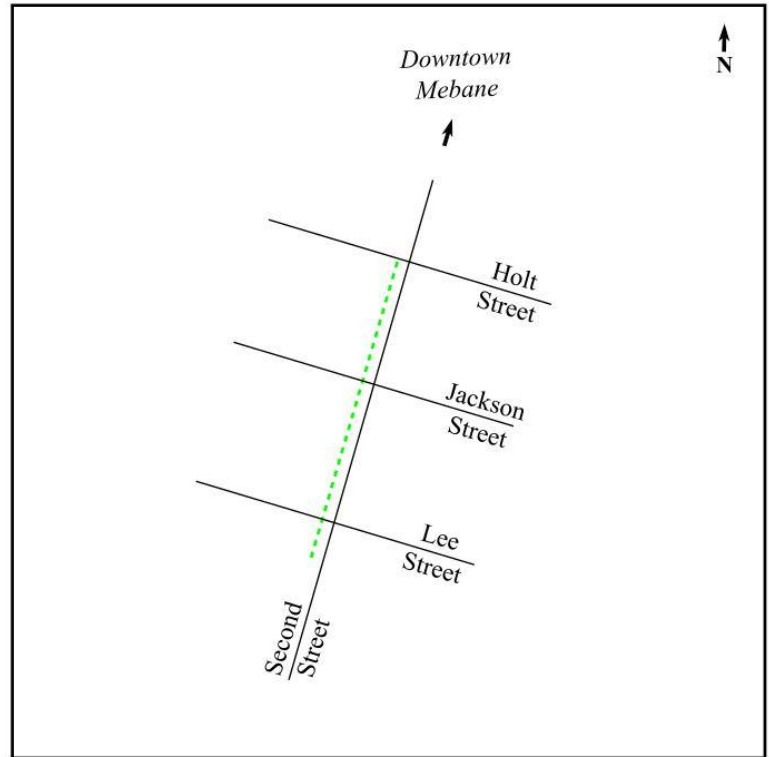
The recommendation is included in the City of Mebane Bicycle and Pedestrian Transportation Plan.

Multi-modal Considerations

The recommendation improves multi-modal conditions.

Jurisdiction

S. Second Street is municipal road. Project lies within the Mebane city limits.



North Fifth Street Sidewalk

Project Description

Construct sidewalk on N. Fifth Street from E. Center Street to E. Ruffin Street, a distance of 550 feet.

Identified Problem

N Fifth Street does not provide full sidewalk connections.

Justification of Need

The recommendation will improve pedestrian safety.

Community Vision and Goals Fulfilled

The recommendation will improve multimodal transportation systems and healthy living.

Natural & Human Environmental Context

The recommended project will be in an area within an existing flood zone. The project is expected to have an impact on an area with a higher Hispanic population.

Relationship to City, County, and MPO Adopted Plans

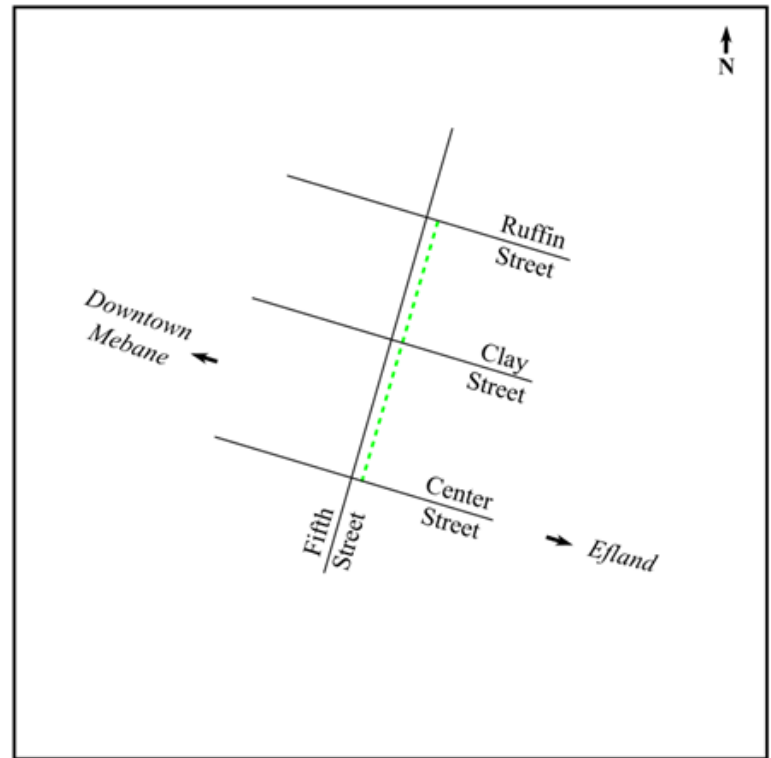
The recommendation is included in the City of Mebane Bicycle and Pedestrian Transportation Plan. Project lies just north of G-1 growth area as indicated in Comprehensive Land Development Plan – Mebane by Design. The Mebane Traffic Separation Study recommends installing safety improvements.

Multi-modal Considerations

The recommendation improves multi-modal conditions.

Jurisdiction

Fifth Street (NC 119) is a state maintained road. Project lies within the Mebane city limits.



Woodlawn & Moore Roads Improvements

Project Description

Improve safety for pedestrians along Woodlawn and Moore Roads to improve safety and access to the Holt Street Park and the crossing of US 70.

Identified Problem

Inadequate and unsafe pedestrian facilities.

Justification of Need

Skewed intersection at Moore Road - US 70 – Woodlawn Road, no pedestrian facilities across US 70, and at grade railroad crossing on Moore Road with no pedestrian facilities.

Community Vision and Goals Fulfilled

The recommendation improves local connectivity including to the Holt Street Park.

Natural & Human Environmental Context

The recommended improvement is not located in existing wetlands or flood zones. .

Relationship to City, County, and MPO Adopted Plans

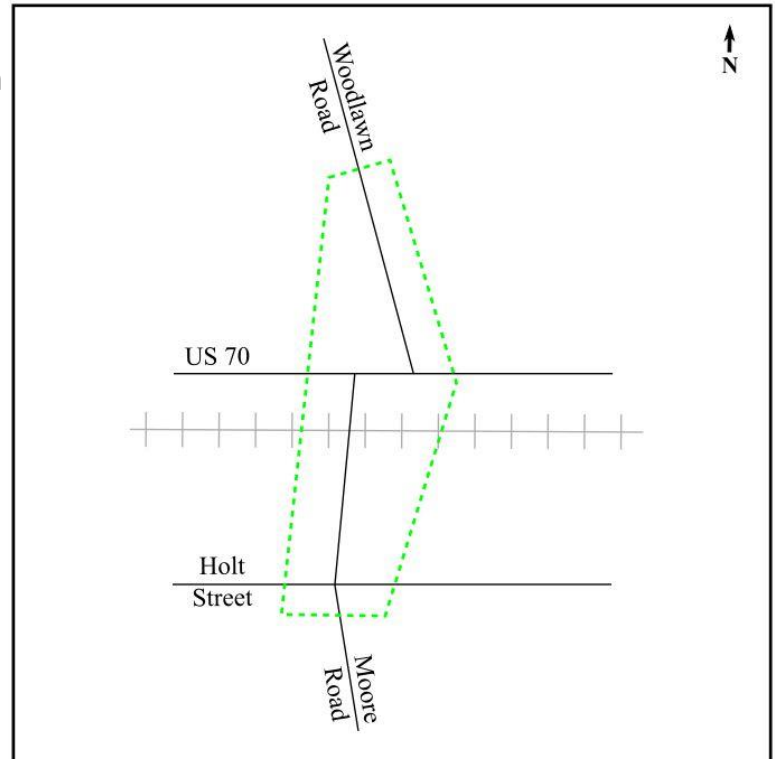
The Mebane Traffic Separation Study recommends installing median barriers and widen crossing shoulders.

Multi-modal Considerations

While not directly improving multi-modal conditions the project will provide opportunities for improving pedestrian access along US 70 and to Holt Park on Woodlawn Road/

Jurisdiction

Woodlawn Road is a municipal roadway. Project lies outside of Mebane City limits but within its extraterritorial jurisdictional (ETJ) boundaries.



North Third Street Sidewalk

Project Description

Construct sidewalk on the west side of N. Third Street from W. Graham Street to Belle Court, a distance of 0.34 miles.

Identified Problem

N. Third Street does not provide full sidewalk connections.

Justification of Need

The recommendation will improve pedestrian safety.

Community Vision and Goals Fulfilled

The recommendation will improve multimodal transportation systems and healthy living.

Natural & Human Environmental Context

The recommended project will be in an area with an existing flood zone. The project is expected to have an impact on an area with a higher Hispanic population.

Relationship to City, County, and MPO Adopted Plans

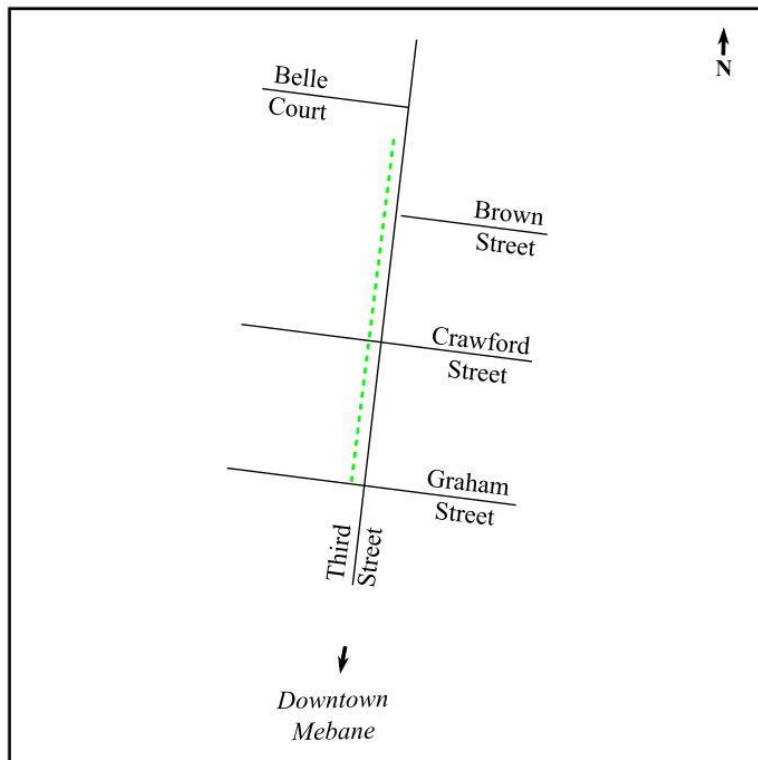
The recommendation is included in the City of Mebane Bicycle and Pedestrian Transportation Plan. Project lies just north of G-1 growth area as indicated in Comprehensive Land Development Plan – Mebane by Design.

Multi-modal Considerations

The recommendation improves multi-modal conditions.

Jurisdiction

N. Third Street is a municipal road. Project lies within the Mebane city limits.



Roosevelt Street Shared Use Path

Project Description

Construct a shared use path from Roosevelt Street to Hawfields Road.

Identified Problem

There are minimal, or no, off-road travel options in the area for bicyclist or pedestrians.

Justification of Need

The recommendation will improve bicyclist and pedestrian safety.

Community Vision and Goals Fulfilled

The recommendation will improve multimodal transportation systems and healthy living.

Natural & Human Environmental Context

The recommended project will be located near an existing flood zone. The project is expected to impact an area with lower per capita income and a higher percentage of minority residents. Project will be adjacent to South Mebane Elementary School providing a safe route to school.

Relationship to City, County, and MPO Adopted Plans

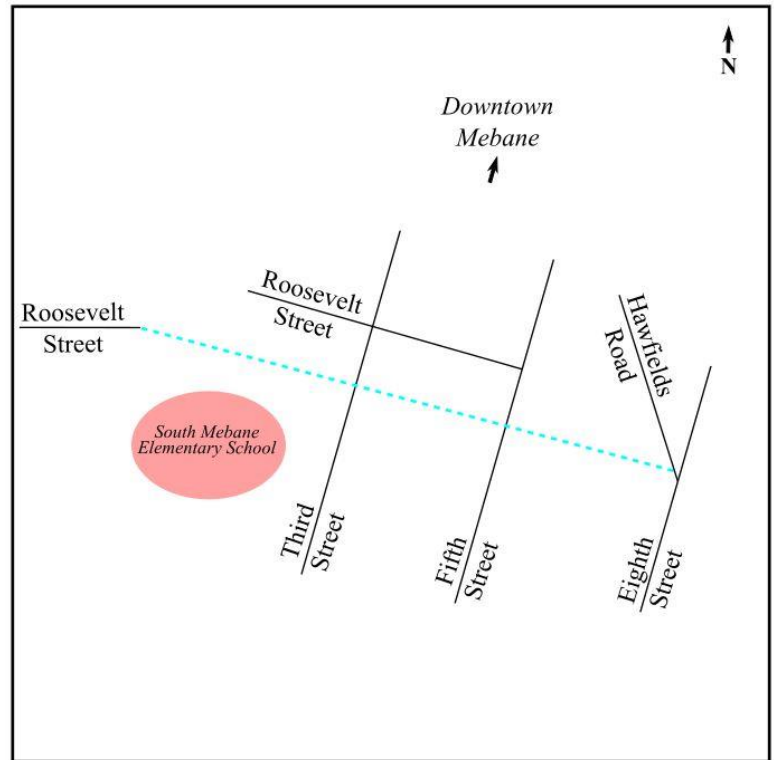
The recommendation is included in the City of Mebane Bicycle and Pedestrian Transportation Plan.

Multi-modal Considerations

The recommendation improves multi-modal conditions.

Jurisdiction

The recommended path will be within the Mebane city limits.



Mebane Arts & Community Center Shared Use Path

Project Description

Construct a shared use path from Mebane Arts & Community Center to W. Jackson Street.

Identified Problem

There are minimal, or no, off-road travel options in the area for bicyclist or pedestrians.

Justification of Need

The recommendation will improve bicyclist and pedestrian safety. Project will increase access options to Mebane Arts Center.

Community Vision and Goals Fulfilled

The recommendation will improve multimodal transportation systems and healthy living.

Natural & Human Environmental Context

The recommended project will be located in near an existing flood zone. The project is expected to impact an area with lower per capita income and a higher percentage of minority residents.

Relationship to City, County, and MPO Adopted Plans

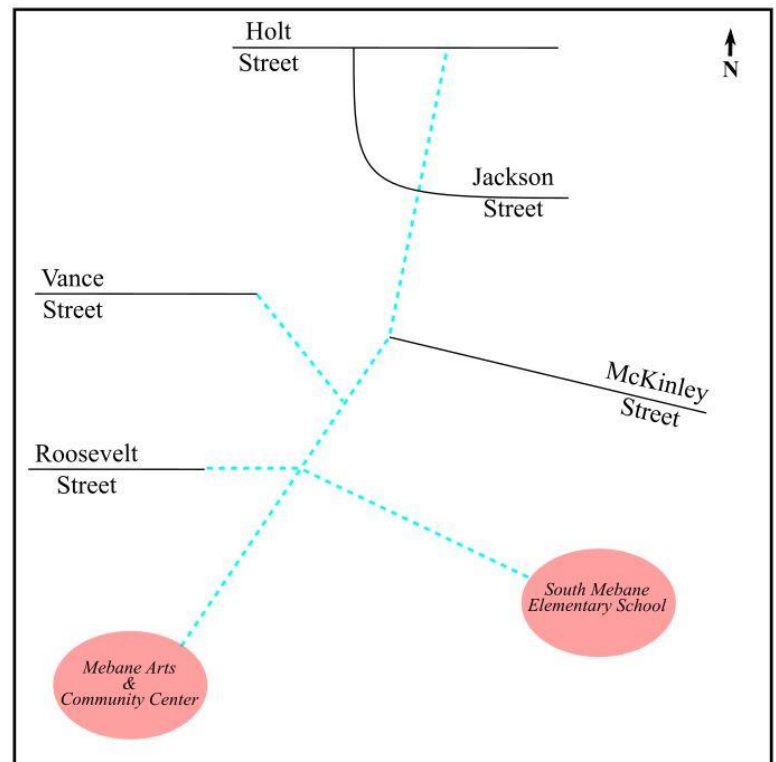
The recommendation is included in the City of Mebane Bicycle and Pedestrian Transportation Plan. Project included in Mebane 2014 Recreation and Parks Comprehensive Plan.

Multi-modal Considerations

The recommendation improves multi-modal conditions.

Jurisdiction

The recommended shared-use path is located with the Mebane city limits.



E.M. Yoder Elementary School Shared Use Path

Project Description

Construct a shared use path from W. Carr Street to W. Holt Street.

Identified Problem

There are minimal, or no, off-road travel options in the area for bicyclists or pedestrians.

Justification of Need

The recommendation will improve bicyclist and pedestrian safety.

Community Vision and Goals Fulfilled

The recommendation will improve multimodal transportation systems and healthy living.

Natural & Human Environmental Context

The recommended project will be constructed in an area with an existing wetland. The project can improve access options for the EM Yoder Elementary School.

Relationship to City, County, and MPO Adopted Plans

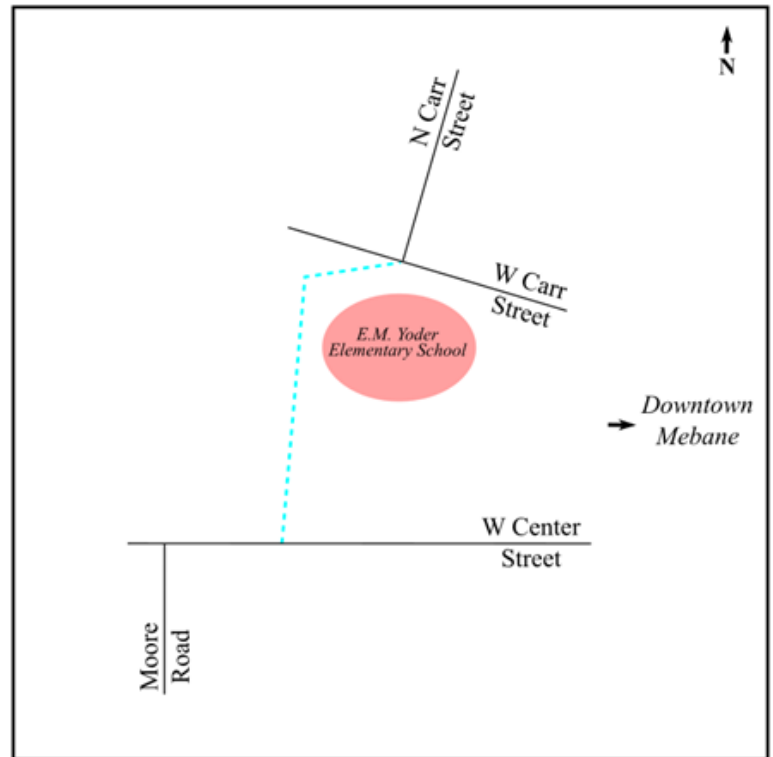
The recommendation is recommended in the City of Mebane Bicycle and Pedestrian Transportation Plan.

Multi-modal Considerations

The recommendation improves multi-modal conditions.

Jurisdiction

Project lies mostly outside of city limits but within extraterritorial jurisdictional area (ETJ).



NC 119 Bypass Shared Use Path

Project Description

Construct a shared use path from S Fifth Street to W Center Street on the future NC 119 Bypass.

Identified Problem

There are minimal, or no, off-road travel options in the area for bicyclist or pedestrians.

Justification of Need

The recommendation will improve bicyclist and pedestrian safety.

Community Vision and Goals Fulfilled

The recommendation will improve multimodal transportation systems and healthy living.

Natural & Human Environmental Context

The recommended project is proposed to be constructed near existing wetlands and flood zones. The project is expected to impact areas with higher populations of Hispanic and minority residents as well as a lower per capita income area.

Relationship to City, County, and MPO Adopted Plans

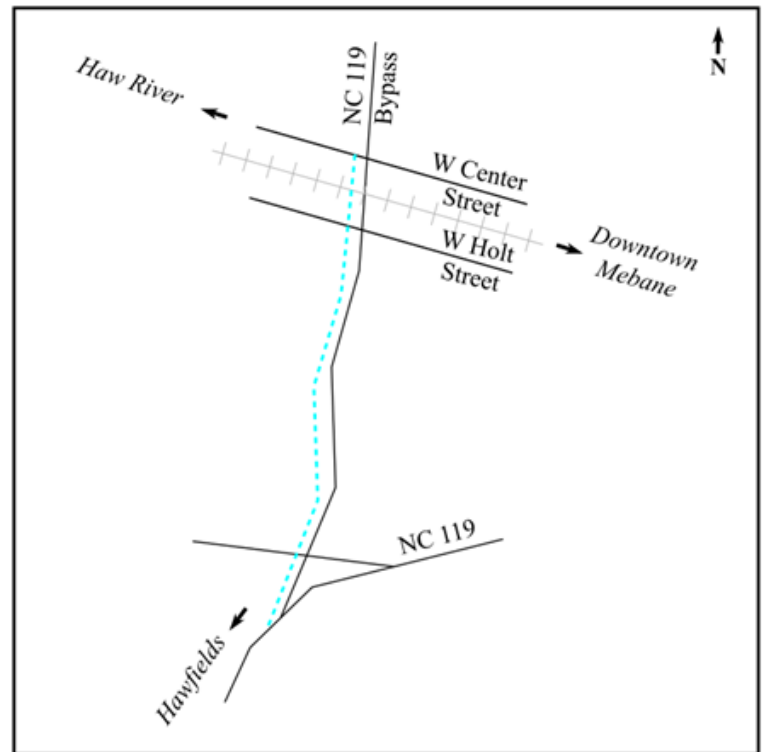
The project is recommended in the City of Mebane Bicycle and Pedestrian Transportation Plan.

Multi-modal Considerations

The recommendation improves multi-modal conditions.

Jurisdiction

The recommended path will only be partially contained within the Mebane city limits.



Fifth Street Shared Use Path

Project Description

Construct a shared use path on Fifth Street between Roosevelt Street and Mebane Oaks Road.

Identified Problem

Fifth Street is a narrow road with heavy traffic volumes. Sidewalks are currently not at American with Disabilities Act (ADA) standards.

Justification of Need

The recommendation will improve pedestrian and bicyclist safety.

Community Vision and Goals Fulfilled

The recommendation will improve multimodal transportation systems and healthy living.

Natural & Human Environmental Context

The recommended project is located near an existing flood zone. The project will improve pedestrian and bicyclist along roadway.

Relationship to City, County, and MPO Adopted Plans

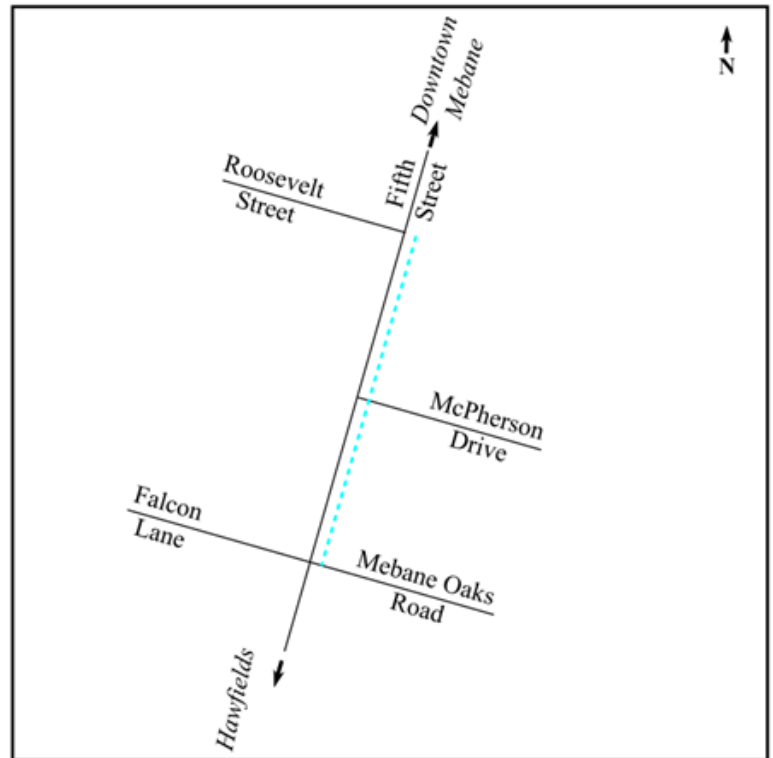
Project lies within the primary growth area as prescribed in the Comprehensive Land Development Plan (Mebane by Design)

Multi-modal Considerations

The recommendation improves multi-modal conditions.

Jurisdiction

The project will run parallel to NC 119 (Fifth Street) and is within the Mebane city limits.



Holt Street Shared Use Path

Project Description

Construct a shared use path from Dodson Road to S. First Street.

Identified Problem

There are minimal, or no, off-road travel options in the area for bicyclist or pedestrians.

Justification of Need

The recommendation will improve bicyclist and pedestrian safety.

Community Vision and Goals Fulfilled

The recommendation will improve multimodal transportation systems and healthy living.

Natural & Human Environmental Context

The recommended project is not expected to impact any existing flood zones or wetlands. The project is expected to impact an area with lower per capita, income and a higher percentage of minority residents.

Relationship to City, County, and MPO Adopted Plans

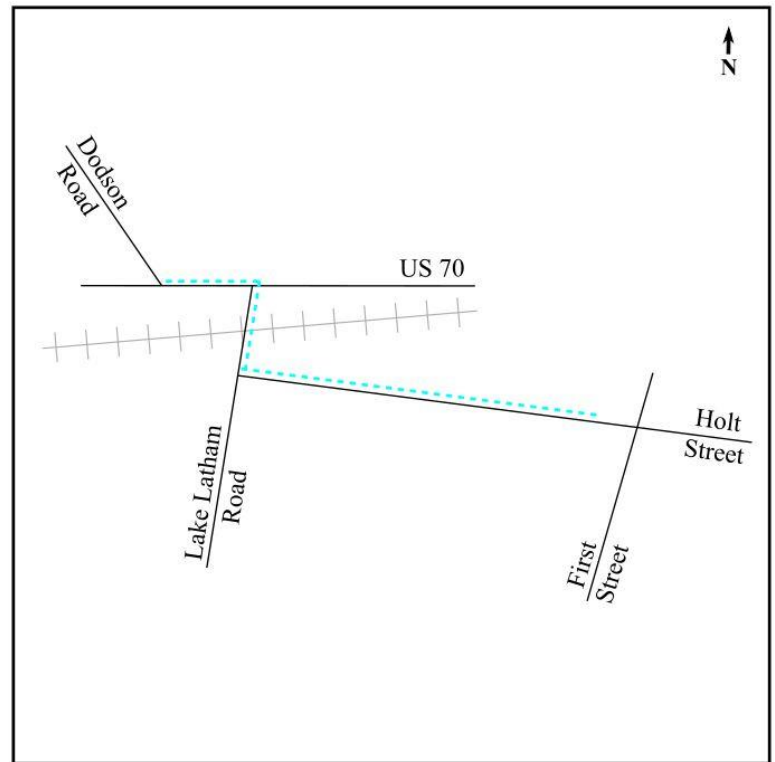
The recommendation is recommended in the City of Mebane Bicycle and Pedestrian Transportation Plan.

Multi-modal Considerations

The recommendation improves multi-modal conditions.

Jurisdiction

The project will be mostly within the Mebane city limits.



Mebane Oaks Road Shared Use Path

Project Description

Construct a 10 foot wide shared use path on Mebane Oaks Road from Old Hillsborough Road to the southern extent of the study boundary.

Identified Problem

Mebane Oaks Road is well traveled by pedestrians and bicyclists.

Justification of Need

Increase safety for the high demand of pedestrians and bicyclists. Path will serve residential neighborhood and connect to the community center.

Community Vision and Goals Fulfilled

The recommendation will improve multimodal transportation systems and healthy living.

Natural & Human Environmental Context

The recommended project is located in a known flood zone and borders an area of contiguous forest cover. The improvement is also located in an area with a higher minority population and lower per capita income.

Relationship to City, County, and MPO Adopted Plans

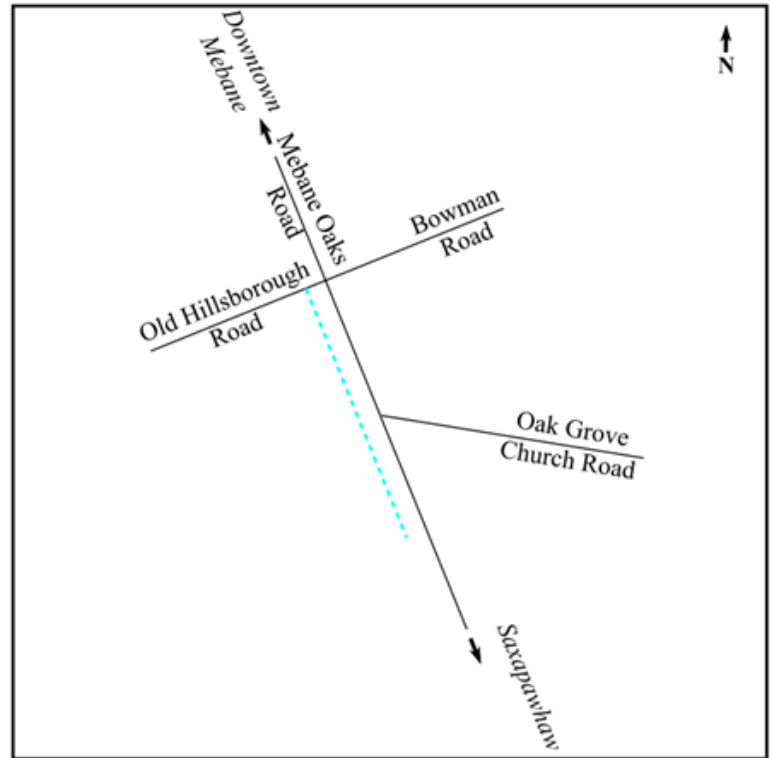
No relationship to adopted plans.

Multi-modal Considerations

The recommendation improves multi-modal conditions.

Jurisdiction

Project lies mostly outside of city limits but within extraterritorial jurisdictional area (ETJ).



Mebane Circulator

Project Description

Provide public transit via a circulator bus route to serve the City of Mebane. The route is approximately 7.5 miles.

Identified Problem

There are no local transit options in Mebane.

Justification of Need

The recommendation will improve transportation options for residents who do not have the means to travel around Mebane.

Community Vision and Goals Fulfilled

The recommendation improves multimodal transportation systems and supports economic development along the bus route.

Natural & Human Environmental Context

The proposed transit route is expected to travel along existing roadways, which currently avoid wetlands. The bus route is proposed to travel on roadways within existing flood zones. The bus route is expected to service multiple different neighborhoods within the downtown area that have a variety of economic standings.

Relationship to City, County, and MPO Adopted Plans

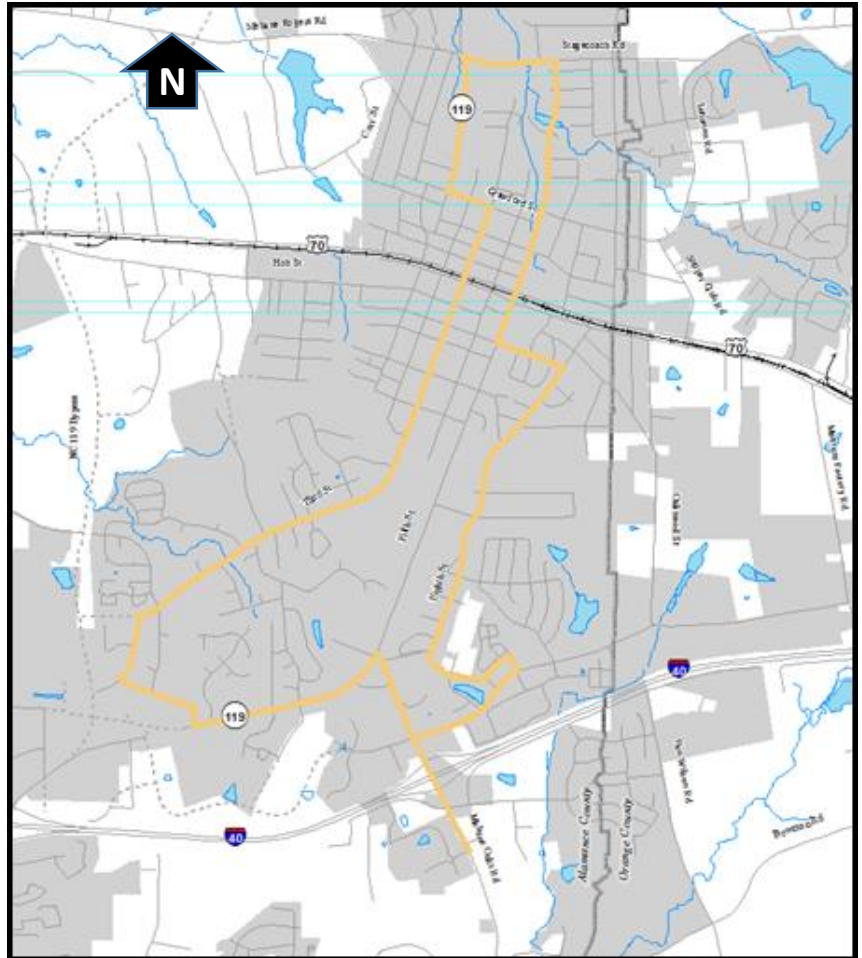
Providing transit options is referenced in City of Mebane Comprehensive Lane Development Plan.

Multi-modal Considerations

The recommendation improves multi-modal conditions.

Jurisdiction

Recommended project is within the Mebane city limits.



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APPENDICES

APPENDIX A – Mebane CTP Online Survey Results

Mebane 2040 Comprehensive Transportation Plan

ONLINE SURVEY – FINDINGS

AUGUST 2017

OVERVIEW

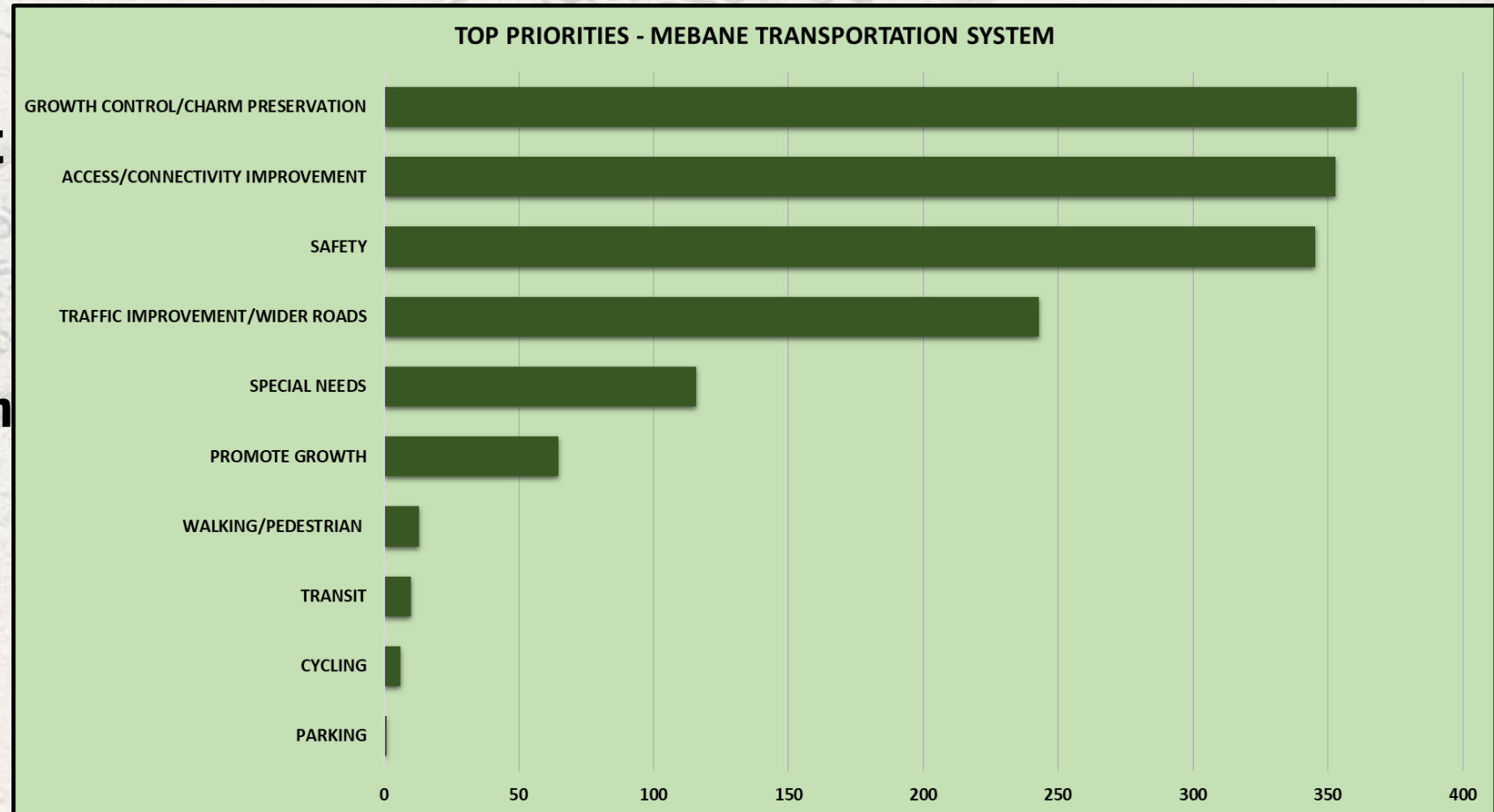
- **Online survey developed to provide input opportunity for stakeholders in the creation of the Mebane 2040 Comprehensive Transportation Plan (CTP)**
 - **Supplemented input from other stakeholder engagement efforts and city officials knowledge**
 - **Website used was hosted at www.mebane.publicinput.com (now closed)**
- **Survey**
 - **April 8, 2017 through July 22, 2017**
 - **Consisted of 15 questions allowing direct responses and opportunities to comment**
 - **Both open and closed ended questions. Some questions allowed multiple answers**
- **Statistics**
 - **205 Unique voters**
 - **148 unique commenters with more than 945 comments**
 - **15 questions with more than 1384 votes provided**
 - **Website pages were viewed in excess of 2,000 times**
 - **25 persons signed up for email communication**
- **Peak Website activity occurred late May and late June 2017**

OVERVIEW — SIGNIFICANT RESULTS

- **Of the residents taking the survey**
 - Greater than 75% are between 23 & 49 years of age
 - Most live within the more densely populated central areas of the city
 - 35% have lived in the city between 5 and 9 years
 - They represent a wide cross section of income groups
 - They appear to be equitably represented across the predominant races
 - Persons of Hispanic descent are under represented
- **Top 3 Transportation Priorities are**
 - Retaining Mebane's Charm 24%
 - Improving Access 23%
 - Improving Safety 23%
- **Top 3 Means to Achieve Priorities**
 - Building more sidewalks 25%
 - Building more Greenways 21%
 - Street widenings/Creating more bike lanes 18% (tie)
- **Most commonly used mode of transportation is Driving Alone**
- **Minor to moderate delay is acceptable to most residents interviewed**
- **Safety Improvements cited as necessary for motorized and non motorized modes**
- **Travel appears concentrated along specific corridors**

QUES #1 – WHAT ARE YOUR TOP 3 PRIORITIES FOR A TRANSPORTATION SYSTEM IN MEBANE?

- **189 voters**
- **3 votes per respondent**
- **50 comments**
- **Desires dominated by**
 - **Growth Control/Charm Preservation**
 - **Access/Connectivity Improvements**
 - **Safety**



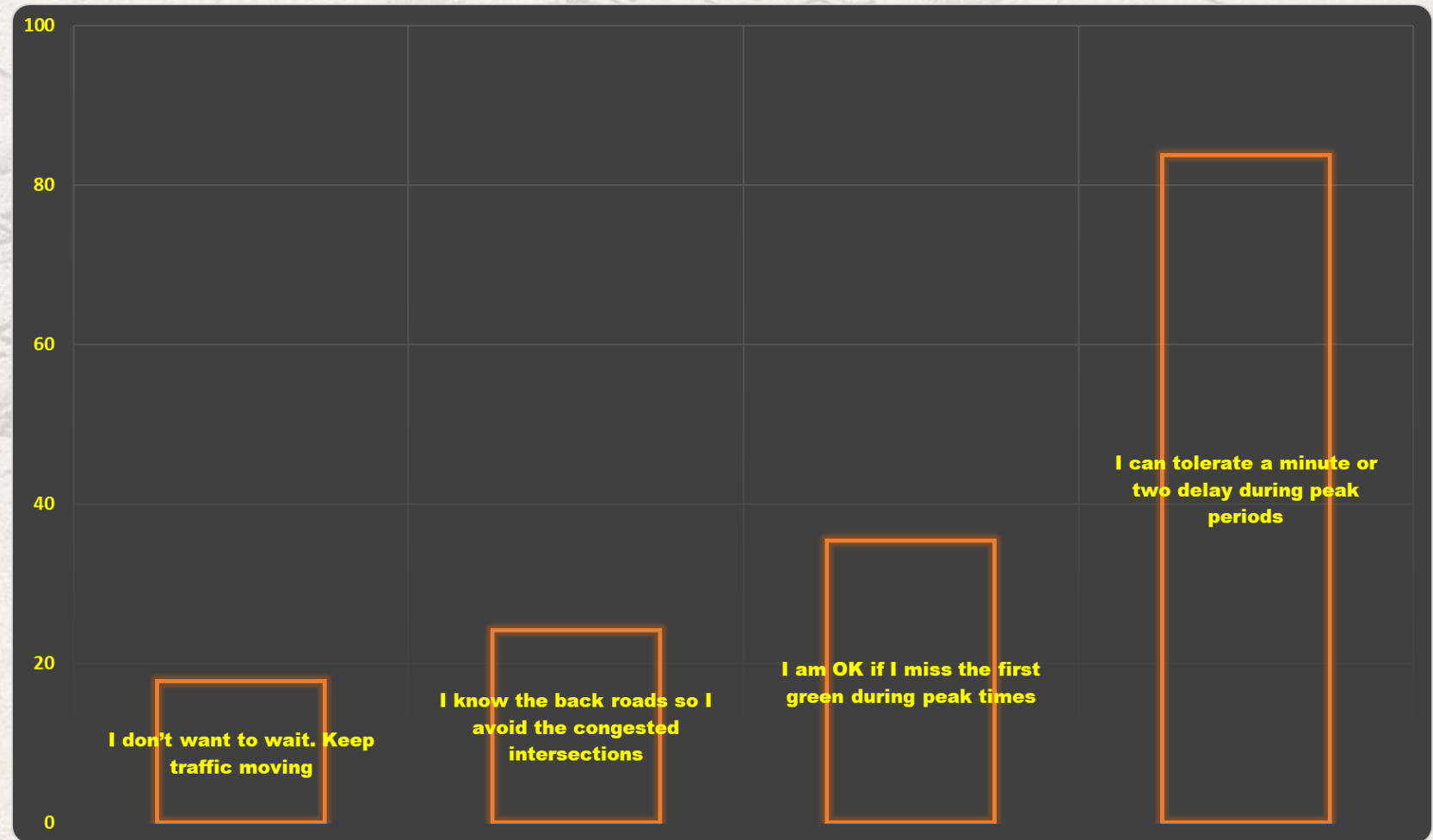
QUES #2 – WHAT TRAVEL MODES DO YOU USE IN A TYPICAL WEEK?

- **267 votes**
- **14 comments**
- **Open-ended question with multiple answers allowed**
- **Dominated by Drive Alone**
- **Walking was #2**



QUES #3 – HOW MUCH DELAY IS ACCEPTABLE TO YOU?

- 165 votes
- 10 Comments
- 4 responses allowed
- Majority of respondents are comfortable with short waits during peak hours
- Commenters vented frustrations about various traffic issues within city



The background of the slide is a close-up, slightly blurred photograph of a wall covered in numerous rectangular plaques. Each plaque is engraved with a name and some with dates or military service information. Visible names include 'MICHAEL KING 1972-1978', 'JACKIE HARRIS NURSE CORPS US AIR FORCE', 'MERRITT-JOANNE HODGSON VIETNAM 68-69', and 'MILL CREEK LADIES GOLF ASSOCIATION'. The overall tone is somber and respectful.

QUES #4 – ARE THERE INTERSECTIONS OR STREETS WHERE SAFETY IS A CONCERN OF YOURS?

- **170 responses**
- **Respondents were asked to locate intersections on a provided online map.**
- **2nd most heavily answered survey question.**

QUES #5 – WHAT ARE YOUR TOP 3 PRIORITIES FOR IMPROVING MEBANE’S TRANSPORTATION SYSTEM.

- **128 votes, multiple answers allowed**

- **330 specific suggestions given**

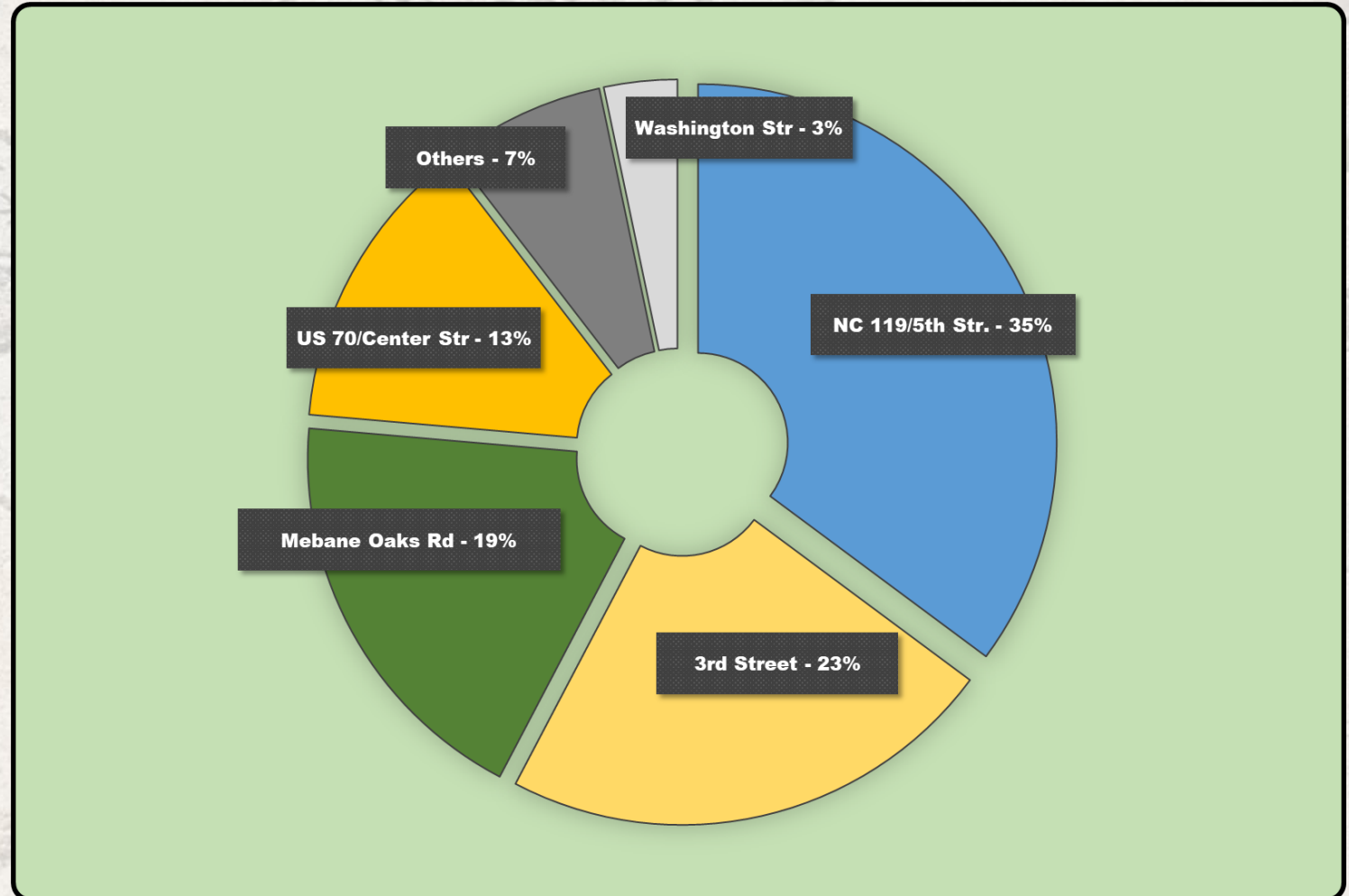
- **Main Answers**

- **Building more sidewalks** 25%
- **Building more Greenways** 21%
- **Street widenings** 18%
- **Adding bike lanes** 18%
- **All others combined** 18%



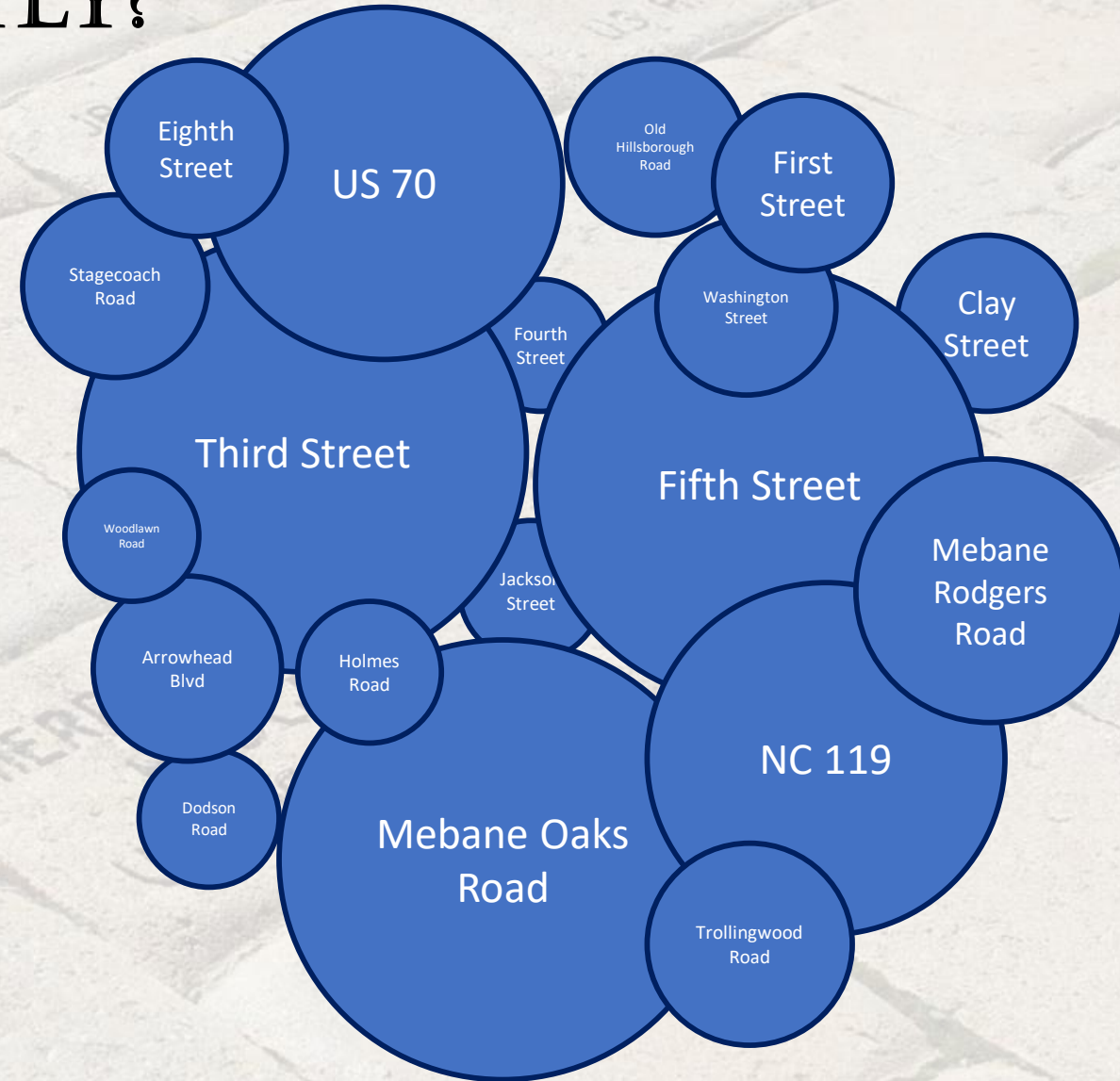
QUES #6 – WHAT STREETS DO YOU DRIVE ON MOST FREQUENTLY?

- 70 responses
- Open-ended question
- Significant cluster of answers
 - NC 119/5th Street
 - 3rd Street
 - Mebane Oaks Road
 - US 70



QUES #7 – WHAT STREETS DO YOU WALK ALONG MOST FREQUENTLY?

- **56 responses**
- **Open-ended question**
- **Most Walked Streets:**
 - **3rd Street**
 - **5th Street**
 - **Mebane Oaks Road**
 - **US 70**
 - **NC 119**
 - **Mebane Rodgers Road**



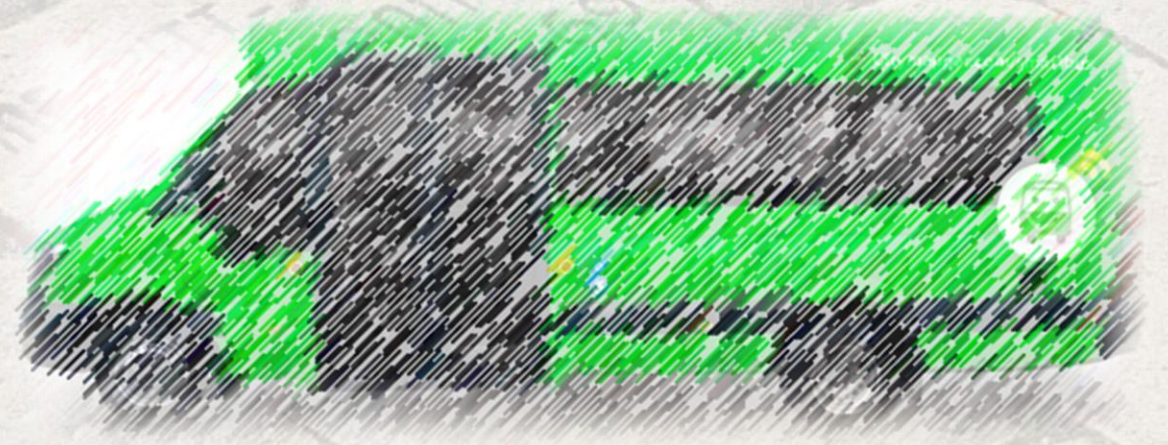
QUES #8 – WHAT STREETS DO YOU BICYCLE ON MOST FREQUENTLY?

- 46 responses
- Open-ended question
- Varied responses with no discernable pattern
- Most numerous response was
 - **FEAR OF RIDING on Mebane Streets**
- Several respondents addressed fear of riding due to safety concerns



QUES #9 – WHAT IMPROVEMENTS TO THE BUS SYSTEM WOULD LEAD YOU TO RIDE MORE OFTEN?

- **28 comments**
- **Open-ended question**
- **Answers were dominated by 3 main themes**
 - **Inter city/town connectivity improvements**
 - Chapel Hill, Burlington, Raleigh, Durham, Research Triangle Park (RTP)
 - **Connectivity improvements within Mebane especially to downtown area**
 - **No desire for a bus system**
- **NB. City of Mebane does NOT currently have a bus system but is minimally served by the regional systems**
 - Piedmont Area Regional Transit (PART)
 - Go-Triangle



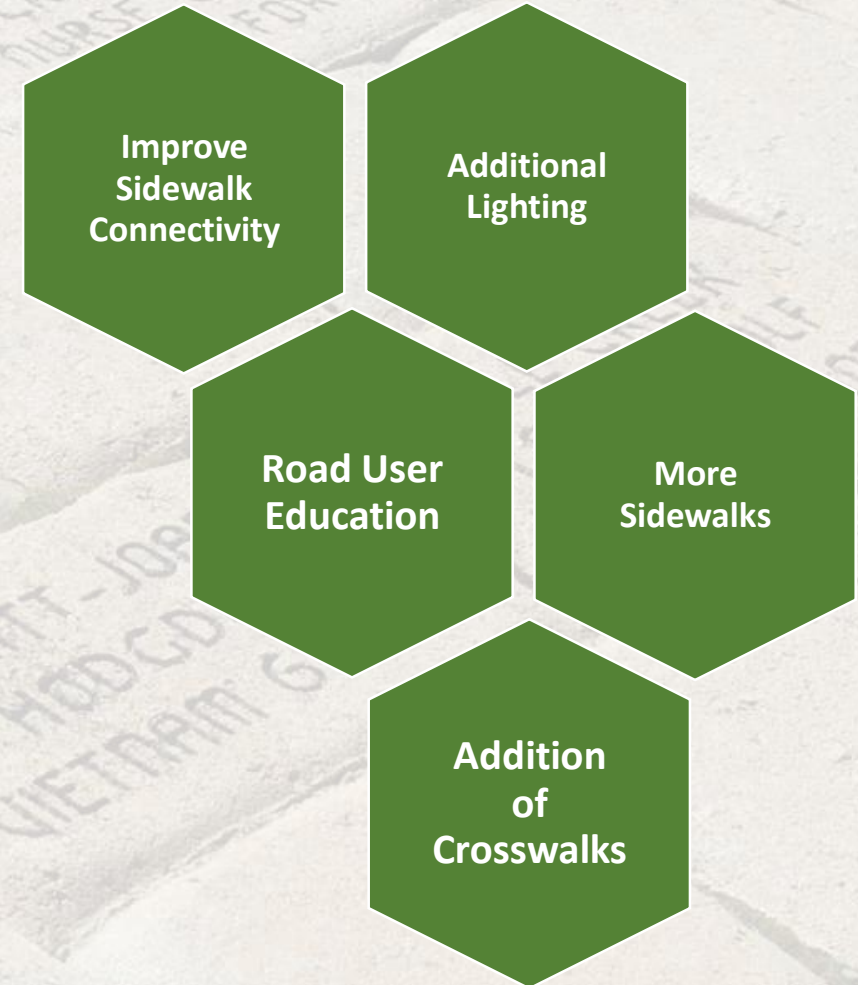
QUES #10 – WHAT IMPROVEMENTS TO BICYCLE ROUTES WOULD LEAD YOU TO RIDE MORE OFTEN?

- **32 comments**
- **Open-ended question**
- **Safety improvements were the most suggested ideas**
 - **Adding Bike Lanes**
 - **Constructing Bike/Multi use paths**
 - **Designation of Bicycle Routes**



QUES #11 – WHAT IMPROVEMENTS TO THE SIDEWALK SYSTEM WOULD LEAD YOU TO WALK MORE OFTEN?

- **46 responses**
- **Open-ended leading question**
- **Answers were dominated by**
 - **Improved connectivity of existing sidewalks**
 - **Lighting improvements**
 - **Addition of crosswalks at intersections**
 - **More sidewalks**
 - **Road user education**

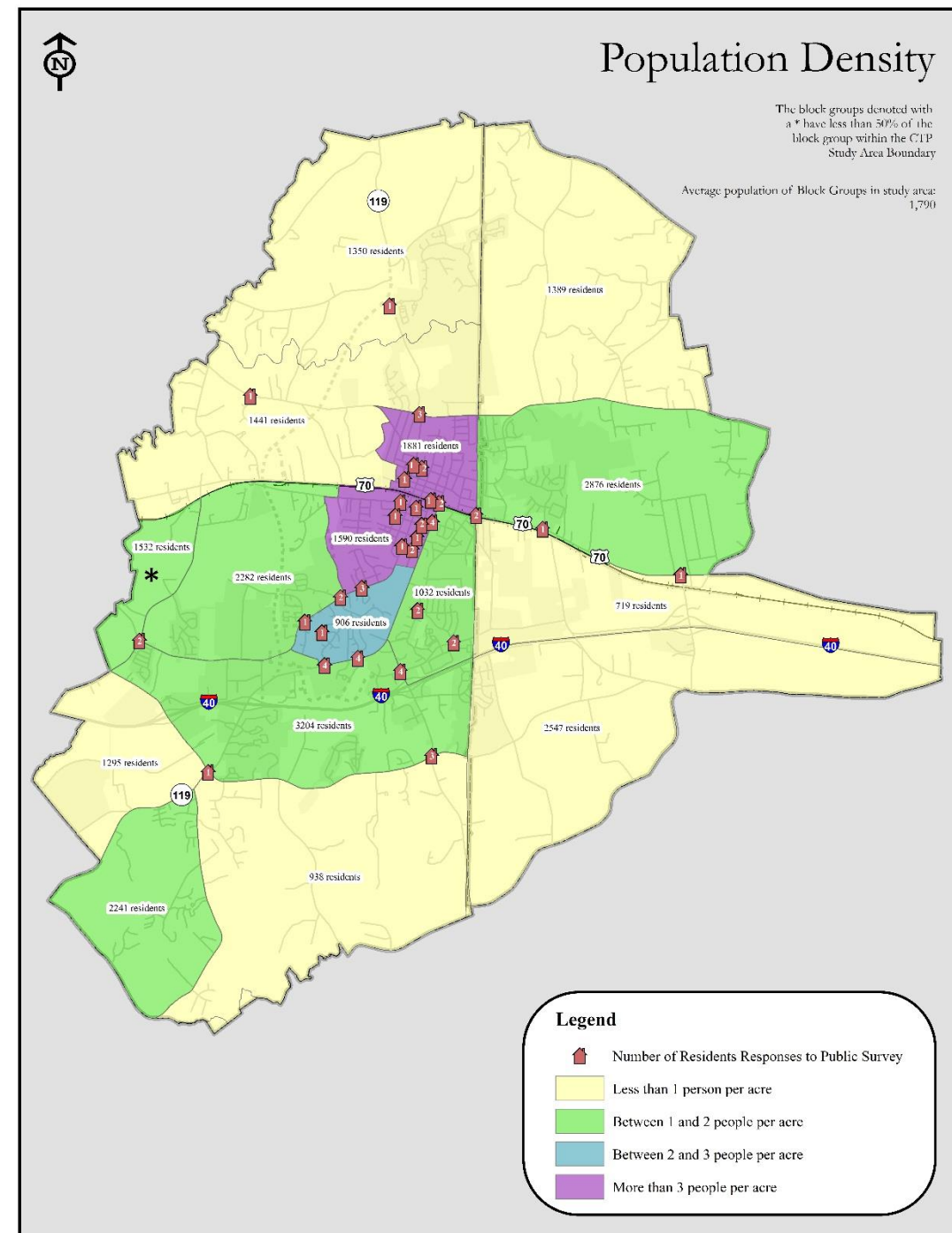


QUES #12 – WHAT IS THE CLOSEST INTERSECTION TO WHERE YOU LIVE?

- **58 responses**
- **Open-ended question**
- **Used to gauge geographical concentration of responses**
- **Dominated by a concentration of responses near downtown Mebane**
- **Location of responses were compared to 2015 US Census Data for**
 - **Population Density**
 - **Income**
 - **Race &**
 - **Ethnicity**

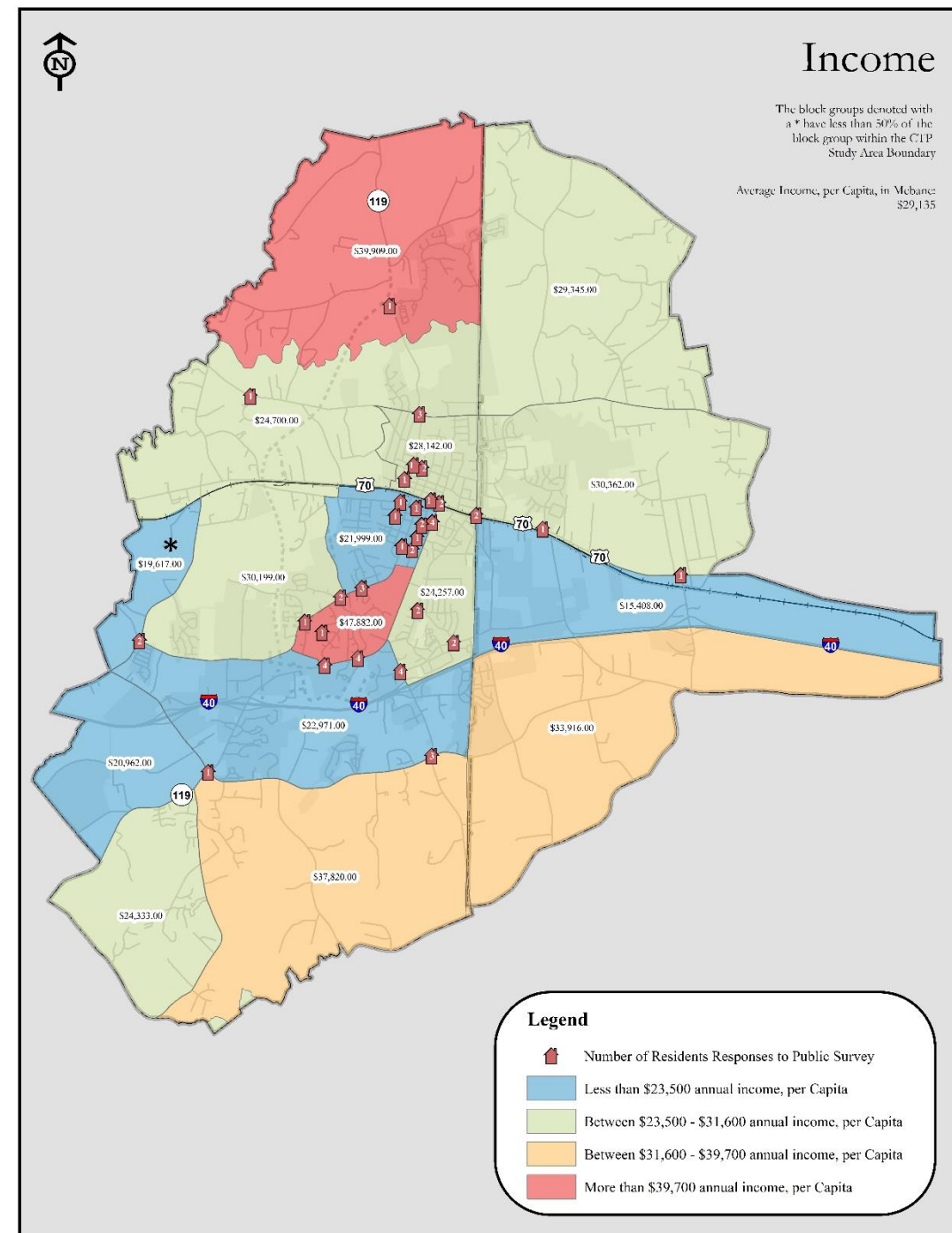
QUES #12A – LOCATION OF RESPONDENTS VIS-À-VIS POPULATION DENSITY

- Majority of residents who took the online survey are from the more densely populated sections of the city.



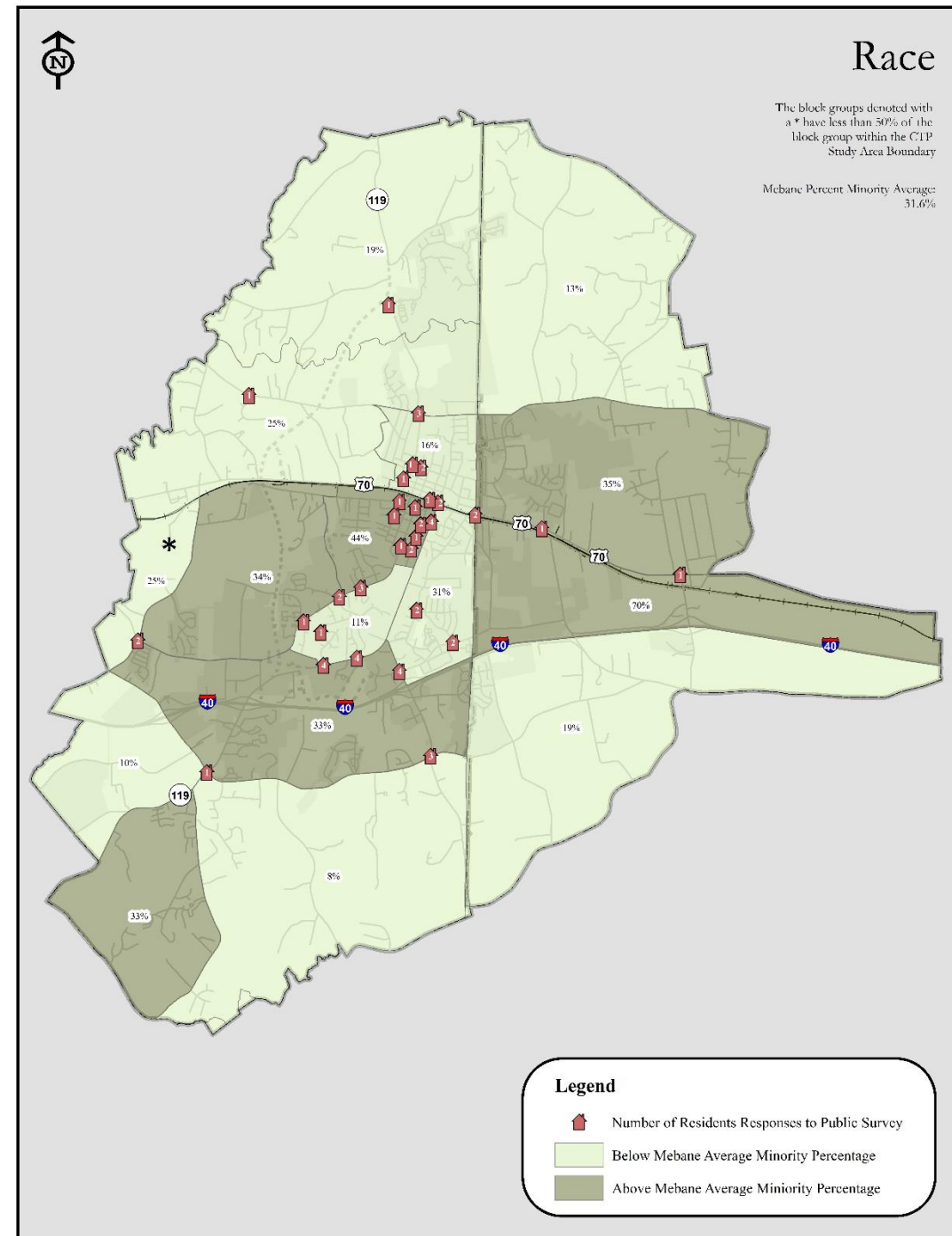
QUES #12B – LOCATION OF RESPONDENTS VIS-À-VIS INCOME

- **Online survey respondents represent a wide cross section of income groups within the city.**



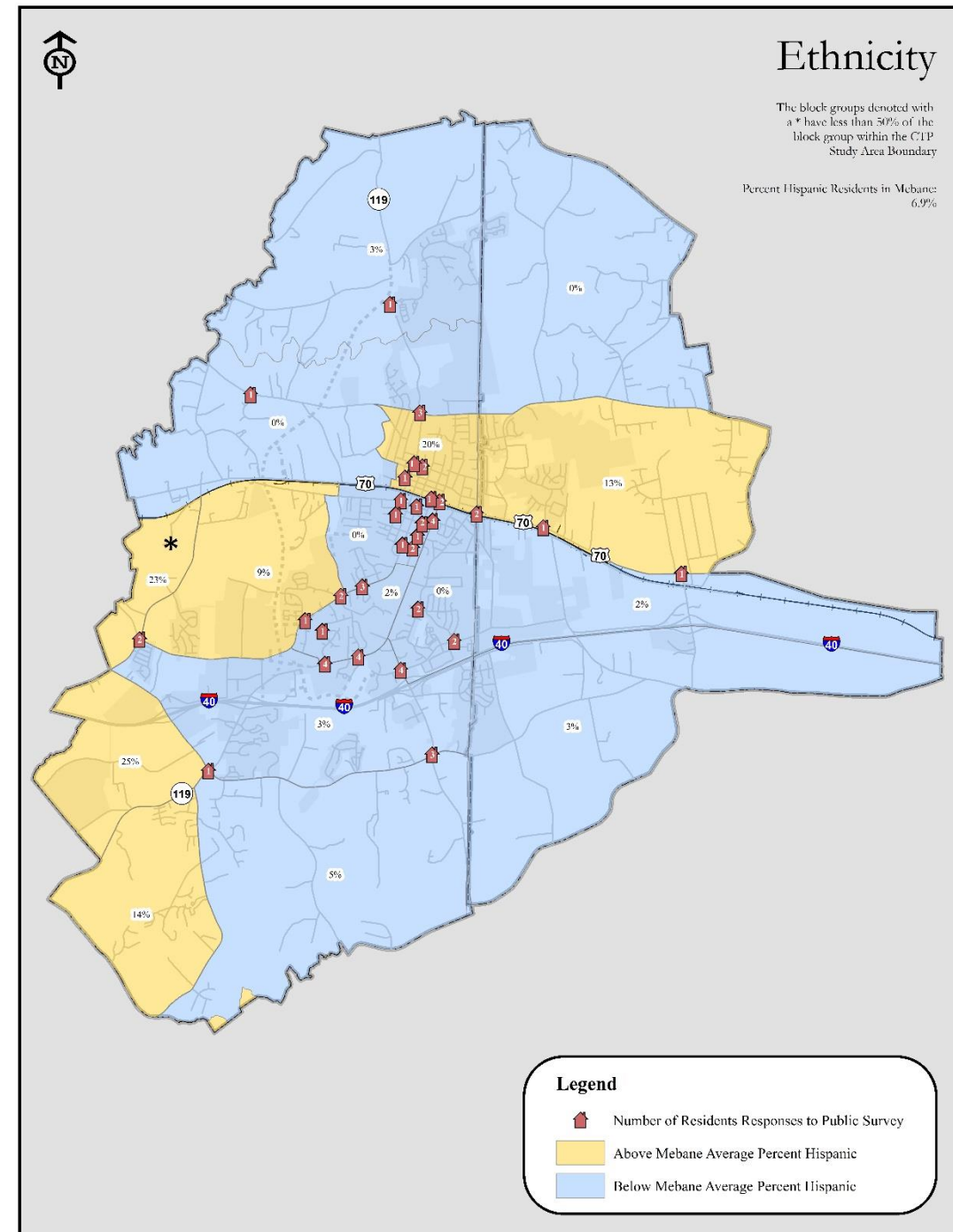
QUES #12C – LOCATION OF RESPONDENTS VIS-À-VIS RACE

- **Online survey respondents appear to be equitably represented from high and low minority census block groups**



QUES #12D – LOCATION OF RESPONDENTS VIS-À-VIS ETHNICITY

- **Online survey respondents appear to be underrepresented when Hispanic ethnicity is identified.**

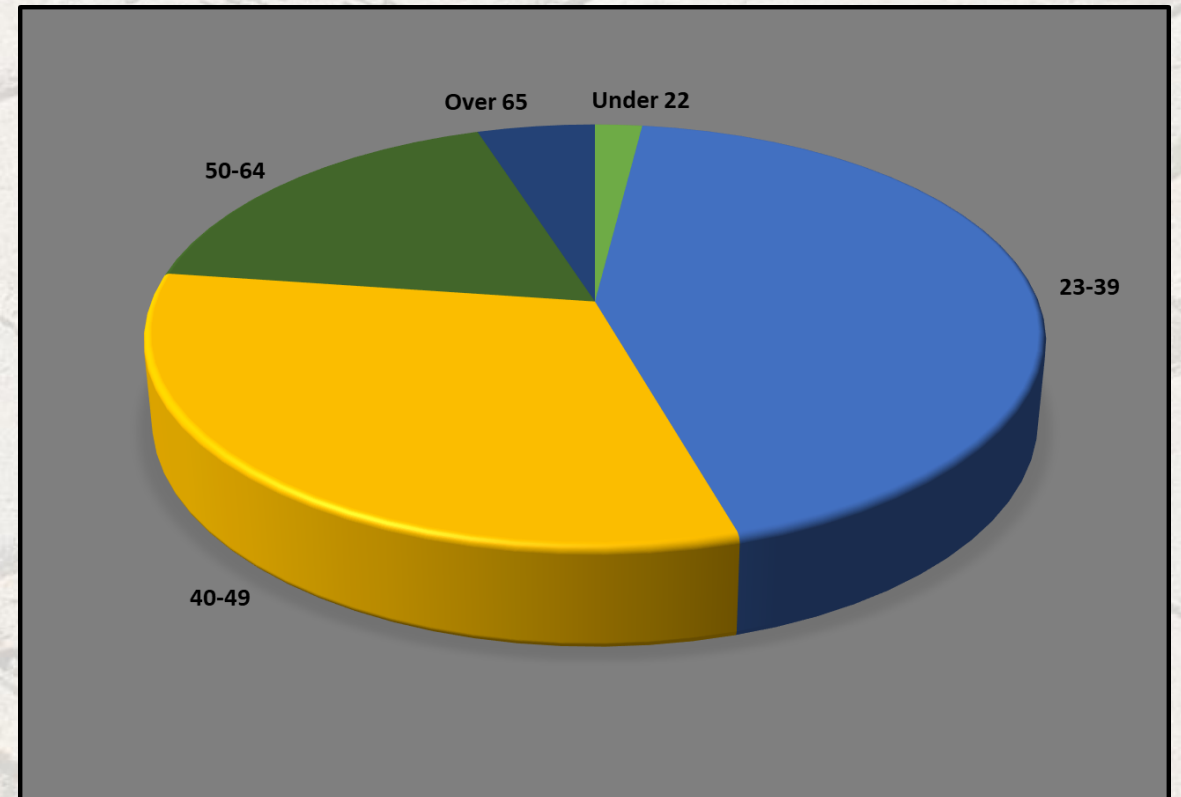


QUES #13 – WHAT IS THE CLOSEST INTERSECTION TO WHERE YOU WORK?

- **39 respondents**
- **Open-ended question**
- **Answers did not provide useful data for CTP.**
- **Several answers outside of CTP Study Boundary.**

QUES #14 – WHAT AGE GROUP ARE YOU IN?

- **117 responses**
- **Very few respondents under 22 years of age or over 65 years**
- **Ranges given**
 - **16-22** <2%
 - **23-39** 44%
 - **40-49** 32%
 - **50-64** 18%
 - **65 and Older** <5%

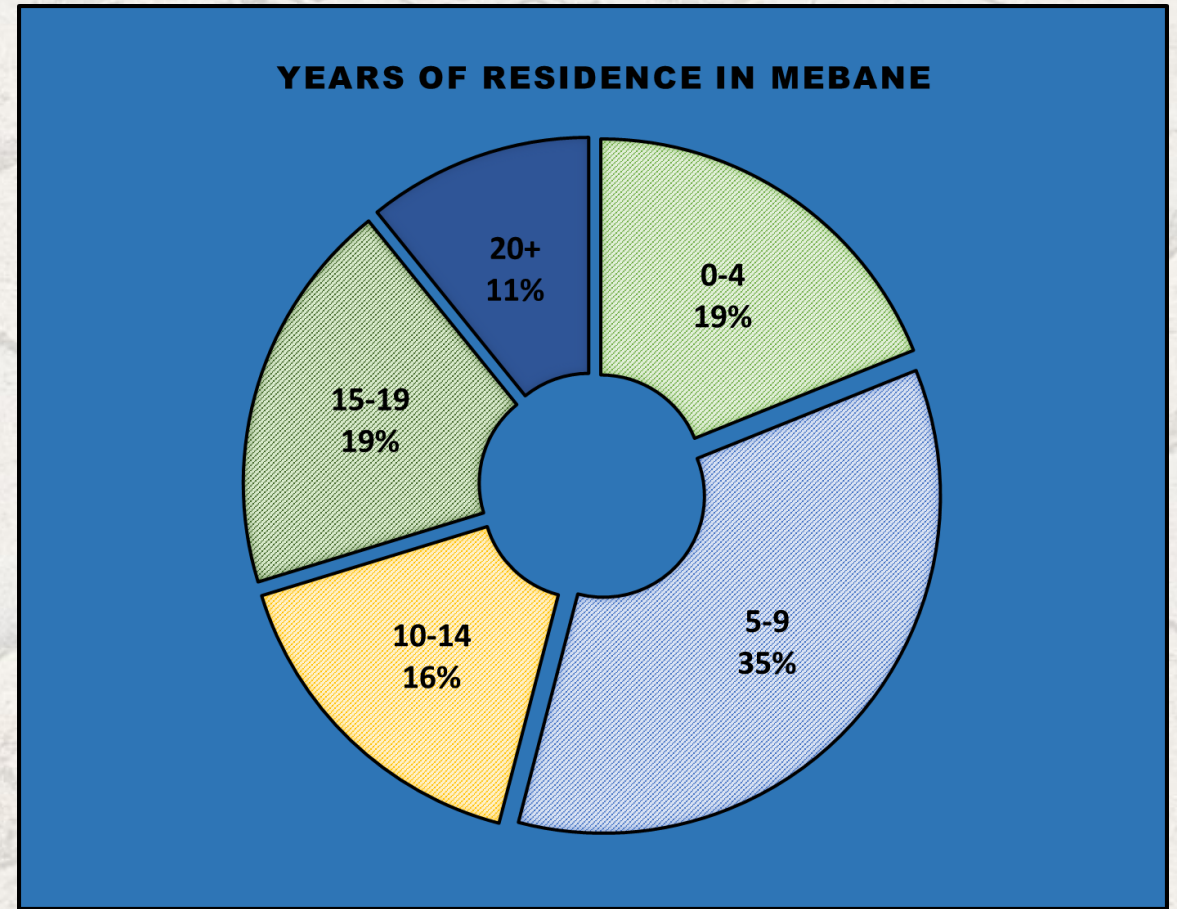


QUES #15 – HOW LONG HAVE YOU LIVED IN MEBANE?

- **80 respondents**
- **Open-ended question**
- **Single largest cohort (35%) of respondents have lived in Mebane for 5-9 years**

- **Years**

• 0-4	7
• 5-9	13
• 10-14	6
• 15-19	7
• 20+	4



APPENDIX B – Level of Service Definitions and Representative Diagrams

Level of Service (LOS) is one of the many measures to determine how well a particular roadway is operating. The following descriptions and designations are directly from the NCDOT:

LOS A: Describes primarily free flow conditions. The motorist experiences a high level of physical and psychological comfort. The effects of minor incidents of breakdown are easily absorbed. Even at the maximum density, the average spacing between vehicles is about 528 ft., or 26 car lengths.

LOS B: Represents reasonably free flow conditions. The ability to maneuver within the traffic stream is only slightly restricted. The lowest average spacing between vehicles is about 330 ft., or 18 car lengths.

LOS C: Provides for stable operations, but flows approach the range in which small increases will cause substantial deterioration in service. Freedom to maneuver is noticeably restricted. Minor incidents may still be absorbed, but the local decline in service will be great. Queues may be expected to form behind any significant blockage. Minimum average spacing is in the range of 220 ft., or 11 car lengths.







LOS D: Borders on unstable flow. Density begins to deteriorate somewhat more quickly with increasing flow. Small increases in flow can cause substantial deterioration in service. Freedom to maneuver is severely limited, and the driver experiences drastically reduced comfort levels. Minor incidents can be expected to create substantial queuing. At the limit, vehicles are spaced at about 165 ft., or 9 car lengths.

LOS E: Describes operation at capacity. Operations at this level are extremely unstable, because there are virtually no usable gaps in the traffic stream. Any disruption to the traffic stream, such as a vehicle entering from a ramp, or changing lanes, requires the following vehicles to give way to admit the vehicle. This can establish a disruption wave that propagates through the upstream traffic flow. At capacity, the traffic stream has no ability to dissipate any disruption. Any incident can be expected to produce a serious breakdown with extensive queuing. Vehicles are spaced at approximately 6 car lengths, leaving little room to maneuver.

LOS F: Describes forced or breakdown flow. Such conditions generally exist within queues forming behind breakdown points.

Source: NCDOT Transportation Planning Board

Level of Service Illustrations

Level of Service A	Level of Service B	Level of Service C
		
Driver Comfort: High	Driver Comfort: High	Driver Comfort: Some Tension
Maximum Density: 12 passenger cars per mile per lane	Maximum Density: 20 passenger cars per mile per lane	Maximum Density: 30 passenger cars per mile per lane
Level of Service D	Level of Service E	Level of Service F
		
Driver Comfort: Poor	Driver Comfort: Extremely Poor	Driver Comfort: The lowest
Maximum Density: 42 passenger cars per mile per lane	Maximum Density: 67 passenger cars per mile per lane	Maximum Density: More than 67 passenger cars per mile per lane

Source: 2000 Highway Capacity Manual (HCM)

APPENDIX C – Funding Sources

Federal Transportation Sources (USDOT)

Fixing America's Surface Transportation (FAST) Act

Fixing America's Surface Transportation (FAST) reauthorizes Federal surface transportation programs for five fiscal years (FYs 2016-2020). Among the FAST Act provisions which support goods movement and the U.S. economy is a new formula program for freight projects. Section 1116 of the FAST Act amends 23 U.S.C. § 167 to establish the National Highway Freight Program (NHFP) and provides for a new National Highway Freight Network (NHFN). Section 1116 also requires the re-designation of the NHFN every five years.

In 2015 the USDOT replaced the FAST Act with the INFRA program provides dedicated, discretionary funding for projects that address critical issues facing our nation's highways and bridges. INFRA grants will support the Administration's commitment to fixing our nation's crumbling infrastructure by creating opportunities for all levels of government and the private sector to fund infrastructure, using innovative approaches to improve the necessary processes for building significant projects, and increasing accountability for the projects that are built.



Bus and Facilities Formula Grants

Recipients and states that operate or allocate federal funding to fixed-route bus operators. Provides capital funding to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities. Eligible Bicycle Activities: routes to transit, racks, shelters and equipment for public transportation vehicles. Federal Share for Bicycle Activities: projects receive a 90% federal share.



TIGER Discretionary Grants

The Transportation Investment Generating Economic Recovery, or TIGER Discretionary Grant program, provides an opportunity to invest in road, rail, and transit projects that promise to achieve desired objectives. Since 2009, Congress has dedicated nearly \$5.1 billion for eight rounds of TIGER to fund projects that have a significant impact on the Nation, a region or a metropolitan area.



Recreational Trails Program

The Recreational Trails Program (RTP) provides federal funds to the States to develop and maintain recreational trails and trail-related facilities for both nonmotorized and motorized recreational trail uses. The RTP is an assistance



program of the Department of Transportation's Federal Highway Administration (FHWA).

The Bus and Bus Related Equipment and Facilities and Low-No Programs

This program makes federal resources available to states and direct recipients, including cities to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities including technological changes or innovations to modify low or no emission vehicles or facilities. Funding is provided through formula allocations and competitive grants. A sub-program, the Low- or No-Emission Vehicle Program, provides competitive grants for bus and bus facility projects that support low and zero-emission vehicles.



Low or No Emission Vehicle Program

The Low or No Emission Competitive program provides funding to state and local governmental authorities for the purchase or lease of zero-emission and low-emission transit buses and vans as well as acquisition, construction, and leasing of required supporting facilities. Under the FAST Act, \$55 million per year is available until fiscal year 2020.



Enhanced Mobility of Seniors & Individuals with Disabilities

This program provides formula funding to states for the purpose of assisting private nonprofit groups in meeting the transportation needs of older adults and people with disabilities when the transportation service provided is unavailable, insufficient, or inappropriate to meeting these needs.



Flexible Funding Programs - Surface Transportation Block Grant Program

The Surface Transportation Block Grant program (STBG) provides flexible federal funding that may be used by states and localities for projects to preserve and improve the conditions and performance on any federal-aid highway, bridge and tunnel project on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals.



Grants for Buses and Bus Facilities Formula Program

Provides federal funding to states and transit agencies through a statutory formula to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities. In addition to the formula allocation, this



program includes two discretionary components: The Bus and Bus Facilities Discretionary Program and the Low or No Emissions Bus Discretionary Program.

Human Resources & Training

Under this new program, Federal Transit Agency (FTA) may make grants or enter into contracts for human resource and workforce development programs as they apply to public transportation activities.



Land and Water Conservation Fund

The Land and Water Conservation Fund (LWCF) provides federal grants for planning and acquiring outdoor recreation areas and facilities, including trails. Funds can be used for right-of-way acquisition and construction. The program is administered by the NC Department of Environment Quality as a grant program for local governments. The maximum annual grant awards for county governments, incorporated municipalities, public authorities, and federally recognized Indian tribes are \$250,000. The local match may be provided with in-kind services or cash.



Rivers, Trails, and Conservation Assistance Program

The Rivers, Trails, and Conservation Assistance Program (RTCA) is a National Parks Service (NPS) program providing technical assistance via direct NPS staff involvement to establish and restore greenways, rivers, trails, watersheds and open space. The RTCA program provides only for planning assistance—there are no implementation funds available but it is not a capital funding source.



State Funding Sources

State Transportation Improvement Program

The North Carolina Department of Transportation (NCDOT) STIP is based on the Strategic Transportation Investments (STI) bill, signed into law in 2013. The STI initiative introduces the Strategic Mobility Formula, a data driven way to fund and prioritize transportation projects to ensure maximum benefit to North Carolina.



Strategic Prioritization (currently SPOT 5.0)

The Strategic Prioritization Process is the methodology that NCDOT uses to develop the State Transportation Improvement Program (STIP). The process involves scoring all roadway, public transportation, bicycle, pedestrian, rail, and aviation projects on a number of criteria. Metropolitan Planning Organizations (MPOs), Rural Planning Organizations (RPOs), and the NCDOT Division offices also contribute to the final project score by assigning local priority points to projects.



Incidental Projects

Bicycle and pedestrian accommodations such as bike lanes, sidewalks, intersection improvements, widened paved shoulders and bicycle and pedestrian-safe bridge design are frequently included as incidental features of roadway improvement projects.



Spot Safety Program

The Spot Safety Program is a state funded public safety investment and improvement program that provides highly effective low cost safety improvements for intersections, and sections of North Carolina's 79,000 miles of state maintained roads in all 100 counties of North Carolina. The Spot Safety Program is used to develop smaller improvement projects to address safety, potential safety, and operational issues.



Small Construction Funds

Each of the 14 NCDOT Highway Divisions administers \$357,000 of small construction funds. The purpose of these funds is to finance improvements on the State System (US, NC, and SR routes) to be used for projects anywhere in the counties. These funds are used to fund a variety of transportation projects for municipalities, counties, businesses, schools, and industries throughout the state. There is a \$250,000 maximum amount per request per fiscal year. Any project



with a total cost greater than \$150,000 requires a resolution or a letter of support for the project from the local jurisdiction.

Eat Smart, Move More North Carolina Community Grants

The Eat Smart, Move More (ESMM) NC Community Grants program provides funding to local communities to support their efforts to develop community-based interventions that encourage, promote and facilitate physical activity. The current focus of the funds is for projects addressing youth physical activity. Funds have been used to construct trails and conduct educational programs.



North Carolina Division of Parks and Recreation State Trails Program

The North Carolina Division of Parks and Recreation and the State Trails Program offer funds to help citizens, organizations and agencies plan, develop and manage all types of trails ranging from greenways and trails for hiking, biking and horseback riding to river trails and off-highway vehicle trails.



N.C. Parks and Recreation Trust Fund (PARTF)

The Parks and Recreation Trust Fund (PARTF) provide dollar-for-dollar matching grants to local governments for parks and recreational projects to serve the general public. Counties, incorporated municipalities and public authorities, are eligible applicants. Local match for 50 percent of the total cost of the project is required.



NC Department of Environment – Recreational Trails and Adopt-A-Trail Grants

The State Trails Program is a section of the N.C. Division of Parks and Recreation. The program originated in 1973 with the North Carolina Trails System Act and is dedicated to helping citizens, organizations and agencies plan, develop and manage all types of trails ranging from greenways and trails for hiking, biking and horseback riding to river trails and off-highway vehicle trails.



Powell Bill Funds

Powell Bill funds are state funds for municipalities and shall be expended only for the purposes of maintaining, repairing, constructing, reconstructing or widening of local streets that are the responsibility of the municipalities or for planning, construction, and maintenance of bikeways or sidewalks along public streets and highways.



Community Development Block Grant Funds

State Community Development Block Grant (CDBG) funds are available to local municipal or county governments that qualify for projects to enhance the viability of communities by providing decent housing and suitable living environments and by expanding economic opportunities, principally for persons of low- and moderate-income. State CDBG funds are provided by the U.S. Department of Housing and Urban Development (HUD) to the state of North Carolina. Two categories might be of support to pedestrian and bicycle projects in ‘entitlement communities’: Infrastructure and Community Revitalization.



Clean Water Management Trust Fund (CWMTF)

Established in 1996, this state fund is allocated as grants to local governments, state agencies and conservation non-profits to help finance projects that specifically address water pollution problems. Funds may be used for planning and land acquisition to establish a network of riparian buffers and greenways for environmental, educational, and recreational benefits.



Safe Routes to School Program

The NCDOT Safe Routes to School Program is a federally funded program that was initiated by the passing of the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in 2005. SRTS programs facilitate the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools. The Division of Bicycle and Pedestrian Transportation at NCDOT is charged with disseminating SRTS funding.



Urban and Community Forestry Grant

The North Carolina Division of Forest Resources Urban and Community Forestry grant can provide funding for a variety of projects that will help toward planning and establishing street trees as well as trees for urban open space. First-time municipal applicant and municipalities seeking Tree City USA status are given priority for funding.



LOCALLY-ADMINISTERED PROJECT

The Locally Administered Projects Program (LAPP) is the process MPOs use to allocate the federal dollars that are the direct responsibility of the MPO. The Locally Administered Project Program includes the MPO's Surface Transportation



Program - Direct Allocation (STP-DA) funds and the Congestion Mitigation for Air Quality (CMAQ) funds. Local government agencies (LGAs) are responsible for carrying out the design and construction of projects, or implementation of programs.

Non-Profit Funding Sources

The Robert Wood Johnson Foundation

The Robert Wood Johnson Foundation was established as a national philanthropy in 1972 and today it is the largest U.S. foundation devoted to improving the health and health care of all Americans. Grant making is concentrated in four areas: basic health care, care and support the chronically ill, promoting healthy communities and lifestyles, and reducing harm caused by substance abuse.



North Carolina Community Foundation

Established in 1988 as a statewide foundation to build endowments and ensure financial security for nonprofit organizations and institutions throughout the state. The foundation manages a number of community affiliates throughout North Carolina, that make grants in the areas of human services, education, health, arts, religion, civic affairs, and the conservation and preservation of historical, cultural, and environmental resources.



Walmart State Giving Program

The Walmart Foundation financially supports projects that create opportunities for better living. Grants are awarded for projects that support and promote education, workforce development/economic opportunity, health and wellness, and environmental sustainability. Both programmatic and infrastructure projects are eligible for funding.



Z. Smith Reynolds Foundation

The Foundation assists environmental projects of local governments and non-profits in North Carolina. They offer support in open space and greenways development.



American Greenways Eastman Kodak Awards

The Conservation Fund's American Greenways Program has teamed with the Eastman Kodak Corporation and the National Geographic Society to award grants to stimulate the planning, design and development of greenways.



National Trails Fund

American Hiking Society created the National Trails Fund in 1998, the only privately supported national grants program providing funding to grassroots organizations working toward establishing, protecting and maintaining foot trails in America.



The Trust for Public Land

Land conservation is central to the mission of the Trust for Public Land (TPL). The Trust for Public Land is a national nonprofit working exclusively to protect land for human enjoyment and well-being. TPL helps conserve land for recreation and spiritual nourishment and to improve the health and quality of life of American communities.



BlueCross BlueShield of North Carolina Foundation (BCBS)

Blue Cross Blue Shield (BCBS) focuses on programs that use an outcome approach to improve the health and well-being of residents. The Health of Vulnerable Populations grants program focuses on improving health outcomes for at-risk populations. The Healthy Active Communities grant concentrates on increased physical activity and healthy eating habits.



Alliance for Biking & Walking: Advocacy Advance Grants

Advocacy Advance Grants enable state and local bicycle and pedestrian advocacy organizations to develop, transform, and provide innovative strategies in their communities. Through the Advocacy Advance Partnership with the League of American Bicyclists, the Alliance also provided necessary technical assistance, coaching, and training to supplement the grants.



Bikes Belong Grants

The Bikes Belong Grant program funds projects that leverage federal funding and build momentum for bicycling in communities across the U.S. These projects include greenways and rail trails accessible by pedestrians and bicyclists. These grants are designed to foster and support partnerships between city or county governments, non-profit organizations, and local businesses to improve the environment for bicycling in the community. Grants will primarily fund the construction or expansion of facilities such as bike lanes, trails, and paths. The lead organization must be a non-profit organization with IRS 501(c)3 designation or a city or county government office.



Local Government Funding Sources

Municipalities often plan for the funding of facilities or improvements through development of Capital Improvement Programs (CIP). CIPs can include all types of capital improvements. Typical capital funding mechanisms include the following: capital reserve fund, capital protection ordinances, municipal service district, tax increment financing, taxes, fees, and bonds. A variety of possible funding options available to North Carolina jurisdictions for implementing projects may require specific action by the City of Mebane as a means of establishing a program, if not already in place.



Local Sponsors

A sponsorship program allows smaller donations to be received from both individuals and businesses. Cash donations could be placed into a trust fund to be accessed for certain construction or acquisition projects associated with the greenways and open space system. Some recognition of the donors is appropriate.



Private Individual or Corporate Donations

Corporate donations are often received in the form of liquid investments and in the form of land. Municipalities typically create funds to facilitate and simplify a transaction from a corporation or individual donation to the given municipality. Donations are mainly received when a widely supported capital improvement program is implemented.



APPENDIX D – 2040 Projected LOS Values by Road Segment

Road Name	Existing Daily Volumes AADT (NCDOT)	Existing LOS	Updated 2040 ADT from PART model	Updated 2040 LOS	RKA Comments
I-40 / 85	106,000	C	126,500	D	assumes existing 8-lane freeway
NC 119 Bypass n/o US 70 ramps	---	---	6,900	C	U-3109 improvements to build the NC 119 Relocation (Bypass) are assumed complete for this LOS analysis.
NC 119 Bypass n/o Fifth St. intersection	---	---	15,100	C	NEPA document for U-3101 forecasts 15,800 vehicles per day.
NC 119 Bypass n/o I-85 / I-40 ramps	---	---	19,500	C	U-3109 improvements to build the NC 119 Relocation (Bypass) are assumed complete for this LOS analysis. NEPA document for U-3101 forecasts 28,000 vehicles per day.
N. 1st St / NC 119 n/o Stagecoach	6,800	D	6,600	D	NC 119 bypass would be one reason for a decrease in volume.
N. 2nd St. n/o US 70	---	---	---	E	Assume overflow will use parallel streets (e.g. N. 3rd St.)
3rd St Ext. w/o Holmes Rd	8,200	D	6,800	C	Third St. redesigned with U-3109 to terminate at the new NC 119; likely a reason why the volume might decrease.
3rd St s/o Lee St.	5,000	C	1,900	C	NC 119 bypass would be one reason for a decrease in volume.
5th St n/o Mebane-Oaks Rd.	14,000	E / F	7,000	E/F	LOS reflects lack of left-turn lanes. Adding a median with left turn lanes improves to LOS D. new NC 119 may be the reason for the decrease in volume.
5th St s/o Lee St.	13,000	E/F	12,100	E/F	LOS reflects lack of left-turn lanes. Adding a median with left turn lanes improves to LOS D. new NC 119 may be the reason for the decrease in volume.
8th St n/o Arrowhead Lane	1,600	C	1,400	C	Unsure of volume decrease from 2015 to 2040. Model was calibrated to 1,900 vpd which does not match any published NCDOT 2003 count.
8th St s/o Hawfield Rd	1,100	C	1,600	C	
9th St s/o Brown St	960	C	3,300	C	
Arrowhead Blvd	N/A	---	15,000	C	
Bowman Rd	1100	C	4,800 - 6,200	D	
Buckhorn Rd n/o I-85 / I-40	9900	D	21,100	F	Widening to a 4-lane divided section would improve 2040 to LOS D. Scenario without ramps at Mattress Factory Rd will increase this forecast on Buckhorn Rd.
Buckhorn Rd s/o I-85 / I-40	2700	C	8,200	D	
US 70 / Center St betw. N. 2nd & N. 3rd	10000	D	13,600	E	Assume overflow will use parallel streets (e.g. Clay, Ruffin, Graham, Crawford, et.al.)
Dodson Rd s/o Mebane Rogers Rd	2200	C	300	C	Unsure of volume decrease from 2015 to 2040
E Brown St	960	C	5,600	D	
Gibson Rd s/o 3rd St. Extension	3700	C	9,700	D	Widening to a 4-lane divided section may not be necessary
Trollingwoods Hawfields Rd n/o I-85 / I-40	7800	D	4,800	C	Assume decrease in volume due to traffic utilizing NC 119 Bypass instead of Trollingwoods to Gibson to US 70. Model was calibrated to 7,100 vpd which approx NCDOT 2007 count.
Holmes Rd	12000	D	1,200	D	Assume that the large decrease in volume is due to new alternate access to NC 119 Bypass. Model calibrated to 8,700 which is less than NCDOT 2003 count but more than NCDOT 2000 count.
W. Holt St	1400	C	1,500	C	
Jones Dr	2000	C	2,700-4,300	C	
Lake Latham Rd	1700	C	6,900-8,600	D	Note this may not be accurate due to closure of at-grade rail crossing
Lebanon Rd e/o Stagecoach Rd	3500	C	13,100	D	May consider adding left-turn lanes at key intersections
Mattress Factory Rd n/o I-85 / I-40	2500	C	26,700	F	This scenario has the ramps built at I-85 / I-40. Widening to a 4-lane divided section would improve 2040 to LOS D.
Mebane Oaks Rd n/o I-85 / I-40	25000	F	47,200	D	
Mebane Oaks Rd s/o I-85 / I-40	4400	F	23,800	D	I-5711 may accommodate this traffic forecast at an acceptable LOS.
Mebane Rogers Rd w/o Cooks Mill Rd	4200	C	4,300	C	
Mill Creek Rd n/o Lebanon Rd	1700	C	7,400	D	
Oakwood St w/o Mattress Factory Rd	2600	C	12,200	D	Scenario without ramps at Mattress Factory Rd is likely to decrease the forecast on Oakwood St.
Old Hillsborough Rd e/o NC 119	5900	D	4,400	D	
S NC 119 betw. I-85 / I-40 WB Ramp & Holmes Rd	19000	F	19,500	C	U-3109 improvements to build the NC 119 Relocation (Bypass) are assumed complete for this LOS analysis. Unsure of volume decrease from 2015 to 2040. Model calibrated to 11,900 ADT which is less than the 1998 NCDOT count.
S NC 119 s/o I-85 / I-40	18000	F	19,000	F	Widening to a 4-lane divided section would improve 2040 to LOS C.
S NC 119 s/o Trollingwoods Hawfields Rd	9700	D	12,400	D	
Stagecoach Rd e/o 1st St	4800	C	10,600	D	
Stone St w/o Gibson Rd	2200	C	2,800	C	
Supper Club Rd n/o US 70	1600	C	5,800	C	
Turner Rd s/o NC 119	3200	C	3,200	C	no change from 2015 to 2040
W Ten Rd w/o Buckhorn Rd	1800	C	9,700	D	
Washington St e/o Fifth St	2700	C	9,200	D	
Woodlawn Rd n/o US 70	2300	C	4,700	C	

APPENDIX E – CTP Acronyms

ADA:	Americans with Disabilities Act
CSS:	Context Sensitive Solutions
CTP:	Comprehensive Transportation Planning or Comprehensive Transportation Plan
EPA:	United States Environmental Protection Agency
FHWA:	Federal Highway Administration
FTA:	Federal Transit Administration
GIS:	Geographic Information System
LEP:	Limited English Proficiency
LRTP:	Long Range Transportation Plan (or an MPO's Metropolitan Transportation Plan)
MM:	Multi-modal
MOA:	Memorandum of Agreement
MPO:	Metropolitan Planning Organization
NCDOT:	North Carolina Department of Transportation
NEPA:	National Environmental Policy Act
ROW:	Right of Way
SAFETEA-LU:	Safe, Accountable, Flexible, Efficient Transportation Equity Act- Legacy for Users
SEPA:	State Environmental Policy Act
STIP:	State Transportation Improvement Program
TAZ:	Traffic Analysis Zone
TDM:	Travel Demand Model
TIP:	Transportation Improvement Program
VMT:	Vehicle Miles Traveled

