



Union County

Comprehensive Plan



Union County

Comprehensive Plan

Prepared for
Union County

Prepared by
LandDesign

In association with
Stantec
Noell Consulting Group
Creativisibility

Adopted October 20, 2014

Acknowledgements

Thank you to all the organizations and individuals who committed their time, energy and resources to this effort. This Plan would not have been possible without the support of many throughout the process.

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01

Introduction

Union County is one of the fastest growing counties in the State of North Carolina. It also happens to be one of the most productive agriculture areas. From its high growth suburbs to its farms, Union County provides a unique blend of suburban and rural living. Balancing these interests while growing the economy to provide for an increasingly diverse population will be critical to Union County's future.

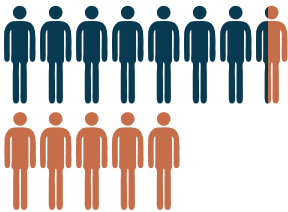
PROJECTED POPULATION GROWTH FOR UNION COUNTY

2013



217,688 PEOPLE

2040



391,530 PEOPLE

1  = 30,000 people

From 2000 to 2010 Union County was the fastest growing county in North Carolina and one of the fastest in the country, increasing its population by 5.7 percent annually. A combination of a healthy regional economy, low taxes (particularly relative to Mecklenburg County) and high quality schools fueled this growth. Like many communities around the nation, Union County experienced a period of economic stagnation during the latter part of the decade. The Great Recession resulted in fewer people relocating to the area, job losses, limited access to capital and declining home values. While growth slowed over this period, Union County continued to attract residents to its western jurisdictions. Places like Wesley Chapel, Weddington and Indian Trail continued to prosper, albeit at moderated rates.

Today, Union County anticipates continued growth as one of North Carolina's fastest developing counties. From 2010 to 2040, the project team estimates Union County will add approximately 190,000 people (65,600 households), equating to an annual growth rate of around 3.2 percent. This rate is well below the 5.7 percent rate of the booming 2000s, yet above the 1.9

percent recessionary growth rate the county experienced over the last few years.

Supporting much of this growth over the next 20 years are major service and infrastructure projects including the Monroe Bypass and the recently-signed water agreement with the Town of Norwood. In addition, efforts of Monroe-Union County Economic Development aim to attract more industry to Union County in order to create jobs for current and future residents and help balance the County's tax base. Business recruitment and retention strategies are focused on four major industries: precision manufacturing in support of industry growth at the Monroe Charlotte Executive Airport, agri-business operations building on Union's strong agriculture economy, logistics and commercial operations.

Recognizing the need to proactively address growth and development patterns and support economic development efforts, County leaders decided to revisit the 2025 Comprehensive Plan and update the Plan accordingly.

About the Plan

This Plan is intended to provide guidance to County leaders regarding future land use and infrastructure decisions to support desired development and redevelopment in the County.

PURPOSE

This planning process addresses the issues and opportunities generated by Union County's growth and provides proactive suggestions to ensure that Union remains a great place to live, work and visit. The primary objectives of this effort are to:

(1) recognize existing economic development and land use conditions and adjust future land use policies as appropriate, and (2) provide an updated future land use vision as input into the development of the County-wide Transportation Plan.

Orderly growth and development in Union County is more easily achieved when any decisions affecting the County are informed by a shared vision based on commonly held goals. Therefore, this Plan is also designed to convey the shared vision of residents and other stakeholders, and to act as a platform to communicate that vision to various decision-makers within and outside of the County. For this reason, the planning process is structured to involve the municipalities and a wide variety of local, regional and state agencies in the update.

RELATIONSHIP TO OTHER PLANS

In addition to the 2025 Comprehensive Plan, several plans have been adopted in Union County over the last decade. Some contain a land use vision and policies for small areas and corridors where development pressure is expected to increase. Others focus entirely on a specific aspect of growth, such as water and wastewater service improvements

needed to meet future demand. To varying degrees, all such Plans are relevant to this update, but cobbled together they do not serve as a comprehensive guide for the County and its municipalities. Nevertheless, an examination of the Plans collectively helps to identify conflicts between them and, more importantly, to reveal issues and opportunities that should be considered in the course of preparing a Comprehensive Plan. Therefore, this Plan update builds on a combination of these recent planning efforts, eliciting recommendations that are supportive of the community's current vision for the future. A summary of existing plans is located in Appendix A of this document.

STUDY AREA

Union County is located in the Southern Piedmont region of North Carolina. While the Union County government is responsible only for the unincorporated areas of the County, environmental and infrastructure systems, such as creeks, rivers and roadways cross jurisdictional lines. Therefore, the study area also includes the 14 municipalities within the County. As shown in Map 1, Union is one of 11 North Carolina counties that comprise a 14-county bi-state region. Union County lies within Charlotte's metropolitan area and the western portion is within commuting distance to the central business district of Uptown Charlotte. So, while the study area does not extend beyond the County boundaries, the context must be considered to better understand the opportunities associated with—and the impacts of infrastructure investments made in support of—regional economic growth.



STUDY AREA CONTEXT

The study area is located in the south-western part of the Piedmont region of North Carolina.

MAP 1: STUDY AREA



Planning Process

In 2013, Union County contracted with LandDesign to develop a Plan that provides a framework to guide growth and development decisions in the County. The 12-month process involved a wide variety of stakeholders including representatives from jurisdictions, state agencies, local businesses and civic groups to establish a clear direction forward for the County.

Recognizing the many assets of Union County, the Plan focused on improvements that would increase business opportunities, attract more private investment in residential and nonresidential development, provide transportation and housing choices and more public amenities. The resulting Plan includes recommendations for land use, economic development, infrastructure investments, housing and quality of life investments.

PHASES OF WORK

The process to update the 2025 Comprehensive Plan was divided into five phases. The first phase focused on project initiation tasks, such as data collection, a review of existing Plans and studies and a study area tour. During Phase Two, the project team created an inventory of existing conditions in the County as a step toward an assessment of the County and the identification of issues and opportunities to be considered in subsequent phases.

Phase Three led to the development of future land use scenarios designed to test the likelihood of achieving stated goals given a range of potential policy directions. Based on the results of the previous phases, a set of recommendations and implementation strategies that support the community's vision of the future were developed during Phase Four. The final phase of the process merged all Plan components into a single, comprehensive document. This report is the culmination of all five phases of work.

PUBLIC INVOLVEMENT

Guiding development of the Plan was an inclusionary public engagement process. Understanding community values

today ensures that this Plan, implemented in accordance with the recommendations, supports and advances those priorities over the long term.

Advisory Committee Meetings

The Advisory Committee, made up primarily of residents and property owners in the County, guided this effort. Also included on the committee were representatives from farming, development and real estate communities along with representatives of the North Carolina Department of Transportation (NCDOT), Charlotte Regional Transportation Planning Organization (CRTPO) and the Charlotte Department of Transportation (CDOT). Regular meetings of this group were held throughout the process to set goals, provide feedback and advise the project team on Plan concepts and recommendations. A list of the Advisory Committee members is listed in the Acknowledgements section of this report.

Stakeholder Interviews

Stakeholder interviews were conducted to verify and supplement the data gathered, to explain the conditions observed and to further understand the issues and opportunities that affect the study area. The input from these interviews supplemented the feedback received directly from citizens and property owners participating in the process. The stakeholders included key personnel from County departments as well as representatives of interest groups who addressed questions about the following topics: economic development, transportation, neighborhoods, utilities and farming. A complete list of interviewees is provided in Appendix B.



A PROJECT SYMPOSIUM was held on November 7, 2013 to discuss some of the land use and transportation issues in the County.

Community Meetings

Community meetings were held throughout the planning process to provide an opportunity for stakeholders to come together and learn about the project and guide development of the vision for the future of Union County. During the first meeting, a Project Symposium, elected officials, property owners and residents met to learn about the project and refine the goals established by the Advisory Committee. Symposium participants also participated in a live polling exercise to set priorities and identify major issues and opportunities in Union County. The second community meeting was designed as an interactive work session to develop the Future Land Use component of the project and to identify and prioritize transportation improvements.

During the third meeting, participants refined the future land use vision and suggested ways in which the Plan can be effectively implemented over time.

Website

A website, www.unioncountyyonevoice.com, was developed to provide an online resource for community members. All materials that were presented at the community meetings were also translated into an online format so that community members could participate virtually in the planning process.

A summary of all the public input gathered during this process is located in Appendix E.

PLANNING PROCESS

- 1 PROJECT INITIATION**
Data Collection, Review of Existing Plans & Studies, Area Tour
- 2 COUNTY ASSESSMENT**
Assessment of Current and Emerging Conditions, Identification of Issues & Opportunities
- 3 PLAN DEVELOPMENT**
Evaluation of Current Policies and Testing of Alternatives to Define a New Direction to Better Achieve Stated Goals

- 4 POLICY RECOMMENDATIONS & IMPLEMENTATION STRATEGIES**
Policies and Action Steps to Realize the Desired Future Land Use Pattern
- 5 PLAN DOCUMENTATION**
Comprehensive Plan Documents



02

10303

Summary of Issues & Opportunities

The following set of issues and opportunities were identified in the State of the County assessment and the Long-Term Growth Projections memo developed during this process. Findings were further refined by the Advisory Committee and with feedback gathered during community meetings. (The State of the County report is located in Appendix C; Appendix D contains the Long-Term Growth Projections memo)



EIGHTY-ONE PERCENT of people drive to work every day in Union County.

FIGURE 1: UNION COUNTY COMMUTERS



APPROXIMATELY 70 PERCENT of Union County residents work outside of the County.

SOURCE: U.S. Census

ISSUES

Lack of Employment Opportunities

Union County is a bedroom community to Charlotte. Approximately 70 percent of residents work outside of the County. Since 2000, Union County has added an average of 860 jobs annually, about 10 percent of the total employment in the metropolitan area. Meanwhile it captures roughly 14 percent of all household growth. The result is a roughly .4 jobs/household ratio, one-third less than the .61 jobs/household ratio of the metro area. In addition, relative to the Charlotte metro area, a greater share of jobs in Union County exists in local-serving, moderate-paying industries, such as construction, retail trade and public administration. Largely missing from the County are higher-paying, white collar jobs such as those in the finance and insurance industries and professional and technical services. There is not only an overall shortage of jobs, but also a lack of the higher-paying jobs that residents demand.

Inadequate Road Infrastructure

The growth rate in Union County was estimated at 5 percent per from 2000 to 2010 for an overall increase in population of 62.8 percent. Such rapid growth and the resultant boom in development can bring substantial benefits to the community, but also has the potential to create large infrastructural problems. Historically, Union County was characterized by rural and agricultural development. With this in mind, many of the highways in the county were originally intended to be two-lane farm roads. New development, however, has transformed many of these once-country roads to major transportation corridors, creating problems with capacity and safety.

Limited Regional Access

Union County has no direct access to an interstate, and the US and state highways need improvement in order to provide adequate service. Inadequate regional



THE COST OF COMMUTING

81%

of Union County Residents drive to work alone every day.

100%

of Union County's driving population is spending more than 15% of household income on transportation

95%

of Union County Residents Union County residents are spending more than 45% of their income on housing and transportation.

30%

is the research-suggested amount of income that households should spend on housing and transportation costs.

SOURCE: Center for Neighborhood Technology
H & T Affordability Index

access, and the scarcity of alternative transportation routes and east-west connections severely impact the marketability of the County to potential employers.

Costly Congestion

Eighty-one percent of Union County residents drive alone to work every day. The County's limited road network offers few options for commuters, leading to congestion along available routes during both peak and non-peak hours. The major commuting route, US-74, is over capacity with more than 57,000 trips per day. Union County residents take, on average, five minutes longer to reach their place of work than other North Carolinians. In addition, almost half of people in Union are spending more than 30 percent of their income on transportation. Unchecked, such costs are likely to negatively affect Union County as a choice residential location.

Auto-Dependent Development

Historic and current development practices in Union County have resulted in separated land uses, strip commercial corridors and disconnected neighborhood and commercial centers. The result is a land use pattern that forces automobile commuting, especially in areas where pedestrian and bike facilities are poorly connected or non-existent. As preferences shift toward more walkable and bikeable development patterns, the County could lose key demographics to adjacent counties.

Lack of Transit Options

Public transportation is only available through CATS service on one route (US-74 to Monroe), which does not run during nonpeak hours or on weekends

Lack of Bicycle and Pedestrian Facilities

There are few places Union County residents can safely bike and walk. Conditions for cycling are very poor to marginal, favoring only the most experienced road cyclist, except in the core downtown areas of the

municipalities. Opportunities for expanding or constructing adjacent paths, such as those found along parts of Stallings/Potter Road, are available but would be both expensive to construct and poorly utilized until more development occurs. Pedestrian accommodations are generally scant, poorly interconnected, and limited to the frontages of newly developed properties or inside municipalities. The same is true for a number of intersections without marked crosswalks.

Loss of Agricultural Land

Farming and forestry are a key component of Union County's economy. Unmanaged growth that results in incompatible development threatens this economy. Potential incompatible uses such as dense subdivisions, apartments, condos and commercial strips that can be negatively affected by the byproducts of agricultural activities such as dust, odor, noise or slow moving farm vehicles. Between 2007 and 2012 Union County lost 23,462 acres of farmland.⁵ The majority of this loss occurred in the northwestern part of the County where there was significant development pressure. The County needs to safeguard the 1,107 farms that cover 178,193 acres of the County and contribute \$464 million to the local economy (from 2013 cash receipts).

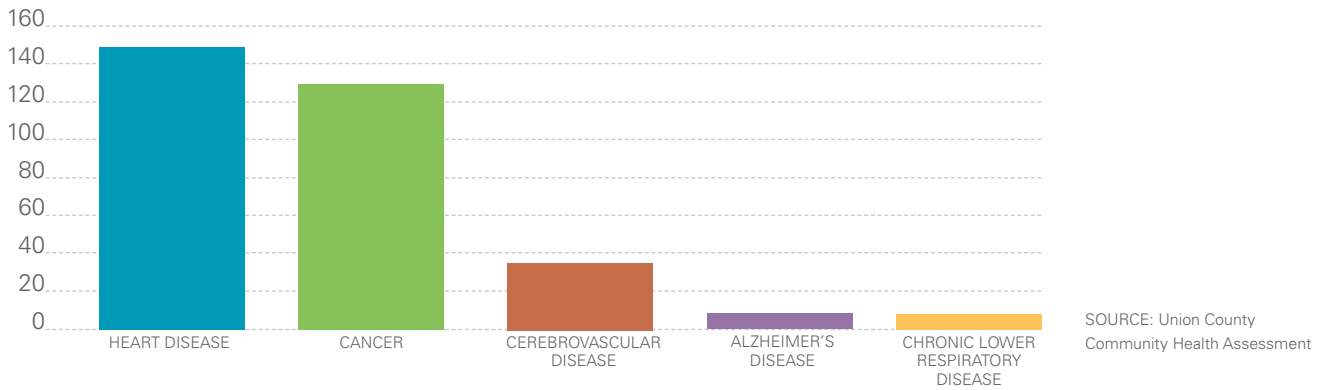
Inadequate Rural Infrastructure

Union County's agriculture economy depends on the ability to move product from its source to a processing facility. Many of the rural roads and bridges require upgrades to handle the increased truck traffic resulting from agricultural operations and to improve safety on rural roads. In addition, the rural roadways, such as US 601, NC 200 and NC 218 have more severe crashes per mile than other major Union County roadways.

Retail Abandonment

Similar to the situation along the Mecklenburg portion of US-74, there is the threat of long-term retail abandonment once new retail centers are developed.

FIGURE 2: LEADING CAUSES OF DEATH IN UNION COUNTY



Liquor Laws

Union County is a dry county. Commercial businesses such as restaurants and grocery stores will not locate in the county’s jurisdiction because of the inability to sell alcohol to consumers. Without these types of tenants, mixed use projects are unlikely to develop in County jurisdiction.

Lack of Diverse Tax Base

Approximately 94 percent of the land in the County’s jurisdiction is devoted to agriculture and residential land uses. Residential growth continues to outpace commercial growth.

As a result, insufficient market diversity could further strain County resources.

Health Issues

As noted in the 2012 County Health Assessment (CHA), Cancer, heart disease, Alzheimer’s, Respiratory Disease and Cerebrovascular Disease were the leading causes of death for all ages in Union County from 2001-2010.⁶ According to the North Carolina State Center for Health Statistics, Union County has more Alzheimer’s deaths per 100,000 than any other County in the state.⁷ The County Health Department is currently in the process of working with Duke University

FIGURE 3: UNION COUNTY RECREATION PREFERENCES



SOURCE: Union County Community Health Assessment

A recent survey indicates that Union County residents want to increase access to affordable and free exercise venues.

on a well water study to understand any potential linkages between arsenic in well water and high Alzheimer’s rates. According to the CHA, “the well water in Union is known to have high concentrations of arsenic due to the presence of the underground slate belt that stretches across the entire County. Many rural residents and residents in older subdivisions remain on wells for their drinking water.⁸” The CHA also found that the majority of Union County residents understand the linkages between the built environment and health outcomes. Respondents desired more local opportunities for affordable exercise including access to public school facilities, sidewalks, greenways and trails.

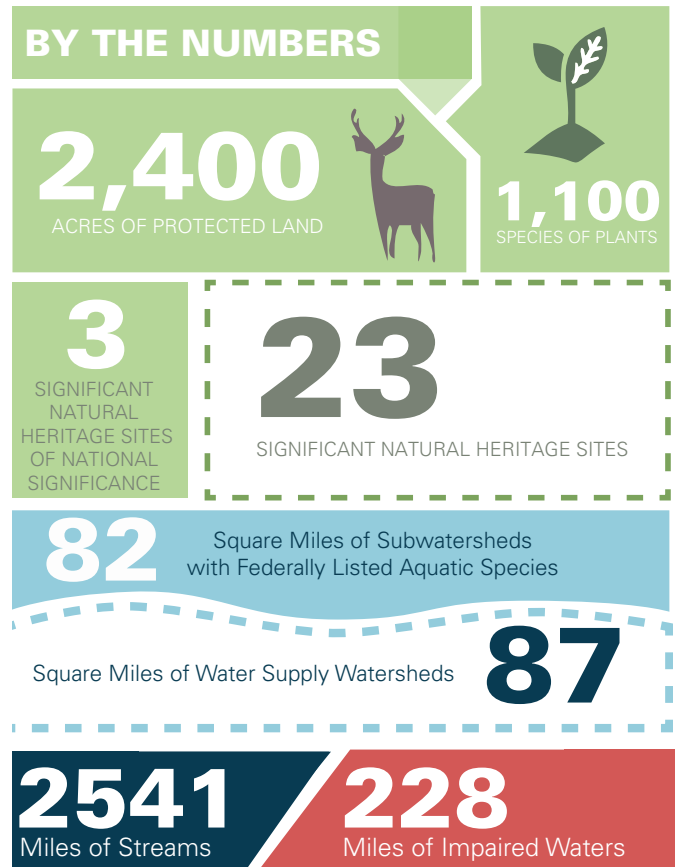
Need for Additional Parks and Open Space

Some parts of the County are well served by parks while others lack access. For instance, areas near towns and near Cane Creek Park exceed the level of service standards, however growing areas outside of towns do not. Overall it is estimated that an additional 1,300 acres of parkland are necessary to meet current and future needs.⁹ The majority of this demand is in the northwestern and northeastern parts of the County.

Threats to Natural Resources

Currently there are more than 8,500 acres of wetlands, 2,541 miles of streams and 2,483 acres of protected lands that combine with other privately owned lands to host 1,100 species of plants and a variety of rare animals. Three subwatersheds have been identified as critical habitat for the Carolina Heelsplitter, a freshwater mussel that is critically endangered. Habitat fragmentation and water pollution from new development are two of the immediate threats to natural resources in the County.

FIGURE 4: NATURAL RESOURCES IN UNION COUNTY



SOURCE: An Inventory of the Significant Natural Areas of Union County, North Carolina, North Carolina National Heritage Program, 2012, NCDENR, NC OneMap

Water Quality Issues

There are 228 miles of impaired waterways (parts of 22 creeks and rivers), as classified by the Division of Water Quality, part of the North Carolina Department of Environment and Natural Resources. Major contributors to water pollution are non-point source pollution from stormwater runoff associated with increases in impervious surfaces, and sedimentation from construction and agricultural activities. Preserving riparian vegetation and encouraging Low Impact Development (LID) techniques will be critical to maintaining water quality.

OPPORTUNITIES

Job Growth

The efforts and results of Monroe-Union Economic Development will create a greater potential for people living in the County to also work in the County. Business recruitment and retention strategies are focused on the following sectors:¹

Precision Manufacturing: Manufacturing locally, regionally and nationally was greatly affected by the recent recession, and has been in a steady decline for the last several decades. However, due to rising transportation costs and the need for increased product security, the industry has grown in the last few years and is forecasted to continue this positive trend in the coming years. Union County has a long history of precision manufacturing. Centered around the Charlotte-Monroe Executive Airport, it has the “highest geographic concentration of aerospace companies in the Carolinas.” Union has the opportunity to capitalize on this sector and bring more high-wage, precision manufacturing jobs to the County.

Agri-Business: According to the North Carolina Department of Agriculture 2013 Stat Book, there are 1,107 active farming operations in the County totaling 178,193 acres of land. These farms made \$464,077,235 in cash receipts in 2012, ranking the County 3rd in the state. In addition, Union also ranks 3rd in livestock, dairy and poultry production.² Forestry is also booming industry, especially in the eastern part of the County. As of 2012, Union County had 167,167 acres (around 38 percent) of active timberland.³

Forestry operations on these lands resulted in \$4.4 Million dollars in timber sales in 2012. From timber processing and seed harvesting to agri-chemicals and value-add processing facilities, there is an opportunity to increase agriculture-related businesses in the County.

Logistics: The relatively limited access to regional interstates (there are no interstates in the County with I-85 and I-77 being 11 or more miles away via I-485), tempers the county’s attraction to firms involved in transportation/trucking and wholesaling operations. In spite of this limitation, the rail network, Monroe Bypass and Charlotte-Monroe Executive Airport offer advantages that could provide opportunities for additional logistics-related industry growth over time.

Commercial: There is a diverse and wealthy consumer base in Union County. Demand for shopping options will continue to grow as more people move to Union County. Based on growth projections and per capita expenditures, Union County can potentially support an additional 6.6 million square feet of retail space between 2010 and 2035. This represents a 150 percent increase in retail space demanded from existing current space, which was estimated in 2010 to be around 4.1 million. This total growth is equivalent to the size of nearly four Southpark Malls in terms of total square footage.

Office: Jurisdictions within Union County, such as Weddington and Wesley Chapel, have large amounts of executive housing. Proximity to this type of housing is one driver of office development. By identifying market potential and employing targeted strategies, Union County has the opportunity to bolster the office market and encourage office development in the County.

FIGURE 5: JOB GROWTH



DATA SOURCES: U.S. Census, Noell Consulting Group

UNION COUNTY TODAY



#2
in NC

soybeans



#2
in NC

wheat



#3
in NC

broilers



#3
in NC

layers

farmland

1,107

FARMS IN
UNION COUNTY

178,193

total farm acres in Union County



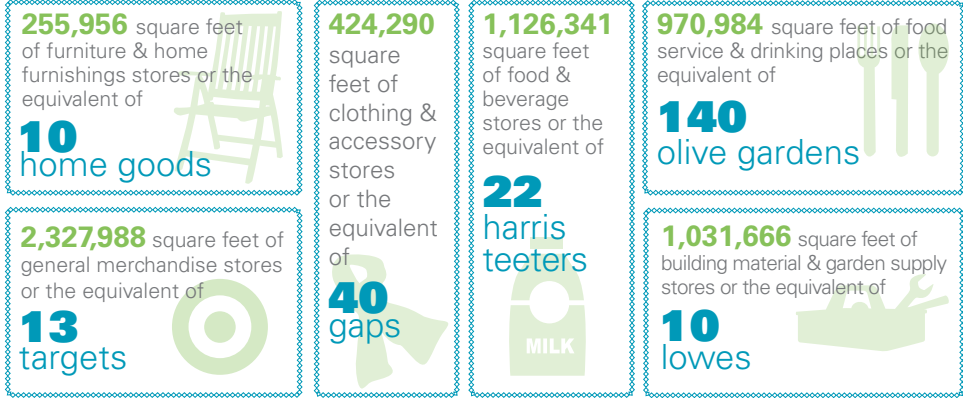
MORE THAN

464,000,000

CASH RECEIPTS / #3 IN NC

RETAIL DEMAND

Demand for shopping options will continue to grow as more people move to Union County. The following numbers were calculated based on the average square foot of well-known retailers in the market and the projected retail growth in Union County in 2040.



DATA SOURCE: U.S. Census, Noell Consulting Group

More Housing Options

Trends suggest that there is growing demand for a variety of housing types including products that are more attractive to singles, couples without children, empty nesters and aging Baby Boomers. In addition, research shows that people would prefer to live in areas with a lot of amenities and have access to public transportation, even if that means living in a smaller home. These type of products and communities are largely missing from Union County. Over the next 30 years, more than 100,000 housing units will be added in Union County. While close to 60 percent of estimated demand potential is for conventional to larger lots (the dominant product in Union County today), approximately 30 percent of demand potential could be for detached homes on smaller lots (e.g. Traditional Neighborhood Development) or patio homes, with the last 10 percent or so being for attached for-sale products such as townhouses or condominiums.

Town Centers

By encouraging the development of new mixed-use centers and fortifying existing town centers, the County can help facilitate the creation of viable business locations in walkable environments. The County largely lacks these types of developments today, despite the existence of successful precedents elsewhere in the Charlotte region and a strong preference for mixed-use communities among those planning to move within the next five years.⁴ These places could be attractive locations not only for retail and office uses, but for all types of residential products as well.

Joint-Use Agreements

There are currently too few recreation facilities to meet the demand of Union County residents. However, the County can

work with Union County schools to formalize joint-use agreements so that school facilities can also be used as community centers and recreation facilities at appropriate times.

Recreation Economy

Union County has the opportunity to capitalize on a number of recreation-related economic development opportunities. The County's rural landscapes offer low-traffic roadways with scenic vistas. These characteristics attract long-distance, recreational cyclists. Likewise, facilities such as the Jesse Helms Sports Complex could position Union as a destination for lucrative youth-sports tournaments. Opportunities for expanded equestrian activities also exist. A county-wide interconnected greenway system, and a developed blueway on the Rocky River could attract outdoor enthusiasts. A coordinated marketing strategy to promote the combination of recreational options could increase tourism and generate revenue for area businesses.

FIGURE 6: HOUSING PREFERENCES



TRENDS SUGGEST THAT THERE is growing demand for a variety of housing types including products that are potentially more attractive to singles, couples without children, empty nesters and aging Baby Boomers. In addition, research shows that people would prefer to live in areas with a lot of amenities and have access to public transportation even if that means living in a smaller home. These type of products and communities are largely missing from Union County.



03

114



Welcome To
TRINITY
United Methodist
Church
Worship Service: 10:00
Sunday School: 11:00

Goals

A successful Plan depends on a framework of sound, achievable goals. The goals identified in the 2025 Comprehensive Plan served as a starting point for this Plan update.

The Advisory Committee, members of the public and participants at the Project Symposium vetted the original goal statements, which are noted in Appendix E. Also in the Appendix E are the results of two surveys, which detail public opinion of the original goal statements.

These results, along with the issues and opportunities identified by the project team during the Plan review and a topic-specific analysis, all contributed to the development of the set of final goal statements for this report. These goals are listed on the following page.

FIGURE 6: PROCESS TO UPDATE GOAL FRAMEWORK

ORIGINAL GOAL FRAMEWORK FROM 2025 PLAN



Updated Goal Framework

The updated goal framework provides the guideposts to inform the development of the Plan. These refined goal statements will be used to inform the development of the land use scenarios and supporting metrics later in the process. In addition, the recommendations and implementation strategies will also be organized around this updated goal framework.



move

- Improve Multimodal Options
- Support & Expand Bus Transit Service
- Identify Future Rail Service Corridor
- Coordinated Roadway Planning
- Support Appearance & Development Standards for Major Travel Corridors
- Land Use Planning for Monroe Bypass



flow

- Ensure Utility Capacity for Future Development
- Fiscally Efficient Public Water & Wastewater Service
- Reserve Capacity for Future Growth
- Seek Opportunities with Neighboring Jurisdictions to Expand Utility Systems



work

- Identify New Sites for Employment Growth
- Coordinate Infrastructure
- Ensure Land Use Regulations Support Economic Development
- Promote New & Existing Businesses



farm

- Support Agri-focused Infrastructure Investments
- Identify Sites for Future Agri-Business Growth
- Maintain Agriculture Production & Forestry
- Protect Rural Character & Scenic Views
- Foster Cooperative Relationships between Farmers & Residents
- Direct Development Away From Rural Areas



live

- Provide a Range of Housing Choices
- Strengthen & Enhance Existing Neighborhoods
- Encourage Infill Development / Discourage Leapfrogging
- Support Appearance & Development Standards for Neighborhoods



shop

- Encourage the Development of Retail, Restaurants and Services that meet Consumer Preferences
- Mitigate Abandonment of Existing Retail Strip Centers



health

- Provide Convenient Recreational Opportunities Throughout the County
- Joint-Use of Schools and Recreation Facilities



conserve

- Promote Protection of Open Spaces & Environmentally Sensitive Lands
- Protect Water & Air Resources
- Consider Impacts of New Development on Environmental Features and Endangered/Threatened Habitats



cooperate

- Intergovernmental Coordination
- An Active and Involved Citizenry
- County & School District Coordination for Schools



04

The Future Land Use Plan

VISION FOR UNION COUNTY

The Future Land Use Plan envisions a future where Union County will continue to grow and prosper in a way that promotes a high quality of life, preserves the agricultural industry and ensures that all Union residents have access to a variety of housing, transportation and employment options.



THE FUTURE LAND USE PLAN outlines a framework for growth to achieve a more sustainable, balanced tax base in Union County.

In 2030, there are a number of mixed-use developments in the County that offer distinct living, working and shopping options. Land suitable for industrial and office development is preserved, especially around the Airport, which results in attracting employers that offer jobs to Union's workforce. More industries take advantage of Union's rail network. Fewer people commute to other places like Charlotte for work. In addition, there are a variety of housing options, including townhomes and apartments, to accommodate Union's diverse population. Older residents are able to age-in-place in close proximity to existing downtown services and amenities. Existing neighborhoods are complemented by new single-family developments of similar character and scale. The agriculture areas in the County remain extremely productive and there are more agriculture-related businesses leveraging this asset.

The Bypass is complete and serves as a main thoroughfare from downtown Charlotte to points east. Mainly local traffic uses US-74, and key arterials have been widened to four lanes to decrease travel times at any point during the day. Pedestrian and bike facilities including sidewalks and greenways connect key locations throughout the County and serve as both recreational and transportation corridors for residents. Local and regional transit carries

residents and visitors in and out of the County. Infrastructure supports new development in appropriate areas throughout the County. All areas are adequately served by police, fire, and emergency services. All residents have convenient access to a park or recreational facility, and many schools are used after-hours as community centers. There are plenty of ball fields, community centers and programmed activities to serve Union's growing population.

New development respects the agriculture areas. The public is keenly aware of the value of Union's agriculture industry and actively supports farming and forestry operations. Rural farm-to-market roads and bridges are improved and farmers have access to the technology and infrastructure they need to be competitive.

Low-impact development techniques are commonly used in new projects. Many new neighborhoods outside of established urban areas have been designed in a way that maintains the scenic quality of the County. Historic assets are identified and preserved. Property of historic significance is landmarked and added to the National Register. Greenways and sidewalks connect Union's historic centers and new centers to a greater network of community assets.

Future Land Use Map

PURPOSE

The Future Land Use Map depicts the community’s vision for a development pattern that balances the economic, social and environmental needs of Union County; strengthens the local economy; and preserves the high quality-of-life for all residents.

The Future Land Use Map is a conceptual representation of the development patterns that leaders and residents of Union County envision for the future. The map is descriptive, not prescriptive, conveying the community’s desires for the future and the flexibility needed to accommodate unforeseen opportunities. Its features include the following elements:

- Existing uses, including jurisdictional preferences and publicly owned and maintained sites and facilities (e.g. Cane Creek Park), that are likely to remain;
- Clearly defined and delineated development areas (land use categories) that reflect the community’s desire to encourage certain types of growth in specific geographic areas; and

- Areas identified as important to conserve for future agriculture-related industry and production.

DEVELOPMENT OF THE FUTURE LAND USE MAP

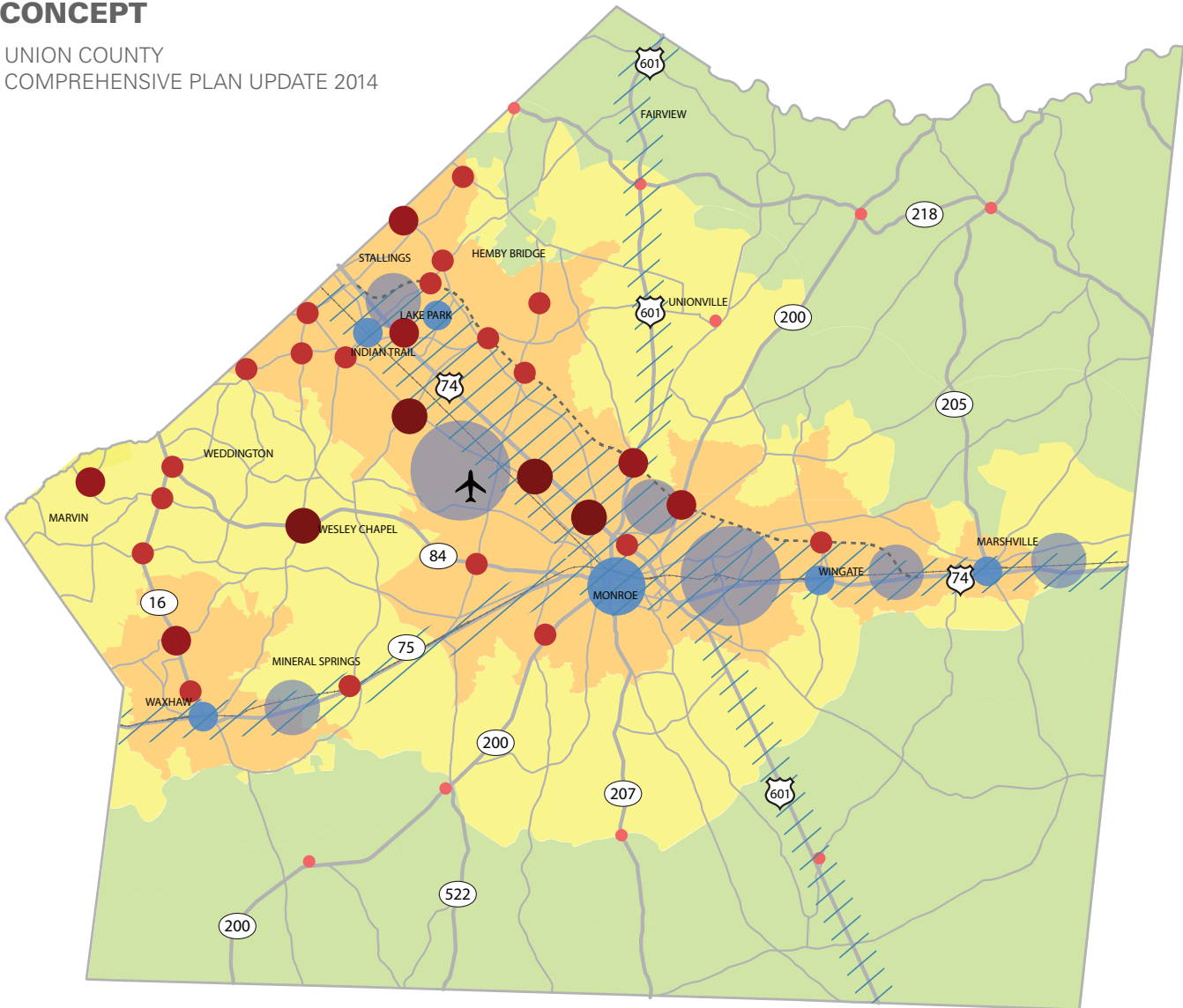
The Future Land Use Map was developed through a scenario planning process. Scenario planning encourages stakeholders to think and make decisions about the impacts of growth on the region in order to develop a common vision for the future. For a complete description of the scenario planning process to develop the Future Land Use Map refer to the Appendix F of this report.

MAP 2: FUTURE LAND USE CONCEPT

- Agricultural Area**
Farming, forestry and rural residential
- Single Family Residential**
Detached single family (~1unit/acre)
- Mixed Residential**
Mixed residential (detached single family, patio and cottage homes, town homes and multi-family)
- Rural Center**
Small scale commercial and civic uses
- Neighborhood Center**
Neighborhood-serving commercial uses (retail, restaurant and services) and mixed residential uses
- Community Center - Small**
Community-serving commercial uses (retail, restaurant and services) including opportunities for office, civic, institutional and mixed residential uses
- Community Center - Large**
Community-serving commercial centers with a larger footprint and service area
- Town Center / Downtown**
Existing downtown or town center with a range of uses including commercial, office, civic, institutional and mixed residential uses
- Employment Center**
Industrial and office uses
- Employment Corridor**
Logistics, industrial and agri-business related uses

FUTURE LAND USE CONCEPT

UNION COUNTY
COMPREHENSIVE PLAN UPDATE 2014



Land Use Categories

Ten land use categories are depicted on the Future Land Use Map. Each category is intended to indicate a predominant land use—or set of uses—as well as other features that define the character of the category. A brief description of each category is provided below. Each description is consistent with the ideas and vision the community has for future development. These descriptions do not propose a change to existing development within each category; instead, they suggest future direction and list qualities to be embodied by new and redevelopment.

AGRICULTURAL AREA

The Agricultural Areas are located in the east, south east, and southern portions of Union County. The predominant existing land uses in these areas include low density “rural” residential uses, working forest lands and farms.

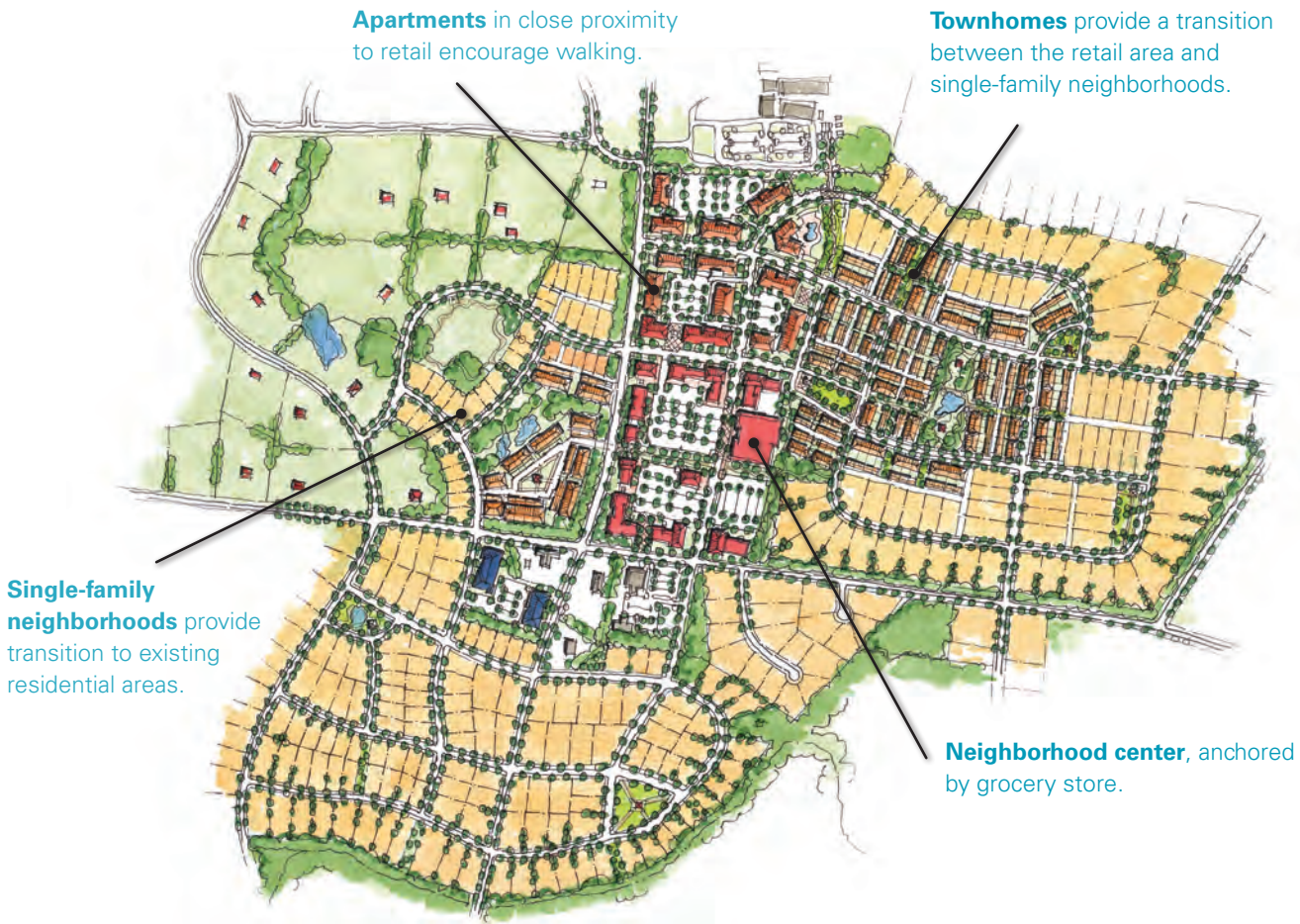
These areas are identified to protect prime agricultural lands and active farming operations while reducing the potential for conflict from incompatible uses. Potential incompatible uses include medium- to high-intensity residential and non-residential uses (i.e. dense subdivisions, apartments, condos and commercial strips) that can be affected by the byproducts of agricultural activities such as dust, odor, noise or slow-moving farm vehicles. Agricultural areas are also designated in order to acknowledge the presence of and potential for continued forestry activities. In addition to their contribution to the County’s economy, timberlands provide other benefits including protecting water quality and providing habitat for wildlife.

These areas are marked by noncontiguous low density residential uses and agricultural homesteads separated by farmed fields, pasture and forests. The average size of residential parcels in this area is 8.7 acres, which is more than three times the County average of 2.55 acres. These areas lie outside of existing and future sewer service areas and rely on septic systems for wastewater treatment. The road network is sparse in these areas (generally less than four miles of roadway per square mile) and many of the roads have narrow lanes with little or no shoulder. The lack of utility and transportation infrastructure, the established low density “rural residential” communities and ongoing agricultural and forestry activities in these areas contribute to their rural character. This character can be enhanced by encouraging only low intensity uses.

SINGLE FAMILY RESIDENTIAL

The Single Family Residential area is a transitional area from the Agricultural Area to more developed land. It will be comprised predominantly of neighborhoods of detached housing units that are rural or suburban in character on lots smaller than those in the Agricultural Area. Some low-density commercial uses such as convenience stores, pharmacies and other light commercial uses may be deemed appropriate; however, larger commercial centers like grocery stores and general merchandise outlets will be encouraged to be developed near designated commercial / mixed-use nodes. This area provides a buffer between the communities of Marvin, Wesley Chapel, Unionville and Weddington that have demonstrated an interest in preserving the rural character of their communities from areas that have been identified for medium-density uses. Current and planned utility services areas are adequate; however, sewer service will remain insufficient for some time. The density of development will vary based on the presence of utilities, topography and environmental features.

FIGURE 7: NEIGHBORHOOD CENTER CONCEPT



NEIGHBORHOOD CENTERS incorporate neighborhood-serving commercial uses such as grocery stores, retail establishments, restaurants and other services.

MIXED RESIDENTIAL

Mixed Residential areas are located in areas easily served by utilities, such as those near town centers, existing and future commercial centers and where they are compatible with existing development. These areas are designed to include a variety of housing types, including medium- and small-lot single family homes, patio homes, cottage homes, townhomes, apartments and condos. These areas will have opportunities for slightly higher density development than Single Family and Agricultural Areas. Future residential densities are meant to vary from low to medium/high with higher density uses clustered near identified neighborhood centers, community centers and downtowns. Some commercial uses such as grocery stores and neighborhood services are also appropriate in mixed residential areas to serve residents. In addition, these neighborhoods should have a connected street network, short block lengths and adequate pedestrian and bicycle facilities.

RURAL CENTER

Rural Centers function as small scale civic and commercial centers for rural areas of the County. These Centers are clusters of low-density, non-residential uses located at a crossroads of two or more major or minor thoroughfares. Appropriate uses include convenience stores, civic buildings, gas stations and others. Rural Centers provide limited commercial and community services while still maintaining the rural nature of the community.

NEIGHBORHOOD CENTER

Neighborhood Centers are located near concentrations of existing or planned residences, in areas with access to major thoroughfares and utilities and where not in competition with existing centers. These Centers incorporate neighborhood-serving commercial uses including grocery stores, retail establishments, restaurants and services.

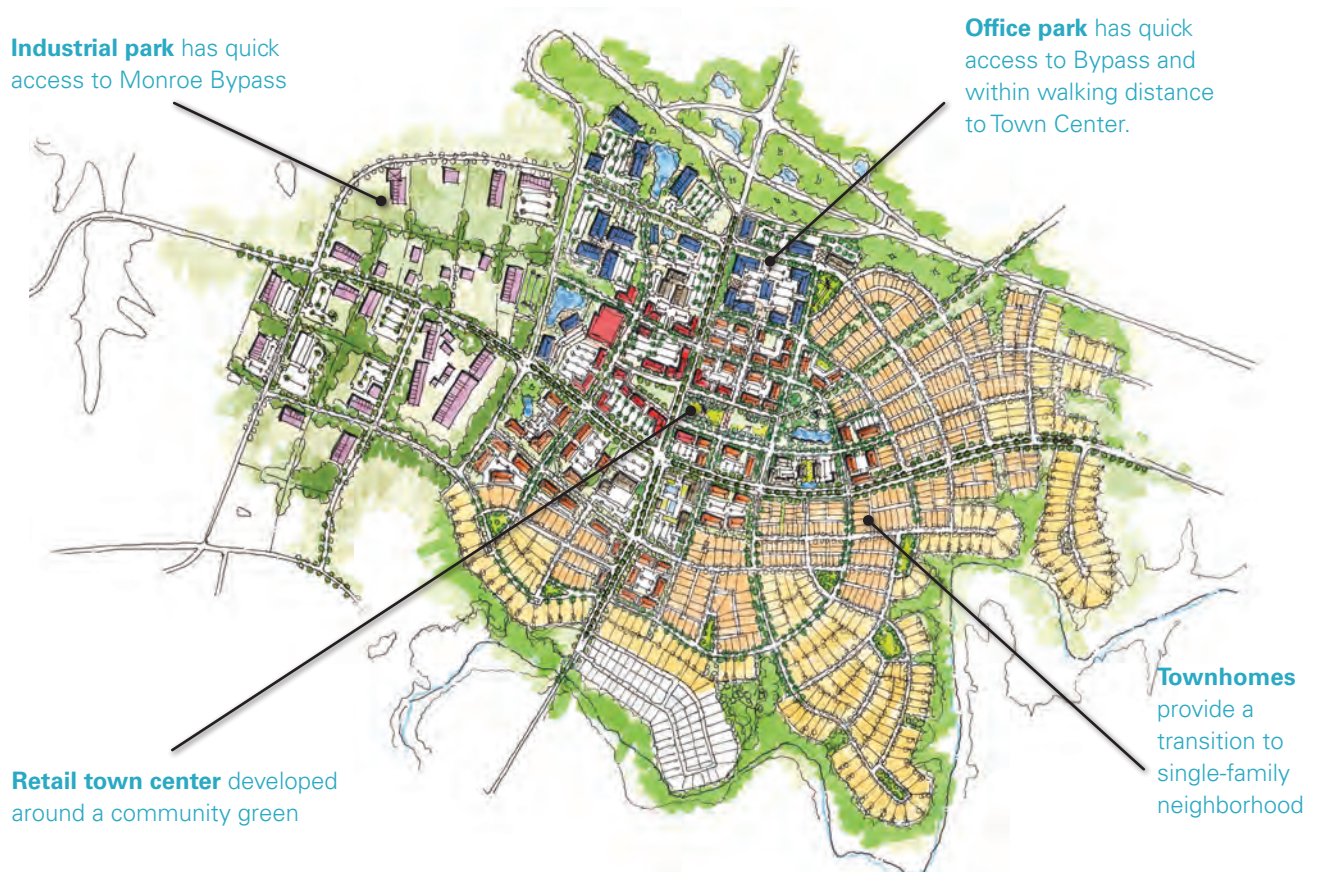
Typical Neighborhood Centers range from 30,000 square feet to 125,000 square feet of retail space, and have a service area of one-to-two miles.¹⁰ Key characteristics of a Neighborhood Center include an interconnected street system that provides access to shopping, services, housing and amenities, and a well-connected pedestrian and bicycle network.

Mixed residential densities are appropriate, while higher densities should be limited and concentrated around retail and commercial uses. Apartments and townhomes should be located in close proximity to shopping and service destinations to provide more pedestrian and bike-riding opportunities. Single-family homes can ease transition from the neighborhood center to surrounding development. Pocket parks and community greens should be incorporated into new developments and be connected by an internal network of sidewalks and greenways. Figure 7 provides a conceptual illustration of a Neighborhood Center.

COMMUNITY CENTER

Community Centers have been identified in areas near concentrations of existing or planned residences with utility service that are adjacent to major thoroughfares and compatible with development plans. These Centers incorporate community-serving commercial uses (retail shops, restaurants and services) including opportunities for office, civic, institutional and mixed residential uses. Civic uses such as libraries or recreation facilities are also appropriate in Community Centers. Where the market permits, housing should be integrated as part of a mix of uses in the Community Center core. Parking requirements should be balanced to maximize land efficiency. As with Neighborhood Centers, apartments and townhomes should be located in close proximity to shopping and services. All portions of the development should be accessible by both a convenient road network and a system of sidewalks and greenways. Likewise, a safe and attractive pedestrian network should also connect community amenities such as pocket parks, pedestrian plazas and recreation facilities. Single-family homes of varying densities, riparian

FIGURE 8: COMMUNITY CENTER CONCEPT



COMMUNITY CENTERS are similar to neighborhood centers, but typically serve a large population and include not only retail and commercial uses, but a mixture of residential spaces as well.

FIGURE 9: EMPLOYMENT CENTER CONCEPT

Campus-like design provides welcoming environment for employees and visitors.

Well connected system of sidewalks and open spaces prove amenity for employees

Trees and open space buffer developed area from creek and floodplain

Industrial building with potential rail access.



EMPLOYMENT CENTERS use include light industrial, warehouse, office, research, tech-flex and technology, while also incorporating supporting commercial and residential uses such as restaurants, convenience stores and multi-family residences that serve employees.

buffers and open space should transition from the denser core of the Community Center to adjacent developments.

Small Community Centers

Compared to a Neighborhood Center, a Small Community Center typically serves a larger population and includes 125,000 square feet to 400,000 of square feet of leasable space. The typical trade area of a Community Center is three-to-six miles. Small Community Centers should be anchored by a commercial use such as a grocery store or retailer like Harris Teeter or Target.

Large Community Centers

A Large Community Center serves a greater population and includes 400,000- 650,000 square feet of leasable space. A Large Community Center typically has more than one large retailer as anchor and should also include between 15 – 40 businesses that include general merchandise stores,

restaurants and convenience services. Figure 8 provides a conceptual illustration of a Large Community Center.

TOWN CENTER / DOWNTOWN

Town Centers consist of existing downtowns or town centers with a range of uses including commercial office, civic, institutional and mixed residential products. These areas have adopted plans that demonstrate a desire to promote walkability. Town Centers have the highest street densities in the County, indicating a connected street network. They have adequate utilities and other municipal services. It is anticipated that these Centers will continue to function as primary hubs of activity in the County. Policies that reinforce these Centers and prioritize infill development incorporating a mixture of uses should be adopted. Town Centers / Downtowns should be accessible by both a convenient road network and a system of sidewalks, bicycle facilities and greenways.

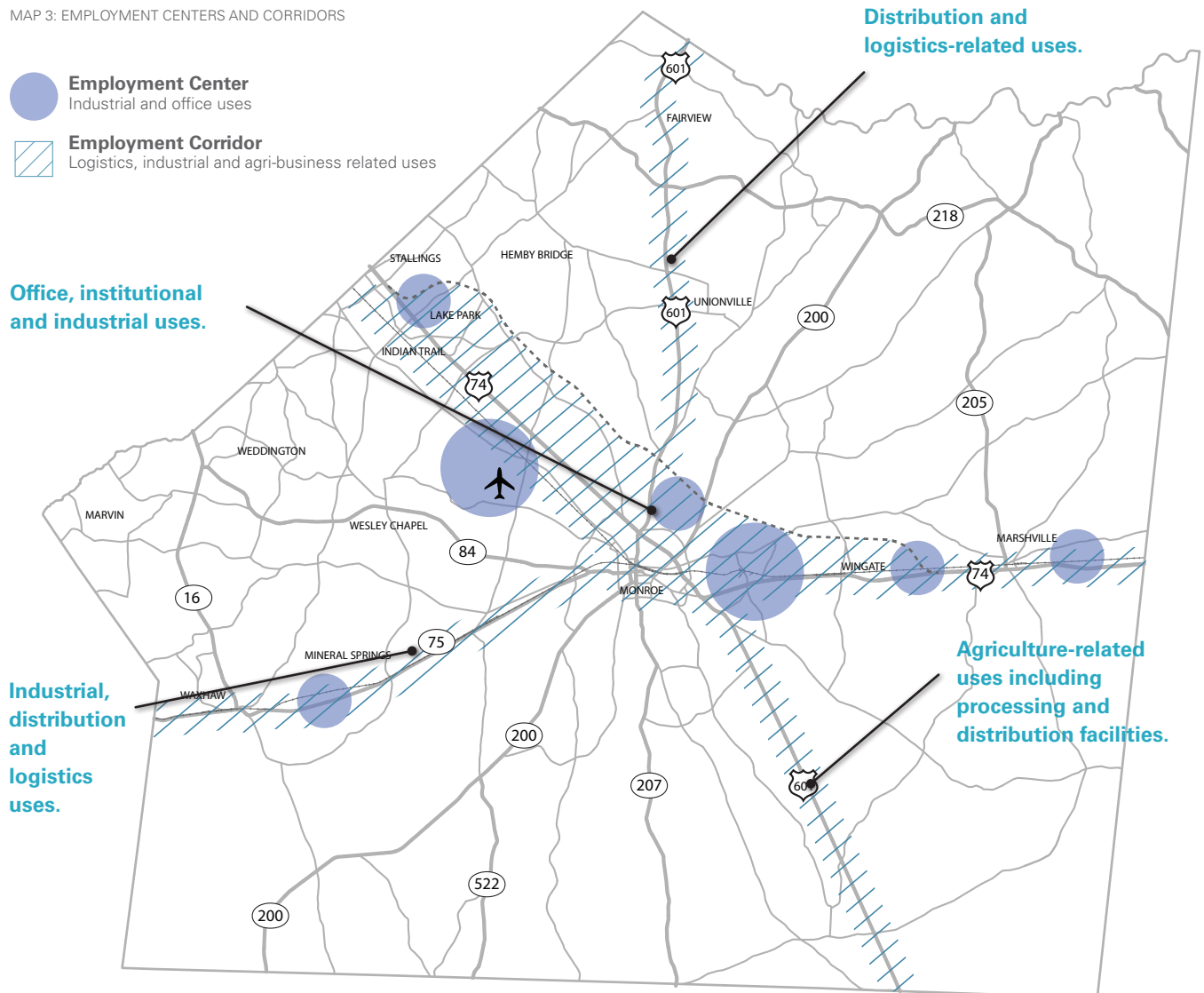
EMPLOYMENT CENTER

Employment Centers facilitate employment growth in key areas that have access to transportation and adequate utility infrastructure and existing viable employment and available land suitable for employment. Uses encouraged near these centers include, but are not limited to, light industrial, warehouse, office, research, tech-flex and technology. Employment Centers should incorporate a limited amount of supporting commercial uses, such as restaurants and convenience retailers to serve employees, as well as multifamily residential uses including conveniently-located apartments. However, these uses should only be situated where not in conflict with existing employment land uses and should not be built in such a way as to jeopardize the use of those lands most suitable for office or industrial development. Figure 9 provides a conceptual illustration of an Employment Center.

EMPLOYMENT CORRIDOR

Employment Corridors have access to transportation infrastructure such as railways, airports and major roads, and have available land within a close proximity to similar uses. Employment Corridors connect employment nodes and other large job centers throughout the County and neighboring counties. A variety of employment uses may be appropriate along these corridors. Dependent on location and adjacent facilities, development uses that may be appropriate include distribution, logistics, aeronautics, industrial and agri-business. Connectivity and roadway capacity should be prioritized in these areas to encourage opportunities for job growth. The following descriptions provide further detail on the type of employment envisioned along specific corridors in Union County:

MAP 3: EMPLOYMENT CENTERS AND CORRIDORS



US-74

US-74, also known as Independence Boulevard, Roosevelt Boulevard and Marshville Boulevard at different points, is the most developed transportation corridor through the County. Fifty-two percent of all jobs and 69 percent of existing retail jobs in the County are located within a half mile of the corridor.¹¹ US-74 is currently characterized by a mixture of non-residential uses including business parks, commercial centers and a few major distribution and industrial uses.

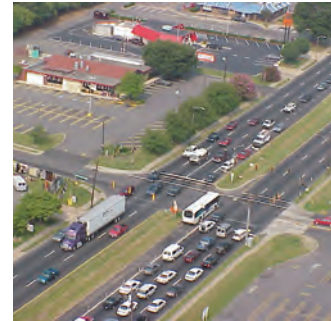
In the future, areas between the railroad and the future Monroe Bypass that have access to transportation and utility infrastructure could accommodate a mix of uses. The redevelopment of aging retail centers and other underutilized parcels, as identified in the US-74 Corridor Study Framework Plan, should be encouraged. Residential uses should be developed as a component of mixed-use town centers. In some locations, particularly underutilized parcels near the railroad and along major arterials with direct access to the future Monroe Bypass, office, industrial, distribution and logistics uses are appropriate. Office development, including financial institutions, corporate and technology headquarters and aeronautical development could be accommodated in the western part of the US-74 corridor, as well as near employment nodes and town centers identified on the Future Land Use Map. Access management techniques, the provision of pedestrian and bicycle amenities, as well as landscaping and urban design standards will assist in maintaining and improving mobility and cultivating the aesthetics of the corridor.

US 601

The US 601 corridor is marked by three distinct sections. The northern section, north of the Monroe Bypass to the County line, provides access to a number of growing areas in Cabarrus County, and to I-485 via the proposed bypass. However, much of the land lacks sufficient access to sewer service, and a portion of the segment is in the Lake Twitty water supply watershed. Therefore, this area is appropriate for distribution and logistics-related uses. The middle section of US 601, in the vicinity of the City of Monroe, has access to utilities and could be appropriate for a number of employment bearing uses including office, institutional, industrial, distribution and logistics. The southern part of US 601, south of Monroe, does not have access to sewer, but its location near concentrations of farming operations makes it a prime site for agricultural related enterprise, including distribution and processing facilities. In all sections of the corridor, commercial uses are appropriate in the vicinity of the nodes identified in the Future Land Use Map.

NC 75

The NC 75 corridor, also known as Waxhaw Highway, runs parallel to the railroad and has access to utilities in the vicinity of Monroe and Waxhaw. A new sewer line will increase availability for most of the property near Mineral Springs. Areas between the jurisdictions, along NC 75, could eventually be served by sewer if gravity lines are extended upstream from main lines along Ten Mile Creek, or pump stations and force mains are constructed. However, there are large tracts of land adjacent to NC 75 and the rail that are undeveloped. These areas have the potential to accommodate a variety to employment bearing uses. One site in particular, known as Shannon Farms, has been identified by the Duke Energy Site Readiness Program. This site and others that have access to rail and utilities could be candidates for industrial, distribution or logistics uses.



US-74 is the most developed corridor in Union County, with 52 percent of the County's jobs located within a half mile of it.

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05



Policies & Strategies

The following policies and strategies support the goals of the Future Land Use Plan and the vision of the future for Union County. The recommendations are organized by theme but are not prioritized.



The following set of recommendations support job growth in the County.

1.0 Coordinate with and support Monroe-Union County Economic Development efforts.

1.1 The Monroe-Union County Economic Development Work Plan outlines a number of business development strategies to grow and enhance the economy. The following list is a subset of the strategies listed in the Work Plan that the County can directly facilitate and/or implement:

1.1.1 *The Planning Department should work with Monroe-Union County Economic Development, town leaders and private developers to identify and develop “high potential” economic development sites that have the following attributes:*

- *Transportation infrastructure (rails, air, roads with capacity)*
- *Utility infrastructure (or areas easily served by utilities)*
- *Available land suitable for employment use*
- *Proximity to existing compatible uses (i.e., existing industrial)*

These sites include those identified on the Future Land Use Plan such as the Shannon Farms Site in Mineral Springs and the Charlotte-Monroe Executive Airport Industrial Development Area.

1.1.2 *The Planning Department should work with Monroe-Union County Economic Development, town leaders and private developers to identify and preserve access to and visibility for large parcels that could be developed as employment centers along major transportation corridors including US-74, I-485 and the future Monroe Bypass.*

1.1.3 *Public Works should coordinate with Monroe-Union County Economic Development, town leaders and private developers to prioritize water and sewer infrastructure investments to extend and/or upgrade key facilities that support existing and potential economic development projects including the following:*

- *Mineral Springs sewer line extension*
- *Small sewer package plant in Fairview*
- *Stallings/Weddington water pressure resolution*

1.1.4 *The Department of Community Services should work with Monroe-Union County Economic Development, town leaders and the private sector to develop an Equine Center to grow the equestrian tourism industry in Union County.*

2.0 The County should work with Monroe-Union County Economic Development, South Piedmont Community College and Union County Public Schools to develop an integrated workforce development strategy that is responsive to the needs of target industries:

- 2.1 Develop an apprenticeship program with local industries.
- 2.2 Provide a tax credit for target industry employers to offset training costs.
- 2.3 Develop a grant program to increase funding for training programs that deliver workforce development services to displaced or disadvantage workforce populations.

3.0 The Planning Department should partner with the City of Monroe and Monroe-Union County Economic Development to develop a Master Plan for the vicinity around the Airport to accomplish the following objectives:

- 3.1 Delineate the lands that are critical to preserve/protect, in order to maintain existing and future operations, and the long-term functionality of the airport, as well as those that are crucial to the development of potential employment sites;
- 3.2 Identify land that should not be converted to residential development or other incompatible uses;
- 3.3 Determine the need for zoning amendments, such as refinements to the Airport Overlay District, to implement the Airport Master Plan.

4.0 The County should consider developing an Economic Development Grant Program to increase employment opportunities within the County.

- 4.1 Develop a grant program that results in the relocation or expansion of a business that would not have occurred except for the award of the Grant.

5.0 The County should support the Monroe-Union County Economic Development in land assemblage for economic development purposes.

- 5.1 Develop a land assemblage tax credit program that supports economic development priorities.

6.0 The County should work with Monroe-Union County Economic Development, town leaders and private developers to create a strategy to encourage office development, specifically that which attracts build-to-suit tenants, in the areas closest to I-485.

- 6.1 Identify and preserve acreage targeting build-to-suit opportunities— those close to I-485 and parallel to US-74;
- 6.2 Offer significant property tax incentives for companies willing to develop their offices in targeted locations in the County;
- 6.3 Consider a broker incentive fund that pays higher brokerage fees for those bringing new office tenants into the County;
- 6.4 Utilize enterprise zones to help offset development costs and/or to enhance office attraction for specific locations closer to I-485;
- 6.5 Determine whether a fund or grant program could help companies and landlords offset costs of tenant improvements;
- 6.6 Further tap into the state’s One North Carolina Fund to attract technology firms into targeted areas of the County—namely those close to regional thoroughfares and in higher-income locations that can compete with sites in Mecklenburg County.

7.0 The County, in support of Monroe-Union County Economic Development, should investigate the possibility of USDA Business and Industry Guaranteed Loans to promote economic development in the County. Loans may be used for the following purposes:

- 7.1 Business and industrial acquisitions when the loan will keep the business from closing, prevent the loss of employment opportunities or provide expanded job opportunities.
- 7.2 Business conversion, enlargement, repair, modernization or development.
- 7.3 Purchase and development of land, easements, rights-of-way, buildings or facilities.
- 7.4 Purchase of equipment, leasehold improvements, machinery, supplies or inventory

For more information refer to:
http://www.rurdev.usda.gov/BCP_gar.html

8.0 The County, in support of Monroe-Union County Economic Development, should seek ways to coordinate with the State to maximize potential incentives/tax breaks via coupling State incentives (tax credits) with local ones.



precision manufacturing



retail / commercial



agribusiness



education / medical



logistics

THE KEY TO UNLOCKING ECONOMIC PROSPERITY in the County is matching industries that have the most potential for growth (local specialization, adding jobs, and gaining market share) with what makes most sense given local resources and community values. By focusing on the best opportunities for growth, this effort can maximize local opportunities within each of the target sectors.



The following set of recommendations support the growth of the agriculture-based economy in Union County.

1.0 Working with Monroe-Union County Economic Development and the Cooperative Extension, the County should develop and implement an Agriculture Economic Development Plan. The Plan should address:

1.1 Tools to expand voluntary land conservation throughout the County.

- *Voluntary Agriculture Districts*
- *Enhanced Voluntary Agriculture Districts*
- *Agriculture Conservation Easements*
- *Purchase of Development Rights*

1.2 Policies and regulations to protect farmland and promote compatible development such as:

- *Agriculture Protection Zoning*
- *Conservation subdivisions and cluster zoning*
- *Mitigation techniques*

1.3 Funding tools to promote conservation of farmland such as the Agricultural Development and Farmland Preservation Trust Fund.

1.4 A cost-benefit analysis to understand the fiscal impacts of the conversion of agriculture (farming and forestry) land to other uses.

1.5 Methods to raise awareness of the importance of Union County's agriculture industry and promote the appreciation of agriculture to the non-farm public through strategies such as farm field trips, school garden partnerships, agritourism, etc.

1.6 Strategies to enhance business development for agriculture and forestry interests such as a Countywide agriculture marketing plan.



FUTURE LAND USE POLICIES should work to protect farmland and promote development that is compatible with the County's agriculture and forestry industries.

1.7 Training and educational programs for existing and future farmers.

2.0 The County should provide grant-writing assistance to farmers wanting to apply to the USDA's Agriculture Marketing Service's Farmers Market and Local Foods Promotion Program.

3.0 The County in partnership with NCDOT should identify and improve key farm-to-market roads and bridges to allow safer and easier transport for trucks traveling to and from farms. For more information on transportation strategies refer to the MOVE section of this report.

4.0 Working with NC Broadband and the Department of Commerce, the County should focus on extending technology infrastructure and network access to more rural areas in order to help farmers monitor crop or animal conditions, operate machinery remotely and coordinate overall efforts within their farms.

5.0 Working with Monroe-Union County Economic Development, the County should investigate opportunities to pair Union's agricultural industry with the North Carolina Research Campus in Kannapolis.

CASE STUDY

WAKE COUNTY AGRICULTURE ECONOMIC DEVELOPMENT PLAN

The Wake County Agriculture Economic Development Plan was unanimously approved by the Wake County Commissioners in August of 2013. The North Carolina Department of Agriculture and Consumer Sciences also certified the Plan. The Plan outlines a statement of need for Wake County's support of agriculture, an overview of Wake County's agricultural impact, challenges to Wake County's agricultural economic growth, opportunities to enhance profitability of Wake County's family farms, action steps to ensure economic viability of the County's agricultural community, and a schedule to implement the Plan and reevaluate as Wake County changes. In addition, the Plan provides recommendations that integrate economic development with farmland protection, expand County voluntary land preservation programs through conservation partnerships, promote understanding and appreciation of agriculture to the non-farm public, enhance business development programs to incorporate agriculture and forestry interest and promote opportunities for profitability of Wake County family farms and agribusinesses.

The plan in its entirety can be accessed:
<http://friendsofwakeswcd.files.wordpress.com/2013/07/wake-county-agriculture-economic-development-plan-final-draft-may-2013.pdf>





The following set of recommendations support the development of more housing choices in the County.

1.0 In order to accommodate a mix of residential housing types (e.g. small lot, patio homes, townhomes, apartments) to serve a growing and increasingly diverse population, the County should consider development regulations that permit these uses in areas identified as Mixed Residential on the Future Land Use Plan.

3.0 The County should work with town leaders and private developers to create development design guidelines that emphasize walkability, connectivity, park/greenway creation, etc., to encourage development that provides the desired lifestyle.

2.0 In order to provide affordable housing options for a variety of age and income groups, the County should amend development regulations to permit accessory dwelling units in areas identified as Mixed Residential on the Future Land Use Plan.



A MIX OF HOUSING TYPES is appropriate near nodes and in the Mixed Residential areas designated on the Future Land Use Plan.



The following set of recommendations support retail development in the County.

1.0 Support retail development in areas identified in the Future Land Use Plan.

For example, the intersection of NC 16 (Providence Road) and Rea Road Extension in Weddington in particular represents a strong potential future location for a town center-type project that could accommodate major retailers.

The County should proactively work to identify a potential development strategy for vacant properties in the area and ensure development that takes advantage of retail demand potential, and also furthers a sense of place in the market.

2.0 The County, in partnership with town and city leaders, should develop a County-wide retail market study.

3.0 The County should work with town and city leaders to identify key development criteria for retail centers and utilize those criteria in rezoning decisions.

3.1 Criteria could include proximity to designated centers on Future Land Use Map, current and forecasted traffic volumes, locations along minor or major thoroughfares (depending on center size), access to multiple streets (collectors and a thoroughfare), distance to other centers, etc.



WALKABLE, TOWN CENTER-TYPE RETAIL development is in demand and under-represented in Union County

4.0 The County should regularly monitor the supply of retail land available relative to demand potential. Every five years, the County should conduct an assessment of total retail space relative to demand potential and inform decision-makers of potential retail oversupply and/or shortcomings.

5.0 Working with Monroe-Union County Economic Development, the County should create incentives (potential pool of funds for low-cost loans), or penalties (if properties become blighted or remain vacant for too long), to encourage retail

owners to maintain/evolve aging retail properties.

Other cities and counties have utilized aging retail centers as public schools, colleges, libraries, or other government facilities as opposed to building new construction projects nearby.

6.0 The County, in partnership with Monroe-Union County Economic Development, should investigate the possibility of using matching funds for reuse/renovation of aging retail spaces for potential technology uses via the state's One North Carolina Fund.

CASE STUDY

ONE NORTH CAROLINA FUND:

The One North Carolina Fund helps recruit and expand quality jobs in high value-added, knowledge-driven industries. It also provides financial assistance to those businesses or industries deemed vital to a healthy economy that are making significant efforts to expand in North Carolina. The fund currently consists of nonrecurring appropriations made by the North Carolina General Assembly for companies seeking to undertake new expansion or locate new operations in the state. The fund is designed to increase the state's competitiveness, so the project location or expansion must be in competition with another location outside the state.

Companies can receive money for:

- Installation or purchase of equipment.
- Structural repairs, improvements, or renovations of existing buildings to be used for expansion.
- Construction of or improvements to new or existing water, sewer, gas or electric utility distribution lines, or equipment for existing buildings.

For more information:

<http://www.thrivenc.com/incentives/financial/discretionary-programs/one-north-carolina-fund>



move

Please note a companion document, the **Union County Multimodal Transportation Plan (MTP)**, has been developed to provide a higher level of detail related to transportation.

The following set of recommendations support transportation improvements in the County. The recommendations are organized by mode of transportation: roadways, pedestrians and bicyclists and public transportation. Detailed recommendations are included in the Union County Multimodal Transportation Plan (MTP), which acts as a companion document to the Comprehensive Plan.

ROADWAY

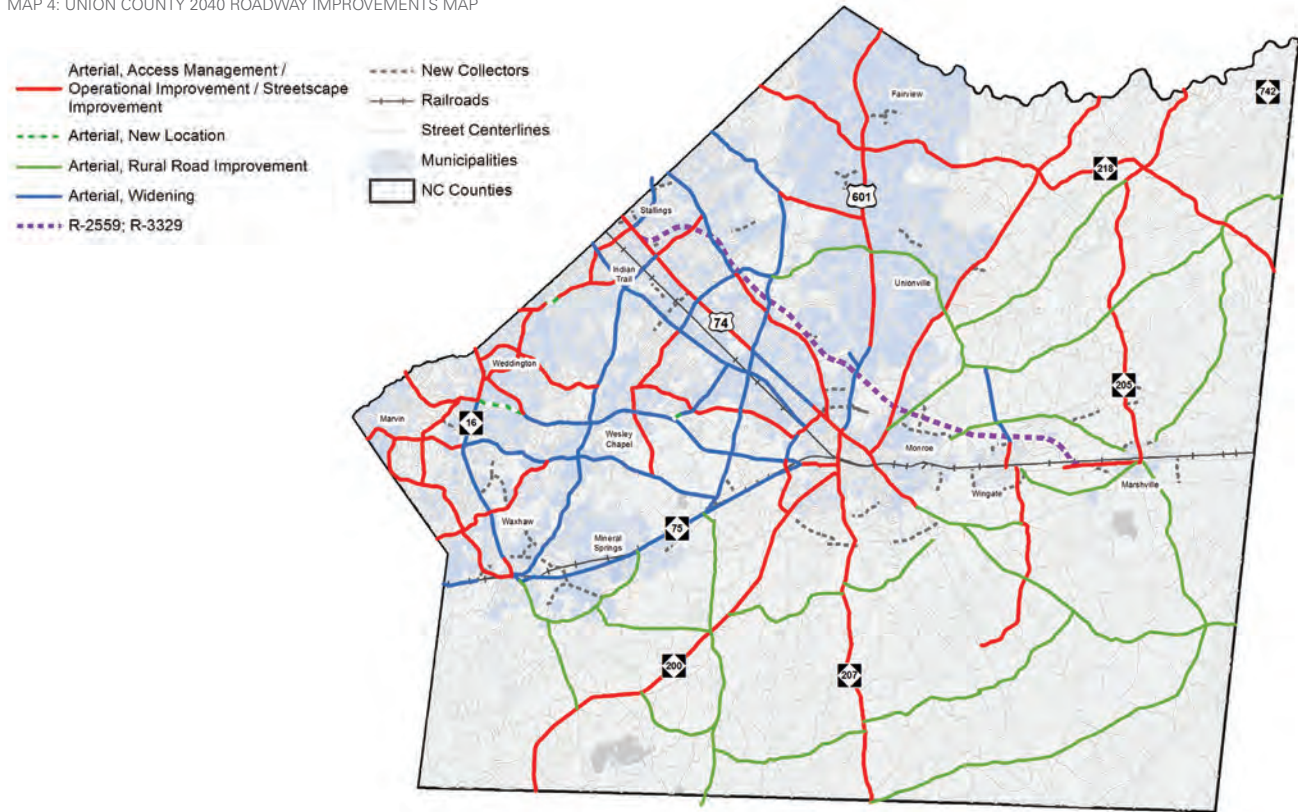
The primary set of roadway recommendations consists of a set of cross-sections linked to the Union County 2040 Roadway Improvements Plan and the Roadway Laneage map. These maps indicate the location of improvements based on citizen and steering committee feedback, as well as technical analyses of future travel demands. Improvements as shown can accommodate site-specific constraints, but should be generally adhered to when negotiating rights-of-way requirements with future development. A higher level of detail is included in the Union County MTP, including recommended cross-sections, collector street improvements, and hot-spot safety improvements, as well as best practices, design and policy recommendations. The following table highlights recommendations for key roadways in the County.

PROJECT/POLICY	DESCRIPTION
US 74 (Roosevelt Boulevard)	Recommended for improvement through access management and operational improvement strategies as well as the provision of a sidepath. Sidewalks are recommended along US 74 within the city limits of Monroe. A small portion of this roadway is programmed for access management improvement through TIP Number R-3329, the Monroe Bypass.
NC 16 (Providence Road)	Recommended for improvement through both access management and operational improvement strategies and the provision of a sidepath along the corridor.
Waxhaw-Indian Trail Road	Recommended for widening from a 2-lane section to a 4-lane section. Other improvements to this corridor include the implementation of 5' shoulders and sidewalks on both sides.
NC 75 (Waxhaw Highway)	Proposed for improvement by widening between from a 2-lane to 4-lane section and providing a sidepath along the corridor.
NC 84 (Weddington Road)	Proposed for widening from a 2-lane to 4-lane section with a sidepath from Rea Road Extension (4-lane section on new location) to West Franklin Street in Monroe
NC 200 South (Lancaster Highway)	Recommended for improvement through access management and operational improvement strategies and 5' shoulders as well as streetscape improvements including sidewalks along the portions of the roadway in Monroe.

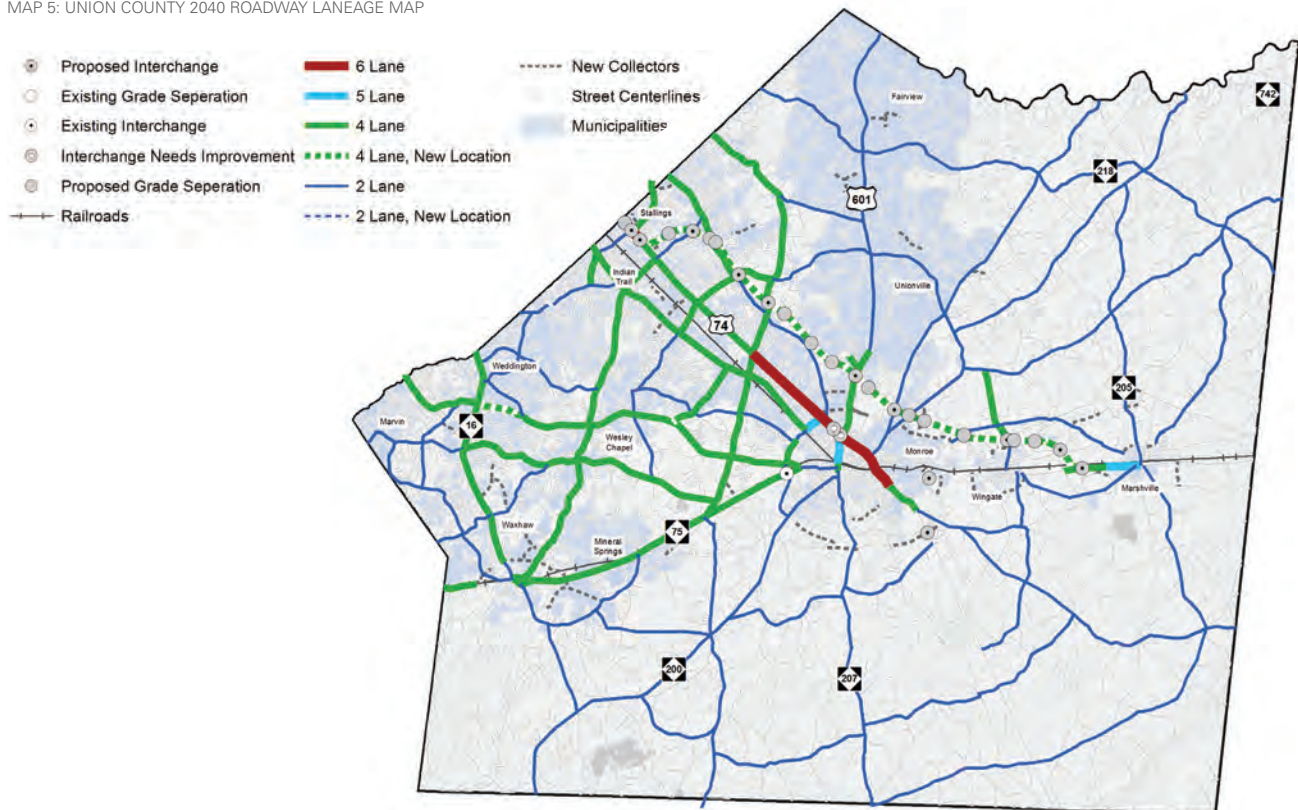
PROJECT/POLICY	DESCRIPTION
NC 207 (South Hayne Street/Wolf Pond Road)	Proposed for improvement through access management and operational improvement strategies. The portion within Monroe (S. Hayne Street) should be improved with sidewalks, while a sidepath is recommended along the Wolf Pond Road section.
North US 601 (Concord Highway)	Proposed for improvement through access management and operational improvement strategies and the provision of 3' shoulders following the Sikes Mill Road split. From US 74 to the Sikes Mill Road split, the roadway is recommended for widening from a 2-lane section to a 4-lane section with sidewalks and 3' shoulders.
NC 200 north (Morgan Mill Road)	Proposed for improvement through access management and operation improvement strategies and the provision of 5' shoulders.
NC 218 (Fairview Road)	With the exception of the easternmost section of roadway (east of NC 205), this corridor is proposed for improvement through access management and operation
Stallings Road/ Potter Road	The portion north of US 74 is proposed for a widening from a 2-lane section to 4-lane section, while the section south of US 74 is proposed for improvement through access management and operation improvement strategies. The entire corridor is proposed to include 5' sidewalks and 5' shoulders.
Weddington-Matthews Road	Proposed for improvement through access management and operation improvement strategies as well as the provision of sidewalks and buffered bicycle lanes.
New Town Road	This route is recommended for widening from a 2-lane to 4-lane section with a sidepath.
Old Charlotte Highway	Proposed for widening from a 2-lane to a 4-lane section with a sidepath from the Mecklenburg County border until Rocky River Road and then wide outside lanes and sidewalks closer to Monroe.

The following maps, from the MTP, illustrate recommended improvements and future laneage for roads in Union County.

MAP 4: UNION COUNTY 2040 ROADWAY IMPROVEMENTS MAP



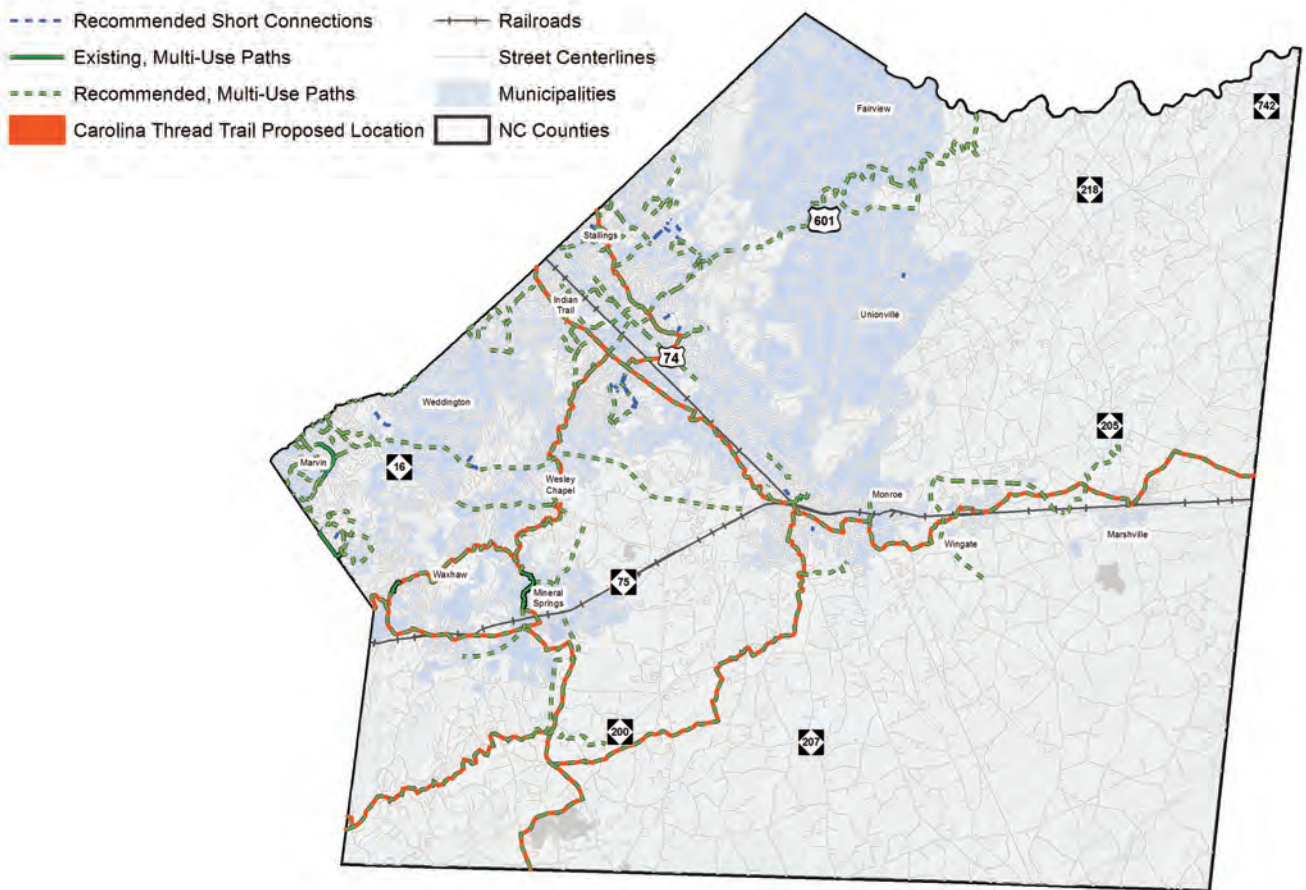
MAP 5: UNION COUNTY 2040 ROADWAY LANEAGE MAP



BICYCLE AND PEDESTRIAN

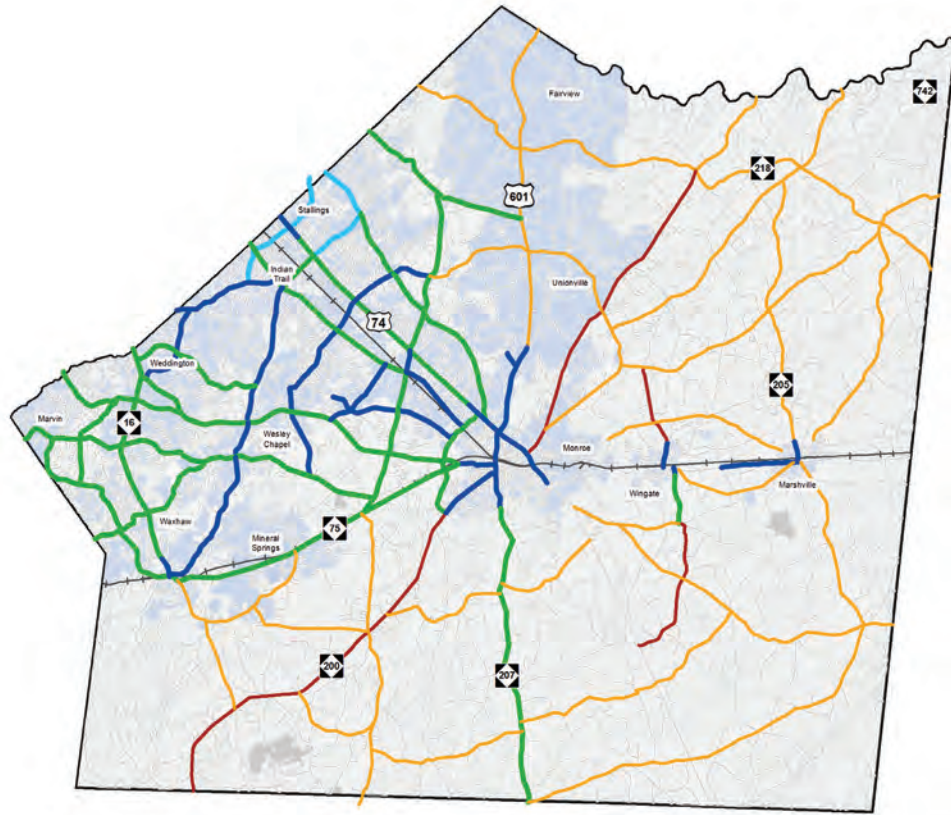
Recommendations for bicycle and pedestrian modes of travel fall into four categories: off-road, on-road, policy/program, and short connections, which are generally centered around the activity centers identified in the and use plan (comprehensive plan) as well as through bicycle and pedestrian crash location studies. The following maps illustrate the location and type of improvements that are recommended to facilitate active modes of travel. Additional priority bicycle and pedestrian action items, including recommendations regarding complete streets, outreach and educational programs; Carolina Thread Trail priorities; and policies and ordinances are referenced in the Action Plan and Initiatives section of the Union County Multimodal Transportation Plan (MTP).

MAP 6: UNION COUNTY OFF-ROAD IMPROVEMENTS MAP



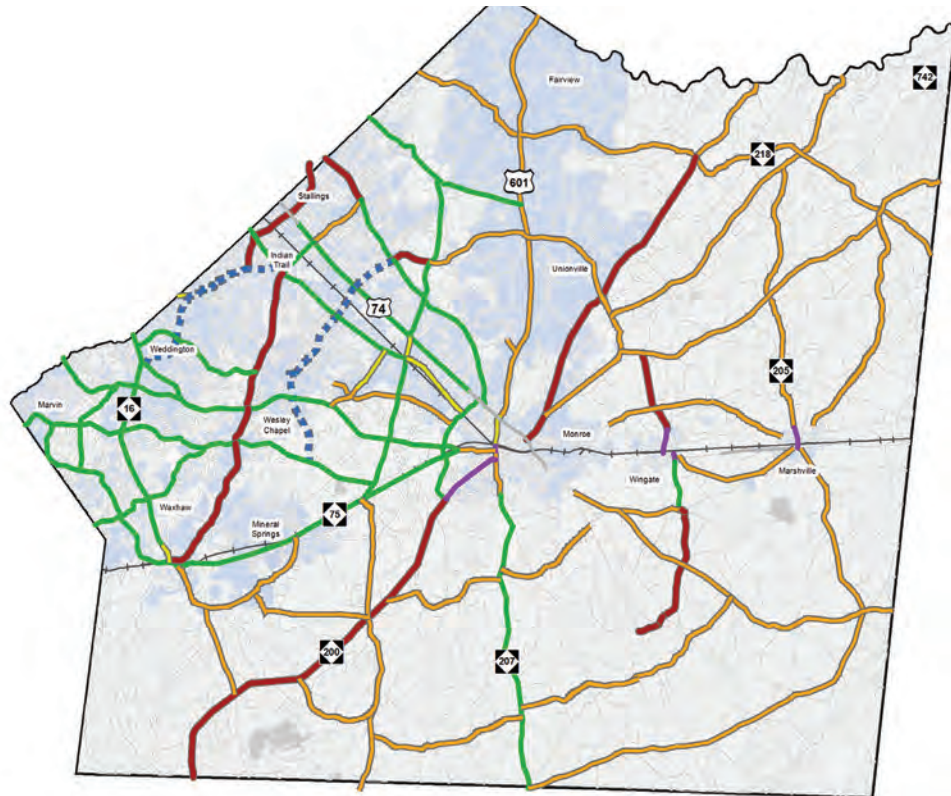
MAP 7: UNION COUNTY ON-ROAD PEDESTRIAN RECOMMENDATIONS MAP

- 3' Shoulders
- 5' Shoulders
- 5' Sidewalks
- Sidepath
- Sidewalks
- Railroads
- Street Centerlines
- Municipalities
- NC Counties



MAP 8: UNION COUNTY ON-ROAD BICYCLE RECOMMENDATIONS MAP

- 3' Shoulders
- 5' Shoulders
- - - Buffered Bike Lanes
- Shared Lanes
- Sidepath
- Wide Outside Lanes
- Railroads
- Street Centerlines
- Municipalities
- NC Counties



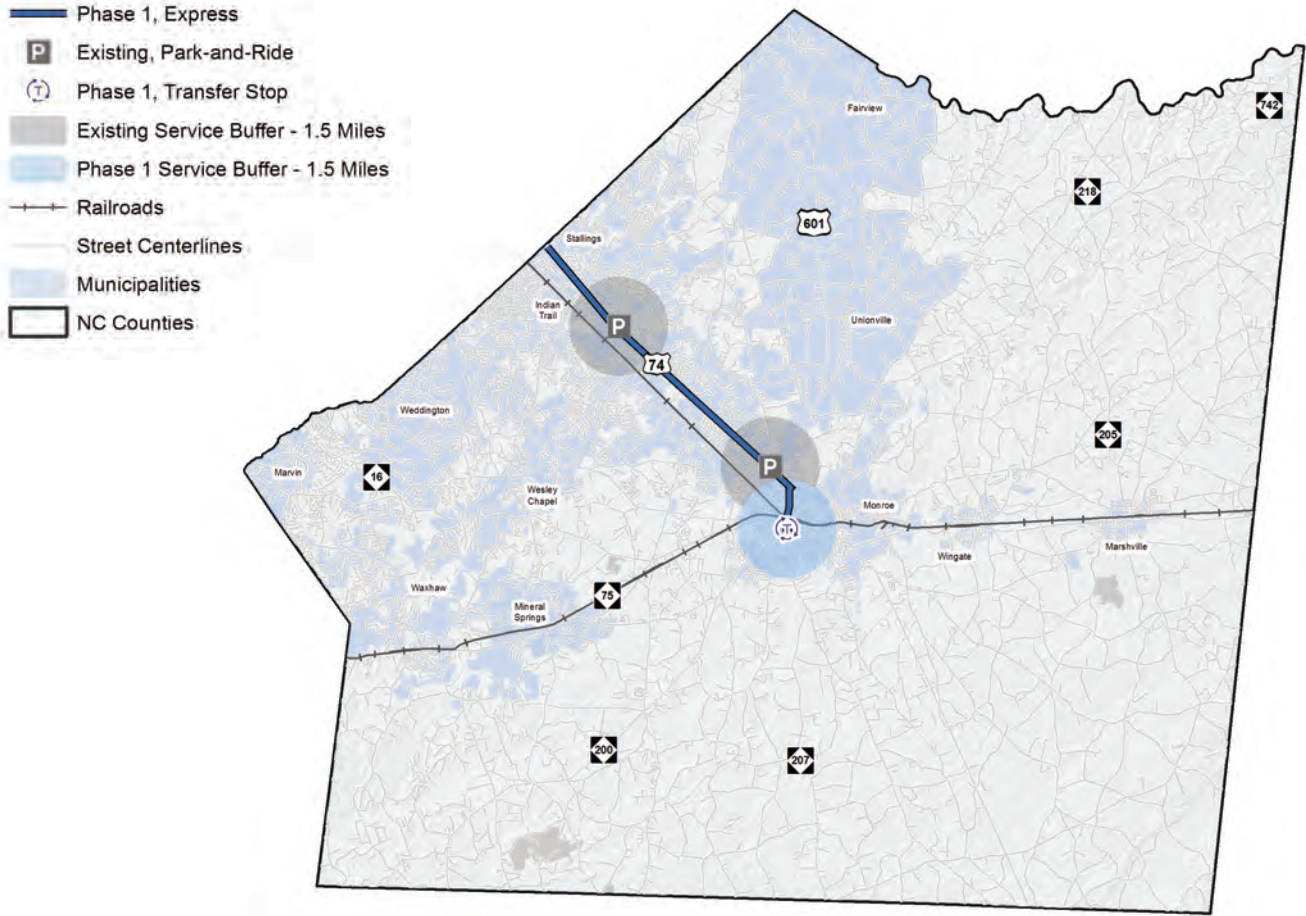
TRANSIT

The current role of public transportation is, for the vast majority of people in Union County, relatively small. Only one regular, fixed-route service enters into the County, connecting Charlotte with the northwest side of Monroe. However, the future role of transit may become much larger, because of the dominance of the single US 74/Old Monroe Road corridor, the high growth rate of many parts of the County, and the strong travel patterns linking Union and Mecklenburg Counties. The following recommendations provide a modest set of improvements given the long-term horizon of this Plan, but are considered to be feasible considering the current starting point of public transportation in the County. Recommendations are separated into two phases. Phase I provides short-term recommendations addressing the first ten years after plan adoption, while Phase II offers long-term recommendations occurring thereafter. Descriptions and maps of the Phases are included below. Additional detail is included in the Union County Multimodal Transportation Plan (MTP).

Phase I: Short-Term Transit Recommendations

The initial impetus for public transportation is the US 74 corridor, and enhancing the 74X express route with improved headways and weekend services are logical next steps. Also within a short-term horizon, the route should be extended into downtown Monroe, allowing for a longer route to the east in the second phase of development.

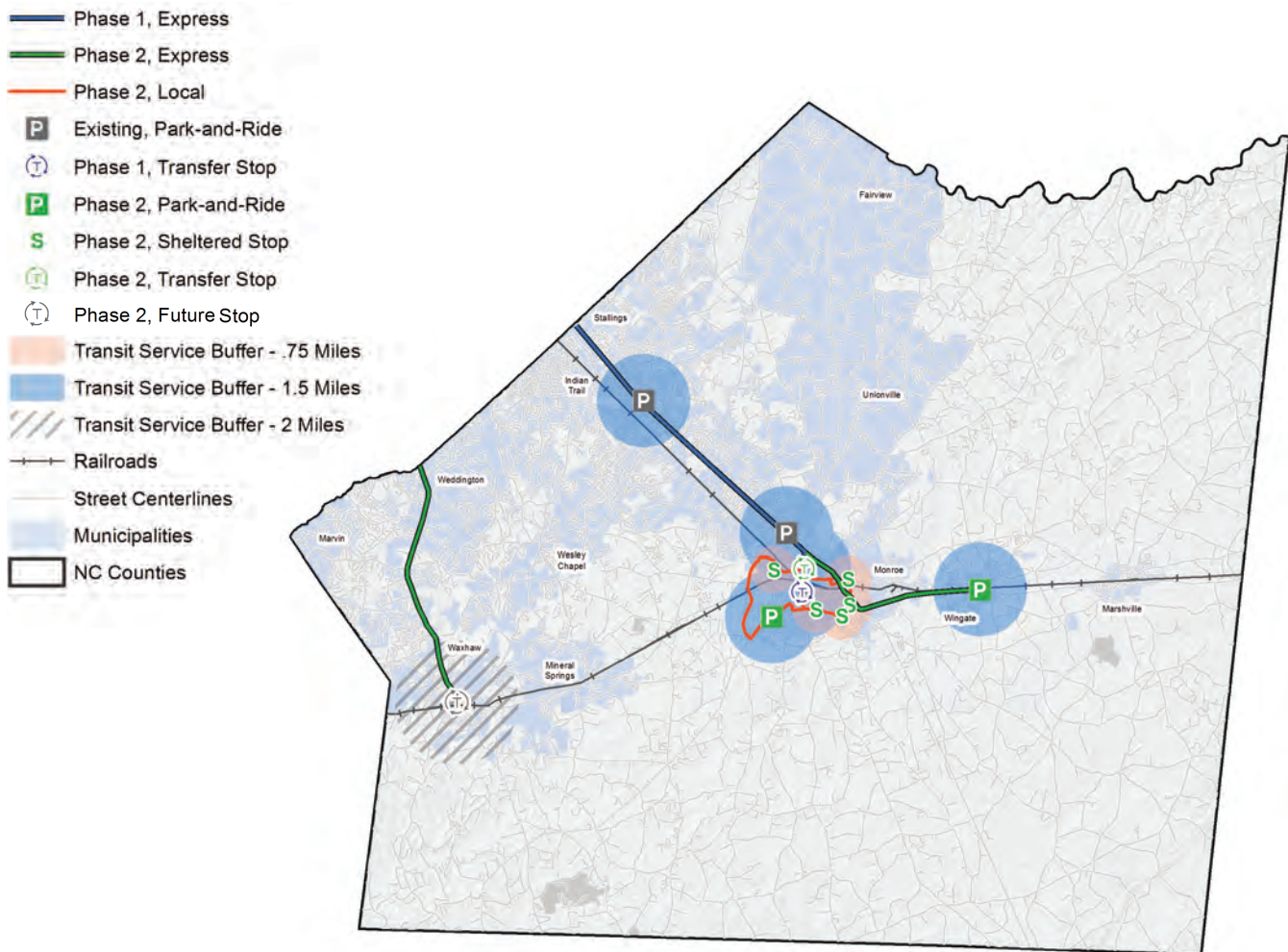
MAP 9: PHASE I TRANSIT RECOMMENDATIONS



Phase II: Long-Term Transit Recommendations

As development continues to increase in the County, particularly in the high-activity land use nodes, additional services should be considered. A circulator system in Monroe and the creation of a downtown transit hub are recommended, preferably with 30-minute headways on the circulator system. The extension of the US 74X route at least as far east as Wingate and the creation of a fourth park and ride location are also recommended. The other area of moderate density is Waxhaw, with the Providence Road corridor extending out of Charlotte. Ultimately, this second phase of transit improvements would continue the 61X express route into Waxhaw on NC 16, develop a suitable station/park-and-ride facility in town, and establish either route-deviated service or a companion circulator service to cover the areas of Waxhaw where lower rates of car ownership might provide a market for transit services.

MAP 10: PHASE II TRANSIT RECOMMENDATIONS





flow

The following set of recommendations support future water and wastewater service in the County.

1.0 Ensure adequate water service in the County.

1.1 Public Works should continue to work toward developing a long-term source of raw water through coordination with the City of Norwood and the corresponding development of treatment capacity.

2.0 Improve water quality.

2.1 Public Works, in partnership with the Health Department, should prioritize the provision of water service in areas of poor ground water quality (especially where elevated arsenic levels have been documented).

2.2 The Health Department should seek funding sources such as grants to provide filtration systems to low-income families in areas where elevated arsenic levels have been documented.

3.0 Ensure adequate wastewater service in the County.

3.1 During the next update the Union County Water and Sewer Master Plan, Public Works should take into account the Future Land Use Plan developed during this process.

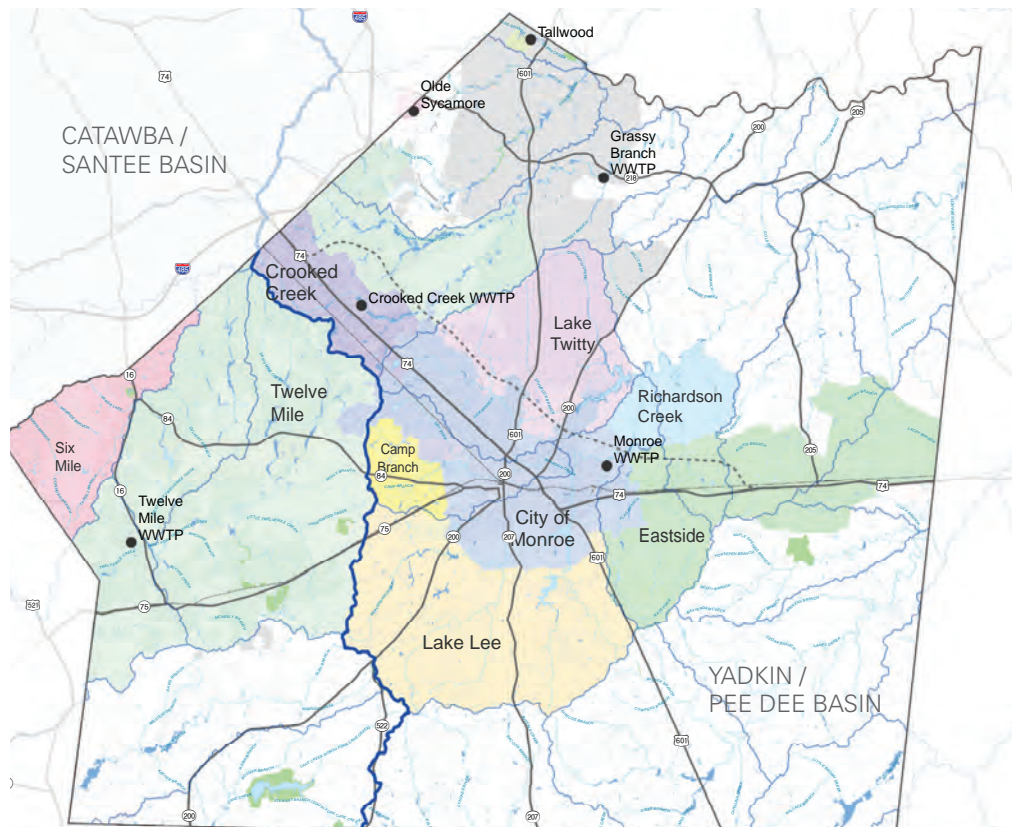
MAP 11: BASINS AND SEWER SERVICE AREAS IN UNION COUNTY

Sewer Service Areas

- Camp Branch
- City of Monroe
- Crooked Creek
- Eastside
- Lake Lee
- Lake Twitty
- Olde Sycamore
- Richardson Creek
- Six Mile
- Tallwood
- Twelve Mile

Other Features

- River Basin
- Subwatershed
- WWTP



- The Planning Department should encourage Public Works to use the land use model developed through this process to refine demand forecasts used to determine future utility needs in conjunction with the update to the Water and Sewer Master Plan.

3.2 Public Works should prioritize utility infrastructure investments to support development and redevelopment consistent with the Future Land Use Plan.

3.3 Public Works, in support of Monroe-Union County Economic Development, should prioritize investments to support existing and future economic development projects including the following:

- Mineral Springs sewer line extension
- Small sewer package plant in Fairview

4.0 Address environmental and health issues associated with failing septic tanks.

4.1 The Health Department should develop a GIS inventory of septic tanks in the County.

4.2 Working with the Health Department, Public Works should prioritize the provision of sewer service to urbanized areas with failing septic tanks.

4.3 Together, the Health Department and Public Works should investigate the feasibility of a Septic Tank Outreach Program which would include funding for educational and training materials related to the operation and maintenance of septic systems.

CASE STUDY

FORECASTING FUTURE UTILITY DEMAND: THE WSACC GROWTH MODEL

The Water & Sewer Authority of Cabarrus County (WSACC) developed the FY 2012-2013 Master Plan (Master Plan) to guide future investment in regionally significant water and sewer infrastructure. Forecasted water and sewer demand for the WSACC service area was developed based on an analysis of existing conditions and the development of a growth forecasting model. The Master Plan used a custom parcel level, probability based model to forecast future utility demand. The WSACC Growth Model was developed with Geographic Information System (GIS) datasets and software (ArcGIS and CommunityViz). The Model created disaggregate dwelling unit and employment forecasts by determining the probable distribution of future housing units and employment locations based on currently adopted land use policy regulations and suitability of available land. Land use specific suitability analyses were conducted that included economic and environmental variables that contribute to the likelihood of development.

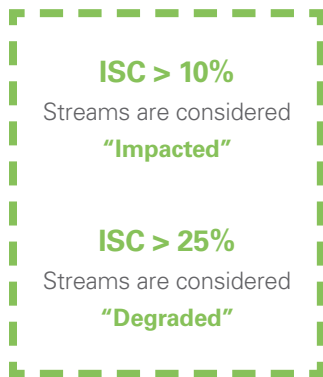
Prior to developing the Model it was essential to determine current usage trends. An existing land use inventory was created based on tax parcel use codes and other datasets (i.e. a protected land inventory). Over 50,000 water usage records were collected from the member jurisdictional retail operators. These records were standardized and geocoded (mapped) based on address. From these two datasets average usage rates were derived for generalized existing land use classes. This effort marked the first time a comprehensive accounting of water usage had been done. It was used to determine the adequacy of a long term water supply for the region and to validate existing usage trends.

The methodology employed to produce the WSACC Master Plan represents an innovative approach to utility demand forecasting that resulted in a more accurate estimate of water and wastewater demand than traditional methods. The benefit lies in the reliance on a detailed analysis of existing usage, land availability, land suitability and adopted land use policy. This type of approach could be utilized to inform the next water and sewer master plan update for Union County. A growth forecasting model was developed during the Union County Comprehensive Plan Update in order to test alternative growth scenarios. With slight modifications this model could be used to produce parcel level utility demand forecasts in order to better understand future growth and potential impacts on water supply and wastewater infrastructure.



conserve

FIGURE 12: KEY IMPERVIOUS SURFACE COVERAGE (ISC) THRESHOLDS FOR WATER QUALITY



The following set of recommendations support the conservation of natural resources and rural character of the County.

1.0 Protect and restore water quality.

1.1 The County should build on current efforts to address non-point source pollution and stormwater runoff by encouraging Low Impact Development Techniques (LID) in subwatersheds with endangered species (i.e. Six-mile Creek, Goose Creek, Waxhaw Creek), subwatersheds with impaired waters due to stormwater runoff (Crooked Creek), and in water supply watersheds.

- Urban/suburban LID techniques should be used near Town Centers and Neighborhood and Community Centers and in the Mixed Residential Area (see Future Land Use Plan) and include clustering development, managing stormwater close to the source, disconnecting impervious surfaces, and including innovative stormwater design details in new development such as raingardens, infiltration trenches, pervious pavements and green roofs.
- Rural LID techniques should be used near Rural Centers and in the Single Family Residential and Agricultural Areas and include minimizing disturbed areas through the use of cluster/conservation developments and using bioretention swales and pervious pavements to encourage infiltration and groundwater recharge.

1.2 Monitor impervious surface coverage (ISC) by subwatershed and determine steps (policy changes and incentives) necessary to keep ISC below key thresholds.

1.3 Work with land owners to identify opportunities to protect and improve riparian habitat and wetlands in headwaters of streams that are impaired due to stormwater runoff and sedimentation from construction activities (Crooked Creek, Goose Creek, and Twelve Mile Creek). Opportunities include preserving vegetated riparian buffers during development and restoring riparian vegetation along streams on cleared lands.

1.4 Initiate educational activities that increase awareness related to water quality issues in the county.

- Develop an incentive program for encouraging homeowners to install rain barrels and rain gardens throughout the county. (Coordinate with Extension Master Gardeners of Union County to expand on current efforts)
- Develop a stream monitoring program with citizens and high schools.

2.0 Protect critical open space

2.1 The County should coordinate with Catawba Lands Conservancy to identify priority open spaces and promote private land conservation through conservation easements and set asides with development.

2.3 The County should partner with local governments, non-profits and private entities to construct regional greenways. Priority should be given to lands that provide multiple benefits, for instance hardwood forests

adjacent to Twelve Mile Creek provide buffers that maintain water quality for rare mussels and fish and could be key linkages in the Carolina Thread Trail.

2.4 The County should conduct a study of strategic green infrastructure to identify key natural features including riparian habitat, viewsheds, areas of exceptional rural character, habitat hubs, and wildlife corridors. Particular attention should be given to areas on the urban/rural fringe that are likely to experience development pressure in the short (3-5 years) and medium term (5-10 years). The result of the study should build on the findings of the Natural Heritage Inventory¹² and result in a spatial dataset and/or guidance document that ranks habitats or natural features in terms of priority. The study should accomplish the following:

- Identify existing stands of mature forest that function as potential habitat hubs
- Identify key riparian habitat that should be protected in tandem with development
- Develop/refine strategies to preserve natural features in tandem with development and infrastructure expansion.
- Provide information that will assist in the refinement of the cluster development ordinance to ensure that high quality, connected open space is preserved.

2.5 The Planning Department should coordinate with Parks and Recreation departments and other public and non-profit entities to identify opportunities for land acquisition that preserves key open space and provides opportunities for passive recreation (i.e. nature preserves).

2.6 The County should consider developing a dedicated public funding source for protecting critical open space lands.

2.7 The County should protect open space that is part of and adjacent to natural heritage areas and natural communities of national and state significance.

2.8 The County should coordinate with NCDOT to document occurrences of rare species and high quality remnant habitats in rights of way. Develop GIS inventory for use in management activities.

2.9 The County should coordinate with NCDOT to develop rights of way management plans for locations with rare species and high quality remnant habitats. Conservation sites could provide mitigation opportunities. Candidate species include the Georgia Aster (a Federal Candidate Species, 17 of 55 current populations in NC are in Union County on roadsides) and the Schweinitz's sunflower (existing populations located on roadsides and at Cane Creek park).

CASE STUDY **MECKLENBURG COUNTY NATURE PRESERVES**

In addition to active recreational facilities the Mecklenburg County Parks and Recreation department has worked with local land trusts to acquire and manage 7,000 acres of nature preserves. The department is fulfilling goals from the Mecklenburg County Vision 2015 plan by protecting native plant and animal species and natural community types that are unique to the county. Active management and restoration activities have helped restore Piedmont Prairie ecosystems at a number of parks. Many of the preserves offer passive recreational opportunities such as hiking, biking and guided tours. For more information visit:

<http://charmeck.org/mecklenburg/county/ParkandRec/StewardshipServices/NaturalResources/Pages/default.aspx>



GEORGIA HOLLY

Three of only six populations of Georgia Holly in the state are located in Union County. Protecting key forested areas will be critical to the future health of this species.



PIEDMONT ASTER

Creeksides and rocky slopes are habitat for Piedmont Aster, a Federal Candidate Species.



CAROLINA HEELSPLITTER

Carolina Heelsplitter (Federally Endangered) and Carolina Creekshell (Federal Species of Concern) mussels are endangered due to water quality degradation from development.

2.10 The Planning Department and the Parks and Recreation Department should partner together to conduct a study of the Rocky River valley to identify tourism development opportunities and key natural areas that need to be preserved. The study should:

- Determine feasibility and preliminary location of canoe launches, hiking trails and other support facilities adjacent to the proposed Rocky River blueway and the Carolina Thread Trail.
- Identify infrastructure needs of and threats to agricultural operations in the area.
- Identify habitat critical to the health of resident populations of the Septima’s Clubtail dragonfly (Rocky River macrosite), a federal species of concern.

3.0 The County should promote context sensitive development in suburban and rural areas.

3.1 The County should encourage residential developments to be designed with respect to the natural and historic features (i.e. historic structures, vistas, topography, soils, forested areas, unique habitats, hedgerows, and meadows).

3.2 The County should work with NCDOT to preserve viewsheds along existing public roadways through planted buffers or maintaining existing tree cover along road frontage.

3.4 The County should incorporate available conservation data in the development review process as specified in the North Carolina Wildlife Green Growth Toolbox.

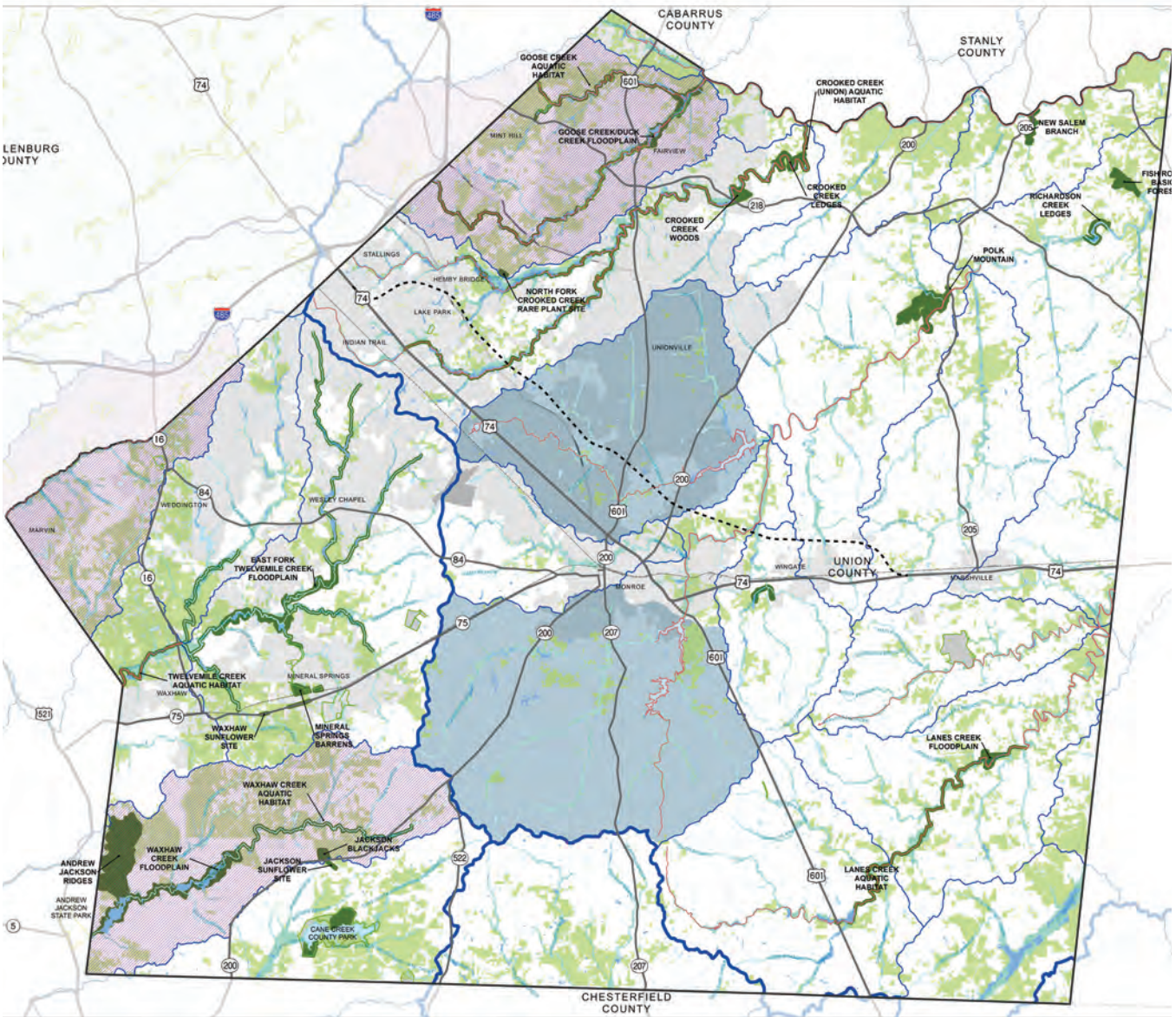
- Require the identification of unique natural features on preliminary development plans. These include rock outcrops, mature forests, wetlands, streams, non-regulated hydrologic features (i.e. ephemeral streams, seeps and vernal pools) on preliminary development plans.
- Encourage vegetative buffers near these features and a context sensitive site plan

3.5 Encourage the use of bridges and multi-cell or bottomless culverts to facilitate wildlife movement.

3.6 Discourage dense residential development in the vicinity of fire dependent habitats (i.e. Mineral Springs Barrens, Cane Creek Park, and Andrew Jackson Ridges) to allow prescribed burns to take place with minimal impacts to area residents.

4.0 The County should develop an awareness campaign to educate developers and homeowners of the additional stream buffer requirements in the 12-mile Creek Future Sewer Service Area that will be required as a caveat for increasing treatment capacity and service area expansion.

MAP 1: NATURAL RESOURCES IN UNION COUNTY













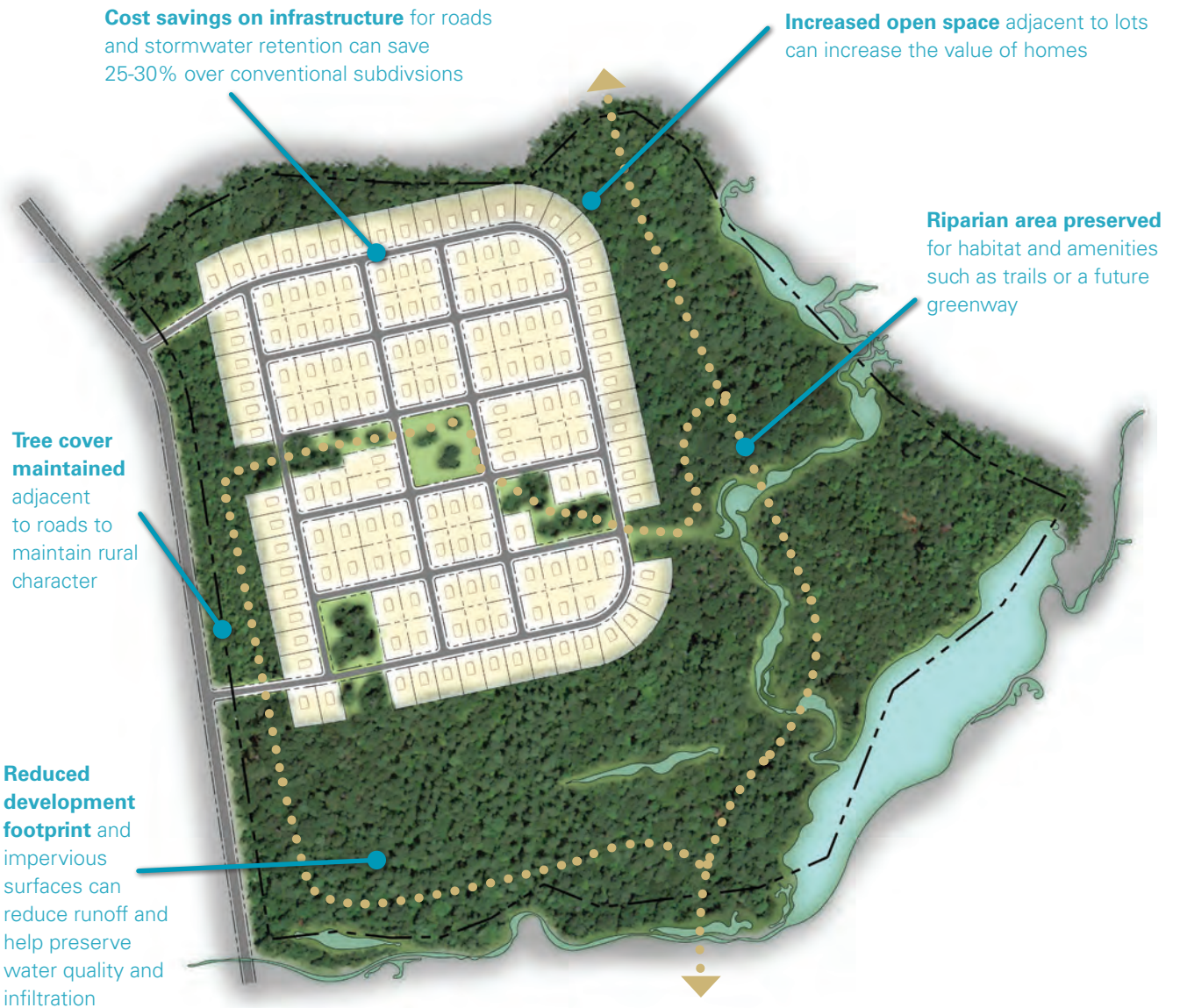
-  Study Area
-  Protected Lands
-  Significant Natural Heritage Areas
-  Priority Working Forests
-  Water Supply Watersheds
-  Flood Plain
-  River Basins
-  Subwatershed
-  Federally Listed Aquatic Species
-  Impaired Waters

FIGURE 13: CLUSTER SUBDIVISIONS



LOW IMPACT DEVELOPMENT PRACTICES such as cluster subdivisions can help maintain the rural character of Union County. They have the added benefit of reducing up front development costs and environmental impacts such as sedimentation and stormwater pollution.



health

The following set of recommendations support a healthy Union County.

1.0 Improve water quality.

1.1 Public Works, in partnership with the Health Department, should prioritize the provision of water service in areas of poor ground water quality (especially where elevated arsenic levels have been documented).

1.2 The Health Department should seek funding sources such as grants to provide filtration systems to low-income families in areas where elevated arsenic levels have been documented.

2.0 Address environmental and health issues associated with failing septic tanks.

2.1 The Health Department should develop a GIS inventory of septic tanks in the County.

2.2 The Health Department should develop a GIS inventory of failing septic tanks in the County.

2.3 Working with the Health Department, Public Works should prioritize the provision of sewer service to urbanized areas with failing septic tanks.

2.4 Together, the Health Department and Public Works should investigate the

feasibility of a Septic Tank Outreach Program which would include funding for educational and training materials related to the operation and maintenance of septic systems

3.0 Parks and Recreation should develop joint use agreements with schools in Union County to allow access to school recreation spaces and facilities to provide more opportunities for convenient, low-cost options for physical activity.

Refer to the Promoting Physical Activity through Joint Use Agreements Guide for North Carolina Schools and Communities for additional guidance and recommendations.

<http://www.nchealthyschools.org/docs/home/use-agreements.pdf>

4.0 Promote the development of on and off-road pedestrian and bicycle facilities as outlined in the *Multimodal Transportation Plan*.

5.0 Work with transportation providers to increase access to healthcare, especially in the rural areas of the County.



cooperate

The following set of recommendations support Intergovernmental Coordination.

1.0 Establish an Implementation Program.

- 1.1 The County should devise a program that oversees and tracks Comprehensive Plan implementation activities.
- 1.2 The program should involve a Comprehensive Plan Implementation Team of staff, key stakeholders and engaged citizens responsible for 1) coordination and prioritization of plan efforts, 2) identification of funding opportunities, and 3) project outreach, education and advocacy efforts. This team should meet regularly to monitor progress and reevaluate goals.

2.0 Conduct area planning as needed to facilitate the implementation of the Comprehensive Plan.

- 2.1 In keeping with the Comprehensive Plan, area plans that provide an opportunity to further study the implications of adopted policies should be initiated by the Planning Department. The Planning Department should identify and prioritize areas to be studied, which may include areas that are subject to change due to infrastructure investments (roads and utilities), particularly where such areas span two or more jurisdictions and achieving appropriate development requires the coordination of the affected jurisdictions. Potential area plans include:
 - Airport Small Area Plan
 - Sutton Park Area Plan

3.0 Review all pertinent land development regulations to determine how well they support the intent of the Future Land Use Plan.

- 3.1 The Planning Department should conduct a review of the draft Unified Development Ordinance (UDO) to identify and address any inconsistencies with the Future Land Use Plan.
- 3.2 The Official Zoning Map should be reviewed to identify and address any inconsistencies between the Future Land Use Plan and existing zoning districts.

4.0 To improve coordination and communication between the jurisdictions, the County should partner with municipal leaders to establish a consortium of appointed and elected officials to meet regularly and discuss county-wide issues and opportunities and develop common priorities related to shared interests and related initiatives.



COMPREHENSIVE PLAN
Appendix

Appendix A

PLAN REVIEW

These documents were reviewed as part of the project team's initial assessment of Union County.

DOCUMENT NAME	ADOPTION DATE
Western Union County Local Area Regional Transportation Plan	November 2009
Union County Multimodal Transportation Plan	February 2012
Union County Land Use Ordinance	May 7, 2001
Monroe-Union County EDC Work Plan	July 2013 - June 2015
Carolina Thread Trail Master Plan for Union County and Participating Municipalities	September 2011
2035 Long Range Transportation Plan	March 24, 2010
Union County - 2006 - Update Executive Summary Parks & Recreation Comprehensive Master Plan Update	December 2006
The Town of Wingate Land Use Ordinance	December 18, 2001 amendment June 17, 2008
Strategic Plan for Economic Development: Town of Marshville , Town of Wingate	October, 2008
Wingate, NC - Downtown Market Analysis & Strategic Development Plan	May 2013
Village of Wesley Chapel Land Use Plan	December 8, 2003
Town of Waxhaw Park, Recreation, and Cultural Resources Master Plan	August 28, 2012
Waxhaw North Carolina Comprehensive Pedestrian Plan	September 2012
Downtown Waxhaw Vision Plan	November 2, 2012
Town of Waxhaw Stormwater Design Manual Version 2.0	4/22/2009 April 22, 2009
Waxhaw North Carolina 2030 Comprehensive Plan	April 14, 2009 amended Sept. 8, 2009
Waxhaw North Carolina 2030 Comprehensive Plan	April 14, 2009 amended Sept. 8, 2009
Town of Waxhaw Policy for Street Improvements and Maintenance	Adopted May 9, 2006 amended through October 21, 2009
Waxhaw, North Carolina Unified Development Ordinance	Adopted Sept. 9, 2004 Amended May 28, 2013
US - 74 Corridor Revitalization Study: Existing Conditions Report	March 2012
Town of Unionville Land Use Plan	February 2006
Union County: Comprehensive water & wastewater master plan	December 2011
Union County, North Carolina Land Use Ordinance	May 7, 2001 codified through August 21, 2008
Union County: Development Ordinance Update - Concepts and Direction Report	December 2012
Union County 2025 Comprehensive Plan	October 18, 2010
Town of Mineral Springs: Zoning Ordinance	Effective July 1, 2002 - Amended through June 13, 2013
Town of Mineral Springs: Subdivision Ordinance	Effective July 1, 2002 - Amended through December 2007
Town of Stallings: Standard Design Manual	January 23, 2012
City of Monroe Downtown Master Plan	February 2008
South / Southwest Monroe Historic District: Design Guidelines	August 2000
The Village of Marvin North Carolina - Parks and Greenways Master Plan	February 2008
Village of Lake Park Unified Development Ordinance	July 2013
Walk it: Indian Trail Comprehensive Pedestrian Plan	January 27, 2009
The Village of Indian Trail - A plan for managed growth and livability	November 8, 2005
Indian Trail Park and Greenway Master Plan	February 2010
Indian Trail Bicycle Master Plan	June 14, 2011

Appendix B

STAKEHOLDER INTERVIEWEES

These stakeholders were interviewed during the planning process to gain a better understanding of issues and opportunities in the County.

GROUP	ATTENDING
Real Estate Professionals	John Loberg, Standard Pacific Homes
	Ron Rushing, Realtor and Builder
	Mike McGee, McGee Brothers
	Jess Perry, Commercial Broker
	Dennis Moser, Commercial Broker
	Clint Lawrence, Surveyor
	Carrol Rushing, Surveyor
Agriculture	Rusty Cox, Farmer
	Jim Howie, Farmer
	Allan Baucom, Farmer
	Everette Medlin, Farmer
	Travis Starnes, Farmer
	Greg Hargett, Farmer
Economic Development	Chris Plate, Monroe-Union County ED
	Pat Kahle, Union County COC
Transportation Planning Professionals	Adam McLamb, Indian Trail
	Bob Cook, MUMPO
	Dana Stoogenkie, RRRPO
	John Underwood, NCDOT
	Tim Gibbs, CDOT
Utilities	Russ Colbath, Monroe Water Resources
	Amy Deyton, UC Public Works
	Scott Honeycutt, UC Public Works
Planners	Jordan Cook, Weddington
	Lori Oakley, Waxhaw
	Lisa Thompson or Donna Cook, Marvin
	Lisa Stiwinter, Monroe
	Shelly DeHart, Indian Trail
	Lynne Hair, Stallings
	Richard Flowe, Marshville
Community Groups Community Health	Jackie Morgan, UC Health Dept.
	Dena Sabinske, Stallings Parks and Rec.
	Bill Whitley, UC Parks and Rec

Appendix C

STAKEHOLDER INTERVIEWEES

Appendix C contains Section 5 from the State of the County Report. The full Report is located on the Union County website.

 UNION COUNTY
STATE OF THE COUNTY

2014

Prepared by
LandDesign.

In Associate with
Stantec
Noell Consulting Group
CreatiVisibility

Acknowledgements

Thank you to all the organizations and individuals who committed their time, energy and resources to this effort. This plan would not have been possible without the support of many throughout the process.

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10303



1.0 INTRODUCTION

Overview

Union County is one of the fastest growing counties in the State of North Carolina. It also happens to be one of the most productive agricultural areas, ranking third in the state in agricultural cash receipts. From its western high growth suburbs to its eastern farms, Union County provides a unique blend of suburban and rural.

Over the past few years, Union County has strategically positioned itself as a destination for precision manufacturing operations centered at the airport. Growing this economy to provide for an increasingly diverse population will be critical to Union County's future.

From 2000 to 2010 Union County was the fastest growing county in North Carolina and one of the fastest in the country, increasing its population by 5.7 percent annually. A combination of a healthy regional economy, low taxes (particularly relative to Mecklenburg County) and high quality schools fueled this growth. Like many communities around the nation, Union County experienced a period of economic stagnation during the latter part of the decade. The Great Recession resulted in fewer people relocating to the area, job losses, limited access to capital and declining home values. While growth slowed over this period, Union County continued to attract residents to its western jurisdictions. Places like Wesley Chapel, Weddington and Indian Trail continued to prosper, albeit at moderated rates.

Today, Union County anticipates continued growth as one of North Carolina's fastest developing counties. From 2010 to 2040, the project team estimates Union County will add approximately

190,000 people (65,600 households), equating to an annual growth rate of around 3.2 percent. This rate is well below the 5.7 percent rate of the booming 2000s, yet above the 1.9 percent recessionary growth rate the county experienced over the last few years.

Supporting much of this growth over the next 20 years are major service and infrastructure projects including the Monroe Bypass and the recently-signed water agreement with the Town of Norwood. In addition, efforts of Monroe-Union Economic Development aim to attract more industry to Union County in order to create jobs for current and future residents and help balance the County's tax base. Business recruitment and retention strategies are focused on four major industries: precision manufacturing in support of industry growth at the Monroe Charlotte Executive Airport, agri-business operations building on Union's strong agriculture economy, logistics and commercial operations.

Recognizing the need to proactively address growth and development patterns and support economic development efforts, County leaders decided to revisit the 2025 Comprehensive Plan and update the Plan accordingly.

INTRODUCTION

About the Plan

Purpose

This planning process addresses the issues and opportunities generated by Union County's growth and provides proactive suggestions to ensure that Union remains a great place to live, work and visit. The primary objectives of this effort are to:

(1) recognize existing economic development and land use conditions and adjust future land use policies as appropriate, and (2) provide an updated future land use vision as input into the development of the County-wide Transportation Plan.

This Plan is intended to provide guidance to County leaders regarding future land use and infrastructure decisions to support desired development and redevelopment in the County.

Orderly growth and development in Union County is more easily achieved when any decisions affecting the County are informed by a shared vision based on commonly held goals. Therefore, this Plan is also designed to convey the shared vision that residents and other stakeholders throughout the county share for the future of the County, and to act as a platform to communicate that vision to various decision-makers within and outside of the County. For this reason, the planning process is structured to involve the municipalities and interested County organizations in the update.

This Plan is intended to provide guidance to County leaders regarding future land use and infrastructure decisions to support desired development and redevelopment in the County.

Relationship to Other Plans

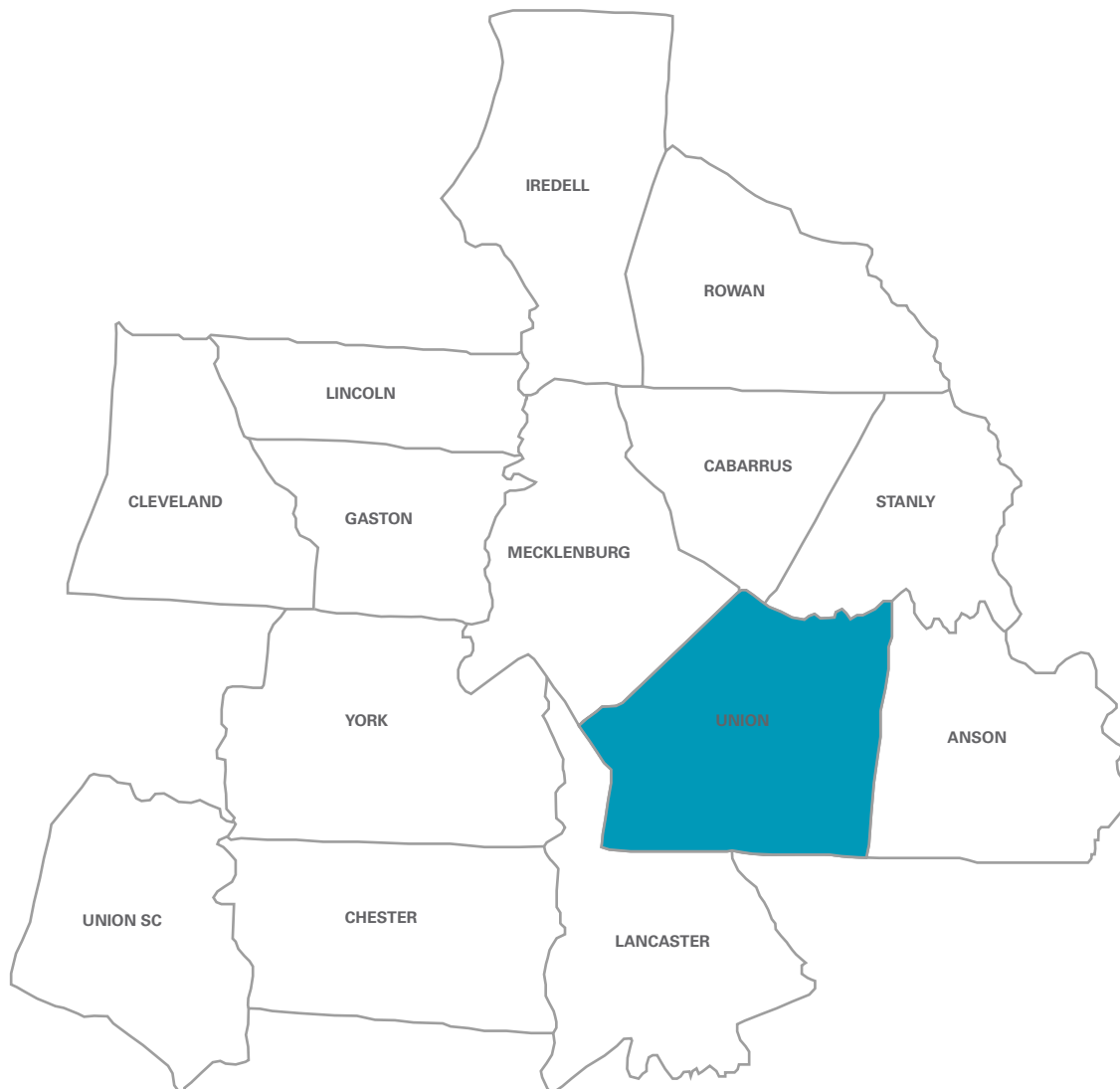
In addition to the 2025 Comprehensive Plan, several plans have been adopted in Union County over the last decade. Some contain a land use vision and policies for small areas and corridors where development pressure is expected to increase. Others focus entirely on a specific aspect of growth, such as water and wastewater service improvements needed to meet future demand. To varying degrees, all such Plans are relevant to this update, but cobbled together they do not serve as a comprehensive plan for the County and its municipalities. Nevertheless, an examination of the Plans collectively helps to identify conflicts between them and, more importantly, to reveal issues and opportunities that should be considered in the course of preparing a Comprehensive Plan. Therefore, this Plan update builds on a combination of these recent planning efforts, eliciting recommendations that are supportive of the community's current vision for the future. A summary of existing plans is located in Appendix A of this document.

Study Area

Union County is located in the Southern Piedmont region of North Carolina. While the Union County government is responsible only for the unincorporated areas of the County, environmental and infrastructure systems, such as creeks, rivers and roadways cross jurisdictional lines. Therefore, the study area also includes the 14 municipalities within the County. As shown in Map 1, Union is one of 11 North Carolina counties that comprise a 14-county bi-state region. Because it borders Mecklenburg County, it is also economi-

cally tied to the region. Union County lies within Charlotte's metropolitan area and the western portion is within commuting distance to the central business district of Uptown Charlotte. So, while the study area does not extend beyond the County boundaries, the context must be considered to better understand the opportunities associated with—and the impacts of infrastructure investments made in support of—regional economic growth.

MAP 1: STUDY AREA



INTRODUCTION

Planning Process

In 2013, Union County contracted with LandDesign to develop a plan that provides a framework to guide growth and development decisions in the County. The 12-month process involved a wide variety of stakeholders including representatives from jurisdictions, state agencies, local businesses and civic groups to establish a clear direction forward for the County.

Recognizing the many assets of Union County, the plan focused on improvements that would increase business opportunities, attract more private investment in residential and nonresidential development, provide transportation and housing choices and enhance the public realm. The resulting plan includes recommendations for land use, economic development, infrastructure investments, housing and quality of life investments.

Phases of Work

The process to update the 2025 Comprehensive Plan was divided into five phases. The first phase focused on project initiation tasks, such as data collection, a review of existing plans and studies and a study area tour. During Phase Two, the project team created an inventory of existing conditions in the County as a step toward an assessment of the County and the identification of issues and opportunities to be considered in subsequent phases.

Phase Three led to the development of future land use scenarios designed to test the likelihood of achieving stated goals given a range of potential policy directions. Based on the results of the previous phases, a set of recommendations and implementation strategies that support the community's vision of the future were developed during Phase Four. The final phase of the process merged all Plan components into a single, comprehensive document. This report is the culmination of all five phases of work.

Planning Process

1 **PROJECT INITIATION**
Data Collection, Review of Existing Plans & Studies, Area Tour

2 **COUNTY ASSESSMENT**
Assessment of Current and Emerging Conditions, Identification of Issues & Opportunities

3 **PLAN DEVELOPMENT**
Evaluation of Current Policies and Testing of Alternatives to Define a New Direction to Better Achieve Stated Goals

4 **POLICY RECOMMENDATIONS & IMPLEMENTATION STRATEGIES**
Policies and Action Steps to Realize the Desired Future Land Use Pattern

5 **PLAN DOCUMENTATION**
Comprehensive Plan Documents

Public Involvement

Guiding development of the Plan was an inclusionary public engagement process. Understanding community values today ensures that this Plan, implemented in accordance with the recommendations, supports and advances those priorities over the long term.

Advisory Committee Meetings

The Advisory Committee, made up primarily of residents and property owners in the County guided this effort. Also included on the committee were representatives from farming, development and real estate communities along with representatives of the North Carolina Department of Transportation (NCDOT), Charlotte Regional Transportation Planning Organization (CRTPO) and the Charlotte Department of Transportation (CDOT). Regular meetings of this group were held throughout the process to set goals, provide feedback and advise the project team on Plan concepts and recommendations. A list of the Advisory Committee members is listed in the Acknowledgements section of this document.

Stakeholder Interviews

Stakeholder interviews were conducted to verify and supplement the data gathered, to explain the conditions observed and to further understand the issues and opportunities that affect the study area. The input from these interviews supplemented the feedback received directly from citizens and property owners participating in the process. The stakeholders included key personnel from County departments as well as representatives of interest groups who addressed questions about the following topics: economic development, transportation, neighborhoods, utilities and farming. A complete list of interviewees is provided in Appendix B.

Community Meetings

Community meetings were held throughout the planning process to provide an opportunity for stakeholders to come together and learn about the project and guide development

To supplement information gathered during community meetings, a project Web site (www.unioncountyyonevoice.com) was created.



A Project Symposium was held on November 7, 2013 to discuss some of the land use and transportation issues in the County.

of the vision for the future of Union County. During the first meeting, a Project Symposium, elected officials, property owners and residents met to learn about the project and refine the goals established by the Advisory Committee. Symposium participants also participated in a live polling exercise to set priorities and identify major issues and opportunities in Union County. The second community meeting was designed as an interactive work session to develop the Future Land Use component of the project and to identify and prioritize transportation improvements. During the third meeting, participants refined the future land

use vision and suggested ways in which the Plan can be effectively implemented over time.

Website

A website, www.unioncountyyonevoice.com, was developed to provide an online resource for community members. All materials that were presented at the community meetings were also translated into an online format so that community members could participate virtually in the planning process.

2.0 ABOUT THE STATE OF THE COUNTY REPORT

An understanding of the conditions of the County today is critical to the creation of a sound plan that will guide future land use and infrastructure decisions. The State of the County Report presents the results of a comprehensive assessment of the current and emerging conditions in the County to determine the relevance and effectiveness of previously defined goals, policies and strategies.

The assessment was conducted on a topic-by-topic of the following elements:

- Population: Trends & Growth
- Housing
- Economic & Market Conditions
- Land Use
- Transportation
- Water and Wastewater Infrastructure
- Public Services & Facilities
- Parks, Recreation, Greenways & Open Space
- Environmental & Natural Resources
- Historic & Cultural Resources

The report presents a summary of the issues and opportunities, followed by a discussion of the goals that were refined as part of this process and concludes with the topic-specific analysis.

The goal of this effort is to provide an assessment of Union County today and to identify potential issues that merit emphasis in our long-term analysis of the County and recommendations that should be pursued to maintain a strong level of growth and create a county that is sustainable in the long term.



Union County will continue to grow. Where will these people live, work and go to school? Can existing infrastructure support additional people, housing and vehicles? These are all important questions that will be considered over the course of this project.



3.0 SUMMARY OF ISSUES & OPPORTUNITIES

The following set of issues and opportunities were identified for Union County in the State of the County assessment that follows and clarified with the feedback received from the Advisory Committee and the public during the planning process.



According to the Department of Agriculture and Consumer Services, Union County ranks third in the state in overall cash receipts from agriculture. As the area continues to grow, careful consideration must be given to how to grow in a way that is compatible with existing and potential agribusiness operations.

SUMMARY OF ISSUES & OPPORTUNITIES

Opportunities

- More Housing Options:** The County has the opportunity to accommodate a more diverse group of residents, beyond the traditional families that characterize the makeup of the population today, by encouraging the development of a range of housing products including small lot single-family houses, townhomes and multi-family units. This includes housing opportunities that attract empty nesters (also referred to as “move-down buyers” because they tend to seek smaller, low-maintenance homes), singles and couples without children and younger generations whose lifestyles delay homeownership.
- Town Centers:** By encouraging the development of new mixed-use centers and fortifying existing town centers, the County can help facilitate the creation of viable business locations in walkable environments largely missing today. These places could be attractive not only as locations for retail and office uses, but for all types of residential products as well.
- Office Growth:** Jurisdictions within Union County, such as Weddington and Wesley Chapel, have large amounts of executive housing. Proximity to this type of housing is one driver of office development. By identifying market potential and employing targeted strategies, Union County has the opportunity to bolster the office market and encourage office development in the County.
- Retail Capture:** There is a diverse and wealthy consumer base in Union County. However, in spite of having higher than average income, retail sales per person are 25 percent lower than state average indicating that the majority of residents spend their retail dollars outside of the County. There is an opportunity to accommodate more retail development in the County and capture retail “leakage” to Mecklenburg County.
- Agriculture Economy:** Union County continues to be a leader in agriculture production in the state. There is an opportunity to increase cash receipts from agribusinesses by investing in value-added processing facilities in the County.
- Recreation Economy:** Union County has the opportunity to capitalize on a number of recreation-related economic development opportunities. The County’s rural landscapes offer low-traffic roadways with scenic vistas. These characteristics tend to attract long-distance, recreational cyclists. Additional facilities like the Jesse Helms Sports Complex could position Union as a destination for lucrative youth-sports tournaments. Opportunities for expanded equestrian activities also exist. A county-wide interconnected greenway and blueway system could attract outdoor enthusiasts to the County. A coordinated marketing strategy to promote the combination of recreational options could increase tourism and generate revenue for area businesses.



There is an opportunity to capture more retail dollars locally with the development of new commercial centers that meet consumer demand

Issues


- Lack of Employment Opportunities:** Union County is a bedroom community to Charlotte. Approximately 70 percent of residents work outside of the County. Since 2000, Union County has added 860 jobs annually on average, about 10% of total employment in the metropolitan area. Meanwhile it captures roughly 14 percent of all household growth. The result is a roughly .4 jobs/household ratio, one-third less than the .61 jobs/household ratio of the metro area. In addition, relative to the Charlotte metro area, a greater share of jobs in Union County are in local-serving, moderate-paying industries, such as construction, retail trade and public administration. Largely missing from the County are higher-paying, white collar jobs such as those in the Finance & Insurance and Professional & Technical Services. There are a lack of jobs overall in the County and a lack of higher-wage jobs demanded by Union County residents.
- Limited Regional Access:** Union County lacks direct access to an interstate, and the US and state highways need to be improved to provide adequate service. The lack of regional access, adequate alternative transportation routes and east-west connections severely impacts the marketability of the County to potential employers.
- Costly Congestion:** The County's limited road network offers few options for commuters, so available routes are congested in peak and non-peak hours. The major commuting route, US-74, is over capacity with more than 57,000 trips per day. Union County residents take, on average, five minutes longer to reach their place of work than other North Carolinians. In addition, almost half of people in Union are spending more than 30 percent of their income on transportation. Unchecked, such costs are likely to negatively affect the attractiveness of Union County as a choice residential location.
- Retail Abandonment:** Similar to the situation along the Mecklenburg portion of US-74, there is a threat of long-term retail abandonment once new retail centers are developed.



Traffic continues to be a major issue in Union County.

- Lack of Diverse Tax Base:** Approximately 94 percent of the land in the County's jurisdiction is devoted to agriculture and residential land uses. Residential growth continues to outpace commercial growth. Lack of market diversity could further strain County resources.
- Water Supply:** The County is dependent upon neighboring jurisdictions for water supply. As development continues, a reliable and secure water supply will be required to meet future water demands of the County.
- Auto-Dependent Development:** Historic and current development practices in Union County have resulted in separated land uses, strip commercial corridors and disconnected neighborhood and commercial centers. The result is a land use pattern that forces most trips to be taken by automobile, especially in areas where pedestrian and bike facilities are poorly connected or non-existent. As preferences shift toward more walkable and bikeable development patterns, the County could lose key demographics to adjacent counties.
- Inadequate Rural Infrastructure:** Union County's agriculture economy depends on the ability to move product from source to processing facility. Many of the rural roads and bridges require upgrading to be able to handle the increased truck traffic resulting from agricultural operations and to improve safety on rural roads.

See Section Five for additional details and source information.



Understanding the distinct goals of the County today ensures that this plan, implemented in accordance with the recommendations, supports and advances community priorities over the long term.

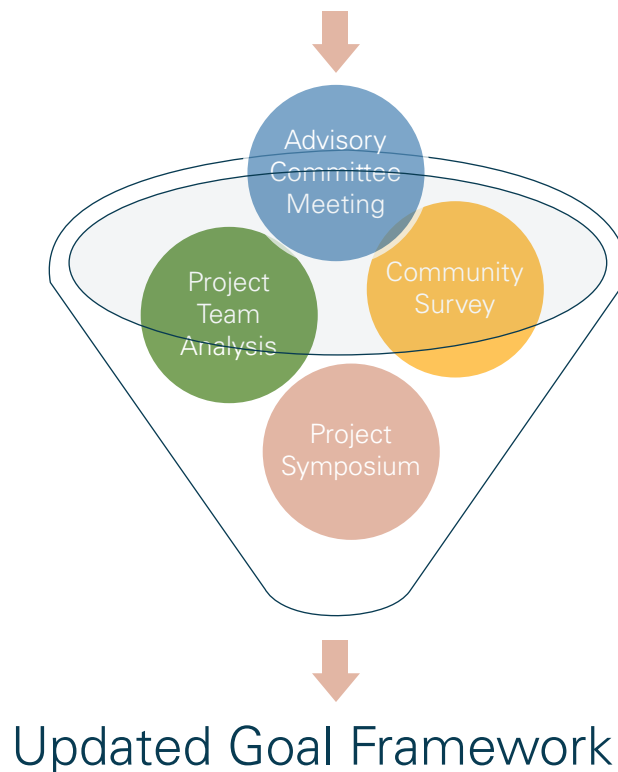
4.0 GOALS

Plan Goals

A successful plan depends on a framework developed around a set of sound, defensible goal statements. The goals identified in the 2025 Comprehensive Plan served as a starting point for this Plan update. The original goal statements, which are noted in the Appendix, were vetted by the Advisory Committee, members of the public and participants at the Project Symposium. The two surveys included in the Appendix of this report detail the original goal statements and the survey results. In addition, the goals were refined to reflect current issues and opportunities as identified by the project team through a review of existing plans and a topic-specific analysis.

PROCESS TO UPDATE GOAL FRAMEWORK

Original Goal Framework from 2025 Plan



Updated Goal Framework

The updated goal framework provides the guideposts to inform the development of the plan. These refined goal statements will be used to inform the development of the land use scenarios and supporting metrics later in the process. In addition, the recommendations and implementation strategies will also be organized around this updated goal framework.



[move]

goals

- Improve Multimodal Options
- Support & Expand Bus Transit Service
- Identify Future Rail Service Corridor
- Coordinated Roadway Planning
- Support Appearance & Development Standards for Major Travel Corridors
- Land Use Planning for Monroe Connector



[flow]

goals

- Ensure Utility Capacity for Future Development
- Fiscally Efficient Public Water & Wastewater Service
- Reserve Capacity for Future Growth
- Seek Opportunities with Neighboring Jurisdictions to Expand Utility Systems



[work]

goals

- Identify New Sites for Employment Growth
- Coordinate Infrastructure
- Ensure Land Use Regulations Support Economic Development
- Promote New & Existing Businesses



[farm]

goals

- Support Agri-focused Infrastructure Investments
- Identify Sites for Future Agri-Business Growth
- Maintain Agriculture Production & Forestry
- Protect Rural Character & Scenic Views
- Foster Cooperative Relationships between Farmers & Residents
- Direct Development Away From Rural Areas



[live]

goals

- Provide a Range of Housing Choices
- Strengthen & Enhance Existing Neighborhoods
- Encourage Infill Development / Discourage Leapfrogging
- Support Appearance & Development Standards for Neighborhoods



[shop]

goals

- Encourage the Development of Retail, Restaurants and Services that meet Consumer Preferences
- Mitigate Abandonment of Existing Retail Strip Centers



[health]

goals

- Provide Convenient Recreational Opportunities Throughout the County
- Joint-Use of Schools and Recreation Facilities



[conserve]

goals

- Promote Protection of Open Spaces & Environmentally Sensitive Lands
- Protect Water & Air Resources
- Consider Impacts of New Development on Environmental Features and Endangered/Threatened Habitats



[cooperate]

goals

- Intergovernmental Coordination
- An Active and Involved Citizenry
- County & School District Coordination for Schools



WAXHAW



5.0 STATE OF THE COUNTY ASSESSMENT

Overview

An understanding of the conditions of the County today is critical to the creation of a sound plan that will guide future land use and infrastructure decisions. This section presents the results of a comprehensive assessment of the current and emerging conditions in the County to determine the relevance and effectiveness of previously defined goals, policies and strategies. The assessment was conducted on a topic-by-topic of the following elements:

- Population & Households
- Housing
- Development Activity
- Economy & Market Conditions
- Land Use
- Transportation
- Water and Wastewater Infrastructure
- Public Services & Facilities
- Parks, Recreation, Greenways & Open Space
- Environmental & Natural Resources
- Historic & Cultural Resources

STATE OF THE COUNTY ASSESSMENT

Population & Households

Prior to analyzing Union County population growth and impacts, it is important to understand some larger macro economic and demographic trends in the US and the larger Charlotte region.

The following trends will continue to influence the characteristics of growth in Union County over the planning horizon:

- Convenience is becoming a major factor for all generations, including Gen Y (those born after 1978), Gen X (1964 - 1978) and Baby Boomers (1945 - 1964);
- Included in this is the desire to live in locations with shortened work commutes, avoiding heavy traffic and long drives to complete activities;
- This also encompasses issues relative to walkability of areas to dining, shopping, the park, work, etc.
- Gen X and Gen Y in particular value walkable places and convenience and are the primary generations fueling the renaissance of inner cities throughout the US (including Charlotte) as well as town centers in more suburban locations;
- This includes both new town centers (such as Birkdale Place, Baxter, and Phillips Place) as well as older, authentic town centers such as Davidson;
- Baby Boomers are aging and beginning to live for themselves, focusing in on areas that offer a stronger sense of lifestyle for themselves and not just for their children, which have been the driving factors for their residential decision-making for the last 20 years.

Population - Growth

From 2000 to 2010, Union County was the fastest growing county in the Charlotte area in terms of population growth, growing at a 5.7% annual pace, well eclipsing York (3.5%), Cabarrus (3.4%) and Mecklenburg (3.3%) growth rates. In terms of total numbers Union only trails Mecklenburg in

absolute population growth, adding roughly 80,000 people in the last decade. By 2010 Union's population had increased to more than 200,000 people with its household growth rising to nearly 68,000, more than double its 1990 totals.

Households - Age

As detailed in Figure 1, Union County's current household composition is more mature county than the Charlotte Metro area overall—not surprising given its higher level of affluence—and somewhat lacking in its attraction to younger households. This is in part due to the low-density suburban lifestyle offered in the County today and changing preferences among younger Generation Y (those born after 1978), who increasingly prefer more walkable, mixed-use environments.

In looking further at household growth by age, Union's lack of appeal to Generation Y—a generation that is equal in size to the Baby Boomers—could have an increasingly significant impact on real estate decisions and growth in County in the coming decades. As shown in Figure 2, growth among these younger households accounts for 0% of Union's overall growth while accounting for 8% of the Metro Area's growth.

It also bears noting that two-thirds of all household growth in the County has occurred among married couples with and without children, a group that accounts for only 29% of growth in the region, while singles, the largest growth segment in the region and the US (accounting for 38% of all household growth in the larger Charlotte metro) are far less prevalent in Union, accounting for only 15% of all growth.

These missing groups—Generation Y households and singles—becomes significant given their share of the market and growth in the coming years. Both tend to be attracted to more dynamic, mixed-use environments and both have

higher propensities to either buy or rent attached or small-lot for-sale product. As will be discussed later in this report, Union has largely lacked these products historically and

should consider opportunities to add them in a setting that maximizes their attraction to these growing audiences.

FIGURE 1: 2010 HOUSEHOLDS BY AGE, UNION COUNTY & CHARLOTTE METRO

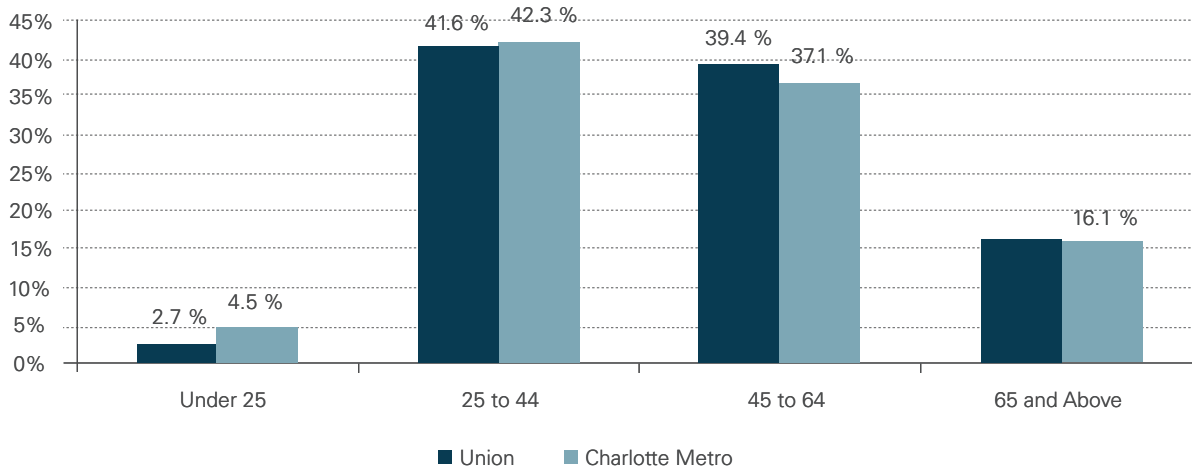
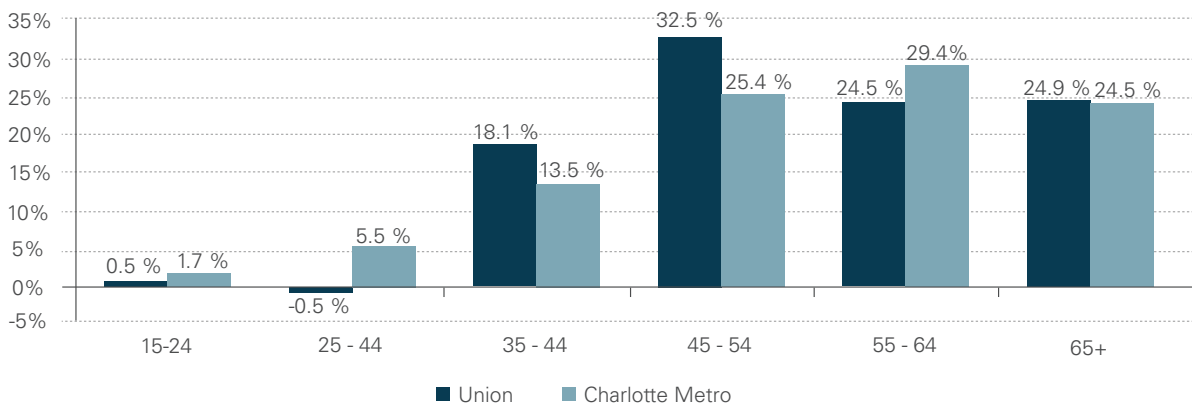


FIGURE 2: HOUSEHOLDS GROWTH BY AGE, 2000-2013



STATE OF THE COUNTY ASSESSMENT

Population & Households

Households - Race

As noted in Figure 3, Union County today has more white residents than the Charlotte Metro Area overall, with more than 84% of all households identifying as white (vs. 70% at the Metropolitan Statistical Area level). Conversely, Union has a much smaller African-American presence, with only 11.5% of households being of this race vs. 23.6% at the MSA level.

Finally, Union County has a slightly higher share of Latino households, with roughly 7.1% of all households in the County being Latino, slightly above the Metro average of 6.7%. This may be in part due to the significant agriculture base present in the County today.

Households - Income

As illustrated in Figure 4, median household income growth has also been steady during the period, rising from less than \$31,000 in 1990 to more than \$63,300 in 2010, an annual growth rate of 5.2% over the 20 year period; this is a very healthy rate of growth and evidence of an increasingly affluent county.

Related to this, more than 42% of Union County's households have incomes above \$75,000, reflecting its significant affluence. As detailed in Figure 5, Union has more affluent households when compared to the larger Charlotte Metro Area, where 34.8% of all households have incomes above \$75,000. Conversely, Union today has fewer lower-income households with roughly one-fourth of all households having incomes below \$35,000. This figure is compared to nearly one-third at the Metro level.

This relative wealth can also be seen in Union's lower poverty rates, with only 8.7% of people in the County being below the poverty line, quite low compared to the overall 13.3% average in the Metro Area and 16.6% rate in Mecklenburg County.

FIGURE 3: 2010 HOUSEHOLDS BY RACE

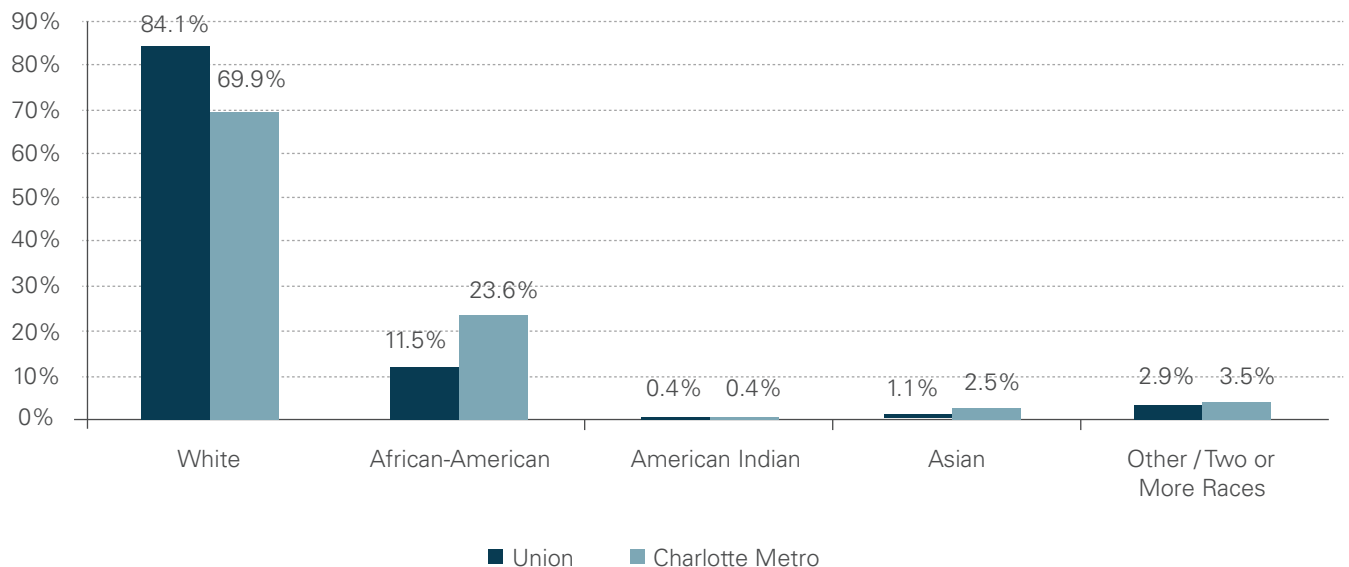


FIGURE 4: HOUSEHOLD, POPULATION, AND MEDIAN INCOME GROWTH OF UNION COUNTY 1990-2010

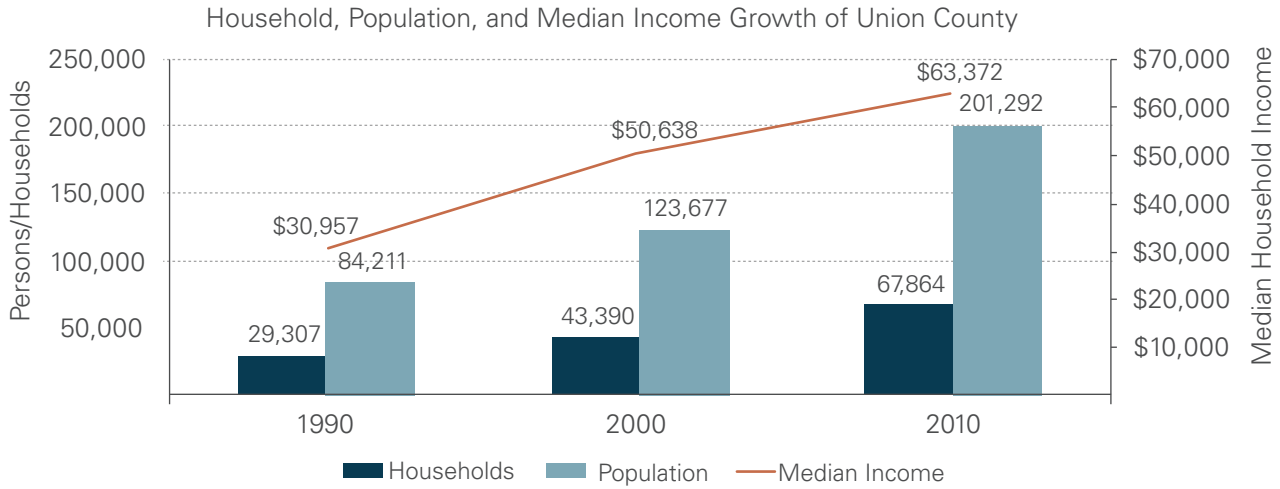
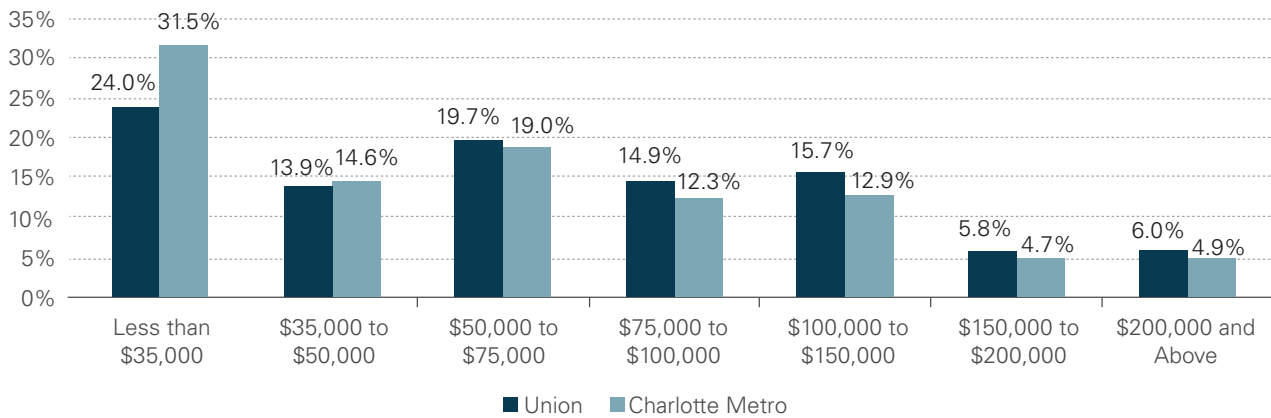


FIGURE 5: 2010 HOUSEHOLDS BY INCOME



STATE OF THE COUNTY ASSESSMENT

Housing

Union County’s housing market is overwhelmingly comprised of large-

lot single-family, for-sale residential homes, much more so than the Charlotte metro area. Roughly 83% of Union County’s 66,700 households are owner-occupied, well above the 67% ownership rates seen at the larger Metro area. This trend is not too surprising because renters tend to accept more convenience-driven locations compared to many owners, who are often driven by factors such as schools, and are more apt to “drive for value,” accepting homes in suburban counties such as Union, Cabarrus, and York Counties.

Housing Units - Type

As noted in Figure 6, single-family units make up 85% of Union County’s entire housing stock. The second single largest category is mobile homes. Townhouses, duplexes and apartments combined make up 8% of all housing units.

Since Union County has only emerged as a bedroom community within the last 20 years, the large majority of its housing stock was built after 1990, with more than one-third of that built since 2000.

Housing Units - Sales

As illustrated in Figure 7, Union County has seen a significant moderation in housing activity from the last decade in which single-family new home sales rose to as high as 3,400 units in 2006 and fell to as low as 624 sales in 2010. Home sales rebounded in 2013 and are expected to continue gaining momentum. Detailed in Figure 8, Price appreciation has been solid in Union County since 2000, with new home sales increasing by 53% over the 12 year period, in spite of a drop of nearly 30% in value from the market peak in 2007.

FIGURE 6: HOUSEHOLDS GROWTH BY TYPE, 2000-2013

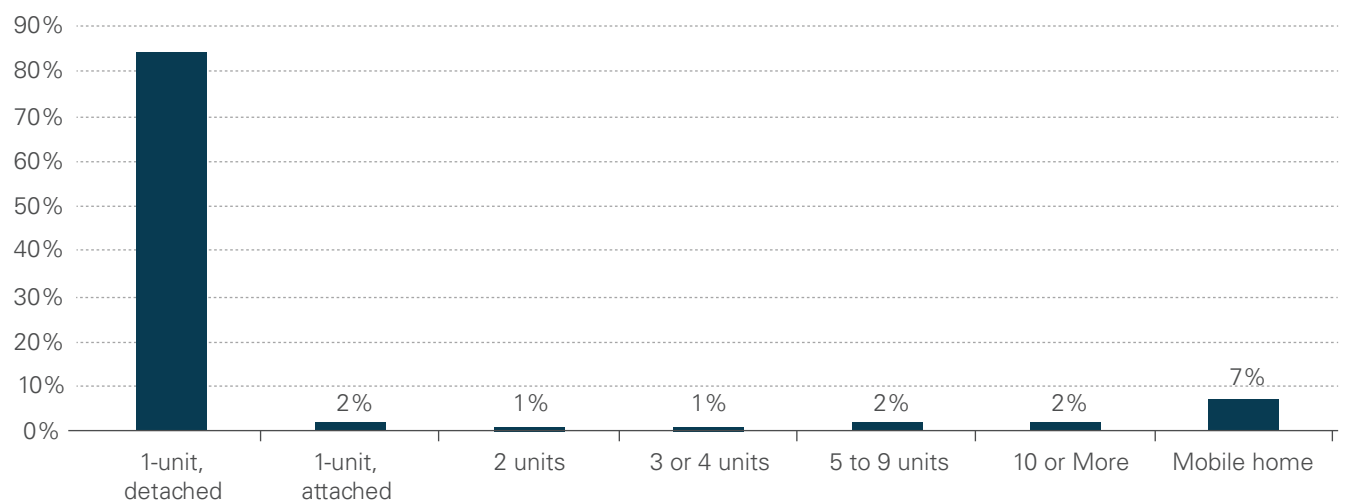


FIGURE 7: SINGLE FAMILY HOME SALES 2000 - 2013

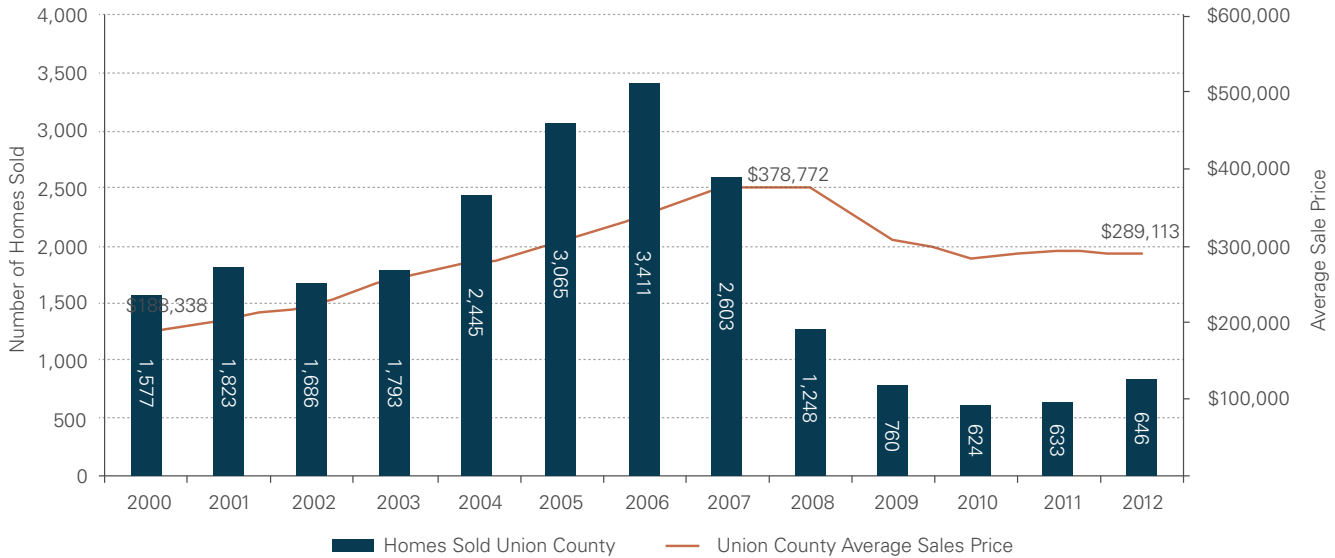
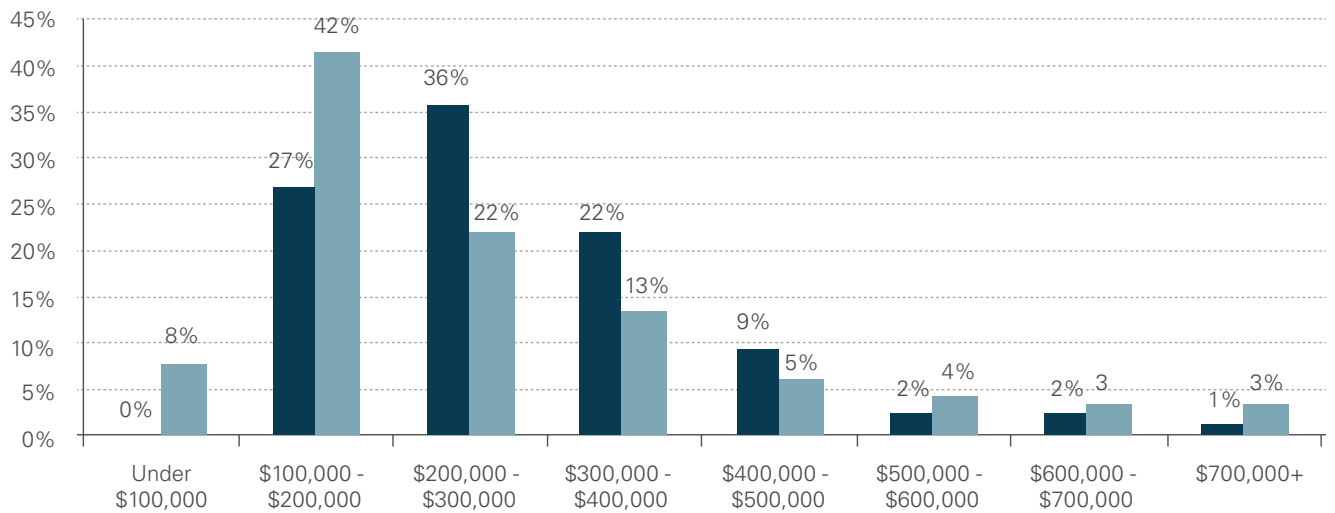


FIGURE 8: HOME SALE PRICE UNION COUNTY



In spite of the 30% drop in home prices, foreclosures in Union County have not been significant. Most recent foreclosure data from RealtyTrac indicates that Union’s foreclosure rate is only .02%, well below North Carolina’s .10% and Mecklenburg’s .16% and another indicator that home prices should continue rising in the near-term.

As shown in Figure 8, 73% of Union County’s new single-family home sales are occurring above \$200,000 as of 2012, a very different scenario than resales, of which only 50% are

occurring above that same price point. Clearly the County is becoming less affordable over time, creating both a need and opportunity for price alternative products.

Indeed, one can see the differences in value propositions for ownership housing in the County relative to rental housing. As noted in Figure 9, roughly 80% of all owners in the County are paying more than \$1,000 per month in mortgage and housing costs while barely more than 10% of renters are paying this same amount. Owners value the

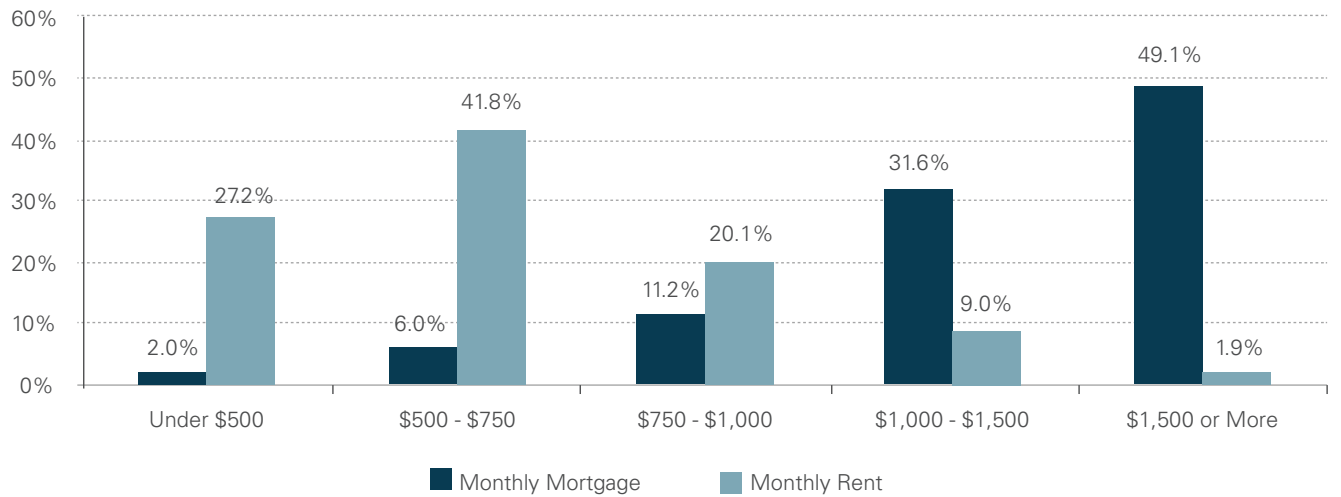
STATE OF THE COUNTY ASSESSMENT

Housing

high quality of schools and family environment while many renters are either seeking lower cost housing opportunities outside of Mecklenburg or are left with a lack of modern options available and thus opt to reverse-commute from Mecklenburg.

Demand potential for new rental product in the County seems greater than that experienced to date, verifiable when compared to other counties such as York and Cabarrus. Indeed recent construction activity in areas such as Stallings is beginning to reflect this demand potential.

FIGURE 9: DISTRIBUTION OF OWNER AND RENTER HOUSING COSTS IN UNION COUNTY



Indicators of Housing Opportunity

There is a growing demand for more walkable, interactive “places” in the market and households are willing to pay to live close to those places. Noell Consulting Group (NCG) has conducted a number of consumer research efforts in the Southeast to understand living decisions and preferences among households at different ages, compositions, and incomes. The following two graphs summarizes stated preferences from a recent NCG survey in Raleigh-Durham with nearly 1,000 Research Triangle Park employees; white collar employees consistent in many ways with middle-income and affluent households moving into Union County.

Nearly 75% of surveyed households indicated they would be willing to make trade-offs to live in areas walkable to stores and restaurants with more than half seeking a home walkable to work, even if it meant giving up square feet in the home. Similarly more than half would give up yard space to be walkable to a park.

Based on this evidence, Union should think about what places in the County offer such an environment, and how these environments can be created to maintain and enhance market interest in living in the County.

NCG also asked about interest in living in different types of housing, including more conventional single-family homes and alternative products. As shown in Figure 11 conventional single-family homes continue to garner the most interest of all products, but detached homes on a smaller lot and patio homes—products potentially more attractive to singles and couples without children, as well as empty nesters and aging households—are also products that half or more of households would somewhat or seriously consider. When combined with Figure 10—those willing to make trade-offs for the right location—opportunities for different products and environments in Union County become more clear. Finally, it is worth noting that more than 37% have an interest in living in townhouse units, a product largely missing from Union County.

Creating environments to accommodate increased demand, including those that appeal to younger singles and couples as well as maturing households increasingly driven by lifestyle, will be important to Union County’s continuing residential growth long-term and should be understood more thoroughly. Union’s significant amount of executive housing growth makes possible the creation of these areas and furthers opportunities for alternative products as such products not only appeal to people for lifestyle opportunities, but for price-alternative options to single-family homes as well.

FIGURE 10: NEIGHBORHOOD PREFERENCE TRADE-OFFS

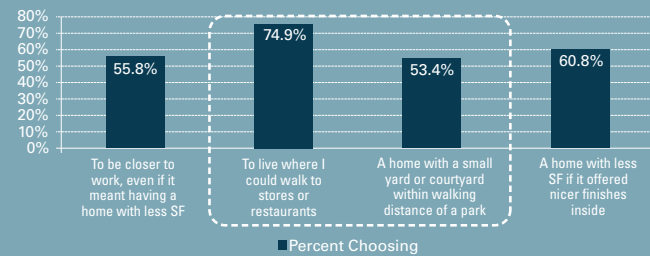
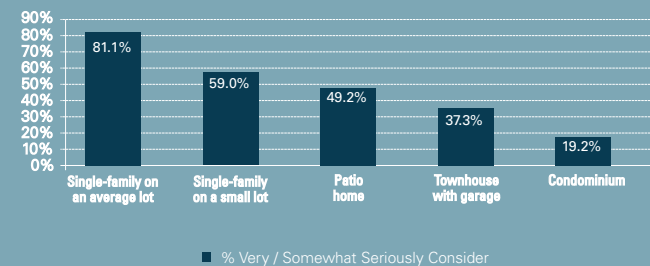


FIGURE 11: HOUSING UNIT PREFERENCE TRADE-OFFS



STATE OF THE COUNTY ASSESSMENT

Development Activity

Union County has grown dramatically

over the past couple of decades. As detailed in Table 1, nearly 60 percent of all growth in the County occurred after 1990. Even during the Great Recession, Union County continued to grow albeit at slower rates. As illustrated in Map 5, the majority of recent growth continues to be residential growth along the Mecklenburg County border and near established towns such as Waxhaw, Weddington, Indian Trail and Stallings.

Residential development did slow during the Great Recession but has recovered. Commercial development has been slower to recover. Table 2 and 3 detail residential and commercial development activity in Union County since 2008.

TABLE 1: HISTORIC YEAR BUILT DATA

Timeframe	% of Total
1901 - 1990	41 %
1991-1995	10%
1996-2000	14%
2001-2005	20%
2006-2012	15%

SOURCE: Union County Tax Parcel Records

TABLE 2: RESIDENTIAL DEVELOPMENT ACTIVITY FROM 2008-2013

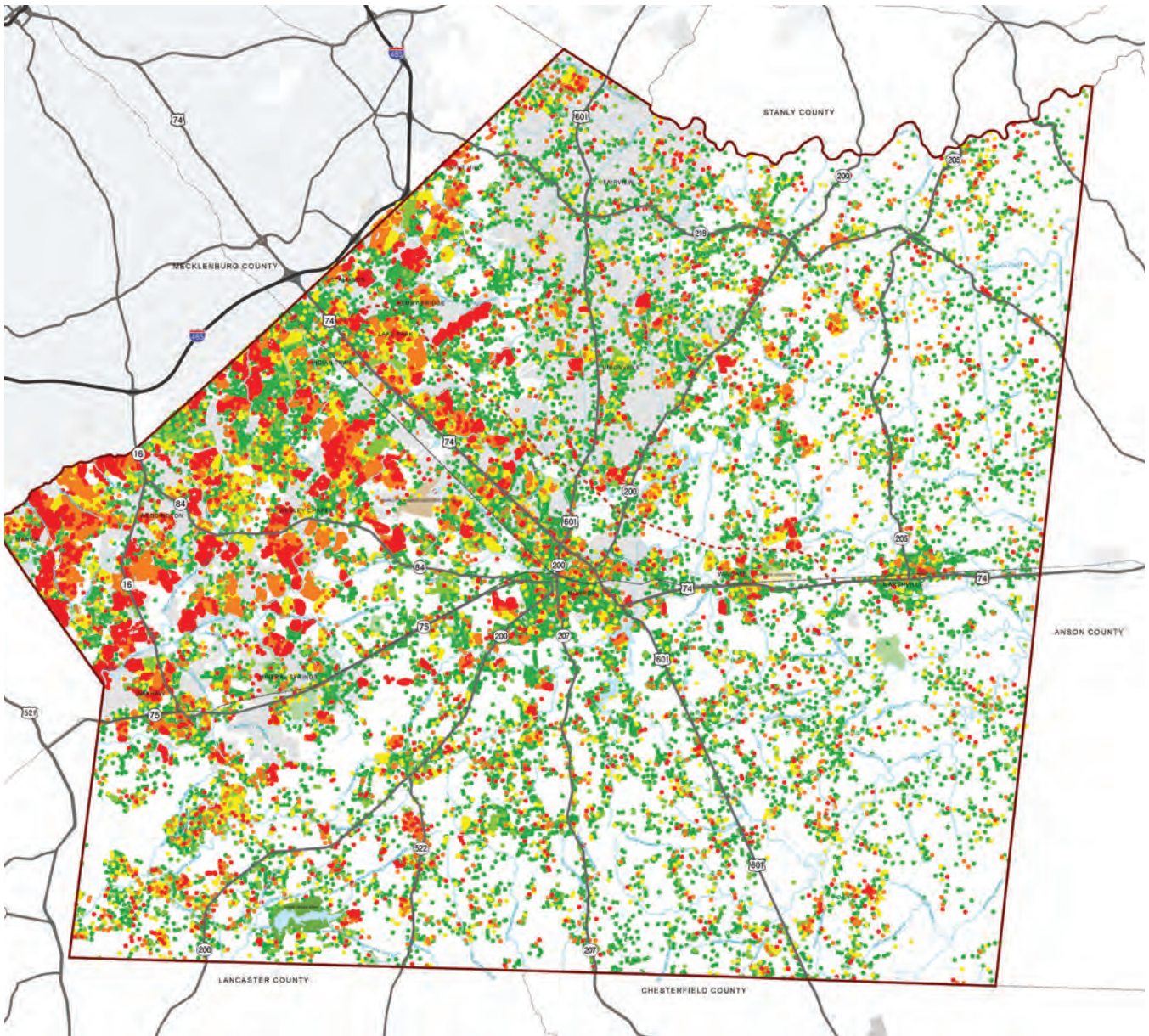
Building Permit Year	Permit Type	# of permits	Sq. Footage	Construction Value (\$)
2008	Residential	1,652	3,745,428	201,887,244
2009	Residential	1,235	2,168,881	102,941,211
2010	Residential	1,167	1,947,211	92,215,464
2011	Residential	1,254	2,457,200	112,247,654
2012	Residential	1,509	3,385,422	153,497,600
2013	Residential	1,951	3,173,755	143,438,571.3
Total Renovations		8,768	16,877,897	806,227,744.3

TABLE 3: COMMERCIAL DEVELOPMENT ACTIVITY FROM 2008 TO 2013

Building Permit Year	Permit Type	# of permits	Sq. Footage	Construction Value (\$)
2008	Commercial	254	1,568,048	91,343,924
2009	Commercial	137	457,201	42,775,089
2010	Commercial	118	443,079	42,820,174
2011	Commercial	122	506,528	39,754,160
2012	Commercial	127	844,601	23,748,622
2013	Commercial	140	408,599	23,366,242
Total		898	4,228,056	263,808,211

SOURCE: Union County Building Permit Statistics

MAP 2: YEAR BUILT



FEATURES

- Major Roads
- +— Railroads
- - - Monroe Bypass
- ▭ Study Area
- Rivers
- Lakes
- Protected Lands
- Cane Creek Park
- Wingate University
- Charlotte-Monroe Airport

YEAR BUILT

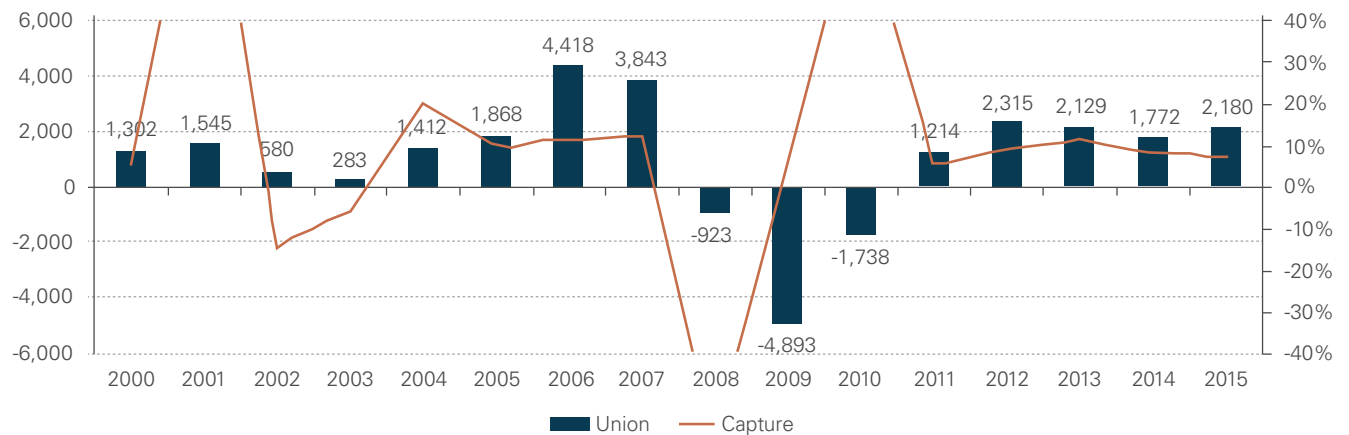
- 1901 - 1990
- 1991 - 1995
- 1996 - 2000
- 2001 - 2005
- 2006 - 2012

STATE OF THE COUNTY ASSESSMENT

Economy & Market Conditions

While population and household growth have been strong, job growth has lagged, with the County capturing only 10% of the region’s job growth, compared to its 14% capture of residential growth. This equates to a jobs to housing growth ratio of .4, well below the .61 jobs/household average seen at the Metro level. Job growth in Union has averaged around 860 net new jobs annually since 2000, with the recession taking a significant toll on the County, particularly among construction jobs, one of the County’s strongest growth industries.

FIGURE 12: EMPLOYMENT GROWTH & CAPTURE OF THE MSA



When examining the County’s economic base, it becomes clear that not only are the absolute numbers of job growth not keeping up with the regional average and the housing development in the County, but the quality of jobs is not consistent with those in the region. As shown in Table 4, Union County’s economic base can be found in those industries shaded in blue—industries in which a greater share of Union’s total employment can be found relative to that of the Charlotte Metro Area (any ratio at right above a 1.0 indicates a greater concentration of jobs in Union relative to the Charlotte area).

Of the net 11,300 jobs added in Union County between 2000 and 2010, roughly 97 percent occurred in industries serving the local population, such as local government, health care, retail trade, personal services and food services. Meanwhile,

other industry types accounting for the remaining growth in the County, such as professional services and finance, include both a local-serving and potentially regional-serving component.

This trend of population-driven employment growth will continue to account for the majority of growth in Union County in the next three decades, with growth in other sectors, such as manufacturing, account for a slightly larger share of overall growth in the coming years.

Much of Union County’s major employment concentrations can be found in the Independence Boulevard corridor, including Downtown Monroe. Map 2 (on page 27) provides an overview of Union County’s major employers (those employing more than 500 people in the County) and business/

TABLE 4: JOBS BY INDUSTRY SECTOR

Industry Sector	Union County	Charlotte Metro Area	Union County to Charlotte Metro
Agriculture, Forestry, Fishing and Hunting	777	2,455	5.0
Construction	4,872	35,927	2.1
Manufacturing	10,568	70,369	2.4
Wholesale Trade	2,982	51,792	0.9
Retail Trade	5,441	82,343	1.0
Transportation and Warehousing	1,286	29,904	0.7
Information	470	28,811	0.4
Finance and Insurance	898	60,424	0.2
Real Estate and Rental and Leasing	387	12,302	0.5
Professional, Scientific and Technical Services	1,488	52,937	0.4
Management of Companies and Enterprises	89	26,137	0.1
Administration and Support, Waste Management	2,810	62,464	.07
Educational Services	6,417	60,178	1.7
Health Care and Social Assistance	4,603	96,583	0.7
Arts, Entertainment and Recreation	531	14,876	0.6
Accommodation and Food Services	2,904	61,821	0.7
Other Services (excluding Public Administration)	1,469	18,931	1.2
Public Administration	1,966	23,794	1.3
Total	49,958	784,048	1.0

industrial parks. Major employers can largely be categorized into three major sectors:

- Local government;
- Industrial uses, including agricultural processing; and
- Retail uses.

As will be referenced several times in this report, US-74/ Independence Boulevard is the major spine of Union's economy yet suffers from significant traffic congestion. Union's lack of interstate access to the Charlotte region and beyond has indeed tempered its office and industrial attraction. The planned US-74/Monroe Bypass, however, creates the potential to open up new areas for business and industrial development and significantly enhance access to Charlotte and beyond.

Union is noted as being among the most significant agricultural counties in the state of North Carolina. The

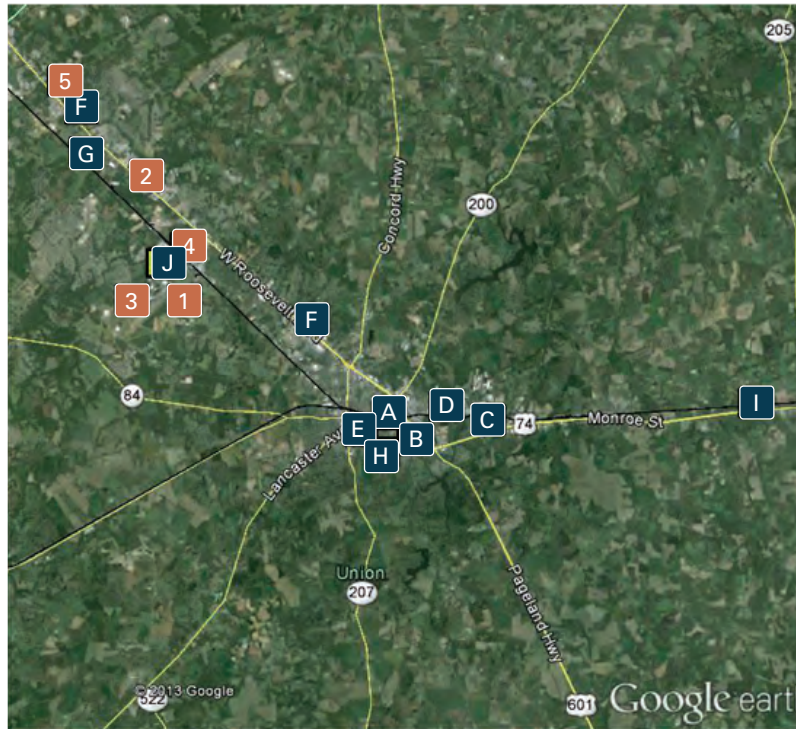
County boasts more than 178,000 acres of farmland, equating to 44% of the County's total acreage. Farms in the County average around 161 acres each and boasts an average value of nearly \$840,000 per farm. Union County farms are quite productive as well, with the County ranking third among the state's 100 counties in terms of total cash receipts (\$436 million in 2011). Other notable agriculture state ranks the County holds:

- 1st in soybean production;
- 2nd in corn for grain;
- 3rd in broiler production;
- 3rd in livestock, dairy and poultry receipts;
- 4th in turkeys raised;
- 10th in nursery, greenhouse and Christmas tree production; and
- 10th in heads of cattle.

STATE OF THE COUNTY ASSESSMENT

Economy & Market Conditions

MAP 3: MAJOR BUSINESS PARKS AND EMPLOYERS



MAJOR BUSINESS PARKS

- 1 AeroPointe Industrial Centre
- 2 Industrial Ventures I & II
- 3 Monroe Corporate Center
- 4 Old Hickory
- 5 Union West Business Park

MAJOR EMPLOYERS (500+ Employees)

- A Union County Schools (various locations)
- B Carolinas Medical Center
- C Tyson Farms
- D AT Allvac
- E Union County Government
- F Walmart
- G Harris Teeter, Inc.
- H City of Monroe
- I Pilgrims Pride
- J Charlotte Pipe & Foundry

Union’s agricultural industry is indeed thriving, but is coming in increasing conflict with residential growth, fueled in large part by the low density of residential growth occurring in the County. Farmers report significant increases in conflicts with neighbors and, more importantly, greater difficulty in maintaining or gaining land leases (most farms in the County are on leased land) as owners opt out to sell for new residential growth. Balancing the needs of residential growth and agricultural health and needs will be a key issue in the County in the coming decades. Farmers also report significant issues with bridges, lane widths and quality of farm-to-market roads, a lack of sufficient internet infrastructure, and a lack of processing plants/destinations for their goods within the County, fueling their transportation costs overall.

Largely missing from the County are higher-paying, white-collar jobs, such as finance and insurance (a driving growth industry in the region), real estate, professional services, and management of companies (executive-level positions). All of these industries are noticeably absent from Union

County and are office-using industries. Given portions of Union (Weddington and Waxhaw) are within Charlotte’s primary executive housing core (which drives office location decisions), yet aren’t capturing office growth.

Residents of Union County are increasingly seeking white collar jobs, such as opportunities in the financial services, real estate and insurance industries. The lack of these types of jobs creates a noticeable disparity between the ages and incomes of those living in working in the area, particularly in western Union County around Weddington and Waxhaw. Important statistics regarding this trend are as follows:

- 44% of employed residents work in a position that pays more than \$40,000 annually, while only 34% of those working in the County have positions that pay more than \$40,000 annually;
- Approximately 24% of those who live in the County have a Bachelor’s or post-graduate degree, while 19% of those working in the County have similar education levels.

As illustrated in Figure 13, Union County's employment market is recovering, with the area posting an 8.2% unemployment rate in 2012, below the Metro Area average of 9.3%. The entire Charlotte area is showing solid economic growth and should see unemployment rates declining further in the near future.

As noted in Figure 14, Union County's job growth has not compared with that of the region, averaging around .4 jobs

for every household gained since 2000. In the coming years this ratio will improve, with the County seeing a burst of job growth while maintaining solid job growth as household growth returns to the area. As the market settles down from the Great Recession Union will experience moderate improvement in the jobs to household ratio from .4 historically to around .5. This would result in job growth averaging around close 2,000 jobs and 2,800 households annually between 2011 and 2030.

FIGURE 13: UNION COUNTY HISTORIC UNEMPLOYMENT RATE

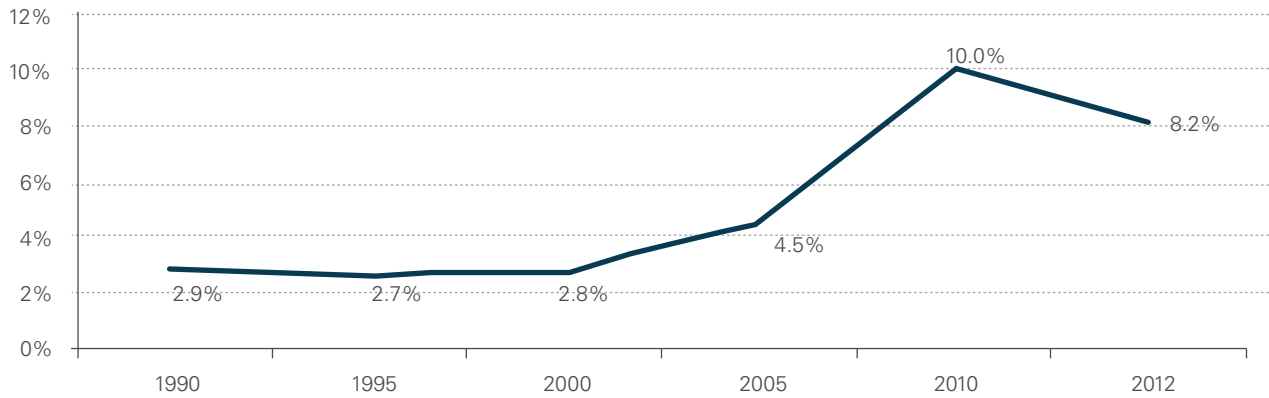
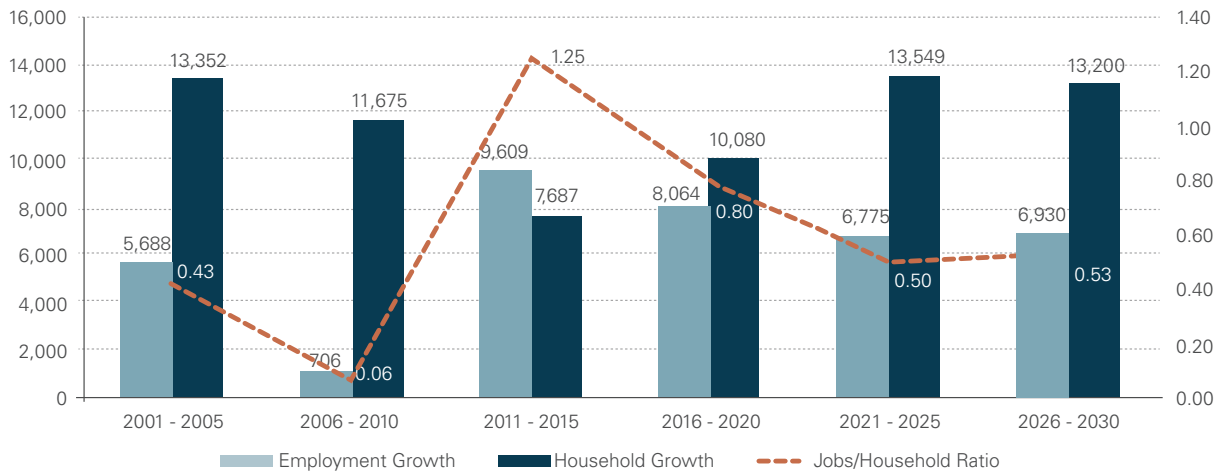


FIGURE 14: EMPLOYMENT AND HOUSEHOLD GROWTH WITH JOBS/HOUSEHOLD RATIO



STATE OF THE COUNTY ASSESSMENT

Economy & Market Conditions

Office Market

Union County is highly affluent, with the County's executive housing areas clearly seen in Map 3 (darker greens indicating high income areas, and yellows and reds indicating more moderate income and lower income markets). Also shown on this map are the key southside office cores, extending from Center City to Southpark, Ballantyne, and Whitehall. These cores are largely located along Charlotte's major freeway network, a network that, while coming close to Union County, does not extend into Union.

Important to note is the recent shift occurring in the office market to the west, with Whitehall (west of I-77) emerging as an alternative to Ballantyne, instead of office cores shifting east along I-485. This is due to a number of factors, including regional access (more limited in Union, particularly in executive housing areas), a lack of sites in strategic locations in southeast Charlotte/Mecklenburg and a more industrial/aging retail character along Independence Boulevard and other key thoroughfares in the area.

Indeed Union County's office market is largely local-serving, fueled by its housing growth and need for services such as homebuilders, Realtors, small law or accounting firms, and medical offices. As noted earlier in this report, location quotients (the measure of the share of employment in Union relative to the larger Charlotte area) for office-using sectors such as Finance & Insurance and Professional Services are very low in the County relative to the larger region, indicating a lack of employment in these sectors when compared to the region. Indeed, roughly 85% of all of Union County's office-using employers have fewer than 20 employees each, further indicating both a small office market, and one that is price-constrained or lease-sensitive as well. Initial NCG research into the Union office market indicates a market that is quite soft today, with high vacancy rates and low lease rates.

Addressing these issues and/or creating "locations" attractive to office developers and users, could help to create more opportunities for office uses and attract these types of jobs lacking in the County today.

Industrial Market

Union's industrial market has also trailed that of the region, with manufacturing representing a more significant economic engine for the County than distribution and warehousing, which are stronger in the larger Charlotte region.

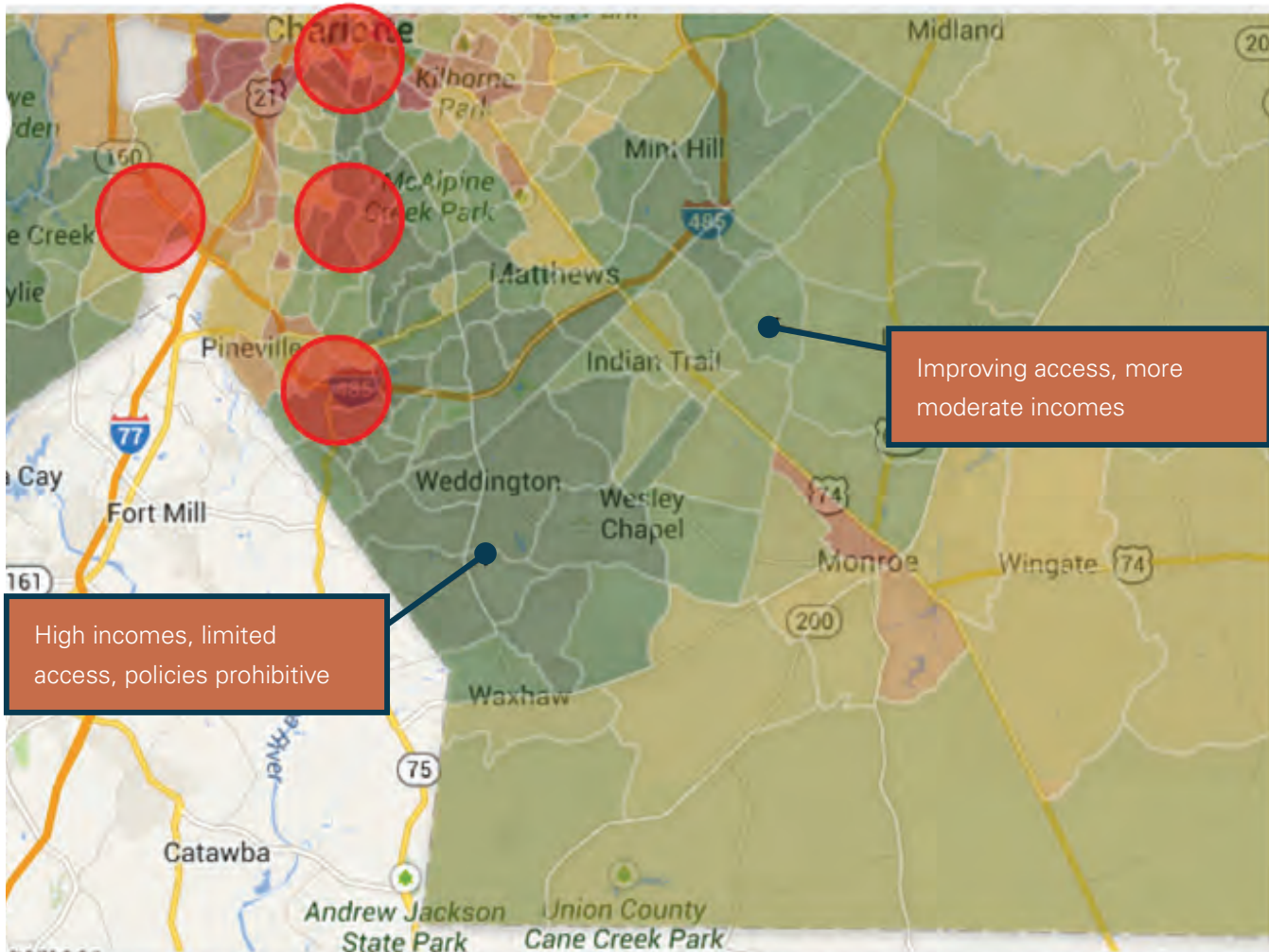
Overall, manufacturing growth in Union and the Charlotte Metro Area has seen a reversal in the last three years, with both areas bottoming out in 2010 and rebounding since. Gas prices and transportation costs have resulted in "on-shoring" of manufacturing jobs back into the US. While some traditional industries such as textile-related manufacturing have continued to decline, there have been several industry types showing promising growth including:

- Printing and Related Activities;
- Chemical Manufacturing;
- Machinery Manufacturing;
- Computer and Electrical Products; and
- Transportation Equipment Manufacturing.

Several of these industries fit within the initial agglomeration of aerospace-related industries into Union and could be promising prospects for continued growth in the future. These industries are also import industries, bringing outside dollars into the County and thus are important to the long-term health of the community.

Conversely, transportation-related distribution and warehousing of goods has seen very little growth in the County over the past decade, not surprising given Union's location largely away from the regional freeway, airport and rail network. However the planned 74 Bypass could enhance both manufacturing and distribution opportunities in the area, provided land and infrastructure are in place to support these industries.

MAP 4: INCOME RATES AND ACCESS



Retail Market

The Union County retail market today is one that serves local/convenience-based needs, but fails to capture comparison goods/regional-type needs. Based on sales data provided by Claritas, Union appears to be conservatively capturing only around 75% of its retail expenditure potential, with 25% or more of retail potential leaving the County, most of it to Mecklenburg. Figure 15 (on the following page) provides approximate captures of demand among various key store types, with the County having an oversupply of health and personal care stores, building materials, and electronics/appliance stores, and a significant undersupply of retailers such as sporting goods

and book stores, clothing stores, general merchandise (big box) stores department stores, and furniture stores. Many of these retailers today are opting to locate in larger retail centers, including lifestyle-oriented centers that are now replacing malls.

Union's retail market today is largely comprised of smaller neighborhood centers and freestanding big box retailers (Walmart being one of the largest employers in the County today), with little to no retail being provided in more walkable, mixed-use centers that have increasingly gained favor in the market.

STATE OF THE COUNTY ASSESSMENT

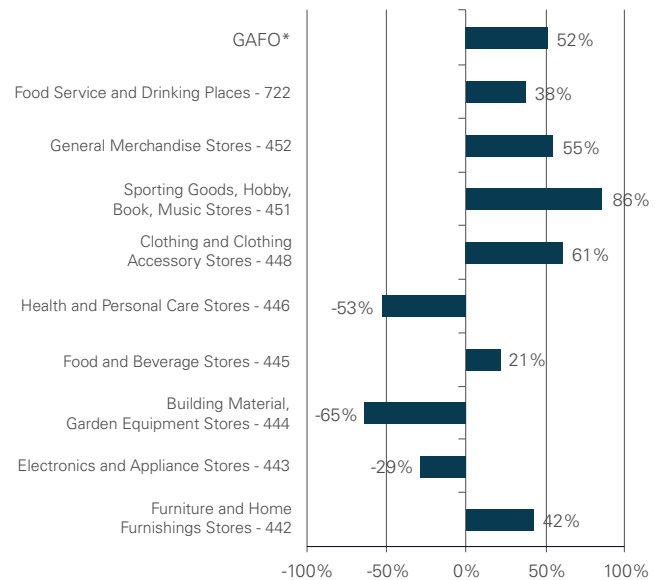
Economy & Market Conditions

NCG’s initial scan of the market indicates that most retail centers in the County are relatively small, averaging around 50,000 square feet and are either grocery anchored neighborhood centers, unanchored strip centers, or freestanding retailers. Vacancy rates in the County today are rather high, averaging around 17%, and reflect the leakage occurring to Mecklenburg.

A key issue in Union today, and a growing issue in the County in the future, will be capturing retail potential while avoiding retail abandonment. Opportunities appear to exist in the County for lifestyle-oriented retail, be it in existing town centers (such as area downtowns) or in newer mixed-use centers similar to Birkdale Village or even the main street component of Blakeney. These centers can be solely a retail endeavor or can be mixed with residential to create destinations currently lacking in Union today.

Another challenge is retail abandonment, which is already an issue along Independence Boulevard/US-74, particularly in Matthews and Charlotte. Retail, more so than any other land use, is highly cannibalistic, with newer centers capturing demand away from older centers, particularly those that fail to create some sense of location and destination. As Union continues to develop and new opportunities emerge, and as

FIGURE 15: UNION COUNTY LEAKAGE/SURPLUS



the US-74 Bypass is developed, temptations will emerge to overdevelop the retail market, creating the potential for retail abandonment along aging corridors, such as the existing US-74. Safeguarding against this is a real issue for Union County going forward.

A key issue in Union today, and a growing issue in the County in the future, will be capturing retail potential while avoiding retail abandonment. There will continue to be opportunities to develop lifestyle-oriented retail that creates a sense of location and destination for shoppers.

Town Center



LAKE PARK
TOWN CENTER

↑ RETAIL

↑ RYAN HOMES

STATE OF THE COUNTY ASSESSMENT

Land Use

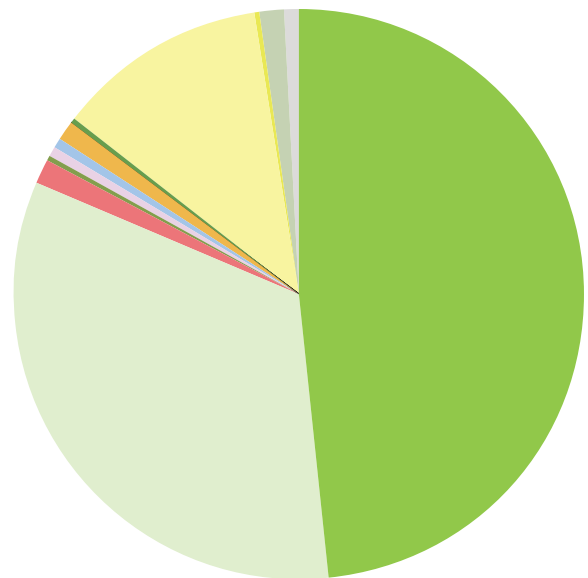
Union County is a county divided

into two very different places in terms of land use. The western portion of the County, closest to the Mecklenburg line, is urbanized and characterized by small towns, suburban neighborhoods and strip retail. In stark contrast, the eastern portion of the County remains largely undeveloped, characterized by large farms, rural landscapes and limited development in pockets typically located at crossroads.

Existing Land Use

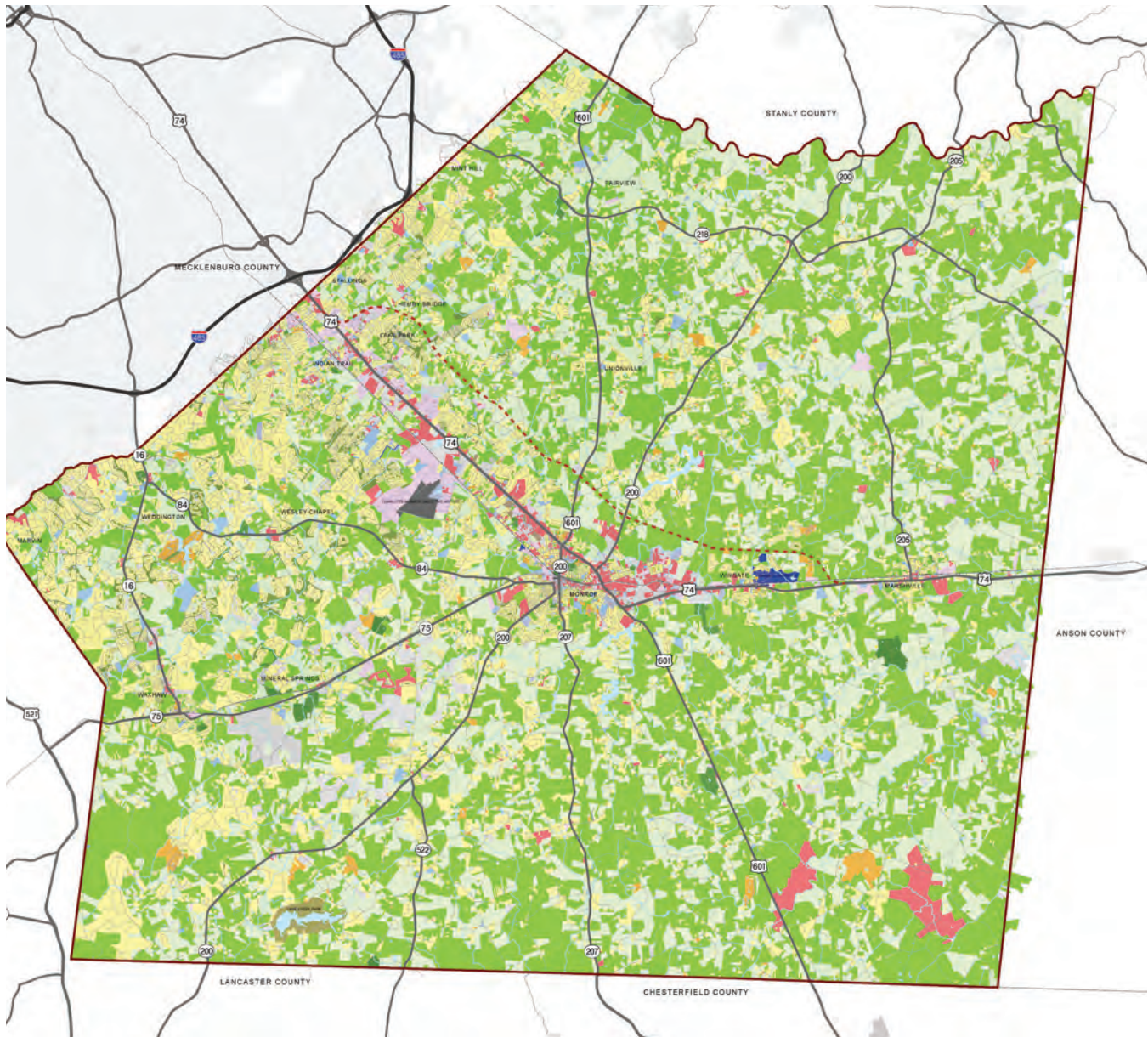
As shown in Figure 16, agriculture and residential land uses make up around 94 percent of all land in unincorporated Union County. Of this, 48 percent of the land is used for agriculture; 46 percent is used for residential purposes. The predominant residential use is designated "Agriculture – Homestead". These homestead parcels are used for homes and/or agricultural purposes. In addition, around 12 percent of the remaining residential land is in single family use and 1% is multi-family. Multi-family parcels are mainly located close to the municipalities and near the JAARS facility in the southern portion of the County. Commercial properties make up around 1 percent of County land and mainly cluster around the edges of municipalities. Map 5 illustrates land use in the County. Figure 16 details the breakdown of existing land uses in the County.

FIGURE 16: EXISTING LAND USE UNINCORPORATED UNION COUNTY



Vacant	0.64%
Unknown	1.57%
Single Family - Attached	0.12%
Single Family	11.97%
Open Space	0.32%
Office	0.08%
Multi-Family - Institutional	0.01%
Multi-Family	1.12%
Institutional	0.51%
Industrial	0.34%
Common Area	0.44%
Commercial	1.25%
Agricultural - Homestead	33.05%
Agricultural	48.57%

MAP 5: EXISTING LAND USE



FEATURES

- Local Roads
- Major Roads
- Railroads
- Monroe Bypass
- Study Area
- Rivers
- Lakes
- Wingate University
- Charlotte-Monroe Airport
- Cane Creek Park

LAND USE

- Open Space
- Common
- Agriculture
- Agriculture - Homestead
- Single Family
- Single Family - Attached
- Multi-Family - Inst.
- Multi-Family
- Office
- Institutional
- Commercial
- Industrial
- Mixed Use
- Vacant

STATE OF THE COUNTY ASSESSMENT

Land Use

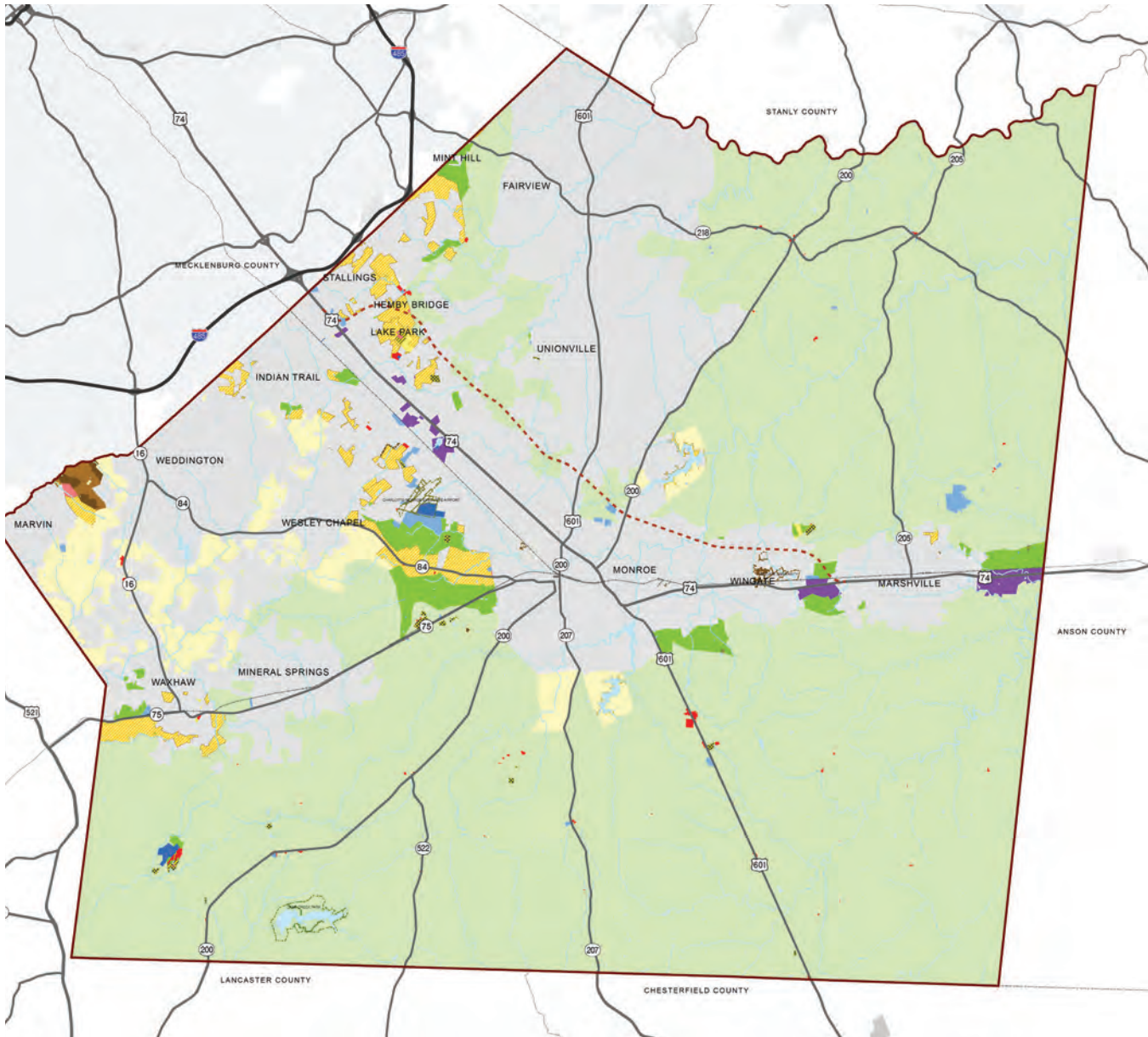
Zoning

Similar to land use, there is a lack of diversity in zoning in the County's jurisdiction. Agriculture uses comprise 91 percent of unincorporated Union. Residential uses make up nearly 8 percent of the area while nonresidential uses comprise the remaining 1.1 percent. Map 6 illustrates zoning in the County.












Agriculture uses make up the majority of the zoning in unincorporated Union County.

















MAP 6: ZONING



FEATURES

-  Major Roads
-  Railroads
-  Monroe Bypass
-  Study Area
-  Rivers
-  Lakes
-  Cane Creek Park
-  Charlotte-Monroe Airport
-  Wingate University

COUNTY ZONING

- | | |
|---|---|
|  No Zoning |  R-10 |
|  B-2 |  R-20 |
|  B-4 |  R-40 |
|  City |  R-6 |
|  HC |  R-8 |
|  HI |  RA-20 |
|  LI |  RA-40 |
|  PUD6-R20 | |
|  PUD6-R6 | |

STATE OF THE COUNTY ASSESSMENT

Land Use

Development Capacity

An important step in planning for future growth is the determination of what land is currently available for future development, and what portion of that land supply is suitable for one or more land uses. Typically, land supply includes any parcels that are categorized as “undeveloped” (vacant, without a structure) in the data provided by the County tax assessor’s office. Parcels with existing residential, commercial/office, industrial, park/recreation, and institutional/public land uses are excluded. However, parcels that are developed but underutilized (or underdeveloped) may be added to the supply, as they are likely to redevelop over time. (Note: Generally, a developed parcel is considered underdeveloped if the structure value is less than 50% of the value of the parcel. Some of the parcels that fit this definition may be excluded from the supply if specific circumstances indicate the parcel is not likely to redevelop, such as designation as a historic landmark.)

Land used for agriculture (pasture or crops) may be included in the land supply; however, those operations participating in voluntary agricultural districts, encompassed by an agricultural conservation easement, and/or benefiting from present use value taxation (bona fide farms) are typically not included. Large water bodies and parcels that are permanently protected, such as parcels that are within a conservation easement or parcels that comprise state- or federally-maintained open space (e.g., parks forests, game lands, etc.) are also excluded from the supply.

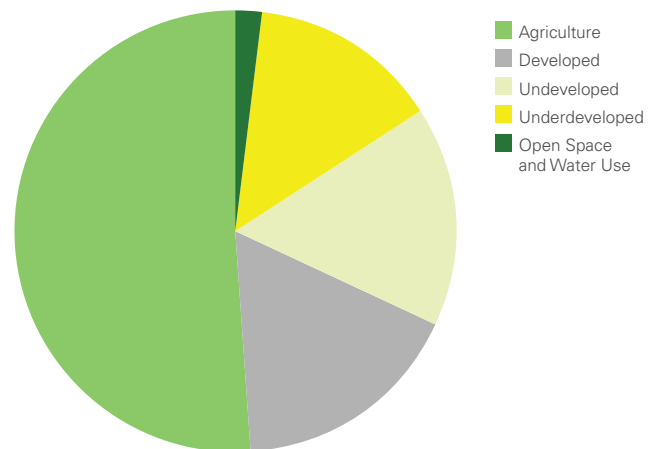
For this process, the land supply has been defined through the CONNECT Our Future (“CONNECT”) project, a regional planning process being conducted concurrently. The land supply has been vetted in all participating counties, including Union. The following categories of parcels are included in the CONNECT land supply:

- Undeveloped
- Underdeveloped
- Agriculture (currently used for pasture or crops)

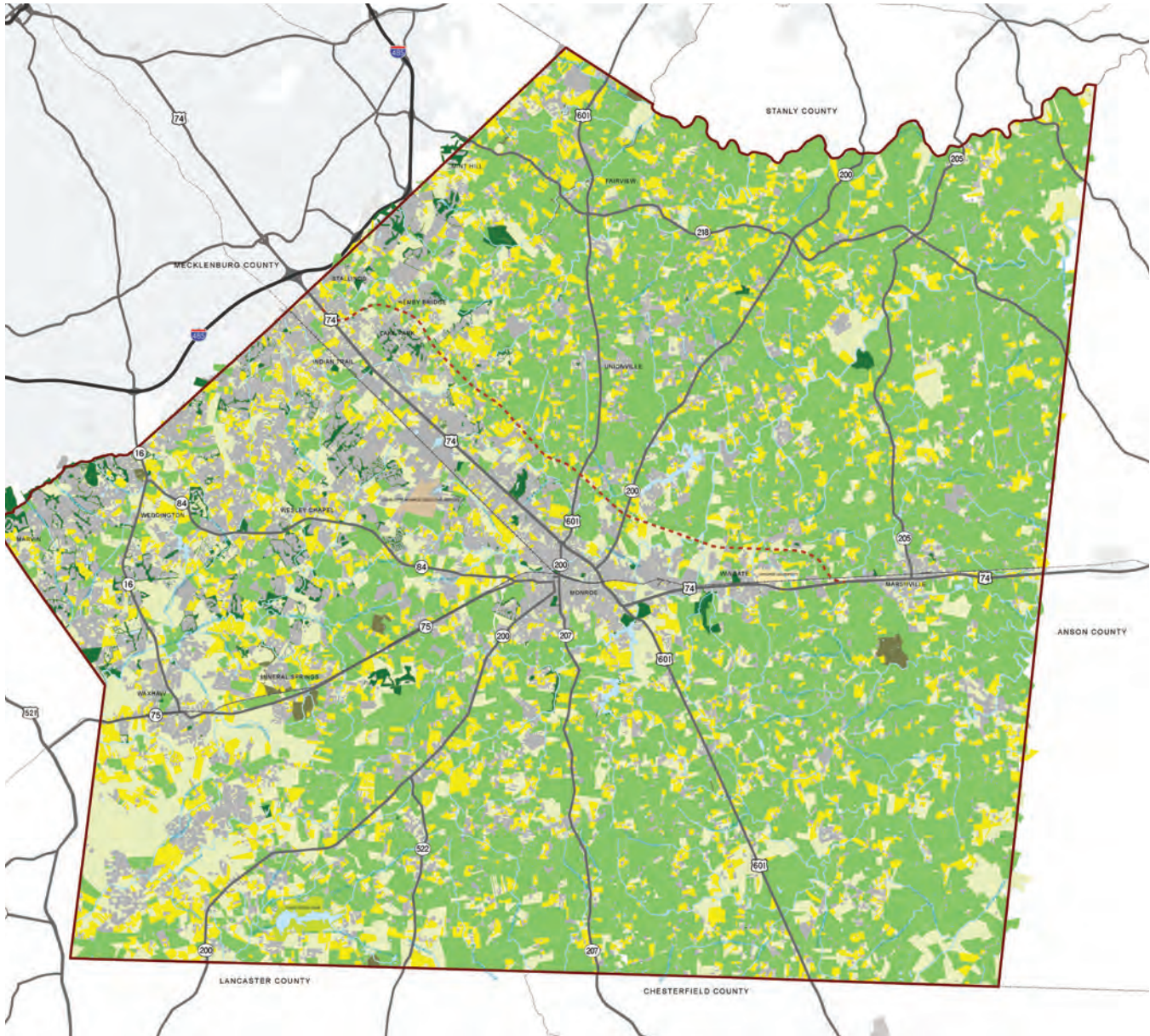
As illustrated in Map 7, the Land Supply not including agricultural lands is made up of 119,380 acres or 30% of the total land area of Union County. Many agricultural lands adjacent to urbanizing areas could also be considered as part of the Land Supply. If agricultural lands are included in the Land Supply, the total is 319,789 acres, or 81% of the total.

Currently, Union County’s land supply is predominately used for Agricultural uses (Around 51%). Developed land makes up around 17% of the land use, 14% of the total is identified as underdeveloped land. Undeveloped land is around 16%. Around 2% of the land reserved is in permanent open space or covered by surface water.

FIGURE 17: DEVELOPMENT CAPACITY



MAP 7: LAND SUPPLY



FEATURES

- Major Roads
- Railroads
- Monroe Bypass
- Study Area
- Rivers
- Lakes
- Protected Lands
- Cane Creek Park
- Wingate University
- Charlotte-Monroe Airport

DEVELOPMENT STATUS

- Permanent Open Space
- Agriculture
- Vacant
- Underutilized
- Developed
- Water

STATE OF THE COUNTY ASSESSMENT

Transportation

As previously mentioned, Union County is one of the fastest growing

counties in North Carolina. Such rapid growth and the resultant boom in development can bring substantial benefits to the community, but also has the potential to create large infrastructure problems. The dependence of local commuters on regional routes such as US-74, Old Monroe, NC 16 (Providence Road), Rea Road, Lawyers Road, and NC 218, coupled with potential demand for increased development, has resulted in a conflict between current development, existing neighborhoods, and transportation interests.

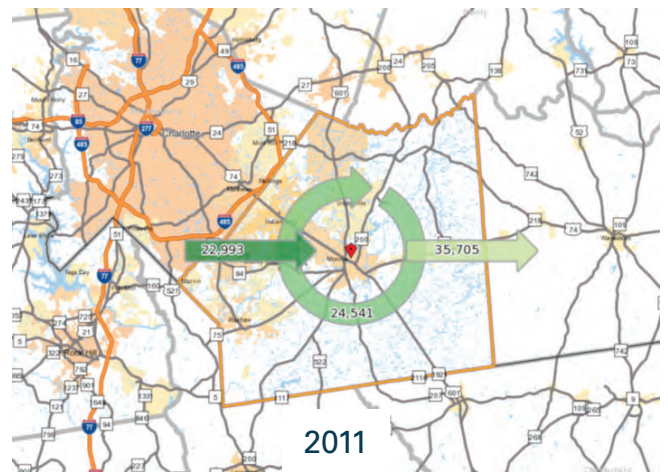
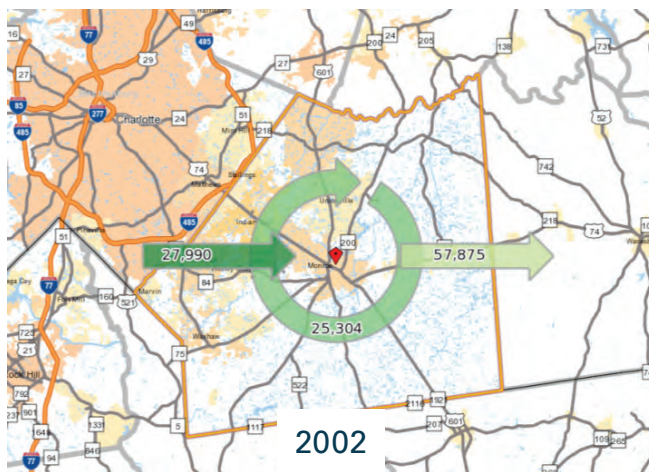
Overall, people living and working in Union County has increased only slightly (by 3.1%), while those people living in Union County but commuting elsewhere has increased by 62%, a dramatic change. An additional 4,997 people commute from places outside Union County to work in the county, an increase of 21.7% between 2002 and 2011.

Historically, Union County was characterized by rural and agricultural development. With this in mind, many of the highways in the County were originally intended to be two-lane farm roads. New development, however, has transformed many of these once-country roads to major transportation corridors, creating problems with capacity and safety. Developing a transportation system that adequately serves the vehicular needs of the residents and workers without compromising the rural heritage and

small-town atmosphere in the area is a major challenge for Union County.

As part of this Multimodal Transportation Plan / 2025 Comprehensive Plan Update, the Multimodal Transportation Plan (MTP) for the area will be updated. In conjunction with the communities of Marvin, Monroe, Stallings, Mineral Springs, Unionville, Waxhaw, Weddington, Wesley Chapel, Wingate, and Fairview as well as NCDOT, the local transit, and other transportation and land regulatory stakeholders, this planning effort will provide a comprehensive view of the current state of transportation in the region and suggest possible improvements to the transportation network in Union County. This plan will focus not only on automobile transportation, but also on walking, bicycling, and transit, looking specifically at deficiencies in the network for each mode.

MAP 8: UNION COUNTY COMMUTERS 2002 AND 2011



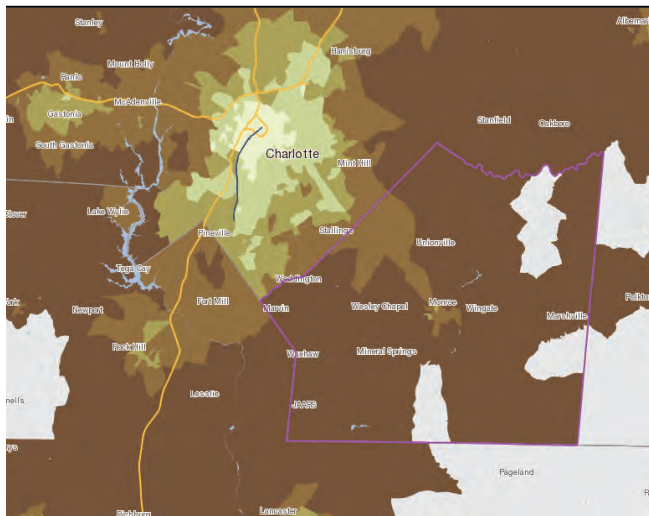
Of the 83,179 workers that live in Union County, 57,875 travel outside of the county to work, while 25,304 work in the County. Some 27,990 people commute to Union County to work.

As Union County continues to grow, providing more choices will become increasingly important. Using data from the Housing + Affordability Index, a service of the Center for Neighborhood Technology, generalized measures of transportation affordability were calculated for Union County. Areas farther away from major commuting routes and those with fewer transportation options represent locations where transportation is expensive, costing a household more than \$4,500 per year. As indicated, much of Union County lacks transportation options, whereas areas closer to Charlotte

spend substantially less money on transportation, likely due to the presence of more options and shorter commutes.

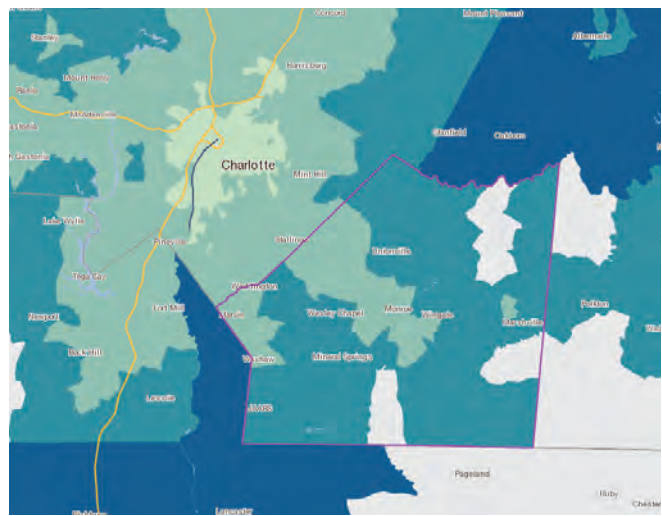
Everyone in Union County spends more than 25% of their income on transportation, while certain areas in the County spend between 30 and 35% of their income on transportation, a figure much higher than in Charlotte. Providing more options to residents of Union County can help reduce transportation costs and increase prosperity in the community.

MAP 9: ANNUAL VMT COST



(White = <\$3,200, Brown = >\$4,500)

MAP 10: PERCENT OF INCOME SPENT ON TRANSPORTATION



(Light Blue = < 15%, Dark Blue = > 35%)

95% of residents in Union County spend between 30% and 35% of their income on transportation and housing costs combined.

STATE OF THE COUNTY ASSESSMENT

Transportation

Roadway: Existing Facilities

Many of the roadways in Union County are two-lane roadways with speed limits of 45 to 55 miles per hour. All AADT (Average Annual Daily Traffic) counts were collected by NCDOT in 2011. AADT's are measured in vehicles traveled per day (vpd) in both directions. This synopsis details the location of the highest AADT on major corridors in the study area.

Major Highways

US-74: US-74 is an east-west United States highway that runs from Chattanooga, TN to Wrightsville Beach, NC. In Union County, US-74 crosses the Mecklenburg County border at Stallings, traverses the City of Monroe, and continues east through Wingate and Marshville to the border of Anson County towards Wadesboro. Within Union County, the US-74 corridor is 25.3 miles long, varying between a divided four-lane and divided six-lane highway with speeds ranging between 45 and 55 mph.

US-601: US-601 is a north-south United States highway that begins at US Route 321 near Tarboro, SC and ends at US Route 52 in Mount Airy, NC. It crosses over the South Carolina border into Union County, converges briefly with US-74 through Monroe, then continues north to the border of Union County and Stanley County. Within Union County, the US-601 corridor is 14.1 miles long. The speed limit is 55 mph in rural areas, but is reduced to 45 mph where it runs concurrent with US-74 through Monroe.

NC-16: NC-16 is a North Carolina state highway that originates in Waxhaw, NC, travels north to Weddington, NC and into Mecklenburg County, NC. This two lane state highway runs 8.2 miles through the study area. Speed limits range from 25 mph at its origin to 45 mph as the route travels out of Waxhaw.

NC-75: NC-75 is a North Carolina state highway also known as the Waxhaw Highway. This two-lane highway travels from the South Carolina border through Waxhaw, converging with NC-84 in Monroe and terminating at its interchange with US-74. Speed limits range from 55 mph in rural areas down to 20 mph through Waxhaw and Monroe.

NC-84: NC-84 is a two-lane North Carolina state highway connecting the Town of Weddington and the City of Monroe. The speed limit is 45 mph between the two municipalities, transitioning to 35 mph in Weddington and 20 mph through Monroe to its interchange at US-74.

NC-200: NC-200 is a two-lane North Carolina state highway, originating at the South Carolina State line, traveling north through the City of Monroe to the Union County line. In Union County, the roadway is 32.4 miles long with speeds ranging between 55 mph in rural areas and 20 mph through Monroe.

NC-205: NC-205 is a North Carolina state highway beginning in Marshville, Union County, NC and running 14 miles within the study area north to the border of Union and Stanley County. This rural route is a 55 mph two-lane state highway that passes through farmlands and rolling hills.

NC-207: NC-207 is a North Carolina two-lane rural state highway. This 13-mile long highway starts on the South Carolina border and runs into Monroe. NC-207 terminates at its intersection with North Church Street and NC-75/NC-84. Speed limits range from 55 mph in rural areas south of Monroe to 35 mph through Monroe to its northern terminus.

NC-218: NC-218 is a two-lane rural highway running east-west from Mint Hill in Mecklenburg County to Polkton in Anson County. In the study area, NC-218 is 21 miles in length with a speed limit of 55 mph.

Slightly more than 80% of people in Union County drive alone to work every day.

NC-522: NC- 522 is an two-lane North Carolina state highway running north from the South Carolina border for 5.8 miles in Union County until it intersects with NC-200 in Roughedge, NC. The speed limit on this road is 55 mph.

NC-742: NC-742 is located in the northeast corner of Union County for a distance of 2.7 miles, connecting Wadesboro in Anson County with Oakboro in Stanley County. The speed limit on this road is 55 mph.

Roadway: Planned Facilities

Many community and county plans pertaining to future transportation plans provide detailed recommendations for connectivity, design, policy, and new infrastructure. The regional roadways recommended in these plans provide the foundation for all roadway recommendations in this study. They also provide policy and design ideas that will be shared and applied regionally in scenario planning, policy guidance, and final recommendations. The Plan Review Technical Memo submitted earlier in the project provides an overview of the regional multi-modal transportation recommendations in previous studies.

Union County Programmed / Planned Roadway Projects (MUMPO 2035 LRTP)

According to the MUMPO 2035 LRTP conducted in 2010 there are only a handful of roadway projects ongoing and programmed for the Union County study area. The Monroe Connector/ Bypass is the only major roadway project planned between 2010 and 2015. This new freeway is four lanes from I-485 to US-74 (Wingate). This is a 19.7 mile long roadway, with a toll road (MUMPO Technical Coordinating Committee, 2010). The proposed roadway enhancements and new roads shown in the map (on the following page) reference the Multimodal Transportation Plan for the Charlotte Regional Transportation Planning Organization- CRTPO (formerly MUMPO).

Western Union County

MUMPO 2035 LRTP Programmed Projects for 2010-2015

- The Monroe Connector/ Bypass will be the longest and largest roadway project planned and funded for Union

County between the years 2010 and 2015. This new Bypass will be a 19.7 mile 4 lane bypass from I-485 to US-74 (Wingate) and will be a toll road. The bypass runs from Stallings to Marshville and has a cost of \$813,500,000.

- The project named Charles Street is a 0.6 mile long road widening project (3 lanes) from Sunset Dr. to Franklin St.. This project will be located in Monroe, NC and has an expected cost of \$7,336,000.
- Another road-widening project is, Indian Trail Road. Indian Trail Road is a widening (4 lanes) from Old Monroe Rd. to Independence Blvd. (US-74) for 1.4 miles in Union County. This project is located in Indian Trail, NC with an expected cost of \$5,900,000.
- Stallings Road is a road-widening project (4 lanes) from Monroe Rd. to Independence Blvd. (US-74) for 1.4 miles. This project will run from Matthews, NC (Mecklenburg County) to Stallings, NC (Union County) and has an estimated cost of \$14,271,000.

MUMPO 2035 LRTP Programmed Projects for 2016-2025

- John St./ Old Monroe Rd.. is a road widening (4 lanes) project from I-485 to Indian Trail Rd.. This project is 2.76 miles in length and runs from Matthews (Mecklenburg County) into Union County.
- Airport Road is another road-widening project (4 lanes) from Goldmine Road to NC 84 and runs 1.12 miles (MUMPO Technical Coordinating Committee, 2010). This project is located between Wesley Chapel and Monroe. It has the estimated cost of \$23,145,000.

Eastern Union County

Many state roads, including US-74 and NC 205, throughout the County lead directly to the Town of Marshville. US-74 runs directly through this small town, while NC 205 and Old Highway 74 are a few. There have been recommendations for a freeway to run south of the city to connect the east side of Marshville at US-74 and the west side of Marshville at US-74. Many of these recommendations can be found in the Union County Multimodal Transportation Plan (Union MPO, 2012).

STATE OF THE COUNTY ASSESSMENT

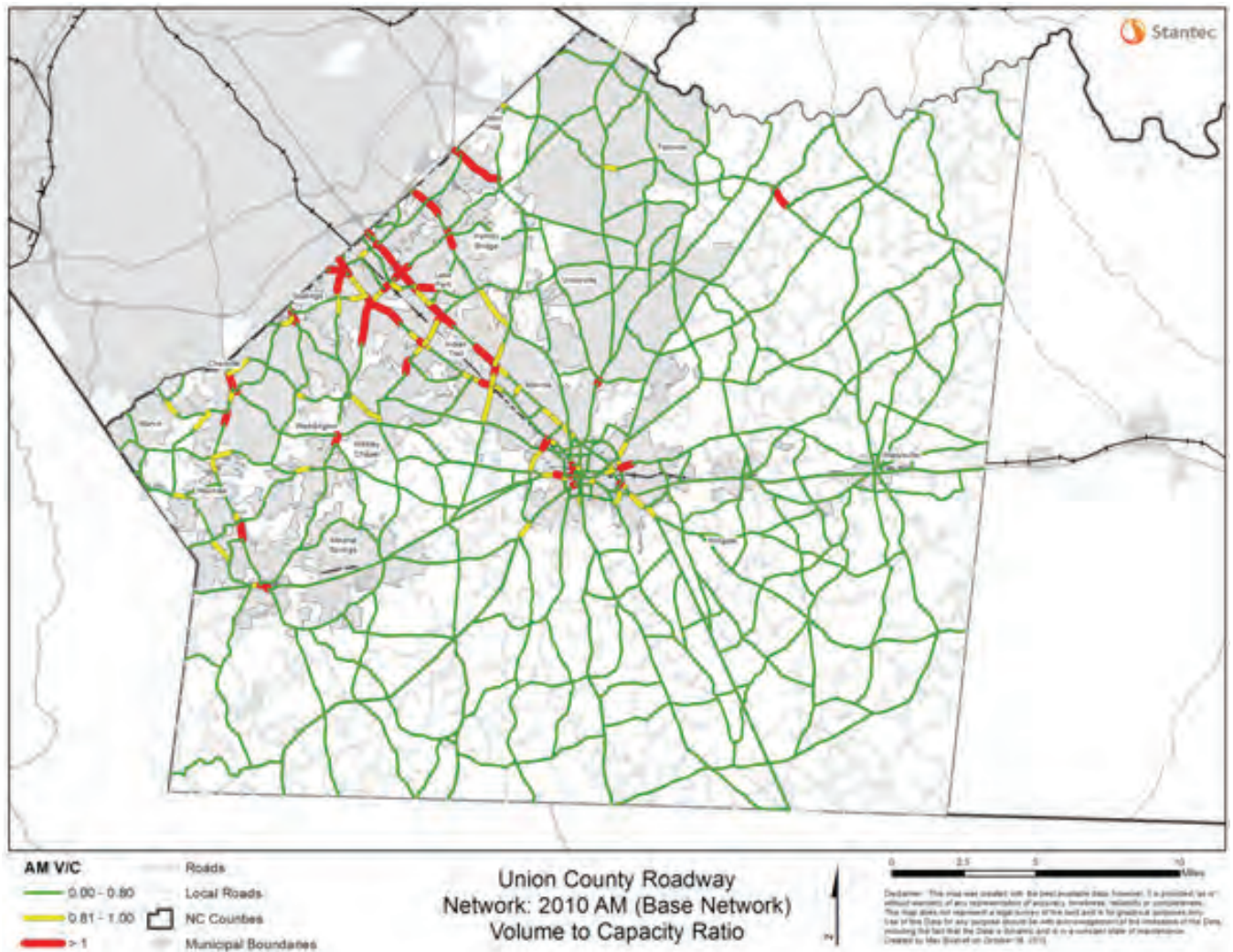
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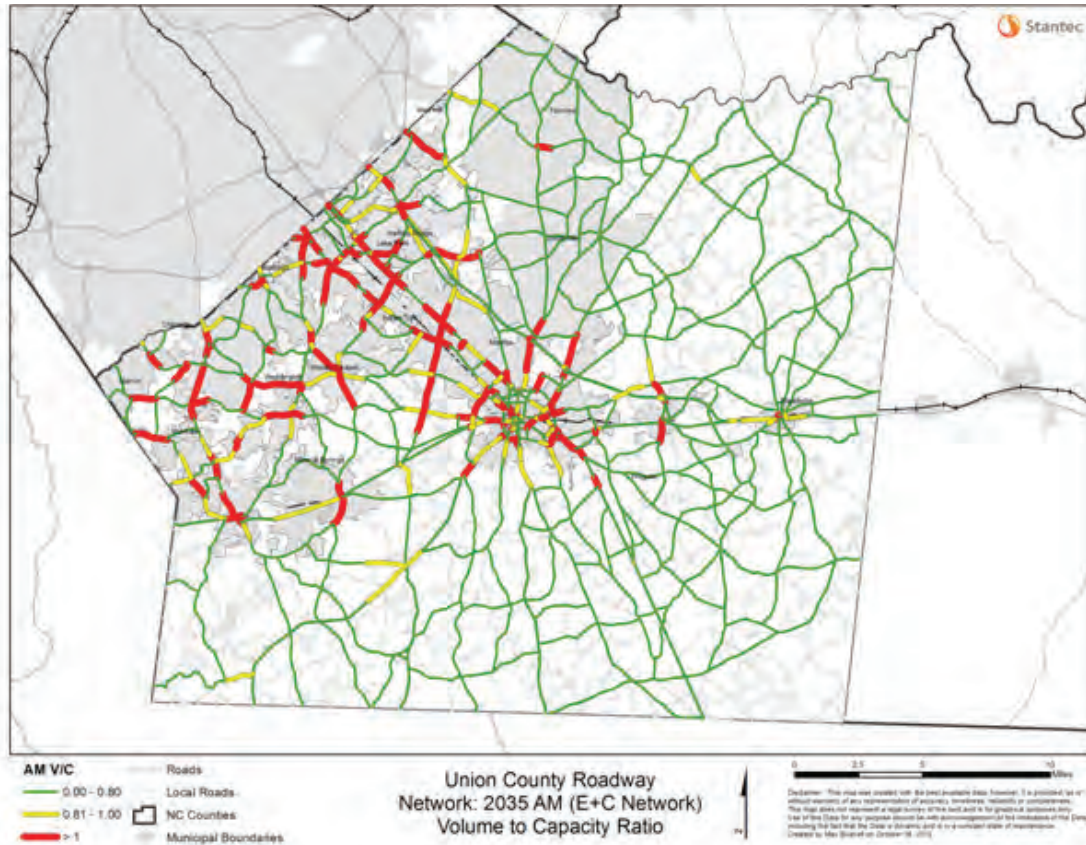
Roadway: Capacity Analysis

Based on our capacity analysis of the current conditions and the 2035 “no build” scenario, in which all currently funded projects are constructed without any new projects and traffic volumes are extrapolated to the future year, congestion will increase substantially in Union County

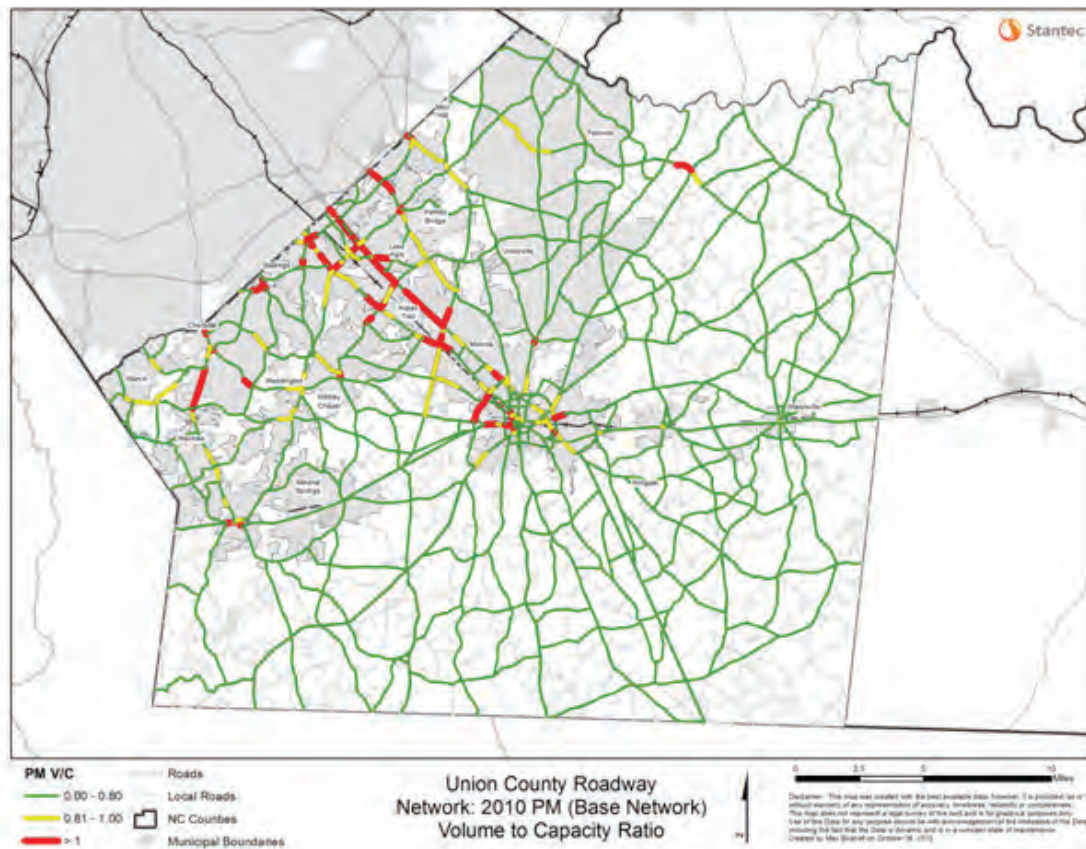
by 2035, particularly in the areas closer to Charlotte. All information pertaining to the volume to capacity analysis was derived from the Regional Travel Demand Model for Union County. Maps 11-14 illustrate the various Volume to Capacity conditions by scenario.

MAP 11: 2010 AM BASE NETWORK VOLUME TO CAPACITY





MAP 13: 2010 PM BASE NETWORK VOLUME TO CAPACITY



APPENDIX C

MAP 14: PM EXISTING + COMMITTED NETWORK VOLUME TO CAPACITY

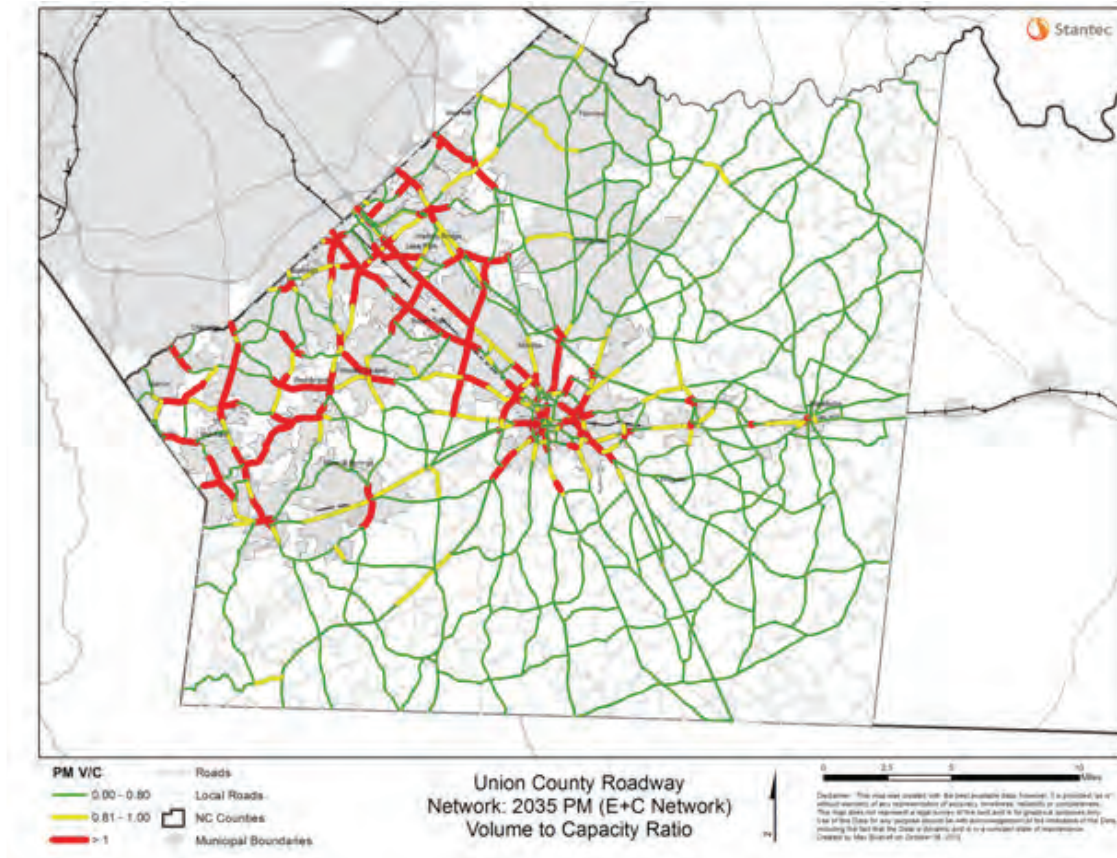


TABLE 5: HIGH CRASH INTERSECTIONS, AUTOMOBILE CRASHES, 2010 - 2013

Intersection Name	Crash Frequency
Highway 74 (Roosevelt Boulevard) and Williams Road	65
Highway 74 (Roosevelt Boulevard) and Dickerson Boulevard	54
Highway 74 (Roosevelt Boulevard), Morgan Mill Road, and Purser Avenue	53
Highway 74 (Roosevelt Boulevard) and McLarity Drive	41
Weddington Road and Providence Road	35
Old Monroe Road and Wesley Stoudts Road	33
Highway 74 (Roosevelt Boulevard) and Forest Park Drive	29
Highway 74 (Roosevelt Boulevard) and Blenheim Road	28
North Charlotte Avenue and Dickerson Boulevard	26
Highway 74 (Roosevelt Boulevard) and Old Pageland Monroe Road	25
Highway 74 (Roosevelt Boulevard) and Aurora Boulevard	24
Old Monroe Road and Woodland Road	23
Stevens Road and Idlewild Road	23

STATE OF THE COUNTY ASSESSMENT

Transportation

Corridor Operations: Safety

Crashes for vehicles as well as for pedestrians and bicyclists are addressed in the following section.

Roadway

Using automobile crash data for Union County from August 2010 to July 2013, a series of maps were produced for the entire County, which display the crash density, location of high frequency crash points, and the locations of serious injury or fatality crashes.

Map 17 (p. 51) and Table 5 (left) provide information about the number of crashes by intersection for Union County. Using ArcGIS, a buffer of 200 feet was created around each intersection point in the County and the crashes that occurred within this buffer area were totaled. Overall, thirteen intersections were identified as “high crash,” indicating they had more than twenty crashes occurring within a 200 foot buffer of the intersection center point. Not surprisingly, the main corridor from Monroe into Charlotte, Highway 74 (Roosevelt Blvd.), carries a large number of commuters and has the most frequent accident rate (between Monroe and the Union County line) at slightly more than 84 crashes per mile, using data from 2010 to 2013. The North Carolina average crash rate is 6.472 crashes per mile of roadway, using data from 2009 to 2011 (Brenneman et al., 2011; NCDOT, 2013). The top four high frequency crash intersections occur along on Highway 74 (Roosevelt Blvd.). It is notable that no high crash locations occur outside of municipal limits in Union County and high crash intersections are more frequent in proximity to the Union County /Mecklenburg County line and near the center of the City of Monroe.

Using the kernel density analysis tool, which calculates the number of points in a specified unit area in order to identify

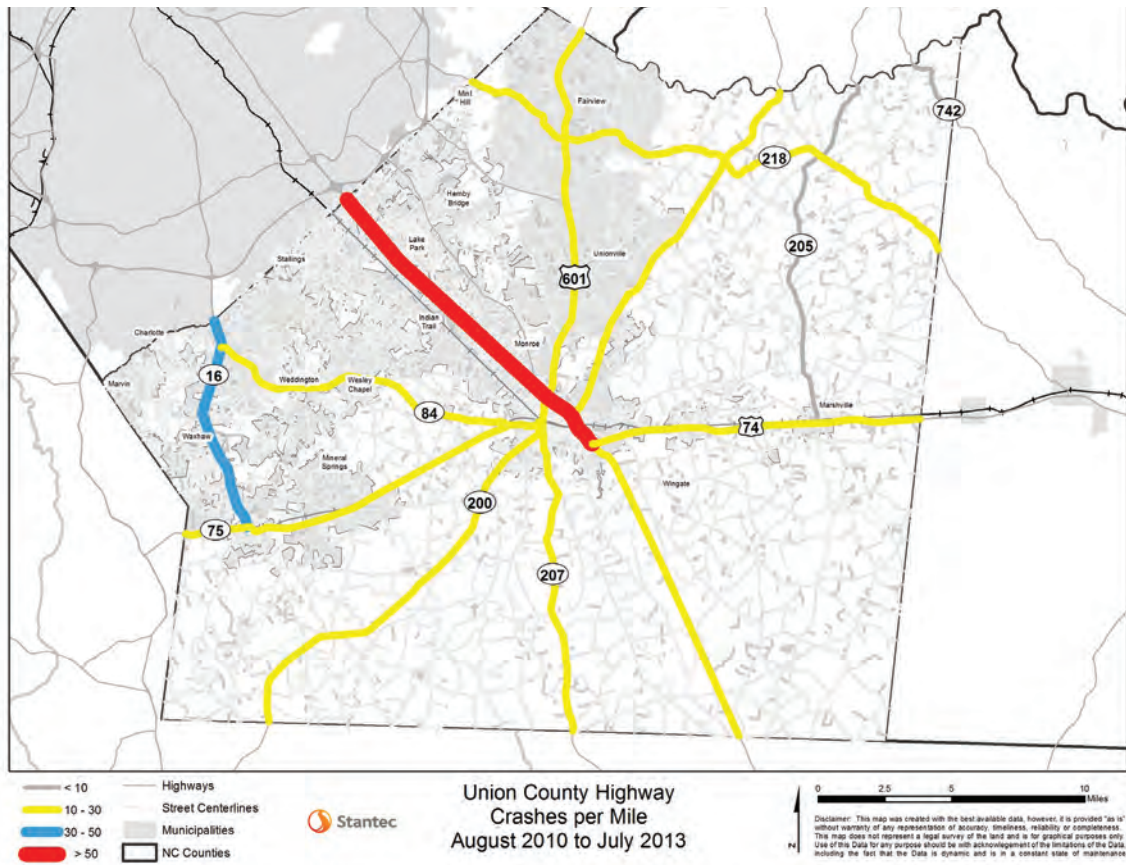
clusters, it is clear that crashes occur with the highest frequency along Highway 74. Some other areas that have notable crash densities are along Providence Road and in Weddington at the intersection of Waxhaw Indian Trail Road and Weddington Road.

Map 18 (p. 51) illustrates those locations where fatal and serious injury automobile crashes occurred. Overall, 11,959 crashes occurred in Union County during this three year time period (2010 – 2013). Of these crashes, only 71 resulted in a fatality and 70 resulted in a serious injury, accounting for only 1.2 percent of all crashes. While crash concentrations are centered on those areas within municipal boundaries, Map 18 (p. 51) indicates a different trend. Crashes that result in a fatality or serious injury are much less frequent and are likely to occur across the County and not overwhelmingly within jurisdictional boundaries. Also, fatal or serious injury crashes are most likely in locations where higher speeds are prevalent. One constant, however, is that Highway 74 still accounts for a significant concentration of crashes, both fatal, serious injury, and otherwise.

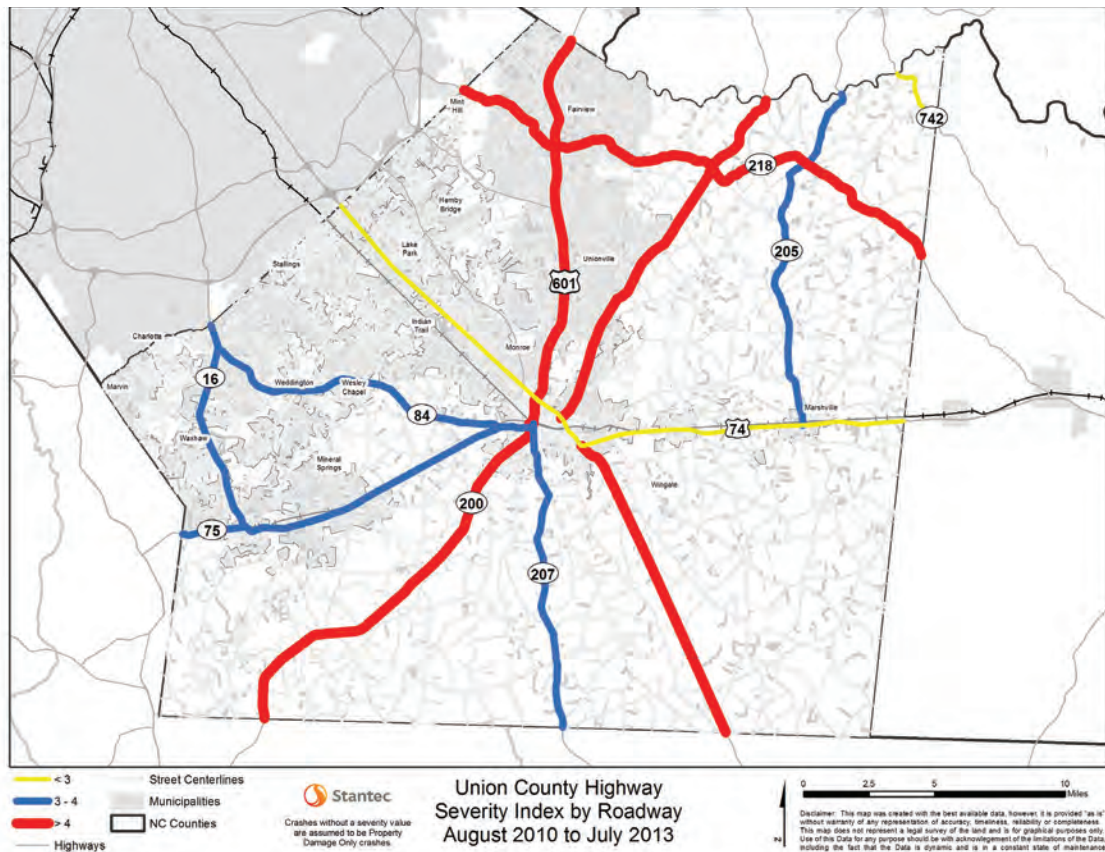
It is important not only to examine crashes by frequency, but also to normalize crash data by mile and by severity. The crashes by mile analysis yielded similar results to the frequency analysis, namely that US-74 and NC 16 have higher crashes per mile than other major Union County roadways. However, when normalizing crashes by severity using the NCDOT Severity Index calculation, the analysis provides substantially different results. More rural roadways, such as US 601, NC 200, and NC 218 rank much higher per this metric, indicating that more severe crashes occur more frequently on these roads relative to others in the County.

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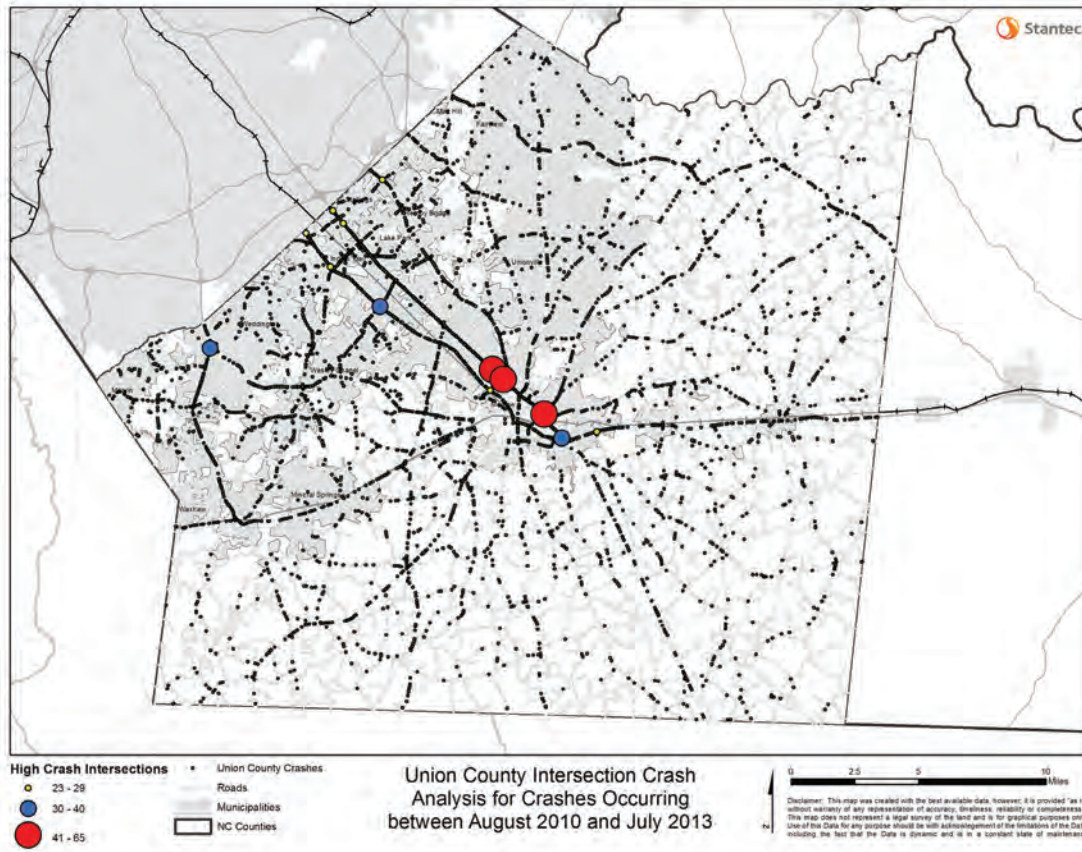
MAP 15: UNION COUNTY CRASHES – CRASHES PER MILE



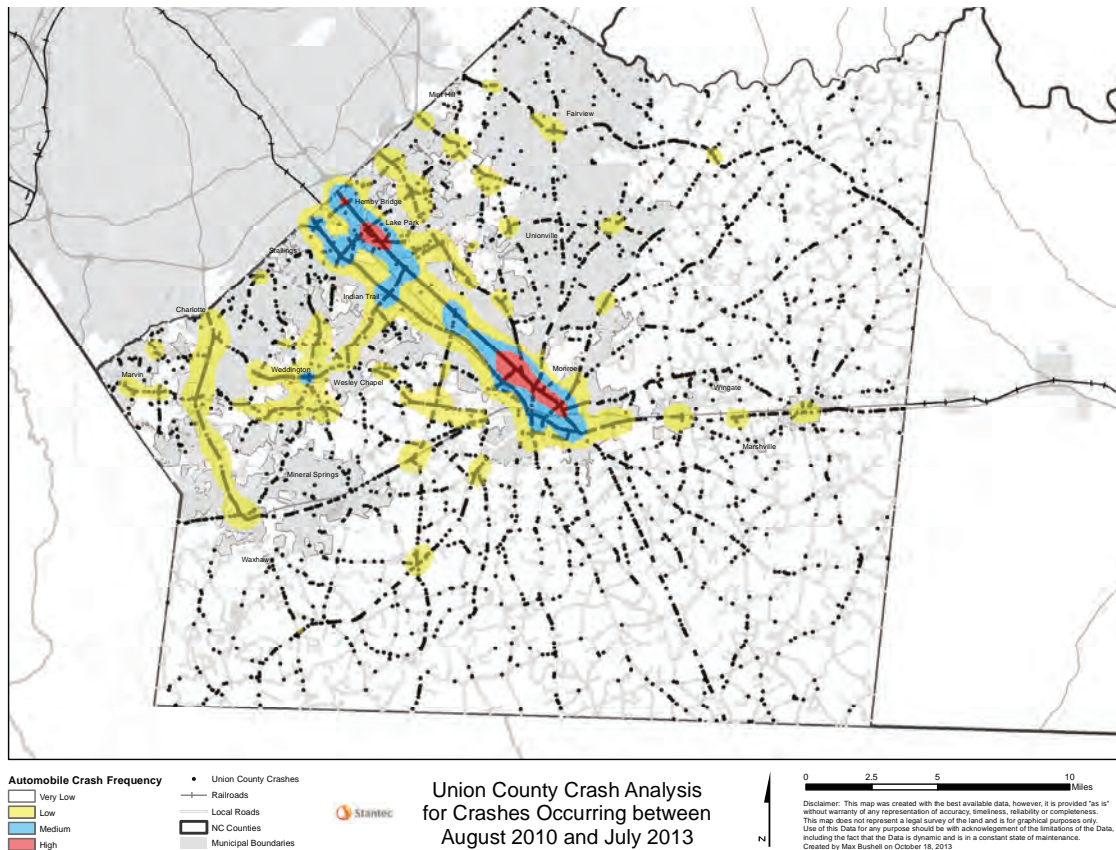
MAP 16: UNION COUNTY CRASHES – SEVERITY INDEX BY ROADWAY



MAP 17: HIGH CRASH INTERSECTIONS, AUTOMOBILE CRASHES, 2010 - 2013

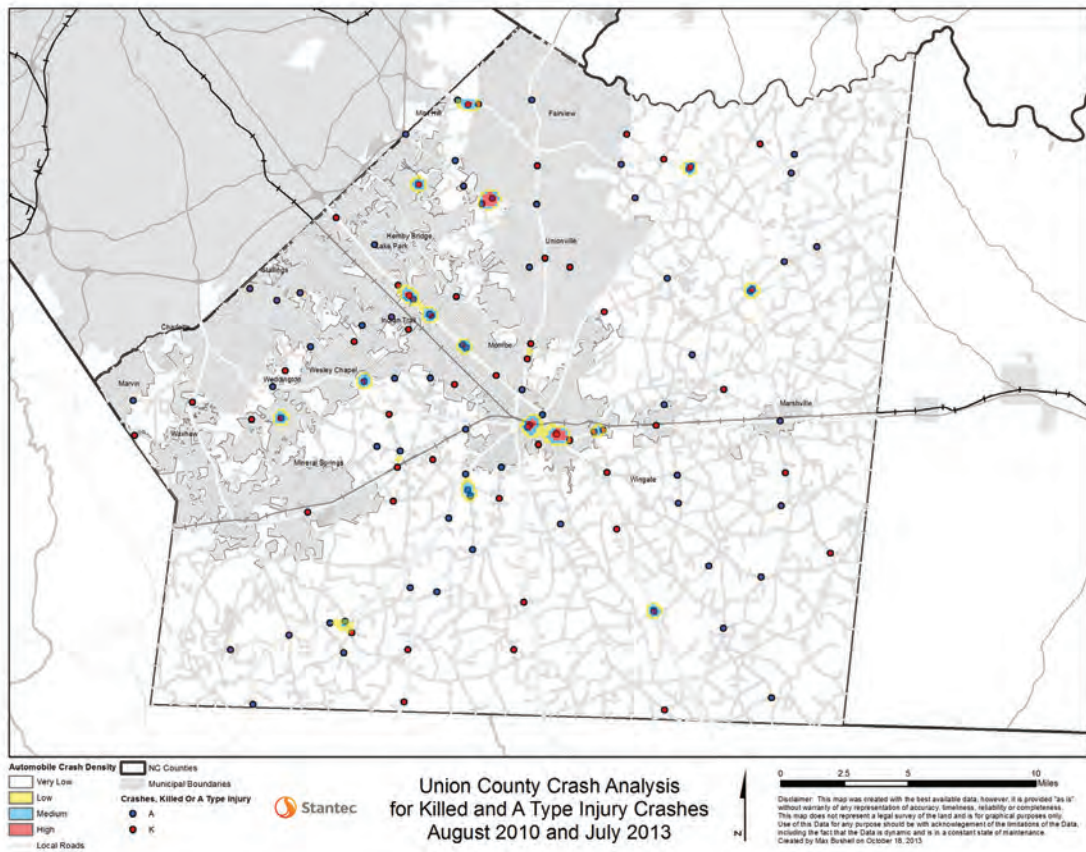


MAP 18: CRASH ANALYSIS, AUTOMOBILE CRASHES, 2010 - 2013

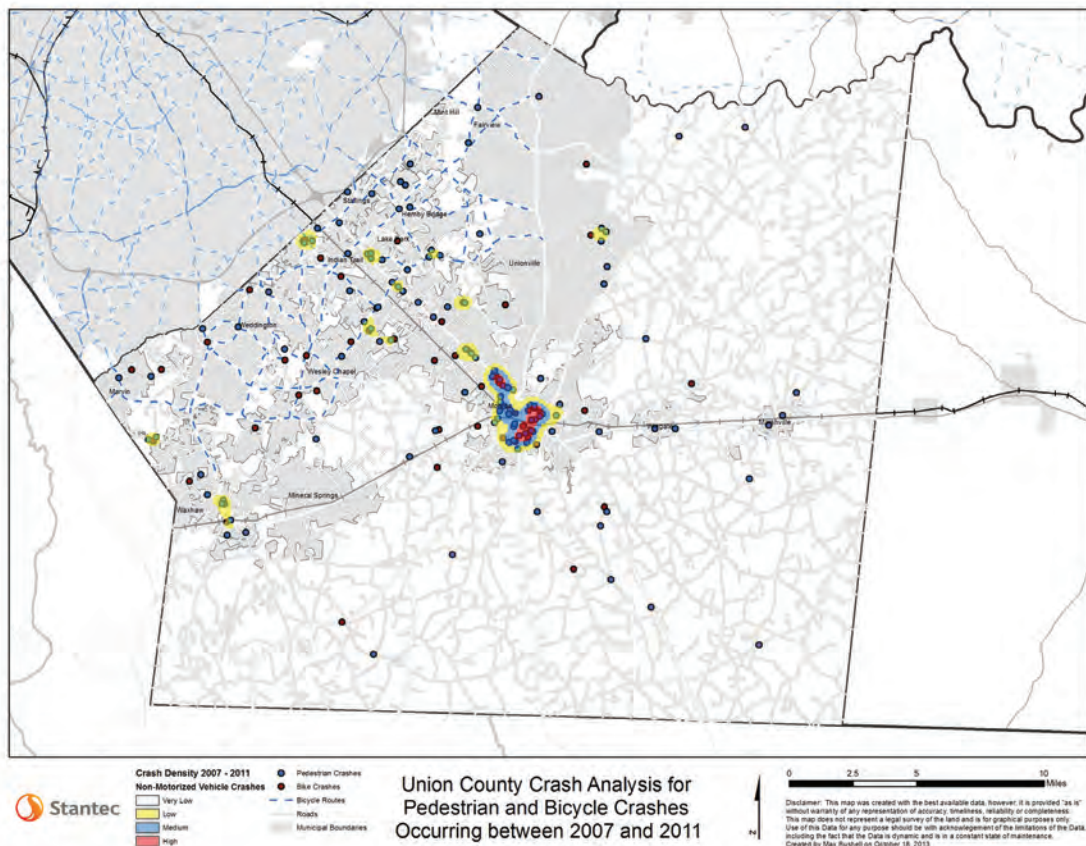


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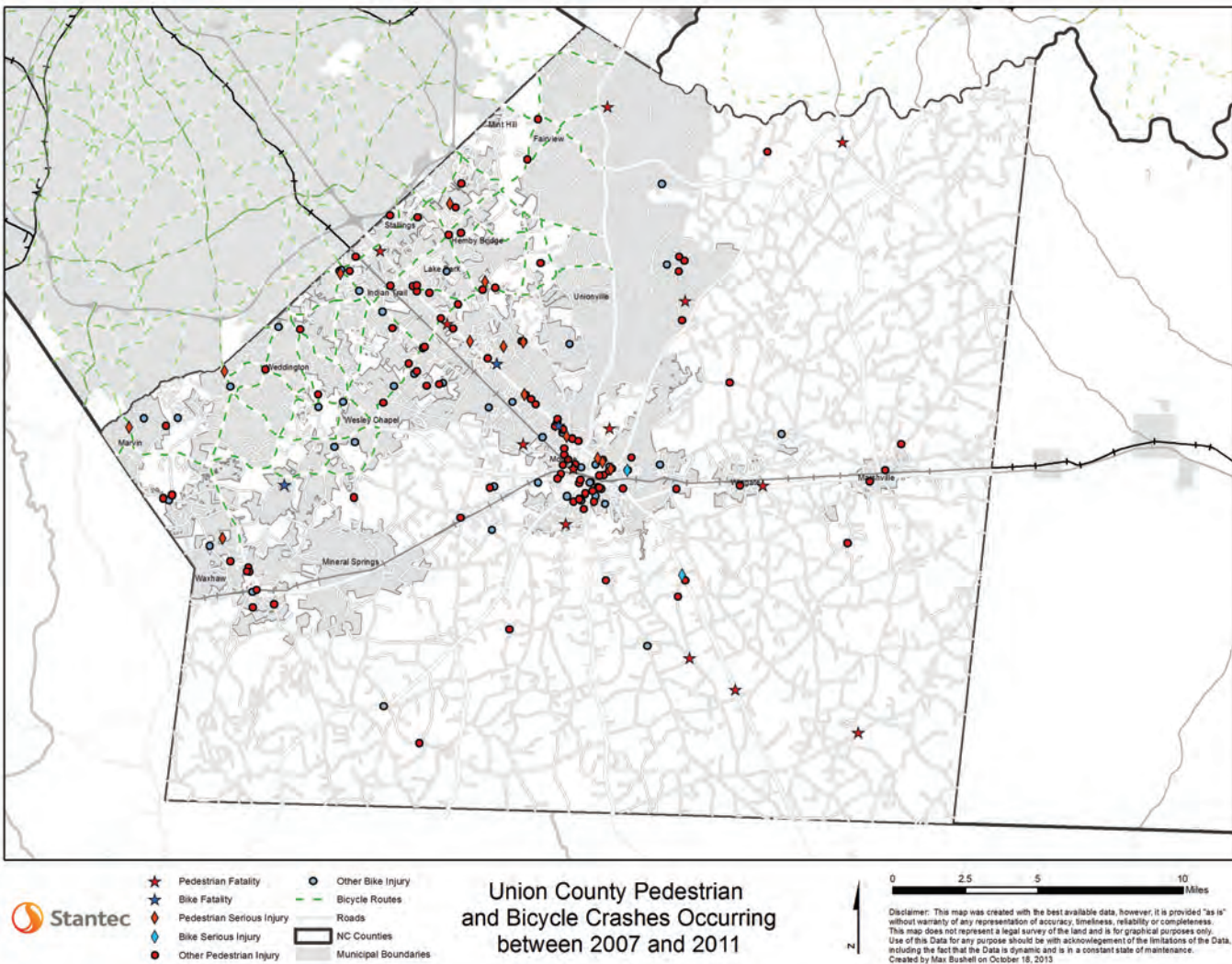
MAP 19: KERNEL DENSITY ANALYSIS, FATAL AND SERIOUS INJURY AUTOMOBILE CRASHES, 2010 - 2013



MAP 20: KERNEL DENSITY, PEDESTRIAN AND BICYCLE CRASHES 2007 - 2011



MAP 21: FATAL CRASHES, SERIOUS INJURY CRASHES, AND OTHER PEDESTRIAN AND BICYCLE CRASHES 2007 - 2011



Pedestrian / Bicycle Crashes

Pedestrian and bicycle crashes are also examined in this section. Crash data was retrieved from the NCDOT Division of Bicycle and Pedestrian Transportation for Union County for the years 2007 through 2011.

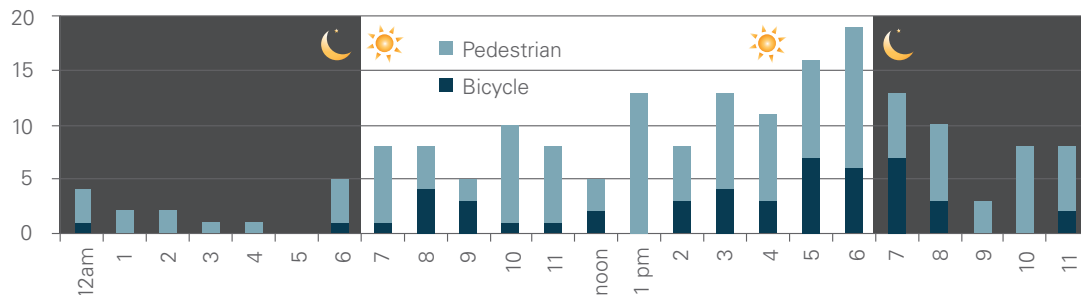
Just as with automobile crashes, pedestrian and bicycle crashes occur with a greater frequency within municipal boundaries. Using crash data from 2007 to 2011, Map 20 and Map 21 show the locations where pedestrian and bicycle crashes occurred as well as the severity of those crashes. Monroe has the most pedestrian and bicycle crashes, while Unionville, Waxhaw, and Indian Trail also have significant clusters of crashes.

Over the five-year period, relatively few pedestrian and bicycle crashes occurred overall. However, a much greater percentage of these crashes resulted in an injury or fatality as opposed to automobile crashes. For bicycle crashes, there were two bicycle crash fatalities and two bicycle crashes resulting in serious injuries of the 49 total bicycle crashes, accounting together for eight percent of all bicycle crashes. For pedestrians, there were 13 pedestrian fatalities and 14 pedestrian serious injuries among 130 total pedestrian crashes, accounting for 20.1 percent of the total.

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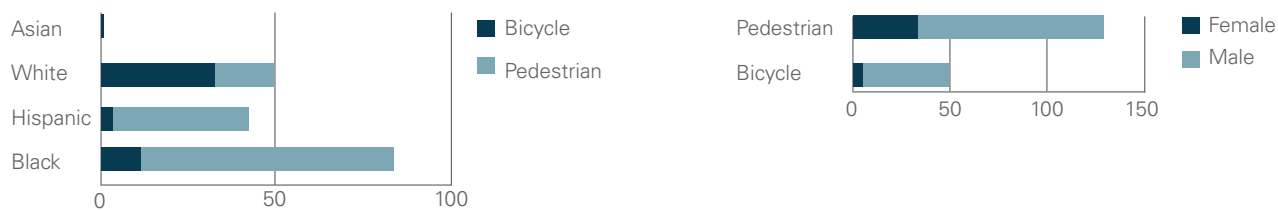
The following is a brief, graphical summary of that data.

FIGURE 18: PEDESTRIAN AND BICYCLE CRASHES BY HOUR



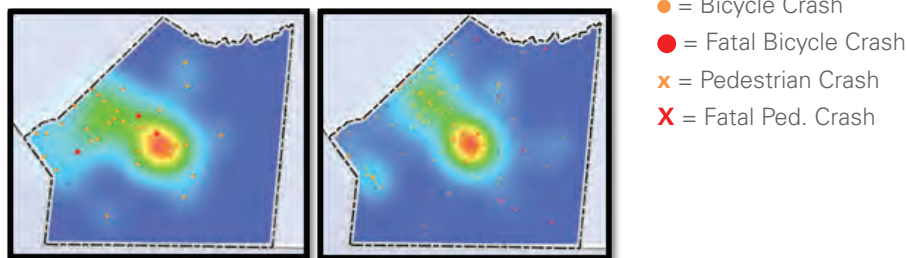
Cycling crashes often happen after working hours; many pedestrian crashes occur mid-day or late in the evening.

FIGURE 19: PEDESTRIAN AND BICYCLE CRASHES BY RACE AND GENDER



Cycling crashes tend to follow male/female and white/black trends; Hispanics are disproportionately represented in pedestrian crashes.

FIGURE 19: PEDESTRIAN AND BICYCLE CRASHES BY SEVERITY 2007-2011



Cycling ● crashes at left and pedestrian X crashes at right from 2007 to 2011 tended to occur in downtown areas and along a few major corridors, particularly US-74; however, a number of fatal pedestrian crashes happened in rural areas to the south and east.

There is not a “typical” bicycle or pedestrian crash victim; but we can say the following about many of these crashes looking at this data as well as individual crash records:

- While alcohol did not play a role in a large number of crashes, one high-activity center along Charlotte Avenue northwest of downtown Monroe involved a cluster of crashes that were related to alcohol consumption;
- Crashes often occurred for unexpected reasons: parents backing over their children, attempted (or successful) homicide, or domestic disputes;
- Minorities and Hispanic populations were disproportionately represented, although a study of the effects of income did not reveal a particular correlation to bicycle/pedestrian crashes;
- The US-74 corridor and some of its cross-streets stands out strongly as a place where both cycling and especially pedestrian crashes occur with regularity;
- There were actually more fatal pedestrian crashes in the sparsely populated rural parts of Union County (7) than in urban and suburban areas (6); and
- Downtown areas as well as some school areas were locations where crashes happened more often than other locations.

STATE OF THE COUNTY ASSESSMENT

Transportation

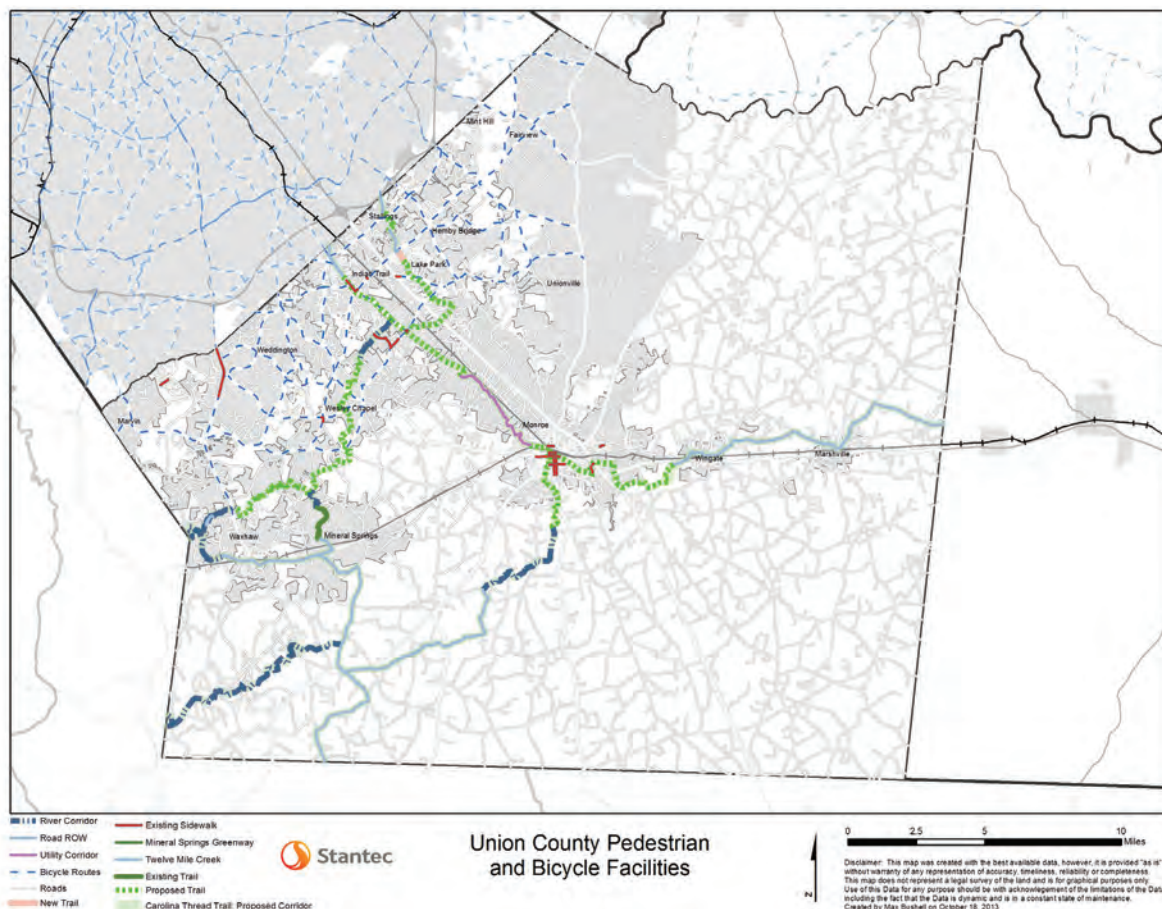
Bicycle and Pedestrian: Existing Facilities

The pedestrian and bicycle network of facilities in Union County is by no means extensive. However, there are some sidewalks, mostly in the downtown areas of the municipalities, as well as bicycle facilities, though these represent signed bicycle routes, i.e. low traffic roadways suitable for biking, but without bicycle infrastructure. While this network does not particularly support using non-motorized modes of transportation due to a lack of connectivity, there are plans to implement a connected greenway system, which would include existing facilities as well as utility corridors, riparian areas, and existing road right-of-way. Map 22 provides more information.

Bicycle and Pedestrian: Planned Facilities

Many plans for communities across Union County already provide recommendations for bicycle, pedestrian, and greenway infrastructure. Map 22 presents the existing and proposed pedestrian and bicycle facilities in Union County. These plans differentiate facility types and emphasize a regional vision by including connections across jurisdictional boundaries. The regional network collectively recommended by these plans will provide the starting point for pedestrian and bicycle facility recommendations in this study. They also provide policy and program ideas that can be shared and applied regionally through this study, along with other best practices from around the state. Existing plans covering bicycle and pedestrian issues are discussed below.

MAP 22: EXISTING AND PROPOSED PEDESTRIAN AND BICYCLE FACILITIES, UNION COUNTY, NC CRASHES 2007 - 2011



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Transportation

Bicycle

There are two general classes of bicycle facilities: on-street (bicycle lanes, wide outside lanes, wide shoulders) and off-street (greenways and multi-use paths).

On-Street Bicycle Facilities: Bicycle facilities usually require bicycle lanes and wide shoulders for bicycle use. For those wanting to bicycle as an alternative transportation it is a challenge. Most two-lane roads in the County have narrow shoulders and higher speed limits making it impossible for a commuter to ride safely.

According to the Western Union County Local Area Regional Transportation Plan (LARTP) it is anticipated that on-street bicycle lanes/ wide outside lanes will be included as part of the NC 16 and NC 84 widening projects and the Rea Road Extension project that are part of the Transportation Improvement Program (TIP). There are also other smaller-scale widening projects in the TIP and MUMPO LRTP that would likely have on- street bicycle facilities, both within the study area and nearby.

Off-Street Bicycle Facilities: Most municipalities have the desire for greenways and multi- use paths. Ultimately, they desire connectivity among the municipalities and in the future hope to connect all trails with the Carolina Thread Trail.

Village of Marvin: The Village of Marvin adopted its Parks and Greenways Master Plan in March 2008, identifying trails as either Tier I (8 miles of trails), or Tier II (16 miles of trails). Tier I trails serve as the backbone of the proposed greenway system, whereas the Tier II trails would serve as connectors and loop trails. The greenway trail widths recommended by this plan range from 8' to 12' to accommodate bicyclists, pedestrians, and horses. The Village of Marvin, recently participated in the Western Union County LARTP. This plan included recommendations for multi-purpose paths, bicycle lanes and sidewalks on

certain roads within the study area (MUMPO Technical Coordinating Committee, 2010).

Village of Wesley Chapel: The Village of Wesley Chapel Master Plan included concepts for a greenway system. While not a formally adopted greenway plan, the concepts are useful in planning for potential future facilities.

Carolina Thread Trail: The Carolina Thread Trail is a plan for a regional, 15-county greenway trail network, centering on Charlotte and Mecklenburg County. The concept is to link regional parks, green space, and attractions by a series of greenway trails.

Pedestrian

In general, Union County lacks the offerings of sidewalks to enable residents to walk between destinations. Below is a snapshot of the municipalities existing plans.

Town of Fairview: The Town of Fairview is almost entirely residential, therefore sidewalks are not currently required for residential development and commercial development would require rezoning and a site plan review by the town. Sidewalks are usually requested as part of the development review process.

Town of Indian Trail: The Town of Indian Trail has 85 miles of existing sidewalk. According to the LRTP study the citizens of Indian Trail are especially interested in sidewalks in close proximity to schools within the downtown district. Sidewalks are prioritized by the need for connectivity and destinations and new pedestrian facilities will be implemented as the town recently adopted several new plans. Based on the type of development and roadway classification the Unified Development Ordinance requires sidewalks. The Town of Indian Trail Utilizes Powell Bill Funds, and grants, as well as allocating \$350,000 annually to put towards the construction of sidewalks.

Village of Marvin: The Village of Marvin has only recently participated in the LRTP, which resulted in a CTP document for Marvin, Wesley Chapel, Weddington, and Waxhaw. The CTP included recommendations for multi-purpose paths, bicycle lanes, and sidewalks and very specific roads within the study area, dependent upon the development and growth of the town.

Town of Mineral Springs: There are no current sidewalk programs or requirements for sidewalks in the Town of Mineral Springs. The town is a low-density rural residential area. According to the town, they are much more focused on greenway development, which it believes to be more appropriate for its land use pattern.

City of Monroe: There is a sidewalk program managed by the City of Monroe Department of Transportation that is submitted to the City Council for approval every year. Priorities are based on safety issues and pedestrian traffic. The citizens of Monroe have a large interest in the provision of sidewalks and greenways within the community.

Monroe has a \$30,000 budget for sidewalks each year in addition to the Powell Bill funds; however the City of Monroe has no current pedestrian plans according to the 2010 LRTP (MUMPO Technical Coordinating Committee, 2010).

Town of Stallings: Stallings requires sidewalks as a part of most of their new developments, so they are currently working to complete the identified gaps in their pedestrian network system.

Town of Unionville: Sidewalks are not currently required in the Town of Unionville. The town is almost entirely residential. With commercial development there are

requirements for rezoning and a site plan review in which sidewalks can be requested.

Town of Waxhaw: The Town of Waxhaw Unified Development Ordinance requires that sidewalks be installed throughout private development.

The Waxhaw 2030 Comprehensive Plan set goals for pedestrian facilities. The town recognizes a need and a plan will be developed for the future. Sidewalk projects are primarily based on priority on a request-driven process; older requests have a higher priority over newer requests.

Town of Wingate: The comprehensive land use plan in 2010 was focused on enhancing their downtown and linkages to Wingate University. The Monroe Bypass will reorient access to the town from the south to the north. Sidewalks are a requirement for any new development.

Town of Weddington: Weddington, as of 2010, had no requirements for pedestrian facilities. The town did not have a sidewalk construction program, and has no requirements or codes that require sidewalk for any new development.

Village of Wesley Chapel: The Village intends to implement a plan that includes recommendations for multi-purpose paths, bicycle lanes, and sidewalks on certain roads within the study area.

Town of Marshville: The Town of Marshville has very little opportunity for pedestrian use. The area has many two-lane roads with narrow shoulders which make foot travel difficult and unsafe. However, the town does have plans to incorporate more connectivity for pedestrian access.

STATE OF THE COUNTY ASSESSMENT

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Transit: Existing Facilities

The only fixed-route transit service currently in Union County is that of the 74X Regional Express route operated by the Charlotte Area Transit Service (CATS). Service is limited to weekdays, and only during peak morning and afternoon periods running on 20- to 30-minute headways. The base fare is \$3.50 per one-way trip, and the trip length from the K-Mart in Monroe to the Charlotte Transportation Center is approximately 50 minutes (about 17 minutes longer than using a private automobile). The most recent transportation plan describes the route performance as having an average of 19 passengers per hour in the AM peak period and 16 passengers in the PM peak. About 182 people ride the service each weekday. There was at one point in 2011 discussions of terminating service to Union County, although this action was not taken.

Union County also operates human service transportation for trips within and without the County, at fares ranging from \$2 to \$10 (Charlotte). A two-day advance notification is required. Participants must prove that they are senior citizen at least 60 years of age; a developmentally disabled adult; Medicaid client; veteran eligible for medical treatment at a VA Hospital or clinic; or physically disabled.

Rail: Existing Facilities

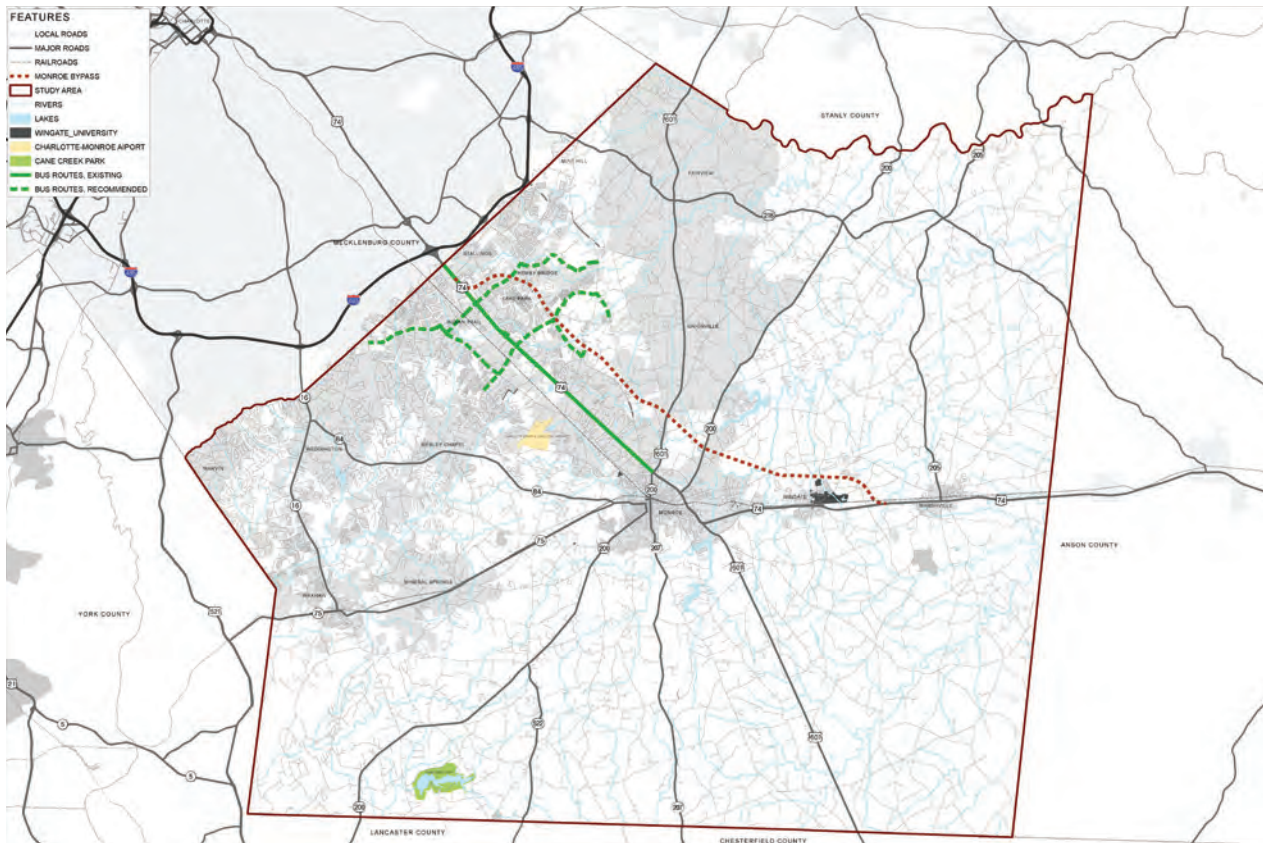
There are two railways that cross in the City of Monroe. The first is a CSX Transportation rail line that is coming to/from Charlotte and the second is a Norfolk Southern line, also known as the Seaboard Coast Line, coming from the South Carolina border into Waxhaw to Monroe and on to either Charlotte or towards Rockingham. There are no plans to expand service on these rail lines at the current time.

Airport: Existing Facilities

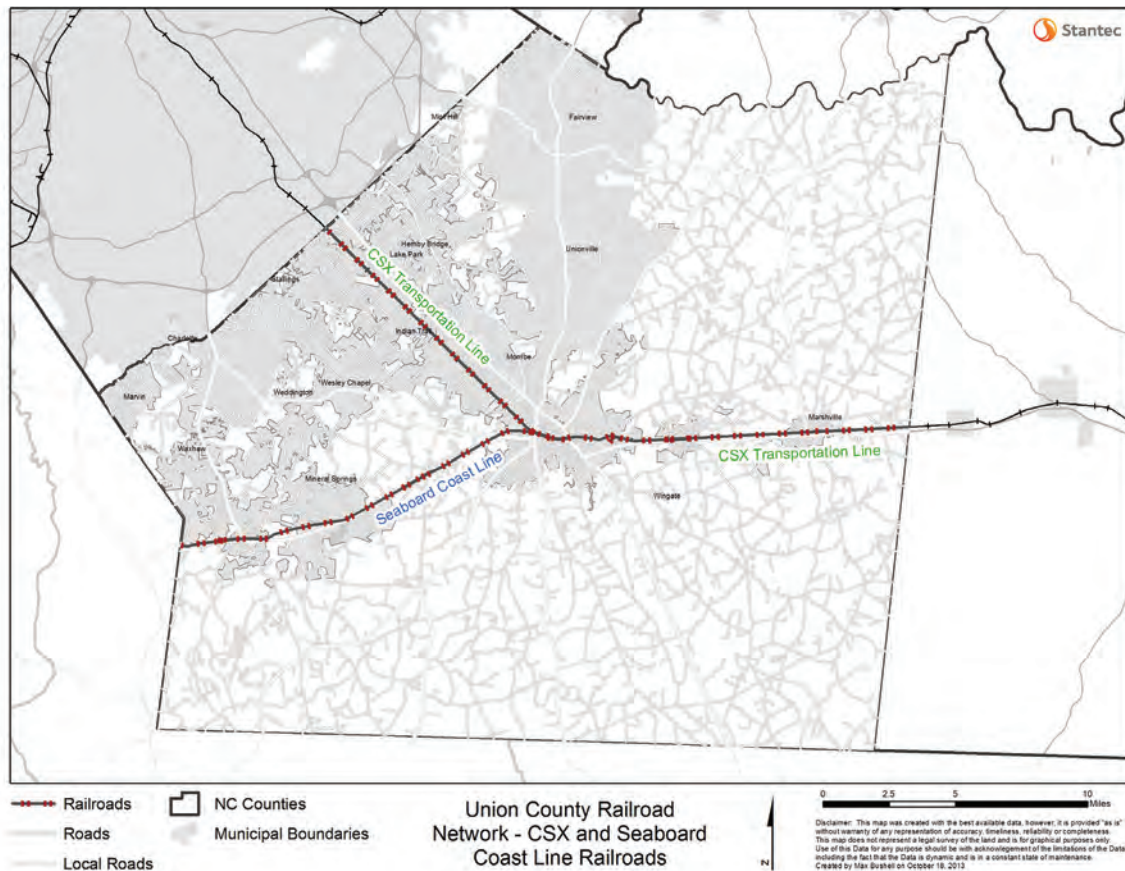
The Charlotte-Monroe Executive Airport is located just northeast of the City of Monroe just along US-74. The City of Monroe, as the primary developer of the airport, is also the operator of the facility, with the goal of providing general aviation service to corporate and private jets. With a 7,000 foot runway, the Charlotte-Monroe Executive Airport can handle almost any type of corporate or private aircraft.

The airport is accessible by car via Airport Road and is conveniently located close to both US-74 and NC-84. The site itself contains both the airport as well as a parcel designated as an aerospace industrial area (Charlotte-Monroe Executive Airport, 2013).

MAP 23: CATS TRANSIT ROUTES, UNION COUNTY, NC

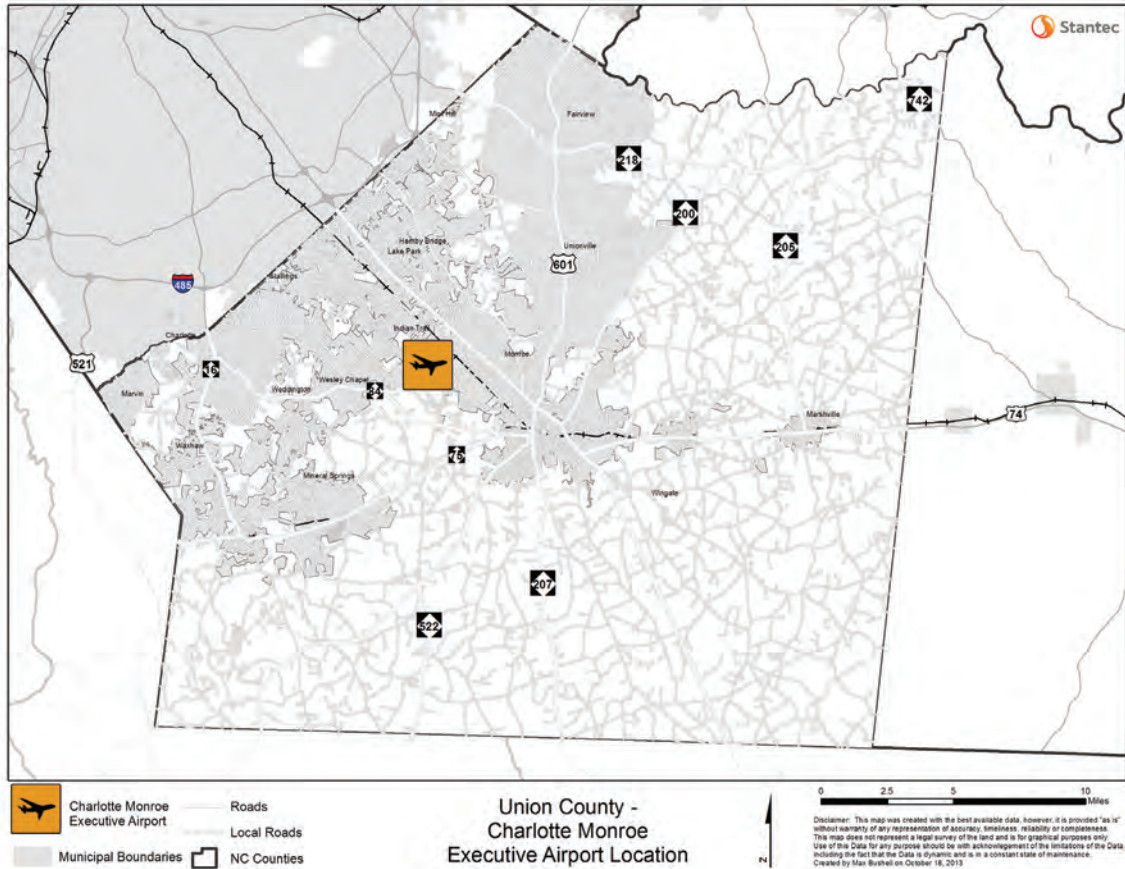


MAP 24: RAIL LINES, UNION COUNTY, NC



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MAP 25: CHARLOTTE-MONROE EXECUTIVE AIRPORT LOCATION, UNION COUNTY, NC:



STATE OF THE COUNTY ASSESSMENT

Water & Wastewater Infrastructure

Union County and the City of Monroe are the only public providers in the County of water and sewer services. The following summarizes existing services provided across the County as well as current system capacities and strategies for future service as outlined in the adopted plans.

Water Supply

Union County lies within the Catawba and Yadkin Pee-Dee River watersheds and is served by two water treatment plants: the Catawba River WTP (CRWTP) in Lancaster County, SC, and the Anson WTP in Anson County, NC.

The CRWTP provides the majority of the water (15.1 MGD) to Union County (about 75%) from the Catawba River basin. The County's primary water supply and treatment is delivered from the Catawba River WTP (CRWTP) in Lancaster County, SC.

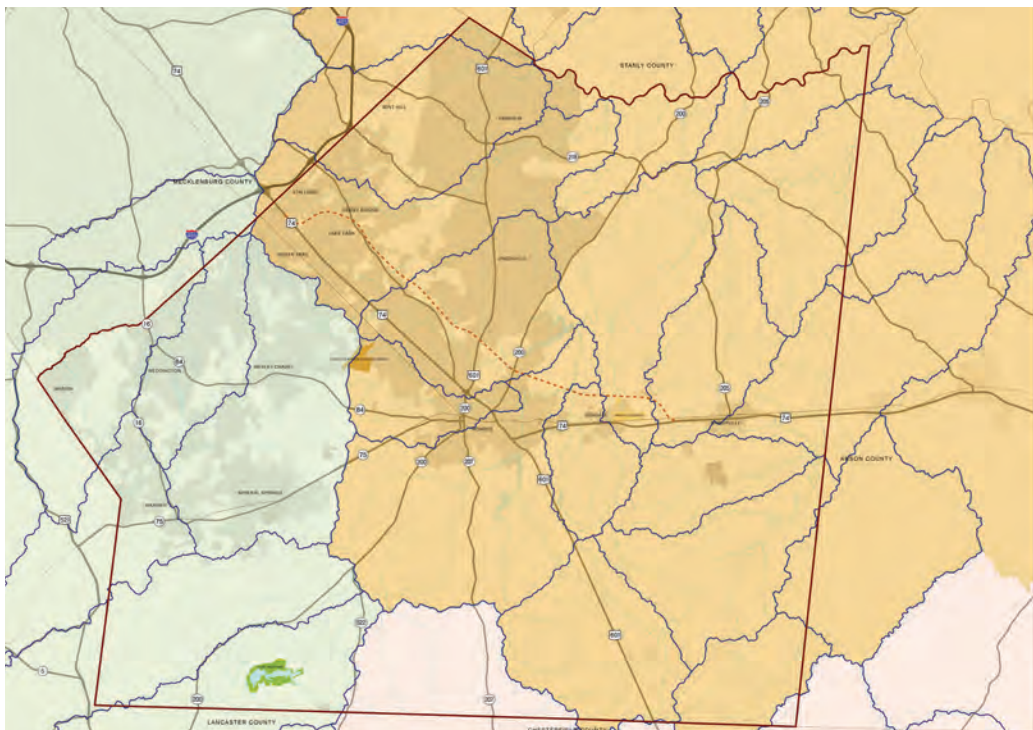
The CRWTP is a regional treatment facility with a permitted operating capacity of 36 MGD with the County having ownership of 18 MGD of capacity. With the County's ownership stake in this plant, issues of reliability and water

quality are proactively addressed by direct negotiation and funding of necessary improvements.

The Anson WTP serves the remaining 25% of the supply from the Yadkin River basin. The County has an existing agreement with Anson County for 4.1 MGD of maximum day capacity. This is bulk water purchase, as the County has no ownership rights in the Anson WTP. A pending agreement awaiting Anson County execution is for an additional 2 MGD for a total of 6.1 MGD. Additional transmission capacity upgrades are needed to make the additional supply available. As a wholesale customer of Anson County, Union County has experienced multiple periods of unstable water quality and insufficient supply, which has impacted the reliability and dependability of water supply from this source.

MAP 26: RIVER BASINS

- Catawba
- Upper Pee-Dee
- Lower Pee-Dee



STATE OF THE COUNTY ASSESSMENT

Water & Wastewater Infrastructure

Wastewater Treatment

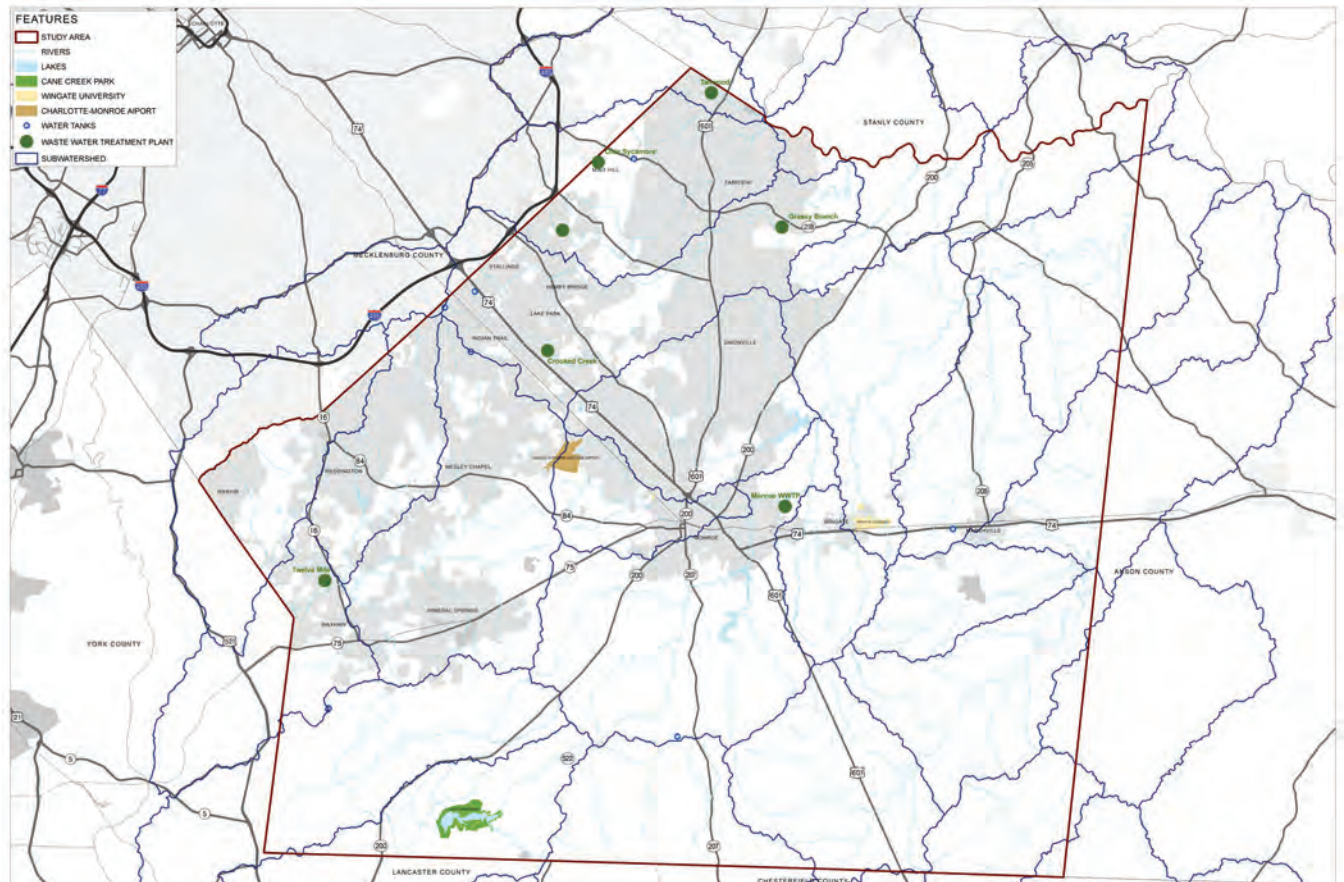
The County owns five wastewater treatment plants (WWTP), including two water reclamation facilities (WRF). The following table (Table 6) lists the facilities and, for each, indicates the type of facility, maximum capacity and the basin to which treated effluent is discharged. Capacity is also purchased from Charlotte-Mecklenburg Utilities (CMU) at the

McAlpine WWTP (1.0 MGD is being purchased presently, but by agreement, up to 3.0 MGD may be purchased), which serves development in the Six Mile Creek basin in the County. The County is also purchasing capacity from the City of Monroe WWTP (2.65 MGD). This serves the east side, including the communities of Marshville and Wingate.

TABLE 6: UNION COUNTY WASTEWATER TREATMENT PLANTS

Facility	Facility Type	Maximum Monthly Treatment Capacity	Discharge Basin
Twelve Mile Creek	WRF	6.0 MGD	Catawba River
Crooked Creek WRF	WRF	1.9 MGD	Yadkin Pee Dee River
Olde Sycamore	WWTP	0.15 MGD	Yadkin Pee Dee River
Tallwood Estates WWTP	WWTP	0.05 MGD	Yadkin Pee Dee River
Grassy Branch WWTP	WWTP	0.05 MGD	Yadkin Pee Dee River

MAP 27: WASTEWATER TREATMENT FACILITIES



Future Water and Wastewater Service

One of the major issues the County faces is facilitating development with the limitations imposed by the existing inter-basin transfer (IBT) regulations. Water supply withdrawal and wastewater discharge must be in accordance with the provisions of IBT permits issued by the State of North Carolina or the State of South Carolina; generally, withdrawals and discharges are restricted to the same basin unless otherwise permitted. Union County straddles two basins: the Catawba River to the west and the Yadkin-Pee Dee River to the east. The ridgeline between these two basins runs predominately north-south along the alignments of Old Monroe Road, Rocky River Road and NC-522.

In addition to capacity, the limits established by the existing IBT permits present challenges for serving the heavily populated and growing western portion of the County. In January, 2007, the State of North Carolina put in place a sewer moratorium to address the lack of capacity at the County's Twelve Mile Creek WRF on the west side. However, as a result of the planned improvements to the Twelve Mile Creek and the Crooked Creek WRFs, the moratorium has been lifted.

To help address the County's water supply issues, the County and Town of Norwood in Anson County entered into an inter-local water intake and transmission agreement that would allow both jurisdictions to improve their respective infrastructure and obtain a long-term secure source of raw water for each of their customers in the Yadkin-Pee Dee River Basin. According to the press release issued on May 6, "Under this agreement, Union County will build and pay for a new raw water intake for Norwood on Lake Tillery that will replace an aged existing intake facility. Union will also build and pay for a water treatment facility in Union County. Union will also install and pay for a raw water transmission line through Stanly County to move water to the new treatment facility in Union. Permitting, design and construction are expected to take 7 to 10 years. Union will make annual payments to Norwood up to a total of \$1 million for their cooperation in the partnership and input into the project. Upon project completion, Union will make a monthly payment to Norwood based on the amount of water transmitted to

Union's water treatment facility."

The recently completed Water and Sewer Master Plan (2010) provides a range of key recommendations to address future service needs. The following generally summarizes some of those recommendations.

Water:

- Increase water storage, which includes identifying a location for a new elevated water tank in the southwestern area of the County to increase "effective storage" needed to serve higher elevation customers with better water pressure, particularly for fire emergencies.
- Improve distribution by making specific improvements that address both high and low pressure deficiencies in identified pressure zones in the central and western portions of the County.
- Regularly update GIS data to ensure the information about the system is current, and maintain the hydraulic model to facilitate better decision making going forward.

Wastewater:

- As part of an IBT strategy, minimize the quantity of flow from transferred from the Catawba River basin to the Yadkin/Pee Dee River basin.
- Increase treatment capacity to serve existing and future development, particularly in high growth areas. Specifically,
 - Expand the Twelve Mile WRF to double capacity (from 6 MGD to 12 MGD) in two stages.
 - Pursue an equity partnership with the City of Monroe to "advance a financially responsible relationship with the City for both the additional capacity that is needed and to accommodate the connections to the existing City gravity collection system."
- Implement remediation strategies to address infiltration/inflow (I/I) issues in the system that affect capacity, particularly during significant peak flows.

STATE OF THE COUNTY ASSESSMENT

Public Services & Facilities

Many factors contribute to the quality of life in Union County, including a system of excellent schools. Families with school-aged children move to Union County to take advantage of these facilities.

Schools

Public Schools

Union County’s public education system offers 53 facilities that include high schools, middle schools, elementary schools, magnet schools, college prep, and other facilities to meet the needs of the community. As of the 2012–2013 school year, the Union County Public Schools system had a student population of 40,958, which was a 1.5% increase from the previous school year (40,359). There has been a growth in student population every year since the 2002 – 2003 school year. According to the Enrollment vs. Capacity worksheet produced by the school system, ten of the schools exceed 110% capacity, including four of the nine middle schools. Twenty-three percent of elementary schools, 50% of middle schools and 18% of high schools exceed 100% capacity. Map 28 (on the following page) illustrates the location of these facilities.

Private Schools

Union County has 10 private schools including seven religiously affiliated schools and three charter schools. A list of these schools can be found in Table 7.

College & Universities

Union County is home to two post-graduate institutions. These institutions are the South Piedmont Community College and Wingate University.

South Piedmont Community College (SPCC)

South Piedmont Community College has four campuses, two in Union County and two in Anson County. As of the fall 2012 enrollment, SPCC had 2,597 students registered for classes for credit and 6,880 for students not receiving credits. The campus located in Monroe is playing a significant role in strengthening the local economy. The workforce training program partners with local employers to develop Union County’s workforce to meet the needs

TABLE 7: UNION COUNTY PRIVATE SCHOOLS

Private Schools
Fellowship Christian
First Assembly Christian
Metrolina Christian
Monroe Christian Academy
Shining Light Christian
Sunset Park Christian
Tabernacle Christian
Union Academy Lower
Union Academy MS
Village Park Traditional

of the growing aerospace and precision manufacturing industries. In the past four years the Aerospace and Advanced Manufacturing Training Center has graduated more than 300 highly skilled industrial technicians and basic CNC machine operators. (source: <http://www.developunion.com/pro-business/training>)

Wingate University (WU)

Wingate University is a private university with nearly 2,700 students on three campuses in North Carolina. Campus Locations include Wingate (Main Campus), Charlotte, and Hendersonville. The university was founded by Baptists in 1896 as Wingate School. It later became a four-year college in 1977. In 1996, Wingate College became Wingate University. Today it offers 35 undergraduate majors, 37 minors and numerous pre-professional programs, as well as seven graduate and professional degrees. In 2013, Wingate University School of Pharmacy graduates scored above the state and national average on licensing exams. In 2012, the most popular major (22%), was in Business, Management, Marketing, and related support services.

Union County provides a full range of public services to its residents. These include regional and branch libraries, as well as fire and police departments for public safety.

Libraries

As illustrated in Map 28, Union County has four regional libraries: the Union West Regional Library in Indian Trail, Waxhaw Branch Library, Lois Morgan Edwards Memorial Library in Marshville, and the Monroe (Main) Library located in the City of Monroe. The library operates with the assistance of a Board of Trustees appointed by the Board of County Commissioners. The library system also relies upon public support through the Friends of the Library program.

Public Safety

Combined, police and fire provide a full range of services to County residents and businesses. Departments of each respond to mutual aid calls in support of each other.

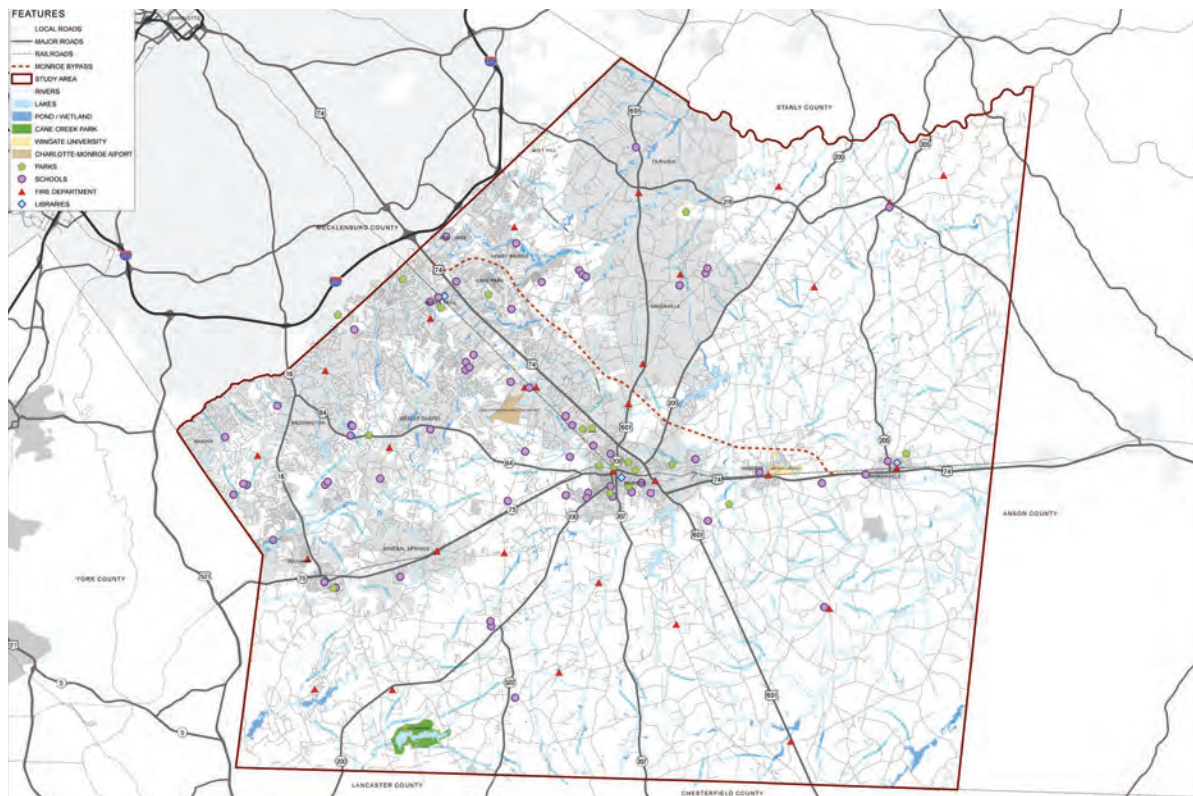
Fire

Union County operates 25 fire stations and 18 volunteer fire departments. The Fire Marshal's office provides a number of services including enforcing the fire prevention code, responding to emergencies, conducting fire investigations and leading numerous public safety and outreach programs.

Police

The Sheriff's Office employs approximately 189 sworn law enforcement personnel, 32 non-sworn personnel (i.e., detention officers) and 29 support staff (i.e., IT, administration, accounting, etc.). The four divisions of the Sheriff's Office, operations, investigations, services and detention provide a variety of functions to ensure the public's safety including full service patrols, neighborhood watch programs, animal services, investigations and detentions.

MAP 28: PUBLIC FACILITIES IN UNION COUNTY



STATE OF THE COUNTY ASSESSMENT

Parks, Recreation, Greenways & Open Space

The County’s parks and recreation system is comprised of a few facilities

intended to serve County residents. These facilities are also enjoyed by residents of the municipalities and neighboring counties. Much of the current demand is met by complementary municipal and private facilities. All are shown on the Recreation Facilities Services Map along with planned facilities that are intended to meet current demand and some of the anticipated future demand.

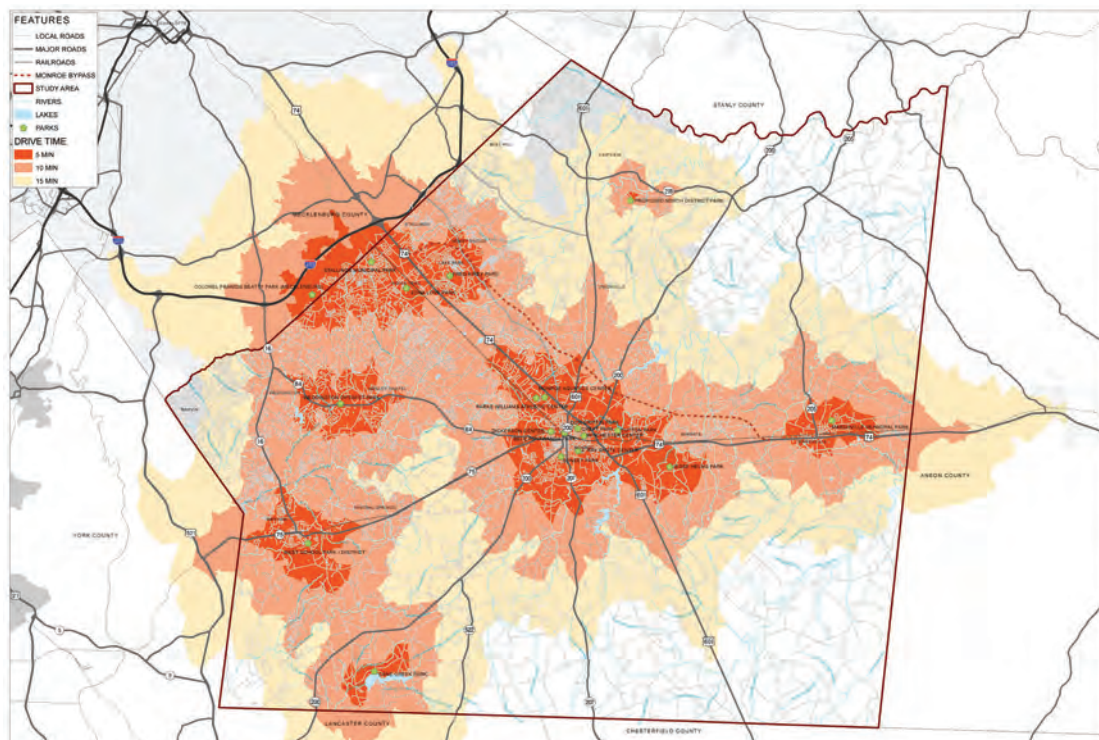
As the population changes in terms of total size, average age, health, activity levels, or lifestyle and leisure time preferences, the system offerings will need to be expanded or modified. The following inventories the existing and planned facilities, including parks, trails, and various types of publicly-accessible open space.

a variety of active and passive recreation options. Jesse Helms Soccer Complex and Fred Kirby Park are heavily used for organized team sports, including regional tournaments. According to stakeholder interviews, Jesse Helms and Fred Kirby are continually booked for organized youth sports. The amount of use indicates a need for additional field space to accommodate Union County’s growing youth recreational sports leagues and additional facilities in underserved portions of the county. While the three existing parks have in combination a large service area, the eastern portion of the

County Parks

Union County manages three parks: Cane Creek Park, Jesse Helms Park and Fred Kirby Park. These three facilities offer

MAP 29: RECREATION FACILITIES DRIVE TIME



County is not currently served, as shown on Map 29. Service areas extend into neighboring counties to the south and west. The parks are therefore more accessible to a high number of nonresidents as well. Cane Creek serves as a regional park destination for the larger metro area. The three facilities shown on the map are described in more detail below.

Cane Creek Park

Cane Creek Park is located in the southwest area of Union County. This park is a family-oriented facility that encompasses 1,050 acres. Inside this park there is a 350 acre lake that is accessible to the public. There are a variety of activities available for park goers. Park activities include mini golf, camping, playgrounds, mountain bike trails, horse trails, hiking, picnic facilities, boating, swimming, and fishing (with a permit). Largemouth bass, bluegill, crappie, and catfish can be found in Cane Creek Park's lake, which attracts fishing enthusiasts each year. Park visitors can also rent canoes, rowboats, and paddle boats.



Cane Creek Park

Jesse Helms Park

Jesse Helms Park Soccer Complex was opened to public use in July 25, 2009. This complex houses six full size soccer fields, picnic sites, a covered picnic site, paved walking trail, playground and public restrooms.



Jesse Helms Park

Fred Kirby Park

Located in the Western part of Union County, Fred Kirby Park is located in the Lake Park Community. This park was developed for both baseball and soccer. Currently the facility has two baseball fields, one full size soccer field, two gazebos, a playground, walking trail, and restroom facilities.



Fred Kirby Park

Proposed Facilities

Currently, there are plans to build two proposed parks in Union County. These projects are currently referred to as the West School Park and the North District Park. While these projects have been identified in the 2009-2013 Capital Improvement Plan for Parks and Recreation, they are not yet funded.

Municipal Parks

The lack of county parkland is addressed to some degree by the municipal parks in the County. Park facilities are available in each of the municipalities in Union County. The location of each listed in Table 8 is depicted on Map 29 on page 66.

Town of Indian Trail: The Parks Master Plan for the Town of Indian Trail is currently under development and the Plan will call for the development of trails in the community. Currently there is a 140 acre and a 51 acre park design for the Town of Indian Trail (Indian Trail, 2013). Both parks will have walking trails, fields, and multi-purpose areas for park users to enjoy. There is potential for greenway development via private and public partnerships. The town has many trails and parks within subdivisions, which are owned and managed by their local homeowners associations (Union County, 2011).

Town of Wingate: The Town of Wingate has Wingate Community Park which is a 20- acre park with ball fields and walking trails. Wingate is also home to Wingate University. Wingate University is developing a two-mile nature walk through a wooded area of its campus.

Trails, Greenways, and Blueways

There are numerous planned greenway facilities in the jurisdictions within Union County. Stallings, Indian Trail and Monroe all have proposed and planned greenway facilities connecting key locations such as schools, parks and commercial areas. In addition, the Town of Mineral Springs has developed a 1.7 mile natural surface trail that connects a number of existing subdivisions within its jurisdiction. The Carolina Thread Trail, a 15-county regional greenway initiative identifies 36 miles of greenways throughout the County.

Carolina Thread Trail

The Carolina Thread Trail has developed a master plan that identifies potential locations for future, trails, greenways and a blueway (kayak and canoe route) along the Rocky River throughout the County. According to the Master Plan for Union County the proposed “network of trails spans 100 miles across the County, much of it utilizes existing infrastructure and greenways so as to help realize recreational and transportation potential within Union County. Roughly 40 percent of the proposed conceptual route was derived from existing trails and plans, and 60 percent consists of trail routes that are new to the County and its municipalities. Of those new routes, over half would travel along road rights-of-way and a third would follow streams.” (source: Carolina Thread Trail Master Plan for Union County and Participating Municipalities, May 2011).

TABLE 8: MUNICIPAL PARKS IN UNION COUNTY

Municipal Parks	Location
Belk-Tonawanda	Monroe
Creft Park	Monroe
Don Griffin Park	Monroe
Edna Love Park	Indian Trail
Marshville Municipal Park	Marshville
Parks Williams Athletic Center	Monroe
Stallings Municipal Park	Stallings
Sunset Park	Monroe
Sutton Park Thomas Latimer, Center	Monroe
Lakeland Memorial Park	Monroe
Weddington Optimist Park	Weddington

STATE OF THE COUNTY ASSESSMENT

Environmental & Natural Resources

Union County lies within the Southern Outer Piedmont, a transition area from the mountainous Appalachians to the relatively flat coastal plains. The rolling hills, woodlands and rich soils of Union County contribute both to its beloved rural character and agrarian-based economy.

Topography

Originally this region was covered with dense forests or open woodland but now is mostly agricultural crops, pasture and housing. The topography still includes rolling hills that fall into streams with rocky bottoms. The highest elevation in the County is 770 feet and the lowest elevation (275 ft.) is located along the Rocky River.

Climate

Union County experiences four distinct seasons each year. The area is encompassed by humid southwestern airflows during spring and summer and dry northwesterly cold front alternating with easterly rainy spells during late fall and winter. Fall and spring are the driest seasons. The average temperature during winter is 43 degrees Fahrenheit.

Water Resources

Union County collects water from surface streams, lakes/reservoirs, and ground water. The major sources of drinking water for the County come from the Catawba River and the Yadkin Pee Dee River. The 2013 Annual Drinking Water Quality Report notes that both sources are moderately susceptible to potential contaminant sources. Other water resources in the County are the Rocky River in northern Union County, and Cane Creek Lake in the southwest part of the County.

The Rocky River, which empties into the Yadkin Pee Dee River. East of US-52, is a moderately-paced, navigable river. The 25-mile stretch located in the County has steep slopes and is un-dammed its entire length. The majority of streams in the County flow northeast into the Rocky River but in the western portion of the County Six-mile Creek, Twelve-mile Creek, and Waxhaw Creek flow southwest into Catawba River.

In addition, there are numerous wetlands throughout the County. These wetlands provide critical habitat to a variety of plant and animal species. As development continues, attention to the conservation of these habitats is critical to sustain aquatic species and protect water quality in the County.

Soils & Farmland

Agriculture and farming operations are a key component of the economy in Union County. According to the North Carolina Department of Agriculture 2013 Stat Book, there are 1,107 farms in the County totaling 404,160 acres of land. These operations brought in \$464,077,235 in receipts in 2012, ranking 3rd in the state. In addition, the County ranks 3rd in livestock, dairy and poultry production. Key to promoting and sustaining the agriculture economy is protecting the prime farmland soils that farmers rely on for crop production. Prime farmland is defined as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and that is available for these uses. It has the combination of soil properties, growing season, and moisture supply needed to produce sustained high yields of crops if it is managed according to acceptable farming methods. As detailed in

TABLE 9: SOIL CLASSIFICATIONS

Farmland Soil Classification	Acres	%
Prime farmland	93,621.29	22.9
Farmland of statewide importance	212,574.24	51.9
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season	20,158.51	4.9
Not prime farmland	82,953.10	20.3

APPENDIX C

Table 10 there are approximately 93,000 acres of prime farmland in Union County (approximately 23% of all soils) and 212,000 acres of farmland of statewide importance. As development continues into areas of agriculture production, measures are needed to mitigate the potential conflicts between active farming operations and residential development.

Significant Natural Heritage Areas

A Significant Natural Heritage Area is defined either an area of land or water that contains significant populations of rare plants and/or of animals, or an area containing one to several exemplary natural communities that function in a natural manner and that form a distinct geographical unit, the boundary of which can be natural (a watershed) or artificial (a road or a property line). During a recent study of the area, 23 sites were identified as Significant Natural Heritage Areas. Of these sites, three were identified as having national significance. These include Goose Creek Aquatic Habitat, Mineral Springs Barrens, and Waxhaw Creek Aquatic Habitat.

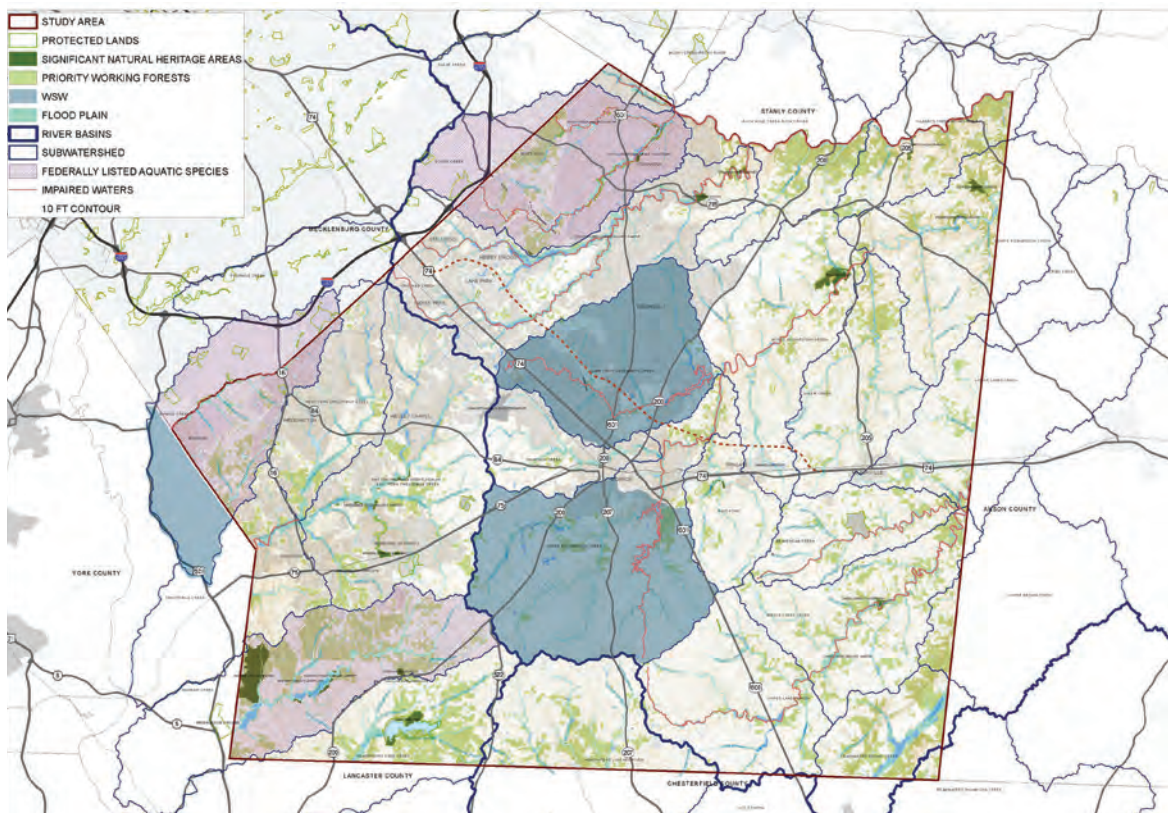
Habitats

Union County has a moderate diversity of habitats. It is estimated that there are well over 1,100 species of plants in the County including dangleberry, butterweed, and slender flat-topped goldenrod, among others. In addition, a variety of rare animals have been documented in the County. These include the eastern fox squirrel, loggerhead shrike, timber rattlesnake, coachwhip, mole salamander, Carolina darter, and robust redhorse. In addition, there are a collection of mollusks that can be seen in many rivers that cover the area. These including the Atlantic pigtoe, eastern lampmussel, Carolina heelsplitter, creeper, savannah Lilliput, eastern creekshell, Carolina creekshell and notched rainbow.

Carolina Heelsplitter

Union County has identified that 30,795.87 acres are Carolina Heelsplitter Critical Habitat. The Carolina Heelsplitter is a freshwater mussel. It is named the “Carolina Heelsplitter” because of its sharp edges that can cut the foot of someone walking on the river or stream bed. This species is only found in North and South Carolina. It is currently listed as “Critically Endangered” which means that the species is facing an extremely high risk of becoming extinct in the wild in the immediate future. Recently the Heelsplitter has made headlines for its role in curbing development in certain parts of the County.

MAP 30: ENVIRONMENTAL FEATURES



STATE OF THE COUNTY ASSESSMENT

Historic & Cultural Resources

The first inhabitants of the area were the Waxhaw and Catawba tribes.

European settlers, mainly from Scotland and Ireland, moved to the region in the 1700's and established productive farms and homesteads. The settlers also brought smallpox which nearly decimated the indigenous populations. The North Carolina gold rush in 1799 also drew a diversity of settlers to the region. To this day, privately owned gold and gem mines are still operating in Union.

Over time and with development of the railroad, Union grew as a productive and prosperous County. Many of the historic buildings and sites that remain reflect this golden age of Union County. The first Belk Store opened in Monroe in the late 1880s. Wingate University, founded as a school for Baptists, opened in 1896. Many of the homes on the National Register were also built during this period. Preserving this historic sites ensures that as Union County continues to grow, the story of its history is well-preserved.

National Register Sites

There are currently 12 National Register sites and four National Historic Districts in Union County. There are an additional 91 potential National Register sites including four potential historic districts still in consideration. Most of the Historic Districts and National Register sites are within incorporated municipalities.

Culture Resource Sites

There are a number of cultural resources in Union County including a variety of museums and art galleries.

Museums & Facilities

- JAARS Museum of the Alphabet:** This museum presents several tours and provides a unique perspective on writing systems. This location has exhibits about ancient and modern alphabet makers and walks a visitor through the history of the written language.
- JAARS Mexico-Caradenas Museum:** This museum features exhibits of Mexican culture with folk, art, photos, artifacts, and clothing. This museum offers an exhibit on Lazaro Caradenas who was Mexico's President from 1934 – 1940.
- Jesse James Historical Society:** Waxhaw is home to a historical society dedicated to the memorial of Jesse James.
- Jesse Helms Center Foundation:** The Jesse Helms Center provides educational programs and information about Senator Jesse Helms and values he prioritized during this life. This center offers lectures and has an interactive museum dedicated to the work Senator Jesse Helms.
- Cold Blooded Encounters:** Cold Blooded Encounters is a reptile zoo located in Monroe, NC. It has large exhibits of reptiles, amphibians, and bugs. This facility also incorporates an outreach program where they bring the Zoo to the community.
- Museum of the Waxhaws:** This regional museum is dedicated to the Native Americans who called this region of North Carolina home. This facility covers the history of the Waxhaws, The Civil War, and the American Revolution.

Arts

Union County supports the Arts through the Union County Community Arts Council. Their mission is to lead, cultivate and promote the arts as an essential component of community life and education. This organization awards grants to organizations, schools, and artists to increase available resources for enhancing community arts and arts education.

In addition, Wingate University offers 2 art galleries on campus, the Helms Gallery and the Griffin Gallery. The Helms Gallery features guest artists, faculty exhibits, and senior exhibits, while the griffin Gallery features Masters Collection of art work. The George A. Battle, Jr. Fine Arts Center and the Austin Auditorium on the Wingate Campus offer a variety of musical and theatrical events open to the public.

TABLE 10: NATIONAL REGISTER SITES & DISTRICTS

Name	Address	Description	National Register Year
Union County Courthouse	Courthouse Sq.	1888, 1926 Italiante, Neo-classical brick courthouse.	1971
John C. Sikes House	1301 E. Franklin St.	1926 Colonial Revival	1982
Piedmont Buggy Factory	514 Miller St.	1910 3 story brick buggy factory, textile mill 1919-1956	2004
Pleasant Grove Camp Meeting Ground	NE of Waxhaw on SR 1327	1830 & Later arbor & Ground	1974
Malcolm K. Lee House	Address Restricted	1919 Colonial Revival 2 story brick house	1988
North Carolina / South Carolina Cornerstone		1813 stone marker at state boundary corner	1984
Monroe City Hall	102 W. Jefferson St.	1847 3 story brick building	1971
United states post office	407 N. Main St.	1913 Neoclassical federal	1985
Waxhaw-Weddington Roads Historic District	Jct. of NC 75, NC 34 & W. Franklin St.	20th Century Residential District	1988
Monroe Downtown Historic District	Roughly bounded by Jefferson, Church, Windsor & Stewart St.	1875-1930 Commercial / Residential District	1988
Waxhaw Historic District	Portions of Main, Broad, Church, Broom, Providence, Old Providence, Brevard and McKibben Sts.	1888-1940 Commercial / Residential	1991
Monroe Residential Historic District	Roughly bounded by Hough, Franklin, Jefferson, McCarten, Windsor, Sanford, Washington. Braden, Church & Hudson Sts.	1870 – 1940 Residential District	1988

Appendix D

LONG-TERM GROWTH PROJECTIONS



As noted earlier in this plan, Union County has not only been among the fastest growing counties in the state, but in the nation as well, boasting a 5.7 percent annual growth rate since 2000. Over the last several years, growth in the County and region has slowed as higher unemployment rates and lower mobility levels have tempered migration, with growth in the County averaging around 1.9 percent annually. Residential and employment growth in Union County has largely been driven by the employment growth occurring primarily in Mecklenburg County, which has fueled housing demand in Union and other suburban counties near Charlotte. This household growth has also been driven by Union's high quality of life, quality schools, and suburban lifestyle, as well as its relative value proposition (including taxes) to Mecklenburg.

However Union County remains a bedroom community to Charlotte. Roughly 70 percent of employed people living in Union County work outside of the County (most in Mecklenburg), with around 24,000 (30 percent) of residents also working in the County and an additional 26,000 workers flowing into the County from adjacent counties.

Of the net 11,300 jobs added in Union County between 2000 and 2010, roughly 97 percent occurred in industries serving the local population, such as local government, health care, retail

trade, personal services and food services. Meanwhile, other industry types accounting for the remaining growth in the County, such as professional services and finance, include both a local-serving and potentially regional-serving component.

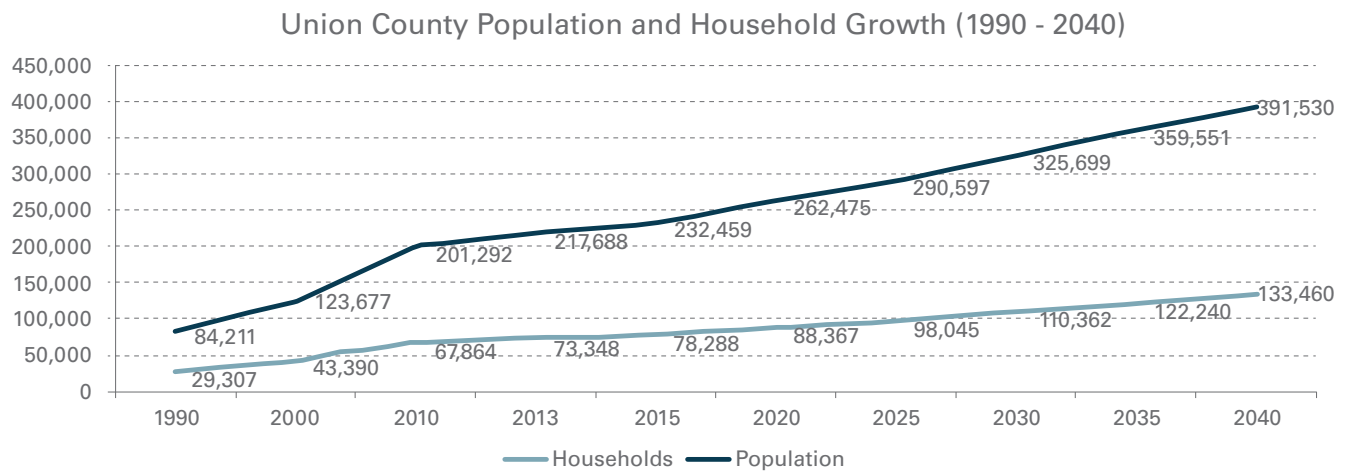
This trend of population-driven employment growth will continue to account for the majority of growth in Union County in the next three decades, with growth in other sectors, such as manufacturing, account for a slightly larger share of overall growth in the coming years.

As such, this analysis of growth in the County is focused foremost on population and household growth in the coming years, with an analysis of economic growth stemming from an increasing number of households in the County, as well as new employment opportunities which will potentially serve populations beyond the Union County line.

This tempered growth rate is reflective of both moderating growth in the Charlotte region and the changing demographics and preferences of the market, particularly of Generation Y. Indeed, the last few years have shown a dramatic shift of growth away from suburban areas to more walkable and convenient locations. While Union County offers a high quality of life, opportunities for such locations will become increasingly

APPENDIX D

FIGURE 1: POPULATION AND HOUSEHOLD GROWTH 1990 - 2040



important in order to maintain that quality of life and provide a wider variety of housing.

As Union County's population continues to grow, an increase in its ability to support a growing variety of retailers, service providers and office spaces will diminish the County's dependence on Mecklenburg County. Likewise, Union's efforts in growing its manufacturing base will create a greater potential for those living in the County to also work in the County. The result is an improvement in the County's jobs to housing ratio between 2010 and 2040.

To date, this ratio has averaged around .64 jobs for every new household added between 2000 and 2007, the period before the Great Recession hit the market. This ratio will gradually increase in the coming years, as the County provides more job opportunities and its manufacturing base returns. Therefore, this analysis estimates an average jobs-to-household ratio of approximately .7 on average for the next 30 years.

The result is annual job growth of around 1,700 net new jobs during this period, a factor well above the average annual job growth of 890 net new jobs from 2000 to 2010, but slightly less than the rate of job growth occurring during the booming period prior to the Great Recession between 2000 and 2007. As shown in the table one the following page, the greatest job growth is estimated to occur in local government, retail, and leisure and hospitality. While these industries are still local-serving in nature – and generally moderate-paying – they now only account for roughly 75 percent of estimated future job growth, a considerable decrease from the 97 percent of job growth in these sectors during the 2000s.

These job growth projections are based on projections provided by Moody's Analytics and then adjusted based on demand for key land uses, including retail, office and industrial spaces.

Key notes from the employment projections above include:

- Government, mostly local, accounted for 56 percent of job growth in the 2000s, and will drop to around 23 percent going forward – a ratio of roughly 5.6 net new households per one net new government job for in the County;
 - This ratio is largely consistent with the 6.0 new households per every new government job ratio in Union County from 2000 – 2012, and the regional ratio of 5.5 net new households per every new government job during that same period.
- One in 5 jobs created in Union County in the future will be in the retail sector, as the County's growth continues to create more significant retail opportunities and dependence on Mecklenburg gradually decreases;
- Manufacturing jobs, which sharply decreased in the 2000s, are reemerging in the County and showing positive growth through the next 30 years. This reemergence of jobs reflects a national trend by which more goods are manufactured in the US because of higher transportation costs;
- Similarly, construction jobs show positive growth over the next 30 years, as the housing market recovers and stabilizes.

TABLE 1: JOB GROWTH ESTIMATES BY INDUSTRY

Industry	2000	2010	2015	2020	2025	2030	2035	2040	Change 2010 - 2040
Natural Resources and Mining	197	155	157	228	272	319	371	419	264
Construction	7,292	6,172	6,193	7,029	7,461	7,980	8,560	9,088	2,916
Manufacturing	13,127	10,522	10,692	11,516	11,709	12,267	12,867	13,436	2,914
Wholesale Trade	1,071	1,346	1,418	1,823	2,163	2,573	3,013	3,431	2,085
Retail Trade	4,892	6,026	7,297	8,910	10,799	12,695	14,801	16,719	10,693
Transportation, Warehouse, and Utilities	1,059	1,233	1,288	1,483	1,660	1,864	2,083	2,291	1,058
Information	435	577	629	709	776	856	946	1,027	450
Financial Activities	1,022	1,324	1,730	2,457	3,113	3,849	4,814	5,654	4,330
Professional and Business Services	2,259	4,257	4,463	4,791	5,103	5,415	5,791	6,103	1,846
Education and Health Services	2,098	4,130	4,592	5,211	5,880	6,546	7,288	7,973	3,842
Leisure and Hospitality	2,727	3,961	5,292	6,375	7,168	8,461	9,904	11,219	7,259
Other Services (except Public Administration)	1,427	1,848	2,078	2,397	2,773	3,124	3,540	3,891	2,043
Government	5,787	10,742	11,426	13,666	15,883	17,956	20,269	22,377	11,635
Total	43,394	52,293	57,255	66,595	74,759	83,906	94,249	103,629	51,336

The numbers above reflect the numbers of jobs, which is different from the number of employees. In a number of positions, particularly in the retail and food services industries, multiple employees may perform one job, i.e. three part-time people filling one position.

Therefore, an analysis of Union County employment sectors estimates approximately 1.39 employees for every job in the County. Applying ratios identified by industry type (construction, retail, personal services, and food services being higher), there are an estimated 72,000 employees in the County as of 2010, growing to around 145,000 employees by 2040.

TABLE 2: EMPLOYEE GROWTH ESTIMATES PER INDUSTRY

Industry	2000	2010	2015	2020	2025	2030	2035	2040	Change 2010 - 2040
Natural Resources and Mining	229	180	182	265	315	370	431	486	307
Construction	14,365	12,159	12,201	13,848	14,697	15,721	16,863	17,904	5,745
Manufacturing	15,227	12,206	12,403	13,359	13,582	14,230	14,926	15,585	3,380
Wholesale Trade	1,242	1,561	1,644	2,114	2,509	2,985	3,495	3,980	2,419
Retail Trade	8,072	9,943	12,039	14,701	17,819	20,946	24,421	27,586	17,643
Transportation, Warehouse, and Utilities	1,518	1,768	1,847	2,125	2,379	2,672	2,986	3,284	1,516
Information	518	687	749	843	924	1,019	1,126	1,223	536
Financial Activities	1,126	1,575	2,059	2,924	3,704	4,580	5,729	6,728	5,153
Professional and Business Services	2,688	5,066	5,311	5,701	6,072	6,444	6,891	7,262	2,196
Education and Health Services	2,895	5,699	6,336	7,190	8,114	9,832	10,056	11,001	5,302
Leisure and Hospitality	4,227	6,139	8,203	9,881	11,110	13,115	15,352	17,390	11,251
Other Services (except Public Administration)	2,203	2,853	3,208	3,701	4,282	4,823	5,466	6,007	3,154
Government	6,887	12,783	13,596	16,263	18,900	21,368	24,121	26,629	13,846
Total	61,288	72,619	79,779	92,916	104,408	117,305	131,863	145,066	72,448

APPENDIX D

For-Sale Housing Growth and Demand

Over the next 30 years, Union County is estimated to add an average of 2,200 units annually. A number of statistical factors determined demand potential for different types of housing product, including both rental and for-sale residential, as well as different for-sale products. These factors include not only data from the US Census and local home sales statistics (via MORE), but also research findings from a large survey conducted in 2012 with 1,000 employees in the Research Triangle Park; these employees are mostly white collar workers with incomes similar to those of Union County residents. The survey respondents included those less willing to make trade-offs, such as fewer square feet in their residence, to live closer to work. These responses were

relevant given the distances from much of Union County to Charlotte's major employment cores.

As shown in the table below, there are nearly 52,500 owner-occupied housing units in Union County as of year-end in the base year, 2010. The overwhelming majority of these units are detached single-family homes, with approximately 1,000 others as either single-family attached, such as townhouses, or attached for-sale condos.

Based upon the growth estimations highlighted earlier, total for-sale housing units in the County are estimated to almost double from 52,500 units in 2010 to more than 101,000 units in 2035.

TABLE 3: HOUSING DEMAND ESTIMATES

Demand Type	2010 Base (Est.)	2015	2020	2025	2030	2035	2040	Total Change 2010 - 2040
For-Sale Residential Demand	52,489	57,477	65,641	73,480	83,457	93,078	102,166	49,677
Patio Home	51,503	612	1,860	3,059	4,584	6,055	7,445	43,182
Single-family on small lot		600	1,823	2,998	4,493	5,934	7,296	
Single-family on average lot		2,337	7,106	11,685	17,512	23,132	28,441	
Townhouse	728	1,071	1,770	2,441	3,295	4,119	4,897	4,169
Condominium	258	368	593	809	1,083	1,348	1,598	1,340

Likewise, demographics and homebuyer preferences are shifting. Walkable locations, and more convenient housing types, such smaller-lot single-family homes, patio homes and townhouses and condominiums, are becoming more attractive to future and aging Union County households.

Based on modeling efforts, there is greater potential in the County for these alternates to average or larger lot communities. While close to 60 percent of estimated demand potential is for conventional to larger lots, which are the dominant products in Union County today, approximately 30 percent of demand potential could be for detached homes on smaller lots or patio homes, with the last 10 percent being for attached for-sale products such as townhouses or condominiums.

People buy these alternative products, particularly patio

homes, townhouses and condominiums for two major reasons: as price alternatives to single-family homes on average or larger lots, or as a lifestyle product such as walkable communities, or a park-oriented location. Home prices in Union County, particularly in Weddington and Waxhaw, are quite high. Therefore, alternative products may be attractive to residents seeking lower-priced housing options. The opportunity also exists to create locations offering the lifestyle proposition, in areas around existing town centers as well as new, walkable town centers.

Based on demand, and the density assumptions provided in the table below, new for-sale residential development in Union County between 2010 and 2035 will require an estimated 17,000 acres of land.

TABLE 4: DENSITY ASSUMPTIONS

Type of Housing Unit	Total Number of Housing Units	Density Assumption	Total Acreage Demand
Patio Home	7,445	4 units / acre	1,861
Single-family on small lot	7,296	4 units / acre	1,824
Single-family on average lot	28,441	2.25 units / acre	12,640
Townhouse	4,897	8 units / acre	612
Condominium	1,598	14 units / acre	114

Rental Apartment Growth and Demand

A combination of US Census data and growth models estimate a demand potential for nearly 6,000 new rental apartments in the County between 2010 and 2035. This equates to an average of approximately 300 units annually, or roughly one new community each year, and is reflective of both the continuing suburbanization of the County as well as fundamental tenure shifts that have taken place in the last five years.

Indeed, several municipalities in the County have already experienced an increase in permit applications for new rental apartments. These towns are well-suited for such development, particularly in locations that may be within walking distance of their downtowns.

TABLE 5: RENTAL APARTMENT GROWTH AND DEMAND

Demand Type	2010	2015	2020	2025	2030	2035	2040	Total Change 2010 - 2040
	Base (Est.)							
Apartment Demand	1,898	2,640	3,590	4,524	5,714	6,861	7,966	6,046

Retail Growth and Demand

Union County is “leaking” nearly 25 percent of all expenditures excluding auto sales to Mecklenburg County. Much of this leakage occurs in larger retailers, such as department stores, discount retailers (e.g. Target or Kohl’s), other clothing and furniture chains, etc. Many of these larger format retailers have captured Union County’s demand either in South Mecklenburg County, in centers such as Blakeney Heath, or in regional malls such as Southpark or Carolina Place.

model converted that growth into supportable square feet of retail space over the next 25 years. As shown above, the County can support an estimated additional 6.6 million square feet of space between 2010 and 2035. This represents a 150 percent increase in retail space demanded from the estimated nearly 4.1 million square feet that existed in 2010. This total 6.6 million square feet of growth is equivalent to adding four Southpark Malls in terms of total square feet of space.

A demand model was created that incorporates demographic growth projections and per capita expenditures for Union County residents (estimated to be around \$9,875 in 2013 dollars). Utilizing other key data sources and metrics, the

Included in this estimate are an assumed 70 percent capture rate of retail space going forward, which is similar to today’s rate, and a 10 percent vacancy factor, one that is highly consistent with the historic rates of the local market.

Roughly one-third of this demand will be for general

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TABLE 6: SUPPORTABLE SQUARE FEET OF RETAIL SPACE BY INDUSTRY

Retail Category	2010	2015	2020	2025	2030	2035	2040	Total Demand Growth
Furniture and Home Furnishings	212,852	231,857	270,476	306,656	351,818	395,372	436,516	223,663
Electronics and Appliances	84,487	96,723	121,587	144,881	173,957	201,999	228,488	144,001
Building Materials, Garden Equipment	511,989	588,591	744,248	890,078	1,072,111	1,247,660	1,413,494	901,504
Food and Beverage	351,701	447,407	641,886	824,085	1,051,517	1,270,850	1,478,042	1,126,341
Health and Personal Care	177,961	209,225	272,755	332,274	406,569	478,217	545,900	367,939
Clothing and Clothing Accessories	305,381	336,885	400,902	460,877	535,741	607,939	676,140	370,759
Sports, Hobby, Book and Music	155,894	170,204	199,284	226,527	260,534	293,330	324,311	168,417
General Merchandise	1,031,241	1,204,095	1,555,341	1,884,411	2,295,173	2,691,307	3,065,515	2,034,275
Miscellaneous Store Retailers	381,604	415,000	482,862	546,440	625,801	702,336	774,634	393,031
Food Service and Drinking	897,090	969,186	1,115,688	1,252,940	1,424,266	1,589,490	1,745,569	848,479
Total	4,110,200	4,669,173	5,805,029	6,869,169	8,197,488	9,478,500	10,688,608	6,578,408

merchandise stores, a category that includes department stores such as Belk’s or Nordstrom, as well as retailers such as Walmart or Target. While some of these retailers are already or will soon be located in Union County, others, such as a number of regional department store brands are missing from the market today and represent future opportunities.

Much of the retail demand provided above will be delivered in a mix of freestanding stores, such as a Walgreen’s, grocery-anchored neighborhood shopping centers or Community/Power Centers. There is a real potential to create one or more sizable lifestyle or town centers in the County, like Birkdale Village or the Main Street component of Blakeney, particularly given the high incomes found in the western portions of the County. Such a center could capture the mall-type tenants currently found in Mecklenburg County today, who may consider a Union County location in the future.

Assuming development at around 10,000 square feet per acre—a typical suburban development intensity—Union County can support approximately 604 net new retail acres between 2010 and 2035. Should Union capture an even greater share of retail demand currently leaking to Mecklenburg County, this acreage need would increase over time.

Office Growth and Demand

Moreover, while Union County, particularly western Union County, offers the high incomes and executive housing that

are attractive to larger-scale office users, the County has yet to see significant regional-serving office growth. This is due to a disparity between the locations of executive housing, which are located far from the region’s freeway network along NC 16, and the areas with better access, such as those with a more moderate income base that are somewhat removed from south Charlotte’s other office cores, such as Southpark, Ballantyne and Whitehall. Given this disconnect, and the need for larger offices with strong regional access, demand for office space in Union County will continue to emanate from smaller entities serving the County’s residents and other businesses. These include medical offices, attorney and accounting firms, Realtor offices, etc.

A model was created to estimate demand potential for local-serving office uses. Like the retail demand model, this local-serving office model is based on population growth likely to occur in the County between 2010 and 2035. It focuses on those firms with fewer than 20 employees—firms that are typically focused primarily on serving the local market.

Demand for these local-serving office uses is estimated to grow from around one million square feet today to close to 2.5 million square feet by 2040. Union County currently has an oversupply of office space, vacancy rates among examined office properties are close to 30 percent, and thus short-term demand through 2015 actually shrinks slightly to account for this oversupply. Between 2015 and 2020 this oversupply will

TABLE 7: OFFICE SPACE GROWTH AND DEMAND

Total Demand	2010 Base (Est.)	2015	2020	2025	2030	2035	2040	Total Change 2010 - 2040
Office Space	1,099,764	1,012,222	1,281,111	1,527,778	1,894,444	2,179,444	2,488,333	1,388,539

be eliminated and the County will then be able to support demand for new office space.

The greatest demand for this space will develop along key thoroughfares in western Union County around Weddington,

Waxhaw, Wesley Chapel and closer to Independence Boulevard near the smaller towns. Assuming development intensities of approximately .4 FAR (or 17,500 SF per acre), then nearly 82 acres of office land will be needed over the next 25 years.

TABLE 8: INDUSTRIAL SPACE GROWTH AND DEMAND

Total Demand	2010 Base SF	2015	2020	2025	2030	2035	2040	Net Demand 2010 - 2040
Industrial Space	15,617	19,775	21,418	22,327	23,236	24,145	25,053	9,435

Industrial Growth and Demand

Union County’s industrial market has historically focused on manufacturing, with much of that related to agriculture, such as food processing. More recent manufacturing development has centered on aerospace-related manufacturing. However, the County’s limited access to regional interstates – there are no interstates in the County, and I-85 and I-77 are located 11 or more miles away via I-485 – has tempered its attraction to firms involved in transportation/trucking and wholesaling operations. Nevertheless, Union has been able to increase its capture of industrial jobs from roughly 12.8 percent of the Charlotte Metro Area in 2000 to nearly 14.2 percent of regional industrial employment in 2010.

Manufacturing locally, regionally and nationally was greatly affected by the recent recession, and has been in steady decline over the last several decades. However, due to rising transportation costs, the industry has grown recently and is forecasted to continue this positive trend in the coming years.

Industrial employment in the County is estimated to grow from around 20,000 employees in 2010 to approximately 33,000 by 2040. Included in this estimate are increases in manufacturing, as well as moderate increases in transportation and utilities and wholesale distribution. It represents a projected regional capture of between 17 to 18 percent of industrial jobs by 2040. In addition, while other positive outcomes could occur from the creation of a high-speed, limited access roadway into the county, such outcomes were not considered in this report.

Square feet utilization varies significantly, with approximately 1,000 SF/employee being utilized as an average across all types being around 750 SF/employee. This ratio results in industrial demand growth of nearly 9.4 million square feet over the next 30 years.

The industries included in this growth estimate include manufacturing, namely aerospace-related, regional transportation/utilities, and wholesale.

Agricultural Promotion

Union County has one of the state’s largest agricultural economies, which should be preserved and enhanced. Among the strategies Union should consider are:

- Improving key farm-to-market roads and bridges to allow safer and easier transport for trucks traveling to and from farms;
- Focusing on extending technology infrastructure and network access to more rural areas of the County to help farmers monitor crop or animal conditions, remotely operate some machinery and coordinate efforts within their farms;
- Investigating opportunities to pair Union’s agricultural industry with the North Carolina Research Campus in Kannapolis;
- Working with the State or enacting local legislation to tighten and adjust existing Right-to-Farm laws that protect farmers from approaching suburban development;

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- Toughening standards and notification processes occurring in the closing process for homes within close proximity of farms or agricultural areas important to Union County's agricultural industry.
- Considering implementation of North Carolina conservation easements to protect area farmlands from being developed. These could include additional credits at the county level in conjunction with maintaining agricultural uses.

Appendix E

SURVEY RESULTS

Two surveys were administered during the analysis of existing conditions to update the Union County Comprehensive Plan. One survey was issued at the first public meeting, the Project Symposium. The second was an online survey administered over the course of 3 months. The results of each survey are highlighted below.

Symposium Survey Results

Question 1 If Union County had a professional sports team, what should be its name? (Multiple Choice)		
	Percent	Count
The Heel Splitters	28%	7
The Cane Creek Largemouths	24%	6
The Fightin' Boll Weevils	20%	5
The Reverse Commuters	28%	7
Totals	100%	25

Question 2 Union County is poised to see significant growth over the next 20 years and beyond. How should this growth occur? (Multiple Choice)		
	Percent	Count
In a manner similar to the last decade	7%	2
Focused around new and existing city/town centers	64%	17
Clustered along existing corridors	11%	3
Located along new corridors	7%	2
Somewhere else – growth need to be largely halted.	11%	3
Totals	100%	27

Question 3 How high of a priority should the preservation of Union County's agricultural community be in this plan? (Multiple Choice)		
	Percent	Count
A very high priority	50%	13
Definitely a priority, but not a top priority	46%	12
Not really a priority	4%	1
Totals	100%	26

Question 4 Which of the following policies would you most like to see in this plan to maintain or strengthen Union County's agricultural base? (Choose your top priority). (Multiple Choice)		
	Percent	Count
A targeted pool of funds to upgrade farm-to-market roads and bridges?	20%	5
New industrial properties targeting agriculture-related industries and manufacturers?	50%	13
Growth policies to protect large areas of farming in the County?	30%	7
Totals	100%	25

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Question 5

Young singles, childless couples, aging singles, and couples are growing populations in the Charlotte region and are candidates for housing other than larger lot single-family homes. How important is it that this plan provide for growth policies that addresses housing needs and preferences among these groups? (Choose one) (Multiple Choice)

	Percent	Count
Very Important	68%	17
Somewhat Important	20%	5
Not Particularly Important	12%	3
Not at all Important	0%	0
Totals	100%	25

Question 6

Rank in importance each of the following in terms of appropriateness in Union County? (Choose 1 thru 4 with your first choice as highest priority and your last choice as lowest priority) (Priority Ranking)

	Percent	Count
Small-lot single-family homes	28%	242
Townhomes	26%	226
Apartments, condos	24%	206
Multifamily above retail	22%	196
Totals	100%	870

Question 7

Is there a housing affordability issue in Union County? (True / False)

	Percent	Count
True	56%	14
False	44%	11
Totals	100%	25

Question 9

Which of the following would you support Union County looking into further to stimulate a larger employment base? (Choose 1 thru 5 with your first choice as highest priority and your last choice as lowest priority) (Priority Ranking)

	Percent	Count
Working with developers to create office or industrial parks with below-market land prices?	23%	230
Investing in new roads and other infrastructure to improve access to the County?	23%	234
Loosening existing development, zoning and permitting regulations and policies?	16%	164
Offering significant tax incentives to new employers in order to compete with South Carolina?	20%	193
Loosening liquor laws to encourage more sit-down restaurants in the County?	18%	176
Totals	100%	997

Question 10 Which of the following is the most important? (Multiple Choice)		
	Percent	Count
Housing Choices	0%	0
Mobility	37%	9
Agriculture	0%	0
Economic Development	50%	12
Environment	13%	3
Totals	100%	24

Question 11 How do we improve our current roadway system? (Multiple Choice)		
	Percent	Count
More connectivity	10%	2
Widen major arterials (US 1, 401, 96, 97, etc.)	42.5%	9
Build "Complete Streets"	42.5%	9
Improve Operations (signals, ITS, etc.)	5%	1
Protect what we have (access management, traffic calming, retrofits)	0%	0
Totals	100%	21

Question 12 Would you give up travel lane space for a busway or fixed-guideway transit? (Multiple Choice)		
	Percent	Count
Yes	29%	7
No	46%	11
Not in my lifetime...	25%	6
Totals	100%	24

Question 13 Which of the following best supports your vision of Livability? (Multiple Choice)		
	Percent	Count
Healthy Jobs-to-housing balance	33%	8
Access to great shopping and restaurants	8%	2
Robust highway system that connects me to everything	21%	5
I can walk/bike to my employment and recreational areas	25%	6
High quality schools, parks and community facilities	13%	3
Totals	100%	24

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Question 14 What makes a community bicycle friendly? (Multiple Choice)		
	Percent	Count
Bike lanes on major arterials	27%	6
Greenways	55%	12
Signed bike routes	14%	3
Safe intersections	4%	1
All of the above	0%	0
Totals	100%	22

Question 15 What are the highest priority infrastructure concerns? (Choose one) (Multiple Choice)		
	Percent	Count
Aging system	13%	3
Septic system failures	4%	1
Water pressure	4%	1
Long term water supply	75%	17
Other	4%	1
Totals	100%	23

Question 16 Union County (including jurisdictions) has 14,062 acres of land available with water and sewer service. Where should we grow next? (Choose one) (Multiple Choice)		
	Percent	Count
Grow at higher densities where infrastructure already exists	70%	14
Continue to grow at current densities into undeveloped areas	20%	4
Grow in areas not in conflict with agriculture operations	10%	2
Totals	100%	20

Question 17 If Union County were to receive funds for community facilities, where should money be spent? (Choose one) (Multiple Choice)		
	Percent	Count
More libraries	4%	1
More parks	29%	6
More sidewalks that connect	29%	6
More running paths and multi-use trails	29%	6
Other	9%	2
Totals	100%	21

Question 18 What types of recreational facilities are most needed in Union County? (Choose one) (Multiple Choice)		
	Percent	Count
Fields (soccer, lacrosse, baseball, softball)	32%	6
Kid-friendly parks with playgrounds	5%	1
Passive recreation facilities (picnic shelters, open space)	10%	2
Trails (e.g., Carolina Thread Trail)	16%	3
YMCAs or other private facilities	5%	1
Another large recreation area like Cane Creek	32%	6
Other	0%	0
Totals	100%	19

Question 19 Union County could become a premier destination for _____ if investments were made. (Choose one) (Multiple Choice)		
	Percent	Count
Road bikers	10%	2
Horse enthusiasts	24%	5
Youth sports tournaments	33%	7
Outdoor recreation	33%	7
Other	0%	0
Totals	100%	21

Question 20 Union County does a good job at protection of environmental resources. (Choose one) (Multiple Choice)		
	Percent	Count
Strongly Agree	24%	5
Agree	14%	3
Neither Agree nor Disagree	24%	5
Disagree	24%	5
Strongly Disagree	14%	3
Totals	100%	21

Question 21 Union County does a good job at protection of historic resources. (Choose one) (Multiple Choice)		
	Percent	Count
Strongly Agree	10%	2
Agree	32%	7
Neither Agree nor Disagree	29%	6
Disagree	24%	5
Strongly Disagree	5%	1
Totals	100%	21

APPENDIX E

Survey Monkey Results

Question 1					
How important are the following GROWTH/ECONOMIC DEVELOPMENT goals to future of Union County?					
	Very Important	Important	Neutral	Unimportant	Very Unimportant
Promotion of New and Existing Businesses	64.71%	29.41%	5.88%	0%	0%
Orderly and Predictable Growth	68.75%	31.25%	0%	0%	0%

Question 2					
How important are the following PRESERVATION OF AGRICULTURE AND OPEN SPACE goals to future of Union County?					
	Very Important	Important	Neutral	Unimportant	Very Unimportant
Maintain Agricultural Production and Forestry	76.47%	23.53%	0%	0%	0%
Protect Rural Character and Scenic Views	76.47%	23.53%	0%	0%	0%
Foster Cooperative Relationships Between Farmers and Residents	58.82%	41.18%	0%	0%	0%
Direct Development Away from Rural Areas	47.06%	23.53%	23.53%	5.88%	0%
Promote Protection of Open Spaces and Environmentally Sensitive Lands	64.71%	29.41%	5.88%	0%	0%

Question 3					
How important are the following PUBLIC FACILITIES (WATER AND SEWER SERVICE, SCHOOLS) goals to future of Union County?					
	Very Important	Important	Neutral	Unimportant	Very Unimportant
Ensure Utility Capacity for Future Development	80%	20%	0%	0%	0%
Fiscally Efficient Public Water and Wastewater Service	80%	20%	0%	0%	0%
Seek Opportunities with Neighboring Jurisdictions to Expand Utility Systems	53.33%	26.67%	20%	0%	0%
Reserve Utility Capacity for Future Growth	40%	40%	20%	0%	0%
County and School District Coordination for Schools	66.67%	20%	13.33%	0%	0%
Joint-Use of Schools and Recreational Facilities	53.33%	33.33%	6.67%	6.67%	0%

Question 4 How important are the following ENVIRONMENTAL PROTECTION goals to future of Union County?					
	Very Important	Important	Neutral	Unimportant	Very Unimportant
Protect Water and Air Resources	73.33%	26.67%	0%	0%	0%
Consider Impacts of New Development on Environmental Features	64.29%	35.71%	0%	0%	0%

Question 5 How important are the following TRANSPORTATION goals to future of Union County?					
	Very Important	Important	Neutral	Unimportant	Very Unimportant
Support and Expand Bus Transit Service	33.33%	33.33%	20%	13.33%	0%
Identify Future Rail Service Corridor	26.67%	33.33%	26.67%	0%	13.33%
Land Use Planning for Monroe Connector/ Bypass Corridor and US-74	66.67%	20%	13.33%	0%	0%
Coordinated Roadway Planning	73.33%	26.67%	0%	0%	0%
County and School District Coordination for Schools	66.67%	20%	13.33%	0%	0%
Joint-Use of Schools and Recreational Facilities	53.33%	33.33%	6.67%	6.67%	0%

Question 6 How important are the following HOUSING AND NEIGHBORHOODS goals to future of Union County?					
	Very Important	Important	Neutral	Unimportant	Very Unimportant
Provide a Range of Housing Choices	40%	46.67%	13.33%	0%	0%
Strengthen and Enhance Existing Neighborhoods	60%	26.67%	13.33%	0%	0%
Encourage Infill Development/Discourage "Leapfrogging"	40%	33.33%	26.67%	0%	0%

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Question 7					
How important are the following ATTRACTIVE COMMUNITY APPEARANCE & IMAGE goals to future of Union County?					
	Very Important	Important	Neutral	Unimportant	Very Unimportant
Appearance and Development Standards for Major Travel Corridors	46.67%	46.67%	6.67%	0%	0%
Appearance and Development Standards for Neighborhoods	40%	53.33%	6.67%	0%	0%

Question 8					
How important are the following INTERGOVERNMENTAL COORDINATION AND COOPERATION goals to future of Union County?					
	Very Important	Important	Neutral	Unimportant	Very Unimportant
Intergovernmental Coordination	66.67%	33.33%	0%	0%	0%
An Active, Involved Citizenry	80%	20%	0%	0%	0%

Question 9					
What, if any, goals are missing from this list?					
COMMENT 1					
Support and Expand Bus Transit Service - I hope this statement includes bus service other than the bus that comes from Charlotte. Transportation within the County has been an identified "need" for as long as I've worked in Union County, 12 years. Efforts towards this goal are past due.					
COMMENT 2					
Water and sewer for rural citizens and townships.					
COMMENT 3					
There should be a goal about freight rail service in the County.					

Question 10 Please feel free to add any additional comments.	
COMMENT 1	I did not understand this statement: "Encourage Infill Development/Discourage "Leapfrogging"
COMMENT 2	I know most of our citizens live in major incorporated areas with water and sewer but do not forget the rest of us.
COMMENT 3	Do not forget to include the needs of those who do not drive, the disabled and elderly, those who can contribute but need affordable housing and public transportation and meaningful employment.
COMMENT 4	This could be listed under the Economic Development or Transportation goals, but a reference to utilizing the CSX freight corridor as a means of promoting existing infrastructure and/or economic development should be considered.

Appendix F

DEVELOPMENT OF THE PREFERRED SCENARIO

Scenario Planning Process

One method to help communities learn about the potential impacts and trade-offs of future growth and development is through a process called scenario planning. Scenario planning encourages stakeholders to think and make decisions about the impacts of growth on the region in order to develop a common vision for the future. The scenario planning process begins with an analysis to understand the impacts of growth if the region maintains its current course of development and operates business-as-usual. This Business-As-Usual (BAU) scenario represents how communities would develop given current policies and trends. “Indicators” or performance measures are developed to determine how well the scenario achieves goals and objectives. Alternative scenarios are then developed based on an attempt to maximize the performance of key indicators.

The development of the Future Land Use Map coincided with and built upon the CONNECT Our Future regional scenario planning effort. CONNECT is a 13-county effort that joins residents, local governments, non-profits and businesses to develop a growth framework meant to guide the type and location of growth in order to accomplish regional goals. The CONNECT process included many public meetings in Union County as well as the construction of a GIS-based land use model using CommunityViz, a software extension to ArcGIS created by Placeways LLC. Participants customized the regional CONNECT land use model during the development of the Union County Comprehensive Plan. Additional factors and unique indicators were developed in order to ensure that the modeling was suitable for the local level. The scenario that the team used as a starting point for the development of the

Future Land Use Map was based on the Community Plans Scenario (CP) utilized in the CONNECT planning process.

Toward a Preferred Scenario

The project team presented impacts of the CP Scenario, as well as preliminary alternative scenarios developed through the CONNECT process, at the Advisory Committee meeting in December of 2013.

Attendees participated in an exercise to identify priority indicators. These included increasing dwelling units and jobs inside utility service areas, reducing farmland impacted by new development and lowering impacts on congested roadways. Feedback received from the Advisory Committee and at the Project Symposium informed an Alternative Land Use Concept (the AC Scenario).

The impacts of the CP Scenario and the AC Scenario were presented at the 3rd Advisory Committee Meeting and at the public meeting in the spring of 2014. Key findings indicated that, with minor changes in land use policy, agricultural lands impacted by new developed could be significantly reduced, and could result in a significant reduction in agricultural lands impacted by new development and homes in congested areas and increases in homes in areas served by utilities.

Comments from the public and advisory committee members precipitated a revision of the AC Scenario to ensure consistency with existing municipal planning efforts. These revisions resulted in the Preferred Scenario, which the Future Land Use Map represents.

REPORT CARD

	CP	AC	% Δ from CP	RESULTS
MOVE				
Number of New Homes Near Transit *1	12,411	25,936	+109%	●
Per Capita Vehicle Miles Traveled (VMT)*2	24.38	23.34	-4%	⊖
WORK				
Number of New Jobs in County Jurisdiction	17,259	22,275	+29%	●
FLOW				
Utility Demand Inside Utility Service Areas Million Gallons Per Day (MGD)	12,064,300	12,756,340	+6%	⊖
Utility Demand Outside Utility Service Areas*3 (MGD)	4,387,330	3,763,270	-14%	●
Number of New Homes Inside Utility Service Areas	39,310	42,328	+8%	⊖
LIVE				
Dwelling Unit Density Near Commercial Center	0.42	0.64	+52%	●
Number of Small Lot Single Family Homes in County*4	3,441	8,969	+161%	●
Number of New Homes within a 10-Minute Response Time of Police and Fire Station (Staffed)	26,784	31,508	+18%	●
Housing Growth In Congested Areas*5	22,583	19,786	-12%	●
FARM				
Acres of Agricultural Lands Impacted	32,250	27,090	-16%	●
Urban Footprint (Acres)	70,590	62,680	-11%	●
CONSERVE				
Acres of New Impervious Surface in Water Supply Watersheds	671	529	-21%	●
Acres of New Impervious Surface in Watersheds with Federally Listed Species	554	507	-8%	⊖
HEALTH				
Number of New Homes within a 10-Minute Walk of an Existing Park	1,994	2,048	+3%	⊖

*1 Based on 1/2 buffer for MTP Transit for CP Scenario and Proposed Transit for Alt Scenario

*2 CP Scenario based on MTP network and existing land use plans. AC Scenario based on MTP network and Alternative concept

*3 Utility Service Areas include currently served areas and those portions of subwatersheds (catchments) that can easily be served with minimal extension of infrastructure

*4 Small Lot Style Family as defined by CONNECT. Average 3-4 Units / Acre

*5 Growth in areas along heavily congested roadways like US-74

SCENARIO KEY

- CP** Community Plans
- AC** Alternative Concept

RESULTS KEY

- = Worse Than Community Plans
- ⊖ = Less than 10% change from Community Plans
- = Significant Improvement Compared to Community Plans

The following set of issues and opportunities were identified for Union County in the State of the County assessment and further refined by the Long-Term Growth Projections developed for this effort. (Appendix C contains the State of the County report; Appendix D contains the Long-Term Growth Projections memo.)

PHASES OF WORK

The process to update the Comprehensive Plan was divided into five phases. The first phase focused on project initiation tasks, such as data collection, a review of existing plans and studies and a study area tour. During Phase Two, the project

team created an inventory of existing conditions in the County as a step toward an assessment of the County and the identification of issues and opportunities to be considered in subsequent phases.

PURPOSE

The Future Land Use Map depicts the community's vision for a development pattern that balances the economic, social and environmental needs of Union County; strengthens the local economy; and preserves the high quality-of-life for all residents.

Appendix G

ENDNOTES

- 1 Refer to <http://www.developunion.com/areas-of-focus> for additional information.
- 2 <http://www.ncagr.gov/stats/>
- 3 2012 Income Estimates by County for Timber Harvesting in North Carolina, NC Cooperative Extension, www.ces.ncsu.edu/forestry/pdf/income12.pdf
- 4 America in 2013: A ULI Survey of Views on Housing, Transportation, and Community. Urban Land Institute. P. 14.
- 5 2012 Census of Agriculture, USDA, National Agricultural Statistics Service.
- 6 <http://co.union.nc.us/Portals/0/Health/Documents/CHA2012.pdf>
- 7 <http://healthstats.publichealth.nc.gov/indicator/view/AlzheimersDth.County.html>
- 8 <http://co.union.nc.us/Portals/0/Health/Documents/CHA2012.pdf>
- 9 Based on existing needs and those from additional population growth using 10 acres per 1000 people standard from National Recreation and Parks Association (NRPA).
- 10 International Council of Shopping Centers.
http://www.icsc.org/uploads/research/general/US_CENTER_CLASSIFICATION.pdf.
- 11 According to 2010 Traffic Analysis Zone data provided by CRPTO.
- 12 An Inventory of the Significant Natural Areas of Union County, North Carolina, North Carolina National Heritage Program, 2012.

Appendix H

CONCEPT MAPS



Appendix H

CONCEPT MAPS



Appendix H

CONCEPT MAPS



